Traffic Safety Review

Fillmore Street, Hayes Drive, Carter Drive

City of Northfield

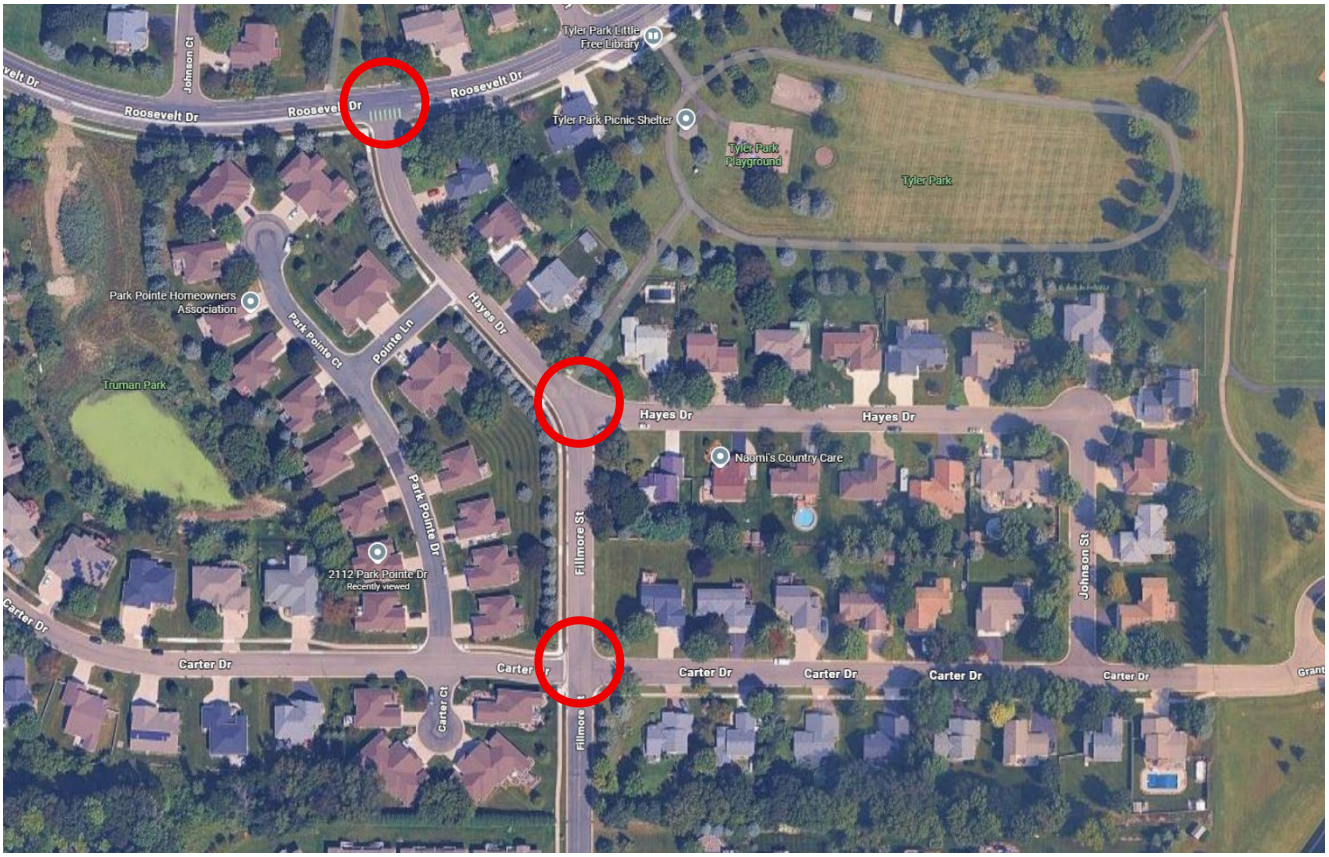
Jacob Ives – Graduate Engineer

David Bennett PE – Public Work Director/City Engineer

Introduction

A crossing review and traffic safety review was conducted for pedestrian crossings located on Fillmore Street / Hayes Drive between Roosevelt Drive and Carter Drive. The review considers the existing conditions including traffic control, geometrics, and pedestrian origin-destination demand to determine the appropriate crossing treatment. In addition, the review for traffic safety takes into account the proposed traffic from the 71 unit Harvest Hill 2nd Addition development and the additional 497 trips per day of traffic that will be generated from the development. Three intersections were reviewed with this study; Roosevelt Drive and Hayes Drive, Hayes Drive and Fillmore Street, and Fillmore Street and Carter Drive (Figure 1).

Figure 1: Location of Intersections



Scope of Study

- **Pedestrian Safety:** Review pedestrian and bike counts and review crash data to provide insight into safety trends at the crossing.
- **Signs and Markings:** Analyze the existing conditions at the crossing to identify potential changes to improve the safety of pedestrians.

- **Traffic Safety Review:** Review history of crashes at these intersection to identify any potential safety changes.

