

Roy Newton Chief of Police

### Thomas Wirsing Deputy Chief of Operations





TO: Deputy Chief Wirsing

FROM: Sgt. Joe Grage #754

DATE: 11/2/2017

SUBJECT: Public Safety and Transportation Committee Agenda Item:

Request for 4 Way Stop Signs at N. Park Ave and W. Grove St.

Sir,

As you are aware, the term for the temporary stop sign on N. Park Ave at W. Grove St. had expired and it was recently removed. Since its removal, we have received a significant amount of feedback supporting the installation of permanent stop signs to replace the temporary ones. There was also an amount of confusion from citizens who did not know or realize that the stop sign had been removed until they stopped on Park or attempted to pull onto Park from Grove expecting traffic on Park to stop for them. While there are still signs on Grove indicating "cross traffic does not stop", motorists had become accustomed to them doing so.

As you recall, the request for a four way stop sign at this intersection was initially investigated and appeared on the agenda for the PSTC back in February of 2016. A traffic study was performed pursuant to this request. The traffic study found that the intersection did not meet the guidance requirements of Section 2B.07 of the Manual on Uniform Traffic Control Devices (MUTCD). A copy of the study is attached to this memo as reference.

villageoflombard.org/lpd 630 / 873-4400 TDD: 630 / 620-5811



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Chief of Police

Thomas Wirsing
Deputy Chief of Operations

Deputy Chief of Administrative Services



After the traffic study was completed, it was discovered that construction would soon begin on the southeast corner of the intersection. This construction would result in a large amount of vehicles and construction equipment being parked on Park Ave. These vehicles had the potential to reduce lines of sight at the intersection for vehicles on W. Grove St. The PSTC was provided with the report and the information regarding construction at the meeting in March of 2016. Based on that information, the PSTC recommended that a temporary stop sign be installed at the intersection with the issue being revisited in 6-9 months.

The major construction that generated more vehicles being parked on the street has since ceased. The construction of a home near the southeast corner of the intersection recently resumed, but this construction has not generated any on street parking that could interfere with sight lines and provide justification for the reinstallation of a temporary stop sign.

There has been a significant amount of feedback from area residents since the removal of the temporary stop sign. The feedback has been entirely in support of the installation of permanent stop signs on Park Ave. The following were some of the reasons provided:

- Prior to the temporary stop sign, there were many "close calls" at the intersection where crashes almost occurred due to vehicles not yielding from the stop signs on Grove St.
- At certain times of day, the number of vehicles parked on Park Ave. south of the
  intersection creates a line of sign problem for vehicles stopped on Grove St. at
  the stop sign and interferes with their ability to safely enter the intersection.

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Deputy Chief of Administrative Services

- Without the temporary stop sign, Park Ave. has "become a highway" with vehicles travelling over the speed limit.
- The stop sign on Park Ave. discouraged motorists using Park Ave. as a "cut through" to avoid traffic on Main St. and St. Charles Rd.
- There are at least two school bus stops near the intersection and the stop sign on Park Ave. made it easier and safer for school children to cross.
- The intersection "made more sense" with a four way stop sign.

Based on this feedback I performed another traffic study at the intersection. This study took place during weekdays and is attached to this memo. The study found the following:

- There has not been a traffic crash reported at the intersection since December of 2015. There have been three traffic crashes reported there since 2012 (one in 2012, two in 2015). Thus, the intersection failed meet the guideline requirement of five crashes in twelve months set forth in the MUTCD.
- The traffic volumes on Park Ave. (major road) failed to meet the average 300 vehicles per hour for any 8 hours of an average day (peak hour was 85).
- The traffic volumes on Grove St. (minor road) failed to meet the average 200
  vehicles and pedestrians per hour for the same 8 hours of an average day (peak
  hour was 133).

Based on the traffic study, the MUTCD guidance conditions were not met and a four way stop at the intersection is not warranted. However, section 2B.07 of the MUTCD also provides for optional considerations that may be used to warrant a stop sign. Among those considerations are the following:

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**Deputy Chief of Administrative Services** 



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

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."

The amount and content of feedback received after the removal of the temporary stop sign provides anecdotal evidence for both of these optional considerations.

