

# CITY OF WEST CHICAGO

WHERE HISTORY & PROGRESS MEET

## NOTICE

### PUBLIC AFFAIRS COMMITTEE

**Monday, March 26, 2018  
7:00 P.M. - Committee Room (A)**

## AGENDA

1. Call to Order, Roll Call, and Establishment of a Quorum
2. Approval of Minutes
  - A. Public Affairs Committee of February 26, 2018
3. Public Participation / Presentations
4. Items for Discussion
  - A. Review of the Results of the Video Gaming Referendum
5. Items for Consent
  - A. Traffic Safety Assessment Report – Intersection of Prince Crossing Road and Hawthorne Lane
  - B. ABD Cycling
  - C. Master's Memorial Weekend Races
6. Unfinished Business
7. New Business
8. Reports from Staff
  - A. West Chicago Police Department Monthly Report
9. Adjournment

**DRAFT**

**MINUTES**

**PUBLIC AFFAIRS COMMITTEE**

**Monday, February 26, 2018 7:00 P.M.**

**1. Call to Order, Roll Call, and Establishment of a Quorum.**

Chairman Chassee called the meeting to order at 7:00pm. Roll Call found Brown, Hallett, Garcia, Birch Ferguson, Meissner and Gagliardi.

**2. Approval of Minutes.**

**A. Public Affairs Committee Minutes of November 27, 2017.** Alderman Brown made a motion, seconded by Alderman Garcia to approve the minutes of the Public Affairs Committee meeting with no changes. Voting Aye: Chairman Chassee, Alderman Brown, Hallett, Garcia, Birch Ferguson, Meissner and Gagliardi. Voting Nay: 0. Motion carried.

**3. Public Participation / Presentations.**

**A. Giving DuPage.** This organization was established with a mission to inspire and inform businesses, civic groups and individuals in DuPage County to share their resources of time, money, goods and services with non-profits, serving the needs of county residents. The City will be working with this organization in the future.

**B. Gallery 200 Annual Report.** Chairman Chassee requested that future reports show side by side year comparison on Gallery sales, expenditures etc.

**4. Items for Discussion.**

**A. Signage at City Hall and the Police Station.** The Committee gave staff direction to proceed with the option of the signs worth \$9,500 each per the phone quote given to staff.

**B. Mexican Independence Day Festival-Additional Funding.** The Committee gave staff the recommendation that the City would match the amount of cash donations raised by staff in excess of \$2,000, with the City's maximum contribution of \$20,000 for the 2018 event. This agreement will be reevaluated to see the effectiveness before developing a three year contract.

**C. New City – Sponsored Event.** The Committee approved the West Chicago Food Festival event to take place on Saturday October 13, 2018.

**5. Items for Consent.**

A. Ordinance No. 17-O-0041 – Amending Chapter 11, Article II, Division 6, ANIMAL CONTROL AND CARE of the West Chicago Code of Ordinances. Alderman Hallett made a motion, seconded by Alderman Brown to direct this item to City Council for approval. Voting Aye: Chairman Chassee, Alderman Brown, Hallett, Garcia, Birch Ferguson, Meissner and Gagliardi. Voting Nay: 0. Motion carried.

B. Ordinance No. 18-O-0007 – An Ordinance Amending Chapter 17, Traffic, Article XVII. Schedule of Designated Streets: Division 3. Stop Intersections: Section 17-176-Designated; compliance required. Alderman Garcia made a motion, seconded by Alderman Hallett to direct this item to City Council for approval. Voting Aye: Chairman Chassee, Alderman Brown, Hallett, Garcia, Birch Ferguson, Meissner and Gagliardi. Voting Nay: 0. Motion carried.

C. Stations of the Cross. Alderman Garcia made a motion, seconded by Alderman Hallett to direct this item to City Council for approval. Voting Aye: Chairman Chassee, Alderman Brown, Hallett, Garcia, Birch Ferguson, Meissner and Gagliardi. Voting Nay: 0. Motion carried.

D. We Go Run. Alderman Garcia made a motion, seconded by Alderman Hallett to direct this item to City Council for approval. Voting Aye: Chairman Chassee, Alderman Brown, Hallett, Garcia, Birch Ferguson, Meissner and Gagliardi. Voting Nay: 0. Motion carried.

E. 2018 Blooming Fest. Alderman Garcia made a motion, seconded by Alderman Hallett to direct this item to City Council for approval. Voting Aye: Chairman Chassee, Alderman Brown, Hallett, Garcia, Birch Ferguson, Meissner and Gagliardi. Voting Nay: 0. Motion carried.

F. Fireworks at Reed-Keppler Park. Alderman Garcia made a motion, seconded by Alderman Hallett to direct this item to City Council for approval. Voting Aye: Chairman Chassee, Alderman Brown, Hallett, Garcia, Birch Ferguson, Meissner and Gagliardi. Voting Nay: 0. Motion carried.

G. Halloween Parade. Alderman Garcia made a motion, seconded by Alderman Hallett to direct this item to City Council for approval. Voting Aye: Chairman Chassee, Alderman Brown, Hallett, Garcia, Birch Ferguson, Meissner and Gagliardi. Voting Nay: 0. Motion carried.

H. 2018 Frosty 5K Run/Walk. Alderman Garcia made a motion, seconded by Alderman Hallett to direct this item to City Council for approval. Voting Aye: Chairman Chassee, Alderman Brown, Hallett, Garcia, Birch Ferguson, Meissner and Gagliardi. Voting Nay: 0. Motion carried.



I. 2018 Frosty Fest. Voting Aye: Chairman Chassee, Alderman Brown, Hallett, Garcia, Birch Ferguson, Meissner and Gagliardi. Voting Nay: 0. Motion carried.

6. **Unfinished Business.**

7. **New Business.**

8. **Reports from Staff.**

A. West Chicago Monthly Police Report

9. **Adjournment.** Alderman Hallett made a motion to adjourn, seconded by Alderman Garcia. The motion was approved by voice vote, and the meeting adjourned at approximately 8:35pm.

Respectfully submitted,

*Yahaira Bautista*

Administrative Assistant to Chief of Police  
West Chicago Police Department

## CITY OF WEST CHICAGO

### PUBLIC AFFAIRS COMMITTEE AGENDA ITEM SUMMARY

**ITEM TITLE:**

Traffic Safety Assessment Report – Prince Crossing Road at Hawthorne Lane – Patrick Engineering, Inc.

**AGENDA ITEM NUMBER:** 5.A.**COMMITTEE AGENDA DATE:** March 26, 2018**COUNCIL AGENDA DATE:** April 2, 2018**STAFF REVIEW:** Robert E. Flatter, P.E., Director of Public Works**SIGNATURE** **APPROVED BY CITY ADMINISTRATOR:** Michael L. Guttman**SIGNATURE** \_\_\_\_\_**ITEM SUMMARY:**

At its September 5, 2017 meeting, City Council directed staff to retain a traffic engineer to evaluate the intersection of Prince Crossing Road and Hawthorne Lane to determine if a four-way stop-controlled intersection is warranted, and if not, to determine if there are any other recommendations of the traffic engineer to improve visibility and reduce accidental potential at said intersection. Currently, the City Code only requires all Hawthorne Lane traffic to stop for all Prince Crossing Road traffic.

Patrick Engineering, Inc. (Patrick), the City's engineering consultant, completed its traffic assessment on November 21, 2017 and prepared the attached report, recommends the following:

1. The existing intersection should remain as a two-way stop on Hawthorne Lane. MUTCD warrants are neither met for an all-way stop control nor a traffic signal.
2. Install W4-4P "Cross Traffic Does Not Stop" signs in advance of the intersection on both the eastbound and westbound approaches of Hawthorne Lane.
3. Improve sight distance on the westbound approach of Hawthorne Lane by relocating the stop bar approximately 15' closer to the intersection.
4. Improve sight distance on the eastbound approach of Hawthorne Lane by trimming or relocating the existing perimeter hedges, which are located on private property at the southwest corner of the intersection; these actions would require the property owners' consent.
5. Installation of a flashing stop sign on Hawthorne Lane was considered but is not recommended. The crash history data indicated that motorists were generally abiding by the existing stop sign on Hawthorne Lane. Confusion arose after they were stopped and were deciding when to safely proceed onto or through Prince Crossing Road.
6. Increase lighting at the intersection was considered but is not recommended. The majority of the crashes occurred during daytime hours, and as such, lighting does not appear to be a contributing factor.
7. Installation of speed detection signs on Prince Crossing Road was considered but is not recommended. The field survey of traffic speeds indicated a relatively low number of speed violations and high speeds do not appear to be a major contributing factor to the crash history at this intersection.

City staff supports Patrick's recommendations. W4-4P "Cross Traffic Does Not Stop" signs are available and will be installed by City staff. The stop bar on the westbound approach of Hawthorne Lane will be relocated by City staff in spring 2018 when weather permits the grinding/removal of the existing stop bar and the installation of a new thermoplastic stop bar. Finally, City staff will offer to trim or remove the hedges on private property at the southwest corner of the intersection in an attempt to improve sight

## CITY OF WEST CHICAGO

distance, if permission is given by the property owner.

**ACTIONS PROPOSED:**

Accept the findings, results and conclusions/recommendations outlined in the Patrick Engineering, Inc. Traffic Safety Assessment Report, for Prince Crossing Road at Hawthorne Lane, dated November 21, 2017.

**COMMITTEE RECOMMENDATION:**





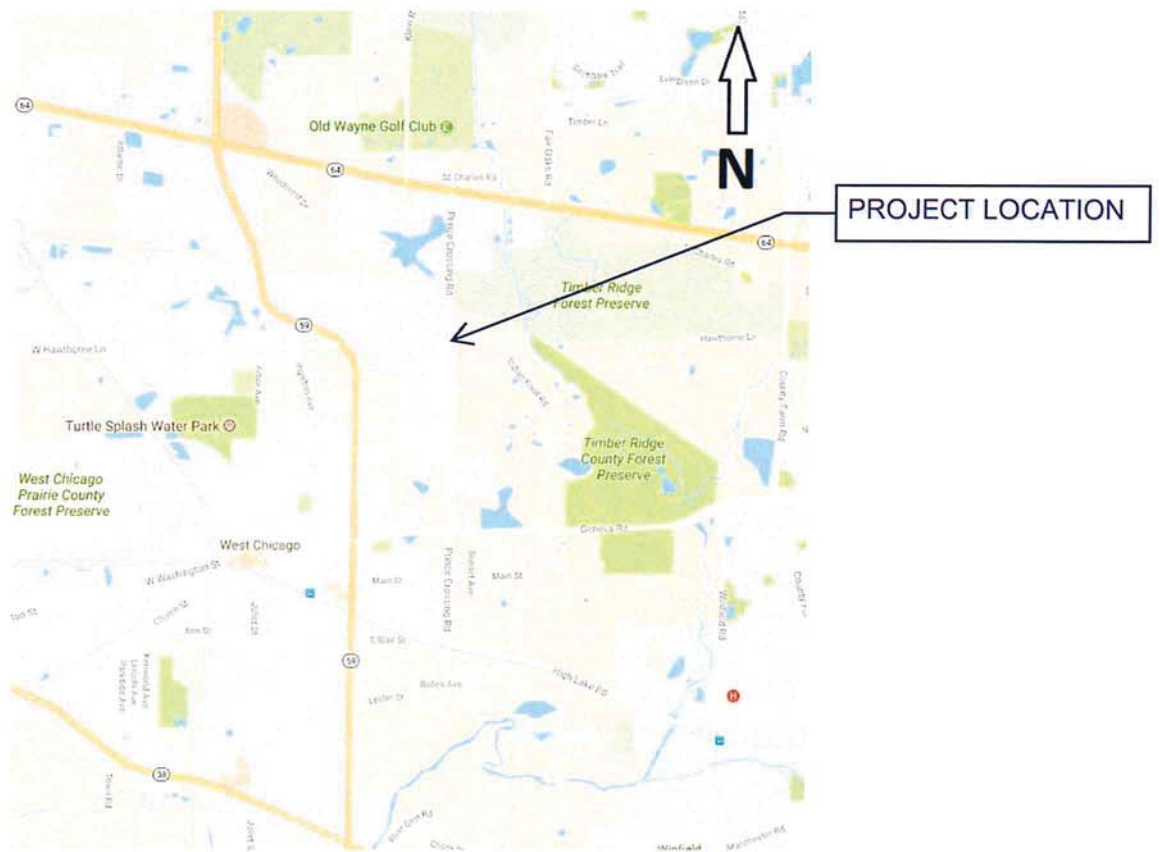
**TRAFFIC SAFETY ASSESSMENT**

**Prince Crossing Road at Hawthorne Lane**

**West Chicago, Illinois**

**DuPage County**

**November 21, 2017**



Location Map

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## **I. Introduction**

Patrick Engineering Inc. (Patrick) was retained by the City of West Chicago to prepare a safety analysis at the intersection of Prince Crossing Road and Hawthorne Lane in the City of West Chicago, DuPage County, IL. This report documents a signal warrant analysis, multi-way stop warrant analysis, and a collision analysis which are consistent with the 2009 Edition of the Manual on Uniform Traffic Control devices (MUTCD).