Data Collection

Four 2-hour pedestrian counts (pedestrians and bikes) were collected at each intersection, two from 7:00 a.m. to 9:00 a.m. and two from 2:00 p.m. to 4:00 p.m. at the intersections shown In Figure 1. These times were chosen to get the peak pedestrian crossing numbers from students walking to and from school. The counts were conducted on Thursday May 21st, Tuesday May 26th, Thursday May 28th, Monday June 1st, and Tuesday June 2nd. Additional counts were collected on June 22nd, and 23rd when school was not in session in order to get a baseline number of pedestrians. In addition to the Pedestrian counts, vehicle speed and count were collected on Hayes Drive between Fillmore Street and Pointe Lane and on Grant Drive between Grant Court and Adams Street. Tables with crossing data are shown in **Appendix A.** Vehicle speed and count are shown in **Appendix B.**

Crossing Enhancements

Current thresholds for marking pedestrian crossings are identified in the Minnesota Department of Transportation's Traffic Engineering Manual which considers geometrics, sight distance, traffic volumes, bike/pedestrian volumes, site characteristics, speed limit, crash history, surrounding land use, transit stops, and connecting non-motorized facilities. The crossings are in a residential area with parks to the north and schools to the east. All the roads in the area are low-speed roads with a limit of 30 mph, have a relatively low traffic count, and have good sight lines throughout with no obstructions around the crossing. The pedestrian volume is critical to determining which crossings should or should not be marked to not overwhelm motorists and focus their attention on the crossings most used by pedestrians. The Local Road Research Board Pedestrian Crossings: Uncontrolled Locations identifies volume thresholds for marking pedestrian crossings based on previous research. "If the crossing location is on a roadway with a speed of 35 mph or less, there should be a minimum of 20 pedestrians using the crossing during one hour of the day." A 33% reduction (13 pedestrians crossing in one hour) can be applied if the crossing is primarily used by children (13 pedestrians in one hour will be the threshold for this evaluation).

Minnesota's Best Practices for Pedestrian and Bicycle Safety guidelines identify improvements for bicycle and pedestrian safety on roadway networks through crash reduction treatments. From the Minnesota Statewide Pedestrian Crash Analysis, 57% of pedestrian crashes occur when the user is crossing the roadway. A reduction of crashes can be accomplished with the proper use of design and planning principles that improve pedestrian safety at intersections. The number of vehicle lanes, pedestrian exposure, average daily traffic (ADT) volumes, posted speed limit, and geometry

of the location helps to identify where the use of designated crosswalk and associated crossing treatments may be appropriate for improved pedestrian safety and mobility. Table 1 below provides guidance for improving pedestrian safety at uncontrolled crossing locations by the selection of appropriate countermeasures.

Table 1: Recommendations for installing marked crosswalks and other needed improvements at uncontrolled locations

Roadway Configuration	Posted Speed Limit and AADT								
	Vehicle AADT <9,000			Vehicle AADT 9,000–15,000			Vehicle AADT >15,000		
	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph
2 lanes (1 lane in each direction)	● 2 4 5 6	● 5 6 7 9	○ 5 6 ● 9	● 4 5 6	● 5 6 7 9	○ 5 6 ● 9	● 4 5 6 7 9	○ 5 6 7 9	○ 5 6 ● 9
3 lanes with raised median (1 lane in each direction)	● 2 3 4 5 7 9	● ❸ 5 7 9	○ ❸ 5 ● 9	○ 3 4 5 7 9	○ ❸ 5 ● 9	○ ❸ 5 ● 9	○ ❸ 4 5 7 9	○ ❸ 5 ● 9	○ ❸ 5 9
3 lanes w/o raised median (1 lane in each direction with a two-way left-turn lane)	● 2 3 4 5 6 7 9	● ❸ 5 6 7 9	○ ❸ 5 6 9	○ 3 4 5 6 7 9	○ ❸ 5 6 ● 9	○ ❸ 5 6 9	○ ❸ 4 5 6 7 9	○ ❸ 5 6 9	○ ❸ 5 6 9
4+ lanes with raised median (2 or more lanes in each direction)	● ❸ 5 7 8 9	● ❸ 5 7 8 9	○ ❸ 5 8 9	○ ❸ 5 7 8 9	○ ❸ 5 ● 8 9	○ ❸ 5 8 9	○ ❸ 5 ● 8 9	○ ❸ 5 8 9	○ ❸ 5 8 9
4+ lanes w/o raised median (2 or more lanes in each direction)	● ❸ 5 6 7 8 9	○ ❸ 5 ❻ 7 8 9	○ ❸ 5 ❻ 8 9	○ ❸ 5 ❻ 7 8 9	○ ❸ 5 ❻ ● 8 9	○ ❸ 5 ❻ 8 9	○ ❸ 5 ❻ ● 8 9	○ ❸ 5 ❻ 8 9	○ ❸ 5 ❻ 8 9

Given the set of conditions in a cell,

- # Signifies that the countermeasure is a candidate treatment at a marked uncontrolled crossing location.
- ● Signifies that the countermeasure should always be considered, but not mandated or required, based upon engineering judgment at a marked uncontrolled crossing location.
- ○ Signifies that crosswalk visibility enhancements should always occur in conjunction with other identified countermeasures.*

The absence of a number signifies that the countermeasure is generally not an appropriate treatment, but exceptions may be considered following engineering judgment.