Park Ave. and Grove St. are indeed both collector streets of similar design. Resident feedback strongly suggests that the operational characteristics and safety of the intersection were improved by the placement of the temporary stop sign (i.e. elimination of "near misses"). Additionally, no traffic crashes were reported at the intersection while the temporary stop sign was installed.

Although the study in 2016 found that sight lines were not restricted enough to impair motorists' ability to negotiate the intersection, there is at least a perception that is the case by roadway users.

Given the above, I recommend that the intersection of N. Park. Ave and W. Grove St. be permanently converted to a four way stop intersection with the installation of permanent stop signs on Park Ave at the intersection.

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Raymond Byrne

Thomas Wirsing
Deputy Chief of Operations





TO:

**Deputy Chief Wirsing** 

FROM:

Sgt. Joe Grage #754

DATE:

02/19/16

SUBJECT:

Public Safety and Transportation Committee Agenda Item-Resident

Request for 4 Way Stop Sign at Park and Grove

The Police Department was forwarded a resident's concerns regarding the above intersection being "dangerous". The resident advised that they were involved in a traffic crash at the intersection last December caused by another motorist's failure to yield from a stop sign on Grove St. The resident requested that the intersection be modified to a four way stop or that flashing red lights be installed at the intersection.

A similar request came before the Committee at a meeting on October 13<sup>th</sup>, 2014. The request involved a resident who was requesting a four way stop sign at the intersection because of sight line obstructions created by vehicles parked on the street. Staff did not recommend a modification at that time due to the fact there was a temporary increase of vehicles parked on the roadway there due to construction in the area.

Section 2B.07 of the Manual on Uniform Traffic Control Devices (MUTCD) provides the following criterion in order to warrant the modification from a two way stop to a four way stop:

1. Five or more reported crashes in a 12 month period that are susceptible to correction by a multi-way stop installation AND

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DEPT. FAX: 630 873.4496 INVESTIGATIONS FAX: 630 873.4444

235 E. Wilson Avenue Lombard, Illinois 60148

- Vehicular volume entering the intersection from the major street approaches (Park Ave) averages at least 300 vehicles per hour for any 8 hours of an average day AND
- 3. The combined vehicular volume from the minor street approaches (Grove St.) averages at least 200 vehicles per hour for the same 8 hours of an average day.

In addition to those criteria, the MUTCD allows for the following considerations:

- A. The need to control left-turn conflicts;
- B. The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes;
- 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
- 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.

I performed a study of this intersection and found the following:

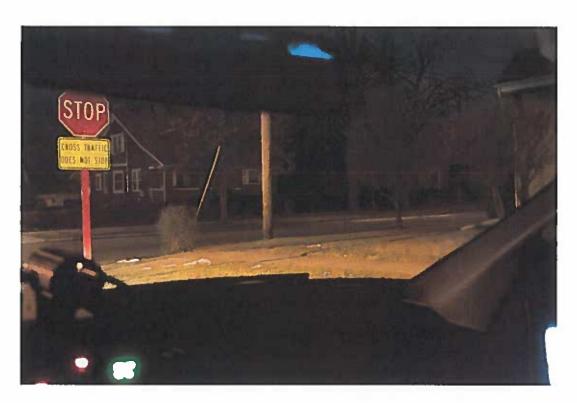
- 1. The intersection failed to meet the accident experience criteria. There have been two crashes at this intersection in the past twelve months. Both did involve motorists on Grove St. failing to yield to traffic on Park Ave.
- 2. The intersection did meet the vehicular volume requirements.
- 3. There is no evidence that left-turn conflicts exist at the intersection.
- 4. The intersection does not have high pedestrian volumes.
- 5. There is a sight line restriction, but it does not prevent the safe negotiation of the intersection (see below).
- 6. There is no evidence that the modification to a four way stop would improve the operational characteristics of the intersection.

In regards to #5, there is a sight line restriction for motorists on Grove St. as they look to the north (see attached photos). The restriction is created by the position of the homes along with bushes and trees. I was able to determine that vehicles travelling southbound on Park Ave towards the intersection come into view approximately 180 feet from the intersection. If the southbound motorists are travelling the speed limit (30 MPH) the motorists on Grove St. can see them for approximately four seconds prior to their arrival at the intersection. This is an adequate amount of time for the motorists on Grove St. to recognize and yield to southbound vehicles.