## **II. Existing Conditions**

This intersection of Prince Crossing Road and Hawthorne Lane is located within the City of West Chicago in DuPage County, IL. Prince Crossing Road runs north-south and is a two-lane undivided minor arterial. The posted speed limit on Prince Crossing Road is 40 MPH with a 20 MPH school speed limit immediately north of the intersection at the Wheaton Academy. At the intersection, Prince Crossing Road has one 11 ft left turn lane and one 11 ft shared right/through lane for the north approach and one 12 ft left turn lane and one 12 ft shared right/through lane for the south approach. Prince Crossing Road has curb and gutter on each side of the road.

Hawthorne Lane runs east-west and is a two-lane undivided major collector west of the intersection, and a neighborhood collector east of the intersection. The posted speed limit west of Prince Crossing Road is 35 MPH. At the intersection, Hawthorne Lane has one 11 ft shared left/through lane and one 12 ft right turn lane on the west approach and one 11 ft shared left/through/right lane on the east approach. Hawthorne Lane has curb and gutter on the west approach and aggregate shoulders on the east approach.

Land use at this intersection consists of residential homes on the northeast, southeast, and southwest quadrants of the intersection. The northwest quadrant is the Wheaton Academy.

There is one existing luminaire mounted on a power pole at the southeast corner of the intersection. An existing condition exhibit and photos of the intersection are provided in the following pages.





FILE NAME W1514	USER NAME RUSCH	DESIGNED -	REVISED -	CITY OF WEST CHICAGO	EXISTING AERIAL	P.L. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
MODEL/VIEW	PLOT SCALE = 1"= 400'	DRAWN -	REVISED -			SHEET	OF	SHEETS	STA.	TO	STA.
	PLOT DATE = 10/20/18	CHECKED -	REVISED -			CONTRACT NO. ILL. HDWS/GEN. AND PROJECT					





Prince Crossing NB looking straight



Hawthorne WB looking straight





Hawthorne EB looking right



Hawthorne WB Looking Left



### III. Previous Studies and Field Observations

A speed survey at the studied intersection was conducted by the City during October 9-12, 2012 for a total of 29 hours. A total of 5,399 vehicles were recorded, only 14 of which satisfied speeding citation conditions. The average speed was 38 MPH.

During a site visit in October 2017, sight distance at the west approach appeared to be blocked by the private residential hedges at the southwest corner of the intersection. At this intersection, minimum sight distance of 390 ft shall be provided per IDOT Bureau of Local Roads and Streets, Section 28.3.03 Case B – Intersections with Stop Control on the Minor Road. A sight triangle exhibit is included in Appendix G.

### IV. Traffic and Intersection Capacity

Existing 24-hour traffic counts were taken via Miovision on October 17, 2017. Detailed traffic count information is included in Appendix A.

As part of the Traffic Signal Warrant Study, the Pagones Theorem was applied to Hawthorne Lane right turn volumes to reduce the right turn volumes on the minor street. The traffic count with the Pagones Theorem applied is included in Appendix B.

Capacity analysis was performed during the AM and PM peak periods at the studied intersections. The delays and level of services (LOS) were calculated using Highway Capacity Software (HCS7) with a Two-Way Stop Control module. The following table summarizes the traffic capacity of the studies intersection:

	Prince Crossing Road NB	Prince Crossing Road SB	Hawthorne Lane EB <sup>Note 1</sup>	Hawthorne Lane WB
AM Peak	2.1 sec/veh	0.1 sec/veh	40.6 sec/veh LOS E	20.5 sec/veh LOS C
PM Peak	2.1 sec/veh	0.3 sec/veh	38.0 sec/veh LOS E	22.6 sec/veh LOS C

Note 1: EB left turn lane experiences LOS F during peak hours.

The capacity analysis is included in Appendix C.

### V. Collision Analysis

The City of West Chicago provided five years of crash data at the studied intersection. The reporting period from years 2012 to 2016 revealed the following crash data. A total of 13 collisions were reported in the five year period:

- All collisions occurred during the day.
- Two collisions occurred during snow days and ten collisions occurred under unknown weather conditions.
- One type B <sup>Note 2</sup> injury crash
- One property damage crash.
- One collision occurred at IL-64 and Prince Crossing Road is excluded in this study.

Note 2: Type B injury – Non-incapacitating injury

A collision diagram and summary sheet are include in Appendix D.

## **VI. Signal Warrant Analysis**

This section describes the signal warrant analysis performed for the intersection. The analysis was performed in accordance with the 2009 Edition of the MUTCD, Chapter 4C. Prince Crossing Road is considered the major street, and Hawthorne Lane is considered the minor street. The results of the analysis are summarized below with the forms located in Appendix E:

Warrant #1 - Eight Hour Vehicular Volume

This warrant is not satisfied. None of the two criteria were satisfied.

Warrant #2 - Four-Hour Vehicular Volume

This warrant is not satisfied.

Warrant #3 - Peak Hour

This warrant is not satisfied.

Warrant #4 - Pedestrian Volume

This warrant is not satisfied. No pedestrian traffic was encountered during school hours.

Warrant #5 - School Crossing

This warrant is not met. There is existing school crossing at the intersection.

Warrant #6 - Coordinated Signal System

This warrant is not applicable.

Warrant #7 - Crash Experience

This warrant is not satisfied. None of the three criteria were satisfied.

Warrant #8 - Roadway Network

This warrant is not applicable.

The studied intersection does not meet traffic signal warrants.

## **VII. Multi-Stop Warrant Analysis**

This section describes the Multi-Way Stop warrant analysis performed for the intersection. The analysis was performed in accordance with the 2009 Edition of the MUTCD, Section 2B.07. Prince Crossing Road is considered the major street, and Hawthorne Lane is considered the minor street. The results of the analysis are summarized below with the forms located in Appendix F:



Criterion A - Where traffic control signals are justified, the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.

This criterion is not satisfied.

Criterion B - Five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left-turn collisions as well as right-angle collisions.

This criterion is not satisfied.

Criterion C - Minimum volumes:

1. The vehicular volume entering the intersection from the major street 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; but
3. If the 85th-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the values provided in Items 1 and 2.

This criterion is not satisfied.

Criterion D - Where no single criterion is satisfied, but where Criteria B, C.1, and C.2 are all satisfied to 80 percent of the minimum values. Criterion C.3 is excluded from this condition.

This criterion is not applicable.

Optional Criteria were also considered in this study:

Optional Criterion A - The need to control left-turn conflicts.

This criterion is not applicable.

Optional Criterion B - The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes.

This criterion is not applicable.

C. Locations where a road user, after stopping, cannot see conflicting traffic and is not able to negotiate the intersection unless conflicting cross traffic is also required to stop; and  
This criterion is satisfied,

D. An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where multi-way stop control would improve traffic operational characteristics of the intersection.

This criterion is not satisfied.

The studied intersection does not meet the Multi-way Stop Warrants.

## **VIII. Results and Conclusions/Recommendations**

Based on the results of the Traffic Signal Warrant and Multi-way Stop Warrant studies, field observations, and engineering judgement, the following recommendations are presented:

- The existing intersection should remain as a two-way stop on Hawthorne Lane. MUTCD warrants are not met for an all-way stop control nor a traffic signal.
- Install W4-4P “Cross Traffic Does Not Stop” signs in advance of the intersection on both the eastbound and westbound approaches. This will address motorist confusion where some motorists may approach the intersection thinking that it is an all-way stop and should reduce the potential for Angle Type Crashes at the intersection, which accounted for 58% of the total intersection crashes.
- Improve sight distance on the westbound approach of Hawthorne Lane by moving the stop bar closer to the intersection. Currently, the stop bar is 30’ from the edge of traveled way of Prince Crossing Drive. At this distance, sight distance of southbound traffic is hindered and is only improved if vehicles creep up closer to the intersection after they make their initial stop. There is sufficient room to relocate the stop bar closer to the intersection to improve sight distance while still having westbound vehicles safely stop short of the traveled way of Prince Crossing Drive. We recommend relocating the stop by 15’ closer (half the distance) to the intersection.
- Improve sight distance on the eastbound approach of Hawthorne Lane by trimming or relocating the existing perimeter hedges, which are located on private property at the southwest corner of the intersection. Currently, sight distance of northbound traffic is hindered when vehicles are stopped 30’ from the intersection. Given the existence of the bikepath crossing on the west leg of the intersection, it is not practical to relocate the eastbound stop bar closer to the intersection, as it would conflict with this crossing. The City will offer to trim or remove these hedges for the property owner, if permission is granted.

The following safety countermeasures have been considered but are not recommended:

- Install flashing stop sign on Hawthorne Lane – The crash history indicated that motorists were generally abiding by the existing stop sign on Hawthorne Lane. Confusion arose after they were stopped and were deciding when to safely proceed onto or through Prince Crossing Road.
- Increase lighting at intersection – The majority of the crashes occurred during daytime hours, and as such, lighting did not appear to be a contributing factor.
- Install speed detection signs on Prince Crossing Road – The field survey of traffic speeds performed in October 2012 indicated a relatively low number of speed violations. High speeds do not appear to be a major contributing factor to the crash history at this intersection.

## Appendix A

### 24-Hour Traffic Count



4153.920 West Chicago IL  
N Prince Crossing Rd at Hawthorne Lane  
24-hr  
GHA MIO

Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive  
Vernon Hills, Illinois, United States 60061  
(847) 478-9700 lbeckham@gha-engineers.com

Count Name: N Prince Crossing Rd at  
Hawthorne Lane  
Site Code:  
Start Date: 10/17/2017  
Page No: 1

### Turning Movement Data

Start Time	Prince Crossing Southbound						Hawthorne Ln Westbound						Prince Crossing Northbound						Hawthorne Ln Eastbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
12:00 AM	0	0	4	0	0	4	0	0	0	0	0	0	0	1	3	0	0	4	0	1	0	1	0	2	10
12:15 AM	0	1	3	1	0	5	0	0	0	0	0	0	0	0	4	0	0	4	0	1	0	3	0	4	13
12:30 AM	0	1	1	2	0	4	0	1	0	0	0	1	0	0	4	0	0	4	0	1	0	1	0	2	11
12:45 AM	0	0	1	2	0	3	0	0	0	0	0	0	0	0	4	0	0	4	0	1	0	0	0	1	8
Hourly Total	0	2	9	5	0	16	0	1	0	0	0	1	0	1	15	0	0	16	0	4	0	5	0	9	42
1:00 AM	0	0	0	2	0	2	0	0	0	0	0	0	0	1	2	0	0	3	0	0	0	1	0	1	6
1:15 AM	0	0	3	0	0	3	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	1	5
1:30 AM	0	0	1	1	0	2	0	0	0	0	0	0	0	0	3	0	0	3	0	2	0	0	0	2	7
1:45 AM	0	0	1	1	0	2	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	1	4
Hourly Total	0	0	5	4	0	9	0	0	0	0	0	0	0	1	7	0	0	8	0	3	0	2	0	5	22
2:00 AM	0	0	3	1	0	4	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	2	0	3	8
2:15 AM	0	0	2	0	0	2	0	0	0	0	0	0	0	2	1	0	0	3	0	1	0	0	0	1	6
2:30 AM	0	0	3	1	0	4	0	0	0	0	0	0	0	0	3	0	0	3	0	1	0	1	0	2	9
2:45 AM	0	0	3	0	0	3	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	1	5
Hourly Total	0	0	11	2	0	13	0	0	0	0	0	0	0	2	6	0	0	8	0	3	1	3	0	7	28
3:00 AM	0	0	0	1	0	1	0	0	0	0	0	0	0	1	4	0	0	5	0	0	0	2	0	2	8
3:15 AM	0	0	3	0	0	3	0	0	0	0	0	0	0	1	3	0	0	4	0	2	0	0	0	2	9
3:30 AM	0	1	4	0	0	5	0	0	0	0	0	0	0	0	4	0	0	4	0	1	0	0	0	1	10
3:45 AM	0	0	8	1	0	9	0	0	0	0	0	0	0	0	2	0	0	2	0	3	0	0	0	3	14
Hourly Total	0	1	15	2	0	18	0	0	0	0	0	0	0	2	13	0	0	15	0	6	0	2	0	8	41
4:00 AM	0	0	6	0	0	6	0	0	0	0	0	0	0	0	4	0	0	4	0	1	0	0	0	1	11
4:15 AM	0	0	4	2	0	6	0	0	0	0	0	0	0	1	1	0	0	2	0	3	0	0	0	3	11
4:30 AM	0	0	3	0	0	3	0	0	0	0	0	0	0	0	10	0	0	10	0	3	0	0	0	3	16
4:45 AM	0	0	8	2	0	10	0	0	0	3	0	3	0	1	18	0	0	19	0	5	0	2	0	7	39
Hourly Total	0	0	21	4	0	25	0	0	0	3	0	3	0	2	33	0	0	35	0	12	0	2	0	14	77
5:00 AM	0	0	9	2	0	11	0	1	0	1	0	2	0	0	12	0	0	12	0	6	0	3	0	9	34
5:15 AM	0	0	21	1	0	22	0	0	0	0	0	0	0	2	12	1	0	15	0	10	0	0	0	10	47
5:30 AM	0	0	17	1	0	18	0	0	0	0	0	0	0	2	25	0	1	27	0	12	0	6	0	18	63
5:45 AM	0	1	25	4	0	30	0	1	0	1	6	2	0	1	29	0	0	30	0	9	0	1	1	10	72
Hourly Total	0	1	72	8	0	81	0	2	0	2	6	4	0	5	78	1	1	84	0	37	0	10	1	47	216
6:00 AM	0	0	35	2	0	37	0	1	0	0	0	1	0	3	22	0	0	25	0	6	0	4	0	10	73
6:15 AM	0	0	57	6	0	63	0	0	2	1	0	3	0	4	41	0	0	45	0	14	1	11	1	26	137
6:30 AM	0	0	86	4	0	90	0	0	0	3	0	3	0	12	51	0	0	63	0	22	0	9	0	31	187
6:45 AM	0	1	63	10	0	74	0	0	1	4	0	5	0	3	79	0	0	82	0	25	0	20	1	45	206
Hourly Total	0	1	241	22	0	264	0	1	3	8	0	12	0	22	193	0	0	215	0	67	1	44	2	112	603
7:00 AM	0	0	85	9	0	94	0	1	1	3	0	5	0	10	55	0	1	65	0	22	0	14	0	36	200
7:15 AM	0	2	131	13	0	146	0	1	3	2	0	6	0	18	76	1	0	95	0	15	0	17	0	32	279
7:30 AM	0	1	134	14	1	149	0	1	3	3	0	7	0	23	96	0	0	119	0	19	1	20	0	40	315
7:45 AM	0	4	135	34	3	173	0	0	2	7	0	9	0	61	148	0	0	209	0	16	1	17	2	34	425
Hourly Total	0	7	485	70	4	562	0	3	9	15	0	27	0	112	375	1	1	488	0	72	2	68	2	142	1219