1 High-visibility crosswalk markings, parking restrictions on crosswalk approach, adequate nighttime lighting levels, and crossing warning signs
2 Raised crosswalk
3 Advance Yield Here To (Stop Here For) Pedestrians sign and yield (stop) line
4 In-Street Pedestrian Crossing sign
5 Curb extension
6 Pedestrian refuge island
7 Rectangular Rapid-Flashing Beacon (RRFB)**
8 Road Diet
9 Pedestrian Hybrid Beacon (PHB)**

Source: FHWA-SA-17-072

Evaluation and Recommendations

Fillmore Street and Hayes Drive are classified as a collector street with a speed limit of 30 mph. It is a two-lane undivided roadway (one lane in each direction). Traffic counts indicate daily traffic of approximately 700 vehicles per day and an average speed of 25 mph. None of the evaluated intersections have any reported crash history. Northfield Middle School is located to the east, and Bridgewater Elementary is located to the northeast. The surrounding land use is residential with parks to the north and east.

Roosevelt Drive and Hayes Drive

This intersection is a T-intersection with stop sign control on the south leg (NB approach). Roosevelt Drive is a two-lane undivided roadway with a median separated bikeway on the south side. Traffic counts indicate a daily traffic volume of approximately 1,500 vehicles per day. A sidewalk exists on the south side of Roosevelt Drive and crosses Hayes Drive at the south leg of this intersection. A trail leading to Jefferson Park crosses Roosevelt Drive at the west leg of this intersection. All crossings are currently unmarked except for the separated bikeway. At peak hour a total of seven (7) pedestrians were observed crossing the west leg, three (3) crossing the east leg, and 33 crossing the south leg. At peak hour nine (9) bikes were observed crossing in the bikeway.

The recommendation is to mark the crossing on the south leg with high visibility crosswalk markings. When Roosevelt Drive receives a street rehabilitation project the pedestrian ramps should be upgraded to be ADA and a receiving ramp should be added for the trail crossing on the west leg.

Hayes Drive and Fillmore Street

This intersection is a T-intersection with yield sign control on the east leg (WB approach). A sidewalk exists along west side of Hayes Drive north of this intersection and the west side of Fillmore Street south of this intersection. A trail leading to Tyler Park crosses Hayes Drive at the North leg of this intersection. The north leg crossing currently has pedestrian crossing signs, but no crosswalk pavement markings. At peak hour a total of six (6) pedestrians were observed crossing the north leg, two (2) crossing the south leg, and two (2) crossing the east leg.

Due to the low pedestrian crossing count and lack of crash history at this intersection the recommendation is to leave the crossings unmodified. Due to the skewed intersection geometry and the trail crossing on the north leg the recommendation is to replace the existing yield sign on the westbound approach with a stop sign. Long term recommendation is to review the intersection geometry when street rehabilitation work is being planned for this area.

Fillmore Street and Carter Drive

This intersection is a four-way intersection with stop control on the east and west legs (WB and EB approaches). Sidewalk exists along the west side of Fillmore Street, the North side of Carter Drive west of Fillmore Street, and the south side of Carter Drive east of Fillmore Street. All crossings at this intersection are currently unmarked. Carter Drive is a two-lane undivided roadway (one lane in

each direction). Traffic counts to the west of Fillmore Street indicate daily traffic of approximately 300 vehicles per day and an average speed of 20 mph. At peak hour a total of 10 pedestrians were observed crossing the north leg, two (2) crossing the east leg, 23 crossing the west leg, and 25 crossing the south leg.

The recommendation would be to mark the west leg and south leg crossings with high visibility crosswalk markings and add pedestrian crossing signs to the south leg crossing. Pedestrian crossing signs are not recommended on the west leg due to this approach being stop controlled.

Appendix A – Pedestrian Counts 15-Minute Intervals

*** <u>Tables with asterisks are base counts with no school</u>**

<u>Hayes Drive & Roosevelt Drive</u>

Hayes Drive / Roosevelt Drive Morning 5/28/26				
	West Leg	South Leg	East Leg	Bike Lane
7:00	2	2	-	-
7:15	-	5	-	-
7:30	1	3	-	3
7:45	-	6	-	2
8:00	4	10	-	1
8:15	-	3	-	2
8:30	1	1	-	1
8:45	-	1	-	-
Total	**8**	**31**	**0**	**9**

Hayes Drive / Roosevelt Drive Morning 6/2/26				
	West Leg	South Leg	East Leg	Bike Lane
7:00	-	2	-	2
7:15	3	2	-	1
7:30	1	3	-	-
7:45	-	6	-	1
8:00	3	8	-	4
8:15	2	5	-	2
8:30	-	2	-	-
8:45	1	1	-	-
Total	**10**	**29**	**0**	**10**

* Hayes Drive / Roosevelt Drive Morning 6/23/26				
	West Leg	South Leg	East Leg	Bike Lane
7:00				
7:15	2	5		
7:30		1		1
7:45		3		2
8:00				
8:15		3		
8:30	1			
8:45	1	3	1	
Total	4	15	1	3

Hayes Drive / Roosevelt Drive Afternoon 5/26/26				
	West Leg	South Leg	East Leg	Bike Lane
2:00	-	-	-	2
2:15	-	-	-	1
2:30	-	-	-	1
2:45	-	-	-	3
3:00	3	9	1	-
3:15	3	16	2	2
3:30	-	7	-	3
3:45	-	1	-	2
Total	6	33	3	14

