Pilot Neighborhood Traffic Study

Elmhurst, Illinois



Prepared For:





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1. Introduction

The City of Elmhurst has retained Kenig, Lindgren, O'Hara, Aboona, Inc. (KLOA, Inc.) to conduct the first (pilot) neighborhood traffic study in the City of Elmhurst. Located in the center of the city, the pilot neighborhood is bounded by the Union Pacific (UP) Railroad tracks on the north, York Street on the east, St. Charles Road on the south, and the CN – IC Railroad tracks and West Avenue on the west. The neighborhood contains 16 north-south roads, 14 east-west roads, and one diagonal road. Primarily consisting of single-family homes, the neighborhood also contains a number of institutional uses including Elmhurst University, York Community High School, Hawthorne Elementary School, and Immaculate Conception (IC) Grade School and College Prep School. In addition, the neighborhood includes Wilder Park, Plunkett Park, the Elmhurst Public Library, and the Elmhurst Art Museum. Finally, a portion of downtown Elmhurst is located in the northeast section of the neighborhood. **Figure 1** and the following page show the location of the neighborhood (all of the figures for this study are provided in the Appendix).

The purpose of the neighborhood study was to (1) thoroughly examine the existing vehicular, pedestrian, and bicycle operations within the neighborhood, (2) identify operational issues and safety concerns, (3) analyze potential mitigation measures, and (4) develop recommendations to address operational issues, calm traffic conditions, and increase vehicular and pedestrian safety.





Pilot Neighborhood



2. Existing Neighborhood Conditions

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

- Existing land uses
- Physical and operating characteristics of the roadways (i.e., number of lanes, speed limits, traffic control, etc.)
- Existing traffic control devices
- Existing pedestrian and bicycle facilities
- Existing daily traffic volumes and vehicle speeds
- Existing morning and evening peak hour volumes

Study Area and Existing Land Uses

The neighborhood is generally bounded by the UP Railroad tracks on the north, York Street on the east, St. Charles Road on the south, and the CN – IC Railroad tracks and West Avenue on the west. Located in the middle of the City of Elmhurst, singlefamily homes are the predominant land use within the neighborhood. However, a good portion of the neighborhood consists of institutional, recreational, and commercial uses. Elmhurst University and four schools are located in the neighborhood (see insert). In addition, Wilder Park is located north of Church Street and bounded by Cottage Hill Avenue and Prospect Avenue and includes Elmhurst Art Museum. Wilder Park Conservatory, and recreational two buildings. The Elmhurst Public Library and the Post Office are located directly north of Wilder Park. Plunkett Park is located on the west side of West Avenue and includes the athletic fields for the IC schools. Finally, the northeast portion of the neighborhood extends into downtown Elmhurst and contains retail, commercial, office, multifamily uses, and the Adelaide Parking Garage.

Neighborhood Universities and Schools

- *Elmhurst University* is generally bounded by Park Avenue on the north, Prospect Avenue on the east, residential homes along Elm Park Avenue on the south, and Myrtle Avenue and Hagans Avenue extended on the west.
- *York Community High School* is generally bounded by Elm Park Avenue on the north, Grace Avenue and Hagans Avenue on the east, St. Charles Road on the south, and Berkley Avenue on the west.
- *Hawthorne Elementary School* is located in the northeast quadrant of the Cottage Hill Avenue/Arthur Street intersection.
- *IC Grade School* is located in the southwest quadrant of the York Street/Arthur Street intersection.
- *IC College Prep* is located in the southeast quadrant of the Cottage Hill Avenue/Arthur Street intersection.



City of Elmhurst Pilot Neighborhood Traffic Study

Existing Roadway System

The following describes the physical and operating characteristics of the three roads that border the neighborhood (the UP Railroad tracks border the site on the north).

St. Charles Road is an east-west, minor arterial road that generally has one lane in each direction and an at-grade railroad crossing with the CN – IC Railroad tracks. Separate left-turn lanes are provided on St. Charles Road at its signalized intersections with York Street, Hagans Avenue, and Berkley Avenue and its unsignalized intersection with Prospect Avenue. St. Charles Road has separate right-turn lanes at its signalized intersections with Berkley Avenue (westbound approach) and Spring Road (eastbound approach). St. Charles Road is under the jurisdiction of the City of Elmhurst, has an Average Annual Daily Traffic (AADT) volume of 10,850 vehicles (Illinois Department of Transportation [IDOT] 2021), and has a posted speed limit of 30 mph with a 20 mph school zone speed limit in proximity to York Community High School.

York Street is a north-south, minor arterial road that generally has one lane in each direction and an at-grade crossing with the UP Railroad tracks. North of Park Avenue, York Street becomes a one-way northbound road. Separate left-turn lanes are provided on York Street at its signalized intersections with St. Charles Road and Robert T. Palmer Drive and its unsignalized intersection with Church Street. York Street has a separate northbound right-turn lane at its signalized intersection with Robert T. Palmer Drive. York Street is under the jurisdiction of City of Elmhurst, has an AADT volume of 10,800 vehicles (IDOT 2021), and has a posted speed limit of 30 mph with a 20 mph school zone speed limit in proximity to the IC schools and Hawthorne Elementary School.

West Avenue is north-south, community collector road that has one lane in each direction and atgrade crossings with the CN – IC Railroad tracks and UP Railroad tracks. West Avenue is under the jurisdiction of the City of Elmhurst, has an AADT volume of 5,300 vehicles, and has a posted speed limit of 25 mph.

Internal Neighborhood Roadways

Excluding the two minor arterial roadways that border the neighborhood, the following summarizes the physical and operating characteristics of the neighborhood roadways:

- All the roadways within the neighborhood are classified as local roads except the following, as shown in **Figure 2**:
 - West Avenue is classified as a community collector road
 - Park Avenue between Cottage Hill Avenue and Myrtle Avenue is classified as a subdivision collector road
 - Alexander Boulevard is classified as a subdivision collector road
 - Elm Park Avenue/Church Street is classified as a subdivision collector road
 - Cottage Hill Avenue is classified as a subdivision collector road
 - Prospect Avenue between Alexander Boulevard and St. Charles Road is classified as a subdivision collector road



- Hagans Avenue is classified as a subdivision collector road
- Myrtle Avenue is classified as a subdivision collector road
- Berkley Avenue is classified as a subdivision collector road
- Alma Avenue is classified as a subdivision collector road
- All the neighborhood roads provide one lane in each direction except Cottage Hill Road, which is restricted to one-way southbound traffic north of Adelaide Street.
- Exclusive turn lanes are provided at the following intersections:
 - A separate left-turn lane and a separate right-turn lane are provided on Berkley Avenue at is signalized intersection with St. Charles Road.
 - A separate left-turn lane is provided on Hagans Avenue at is signalized intersection with St. Charles Road.
- Pavement markings in the neighborhood include double yellow centerlines along the curves on Berkley Avenue and Elm Park Avenue and double yellow and/or yellow skip dash centerlines along all or portions of St. Charles Road, York Street, Park Avenue, Adelaide Avenue, and Adell Place.
- The posted speed limit on most of the neighborhood roads is 25 miles per hour except Elm Park Avenue, which has a posted speed limit of 20 mph between Prospect Avenue and Hagans Avenue. Further, 15 mph advisory speed signs are provided along the curved sections of Elm Park Avenue and Berkley Avenue. In addition, 20-mph school speed zones that are in effect on school days when children are present are located at several locations in proximity to York Community High School, the IC Schools, and Hawthorne Elementary School. **Figure 3** illustrates the speed limits in the neighborhood.
- Parking is generally provided on one or both sides of the roadways although parking is regulated on many of the roads. In addition, on-street perpendicular parking is provided on a section of Cottage Hill Avenue, sections of Berkley Avenue, and sections of Park Avenue.

Existing Intersection Traffic Control

Figure 4 shows the existing intersection traffic control within the neighborhood and the following provides a summary of the existing traffic control at intersections within the neighborhood:

- Four intersections are under traffic signal control
- Ten intersections are under all-way stop sign control
- Twenty-four intersections are under two-way or one-way stop sign control
- Two intersections have stop sign control on three out of four legs
- One intersection has stop sign control on two out of three legs
- Eighteen intersections are under two-way or one-way yield sign control
- Four intersections have no intersection traffic control



At most of the two-way or one-way stop sign-controlled intersections, a "Cross Traffic Does Not Stop" plaque is located below the stop signs.

Pedestrian and Bicycle Facilities and Traffic Control Devices

Sidewalk System

Sidewalks are generally located on one side of all the roads in the neighborhood and in many cases on both sides of the road. In addition, high visibility and standard crosswalks are provided at many intersections within the neighborhood, particularly in proximity to Elmhurst University, York Community High School, the IC Schools, Hawthorne Elementary School, and Wilder Park.

Bike Routes

The 2013 *Elmhurst Bicycle Plan* designates the following roads as bike routes, which extend through the neighborhood:

- Park Avenue between Myrtle Avenue and York Street
- Cottage Hill Avenue between Park Avenue and St. Charles Road
- West Avenue between St. Charles Road and the UP Railroad tracks
- Alexander Boulevard between Rex Boulevard and Myrtle Avenue
- Rex Boulevard between Alexander Boulevard and Utley Road
- Utley Road between West Avenue and Rex Boulevard

Bike route signs and "Share the Road" signs are installed along portions of Utley Road, Rex Boulevard, Alexander Boulevard, Myrtle Avenue, Park Avenue, and Cottage Hill Avenue designating them as bike routes.