8:00 AM	0	1	85	11	0	97	0	1	1	5	0	7	0	14	63	1	0	78	0	22	0	18	2	40	222
8:15 AM	0	2	62	5	0	69	0	1	0	3	0	4	0	17	49	1	0	67	0	15	0	21	0	36	176
8:30 AM	0	1	61	6	0	68	0	2	4	6	0	12	0	12	50	0	0	62	0	21	2	22	0	45	187
8:45 AM	0	3	62	11	0	76	0	1	2	4	0	7	0	11	50	0	0	61	0	20	0	9	0	29	173
Hourly Total	0	7	270	33	0	310	0	5	7	18	0	30	0	54	212	2	0	268	0	78	2	70	2	150	758
9:00 AM	0	0	48	11	0	59	0	1	0	1	0	2	0	10	34	2	0	46	0	17	0	11	0	28	135
9:15 AM	0	3	35	8	2	46	0	1	2	2	0	5	0	7	41	2	0	50	0	10	1	8	0	19	120
9:30 AM	0	4	29	3	1	36	0	2	1	2	0	5	0	6	30	1	0	37	0	19	1	11	0	31	109
9:45 AM	0	1	26	6	1	33	0	0	2	3	0	5	0	10	28	0	0	38	0	9	2	10	0	21	97
Hourly Total	0	8	138	28	4	174	0	4	5	8	0	17	0	33	133	5	0	171	0	55	4	40	0	99	461
10:00 AM	0	0	30	4	0	34	0	1	1	2	0	4	0	9	32	0	0	41	0	6	1	8	1	15	94
10:15 AM	0	2	41	5	1	48	0	2	2	2	0	6	0	7	33	1	0	41	0	10	0	13	1	23	118
10:30 AM	0	3	37	12	0	52	0	0	0	0	0	0	0	15	38	1	0	54	0	6	0	12	2	18	124
10:45 AM	0	4	34	10	0	48	0	0	2	1	0	3	0	14	35	1	0	50	0	11	1	10	0	22	123
Hourly Total	0	9	142	31	1	182	0	3	5	5	0	13	0	45	138	3	0	186	0	33	2	43	4	78	459
11:00 AM	0	2	30	7	1	39	0	1	2	4	0	7	0	12	36	2	0	50	0	18	0	13	0	31	127
11:15 AM	0	1	27	4	0	32	0	0	2	4	0	6	0	15	32	0	0	47	0	13	4	14	0	31	116
11:30 AM	0	2	32	10	0	44	0	3	1	1	0	5	0	10	30	0	0	40	0	11	0	9	0	20	109
11:45 AM	0	1	50	13	0	64	0	1	1	2	0	4	0	9	25	1	0	35	0	15	2	10	0	27	130
Hourly Total	0	6	139	34	1	179	0	5	6	11	0	22	0	46	123	3	0	172	0	57	6	46	0	109	482
12:00 PM	0	2	48	10	0	60	0	1	4	2	0	7	0	12	38	0	0	50	0	16	1	10	0	27	144
12:15 PM	0	5	30	10	0	45	0	1	2	2	0	5	0	12	44	2	0	58	0	9	1	18	0	28	136
12:30 PM	0	2	43	8	0	53	0	1	1	3	0	5	0	9	42	2	0	53	0	17	4	15	1	36	147
12:45 PM	0	0	30	11	0	41	0	3	1	7	0	11	0	10	39	3	0	52	0	8	3	15	0	26	130
Hourly Total	0	9	151	39	0	199	0	6	8	14	0	28	0	43	163	7	0	213	0	50	9	58	1	117	557
1:00 PM	0	1	33	7	1	41	0	0	2	5	0	7	0	15	44	1	0	60	0	9	2	9	0	20	128
1:15 PM	0	2	36	10	0	48	0	0	1	2	0	3	0	17	41	0	0	58	0	15	2	17	1	34	143
1:30 PM	0	0	34	10	0	44	0	2	1	3	0	6	0	8	51	1	0	60	0	13	2	10	0	25	135
1:45 PM	0	1	41	15	0	57	0	2	2	2	0	6	0	17	36	2	0	55	0	12	1	3	2	16	134
Hourly Total	0	4	144	42	1	190	0	4	6	12	0	22	0	57	172	4	0	233	0	49	7	39	3	95	540
2:00 PM	0	1	42	9	0	52	0	2	1	0	0	3	0	13	42	1	0	56	0	20	0	7	0	27	138
2:15 PM	0	4	49	12	0	65	0	1	0	9	0	10	0	10	37	1	0	48	0	14	1	12	1	27	150
2:30 PM	0	1	50	13	0	64	0	1	1	2	0	4	0	15	55	0	0	70	0	10	0	6	1	16	154
2:45 PM	0	4	64	22	0	90	0	1	3	4	0	8	0	27	61	0	0	88	0	19	1	17	1	37	223
Hourly Total	0	10	205	56	0	271	0	5	5	15	0	25	0	65	195	2	0	262	0	63	2	42	3	107	665
3:00 PM	0	3	104	22	2	129	0	0	3	1	0	4	0	25	87	1	0	113	0	16	1	23	0	40	286
3:15 PM	0	2	96	14	0	112	0	0	2	5	0	7	0	23	111	3	0	137	0	15	1	21	0	37	293
3:30 PM	0	1	95	10	0	106	0	0	5	3	0	8	0	19	86	2	0	107	0	18	0	22	0	40	261
3:45 PM	0	7	80	31	0	118	0	0	0	4	0	4	0	24	70	1	0	95	0	24	2	22	0	48	265
Hourly Total	0	13	375	77	2	465	0	0	10	13	0	23	0	91	354	7	0	452	0	73	4	88	0	165	1105
4:00 PM	0	3	96	24	0	123	0	1	1	4	0	6	0	23	81	3	0	107	0	18	2	23	1	43	279
4:15 PM	0	2	83	20	0	105	0	2	2	1	0	5	0	23	104	3	0	130	0	19	3	11	1	33	273
4:30 PM	0	4	56	19	0	79	0	0	1	5	0	6	0	26	116	3	0	145	0	15	0	13	1	28	258
4:45 PM	0	5	90	22	0	117	0	1	1	2	0	4	0	34	109	0	0	143	0	17	1	26	1	44	308
Hourly Total	0	14	325	85	0	424	0	4	5	12	0	21	0	106	410	9	0	525	0	69	6	73	4	148	1118
5:00 PM	0	5	94	17	0	116	0	3	1	7	0	11	0	33	99	2	0	134	0	20	1	32	1	53	314
5:15 PM	0	2	89	28	0	119	0	2	3	5	1	10	0	35	102	1	0	138	0	22	7	20	2	49	316
5:30 PM	1	2	87	19	0	109	0	2	3	6	0	11	0	27	94	1	0	122	0	16	3	14	1	33	275
5:45 PM	0	3	88	22	0	113	0	3	1	6	0	10	0	39	88	2	0	129	0	18	3	20	0	41	293
Hourly Total	1	12	358	86	0	457	0	10	8	24	1	42	0	134	383	6	0	523	0	76	14	86	4	176	1198
6:00 PM	0	6	45	16	0	67	0	1	4	3	0	8	0	22	79	3	0	104	0	15	1	24	0	40	219
6:15 PM	0	1	64	14	0	79	0	0	0	1	0	1	0	33	78	2	0	113	0	16	1	7	0	24	217



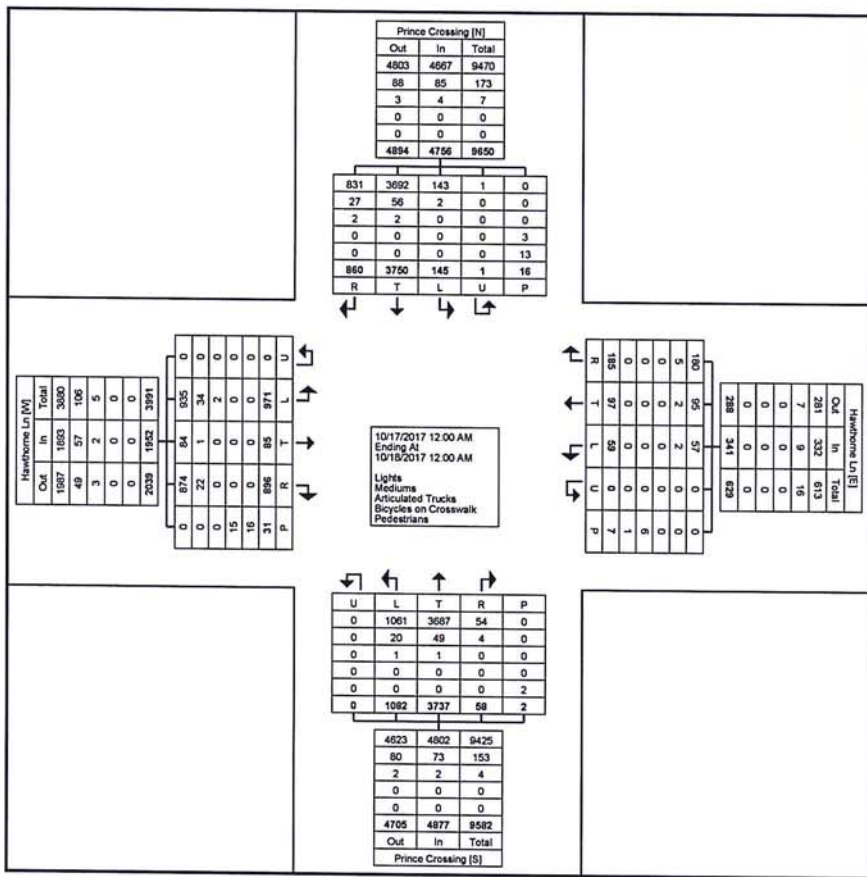
6:30 PM	0	3	55	18	0	76	0	1	2	3	0	6	0	28	63	0	0	91	0	14	2	22	1	38	211
6:45 PM	0	0	38	9	0	47	0	0	1	1	0	2	0	21	53	1	0	75	0	8	3	16	0	27	151
Hourly Total	0	10	202	57	0	269	0	2	7	8	0	17	0	104	273	6	0	383	0	53	7	69	1	129	798
7:00 PM	0	3	55	12	0	70	0	0	0	2	0	2	0	15	50	0	0	65	0	14	2	13	0	29	166
7:15 PM	0	5	38	17	0	60	0	1	3	4	0	8	0	13	50	0	0	63	0	11	3	10	0	24	155
7:30 PM	0	7	38	15	0	60	0	0	0	0	0	0	0	14	41	0	0	55	0	5	3	9	0	17	132
7:45 PM	0	2	32	7	2	41	0	0	2	2	0	4	0	28	32	0	0	60	0	7	2	7	0	16	121
Hourly Total	0	17	163	51	2	231	0	1	5	8	0	14	0	70	173	0	0	243	0	37	10	39	0	86	574
8:00 PM	0	0	27	9	0	36	0	0	1	1	0	2	0	11	29	0	0	40	0	9	1	25	0	35	113
8:15 PM	0	3	22	12	0	37	0	0	2	2	0	4	0	9	46	0	0	55	0	5	1	3	0	9	105
8:30 PM	0	1	27	11	0	39	0	0	1	3	0	4	0	13	32	0	0	45	0	6	2	4	0	12	100
8:45 PM	0	1	24	14	0	39	0	0	0	0	0	0	0	7	23	0	0	30	0	4	1	2	1	7	76
Hourly Total	0	5	100	46	0	151	0	0	4	6	0	10	0	40	130	0	0	170	0	24	5	34	1	63	394
9:00 PM	0	1	26	15	0	42	0	0	0	0	0	0	0	10	14	0	0	24	0	2	0	3	0	5	71
9:15 PM	0	1	25	15	0	41	0	1	0	1	0	2	0	5	36	0	0	41	0	0	1	6	3	7	91
9:30 PM	0	0	16	8	1	24	0	1	0	1	0	2	0	5	30	0	0	35	0	4	1	4	0	9	70
9:45 PM	0	1	16	5	0	22	0	0	1	1	0	2	0	2	11	0	0	13	0	6	0	0	0	6	43
Hourly Total	0	3	83	43	1	129	0	2	1	3	0	6	0	22	91	0	0	113	0	12	2	13	3	27	275
10:00 PM	0	2	14	10	0	26	0	0	2	0	0	2	0	2	14	1	0	17	0	2	0	2	0	4	49
10:15 PM	0	1	19	4	0	24	0	1	0	0	0	1	0	6	10	0	0	16	0	3	1	5	0	9	50
10:30 PM	0	2	7	5	0	14	0	0	0	0	0	0	0	5	10	1	0	16	0	5	0	1	0	6	36
10:45 PM	0	1	11	3	0	15	0	0	0	0	0	0	0	4	4	0	0	8	0	7	0	1	0	8	31
Hourly Total	0	6	51	22	0	79	0	1	2	0	0	3	0	17	38	2	0	57	0	17	1	9	0	27	166
11:00 PM	0	0	15	2	0	17	0	0	1	0	0	1	0	2	14	0	0	16	0	9	0	1	0	10	44
11:15 PM	0	0	14	5	0	19	0	0	0	0	0	0	0	1	9	0	0	10	0	3	0	4	0	7	36
11:30 PM	0	0	7	2	0	9	0	0	0	0	0	0	0	2	2	0	0	4	0	2	0	5	0	7	20
11:45 PM	0	0	9	4	0	13	0	0	0	0	0	0	0	3	4	0	0	7	0	7	0	1	0	8	28
Hourly Total	0	0	45	13	0	58	0	0	1	0	0	1	0	8	29	0	0	37	0	21	0	11	0	32	128
Grand Total	1	145	3750	860	16	4756	0	59	97	185	7	341	0	1082	3737	58	2	4877	0	971	85	896	31	1952	11926
Approach %	0.0	3.0	78.8	18.1	-	-	0.0	17.3	28.4	54.3	-	-	0.0	22.2	76.6	1.2	-	-	0.0	49.7	4.4	45.9	-	-	-
Total %	0.0	1.2	31.4	7.2	-	39.9	0.0	0.5	0.8	1.6	-	2.9	0.0	9.1	31.3	0.5	-	40.9	0.0	8.1	0.7	7.5	-	16.4	-
Lights	1	143	3692	831	-	4667	0	57	95	180	-	332	0	1061	3687	54	-	4802	0	935	84	874	-	1893	11694
% Lights	100.0	98.6	98.5	96.6	-	98.1	-	96.6	97.9	97.3	-	97.4	-	98.1	98.7	93.1	-	98.5	-	96.3	98.8	97.5	-	97.0	98.1
Mediums	0	2	56	27	-	85	0	2	2	5	-	9	0	20	49	4	-	73	0	34	1	22	-	57	224
% Mediums	0.0	1.4	1.5	3.1	-	1.8	-	3.4	2.1	2.7	-	2.6	-	1.8	1.3	6.9	-	1.5	-	3.5	1.2	2.5	-	2.9	1.9
Articulated Trucks	0	0	2	2	-	4	0	0	0	0	-	0	0	1	1	0	-	2	0	2	0	0	-	2	8
% Articulated Trucks	0.0	0.0	0.1	0.2	-	0.1	-	0.0	0.0	0.0	-	0.0	-	0.1	0.0	0.0	-	0.0	-	0.2	0.0	0.0	-	0.1	0.1
Bicycles on Crosswalk	-	-	-	-	3	-	-	-	-	-	6	-	-	-	-	-	0	-	-	-	-	-	15	-	-
% Bicycles on Crosswalk	-	-	-	-	18.8	-	-	-	-	-	85.7	-	-	-	-	-	0.0	-	-	-	-	-	48.4	-	-
Pedestrians	-	-	-	-	13	-	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	16	-	-
% Pedestrians	-	-	-	-	81.3	-	-	-	-	-	14.3	-	-	-	-	-	100.0	-	-	-	-	-	51.6	-	-