Hayes Drive / Roosevelt Drive Afternoon 6/2/26				
	West Leg	South Leg	East Leg	Bike Lane
2:00	-	-	-	-
2:15	1	-	-	1
2:30	47*	47*	-	1
2:45	-	-	-	2
3:00	2	5	3	2
3:15	1	19	-	-
3:30	2	6	-	5
3:45	2	1	-	-
Total	11	34	3	11

Note: this count is due to a class of 44 students. For the analysis this class was excluded, and the number was reduced to 3

* Hayes Drive / Roosevelt Drive Afternoon 6/23/26				
	West Leg	South Leg	East Leg	Bike Lane
2:00		1		7
2:15	2			
2:30		1		
2:45		3		1
3:00	1	6		2
3:15	3			
3:30				
3:45		2		6
Total	6	13	0	16

Fillmore Street & Hayes Drive

Fillmore Street / Hayes Drive Morning 5/26/26			
	North Leg	South Leg	East Leg
7:00	-	-	-
7:15	1	-	-
7:30	1	-	-
7:45	-	-	-
8:00	1	-	-
8:15	-	-	-
8:30	1	-	-
8:45	-	-	-
Total	4	0	0

Fillmore Street / Hayes Drive Morning 6/1/26			
	North Leg	South Leg	East Leg
7:00	-	-	-
7:15	-	-	-
7:30	-	-	-
7:45	-	-	-
8:00	1	-	-
8:15	2	-	-
8:30	-	-	-
8:45	-	-	-
Total	3	0	0

* Fillmore Street / Hayes Drive Morning 6/22/26			
	North Leg	South Leg	East Leg
7:00			
7:15			
7:30	2		
7:45	1		
8:00	1	1	
8:15			
8:30	4		
8:45			
Total	8	1	0

Fillmore Street / Hayes Drive Afternoon 5/21/26			
	North Leg	South Leg	East Leg
2:00	1	-	2
2:15	-	-	-
2:30	-	-	-
2:45	2	-	-
3:00	-	-	-
3:15	3	2	2
3:30	1	-	-
3:45	-	-	-
Total	7	2	4

Fillmore Street / Hayes Drive Afternoon 6/1/26			
	North Leg	South Leg	East Leg
2:00	-	-	-
2:15	2	-	-
2:30	-	-	-
2:45	-	-	-
3:00	2	1	-
3:15	-	-	-
3:30	2	1	1
3:45	1	-	-
Total	7	2	1

* Fillmore Street / Hayes Drive Afternoon 6/22/26			
	North Leg	South Leg	East Leg
2:00			
2:15	1		
2:30	2		
2:45			
3:00	2		
3:15			
3:30			
3:45			
Total	5	0	0

Filmore Street & Carter Drive

Fillmore Street / Carter Drive Morning 5/26/26				
	North Leg	South Leg	West Leg	East Leg
7:00	-	2	2	-
7:15	1	5	5	1
7:30	-	9	7	-
7:45	-	1	1	-
8:00	-	-	-	-
8:15	-	-	-	-
8:30	-	2	2	-
8:45	-	-	-	-
Total	1	19	17	1

Fillmore Street / Carter Drive Morning 6/1/26				
	North Leg	South Leg	West Leg	East Leg
7:00	-	1	1	-
7:15	-	3	2	-
7:30	1	12	9	1
7:45	1	4	1	-
8:00	-	-	-	-
8:15	-	1	-	-
8:30	-	1	1	-
8:45	-	1	-	-

Total	**2**	**23**	**14**	**1**

* Fillmore Street / Carter Drive Morning 6/22/26				
	North Leg	**South Leg**	**West Leg**	**East Leg**
7:00		2		
7:15				
7:30		1	1	
7:45			1	
8:00		2	2	
8:15	1	1	1	1
8:30		2	2	
8:45		2	2	
Total	**1**	**10**	**9**	**1**

Fillmore Street / Carter Drive Afternoon 5/21/26				
	North Leg	**South Leg**	**West Leg**	**East Leg**
2:00	-	-	-	-
2:15	-	2	1	-
2:30	-	-	-	-
2:45	-	15	11	-
3:00	-	6	6	-
3:15	6	2	1	1
3:30	4	2	5	1
3:45	-	-	-	-
Total	**10**	**27**	**24**	**2**

Fillmore Street / Carter Drive Afternoon 6/1/26				
	North Leg	**South Leg**	**West Leg**	**East Leg**
2:00	-	-	1	-
2:15	-	-	-	-
2:30	1	-	1	-
2:45	2	13	13	-
3:00	1	4	3	-
3:15	-	4	1	1
3:30	4	3	3	1
3:45	-	2	2	-
Total	**8**	**26**	**24**	**2**

* Fillmore Street / Carter Drive Afternoon 6/22/26				
	North Leg	South Leg	West Leg	East Leg
2:00				
2:15				
2:30		1	1	
2:45		3	3	
3:00		2	1	
3:15		1	1	
3:30				
3:45				
Total	0	7	6	0