Figure 5 illustrates the bicycle routes and bicycle signage located within the neighborhood:

Pedestrian and Bicycle Traffic Control Devices, Signage, and Pavement Markings

The following summarizes and **Figure 6** illustrates the pedestrian and bicycle traffic control devices, signage, and pavement markings located within the neighborhood:

- Dedicated school crossing signs are provided at the following intersections or locations which include School Advance Crossing Assemblies (S1-1, W16-9P) and/or School Crossing Assemblies (S1-1, W16-7P):
 - On St Charles Road at Cottage Hill Avenue
 - On St Charles Road at Berkley Avenue/Spring Road
 - On Elm Park Avenue at Hawthorne Avenue
 - On Elm Park Avenue at Berkley Avenue east leg
 - On Elm Park Avenue at Berkley Avenue west leg
 - On Alexander Boulevard at the Elmhurst University parking lot east access drive





- On Alexander Boulevard at the Elmhurst University parking lot west access drive
- On York Street at Arthur Street
- On Cottage Hill Avenue at Arthur Street
- On Hagans Avenue at Winthrop Avenue
- On Prospect Avenue at Alexander Boulevard
- Pedestrian advanced crossing assemblies (W11-2, W16-9P) and pedestrian crossing assemblies (W11-2, W16-7P) are located at the following intersections or locations:
 - On Alexander Boulevard between the Elmhurst University parking lot east and west access drives
 - On Alexander Boulevard at Fairfield Avenue
 - On West Avenue at the Elmhurst Crossing access drive
 - On St. Charles Road at Prospect Avenue
 - On St. Charles Road at Berkley Avenue
 - On York Street at Robert T. Palmer Drive
- School crossing guards are stationed at the following intersections:
 - Cottage Hill Avenue with Arthur Street
 - Cottage Hill Avenue with Church Street
 - Cottage Hill Avenue with St. Charles Road
 - Prospect Avenue with Alexander Boulevard
 - Prospect Avenue with Church Street/Elm Park Avenue
 - York Street with Arthur Street
- The traffic signals at the York Street/St. Charles Road, Hagans Avenue/St. Charles Road, and York Street/Robert T Palmer Drive intersections have countdown pedestrian signals on all legs of each intersection. Countdown pedestrian signals are provided on the south and west legs of the York Street/Arthur Street intersection and pedestrian signals are provided on the north and east legs of the Berkley Avenue/St. Charles Road intersection.
- High visibility and standard crosswalks are provided at many intersections within the neighborhood, particularly in proximity to Elmhurst University, York Community High School, the IC Schools, Hawthorne Elementary School, and Wilder Park.



Existing Daily Traffic Volumes and Speed Surveys

In order to determine the existing traffic volumes and speeds along the neighborhood roadways, KLOA, Inc. conducted daily machine traffic counts and speed surveys at 30 locations within the neighborhood. Of the total 30 locations, approximately 16 were conducted along the north-south roadways, 13 were conducted along the east-west roadways, and one was conducted along a diagonal road. The traffic counts and speed surveys were generally conducted in September 2022 for a minimum of two days and were broken down by direction and by hour.

Figure 7 shows the two-way daily traffic volumes and **Figure 8** shows the average and 85th percentile speeds observed on the roadways. The average speed is the sum of the observed speeds of all the vehicles divided by the total vehicles on that segment of the road. Average speeds are used to determine the speeds at which motorists are typically traversing a roadway section, whereas the 85th percentile speed represents the speed at or below which 85 percent of vehicles on a roadway section travel under free-flow conditions.

Existing Morning and Afternoon/Evening Peak Period Traffic Volumes

In addition to the daily traffic counts and speed surveys, KLOA, Inc. conducted manual peak period vehicle, pedestrian, and bicycle counts at the following eight intersections/locations within the study area:

- 1. Cottage Hill Avenue with Adelaide Street and Elmhurst Public Library access drive
- 2. Cottage Hill Avenue with Church Street
- 3. Prospect Avenue with Alexander Boulevard
- 4. Prospect Avenue with Church Street and Elm Park Avenue
- 5. Myrtle Avenue with Alexander Boulevard
- 6. Hagans Avenue with Winthrop Avenue
- 7. Hagans Avenue with St. Charles Road
- 8. West Avenue pedestrian crossing south of the CN IC Railroad tracks

The counts were conducted for one day at each intersection on Tuesday or Wednesday, September 13 and 14, 2022 during the morning (7:00 A.M. to 9:00 A.M.) and afternoon/evening (2:00 P.M. to 6:00 P.M.) peak periods. **Figure 9** illustrates the existing weekday morning, afternoon, and evening peak hour vehicle volumes and **Figure 10** illustrates the pedestrian and bicycle peak hour volumes.



3. Evaluation of Existing Conditions

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

Neighborhood Factors that Contribute to Traffic Volume and Travel Speed

It is important to note that traffic volumes and speeds on neighborhood roads are influenced by several factors, including:

- Roadway functional classification
- Location and directional orientation of roadway with respect to adjacent arterial roadways
- Roadway width
- Number of travel lanes
- Roadway surface
- Posted 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.



Review of the Daily Traffic Volumes



Daily Volumes

According to *Residential Streets*, local residential roads typically have a daily volume between 400 and 1,500 vehicles while residential collector roads typically have a daily volume exceeding 1,500 vehicles. Figure 7 summarizes the average weekday traffic volumes by direction. **Table 1** summarizes the average weekday traffic volumes within the neighborhood categorized by functional classification and compares the volumes with the national residential road volume ranges as published in *Residential Streets*, Third Edition (see inset).

As can be seen from Table 1, the collector roads (West Avenue, Cottage Hill Avenue, Prospect Avenue, Hagans Avenue, Alexander Boulevard, Elm Park Avenue, and Church Street) generally carry the highest volume of traffic. This is expected given that collector roads link the local neighborhood roads and land uses to the external or arterial roadway system. Further, many of the collector roads extend the length of the neighborhood or between collector and/or arterial roads and serve many homes and other land uses within the neighborhood. In addition, several of the roads carry higher volumes given their proximity to Elmhurst University, York Community High School, the IC Schools, Hawthorne Elementary School, and the downtown area.

It is important to note that the all the daily traffic volumes are within the national standard volume ranges for the respective roadway classification.



Table 1AVERAGE WEEKDAY (24-HOUR) TRAFFIC VOLUMES BY STREET CLASSIFICATION

Street	Section	Existing Volume	Within Typical Volume
Collector Streets	-		1,500 – 7,500
Alexander Boulevard	Berkley Avenue – Hawthorne Avenue	3,920	Yes
Alexander Boulevard	Myrtle Avenue – Prospect Avenue	2,571	Yes
Alma Avenue	Elm Park Avenue – Berkley Avenue	1,149	Yes
Berkley Avenue	Alma Avenue – Elm Park Avenue	1,273	Yes
Church Street	Cottage Hill Avenue – York Street	2,382	Yes
Cottage Hill Avenue	Harbour Terrace – Elmwood Terrace	2,524	Yes
Cottage Hill Avenue	Arthur Street – Virginia Street	3,315	Yes
Elm Park Avenue	Alma Avenue – Berkley Avenue	1,780	Yes
Elm Park Avenue	Hawthorne Avenue - Fairfield Avenue	2,157	Yes
Elm Park Avenue	Hagans Avenue – Prospect Avenue	2,777	Yes
Hagans Avenue	Winthrop Avenue – Claremont Avenue	3,119	Yes
Park Avenue	Myrtle Avenue – Prospect Avenue	1,029	Yes
Prospect Avenue	Winthrop Avenue – Claremont Avenue	3,746	Yes
Prospect Avenue	Elm Park Avenue – Alexander Boulevard	5,705	Yes
West Avenue	Fellows Court – Elm Park Avenue	8,836	Yes
West Avenue	Utley Road – Alexander Boulevard	7,536	Yes



Table 1, continuedAVERAGE WEEKDAY (24-HOUR) TRAFFIC VOLUMES BY STREET CLASSIFICATION

Street	Section	Existing Volume	Within Typical Volume
Local Streets	-		0 – 1,500
Arthur Street	Cottage Hill Avenue – York Street	746	Yes
Berkley Avenue	Elm Park Avenue – Utley Road	495	Yes
Claremont Avenue	Hagans Avenue – Prospect Avenue	278	Yes
Elmwood Terrace	Cottage Hill Avenue – York Street	338	Yes
Fairfield Avenue	Elm Park Avenue – Utley Road	312	Yes
Fairview Avenue	Utley Road – Alexander Boulevard	259	Yes
Grace Avenue	Utley Road – Alexander Boulevard	1,036	Yes
Hawthorne Avenue	Utley Road – Alexander Boulevard	311	Yes
Rex Boulevard	Utley Road – Alexander Boulevard	502	Yes
Sturges Parkway	Cottage Hill Avenue – York Street	134	Yes
Sunnyside Avenue	Elm Park Avenue – Utley Road	247	Yes
Utley Road	Hawthorne Avenue – Fairview Avenue	506	Yes
Virginia Street	Cottage Hill Avenue – York Street	407	Yes
Winthrop Avenue	Hagans Avenue – Prospect Avenue	383	Yes



Review of the Travel Speed Surveys

Most of the roads within the neighborhood are regulated by a 25-mph neighborhood speed limit. It should be noted that York Street and St. Charles Road have a posted speed limit of 30 mph and Elm Park Avenue has a posted speed limit of 20 mph between Prospect Avenue and Hagans Avenue. In addition, 20 mph school speed zones that are in effect on school days when children are present are located along several roads within proximity to the various schools. Figure 8 summarizes the average and 85th percentile speeds bv direction. Table 2 summarizes the 85th percentile speeds within the neighborhood, categorized by functional classification, and indicates if the speeds were within normal ranges or five mph or less of the posted speed limit (see inset).

In general, the average speeds recorded on most of the neighborhood roads were at or below the posted 25 mph speed limit. Several

Travel Speeds

- Travel speeds are primarily influenced by the road's characteristics, which are generally costly to modify.
- The City's roadway system adds to higher speeds with long free-flow conditions.
- Courts typically only uphold tickets when they are 8 to 10 mph over the speed limit.

As such, 85th percentile speeds within five (5) mph of the posted speed limit are typically considered reasonable.

locations had average speeds that were one to three mph above the posted speed limit and one location on Cottage Hill Avenue had an average speed of four mph above the posted speed limit. All of the locations have 85th percentile speeds that were within five mph of the posted speed limit, except locations along the following roads which generally had 85th percentile speeds in both directions of travel that were between five to nine mph over the posted speed limit:

- Cottage Hill Avenue
- Prospect Avenue
- West Avenue
- Alexander Boulevard
- Alma Avenue

The increased travel speeds along these roads are likely due in part to the fact that they are all collector roads that have long stretches of free-flow conditions, the grid system within the neighborhood which generally lacks any horizontal curves, and the traffic traveling to and from downtown Elmhurst, the train station, and the various institutions located in the neighborhood, particularly Elmhurst University and York Community High School. Many of the recommendations outlined in the next section were developed to address the higher travel speeds observed within the neighborhood.