Based on the above, I cannot recommend that this intersection be modified to a four way stop.



EASTBOUND GROVE ST. LOOKING NORTH ON PARK



WESTBOUND GROVE ST. LOOKING NORTH ON PARK



### Village of Lombard

Village Hall 255 East Wilson Ave. Lombard, IL 60148 villageoflombard.org

#### Master

File Number: 140385

Type: Request

Status: On Consent

Agenda

Version: 1

File ID: 140385

Reference:

In Control: Transportation &

Safety Committee

File Created: 09/30/2014

File Name: Park Avenue South of Grove Street

Final Action: 10/13/2014

Title: Park Avenue South of Grove Street

A resident request to adress on-street parking. (DISTRICT 1)

Notes:

Agenda Date:

Sponsors:

**Enactment Date:** 

Attachments: 140385 T&S 10-13-14

**Enactment Number:** 

Contact: Matt Lew

Hearing Date:

Drafter: cermaks@villageoflombard.org

Effective Date:

#### History of Legislative File

| Ver-<br>sion: | Acting Body:                            | Date:   | Action:  | Sent To:   | Due Date:   | Return<br>Date:           | Result: |
|---------------|---|---|--|--|---|---------------------------|---------|
| 1             | Transportation & Committee Action Text: | A motion was made by  | John Larkin, Jr.,  | seconded by John Mullins, that   |   | enied in                  | Pass    |
|               | Notes:                                  | Foltyniewicz explaregarding cars par<br>requesting a 4-wa<br>when they're parke<br>was some work go | nined that he<br>rked on the<br>y stop. Lark<br>ed too close<br>oing on at th<br>on-street par | on. The motion passed by an una<br>e received an email from<br>street causing a sight ob-<br>kin agreed that it is some<br>to the intersection. Lew<br>e adjacent apartments a<br>king permit. Since the co<br>parked there. | Trustee White struction, as we times tough to reported that and the village | well as o see t there had |         |

Text of Legislative File 140385



To:

Reid Foltyniewicz, Chairperson

From:

Matthew Lew, PE, Civil Engineer

Through:

Carl S. Goldsmith, Director of Public Works

Date:

October 6, 2014

Subject:

October 2014 Meeting Item 2—Park and Grove Intersection

In September 2014, the Public Works Department received several requests to address parked cars on Park Avenue south of Grove Street. The current parking restriction is the downtown business restriction of 2 hour parking, Customers Only, 8 a.m. - 6 p.m., except Sundays and holidays. The requests have stated an inability to see NB cars on Park while stopped at EB Grove.

The Police Department has been notified of this area to enforce the street for any parked cars beyond two hours. Per the Rules of the Road and MUTCD, parking is not allowed within 20 feet of a crosswalk or sidewalk, and within 30 feet of a Stop sign. A temporary on-street parking request was granted to Village Apartments (49 N. Park) from 8/20-9/5 which contributed to the number of parked cars. The contractor completed work on the week of September 21<sup>st</sup>. The below pictures show the resulting minimized street parking.

In review, Village staff recommends no action for the above request.