Appendix B – Traffic Data

Hayes Drive Between Fillmore Street & Pointe Lane

Speed Statistics

Vehicles = 5321
Posted speed limit = 30 mph, Exceeding = 537 (10.09%), Mean Exceeding = 32.18 mph
Maximum = 52.9 mph, **Minimum** = 5.7 mph, **Mean** = 25.0 mph
85% Speed = 28.97 mph, **95% Speed** = 31.65 mph, **Median** = 25.28 mph
10 mph Pace = 20 - 30, **Number in Pace** = 4249 (79.85%)
Variance = 19.05, **Standard Deviation** = 4.36 mph

Speed Bins (Partial days)

Speed	Bin	Below	Above	Energy	vMult	n * vMult
0 - 5	0 0.000%	0 0.000%	5321 100.0%	0.00	0.00	0.00
5 - 10	21 0.395%	21 0.395%	5300 99.61%	0.00	0.00	0.00
10 - 15	140 2.631%	161 3.026%	5160 96.97%	0.00	0.00	0.00
15 - 20	365 6.860%	526 9.885%	4795 90.11%	0.00	0.00	0.00
20 - 25	1947 36.59%	2473 46.48%	2848 53.52%	0.00	0.00	0.00
25 - 30	2311 43.43%	4784 89.91%	537 10.09%	0.00	0.00	0.00
30 - 35	493 9.265%	5277 99.17%	44 0.827%	0.00	0.00	0.00
35 - 40	36 0.677%	5313 99.85%	8 0.150%	0.00	0.00	0.00
40 - 45	4 0.075%	5317 99.92%	4 0.075%	0.00	0.00	0.00
45 - 50	3 0.056%	5320 100.0%	1 0.019%	0.00	0.00	0.00
50 - 55	1 0.019%	5321 100.0%	0 0.000%	0.00	0.00	0.00
55 - 60	0 0.000%	5321 100.0%	0 0.000%	0.00	0.00	0.00
60 - 65	0 0.000%	5321 100.0%	0 0.000%	0.00	0.00	0.00
65 - 70	0 0.000%	5321 100.0%	0 0.000%	0.00	0.00	0.00
70 - 75	0 0.000%	5321 100.0%	0 0.000%	0.00	0.00	0.00
75 - 80	0 0.000%	5321 100.0%	0 0.000%	0.00	0.00	0.00
80 - 85	0 0.000%	5321 100.0%	0 0.000%	0.00	0.00	0.00
85 - 90	0 0.000%	5321 100.0%	0 0.000%	0.00	0.00	0.00
90 - 95	0 0.000%	5321 100.0%	0 0.000%	0.00	0.00	0.00
95 - 100	0 0.000%	5321 100.0%	0 0.000%	0.00	0.00	0.00

Vehicle Count

* Wednesday, May 27, 2026 - Total=809, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**0**	**0**	**0**	**0**	**5**	**20**	**40**	**173**	**37**	**27**	**38**	**42**	**35**	**107**	**82**	**58**	**50**	**28**	**26**	**20**	**19**	**1**	**1**	
0	0	0	0	0	0	2	8	8	**9**	3	9	4	10	8	**27**	16	11	3	11	2	4	0	0	0
0	0	0	0	0	2	4	15	**36**	17	13	12	13	9	19	**10**	15	15	7	6	7	5	0	1	0
0	0	0	0	0	2	5	9	**86**	7	4	9	12	8	8	**26**	11	14	8	4	8	5	0	0	0
0	0	0	0	0	1	9	8	**43**	4	7	8	13	8	**72**	19	16	10	10	5	3	5	1	0	0

AM Peak 0815 - 0915 (174), AM PHF=0.51 PM Peak 1445 - 1545 (135), PM PHF=0.47

* Thursday, May 28, 2026 - Total=806, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**0**	**0**	**0**	**1**	**6**	**24**	**190**	**36**	**25**	**28**	**35**	**52**	**27**	**103**	**86**	**42**	**41**	**35**	**41**	**18**	**10**	**5**	**1**	
0	0	0	0	0	0	7	**10**	6	3	1	6	19	11	6	**41**	11	14	6	6	8	3	5	1	0
0	0	0	0	1	3	2	**39**	13	7	8	7	8	1	11	**13**	14	8	8	14	4	5	0	0	0
0	0	0	0	0	3	5	**83**	13	9	8	9	17	4	**14**	14	8	12	11	7	2	2	0	0	0
0	0	0	0	0	0	10	**58**	4	6	11	13	8	11	**72**	18	9	7	10	14	4	0	0	0	1

AM Peak 0700 - 0800 (190), AM PHF=0.57 PM Peak 1430 - 1530 (140), PM PHF=0.49

* Friday, May 29, 2026 - Total=793, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
1	**0**	**0**	**0**	**0**	**9**	**11**	**168**	**35**	**26**	**31**	**34**	**38**	**35**	**116**	**76**	**48**	**41**	**32**	**27**	**29**	**17**	**8**	**11**	
0	0	0	0	0	0	1	7	**8**	4	8	7	7	11	10	**23**	10	14	14	5	8	4	2	3	1
0	0	0	0	0	1	2	**30**	9	6	8	7	12	8	12	**17**	15	8	7	9	6	7	0	7	2
0	0	0	0	0	1	3	**82**	10	6	10	8	8	7	17	**19**	10	13	6	8	9	3	3	0	0
1	0	0	0	0	7	5	**49**	8	10	5	12	11	9	**77**	17	13	6	5	5	6	3	3	1	0