4153.920 West Chicago IL  
N Prince Crossing Rd at Hawthorne Lane  
24-hr  
GHA MIO

Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive  
Vernon Hills, Illinois, United States 60061  
(847) 478-9700 lbeckham@gha-engineers.com

Count Name: N Prince Crossing Rd at  
Hawthorne Lane  
Site Code:  
Start Date: 10/17/2017  
Page No: 4



### Turning Movement Data Plot

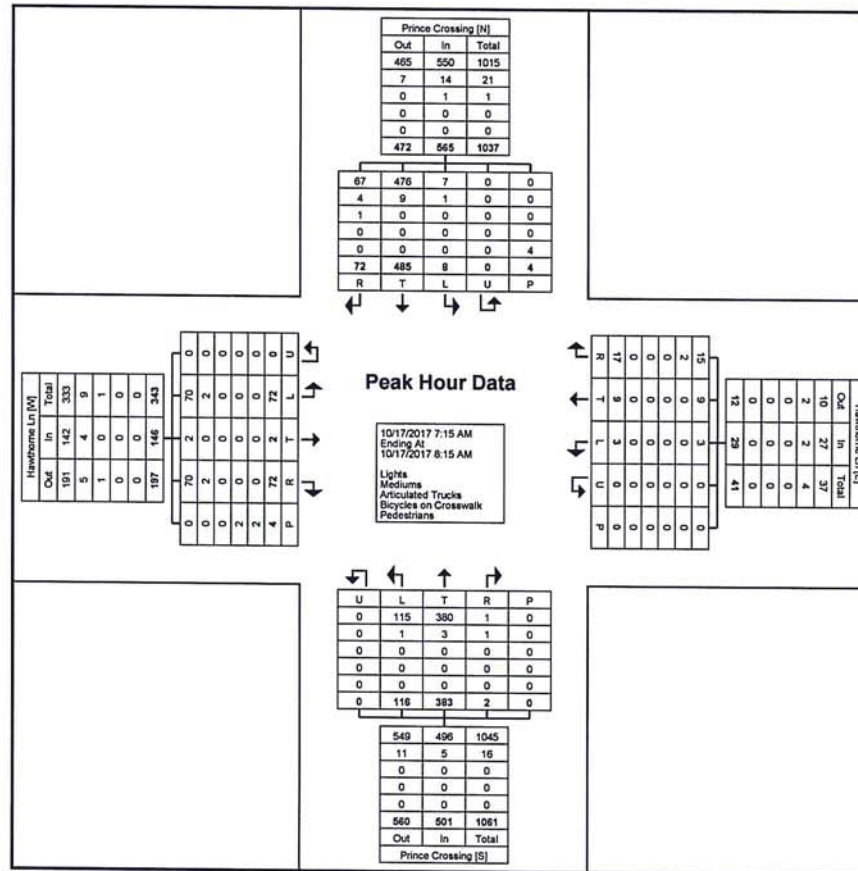
Count Name: N Prince Crossing Rd at  
Hawthorne Lane  
Site Code:  
Start Date: 10/17/2017  
Page No: 5

Start Time	Prince Crossing Southbound						Hawthorne Ln Westbound						Prince Crossing Northbound						Hawthorne Ln Eastbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:15 AM	0	2	131	13	0	146	0	1	3	2	0	6	0	18	76	1	0	95	0	15	0	17	0	32	279
7:30 AM	0	1	134	14	1	149	0	1	3	3	0	7	0	23	96	0	0	119	0	19	1	20	0	40	315
7:45 AM	0	4	135	34	3	173	0	0	2	7	0	9	0	61	148	0	0	209	0	16	1	17	2	34	425
8:00 AM	0	1	85	11	0	97	0	1	1	5	0	7	0	14	63	1	0	78	0	22	0	18	2	40	222
Total	0	8	485	72	4	565	0	3	9	17	0	29	0	116	383	2	0	501	0	72	2	72	4	146	1241
Approach %	0.0	1.4	85.8	12.7	-	-	0.0	10.3	31.0	58.6	-	-	0.0	23.2	76.4	0.4	-	-	0.0	49.3	1.4	49.3	-	-	-
Total %	0.0	0.6	39.1	5.8	-	45.5	0.0	0.2	0.7	1.4	-	2.3	0.0	9.3	30.9	0.2	-	40.4	0.0	5.8	0.2	5.8	-	11.8	-
PHF	0.000	0.500	0.898	0.529	-	0.816	0.000	0.750	0.750	0.607	-	0.806	0.000	0.475	0.647	0.500	-	0.599	0.000	0.818	0.500	0.900	-	0.913	0.730
Lights	0	7	476	67	-	550	0	3	9	15	-	27	0	115	380	1	-	496	0	70	2	70	-	142	1215
% Lights	-	87.5	98.1	93.1	-	97.3	-	100.0	100.0	88.2	-	93.1	-	99.1	99.2	50.0	-	99.0	-	97.2	100.0	97.2	-	97.3	97.9
Mediums	0	1	9	4	-	14	0	0	0	2	-	2	0	1	3	1	-	5	0	2	0	2	-	4	25
% Mediums	-	12.5	1.9	5.6	-	2.5	-	0.0	0.0	11.8	-	6.9	-	0.9	0.8	50.0	-	1.0	-	2.8	0.0	2.8	-	2.7	2.0
Articulated Trucks	0	0	0	1	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1
% Articulated Trucks	-	0.0	0.0	1.4	-	0.2	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.1
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50.0	-	-
Pedestrians	-	-	-	-	4	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50.0	-	-

4153.920 West Chicago IL  
N Prince Crossing Rd at Hawthorne Lane  
24-hr  
GHA MIO

Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive  
Vernon Hills, Illinois, United States 60061  
(847) 478-9700 [lbeckham@gha-engineers.com](mailto:lbeckham@gha-engineers.com)

Count Name: N Prince Crossing Rd at  
Hawthorne Lane  
Site Code:  
Start Date: 10/17/2017  
Page No: 6



### Turning Movement Peak Hour Data Plot (7:15 AM)



Vernon Hills, Illinois, United States 60061  
(847) 478-9700 lbeckham@gha-engineers.com

Count Name: N Prince Crossing Rd at  
Hawthorne Lane  
Site Code:  
Start Date: 10/17/2017  
Page No: 7

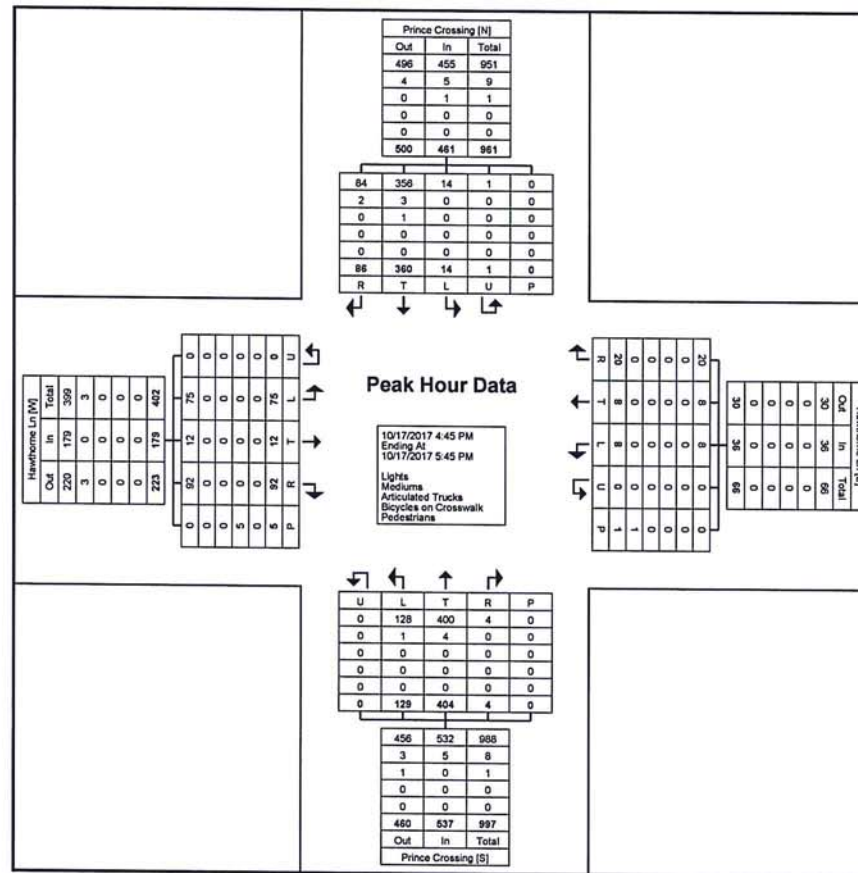
## Turning Movement Peak Hour Data (4:45 PM)

[illegible]

4153.920 West Chicago IL  
N Prince Crossing Rd at Hawthorne Lane  
24-hr  
GHA MIO

Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive  
Vernon Hills, Illinois, United States 60061  
(847) 478-9700 lbeckham@gha-engineers.com

Count Name: N Prince Crossing Rd at  
Hawthorne Lane  
Site Code:  
Start Date: 10/17/2017  
Page No: 8