#### View of Park on EB Grove 9/11/2014



#### View of Park on EB Grove 9/26/2014



GROVE AT PARK

| Start    | 10/30/17 |       |       |   |   |   |   |   |   |          |
|----------|----------|-------|-------|---|---|---|---|---|---|----------|
| Time     | Mon      | EAST  | WEST  |   |   |   |   |   |   | Total    |
| 12:00 AM |          | *     | *     |   |   |   |   |   |   | *        |
| 01:00    |          | *     | *     |   |   |   |   |   |   | *        |
| 02:00    |          | *     | *     |   |   |   |   |   |   | *        |
| 03:00    |          | *     | *     |   |   |   |   |   |   | *        |
| 04:00    |          | *     | *     |   |   |   |   |   |   | *        |
| 05:00    |          | *     | *     |   |   |   |   |   |   | *        |
| 06:00    |          | *     | *     |   |   |   |   |   |   | *        |
| 07:00    |          | *     | *     |   |   |   |   |   |   | *        |
| 08:00    |          | *     | *     |   |   |   |   |   |   | *        |
| 09:00    |          | *     | *     |   |   |   |   |   |   | *        |
| 10:00    |          | *     | *     |   |   |   |   |   |   | *        |
| 11:00    |          | *     | *     |   |   |   |   |   |   | *        |
| 12:00 PM |          | *     | *     |   |   |   |   |   |   | *        |
| 01:00    |          | 31    | 34    |   |   |   |   |   |   | 65       |
| 02:00    |          | 48    | 51    |   |   |   |   |   |   | 99       |
| 03:00    |          | 52    | 51    |   |   |   |   |   |   | 103      |
| 04:00    |          | 49    | 70    |   |   |   |   |   |   | 119      |
| 05:00    |          | 54    | 78    |   |   |   |   |   |   | 132      |
| 06:00    |          | 51    | 51    |   |   |   |   |   |   | 102      |
| 07:00    |          | 40    | 29    |   |   |   |   |   |   | 69       |
| 08:00    |          | 36    | 17    |   |   |   |   |   |   | 53<br>27 |
| 09:00    |          | 16    | 11    |   |   |   |   |   |   | 27       |
| 10:00    |          | 15    | 3     |   |   |   |   |   |   | 18<br>9  |
| 11:00    |          | 5     | 4     |   |   |   |   |   |   | 9        |
| Total    |          | 397   | 399   |   |   |   |   |   |   | 796      |
| Percent  |          | 49.9% | 50.1% |   |   |   |   |   |   |          |
| AM Peak  | -        | -     | -     | - | - | - | - | - | - | -        |
| Vol.     | -        | -     | -     | - | - | - | - | - | - | -        |
| PM Peak  | -        | 17:00 | 17:00 | - | - | - | - | - | - | 17:00    |
| Vol.     | -        | 54    | 78    | - | - | - | - | - | - | 132      |

GROVE AT PARK

| Start    | 10/31/17 |       |       |   |   |   |   |   |   |                |
|----------|----------|-------|-------|---|---|---|---|---|---|----------------|
| Time     | Tue      | EAST  | WEST  |   |   |   |   |   |   | Total          |
| 12:00 AM |          | 3     | 1     |   |   |   |   |   |   | 4              |
| 01:00    |          | 1     | 2     |   |   |   |   |   |   | 3              |
| 02:00    |          | 1     | 1     |   |   |   |   |   |   | 3<br>2<br>3    |
| 03:00    |          | 3     | 0     |   |   |   |   |   |   |                |
| 04:00    |          | 3     | 1     |   |   |   |   |   |   | 4              |
| 05:00    |          | 15    | 5     |   |   |   |   |   |   | 20             |
| 06:00    |          | 45    | 6     |   |   |   |   |   |   | 51             |
| 07:00    |          | 64    | 46    |   |   |   |   |   |   | 110            |
| 08:00    |          | 73    | 43    |   |   |   |   |   |   | 116            |
| 09:00    |          | 51    | 22    |   |   |   |   |   |   | 73             |
| 10:00    |          | 36    | 19    |   |   |   |   |   |   | 55             |
| 11:00    |          | 33    | 28    |   |   |   |   |   |   | 61             |
| 12:00 PM |          | 28    | 39    |   |   |   |   |   |   | 67<br>92       |
| 01:00    |          | 50    | 42    |   |   |   |   |   |   | 92             |
| 02:00    |          | 38    | 57    |   |   |   |   |   |   | 95             |
| 03:00    |          | 49    | 84    |   |   |   |   |   |   | 133            |
| 04:00    |          | 57    | 74    |   |   |   |   |   |   | 131            |
| 05:00    |          | 48    | 58    |   |   |   |   |   |   | 106            |
| 06:00    |          | 55    | 44    |   |   |   |   |   |   | 99             |
| 07:00    |          | 36    | 50    |   |   |   |   |   |   | 86             |
| 08:00    |          | 17    | 33    |   |   |   |   |   |   | 99<br>86<br>50 |
| 09:00    |          | 12    | 12    |   |   |   |   |   |   | 24             |
| 10:00    |          | 11    | 13    |   |   |   |   |   |   | 24             |
| 11:00    |          | 1     | 6     |   |   |   |   |   |   | 24<br>7        |
| Total    |          | 730   | 686   |   |   |   |   |   |   | 1416           |
| Percent  |          | 51.6% | 48.4% |   |   |   |   |   |   |                |
| AM Peak  | -        | 08:00 | 07:00 | - | - | - | - | - | - | 08:00          |
| Vol.     | -        | 73    | 46    | - | - | - | - | - | - | 116            |
| PM Peak  | -        | 16:00 | 15:00 | - | - | - | - | - | - | 15:00          |
| Vol.     | -        | 57    | 84    | - | - | - | - | - | - | 133            |