AM Peak 0715 - 0815 (169), AM PHF=0.52 PM Peak 1445 - 1545 (136), PM PHF=0.44

* Saturday, May 30, 2026 - Total=461, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
3	**0**	**0**	**1**	**0**	**3**	**9**	**8**	**30**	**39**	**39**	**35**	**41**	**25**	**31**	**18**	**32**	**38**	**27**	**31**	**21**	**22**	**7**	**1**	
1	0	0	0	0	2	2	2	5	7	**11**	8	**8**	8	10	8	13	14	5	8	7	6	2	0	0
2	0	0	1	0	0	4	3	5	7	**9**	8	**11**	9	11	1	5	7	6	5	6	7	3	0	0
0	0	0	0	0	0	1	2	9	**11**	8	6	**10**	5	1	4	9	7	10	11	5	4	1	1	0
0	0	0	0	0	1	2	1	11	**14**	11	13	**12**	3	9	5	5	10	6	7	3	5	1	0	1

AM Peak 0930 - 1030 (45), AM PHF=0.80 PM Peak 1200 - 1300 (41), PM PHF=0.85

* Sunday, May 31, 2026 - Total=495, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
1	**2**	**0**	**1**	**3**	**0**	**5**	**7**	**11**	**33**	**17**	**32**	**37**	**35**	**34**	**39**	**50**	**37**	**45**	**44**	**36**	**14**	**10**	**2**	
0	0	0	1	1	0	2	3	4	9	1	6	**10**	11	7	6	**14**	7	19	14	8	4	2	0	0
0	2	0	0	0	0	1	0	4	10	6	**6**	6	13	9	11	**13**	11	7	9	10	3	6	1	0
0	0	0	0	2	0	2	1	0	5	5	**13**	11	3	5	11	**13**	9	9	7	8	3	1	1	0
1	0	0	0	0	0	0	3	3	9	5	**7**	10	8	13	**11**	10	10	10	14	10	4	1	0	0

AM Peak 1115 - 1215 (36), AM PHF=0.69 PM Peak 1545 - 1645 (51), PM PHF=0.91

* Monday, June 1, 2026 - Total=816, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**0**	**0**	**0**	**0**	**8**	**18**	**180**	**28**	**30**	**27**	**33**	**44**	**41**	**117**	**75**	**50**	**61**	**32**	**17**	**30**	**16**	**7**	**2**	
0	0	0	0	0	4	5	8	**9**	7	9	10	14	9	5	**25**	15	22	9	3	8	8	2	0	0
0	0	0	0	0	2	3	**40**	5	8	5	12	10	11	**15**	12	14	11	10	7	9	2	2	2	0
0	0	0	0	0	0	3	**82**	4	8	5	3	10	10	**16**	18	10	15	7	3	10	3	1	0	0
0	0	0	0	0	2	7	**50**	10	7	8	8	10	11	**81**	20	11	13	6	4	3	3	2	0	0

AM Peak 0715 - 0815 (181), AM PHF=0.55 PM Peak 1415 - 1515 (137), PM PHF=0.42

* Tuesday, June 2, 2026 - Total=793, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**0**	**0**	**0**	**0**	**5**	**20**	**187**	**35**	**32**	**36**	**22**	**39**	**30**	**118**	**68**	**52**	**46**	**34**	**27**	**21**	**7**	**10**	**4**	
0	0	0	0	0	0	3	**14**	9	7	7	4	12	11	10	**13**	16	13	9	9	3	4	2	2	1
0	0	0	0	0	1	3	**36**	12	10	10	7	2	3	14	**10**	11	12	7	3	9	2	5	1	0
0	0	0	0	0	2	5	**83**	5	10	10	7	11	6	10	**23**	10	11	11	12	3	0	3	1	0
0	0	0	0	0	2	9	**54**	9	5	9	4	14	10	**84**	22	15	10	7	3	6	1	0	0	0

AM Peak 0700 - 0800 (187), AM PHF=0.56 PM Peak 1445 - 1545 (130), PM PHF=0.39

* Wednesday, June 3, 2026 - Total=348 (Incomplete) , 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
1	**0**	**0**	**0**	**0**	**6**	**16**	**45**	**173**	**37**	**32**	**38**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	
1	0	0	0	0	1	3	8	8	14	9	16	0	-	-	-	-	-	-	-	-	-	-	-	-
0	0	0	0	0	2	1	17	33	9	13	10	-	-	-	-	-	-	-	-	-	-	-	-	-
0	0	0	0	0	1	2	12	86	4	6	10	-	-	-	-	-	-	-	-	-	-	-	-	-
0	0	0	0	0	2	10	8	46	10	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-