### Turning Movement Peak Hour Data Plot (4:45 PM)



## Appendix B

### 24-Hour Traffic Count (Pagones Theorem)

Study Name	N Prince Crossing Rd at Hawthorne Lane																											
Start Date	10/17/2017																											
Start Time	12:00 AM																											
Site Code																												
Project	N Prince Crossing Rd at Hawthorne Lane																											
	West Chicago IL																											
	24-hr																											
	Prince Crossing Southbound					Hawthorne Ln Westbound									Prince Crossing Northbound					Hawthorne Ln Eastbound								
Start Time	U-Turn	Left	Thru	Right	Total	U-Turn	Left	Thru	Right	T/3	3*T	Reduced R	Total	R Total	U-Turn	Left	Thru	Right	Total	U-Turn	Left	Thru	Right	0.35V	0.7V	Total	Reduced R	R Total
12:00 AM	0	0	4	0	4	0	0	0	0	0.00	0	0	0	0	0	1	3	0	4	0	1	0	1	0.7	1.4	2	0.6	1.6
12:15 AM	0	1	3	1	5	0	0	0	0	0.00	0	0	0	0	0	0	4	0	4	0	1	0	3	1.4	2.8	4	1.8	2.8
12:30 AM	0	1	1	2	4	0	1	0	0	0.00	0	0	1	0	0	0	4	0	4	0	1	0	1	0.7	1.4	2	0.6	1.6
12:45 AM	0	0	1	2	3	0	0	0	0	0.00	0	0	0	0	0	0	4	0	4	0	1	0	0	0.35	0.7	1	0	1
1:00 AM	0	0	0	2	2	0	0	0	0	0.00	0	0	0	0	0	1	2	0	3	0	0	0	1	0.35	0.7	1	0.4	0.4
1:15 AM	0	0	3	0	3	0	0	0	0	0.00	0	0	0	0	0	0	1	0	1	0	0	0	1	0.35	0.7	1	0.4	0.4
1:30 AM	0	0	1	1	2	0	0	0	0	0.00	0	0	0	0	0	0	3	0	3	0	2	0	0	0.7	1.4	2	0	2
1:45 AM	0	0	1	1	2	0	0	0	0	0.00	0	0	0	0	0	0	1	0	1	0	1	0	0	0.35	0.7	1	0	1
2:00 AM	0	0	3	1	4	0	0	0	0	0.00	0	0	0	0	0	0	1	0	1	0	1	0	2	1.05	2.1	3	1.2	2.2
2:15 AM	0	0	2	0	2	0	0	0	0	0.00	0	0	0	0	0	2	1	0	3	0	1	0	0	0.35	0.7	1	0	1
2:30 AM	0	0	3	1	4	0	0	0	0	0.00	0	0	0	0	0	0	3	0	3	0	1	0	1	0.7	1.4	2	0.6	1.6
2:45 AM	0	0	3	0	3	0	0	0	0	0.00	0	0	0	0	0	0	1	0	1	0	0	1	0	0.35	0.7	1	0	1
3:00 AM	0	0	0	1	1	0	0	0	0	0.00	0	0	0	0	0	1	4	0	5	0	0	0	2	0.7	1.4	2	0.8	0.8
3:15 AM	0	0	3	0	3	0	0	0	0	0.00	0	0	0	0	0	1	3	0	4	0	2	0	0	0.7	1.4	2	0	2
3:30 AM	0	1	4	0	5	0	0	0	0	0.00	0	0	0	0	0	0	4	0	4	0	1	0	0	0.35	0.7	1	0	1
3:45 AM	0	0	8	1	9	0	0	0	0	0.00	0	0	0	0	0	0	2	0	2	0	3	0	0	1.05	2.1	3	0	3
4:00 AM	0	0	6	0	6	0	0	0	0	0.00	0	0	0	0	0	0	4	0	4	0	1	0	0	0.35	0.7	1	0	1
4:15 AM	0	0	4	2	6	0	0	0	0	0.00	0	0	0	0	0	1	1	0	2	0	3	0	0	1.05	2.1	3	0	3
4:30 AM	0	0	3	0	3	0	0	0	0	0.00	0	0	0	0	0	0	10	0	10	0	3	0	0	1.05	2.1	3	0	3
4:45 AM	0	0	8	2	10	0	0	0	3	0.00	0	1.8	3	1.8	0	1	18	0	19	0	5	0	2	2.45	4.9	7	1.6	6.6
5:00 AM	0	0	9	2	11	0	1	0	1	0.00	0	0.6	2	0.6	0	0	12	0	12	0	6	0	3	3.15	6.3	9	2.4	8.4
5:15 AM	0	0	21	1	22	0	0	0	0	0.00	0	0	0	0	0	2	12	1	15	0	10	0	0	3.5	7	10	0	10
5:30 AM	0	0	17	1	18	0	0	0	0	0.00	0	0	0	0	0	2	25	0	27	0	12	0	6	6.3	12.6	18	4.8	16.8
5:45 AM	0	1	25	4	30	0	1	0	1	0.00	0	0.6	2	0.6	0	1	29	0	30	0	9	0	1	3.5	7	10	0.8	9.8
6:00 AM	0	0	35	2	37	0	1	0	0	0.00	0	0	1	0	0	3	22	0	25	0	6	0	4	3.5	7	10	2.4	8.4
6:15 AM	0	0	57	6	63	0	0	2	1	0.67	6	0.6	3	0.6	0	4	41	0	45	0	14	1	11	9.1	18.2	26	6.6	21.6
6:30 AM	0	0	86	4	90	0	0	0	3	0.00	0	1.8	3	1.8	0	12	51	0	63	0	22	0	9	10.85	21.7	31	7.2	29.2
6:45 AM	0	1	63	10	74	0	0	1	4	0.33	3	2.4	5	2.4	0	3	79	0	82	0	25	0	20	15.75	31.5	45	12	37
7:00 AM	0	0	85	9	94	0	1	1	3	0.33	3	1.8	5	1.8	0	10	55	0	65	0	22	0	14	12.6	25.2	36	8.4	30.4
7:15 AM	0	2	131	13	146	0	1	3	2	1.00	9	1.2	6	1.2	0	18	76	1	95	0	15	0	17	11.2	22.4	32	10.2	25.2
7:30 AM	0	1	134	14	149	0	1	3	3	1.00	9	1.8	7	1.8	0	23	96	0	119	0	19	1	20	14	28	40	12	32
7:45 AM	0	4	135	34	173	0	0	2	7	0.67	6	4.2	9	4.2	0	61	148	0	209	0	16	1	17	11.9	23.8	34	10.2	27.2
8:00 AM	0	1	85	11	97	0	1	1	5	0.33	3	3	7	3	0	14	63	1	78	0	22	0	18	14	28	40	10.8	32.8
8:15 AM	0	2	62	5	69	0	1	0	3	0.00	0	1.8	4	1.8	0	17	49	1	67	0	15	0	21	12.6	25.2	36	12.6	27.6



8:30 AM	0	1	61	6	68	0	2	4	6	1.33	12	3.6	12	3.6	0	12	50	0	62	0	21	2	22	15.75	31.5	45	13.2	36.2
8:45 AM	0	3	62	11	76	0	1	2	4	0.67	6	2.4	7	2.4	0	11	50	0	61	0	20	0	9	10.15	20.3	29	7.2	27.2
9:00 AM	0	0	48	11	59	0	1	0	1	0.00	0	0.6	2	0.6	0	10	34	2	46	0	17	0	11	9.8	19.6	28	6.6	23.6
9:15 AM	0	3	35	8	46	0	1	2	2	0.67	6	1.2	5	1.2	0	7	41	2	50	0	10	1	8	6.65	13.3	19	4.8	15.8
9:30 AM	0	4	29	3	36	0	2	1	2	0.33	3	1.2	5	1.2	0	6	30	1	37	0	19	1	11	10.85	21.7	31	6.6	26.6
9:45 AM	0	1	26	6	33	0	0	2	3	0.67	6	1.8	5	1.8	0	10	28	0	38	0	9	2	10	7.35	14.7	21	6	17
10:00 AM	0	0	30	4	34	0	1	1	2	0.33	3	1.2	4	1.2	0	9	32	0	41	0	6	1	8	5.25	10.5	15	4.8	11.8
10:15 AM	0	2	41	5	48	0	2	2	2	0.67	6	1.2	6	1.2	0	7	33	1	41	0	10	0	13	8.05	16.1	23	7.8	17.8
10:30 AM	0	3	37	12	52	0	0	0	0	0.00	0	0	0	0	0	15	38	1	54	0	6	0	12	6.3	12.6	18	7.2	13.2
10:45 AM	0	4	34	10	48	0	0	2	1	0.67	6	0.6	3	0.6	0	14	35	1	50	0	11	1	10	7.7	15.4	22	6	18
11:00 AM	0	2	30	7	39	0	1	2	4	0.67	6	2.4	7	2.4	0	12	36	2	50	0	18	0	13	10.85	21.7	31	7.8	25.8
11:15 AM	0	1	27	4	32	0	0	2	4	0.67	6	2.4	6	2.4	0	15	32	0	47	0	13	4	14	10.85	21.7	31	8.4	25.4
11:30 AM	0	2	32	10	44	0	3	1	1	0.33	3	0.6	5	0.6	0	10	30	0	40	0	11	0	9	7	14	20	5.4	16.4
11:45 AM	0	1	50	13	64	0	1	1	2	0.33	3	1.2	4	1.2	0	9	25	1	35	0	15	2	10	9.45	18.9	27	6	23
12:00 PM	0	2	48	10	60	0	1	4	2	1.33	12	1.2	7	1.2	0	12	38	0	50	0	16	1	10	9.45	18.9	27	6	23
12:15 PM	0	5	30	10	45	0	1	2	2	0.67	6	1.2	5	1.2	0	12	44	2	58	0	9	1	18	9.8	19.6	28	10.8	20.8
12:30 PM	0	2	43	8	53	0	1	1	3	0.33	3	1.8	5	1.8	0	9	42	2	53	0	17	4	15	12.6	25.2	36	9	30
12:45 PM	0	0	30	11	41	0	3	1	7	0.33	3	4.2	11	4.2	0	10	39	3	52	0	8	3	15	9.1	18.2	26	9	20
1:00 PM	0	1	33	7	41	0	0	2	5	0.67	6	3	7	3	0	15	44	1	60	0	9	2	9	7	14	20	5.4	16.4
1:15 PM	0	2	36	10	48	0	0	1	2	0.33	3	1.2	3	1.2	0	17	41	0	58	0	15	2	17	11.9	23.8	34	10.2	27.2
1:30 PM	0	0	34	10	44	0	2	1	3	0.33	3	1.8	6	1.8	0	8	51	1	60	0	13	2	10	8.75	17.5	25	6	21
1:45 PM	0	1	41	15	57	0	2	2	2	0.67	6	1.2	6	1.2	0	17	36	2	55	0	12	1	3	5.6	11.2	16	2.4	15.4
2:00 PM	0	1	42	9	52	0	2	1	0	0.33	3	0	3	0	0	13	42	1	56	0	20	0	7	9.45	18.9	27	5.6	25.6
2:15 PM	0	4	49	12	65	0	1	0	9	0.00	0	5.4	10	5.4	0	10	37	1	48	0	14	1	12	9.45	18.9	27	7.2	22.2
2:30 PM	0	1	50	13	64	0	1	1	2	0.33	3	1.2	4	1.2	0	15	55	0	70	0	10	0	6	5.6	11.2	16	3.6	13.6
2:45 PM	0	4	64	22	90	0	1	3	4	1.00	9	2.4	8	2.4	0	27	61	0	88	0	19	1	17	12.95	25.9	37	10.2	30.2
3:00 PM	0	3	104	22	129	0	0	3	1	1.00	9	0.8	4	0.8	0	25	87	1	113	0	16	1	23	14	28	40	13.8	30.8
3:15 PM	0	2	96	14	112	0	0	2	5	0.67	6	3	7	3	0	23	111	3	137	0	15	1	21	12.95	25.9	37	12.6	28.6
3:30 PM	0	1	95	10	106	0	0	5	3	1.67	15	1.8	8	1.8	0	19	86	2	107	0	18	0	22	14	28	40	13.2	31.2
3:45 PM	0	7	80	31	118	0	0	0	4	0.00	0	2.4	4	2.4	0	24	70	1	95	0	24	2	22	16.8	33.6	48	13.2	39.2
4:00 PM	0	3	96	24	123	0	1	1	4	0.33	3	2.4	6	2.4	0	23	81	3	107	0	18	2	23	15.05	30.1	43	13.8	33.8
4:15 PM	0	2	83	20	105	0	2	2	1	0.67	6	0.6	5	0.6	0	23	104	3	130	0	19	3	11	11.55	23.1	33	8.8	30.8
4:30 PM	0	4	56	19	79	0	0	1	5	0.33	3	3	6	3	0	26	116	3	145	0	15	0	13	9.8	19.6	28	7.8	22.8
4:45 PM	0	5	90	22	117	0	1	1	2	0.33	3	1.2	4	1.2	0	34	109	0	143	0	17	1	26	15.4	30.8	44	15.6	33.6
5:00 PM	0	5	94	17	116	0	3	1	7	0.33	3	4.2	11	4.2	0	33	99	2	134	0	20	1	32	18.55	37.1	53	19.2	40.2
5:15 PM	0	2	89	28	119	0	2	3	5	1.00	9	3	10	3	0	35	102	1	138	0	22	7	20	17.15	34.3	49	12	41
5:30 PM	1	2	87	19	109	0	2	3	6	1.00	9	3.6	11	3.6	0	27	94	1	122	0	16	3	14	11.55	23.1	33	8.4	27.4
5:45 PM	0	3	88	22	113	0	3	1	6	0.33	3	3.6	10	3.6	0	39	88	2	129	0	18	3	20	14.35	28.7	41	12	33
6:00 PM	0	6	45	16	67	0	1	4	3	1.33	12	1.8	8	1.8	0	22	79	3	104	0	15	1	24	14	28	40	14.4	30.4
6:15 PM	0	1	64	14	79	0	0	0	1	0.00	0	0.6	1	0.6	0	33	78	2	113	0	16	1	7	8.4	16.8	24	5.6	22.6
6:30 PM	0	3	55	18	76	0	1	2	3	0.67	6	1.8	6	1.8	0	28	63	0	91	0	14	2	22	13.3	26.6	38	13.2	29.2
6:45 PM	0	0	38	9	47	0	0	1	1	0.33	3	0.6	2	0.6	0	21	53	1	75	0	8	3	16	9.45	18.9	27	9.6	20.6
7:00 PM	0	3	55	12	70	0	0	0	2	0.00	0	1.2	2	1.2	0	15	50	0	65	0	14	2	13	10.15	20.3	29	7.8	23.8
7:15 PM	0	5	38	17	60	0	1	3	4	1.00	9	2.4	8	2.4	0	13	50	0	63	0	11	3	10	8.4	16.8	24	6	20