GROVE AT PARK

| Start<br>Time | 11/1/17<br>Wed | EAST      | WEST  |            |   |   |   |   |   | Total       |
|---------------|----------------|-----------|-------|------------|---|---|---|---|---|-------------|
| 12:00 AM      | vveu           | EAST4     | 3     |            |   |   |   |   |   | 7           |
| 01:00         |                | 5         | 1     |            |   |   |   |   |   |             |
| 02:00         |                | 2         | 1     |            |   |   |   |   |   | 6<br>3<br>4 |
| 03:00         |                | 2         | 1     |            |   |   |   |   |   | 4           |
| 04:00         |                | 3         | 1     |            |   |   |   |   |   | 4           |
| 05:00         |                | 8         | 5     |            |   |   |   |   |   | 13          |
| 06:00         |                | 37        | 14    |            |   |   |   |   |   | 51          |
| 07:00         |                | 67        | 46    |            |   |   |   |   |   | 113         |
| 08:00         |                | 60        | 38    |            |   |   |   |   |   | 98          |
| 09:00         |                | 41        | 25    |            |   |   |   |   |   | 98<br>66    |
| 10:00         |                | 38        | 32    |            |   |   |   |   |   | 70          |
| 11:00         |                | 38<br>32  | 31    |            |   |   |   |   |   | 70<br>63    |
| 12:00 PM      |                | 45        | 28    |            |   |   |   |   |   | 73<br>65    |
| 01:00         |                | 29        | 36    |            |   |   |   |   |   | 65          |
| 02:00         |                | 34        | 44    |            |   |   |   |   |   | 78          |
| 03:00         |                | 56        | 68    |            |   |   |   |   |   | 124         |
| 04:00         |                | 34        | 73    |            |   |   |   |   |   | 107         |
| 05:00         |                | 37        | 87    |            |   |   |   |   |   | 124         |
| 06:00         |                | 42        | 64    |            |   |   |   |   |   | 106         |
| 07:00         |                | 20        | 34    |            |   |   |   |   |   | 54          |
| 08:00         |                | 9         | 28    |            |   |   |   |   |   | 37<br>27    |
| 09:00         |                | 15        | 12    |            |   |   |   |   |   | 27          |
| 10:00         |                | 2         | 16    |            |   |   |   |   |   | 18          |
| 11:00         |                | 4         | 4     |            |   |   |   |   |   | 8           |
| Total         |                | 627       | 692   |            |   |   |   |   |   | 1319        |
| Percent       |                | 47.5%     | 52.5% |            |   |   |   |   |   |             |
| AM Peak       | -              | 07:00     | 07:00 | -          | - | - | - | - | - | 07:00       |
| Vol.          | -              | 67        | 46    | -          | - | - | - | - | - | 113         |
| PM Peak       | -              | 15:00     | 17:00 | -          | - | - | - | - | - | 15:00       |
| Vol.          | -              | 56        | 87    | -          | - | - | - | - | - | 124         |
| Grand Total   |                | 1754      | 1777  |            |   |   |   |   |   | 3531        |
| Percent       |                | 49.7%     | 50.3% |            |   |   |   |   |   |             |
|               |                |           |       |            |   |   |   |   |   |             |
| ADT           |                | ADT 1,366 |       | AADT 1,366 |   |   |   |   |   |             |

