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**MEMORANDUM**

Date: May 20, 2014

To: Sarah Kuechler  
Assistant to Village Manager  
Village of Glenview

**DRAFT**

From: Adam Moulton, EIT                      Thomas Adomshick, PE, PTOE  
Engineering Intern                          President

Re: Colfax Avenue in Park Manor Traffic Study  
Glenview, Illinois  
Job No. 1456

In 2006 the Village of Glenview commissioned a comprehensive traffic study in the Park Manor neighborhood. The study included Colfax Avenue between Shermer Road and Harlem Avenue. In the eight year period since that study was performed, conditions have changed, including implementation of traffic calming measures on Colfax Avenue east of Harlem Avenue.

The Village retained James J. Benes & Associates, Inc. to perform a study of current traffic conditions on Colfax Avenue between Shermer Road and Harlem Avenue. This study included performance of new daily vehicular volume and speed data collection, and peak hour cut-through traffic counts to quantify current traffic conditions along the subject section of street. The study also included a reassessment of the need for multi-way stop sign control at the intersection of Colfax Avenue with Lincoln Street.

The following is a summary of the collected data and findings of the study.

**1. Traffic Volume and Speed Data**

Twenty-four hour daily traffic volumes and speed data were recorded using automatic traffic sensors from Tuesday April 8<sup>th</sup> through Thursday April 10<sup>th</sup>, 2014. The current year and 2006 recorded traffic volumes as shown on the attached exhibit and in the following table.

<b>Recorded Average Daily Traffic Volumes</b>			
<b>Location</b>	<b>2006</b>	<b>2013</b>	<b>2014</b>
Colfax – eastbound east of Elm	n/a	n/a	458
Colfax – eastbound approach to Lincoln	330	325	466
– westbound approach to Lincoln	625	620	534
<b>Colfax – Two-way at Lincoln</b>	955	945	1000
Lincoln – northbound approach to Colfax	105	n/a	188
– southbound approach to Colfax	65	n/a	88
<b>Lincoln – Two-way at Colfax</b>	170	n/a	276

Overall traffic has increased since 2006 along Colfax Avenue and on Lincoln Street near Colfax. The two-way total along Colfax Avenue increased from 955 to 1,000 vehicles per day; a 0.6 percent increase per year.

Two-way total traffic volumes on Lincoln Street increased from 170 to 276 vehicles per day. At 276 vehicles per day, Lincoln Street still is considered to be a very low volume street.

The following table shows the 85<sup>th</sup> percentile of traffic speeds recorded on Colfax Avenue during the study.

<b>85<sup>th</sup> PERCENTILE TRAFFIC SPEEDS ON COLFAX AVENUE</b>			
<b>Location</b>	<b>2006</b>	<b>2013</b>	<b>2014</b>
Elm Street (Eastbound)	n/a	n/a	30 mph
Lincoln Street (Two-Way)	30 mph	31 mph	30 mph

The posted speed limit on Colfax Avenue is 20 miles per hour (mph). The 85<sup>th</sup> percentile speed, the speed at or below which 85 percent of vehicles are traveling, has varied little since 2006.

## 2. Cut-Through Traffic

The actual cut-through trips occurring during the morning and evening peak traffic periods were documented by license plate surveys from 7:00 to 9:00 am, and from 4:00 to 6:00 pm. The first three alpha-numeric characters on the license plate of each vehicle entering and exiting the neighborhood, and the time each vehicle passed were recorded. The data was reviewed and all vehicles that passed straight through the neighborhood on Colfax Avenue between Shermer Road to Harlem Avenue without stopping were identified.

Confirmed 2014 cut-through trips on Colfax Avenue were quantified, and are compared to historic cut-through data for the same time periods on the following table.

<b>PEAK PERIOD CUT-THRU TRIPS ON COLFAX AVENUE</b>				
	<b>Year</b>	<b>Eastbound</b>	<b>Westbound</b>	<b>Total</b>
<b>AM - 7:00 to 9:00</b>				
Peak Hour	2006	7	9	16
	2014	6	15	21
Two Hour Total	2006	12	14	26
	2014	15	23	38
<b>PM - 4:00 to 6:00</b>				
Peak Hour	2006	2	10	12
	2014	5	21	26
Two Hour Total	2006	3	17	20
	2014	7	35	42

Cut-through traffic on Colfax Avenue between Shermer Road and Harlem Avenue has increased since 2006. The total increase in cut-through movements from 2006 to 2014 is 34 trips during the four hour count period. During the morning peak hour, 5 additional cut-through trips were recorded. An increase of 14 cut-through trips was recorded during the evening peak hour.