Table 285TH PERCENTILE SPEEDS BY STREET CLASSIFICATION

Street	Section	Existi Percenti	Within Typical	
		NB/EB	SB/WB	Range
Collector Streets				
Alexander Boulevard	Berkley Avenue – Hawthorne Avenue	33	33	No
Alexander Boulevard	Myrtle Avenue – Prospect Avenue	27	29	Yes
Alma Avenue	Elm Park Avenue – Berkley Avenue	31	33	No
Berkley Avenue	Alma Avenue – Elm Park Avenue	27	28	Yes
Church Street	Cottage Hill Avenue – York Street	27	26	Yes
Cottage Hill Avenue	Harbour Terrace – Elmwood Terrace	33	34	No
Cottage Hill Avenue	Arthur Street – Virginia Street	24	29	Yes
Elm Park Avenue	Alma Avenue – Berkley Avenue	28	27	Yes
Elm Park Avenue	Hawthorne Avenue - Fairfield Avenue	24	29	Yes
Elm Park Avenue	Hagans Avenue – Prospect Avenue	24	22	Yes
Hagans Avenue	Winthrop Avenue – Claremont Avenue	29	30	Yes
Park Avenue	Myrtle Avenue – Prospect Avenue	29	29	Yes
Prospect Avenue	Winthrop Avenue – Claremont Avenue	29	31	No
Prospect Avenue	Elm Park Avenue – Alexander Boulevard	32	31	No
West Avenue	Fellows Court – Elm Park Avenue	32	33	No
West Avenue	Utley Road – Alexander Boulevard	24	33	No



Table 2, continued 85TH PERCENTILE SPEEDS BY STREET CLASSIFICATION

Street	Section	Existin Percentil	Within Typical	
		NB/EB	SB/WB	Range
Local Streets				
Arthur Street	Cottage Hill Avenue - York Street	22		Yes
Berkley Avenue	Elm Park Avenue – Utley Road	27	28	Yes
Claremont Avenue	Hagans Avenue – Prospect Avenue	26	26	Yes
Elmwood Terrace	Cottage Hill Avenue – York Street	24	24	Yes
Fairfield Avenue	Elm Park Avenue – Utley Road	27	28	Yes
Fairview Avenue	Utley Road – Alexander Boulevard	24	23	Yes
Grace Avenue	Utley Road – Alexander Boulevard	27	27	Yes
Hawthorne Avenue	Utley Road – Alexander Boulevard	29	29	Yes
Rex Boulevard	Utley Road – Alexander Boulevard	30	29	Yes
Sturges Parkway	Cottage Hill Avenue – York Street	24	23	Yes
Sunnyside Avenue	Elm Park Avenue – Utley Road	29	28	Yes
Utley Road	Hawthorne Avenue – Fairview Ave	28	27	Yes
Virginia Street	Cottage Hill Avenue – York Street		26	Yes
Winthrop Avenue	Hagans Avenue – Prospect Avenue	26	27	Yes



Intersection Capacity Analyses

To determine how the intersections in the neighborhood are operating, weekday morning, afternoon, and evening peak hour capacity analyses were performed at the seven intersections where vehicle, pedestrian, and bicycle counts were performed. The capacity analyses were performed based on the existing intersection geometrics and traffic control as well as the peak hour vehicle, pedestrian, and bicycle volumes. Synchro/Sim Traffic 11 computer software was used to evaluate the operation of the intersections (see inset). The results of the existing intersection capacity analyses are presented in Tables 3 and 4.

The following presents the results of the capacity analyses:

• The signalized intersection of St. Charles Road with Hagans Avenue is operating at an overall Level of Service (LOS) C during all three peak hours. Further, all the intersection movements are operating at LOS D or better during the peak hours except the northbound and southbound shared through/right-turn movements,

Intersection Level of Service

The ability of an intersection to accommodate traffic flow is expressed in terms of level of service, which is assigned a letter grade from A to F based on the average control experienced by vehicles delay passing through the intersection. Control delay is that portion of the total delay attributed to the traffic signal or stop sign control operation and includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Level of Service A is the highest grade (best traffic flow and least delay), Level of Service E represents saturated or at-capacity conditions, and Level of Service F is the lowest (oversaturated conditions, grade extensive delays).

which operate at LOS E during the weekday afternoon and evening peak hours.

- All the all-way stop sign-controlled intersections that were evaluated are operating at an overall LOS C or better during all three peak hours. Further, all the movements and/or approaches are operating at LOS C or better during the peak hours.
- The critical movements at the one-way stop sign-controlled intersections operate at LOS B or better during all three peak hours.

Overall, the intersections within the neighborhood generally operate at good levels of service with limited delay and queueing. It is important to note that several of the intersections, experience some additional delays and queueing during the morning and afternoon peak periods due to the proximity of the intersections to Elmhurst University, York Community High School, the IC Schools, Hawthorne Elementary School, and the surging of traffic associated with the start and end of classes or school. However, it is important to note that the additional congestion only lasts for approximately 15 to 20 minutes before and after school and is inherent with most schools, given the fixed start and end times of the school day.



CALACITY ANALYSIS RESOLTS - ST. CHARLES ROAD WITH HAGANS AVENUE AND STRING ROAD											
	Peak		Eastbound		Westbound		Northbound		Southbound		Ovorall
	Hour	L	Т	R	L	T/R	L	T/R	L	T/R	Overall
SI	Weekday	В 11.4	C 29.8	A 7.0	В 13.5А	C 24.8	C 31.0	D 48.1	C 25.7	D 47.6	C
tion	Morning	C – 24.7		C – 22.8		D-42.1]	D-42.8	29.4	
Condi	Weekday	A 8.8	В 19.4	A 8.0	A 9.4	B 18.3	D 51.3	E 58.9	D 41.2	E 73.3	C
ing	Alternoon	B – 16.3		B – 16.5		E - 55.5		E – 66.3		28.3	
Existi	Weekday	В 10.5	C 25.6	A 10.0	В 13.7	C 21.0	D 51.7	D 54.1	D 36.8	Е 74.3	C 21.0
C-21.5 B-19.1 D-53.1 E-69.9						51.9					
Letter denotes Level of Service L – Left Turn R – Right Turn Delay is measured in seconds. T – Through											

Table 3 CAPACITY ANALYSIS RESULTS – ST. CHARLES ROAD WITH HAGANS AVENUE AND SPRING ROAD



Intersection		Weekday Morning Peak Hour		Weekday Afternoon Peak Hour		Weekday Evening Peak Hour	
		LOS	Delay	LOS	Delay	LOS	Delay
Cott	tage Hill Avenue with	Adelaide	Street and l	Public Lib	rary Access	Drive	
• (Overall	В	10.3	В	10.4	А	10.0
• I	Eastbound Approach	А	8.7	А	9.2	А	8.2
• \	Westbound Approach	А	9.3	А	9.5	А	9.0
• 1	Northbound Approach	А	8.4	А	8.8	А	8.0
• \$	Southbound Through	В	11.9	В	11.7	В	11.3
• 5	Southbound Left Turn	А	9.2	В	10.1	А	8.7
Cott	tage Hill Avenue with	Church S	treet				
• (Overall	С	15.8	А	9.1	А	9.9
• I	Eastbound Approach	С	16.1	А	9.4	А	9.4
• \	Westbound Approach	С	17.1	А	9.0	А	8.8
• 1	Northbound Approach	С	15.7	А	8.9	А	8.5
• 5	Southbound Approach	В	12.2	А	9.1	В	10.8
Pros	spect Avenue with Ale	exander Bo	oulevard				
• (Overall	В	10.9	В	10.9	В	10.1
• •	Eastbound Approach	А	9.2	В	10.4	А	9.4
• 1	Northbound Approach	В	12.3	В	117	В	10.5
• 5	Southbound Approach	А	9.5	В	10.3	А	10.0
Prospect Avenue with Church Street and Elm Park Avenue							
• (Overall	С	17.9	В	10.3	В	11.4
• •	Eastbound Approach	С	16.4	В	10.1	В	10.8
• \	Westbound Approach	С	16.0	А	9.8	В	10.8
• 1	Northbound Approach	С	21.7	А	10.0	В	10.4
• 5	Southbound Approach	С	15.6	В	10.8	В	12.6
LOS Delay	LOS = Level of Service Delay is measured in seconds						

Table 4 CAPACITY ANALYSIS RESULTS – UNSIGNALIZED INTERSECTIONS



Table 4, continued

CAPACITY ANALYS	S RESULTS -	- UNSIGNALIZED	INTERSECTIONS
			IIII LIGECTIONS

Intersection		Weekday Morning Peak Hour		Weekday Afternoon Peak Hour		Weekday Evening Peak Hour	
		LOS	Delay	LOS	Delay	LOS	Delay
Μ	yrtle Avenue and Alexai	nder Boule	evard				
•	Overall	А	9.7	А	9.4	А	9.5
•	Eastbound Approach	В	10.5	В	10.1	А	10.0
•	Westbound Approach	А	7.9	А	8.9	А	8.8
•	Southbound Approach	А	8.3	А	9.0	А	9.5
H	agans Avenue with Wint	hrop Aver	nue				
•	Eastbound Approach	В	12.5	В	12.0	В	11.9
•	Westbound Approach	В	10.6	В	13.7	В	10.0
•	Northbound Left Turn	А	8.1	А	7.9	А	7.6
•	Southbound Left Turn	А	7.7	А	7.9	А	7.7
LC De	OS = Level of Service lay is measured in seconds						

Traffic Crash History

Crash data for the neighborhood roads was obtained by the City of Elmhurst for review and consideration when developing recommended traffic volume and/or speed mitigation measures in this study. The crash data was provided for a five-year period generally from November 1, 2017 to November 2, 2022. Based on the data, the following observations were made on the intersections internal to the neighborhood:

- The overall number of crashes along the internal neighborhood roads was limited. Excluding the crashes that occurred along the arterial roadways bordering the neighborhood (St. Charles Road and York Street), the neighborhood internal roads averaged just over 21 crashes per year over the five-year period.
- Excluding the crashes that occurred along the arterial roadways bordering the neighborhood, very few intersections or specific locations within the neighborhood averaged more than one crash per year (five total crashes) over the five-year period. The following intersections had more than five total crashes:
 - Prospect Avenue/Alexander Boulevard had a total of 7.0 crashes or an average of 1.4 crashes per year.
 - Prospect Avenue/Church Street/Elm Park Avenue had a total of 8.0 crashes or an average of 1.6 crashes per year.
 - West Avenue/Alexander Boulevard had a total of 10 crashes or an average of 2.0 crashes per year.