7:30 PM	0	7	38	15	60	0	0	0	0	0.00	0	0	0	0	0	14	41	0	55	0	5	3	9	5.95	11.9	17	5.4	13.4
7:45 PM	0	2	32	7	41	0	0	2	2	0.67	6	1.2	4	1.2	0	28	32	0	60	0	7	2	7	5.6	11.2	16	4.2	13.2
8:00 PM	0	0	27	9	36	0	0	1	1	0.33	3	0.6	2	0.6	0	11	29	0	40	0	9	1	25	12.25	24.5	35	15	25
8:15 PM	0	3	22	12	37	0	0	2	2	0.67	6	1.2	4	1.2	0	9	46	0	55	0	5	1	3	3.15	6.3	9	2.4	8.4
8:30 PM	0	1	27	11	39	0	0	1	3	0.33	3	1.8	4	1.8	0	13	32	0	45	0	6	2	4	4.2	8.4	12	3.2	11.2
8:45 PM	0	1	24	14	39	0	0	0	0	0.00	0	0	0	0	0	7	23	0	30	0	4	1	2	2.45	4.9	7	1.6	6.6
9:00 PM	0	1	26	15	42	0	0	0	0	0.00	0	0	0	0	0	10	14	0	24	0	2	0	3	1.75	3.5	5	1.8	3.8
9:15 PM	0	1	25	15	41	0	1	0	1	0.00	0	0.6	2	0.6	0	5	36	0	41	0	0	1	6	2.45	4.9	7	2.4	3.4
9:30 PM	0	0	16	8	24	0	1	0	1	0.00	0	0.6	2	0.6	0	5	30	0	35	0	4	1	4	3.15	6.3	9	2.4	7.4
9:45 PM	0	1	16	5	22	0	0	1	1	0.33	3	0.6	2	0.6	0	2	11	0	13	0	6	0	0	2.1	4.2	6	0	6
10:00 PM	0	2	14	10	26	0	0	2	0	0.67	6	0	2	0	0	2	14	1	17	0	2	0	2	1.4	2.8	4	1.2	3.2
10:15 PM	0	1	19	4	24	0	1	0	0	0.00	0	0	1	0	0	6	10	0	16	0	3	1	5	3.15	6.3	9	3	7
10:30 PM	0	2	7	5	14	0	0	0	0	0.00	0	0	0	0	0	5	10	1	16	0	5	0	1	2.1	4.2	6	0.8	5.8
10:45 PM	0	1	11	3	15	0	0	0	0	0.00	0	0	0	0	0	4	4	0	8	0	7	0	1	2.8	5.6	8	0.8	7.8
11:00 PM	0	0	15	2	17	0	0	1	0	0.33	3	0	1	0	0	2	14	0	16	0	9	0	1	3.5	7	10	0.8	9.8
11:15 PM	0	0	14	5	19	0	0	0	0	0.00	0	0	0	0	0	1	9	0	10	0	3	0	4	2.45	4.9	7	2.4	5.4
11:30 PM	0	0	7	2	9	0	0	0	0	0.00	0	0	0	0	0	2	2	0	4	0	2	0	5	2.45	4.9	7	3	5
11:45 PM	0	0	9	4	13	0	0	0	0	0.00	0	0	0	0	0	3	4	0	7	0	7	0	1	2.8	5.6	8	0.8	7.8



## Appendix C

### Capacity Analysis

# HCS7 Two-Way Stop-Control Report

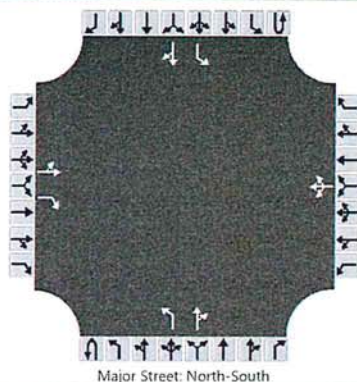
## General Information

Analyst	AYJ
Agency/Co.	Patrick Engineering
Date Performed	11/17/2017
Analysis Year	2017
Time Analyzed	AM Peak
Intersection Orientation	North-South
Project Description	Prince Crossing Road at Hawthorne Lane

## Site Information

Intersection	Prince Crossing/Hawthorne
Jurisdiction	City of West Chicago
East/West Street	Hawthorne Lane
North/South Street	Prince Crossing Road
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

## Lanes



## Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	0	0	1	1	0	0	1	1	0
Configuration		LT		R			LTR			L		TR		L		TR
Volume, V (veh/h)		72	2	72		3	9	17		116	383	2		8	485	72
Percent Heavy Vehicles (%)		3	0	3		0	0	12		1				13		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

## Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.50	6.23		7.10	6.50	6.32		4.11				4.23		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.00	3.33		3.50	4.00	3.41		2.21				2.32		

## Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		78		76			30			122				8		
Capacity, c (veh/h)		130		533			263			993				1096		
v/c Ratio		0.60		0.14			0.11			0.12				0.01		
95% Queue Length, Q <sub>95</sub> (veh)		3.1		0.5			0.4			0.4				0.0		
Control Delay (s/veh)		67.6		12.9			20.5			9.1				8.3		
Level of Service, LOS		F		B			C			A				A		
Approach Delay (s/veh)	40.6				20.5				2.1				0.1			
Approach LOS	E				C											



# HCS7 Two-Way Stop-Control Report

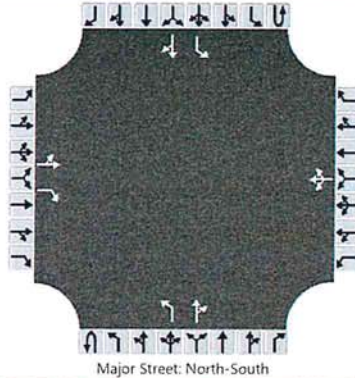
## General Information

Analyst	AYJ
Agency/Co.	Patrick Engineering
Date Performed	11/17/2017
Analysis Year	2017
Time Analyzed	PM Peak
Intersection Orientation	North-South
Project Description	Prince Crossing Road at Hawthorne Lane

## Site Information

Intersection	Prince Crossing/Hawthorne
Jurisdiction	City of West Chicago
East/West Street	Hawthorne Lane
North/South Street	Prince Crossing Road
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

## Lanes



Major Street: North-South

## Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	0	0	1	1	0	0	1	1	0
Configuration		LT		R			LTR			L		TR		L		TR
Volume, V (veh/h)		75	12	92		8	8	20		129	404	4	1	14	360	86
Percent Heavy Vehicles (%)		0	0	0		0	0	0		1			0	0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

## Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1			2.0	4.1		
Critical Headway (sec)		7.10	6.50	6.20		7.10	6.50	6.20		4.11			2.00	4.10		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2			2.0	2.2		
Follow-Up Headway (sec)		3.50	4.00	3.30		3.50	4.00	3.30		2.21			2.00	2.20		

## Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		92		97			37			136				16		
Capacity, c (veh/h)		145		627			241			1087				1165		
v/c Ratio		0.64		0.15			0.15			0.13				0.01		
95% Queue Length, Q <sub>95</sub> (veh)		3.4		0.5			0.5			0.4				0.0		
Control Delay (s/veh)		65.6		11.8			22.6			8.8				8.1		
Level of Service, LOS		F		B			C			A				A		
Approach Delay (s/veh)	38.0				22.6				2.1				0.3			
Approach LOS	E				C											

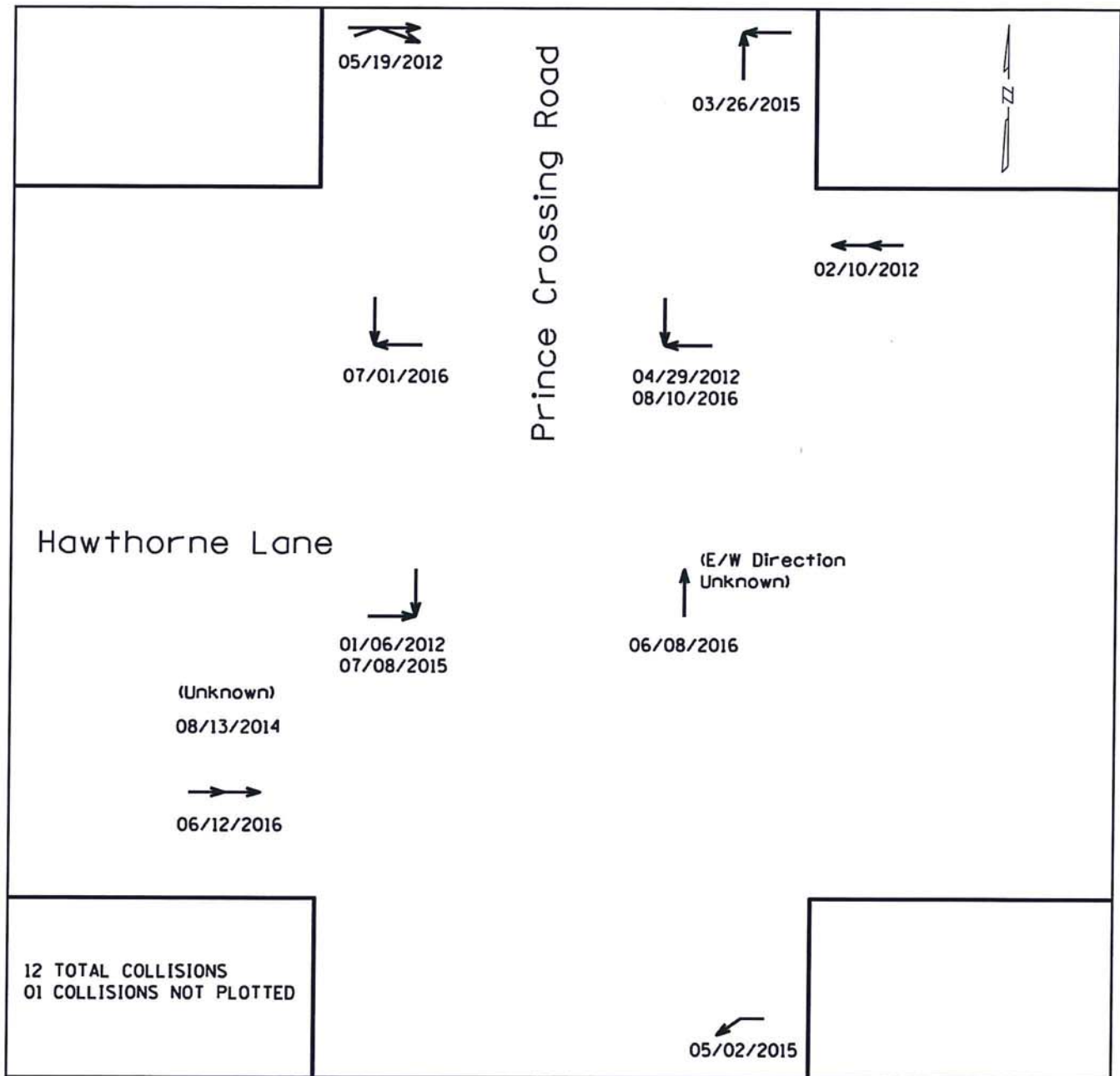
## Appendix D

### Collision Diagram and Summary Sheet



# INTERSECTION CRASH DIAGRAM PLOT 2012-2016

Prince Crossing Road @ Hawthorne Lane



## LEGEND

PEDESTRIAN



TURNING



ANIMAL



REAR END



OVERTURNED



SIDESWIPE SAME DIRECTION



FIXED OBJECT



SIDESWIPE OPPOSITE DIRECTION



OTHER OBJECT



HEAD ON



OTHER NON-COLLISION



ANGLE



**Intersection Crash Analysis  
Prince Crossing Road at Hawthorne Lane  
City of West Chicago, Illinois**

The following summarizes the crash data at the studied intersection for the years 2012-2016.