### 3. Stop Sign Warrant Analysis

The need for multi-way stop signs at the intersection of Colfax Avenue and Lincoln Street was re-assessed in accordance with the current Manual on Uniform Traffic Control (MUTCD).

**Multi-way Stop Sign Control:** Multi-way stop signs are intended to provide safe and adequate gaps for vehicles to enter an intersection. It is stated in the MUTCD that stop signs should not be used for speed control. Studies have shown that with unwarranted stop signs, more drivers will deliberately ignore stop signs or perform “rolling” stops, and can increase accident experience. Unwarranted stop signs can increase mid-block speeds as drivers try to make up for lost time. Traffic safety data shows that most pedestrian fatalities among children of ages 14 and younger occur at non-intersection locations.

The intersection of Colfax Avenue with Lincoln Street was reviewed to determine if multi-way stop sign control would be warranted based on the following MUTCD criteria: minimum traffic volumes and crash experience.

**Minimum traffic volume:** The MUTCD minimum volume thresholds for warranting multi-way Stop sign control are as follows:

- 1) The vehicular volume entering the intersection from the major approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day, and
- 2) The combined vehicular, pedestrian and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor street vehicular traffic of at least 30 seconds per vehicle during the highest hour.

To assess these criteria, collected 24-hour vehicular traffic count data were reviewed the intersection along with peak period pedestrian crossing volume information provided by the Village. As shown on the table on the following page, **the minimum traffic volume criteria are not met.**

**Crash history:** The MUTCD crash history criteria for identification of a crash problem that would warrant multi-way Stop sign control is as follows:

“A crash problem as indicated by 5 or more reported crashes in a 12 month period that are susceptible to correction by a multi-way Stop sign installation. Such crashes include right- and left-turn collisions as well as right-angle collisions.”

In the past 5 years, there have been no crashes in the area studied. This is an improvement from the previous study, which indicated 3 crashes at the intersection from 2002 to 2006. **Recent crash history does not meet the criteria for multi-way Stop sign control.**

<b>MULTI-WAY STOP SIGN INSTALLATION MINIMUM VOLUME CRITERIA</b>		
Intersection	Average Hourly Vehicular Approach Volume for 8 Highest Hours	
	Sum of Maj. App.	Sum of Min. App.
MUTCD Criteria	300	200
Colfax Ave. & Lincoln St. <b>(2006)</b>	71	10*
Colfax Ave. & Lincoln St. <b>(2014)</b>	82	23**

\* Pedestrian crossing volumes are not included.