Preliminary On-Street Parking Review

As part of the study, KLOA, Inc. preliminarily observed the on-street parking conditions within the neighborhood. Other than the additional on-street parking that occurs within proximity to or associated with York Community High School, the IC Schools, Hawthorne Elementary School, Wilder Park, and Plunkett Park, the neighborhood experiences limited on-street parking, similar to many neighborhoods. While the schools and parks have higher on-street parking demands, this is expected and typical of these types of uses. The IC Schools, Hawthorne Elementary School, Wilder Park, and Plunkett Park on-street parking demand generally only occurs for approximately 15 to 20 minutes before and after school and the on-street parking demand associated with the parks generally occurs on evenings and weekends, when traffic volumes on the area roads are lower. Further, parking restrictions have been installed along many of the roads within walking distance of York Community High School prohibiting school parking. On-street parking for York Community High School is generally limited to Berkley Avenue south of Alma Avenue via perpendicular parking that is located so as not to impact the two travel lanes along Berkley Avenue.





Review of York Community High School Transportation Operations

The York Community High School primary campus is generally bounded by Elm Park Avenue and the homes along the south side of Winthrop Avenue on the north, the homes along the west side of Grace Avenue and Hagans Avenue on the east, St. Charles Road on the south, and the CN – IC Railroad tracks and the homes along the east side of Berkley Avenue on the west. Further, the football stadium and other athletic facilities are located in the southwest quadrant of the intersection of St. Charles Road with Spring Road. Currently, the school has an enrollment of approximately 2,900 students in ninth through twelfth grade. The following briefly summarizes the transportation operations of the high school:

- Primary parking for the school is provided via several parking lots located on the south side of the campus and along Berkley Avenue south of Alma Avenue with primary access provided via Berkley Avenue. Additional parking is located along the east side of the campus and in the northeast corner of the campus with access provided via the southern portion of the campus and via Elm Park Avenue.
- Campus student drop-off/pick-up activity primarily occurs via a one-way counterclockwise circulation road (Duke Drive) that extends along the south portion of the campus and also provides access to the various parking lots. Inbound and outbound access to the one-way circulation road is provided via Berkley Avenue just north and west of its signalized intersection with St. Charles Road. Secondary student drop-off/pick-up activity occurs along the circulation road that extends along the northern portion of the campus with access provided via two access drives located on Elm Park Avenue.
- Bus loading occurs along a one-way circulation road/loading zone located just south of the southwest portion of the school building. Access to the circulation road/loading zone is provided via an access drive located on the east side of Berkley Avenue opposite Alma Avenue and the one-way, counterclockwise circulation road. During the morning drop-off period, buses enter the circulation road/loading zone via Berkley Avenue and exit via the one-way, counterclockwise circulation road. During the afternoon pick-up period, buses enter the circulation road. During the afternoon pick-up period, buses enter the circulation road/loading zone via the one-way, counterclockwise circulation road and exit via Berkley Avenue.

As such, primary access to the campus is provided via Berkley Avenue. As a result, field observations have shown that Berkley Avenue and its intersections with St. Charles Road and the south campus circulation road experience a considerable amount of congestion before and after school, which results in additional delay and queuing. Further contributing to the congestion in the area is (1) the heavier pedestrian activity and (2) the drop-off/pick-up activity that occurs along the area roadways. However, it is important to note that the additional congestion only occurs for approximately 20 minutes before and after school. This is inherent with most schools given the fixed start and end times of the school day. In addition, the after-school peak period occurs in the afternoon and does not overlap with the evening commuter peak period (4:00 P.M. to 6:00 P.M.), further minimizing the impact of the school operations on the area roadway conditions.



It is important to note that the primary traffic, bus, and drop-off/pick-up activities generated by the school occur on the south side of the campus and outside of the influence of the neighborhood, which reduces the impact on the neighborhood. However, secondary access to the school campus is provided via the neighborhood roads and drop-off/pick-up activity occurs along the circulation road along the north portion of the campus and along many of the adjacent roadways. As such, several of the neighborhood roads experience some additional congestion and higher travel speeds due to the school-generated traffic and the drop-off/pick-up activity, particularly Alma Avenue and Elm Park Avenue. However, as discussed previously, the additional traffic and congestion only occurs for approximately 20 minutes before and after school as is inherent with most schools given the fixed start and end times of the school day.

Review of Hawthorne Elementary School and IC School Transportation Operations

Hawthorne Elementary School

Hawthorne Elementary School is located in the northeast quadrant of the intersection of Cottage Hill Avenue with Arthur Street. Currently, the school has an enrollment of approximately 565 students in kindergarten through eighth grade with the school day extending from 8:14 A.M. to 3:00 P.M. The following briefly summarizes the transportation operations of the elementary school:

- Staff parking is provided via a parking lot located on the west side of the school campus with access provided via Cottage Hill Avenue and a small parking lot located in the northeast portion of the campus with access provided via Arthur Street.
- Bus loading occurs along the east side of Cottage Hill Avenue along the school frontage.
- Student drop-off/pick-up activity occurs along the north side of Arthur Street along the school frontage. To expedite the drop-off/pick-up activity, several staff members assist with the loading/unloading of students and the management of the operations. The queue of vehicles can extend along Arthur Street to Cottage Hill Avenue and along the east side of Cottage Hill Avenue south of Arthur Street. The longer queues typically occur in the afternoon when parents arrive early for student pick-up.
- In addition, many parents/caregivers park on the area roadways or in the Wilder Park parking lot and walk their students to and from school. Further, many parents/caregivers were observed walking their student to and from school.

In order to accommodate the bus loading along Cottage Hill Avenue, enhance the drop-off/pickup operations, and reduce pedestrian/vehicle conflicts, Cottage Hill Avenue is closed to traffic between Virginia Street and Arthur Street from approximately 7:45 A.M. to 8:15 A.M. and 2:45 P.M. to 3:15 P.M.



IC Schools

IC Grade School and College Prep School are located on the south side of Arthur Street generally bounded by York Street on the east and Cottage Hill Avenue on the west. IC Grade School currently has an enrollment of approximately 430 students in prekindergarten through eighth grade with the school day extending from 7:55 A.M. to 2:45 P.M. IC College Prep has an enrollment of approximately 300 students in ninth through twelfth grade with the school day extending from 7:45 A.M. to 2:50 P.M. The following briefly summarizes the transportation operations of the two schools:

- Parking for the two schools is provided via the parking lots adjacent to the two schools as well as the parking lot located on the east side of York Street north of Church Street.
- Student drop-off/pick-up activity for the two schools occurs along several locations as summarized below:
 - Along the south side of Arthur Street between York Street and Cottage Hill Avenue. The queue of vehicles can extend along Arthur Street to Cottage Hill Avenue and along the east side of Cottage Hill Avenue south of Arthur Street. To expedite the drop-off/pick-up activity, several staff members assist with the loading/unloading of students and the management of the operations.
 - Within the parking lot located south of the IC Grade School with all traffic entering the parking lot via Church Street and exiting via York Street. To expedite the drop-off/pick-up activity, several staff members assist with the loading/unloading of students and the management of the operations.
 - Along Cottage Hill Avenue along the frontage of IC College Prep.

Operations

Given the proximity of the three schools to one another and with a total enrollment of 1,300 students, the area experiences some congestion during the morning drop-off and afternoon pick-up periods, particularly along Arthur Street, Cottage Hill Avenue, and Church Street. The impact of the three schools is reduced due to the following characteristics of the roadway system and the three schools, the operation of the schools, and the measures implemented by the schools:

- Arthur Street is a one-way, eastbound road which permits queueing along both sides of the road, reduces turning conflicts, and provides for more efficient circulation. In addition, the intersection of Arthur Street with York Street is under traffic signal control, which provides greater capacity.
- Cottage Hill Avenue is closed to traffic between Virginia Street and Arthur Street from approximately 7:45 A.M. to 8:15 A.M. and 2:45 P.M. to 3:15 P.M., which better accommodates the bus loading along Cottage Hill Avenue, enhances the drop-off/pick-up operations, and reduces pedestrian/vehicle conflicts.



- Given that Cottage Hill Avenue is restricted to one-way, southbound traffic north of Adelaide Street and the road is closed to traffic between Virginia Street and Arthur Street from approximately 7:45 A.M. to 8:15 A.M. and 2:45 P.M. to 3:15 P.M., the volume of traffic on Cottage Hill Avenue is reduced, particularly northbound traffic. The reduction in the northbound traffic is significant as it serves as the primary route to the drop-off/pick-up activity along Arthur Street and that queueing from the Arthur Street drop-off/pick-up activity extends onto northbound Cottage Hill Avenue.
- The start and end times of all three schools are staggered by five to 20 minutes, which helps to distribute the traffic over a longer time period and minimize the surging of traffic.
- The drop-off/pick-up activity occurs at several different locations, which helps to distribute the traffic along the roadway system.
- Crossing guards are located at the intersections of York Street/Arthur Street and Cottage Hill Avenue/Arthur Street who assist with the crossing of students and pedestrians at the primary intersections adjacent to the schools.
- Staff from both the IC Grade School and Hawthorne Elementary School are used to expedite the drop-off/pick-up activity by assisting with the loading/unloading of students and managing the operations.

Lastly, the after-school peak period occurs in the afternoon and does not overlap with the evening commuter peak period (4:00 P.M. to 6:00 P.M.), further minimizing the impact of the school operations on the area roadway conditions.