Grant Drive Between Grant Court and Adams Street

Speed Statistics

Vehicles = 2501
Posted speed limit = 30 mph, Exceeding = 15 (0.600%), Mean Exceeding = 32.19 mph
Maximum = 37.2 mph, **Minimum** = 5.0 mph, **Mean** = 20.5 mph
85% Speed = 24.68 mph, **95% Speed** = 26.96 mph, **Median** = 21.14 mph
10 mph Pace = 16 - 26, **Number in Pace** = 1940 (77.57%)
Variance = 19.68, **Standard Deviation** = 4.44 mph

Speed Bins (Partial days)

Speed	Bin	Below	Above	Energy	vMult	n * vMult
0 - 5	0 0.000%	0 0.000%	2501 100.0%	0.00	0.00	0.00
5 - 10	50 1.999%	50 1.999%	2451 98.00%	0.00	0.00	0.00
10 - 15	254 10.16%	304 12.16%	2197 87.84%	0.00	0.00	0.00
15 - 20	701 28.03%	1005 40.18%	1496 59.82%	0.00	0.00	0.00
20 - 25	1176 47.02%	2181 87.21%	320 12.79%	0.00	0.00	0.00
25 - 30	305 12.20%	2486 99.40%	15 0.600%	0.00	0.00	0.00
30 - 35	14 0.560%	2500 100.0%	1 0.040%	0.00	0.00	0.00
35 - 40	1 0.040%	2501 100.0%	0 0.000%	0.00	0.00	0.00
40 - 45	0 0.000%	2501 100.0%	0 0.000%	0.00	0.00	0.00
45 - 50	0 0.000%	2501 100.0%	0 0.000%	0.00	0.00	0.00
50 - 55	0 0.000%	2501 100.0%	0 0.000%	0.00	0.00	0.00
55 - 60	0 0.000%	2501 100.0%	0 0.000%	0.00	0.00	0.00
60 - 65	0 0.000%	2501 100.0%	0 0.000%	0.00	0.00	0.00
65 - 70	0 0.000%	2501 100.0%	0 0.000%	0.00	0.00	0.00
70 - 75	0 0.000%	2501 100.0%	0 0.000%	0.00	0.00	0.00
75 - 80	0 0.000%	2501 100.0%	0 0.000%	0.00	0.00	0.00
80 - 85	0 0.000%	2501 100.0%	0 0.000%	0.00	0.00	0.00
85 - 90	0 0.000%	2501 100.0%	0 0.000%	0.00	0.00	0.00
90 - 95	0 0.000%	2501 100.0%	0 0.000%	0.00	0.00	0.00
95 - 100	0 0.000%	2501 100.0%	0 0.000%	0.00	0.00	0.00

Vehicle Count

* Thursday, June 4, 2026 - Total=325, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**0**	**0**	**1**	**0**	**1**	**4**	**78**	**8**	**10**	**11**	**21**	**21**	**12**	**40**	**26**	**24**	**20**	**16**	**12**	**7**	**6**	**7**	**0**	
0	0	0	1	0	0	0	6	3	4	3	10	7	5	4	9	5	6	2	5	2	1	1	0	0
0	0	0	0	0	0	1	8	2	4	3	3	4	2	5	10	4	7	6	4	2	1	6	0	0
0	0	0	0	0	1	2	40	1	0	1	3	6	4	8	6	8	4	5	2	1	2	0	0	0
0	0	0	0	0	0	1	24	2	2	4	5	4	1	23	1	7	3	3	1	2	2	0	0	0

AM Peak 0700 - 0800 (78), AM PHF=0.49 PM Peak 1430 - 1530 (50), PM PHF=0.54

* Friday, June 5, 2026 - Total=387, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**0**	**1**	**1**	**0**	**4**	**9**	**77**	**13**	**13**	**13**	**16**	**16**	**21**	**47**	**25**	**27**	**28**	**20**	**17**	**15**	**15**	**4**	**5**	
0	0	0	0	0	0	2	0	2	4	4	1	2	4	5	7	4	10	5	5	4	5	1	1	0
0	0	0	0	0	1	1	15	3	3	0	5	4	4	10	7	6	6	5	6	3	6	1	2	0
0	0	1	1	0	0	1	44	5	3	5	6	7	7	10	5	7	5	4	2	1	3	0	2	0
0	0	0	0	0	3	5	18	3	3	4	4	3	6	22	6	10	7	6	4	7	1	2	0	1

AM Peak 0715 - 0815 (79), AM PHF=0.45 PM Peak 1415 - 1515 (49), PM PHF=0.56

* Saturday, June 6, 2026 - Total=232, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
1	**2**	**2**	**0**	**1**	**0**	**1**	**3**	**16**	**18**	**46**	**13**	**0**	**26**	**21**	**15**	**13**	**11**	**17**	**13**	**4**	**4**	**2**	**3**	
0	1	0	0	0	0	1	1	3	3	8	13	0	2	7	6	3	3	4	3	2	0	0	0	0
0	0	1	0	0	0	0	0	1	4	17	0	0	11	7	4	1	2	4	4	1	2	2	0	0
0	0	1	0	1	0	0	2	4	4	10	0	0	11	5	0	3	3	4	1	0	1	0	1	0
1	1	0	0	0	0	0	0	8	7	11	0	0	2	2	5	6	3	5	5	1	1	0	2	0