**Table 1 Collision Type**

Year	Turning	Rear End	Sideswipe (Same Direction)	Sideswipe (Opposite Direction)	Angle	Fixed Object / Other	Total
2016	0	1	0	0	3	0	4
2015	1	0	0	0	2	0	3
2014	0	1	0	0	0	0	1
2013	0	0	0	0	0	0	0
2012	0	1	1	0	2	0	4
<b>Total 2010-2016=</b>							<b>12</b>
<b>Percent of Total Crashes =</b>	<b>8.3%</b>	<b>25.0%</b>	<b>8.3%</b>	<b>0.0%</b>	<b>58.3%</b>	<b>0.0%</b>	<b>100%</b>

**Table 2 Roadway Condition**

Daylight Accidents	Nighttime Accidents	Wet/Snow	Dry	Weather Unknown
12	0	2	0	10

**Table 3 Injury Type**

A Injury Crash	B Injury Crash	C Injury Crash	Fatal Crash	Property Damage Crashes	Total Injured
0	1	0	0	1	2

**Notes:**

1. Collision data included 1 incident occurred at Prince Crossing and North Avenue, which is excluded in this study.
2. Inconclusive incident report from 2014, assumed rear end collision.



## Appendix E

### Traffic Signal Analysis

**Manual of Uniform Traffic Control Devices 2009**  
**Volume Summary**

<b>Major Street:</b>	<b>Prince Crossing</b>
<b>Minor Street:</b>	<b>Hawthorne</b>
<b>Intersection:</b>	<b>Prince Crossing @ Hawthorne</b>
<b>Date Performed:</b>	<b>11/1/2017</b>
<b>Performed By:</b>	<b>AYJ</b>
<b>Date Volumes Collected:</b>	<b>10/17/2017</b>

	Major NB	Major SB	Minor EB	Minor WB	Total Major	Highest Minor	Total
00:01 - 01:00	25	45	20	0	70	20	90
01:00 - 02:00	15	14	6	0	29	6	35
02:00 - 03:00	6	11	6	0	17	6	23
03:00 - 04:00	12	10	4	0	22	4	26
04:00 - 05:00	14	23	7	0	37	7	44
05:00 - 06:00	43	30	21	2	73	21	96
06:00 - 07:00	97	107	45	1	204	45	250
07:00 - 08:00	255	321	118	7	576	118	701
08:00 - 09:00	501	565	117	10	1066	117	1193
09:00 - 10:00	236	272	115	8	508	115	631
10:00 - 11:00	166	149	71	5	315	71	392
11:00 - 12:00	195	187	75	4	382	75	461
12:00 - 13:00	172	200	88	5	372	88	465
13:00 - 14:00	223	180	87	10	403	87	500
14:00 - 15:00	229	201	89	4	430	89	523
15:00 - 16:00	319	348	97	10	667	97	774
16:00 - 17:00	446	459	133	10	905	133	1047
17:00 - 18:00	552	417	127	9	969	127	1105
18:00 - 19:00	493	408	132	12	901	132	1045
19:00 - 20:00	344	272	96	4	616	96	716
20:00 - 21:00	218	197	72	4	415	72	491
21:00 - 22:00	154	157	30	3	311	30	344
22:00 - 23:00	106	113	20	2	219	20	241
23:00 - 00:00	56	70	30	0	126	30	156
<b>Total</b>	<b>4877</b>	<b>4756</b>	<b>1606</b>	<b>111</b>	<b>9633</b>	<b>1606</b>	<b>11350</b>



**Manual of Uniform Traffic Control Devices 2009**  
Summary of Warrents 1 - 9

Major Street: Prince Crossing  
 Minor Street: Hawthorne  
 Intersection: Prince Crossing @ Hawthorne  
 Date Performed: 11/1/2017  
 Performed By: AYJ  
 Date Volumes Collected: 10/17/2017

Warrant	Condition	Is Warrant Met
WARRANT 1: Eight-Hour Vehicular Volume		NO
	Condition A	NO
	Condition B	NO
	Condition A&B	N/A
WARRANT 2: Four-Hour Vehicular Volume	(100%)	NO
WARRANT 3: Peak-Hour Vehicular Volume	(100%)	NO
	Condition A	N/A
	Condition B	NO
WARRANT 4: Pedestrian Volume	(100%)	NO
	Four Hour	N/A
	Peak Hour	N/A
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience		NO
	Condition A	NO
	Condition B	NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		N/A

**Manual of Uniform Traffic Control Devices 2009**

**Worksheet for Signal Warrants (Section 4C)**

**WARRANT 1: Eight-Hour Vehicular Volume**

Intersection: Prince Crossing @ Hawthorne

Date: 11/1/2017

By: AYJ

<u>2</u>	No. of Lanes on Major St?
<u>2</u>	No. of Lanes on Minor St?
<u>NO</u>	Is the intersection within an isolated community?
<u>0</u>	If Yes, then what is the of the population isolated community?

**USE 100% WARRANTS 1A AND 1B. DO NOT USE COMBINATION OF A & B**

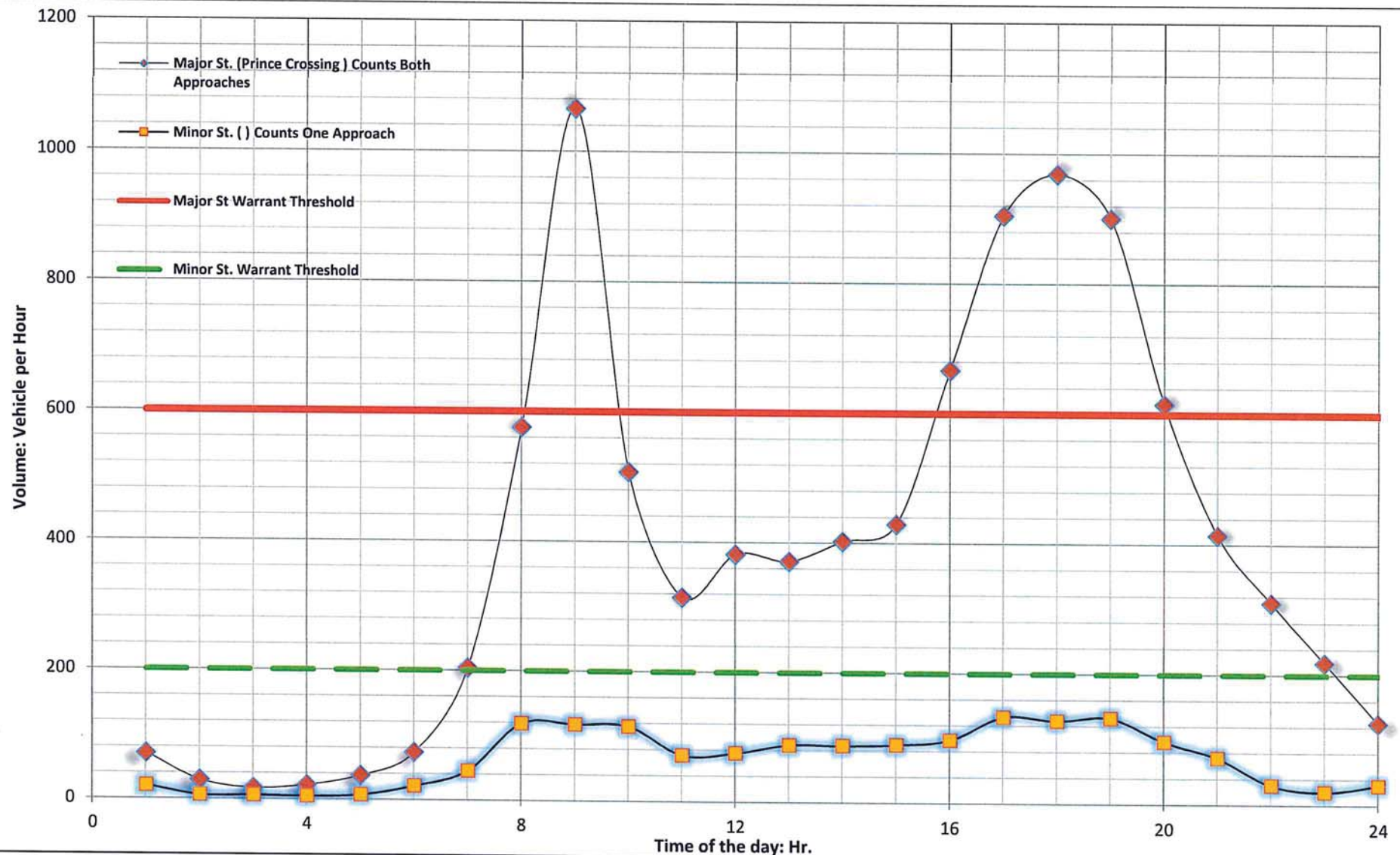
Time	Major Volume (Both Apr.)	Minor Volume (One Apr.)	Condition A			Condition B			Combination Major A	Combination Minor A	Combination Major B	Combination Minor B	Warrant Condition A&B met?
			Major Volume	Minor Volume	Warrant Condition A Met?	Major Volume	Minor Volume	Warrant Condition B Met?					
00:01 - 01:00	70	20	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	NO
01:00 - 02:00	29	6	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	NO
02:00 - 03:00	17	6	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	NO
03:00 - 04:00	22	4	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	NO
04:00 - 05:00	37	7	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	NO
05:00 - 06:00	73	21	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	NO
06:00 - 07:00	204	45	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	NO
07:00 - 08:00	576	118	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	NO
08:00 - 09:00	1066	117	600	200	NO	900	100	YES	N/A	N/A	N/A	N/A	NO
09:00 - 10:00	508	115	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	NO
10:00 - 11:00	315	71	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	NO
11:00 - 12:00	382	75	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	NO
12:00 - 13:00	372	88	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	NO
13:00 - 14:00	403	87	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	NO
14:00 - 15:00	430	89	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	NO
15:00 - 16:00	667	97	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	NO
16:00 - 17:00	905	133	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	NO
17:00 - 18:00	969	127	600	200	NO	900	100	YES	N/A	N/A	N/A	N/A	NO
18:00 - 19:00	901	132	600	200	NO	900	100	YES	N/A	N/A	N/A	N/A	NO
19:00 - 20:00	616	96	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	NO
20:00 - 21:00	415	72	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	NO
21:00 - 22:00	311	30	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	NO
22:00 - 23:00	219	20	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	NO
23:00 - 00:00	126	30	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	NO

Number of Hours that met the warrant 1A = 0

Number of Hours that met the warrant 1B = 4

Number of Hours that met the warrant 1 A & B = 0

A. Is the Minimum Vehicular Volume Warrant Met? (Condition A)	NO
B. Is the Interruption of Continuous Traffic Met? (Condition B)	NO
C. Combination of Warrants A and B Criteria Met?	N/A



## FIGURE 1: WARRANT 1A

IS THERE A REDUCTION IN THE WARRANT THRESHOLDS TO 70%  
...

1- DUE TO SPEED? NO

2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN  
10,000? NO

Spot Number:

Prince Crossing @ Hawthorne

NO. OF LANES ON MAJOR ST.? 2

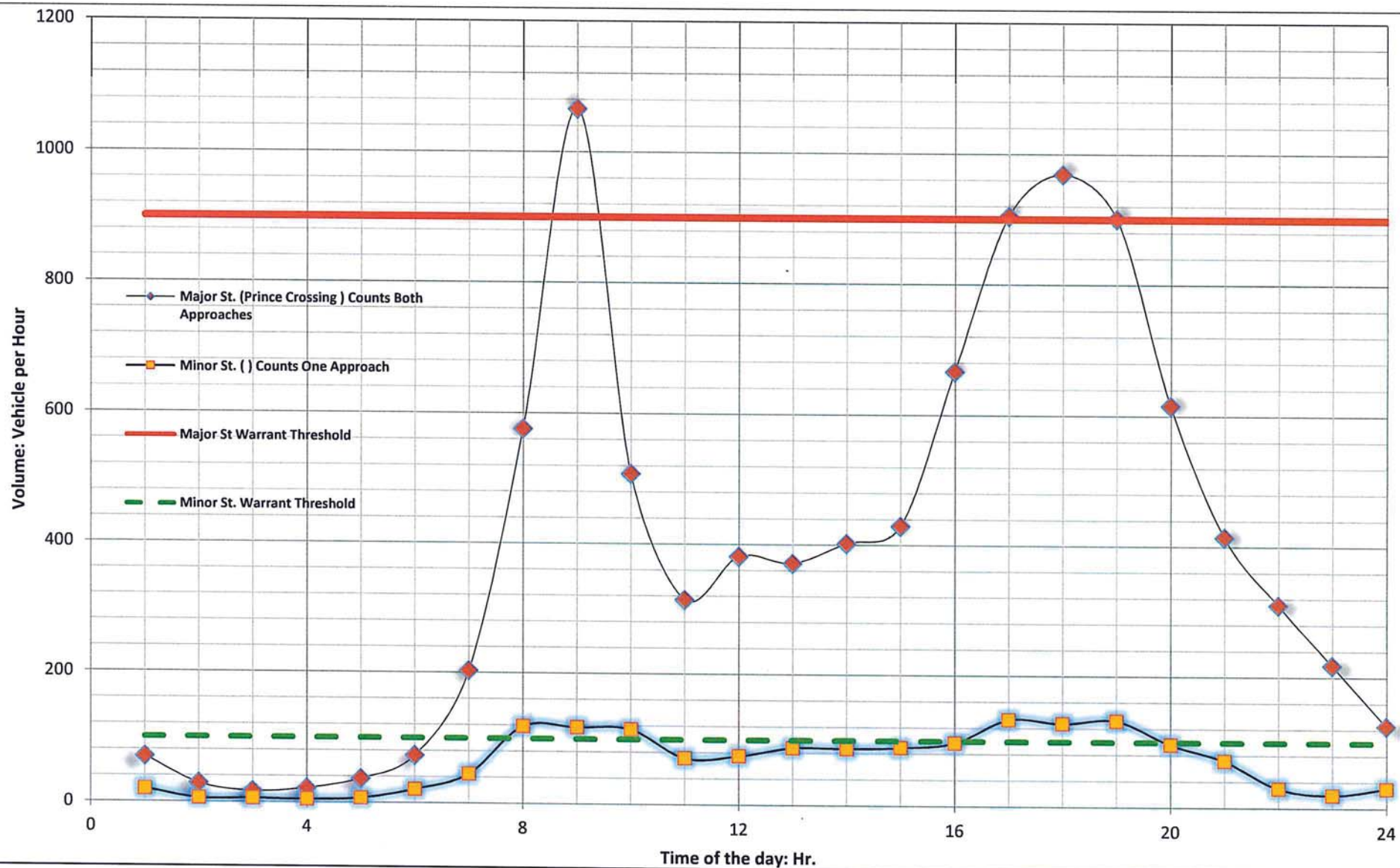
NO. OF LANES ON MINOR ST.? 2

Number of Hours that met the  
Warrant: 0

Does this intersection meet Warrant  
1A for signal installation? NO

Data Collection Date: 10/17/2017





## FIGURE 1: WARRANT **1B**

IS THERE A REDUCTION IN THE WARRANT THRESHOLDS TO 70% ...