4. Detailed Evaluation and Recommendations

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

- Intersection traffic control devices
- Pedestrian and bicycle facilities
- Travel speeds and traffic volumes on the neighborhood roads

Basis of Recommendations

The recommendations developed in this section were based primarily on accepted engineering practices, conformity with the 2009 *Manual on Uniform Traffic Control Devices* (MUTCD), existing City criteria, and input from City staff. Further, many recommendations include the use of traffic calming measures and devices. The following provides a summary of the MUTCD and the purposes and types of traffic calming measures/devices.

MUTCD

The MUTCD defines the standards used to install and maintain traffic control devices including all signs, signals, markings, and other devices used to regulate, warn, or guide traffic on all public streets, highways, bikeways, and private roads open to public traffic. While the MUTCD provides guidelines with specific benchmarks, many of the criteria are subjective and are left to engineering judgment and practices.



The MUTCD defines the standards used to install and maintain traffic control devices including all signs, signals, markings and other devices used to regulate, warn, or guide traffic, on all public streets, highways, bikeways, and private roads open to public traffic.



Purposes and Types of Traffic Calming Measures/Devices

Traffic calming is defined as the installation of measures designed to reduce traffic speeds and/or traffic volumes in the interest of street safety, livability, and other public purposes. The primary purposes of traffic calming measures/devices are as follows:

- To reduce speed/volume of traffic by increasing motorists' awareness and/or restricting traffic flow.
- To enhance overall safety by better organizing the access and circulation of all modes of transportation.

Traffic calming measures/devices have many different forms and can be implemented incrementally from measures/devices with lower costs and reduced design, coordination, and implementation efforts to measures/devices with higher costs and greater design, coordination, and implementation efforts. **Tables 5** to **8** and the following summarize the two general traffic calming categories:

- *Non-Physical Measures/Devices* generally provide a non-invasive form of traffic calming that are inexpensive and easy to implement, and that can also be easily removed if the measure/device is unsuccessful. As such, these measures/devices are typically implemented before physical measures. Non-physical traffic calming measures include education, community involvement, and enforcement (Level 1 measures/devices) and signage and pavement markings (Level 2 measures/devices).
- *Physical Measures/Devices* consist of physical modifications to the roadway design and are more costly to implement and require more design, coordination, and implementation efforts (Level 3 measures/devices). As such, physical measures/devices are often only considered after non-physical measures/devices have been determined to be unsuccessful. Physical measures/devices include horizontal deflections and vertical deflections.



Table 5 TRAFFIC CALMING MEASURES/DEVICES

Options	Examples					
Non-Physical Measures/Devices – Leve	Non-Physical Measures/Devices – Level 1 and 2 Measures/Devices					
Education and Enforcement	Education, Community Involvement Efforts, Targeted Police Enforcement, Radar Speed Trailers, Patrol Decoy					
Advisory Signing	Enhanced Speed Limit Signs, Neighborhood Signs, Speed Radar Signs, School/Park Zones					
Pavement Markings	Parking Lines/Boxes, Bike Lanes/Sharrows, Edge/Centerlines, Speed Limit Markings					
Physical Measures/Devices - Level 3 Measures/Devices						
Horizontal Deflections	Curb Extensions, Median Islands, Traffic Circles, Chokers/Neck-Downs					
Vertical Deflections	Speed Humps/Lumps, Speed Tables, Raised Crosswalks, Raised Intersections					

Table 6 NON-PHYSICAL MEASURES/DEVICES

PLEASE SLOW DOWN	<i>Education and Community Involvement Efforts</i> include yard sign campaigns, radar gun loan programs, and self-policing that further educates/informs both residents and motorists.
SPEED LIMIT 25	<i>Speed Limit Signage/Markings</i> include oversized speed limit signs, yellow-framed speed limit signs, and/or speed limit pavement markings that further reinforce speed limits.
YOUR SPEED 26	<i>Speed Monitors and Enforcement</i> includes portable/permanent speed monitors, targeted police enforcement, and patrol decoys that further reinforce/enforce speed limits.
	Pavement Markings include edge lines, parking boxes, and centerlines that delineate the travel lanes and provide the perception of a narrower roadway.
	<i>Sharrow Markings</i> reinforce the shared-lane environment of posted bicycle routes and provide the perception of a narrower roadway.
	Buffered Bike Lanes provides a dedicated lane for bicyclists that make the movements of both motorists and bicyclists more predictable, leading to safer roads. They also provide the perception of a narrower roadway.



Table 7PHYSICAL MEASURES/DEVICES – HORIZONTAL DEFLECTIONS



- Includes curb extensions, median islands, and chokers
- Advantages:
 - Effective at reducing speeds, particularly in proximity to measure
 - Enhance pedestrian circulation and safety by reducing the crossing distance, improving the visibility of pedestrians, and enhancing pedestrian sight lines
- Disadvantages:
 - More expensive
 - May hinder bike circulation
 - May reduce on-street parking

Table 8 PHYSICAL MEASURES/DEVICES – VERTICAL DEFLECTIONS



- Includes speed humps/lumps, raised crosswalks, and raised intersections
- Advantages:
 - Effective at reducing speeds, particularly in proximity to measure
 - Raised crosswalks/intersections enhance pedestrian safety/circulation as they provide more defined pedestrian crossings
- Disadvantages:
 - More expensive
 - Increase emergency response times
 - Require additional signage/striping
 - Noise and aesthetic issues/concerns
 - May hinder bike circulation
 - May reduce on-street parking



Intersection Traffic Control

Development of the intersection traffic control plan involves a comprehensive evaluation of each intersection along with the existing overall operating conditions of the neighborhood (see Chapter 3). Any intersection traffic control plan must consider typical issues, such as the functional classification of the roadways, through trips, speeding, traffic calming, circulation, and land-use impacts. As such, a systematic approach was employed that examined the neighborhood from the inside (each individual intersection) and outside (the overall neighborhood). The intersection traffic control plan was generally based on the warrants and/or requirements in the MUTCD and the physical and operating characteristics of the roadway system, including the following:

- The functional classification of the roadway system
- The existing intersection traffic control
- The existing traffic volumes
- The pedestrian activity
- The existing crash data
- The land uses in the area
- Intersection sight distance

Figure 11 illustrates the recommended traffic control plan and Table 9 summarizes the recommended modifications.

Based on the evaluation, it has been determined that the following intersections should be under all-way stop sign control:

- The following intersections should continue to operate under all-way stop sign control, given that they are intersections of two collector roads:
 - Prospect Avenue with Alexander Boulevard
 - Prospect Avenue with Church Street and Elm Park Avenue
 - Cottage Hill Avenue with Church Street
 - Hagans Avenue with Elm Park Avenue
 - Myrtle Avenue with Alexander Boulevard
 - Berkley Avenue with Alma Avenue
- The following intersections should continue to operate under all-way stop sign control to maintain these established locations and due to the proximity of the intersections to Wilder Park and/or the downtown area:
 - Cottage Hill Avenue with Adelaide Street
 - York Street with Adelaide Street
- *West Avenue with Utley Road.* This intersection should continue to operate under all-way stop sign control to maintain this established location and due to the intersection's proximity to the IC Schools fields and Plunkett Park.



Table 9RECOMMENDED INTERSECTION TRAFFIC CONTROL MODIFICATIONS

Modifications	Intersections
Convert one-way stop sign control to all-way stop sign control	• Adelaide Street with Adell Place
Replace yield sign control with stop sign control	 Rex Boulevard at Alexander Boulevard Sunnyside Avenue at Alexander Boulevard Fairview Avenue at Alexander Boulevard A Berkley Avenue at Alexander Boulevard Hawthorne Avenue at Alexander Boulevard Fairfield Avenue at Alexander Boulevard Rex Boulevard at Utley Road Utley Road at Sunnyside Avenue Fairview Avenue at Utley Road Utley Road at Fairfield Avenue Utley Road at Grace Avenue Sunnyside Avenue at Elm Park Avenue Berkley Avenue north leg at Elm Park Avenue Berkley Avenue at Elm Park Avenue Fairfield Avenue at Elm Park Avenue
Install one-way stop sign control at intersections with no intersection traffic control	 Grace Avenue at Winthrop Avenue Elmwood Terrace at Cottage Hill Avenue Harbour Terrace at Cottage Hill Avenue Sturges Parkway at Harbour Terrace



- *Elm Park Avenue with Grace Avenue*. This intersection should continue to operate under all-way stop sign control to maintain this established location, due to the intersection's proximity to York High School, and due to the Safe Routes to School route that traverses this intersection.
- *Adelaide Street with Adell Place.* This intersection should be converted from one-way stop sign control to all-way stop sign control given its location in the downtown area and its proximity to the downtown parking garage.

The following intersections currently have yield sign control and should be converted so that the approaches under yield sign control are under stop sign control:

- Rex Boulevard at Alexander Boulevard
- Sunnyside Avenue at Alexander Boulevard
- Fairview Avenue at Alexander Boulevard
- Berkley Avenue at Alexander Boulevard
- Hawthorne Avenue at Alexander Boulevard
- Fairfield Avenue at Alexander Boulevard
- Rex Boulevard at Utley Road
- Utley Road at Sunnyside Avenue
- Fairview Avenue at Utley Road
- Hawthorne Avenue at Utley Road
- Utley Road at Fairfield Avenue
- Utley Road at Grace Avenue
- Sunnyside Avenue at Elm Park Avenue
- Fairview Avenue at Elm Park Avenue
- Berkley Avenue south leg at Elm Park Avenue
- Berkley Avenue north leg at Elm Park Avenue
- Hawthorne Avenue at Elm Park Avenue
- Fairfield Avenue at Elm Park Avenue

The following T-intersections have no traffic control and should be converted to one-way stop sign control so that the road with only one intersection leg is under stop sign control:

- Grace Avenue at Winthrop Avenue
- Elmwood Terrace at Cottage Hill Avenue
- Harbour Terrace at Cottage Hill Avenue
- Sturges Parkway at Harbour Terrace



Speed Limits and Posted Speed Limit Signs

Most of the roads within the neighborhood are regulated by a 25-mph neighborhood speed limit. However, Elm Park Avenue has a posted speed limit of 20 mph between Prospect Avenue and Hagans Avenue. Further, sections of Elm Park Avenue and Berkley Avenue have 15 mph advisory speed signs due to horizontal curves along these roads. Finally, several locations in proximity to York Community High School, the IC Schools, and Hawthorne Elementary School have 20 mph school speed zones that are in effect on school days when children are present.