PARK AT GROVE

| Start    | 10/30/17 |       |       |   |   |   |   |   |   |          |
|----------|----------|-------|-------|---|---|---|---|---|---|----------|
| Time     | Mon      | North | South |   |   |   |   |   |   | Total    |
| 12:00 AM |          | *     | *     |   |   |   |   |   |   | *        |
| 01:00    |          | *     | *     |   |   |   |   |   |   | *        |
| 02:00    |          | *     | *     |   |   |   |   |   |   | *        |
| 03:00    |          | *     | *     |   |   |   |   |   |   | *        |
| 04:00    |          | *     | *     |   |   |   |   |   |   | *        |
| 05:00    |          | *     | *     |   |   |   |   |   |   | *        |
| 06:00    |          | *     | *     |   |   |   |   |   |   | *        |
| 07:00    |          | *     | *     |   |   |   |   |   |   | *        |
| 08:00    |          | *     | *     |   |   |   |   |   |   | *        |
| 09:00    |          | *     | *     |   |   |   |   |   |   | *        |
| 10:00    |          | *     | *     |   |   |   |   |   |   | *        |
| 11:00    |          | *     | *     |   |   |   |   |   |   | *        |
| 12:00 PM |          | *     | *     |   |   |   |   |   |   | *        |
| 01:00    |          | 25    | 21    |   |   |   |   |   |   | 46       |
| 02:00    |          | 30    | 22    |   |   |   |   |   |   | 52       |
| 03:00    |          | 24    | 26    |   |   |   |   |   |   | 50       |
| 04:00    |          | 38    | 31    |   |   |   |   |   |   | 69       |
| 05:00    |          | 27    | 36    |   |   |   |   |   |   | 63       |
| 06:00    |          | 34    | 33    |   |   |   |   |   |   | 67       |
| 07:00    |          | 24    | 11    |   |   |   |   |   |   | 67<br>35 |
| 08:00    |          | 16    | 8     |   |   |   |   |   |   | 24<br>16 |
| 09:00    |          | 11    | 5     |   |   |   |   |   |   | 16       |
| 10:00    |          | 7     | 4     |   |   |   |   |   |   | 11       |
| 11:00    |          | 2     | 3     |   |   |   |   |   |   | 11<br>5  |
| Total    |          | 238   | 200   |   |   |   |   |   |   | 438      |
| Percent  |          | 54.3% | 45.7% |   |   |   |   |   |   |          |
| AM Peak  | -        | -     | -     | - | - | - | - | - | - | -        |
| Vol.     | -        | -     | -     | - | - | - | - | - | - | -        |
| PM Peak  | -        | 16:00 | 17:00 | - | - | - | - | - | - | 16:00    |
| Vol.     | -        | 38    | 36    | - | - | - | - | - | - | 69       |

PARK AT GROVE

| Start    | 10/31/17 |       |       |   |   |   |   |   |   |              |
|----------|----------|-------|-------|---|---|---|---|---|---|--------------|
| Time     | Tue      | North | South |   |   |   |   |   |   | Total        |
| 12:00 AM |          | 2     | 1     |   |   |   |   |   |   | 3            |
| 01:00    |          | 1     | 0     |   |   |   |   |   |   | 1            |
| 02:00    |          | 0     | 0     |   |   |   |   |   |   | 0<br>1       |
| 03:00    |          | 1     | 0     |   |   |   |   |   |   | 1            |
| 04:00    |          | 1     | 2     |   |   |   |   |   |   | 3<br>6<br>24 |
| 05:00    |          | 1     | 5     |   |   |   |   |   |   | 6            |
| 06:00    |          | 13    | 11    |   |   |   |   |   |   | 24           |
| 07:00    |          | 23    | 38    |   |   |   |   |   |   | 61           |
| 08:00    |          | 23    | 30    |   |   |   |   |   |   | 53           |
| 09:00    |          | 24    | 16    |   |   |   |   |   |   | 40           |
| 10:00    |          | 16    | 22    |   |   |   |   |   |   | 38<br>38     |
| 11:00    |          | 20    | 18    |   |   |   |   |   |   | 38           |
| 12:00 PM |          | 24    | 16    |   |   |   |   |   |   | 40<br>63     |
| 01:00    |          | 32    | 31    |   |   |   |   |   |   | 63           |
| 02:00    |          | 30    | 28    |   |   |   |   |   |   | 58           |
| 03:00    |          | 47    | 34    |   |   |   |   |   |   | 81           |
| 04:00    |          | 38    | 36    |   |   |   |   |   |   | 74           |
| 05:00    |          | 40    | 32    |   |   |   |   |   |   | 72           |
| 06:00    |          | 27    | 32    |   |   |   |   |   |   | 59           |
| 07:00    |          | 24    | 23    |   |   |   |   |   |   | 47           |
| 08:00    |          | 18    | 22    |   |   |   |   |   |   | 40           |
| 09:00    |          | 12    | 20    |   |   |   |   |   |   | 32           |
| 10:00    |          | 9     | 5     |   |   |   |   |   |   | 14           |
| 11:00    |          | 2     | 2     |   |   |   |   |   |   | 4            |
| Total    |          | 428   | 424   |   |   |   |   |   |   | 852          |
| Percent  |          | 50.2% | 49.8% |   |   |   |   |   |   |              |
| AM Peak  | -        | 09:00 | 07:00 | - | - | - | - | - | - | 07:00        |
| Vol.     | -        | 24    | 38    | - | - | - | - | - | - | 61           |
| PM Peak  | -        | 15:00 | 16:00 | - | - | - | - | - | - | 15:00        |
| Vol.     | -        | 47    | 36    | - | - | - | - | - | - | 81           |