1- DUE TO SPEED? **NO**

2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000? **NO**

Spot Number:

**Prince Crossing @ Hawthorne**

NO. OF LANES ON MAJOR ST.? **2**

NO. OF LANES ON MINOR ST.? **2**

Number of Hours that met the Warrant: **4**

Does this intersection meet Warrant **1B** for signal installation? **NO**

Data Collection Date: **10/17/2017**

# Manual of Uniform Traffic Control Devices 2009

## Worksheet for Signal Warrants (Section 4C)

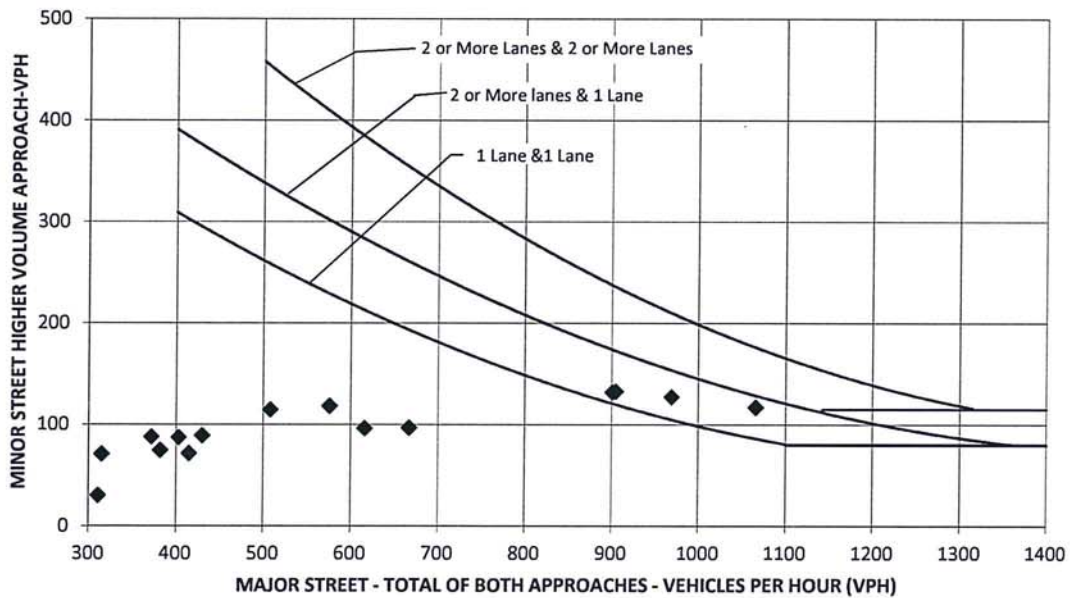
### WARRANT 2: Four-Hour Vehicular Volume

Intersection: Prince Crossing @ Hawthorne

Date: 11/1/2017

By: AYJ

<u>2</u>	: No. of Lanes on Major St.
<u>2</u>	: No. of Lanes on Minor St.
<u>40</u>	: Speed limit or 85th Percentile? (MPH)
<u>NO</u>	: Is the intersection within an Isolated community?
<u>0</u>	: What is the of the population isolated community?



How Many Hours Are Met

0

Is Warrant 2 (100%) Met?

NO

# Manual of Uniform Traffic Control Devices 2009

## Worksheet for Signal Warrants (Section 4C)

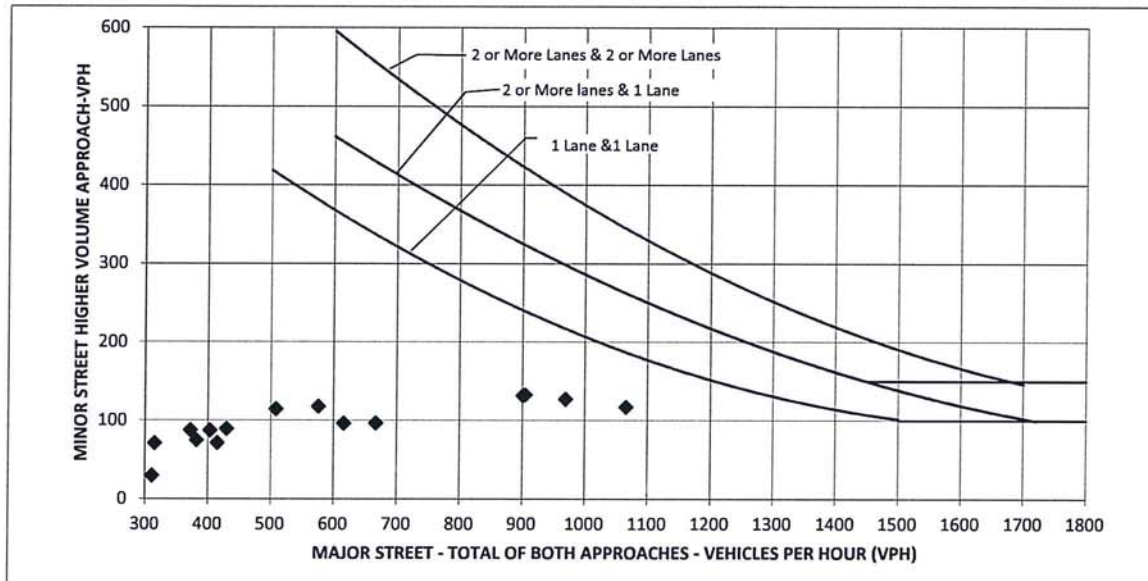
### WARRANT 3 B(100%): Peak-Hour Vehicular Volume

Intersection: Prince Crossing @ Hawthorne

Date: 11/1/2017

By: AYJ

2	: No. of Lanes on Major St.
2	: No. of Lanes on Minor St.
40	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?



How Many Hours Are Met

0

Is Warrant 3 B (100%) Met?

NO



# **Manual of Uniform Traffic Control Devices 2009**

## **Worksheet for Signal Warrants (Section 4C)**

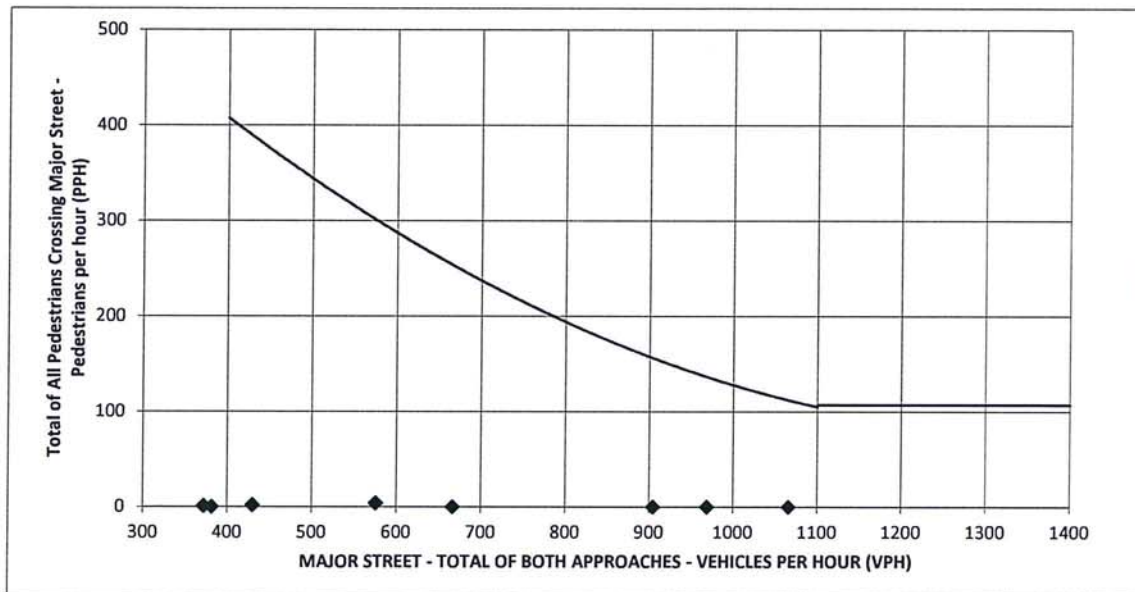
### **WARRANT 4 (100%): Four-Hour Pedestrian Volume**

Intersection: Prince Crossing @ Hawthorne

Date: 11/1/2017

By: AYJ

1685	: Distance to Nearest Signal or Stop Control on Major Road
0%	: Percentage Reduction in Pedestrian Volumes
40	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?



How Many Hours Are Met

N/A

Is Warrant 4 B (100%): Four Hour Met?

N/A

**Manual of Uniform Traffic Control Devices 2009**  
**Worksheet for Signal Warrants (Section 4C)**  
**WARRANT 4 (100%): Peak-Hour Pedestrian Volume**

**Intersection:** Prince Crossing @ Hawthorne

**Date:** 11/1/2017

**By:** AYJ

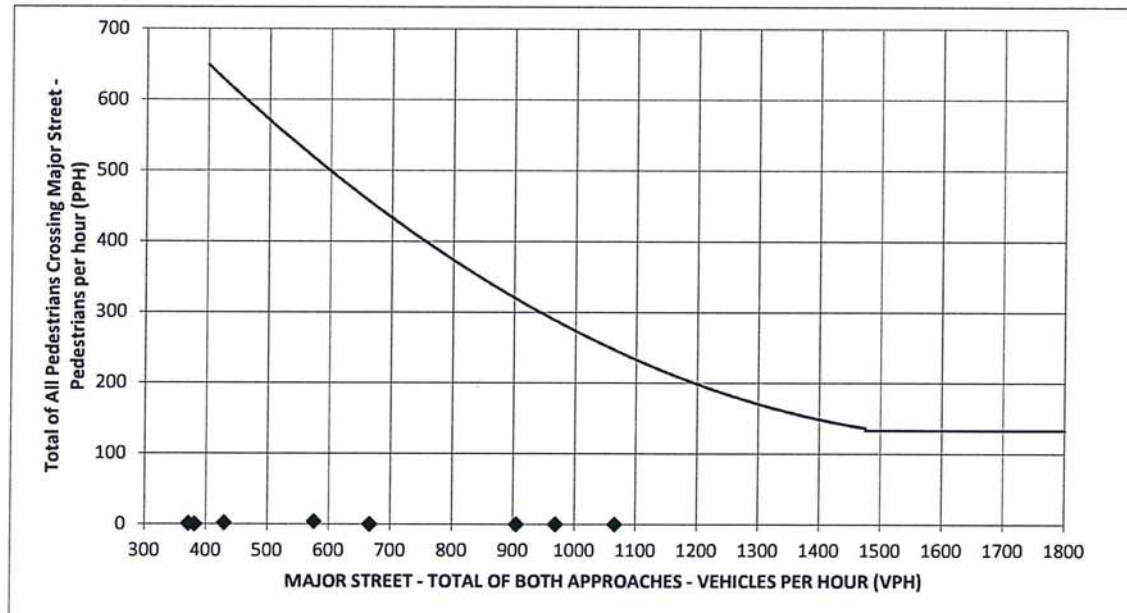
1685 : Distance to Nearest Signal or Stop Control on Major Road

0% : Percentage Reduction in Pedestrian Volumes

40 : Speed limit or 85th Percentile? (MPH)

NO : Is the intersection within an Isolated community?

0 : What is the of the population isolated community?



How Many Hours Are Met

N/A

Is Warrant 4 B (100%): Peak Hour Met?

N/A

## Appendix F

### Multi-Stop Warrant Analysis