The following neighborhood speed limit modifications are recommended in order to reduce the travel speeds in the neighborhood, provide better uniformity throughout the neighborhood, and to enhance pedestrian and bicycle safety:

- Establish park zones and install 20 mph park zone speed limits along the following sections of roads, which reduce the speed limit to 20 mph at locations with higher pedestrian activity, particularly children:
 - Cottage Hill Avenue between Adelaide Street and Church Street
 - Prospect Avenue between Alexander Boulevard and Church Street/Elm Park Avenue
 - Church Street between Cottage Hill Avenue and Prospect Avenue

It should be noted that the Illinois Vehicle Code and the Illinois Supplement of the MUTCD require (1) an advanced Park Zone warning sign, (2) an advanced reduced Park Zone speed limit sign, and (3) a Park Zone 20 mph speed limit zone be provided along any park zone with a reduced 20 mph speed limit (see inset).

- Install a 20 mph school speed limit sign on northbound York Street just south of Church Street and relocate the 20 mph school speed limit sign on Church Street between York Street and Cottage Hill Avenue further east.
- Eliminate 20 mph school speed limit signs on Cottage Hill Avenue, Prospect Avenue, Church Street, and Elm Park Avenue that are located along or within proximity to Wilder Park.





In addition, KLOA, Inc. examined both the type and locations of the existing speed limit signs within the neighborhood as a means to help mitigate travel speeds through the neighborhood. If the above measures are not effective in reducing the travel speeds, consideration should be given to installing permanent or temporary radar feedback signs within the neighborhood, including along Alexander Boulevard, Cottage Hill Avenue, and Alma Avenue. **Figure 12** illustrates the proposed modifications to the posted speed limit signs in the neighborhood, which consist of installing new signs with yellow borders, replacing signs, relocating signs, and adding yellow borders to existing speed limit signs as well as potential locations for permanent or temporary radar feedback signs.

Pedestrian Facilities and Traffic Control Devices

The neighborhood contains Wilder Park, Plunkett Park which includes the field for the IC Schools, and a portion of downtown Elmhurst. In addition, Elmhurst University, York Community High School, the IC Schools, and Hawthorne Elementary School are located in the neighborhood. To safely accommodate pedestrians, numerous pedestrian facilities and warning devices are provided within the neighborhood, which are highlighted in the existing conditions section of the report and illustrated in Figure 6.

In addition, KLOA, Inc. reviewed and evaluated the pedestrian crossings in the neighborhood to enhance pedestrian safety and circulation, compliance with the MUTCD, and overall consistency throughout the neighborhood. The recommended modifications to the pedestrian facilities and warning devices are shown in **Figure 13** and are summarized below and in **Table 10**:

- At the intersection of York Street with Church Street, as recommended in the approved *City of Elmhurst Bicycle and Pedestrian Plan*:
 - Install high visibility, ladder style crosswalks on all legs of the intersection.
 - Install combined bicycle/pedestrian advanced crossing assemblies (W11-15, W16-9P) on the north and south legs of York Street in advance of the bicycle and pedestrian crossings.
 - Install combined bicycle/pedestrian crossing assemblies (W11-15, W16-7P) on the north and south legs of York Street at the bicycle and pedestrian crossings on Church Street.
- At the intersection of St. Charles Road with Cottage Hill Avenue, as recommended in the approved *City of Elmhurst Bicycle and Pedestrian Plan*:
 - Replace the existing advance school crossing assemblies (S1-1, W16-9P) on the east and west legs of St. Charles Road in advance of the pedestrian crossings with pedestrian crossing assemblies (W11-2, W16-9P).
 - Replace existing school crossing assemblies (S1-1, W16-7P) and flashing beacons on the east and west legs of St. Charles Road at the pedestrian crossings with pedestrian crossing assemblies (W11-15, W16-7P) with Rectangular Rapid Flashing Beacons (RRFB) on all for intersection corners.



Table 10PEDESTRIAN FACILITIES AND TRAFFIC CONTROL DEVICES RECOMMENDATIONS

Location	Recommendation Description
York Street at Church Street (Per the City of Elmhurst Bicycle and Pedestrian Plan)	 Install high visibility, ladder style crosswalks on all legs of the intersection Install pedestrian/bicycle advanced crossing assemblies (W11-15, W16-9P) on York Street in advance of the crossings Install pedestrian/bicycle crossing assemblies (W11-15, W16-7P) on York Street at the crossings
St. Charles Road at Cottage Hill Avenue (Per the City of Elmhurst Bicycle and Pedestrian Plan)	 Replace the existing advance school crossing assemblies (S1-1, W16-9P) on St. Charles Road in advance of the crossings with pedestrian crossing assemblies (W11-2, W16-9P) Replace existing school crossing assemblies (S1-1, W16-7P) and flashing beacons on St. Charles Road at the crossings with pedestrian crossing assemblies (W11-15, W16-7P) with Rectangular Rapid Flashing Beacons (RRFB) on all four intersection corners
York Street at Robert T. Palmer Drive	 Install pedestrian advanced crossing assemblies (W11-2, W16-9P) on the north leg of York Street in advance of the crossings Install pedestrian crossing assemblies (W11-2, W16- 7P) on the north leg of York Street at the crossings
On York Street north of Arthur Street On York Street south of Arthur Street On Church Street east of Cottage Hill Ave On Church Street west of Cottage Hill Ave	 Install school advanced crossing assemblies (S1-1, W16-9P)
On Alexander Boulevard along the Elmhurst University frontage	• Replace the existing school crossing assemblies (S1- 1, W16-7P, or W16-9P) with pedestrian crossing assemblies (W11-2, W16-7P, or W16-9P)
On West Avenue in advance of Utley Road	• Install pedestrian advanced crossing assemblies (W11-2, W16-9P)
On Prospect Avenue along the Elmhurst University frontage	• Remove the existing advance school crossing assemblies (S1-1, W16-9P)
Entire neighborhood	Refresh crosswalks as needed
Elm Park Avenue with Hagans Avenue York Street with Church Street Cottage Hill Avenue with Arthur Street Berkley Avenue with Alma Avenue	• Install high visibility, ladder style crosswalks
Alexander Boulevard with Fairfield Avenue West Avenue with Utley Road Berkley Avenue with Alma Avenue Cottage Hill Avenue with Arthur Street Prospect Avenue with Park Avenue	• Replace standard crosswalks with high visibility, ladder style crosswalks



- At the intersection of York Street with Robert T. Palmer Drive:
 - Install pedestrian advanced crossing assemblies (W11-2, W16-9P) on the north leg of York Street in advance of the pedestrian crossings.
 - Install pedestrian crossing assemblies (W11-2, W16-7P) on the north leg of York Street at the pedestrian crossings.
- Install school advanced crossing assemblies (S1-1, W16-9P) at the following locations:
 - On York Street north of Arthur Street
 - On York Street south of Arthur Street
 - On Church Street east of Cottage Hill Avenue
 - On Church Street west of Cottage Hill Avenue
- Replace the existing school crossing assemblies (S1-1, W16-7P, or W16-9P) on Alexander Boulevard along the Elmhurst University frontage with pedestrian crossing assemblies (W11-2, W16-7P, or W16-9P).
- Install pedestrian advanced crossing assemblies (W11-2, W16-9P) on West Avenue in advance of Utley Road.
- Remove the existing advance school crossing assemblies (S1-1, W16-9P) on Prospect Avenue along the Elmhurst University frontage.
- Install high visibility, ladder style crosswalks at the following intersections:
 - Elm Park Avenue with Hagans Avenue (south and west legs)
 - York Street with Church Street (north and south legs)
 - Cottage Hill Avenue with Arthur Street (south leg)
 - Berkley Avenue with Alma Avenue (south leg)
- Replace standard crosswalks with high visibility, ladder style crosswalks at the following intersections:
 - Alexander Boulevard with Fairfield Avenue (west leg)
 - West Avenue with Utley Road (north, east, and south legs)
 - Berkley Avenue with Alma Avenue (east leg)
 - Cottage Hill Avenue with Arthur Street (west leg)
 - Prospect Avenue with Park Avenue (east and west legs)



Bicycle Facilities

The 2013 *Elmhurst Bicycle Plan* currently designates several neighborhood roads as bike routes that extend through the neighborhood. In addition, bike route signs and "Share the Road" signs are installed along portions of Utley Road, Rex Boulevard, Alexander Boulevard, Myrtle Avenue, Park Avenue, and Cottage Hill Avenue designating them as bike routes. Enhancing the visibility of the bike routes through the City may increase the comfort level of bicyclists, encourage more people to ride, and more effectively alert motorists to the potential presence of bicyclists. **Figure 14**, **Table 11**, and the following summarize the recommendations for the bicycle facilities in the neighborhood, many of which are from the *City of Elmhurst Bicycle and Pedestrian Plan:*

- Per the *City of Elmhurst Bicycle and Pedestrian Plan*, designate the following roads as Bike Boulevards:
 - Cottage Hill Avenue between Church Street and St. Charles Road
 - Prospect Avenue between Park Avenue and St. Charles Road
 - Grace Avenue between Alexander Boulevard and Winthrop Avenue
 - Hagans Avenue between Winthrop Avenue and St. Charles Road
 - Myrtle Avenue between Park Avenue and Alexander Boulevard (existing route)
 - Rex Boulevard between Alexander Boulevard and Utley Road (existing route)
 - Alexander Boulevard between Rex Boulevard and Myrtle Avenue (existing route)
 - Church Street and Elm Park Avenue between York Street and West Avenue
 - Winthrop Avenue between Grace Avenue and Hagans Avenue
- Per the *City of Elmhurst Bicycle and Pedestrian Plan*, designate West Avenue as an Advisory Bike Lane.
- Per the *City of Elmhurst Bicycle and Pedestrian Plan*, side paths or multi-use paths are recommended to be provided along St. Charles Road and around the periphery of Wilder Park.
- Per the *City of Elmhurst Bicycle and Pedestrian Plan*, eliminate the existing designated bike routes along the following roads:
 - Park Avenue
 - Cottage Hill Avenue between Park Avenue and Church Street
- Per the *City of Elmhurst Bicycle and Pedestrian Plan*, the following pavement markings are recommended to be installed on the designated bike routes:
 - Install sharrow pavement markings along all of the designated Bike Boulevards
 - Install bike lanes along West Avenue (Advisory Bike Lane)
 - Install bike lanes on Church Street through its intersection with York Street
- Install new and/or additional bike route signs on the bike routes along Cottage Hill Avenue, Prospect Avenue, Grace Avenue, Hagans Avenue, Alexander Boulevard, Elm Park Avenue, Church Street, and Winthrop Avenue.