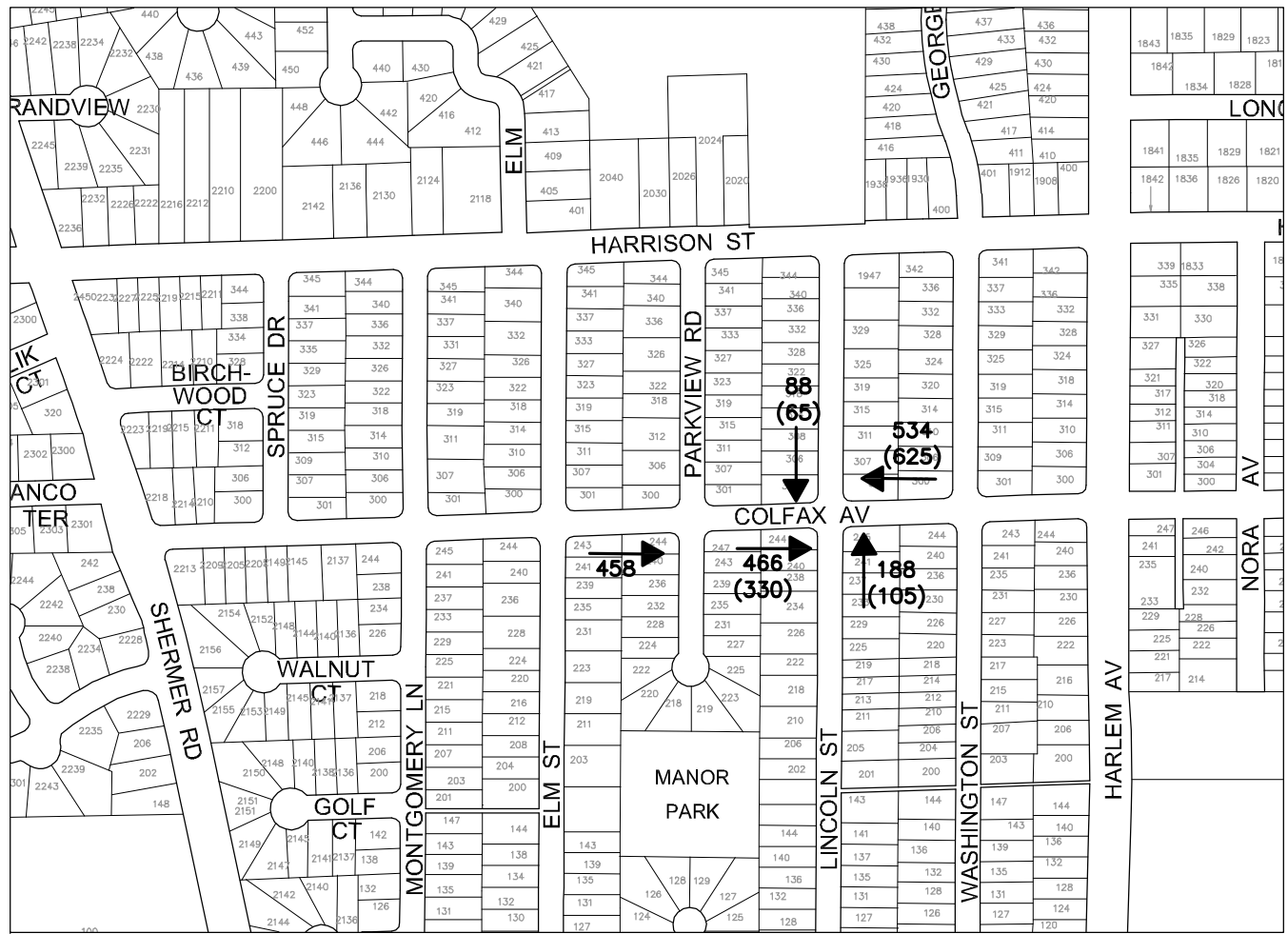
\*\* Pedestrian crossing volumes are not included. Peak hour pedestrian volumes averaged about 20 per hour during the morning peak hour per Village supplied data. Conservatively assuming the 8 highest hour average pedestrian crossing volume is 20, the combined minor approach vehicular volume plus pedestrian volume of 43 per hour remains far below the criteria threshold.

#### 4. Conclusion

Current Colfax Avenue traffic data was compared to data used in the 2006 Park Manor neighborhood traffic study. The following summarizes the findings of this new study.

- Daily volumes – Traffic volume through the intersection of Lincoln Street and Colfax Avenue has increased since 2006. The rate of increase on Colfax averaged 0.6 percent per year.
- Speed – There has been minimal change in vehicle speeds over the past 8 years. The 85<sup>th</sup> percentile speed on Colfax Avenue remains at about 30 mph.
- Cut-through traffic on Colfax Avenue between Shermer Road and Harlem Avenue has increased since 2006. The total increase in cut-through movements from 2006 to 2014 is 34 trips during the four hour count period, and average of 8 to 9 additional trips per hour. During the morning peak hour, 5 additional cut-through trips were recorded. An increase of 14 cut-through trips was recorded during the evening peak hour.
- The need for multi-way stop sign control was re-assessed at the Lincoln Street intersection with Colfax Avenue. This intersection still does not meet MUTCD criteria for multi-way stop sign control.

--END--



**LEGEND**

← DIRECTION OF TRAFFIC FLOW

XX 2014 VOLUMES

(XX) 2006 VOLUMES



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**VILLAGE OF GLENVIEW  
 TRAFFIC STUDY**

**COLFAX AVE.  
 IN PARK MANOR NEIGHBORHOOD  
 AVERAGE DAILY TRAFFIC VOLUMES**