PARK AT GROVE

| Start              | 11/1/17 | NI =(l- | 0      |          |   |   |   |   |   | Tatal                |
|--------------------|---------|---------|--------|----------|---|---|---|---|---|----------------------|
| Time               | Wed     | North   | South  |          |   |   |   |   |   | Total                |
| 12:00 AM           |         | 5       | 3      |          |   |   |   |   |   | 8                    |
| 01:00              |         | 1       | 0      |          |   |   |   |   |   | 1                    |
| 02:00              |         | 0       | 3      |          |   |   |   |   |   | 3<br>1               |
| 03:00              |         | 1       | 0      |          |   |   |   |   |   |                      |
| 04:00              |         | 2       | 2<br>5 |          |   |   |   |   |   | 4<br>8               |
| 05:00              |         |         |        |          |   |   |   |   |   | 0                    |
| 06:00              |         | 16      | 15     |          |   |   |   |   |   | 31<br><b>57</b>      |
| 07:00              |         | 21      | 36     |          |   |   |   |   |   | 5/                   |
| 08:00              |         | 24      | 27     |          |   |   |   |   |   | 51                   |
| 09:00              |         | 22      | 18     |          |   |   |   |   |   | 40                   |
| 10:00              |         | 20      | 22     |          |   |   |   |   |   | 42                   |
| 11:00              |         | 27      | 20     |          |   |   |   |   |   | 47                   |
| 12:00 PM           |         | 23      | 14     |          |   |   |   |   |   | 37                   |
| 01:00              |         | 23      | 14     |          |   |   |   |   |   | 37                   |
| 02:00              |         | 25      | 19     |          |   |   |   |   |   | 44                   |
| 03:00              |         | 32      | 29     |          |   |   |   |   |   | 61                   |
| 04:00              |         | 32      | 42     |          |   |   |   |   |   | 74                   |
| 05:00              |         | 35      | 50     |          |   |   |   |   |   | 85                   |
| 06:00              |         | 36      | 27     |          |   |   |   |   |   | 63<br>39<br>25<br>22 |
| 07:00              |         | 20      | 19     |          |   |   |   |   |   | 39                   |
| 08:00              |         | 18      | 7      |          |   |   |   |   |   | 25                   |
| 09:00              |         | 15      | 7      |          |   |   |   |   |   | 22                   |
| 10:00              |         | 4       | 6      |          |   |   |   |   |   | 10                   |
| 11:00              |         | 0       | 2      |          |   |   |   |   |   | 2                    |
| Total              |         | 405     | 387    |          |   |   |   |   |   | 792                  |
| Percent            |         | 51.1%   | 48.9%  |          |   |   |   |   |   |                      |
| AM Peak            | -       | 11:00   | 07:00  | -        | - | - | - | - | - | 07:00                |
| Vol.               | -       | 27      | 36     | -        | - | - | - | - | - | 57                   |
| PM Peak            | -       | 18:00   | 17:00  | -        | - | - | - | - | - | 17:00                |
| Vol.               | -       | 36      | 50     | -        | - | - | - | - | - | 85                   |
| <b>Grand Total</b> |         | 1071    | 1011   |          |   |   |   |   |   | 2082                 |
| Percent            |         | 51.4%   | 48.6%  |          |   |   |   |   |   |                      |
| ADT                |         | ADT 801 |        | AADT 801 |   |   |   |   |   |                      |