Recommendation Description	Location
Designate as Bike Boulevards (Per the City of Elmhurst Bicycle and Pedestrian Plan)	 Cottage Hill Avenue between Church Street and St. Charles Road Prospect Avenue between Park Avenue and St. Charles Road Grace Avenue between Alexander Boulevard and Winthrop Avenue Hagans Avenue between Winthrop Avenue and St. Charles Road Myrtle Avenue between Park Avenue and Alexander Boulevard Rex Boulevard between Alexander Boulevard and Utley Road Alexander Boulevard between Rex Boulevard and Myrtle Avenue Church Street/Elm Park Avenue between York Street and West Avenue Winthrop Avenue between Grace Avenue and Hagans Avenue
Designate as Advisory Bike Lane (Per the City of Elmhurst Bicycle and Pedestrian Plan)	• West Avenue through the neighborhood
Install side paths or multi-use paths (Per the <i>City of Elmhurst Bicycle and Pedestrian Plan</i>)	Along St. Charles RoadAlong the periphery of Wilder Park
Eliminate current designated bike routes (Per the <i>City of Elmhurst Bicycle and Pedestrian Plan</i>)	 Park Avenue Cottage Hill Avenue between Park Avenue and Church Street
Install sharrow pavement markings (Per the City of Elmhurst Bicycle and Pedestrian Plan)	• Along all of the designated Bike Boulevards
Install bike lane pavement markings (Per the City of Elmhurst Bicycle and Pedestrian Plan)	• Both sides of West Avenue
Install bike lane pavement markings (Per the City of Elmhurst Bicycle and Pedestrian Plan)	• On Church Street through its intersection with York Street
Install new/additional bike route signs	 Cottage Hill Avenue Prospect Avenue Grace Avenue Hagans Avenue Alexander Boulevard Elm Park Avenue Church Street Winthrop Avenue

Table 11BICYCLE FACILITIES RECOMMENDATIONS



West Avenue Parking

On-street parking on West Avenue between St. Charles Road and Alexander Boulevard is currently permitted on the east side of West Avenue between Alexander Boulevard and Elm Park Avenue. However, the parking is restricted to two-hour parking from 8:00 A.M. to 4:00 P.M. on school days. In addition, nine angled parking spaces are provided on the east side of West Avenue just north of St. Charles Road. Parking is prohibited along the entire west side of West Avenue.

Based on discussion with City staff, consideration should be given to relocating a portion or all of the on-street parking permitted on West Avenue from the east side to the west side of the road as it provides the following benefits:

- The west side of the road has only three access drives along the two-block stretch of West Avenue compared to 13 access drives on the east side of the road. As such, the west side of the road can accommodate more on-street parking than the east side of the road.
- It is our understanding that the majority of the on-street parking is used for activities and events at Plunkett Park and the IC School fields. With the proposed relocation, the on-street parking will be located on the side of the road which generates the majority of the parking, which will significantly reduce the need for parkers to cross West Avenue.
- Prohibiting parking on the east side of the road will enhance the ability of residents to back out of their access drives by eliminating obstructed sight lines that result from the on-street parking.

However, before any changes are instituted, the potentially affected residents should be surveyed to ensure that the majority of the residents support the on-street parking change and the impact of the parking change on the operation of the West Avenue/Alexander Boulevard intersection should be further studied.

Prohibiting Left-Turn Movements

Some residents have requested that left-turn movements be prohibited from Prospect Avenue to St. Charles Road during the peak hours as the left-turn movements add to the congestion that occurs along Prospect Avenue. While the elimination of the left-turn movement will reduce the delay and queuing along the Prospect Avenue approach, given the following, the left-turn movements should not be prohibited until a more comprehensive evaluation of the intersection and the adjacent intersections and roadways is performed:

• Prohibiting the left-turn movement will result in the redistribution of the left-turn traffic to other neighborhood roads, particularly Cottage Hill Avenue and Hagans Avenue. The redistribution of the traffic will likely result in additional impact to the other roads that needs to be more thoroughly examined, which is critical considering that the intersection of Cottage Hill Avenue with St. Charles Road is a signed pedestrian crossing.



• The number of crashes experienced at this intersection is similar to or less than the number of crashes at the intersections of St. Charles Road with Cottage Hill Road and St. Charles Road with Hagans Avenue.

Further, consideration should be given to surveying the potentially affected residents to ensure that the majority of the residents support this change.

Pavement Markings and Signage

Based on field observations, the following summarizes additional recommendations concerning the neighborhood signage and pavement markings:

- Several of the regulatory and warning signs in the neighborhood were partially obstructed from view by overgrown trees and bushes. City staff should inspect all sign locations within the neighborhood during late spring/early summer to identify trees located within the right-of-way in need of trimming.
- Stop lines are supplemental pavement markings that enhance the visibility of the stop sign control, which can improve compliance and reduce crash potential. When used in combination with crosswalks, they indicate the point at which vehicles should stop to provide adequate separation from pedestrians in the crosswalk. The following stop bar modifications are recommended:
 - Refresh existing stop bars that have become faded
 - Relocate the stop bars on the stop sign approaches where high visibility, ladder style crosswalks are recommended to be installed
 - Install stop bars on the approaches that have an existing or proposed crosswalk
- Refresh all pavement markings that have become faded including parking boxes/lines, centerlines, stop bars, etc.

Education

Based on field observations 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 roads
- State of Illinois "Stop for Pedestrians in the Crosswalk" law
- Laws related to traffic movements and cell phone use within school zones/bus loading areas
- Navigating the City's website for neighborhood transportation data, studies, and information

In addition, City officials should continue to work with York High School administration to further educate and communicate with school users on adhering to the school's drop-off/pick-up and bus procedures and the area traffic and parking regulations and to be respectful of the area residents.



Enforcement

Police enforcement of the posted traffic regulations is a critical component of the neighborhood traffic improvement plan. Recommendations include to continue and/or expand the speed enforcement efforts to target some of the local roads that experience higher travel speeds (Cottage Hill Avenue, Prospect Avenue, Hagans Avenue, West Avenue, Alexander Boulevard, and Alma Avenue) and those roads where reduced park zone speed limits are recommended (Cottage Hill Avenue, Prospect Avenue, and Church Street).

Traffic Calming Measures

Speeding and cut-through traffic are generally two of the major concerns expressed by residents in any neighborhood. As discussed previously, the traffic volumes within the neighborhood are generally within an acceptable range for residential roads and consistent with traffic patterns on other neighborhood roads within the City. Further, except for six neighborhood roads, the average speeds observed on the neighborhood roads were at or below the posted speed limit and the observed 85th percentile speeds were within five mph of the posted speed limit.

The various recommendations made as part of the study, which include many traffic calming measures/devices, will help to mitigate the speeds in the neighborhood. In addition, KLOA, Inc. examined locations that would be appropriate for additional traffic calming measures/devices and developed additional traffic calming recommendations for the City to consider. The review was based on the existing traffic volumes, speed surveys, and roadway characteristics. Before any physical measures/devices are implemented, a thorough evaluation will need to be conducted to examine the impact of the measures/devices including emergency vehicle access and response times, diversion of traffic to other neighborhood roads, drainage impacts, costs, and long-term maintenance. **Table 12** outlines the traffic calming recommendations for the various roads in the neighborhood and includes recommendations already summarized in the study.

Consideration should be given to installing horizontal deflection measures (curb extensions, median islands, chokers/neck-downs, chicanes, etc.) and/or permanent or temporary radar feedback signs, if the recommended measures are not effective in reducing the travel speeds and/or as part of resurfacing and/or construction projects. The following summarizes the potential locations for permanent or temporary radar feedback signs (see Figure 12) and/or horizontal deflection measures (see Figure 15):

- Radar Feedback Signs Potential Locations
 - Alexander Boulevard
 - Cottage Hill Avenue
 - Alma Avenue





Table 12POTENTIAL TRAFFIC CALMING MEASURES

Traffic Calming Measure	Locations
Speed Monitors and Police Enforcement. Continue use of portable electronic speed monitors and/or enhance targeted police enforcement to increase awareness and enforce speed limits.	• Neighborhood-wide
<i>Speed Limit Signage</i> . Install additional speed limit signs and/or yellow-framed speed limit signs to further reinforce the speed limits.	Neighborhood-wide
<i>Park Zone 20 mph Speed Limit</i> . Install park zone 20 mph speed limits to reduce the speeds at these higher pedestrian locations.	 Cottage Hill Avenue along Wilder Park Prospect Avenue along Wilder Park Church Street along Wilder Park
<i>Sharrows.</i> Per the <i>City of Elmhurst Bicycle</i> <i>and Pedestrian Plan</i> , install sharrows along both directions of the road to provide shared vehicle/bicyclist lanes and to make movements of vehicles and bicyclists more predictable, leading to safer roads.	 Cottage Hill - Church to St. Charles Prospect - Park Avenue to St. Charles Grace - Alexander to Winthrop Avenue Hagans - Winthrop to St. Charles Myrtle - Park to Alexander Rex - Alexander to Utley Alexander - Rex to Myrtle Church Street/Elm Park - York - West
<i>Bike lanes.</i> Per the <i>City of Elmhurst Bicycle</i> <i>and Pedestrian Plan,</i> install bike lanes on both sides of the road.	• West Avenue
<i>Radar Feedback Signs</i> . Consider installing radar feedback signs in both directions.	Alexander BoulevardCottage Hill AvenueAlma Avenue
<i>Horizontal Deflection Measures</i> . Consider installing curb extensions, median islands, chokers/neck-downs.	 York Street with Robert T. Palmer Drive Cottage Hill Avenue with Park Avenue Cottage Hill Avenue with Church Street Prospect Avenue with Park Avenue Alma Avenue with Elm Park Avenue Alma Avenue with Berkley Avenue



- Horizontal Deflection Measures Potential Locations/Intersections
 - York Street with Robert T. Palmer Drive
 - Cottage Hill Avenue with Park Avenue
 - Cottage Hill Avenue with Church Street
 - Prospect Avenue with Park Avenue
 - Alma Avenue with Elm Park Avenue
 - Alma Avenue with Berkley Avenue



5. Conclusion

This study summarizes the results and findings of the first (pilot) neighborhood traffic study in the City of Elmhurst. The neighborhood is bounded by the Union Pacific (UP) Railroad tracks on the north, York Street on the east, St. Charles Road on the south, and the CN – IC Railroad tracks and West Avenue on the west. Overall, the objective of the study was to thoroughly examine the existing traffic operations within the neighborhood, identify operational deficiencies, and recommend modifications and/or improvements to enhance both vehicular and pedestrian operations. The study addressed the primary traffic concerns within any neighborhood: vehicular volume, vehicular speed, and overall vehicular and pedestrian safety. The recommendations developed in the study were based primarily on accepted engineering practices, conformity with the 2009 MUTCD, existing City criteria, and input from City staff.

The matrix in **Table 13** summarizes the recommendations of the Traffic Study and includes the level of difficulty and general cost range to implement each project.



Table 13 CITY OF ELMHURST PILOT NEIGHBORHOOD - RECOMMENDATION MATRIX

Transportation Component	Location	Recommendation Description	Ease of Implementation Effort	Cost
Traffic Control	Adelaide St with Adell Pl	• Install all-way stop sign control at intersections with one-way stop sign control	Low	Low
Traffic Control	 Grace Ave at Winthrop Ave Elmwood Ter at Cottage Hill Ave Harbour Ter at Cottage Hill Ave Sturges Pkwy at Harbour Ter 	• Install one-way stop sign control on the road with only one intersection leg at these T-intersections that have no traffic control	Low	Low
Traffic Control	 Alexander Blvd with Rex Blvd Alexander Blvd with Sunnyside Ave Alexander Blvd with Fairview Ave Alexander Blvd with Berkley Ave Alexander Blvd with Berkley Ave Alexander Blvd with Fairfield Ave Utley Road with Rex Blvd Utley Road with Sunnyside Ave Utley Road with Fairfield Ave Elm Park Ave with Sunnyside Ave Elm Park Ave with Berkley S. leg Elm Park Ave with Berkley N. leg Elm Park Ave with Hawthorne Ave Elm Park Ave with Fairfield Ave 	• Replace yield sign control with stop sign control	Low	Low
Pedestrian Facilities	York Street with Church Street (Per the City of Elmhurst Bicycle and Pedestrian Plan)	 Install high visibility, ladder style crosswalks on all legs Install bicycle/pedestrian advanced crossing assemblies (W11- 15, W16-9P) on York Street in advance of the crossings Install bicycle/pedestrian crossing assemblies (W11-15, W16- 7P) on York Street at the crossings 	Low	Low



Table 13 (Continued) CITY OF ELMHURST PILOT NEIGHBORHOOD - RECOMMENDATION MATRIX

Transportation Component	Location	Recommendation Description	Ease of Implementation Effort	Cost
Pedestrian Facilities	St. Charles Road at Cottage Hill Ave (Per the <i>City of Elmhurst Bicycle and</i> <i>Pedestrian Plan</i>)	 Replace the advance school crossing assemblies (S1-1, W16-9P) on St. Charles Road in advance of the crossings with pedestrian crossing assemblies (W11-2, W16-9P) Replace school crossing assemblies (S1-1, W16-7P) and flashing beacons on St. Charles Road at the crossings with pedestrian crossing assemblies (W11-15, W16-7P) with Rectangular Rapid Flashing Beacons (RRFB) 	Low	Medium
Pedestrian Facilities	York Street at Robert T. Palmer Drive	 Install pedestrian advanced crossing assemblies (W11-2, W16-9P) on the north leg of York Street in advance of the crossings Install pedestrian crossing assemblies (W11-2, W16-7P) on the north leg of York Street at the crossings 	Low	Low
Pedestrian Facilities	On York Street north of Arthur Street On York Street south of Arthur Street On Church St east of Cottage Hill Ave On Church St west of Cottage Hill Ave	 Install school advanced crossing assemblies (S1-1, W16-9P) 	Low	Low
Pedestrian Facilities	On Alexander Boulevard along the Elmhurst University frontage	• Replace the school crossing assemblies (S1-1, W16-7P or W16-9P) with pedestrian crossing assemblies (W11-2, W16-7P or W16-9P)	Low	Low
Pedestrian Facilities	On West Avenue in advance of Utley Road	• Install pedestrian advanced crossing assemblies (W11-2, W16-9P)	Low	Low
Pedestrian Facilities	On Prospect Avenue along the Elmhurst University frontage	• Remove the existing advance school crossing assemblies (S1- 1, W16-9P)	Low	Low
Pedestrian Facilities	Elm Park Avenue with Hagans Ave York Street with Church Street Cottage Hill Avenue with Arthur St Berkley Avenue with Alma Ave	• Install high visibility, ladder style crosswalks	Low	Low
Pedestrian Facilities	Alexander Ave with Fairfield Ave West Avenue with Utley Road Berkley Avenue with Alma Ave Cottage Hill Ave with Arthur St Prospect Avenue with Park Ave	• Replace standard crosswalks with high visibility, ladder style crosswalks	Low	Low



Table 13 (Continued) CITY OF ELMHURST PILOT NEIGHBORHOOD - RECOMMENDATION MATRIX

Transportation Component	Location	Recommendation Description	Ease of Implementation Effort	Cost
Bicycle Facilities	Cottage Hill Avenue Church Street - St. Charles Road Prospect Avenue Park Avenue - St. Charles Road Grace Avenue Alexander Blvd - Winthrop Ave Hagans Avenue Winthrop Ave - St. Charles Rd Myrtle Avenue Park Avenue - Alexander Blvd Rex Boulevard Alexander Blvd - Utley Road Alexander Boulevard Rex Boulevard - Myrtle Avenue Church Street/Elm Park Avenue York Street - West Avenue	 Designate as Bike Boulevards Install sharrow pavement markings (Per the <i>City of Elmhurst Bicycle and Pedestrian Plan</i>) 	Low	Low
Bicycle Facilities	West Avenue	 Designate as Bike Advisory Route Install bike lanes (Per the <i>City of Elmhurst Bicycle and Pedestrian Plan</i>) 	Low	Low
Bicycle Facilities	St. Charles Road Along Wilder Park	• Install side paths or multi-use paths (Per the <i>City of Elmhurst Bicycle and Pedestrian Plan</i>)	High	High
Bicycle Facilities	Park Avenue Cottage Hill Avenue between Park Avenue - Church Street	• Eliminate current designated bike routes (Per the <i>City of Elmhurst Bicycle and Pedestrian Plan</i>)		
Bicycle Facilities	Church Street at York Street	• Install bike lanes through this intersection (Per the <i>City of Elmhurst Bicycle and Pedestrian Plan</i>)	Low	Low
Bicycle Facilities	Along various designated bike routes	• Install bike route signs	Low	Low
Striping & Signage	Neighborhood-wide	• Inspect all traffic sign locations and trim trees within City right-of-way to improve visibility of signs	Low	Low
Striping & Signage	Neighborhood-wide	• Refresh all pavement markings including parking boxes/lines, centerlines, bike lanes, stop bars, etc.	Low	Low
Striping & Signage	Neighborhood-wide	 Install stop bars on approaches that have an existing or proposed crosswalk. 	Low	Low





Table 13 (Continued)CITY OF ELMHURST PILOT NEIGHBORHOOD - RECOMMENDATION MATRIX

Transportation Component	Location	Recommendation Description	Ease of Implementation Effort	Cost
Traffic Speeds	Cottage Hill Ave along Wilder Park Prospect Avenue along Wilder Park Church Street along Wilder Park	• Install Park Zone with 20-mph speed limit	Low	Low
Traffic Speeds	York Street south of Church Street Church Street west of York Street	• Install/relocate School Zone with 20-mph speed limit	Low	Low
Traffic Speeds	Cottage Hill Avenue Prospect Avenue Church Street Elm Park Avenue	• Eliminate 20 mph school speed limits signs along or within proximity to Wilder Park	Low	Low
Traffic Speeds	Neighborhood-wide (see Figure 12)	 Install new neighborhood speed limit signs Install new speed limit signs with yellow borders Install new Park Zone and School Zone 20-mph speed limit signs 	Low	Low
Traffic Speeds	Alexander Boulevard Cottage Hill Avenue Alma Avenue	• Potential future locations for radar feedback signs	Low	Medium
Traffic Speeds	York Street & Robert T. Palmer Drive Cottage Hill Avenue & Park Avenue Cottage Hill Avenue & Church Street Prospect Avenue & Park Avenue Alma Avenue & Elm Park Avenue Alma Avenue & Berkley Avenue	• Potential locations for future horizontal deflection measures (curb extensions, median islands, chokers/neck-downs, chicanes, etc.)	High	High



Table 13 (Continued) CITY OF ELMHURST PILOT NEIGHBORHOOD - RECOMMENDATION MATRIX

Transportation Component	Location	Recommendation Description	Ease of Implementation Effort	Cost
Traffic Speeds	Neighborhood-wide	• Targeted speed enforcement and use of speed radar trailer	Low	Low
Education		 Develop materials to explain City policies regarding vehicular speeds and volumes on neighborhood roads Develop materials to explain State of Illinois "Stop for Pedestrians in the Crosswalk" law Develop materials to assist with navigating the City's website for neighborhood transportation data, studies, and information Further educate and communicate with Yor High School users on adhering to the school's drop-off/pick-up and bus procedures and the area traffic and parking regulations and to be respectful of the area residents. 	Low	Low

KEY:

Ease of Implementation

High – Recommendation is anticipated to require an extensive level of any or all 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 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.



Appendix

Figures

Figures