AM Peak 1015 - 1115 (51), AM PHF=0.75 PM Peak 1315 - 1415 (31), PM PHF=0.70

* Sunday, June 7, 2026 - Total=202, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**0**	**0**	**0**	**1**	**1**	**2**	**3**	**5**	**2**	**11**	**24**	**22**	**15**	**21**	**20**	**22**	**14**	**16**	**11**	**6**	**2**	**3**	**1**	
0	0	0	0	1	0	0	1	1	2	4	8	7	3	6	1	6	3	6	2	0	1	2	0	0
0	0	0	0	0	0	1	0	2	0	3	6	2	6	7	5	8	2	4	2	1	0	0	0	0
0	0	0	0	0	0	0	0	1	0	1	4	8	1	3	6	6	3	1	1	0	1	1	0	0
0	0	0	0	0	1	1	2	1	0	3	6	5	5	5	8	2	6	5	6	5	0	0	1	0

AM Peak 1100 - 1200 (24), AM PHF=0.75 PM Peak 1530 - 1630 (28), PM PHF=0.88

* Monday, June 8, 2026 - Total=335, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**1**	**0**	**0**	**2**	**3**	**3**	**64**	**8**	**13**	**21**	**19**	**17**	**25**	**44**	**27**	**14**	**24**	**14**	**17**	**12**	**6**	**0**	**1**	
0	0	0	0	0	0	1	1	2	6	3	2	4	5	3	12	3	10	6	6	5	2	0	0	0
0	1	0	0	1	2	1	5	2	3	6	9	5	6	4	2	2	3	1	5	5	3	0	0	0
0	0	0	0	1	0	1	38	4	0	6	2	2	9	2	10	5	4	3	3	0	1	0	1	0
0	0	0	0	0	1	0	20	0	4	6	6	6	5	35	3	4	7	4	3	2	0	0	0	0

AM Peak 0715 - 0815 (65), AM PHF=0.43 PM Peak 1445 - 1545 (59), PM PHF=0.42

* Tuesday, June 9, 2026 - Total=356, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**1**	**0**	**1**	**0**	**2**	**5**	**80**	**12**	**17**	**19**	**12**	**13**	**12**	**37**	**30**	**29**	**24**	**24**	**17**	**8**	**8**	**2**	**3**	
0	0	0	1	0	1	2	1	2	2	0	2	3	4	4	13	3	11	4	6	3	2	0	0	0
0	0	0	0	0	1	1	10	4	9	8	4	5	4	5	6	9	3	10	4	0	2	2	2	1
0	0	0	0	0	0	0	43	2	5	4	4	3	2	7	3	7	5	6	2	2	1	0	0	1
0	1	0	0	0	0	2	26	4	1	7	2	2	2	21	8	10	5	2	5	3	3	0	1	0

AM Peak 0715 - 0815 (81), AM PHF=0.47 PM Peak 1430 - 1530 (47), PM PHF=0.56

* Wednesday, June 10, 2026 - Total=345, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
2	**1**	**0**	**0**	**1**	**1**	**5**	**16**	**64**	**18**	**13**	**27**	**43**	**17**	**18**	**24**	**17**	**18**	**15**	**9**	**16**	**13**	**4**	**3**	
0	0	0	0	0	0	0	3	3	5	6	10	3	2	2	4	3	6	7	4	3	8	3	0	0
1	1	0	0	0	1	2	4	9	5	3	4	4	6	5	8	6	6	1	2	3	1	0	2	0
1	0	0	0	1	0	2	4	37	2	2	9	5	4	4	7	3	5	3	1	5	1	1	0	0
0	0	0	0	0	0	1	5	15	6	2	4	31	5	7	5	5	1	4	2	5	3	0	1	0

AM Peak 0815 - 0915 (66), AM PHF=0.45 PM Peak 1230 - 1330 (44), PM PHF=0.35

* Thursday, June 11, 2026 - Total=230, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**1**	**0**	**1**	**0**	**3**	**6**	**7**	**12**	**10**	**14**	**14**	**25**	**19**	**13**	**9**	**14**	**22**	**14**	**15**	**11**	**11**	**6**	**3**	
0	1	0	1	0	0	2	2	2	1	2	2	5	9	1	2	4	2	3	4	3	5	2	0	1
0	0	0	0	0	1	0	1	6	3	3	2	7	5	3	1	0	8	4	4	1	2	2	2	0
0	0	0	0	0	1	1	3	2	3	2	6	4	2	3	3	5	8	4	3	2	1	1	1	0
0	0	0	0	0	1	3	1	2	3	7	4	9	3	6	3	5	4	3	4	5	3	1	0	0

AM Peak 1130 - 1230 (22), AM PHF=0.79 PM Peak 1215 - 1315 (29), PM PHF=0.81

* Friday, June 12, 2026 - Total=89 (Incomplete) , 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
1	**1**	**0**	**1**	**0**	**1**	**7**	**10**	**16**	**15**	**16**	**17**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	
1	0	0	0	0	0	0	1	1	3	5	4	4	-	-	-	-	-	-	-	-	-	-	-	-
0	1	0	0	0	1	0	1	4	3	5	4	0	-	-	-	-	-	-	-	-	-	-	-	-
0	0	0	1	0	0	1	5	5	1	2	5	-	-	-	-	-	-	-	-	-	-	-	-	-
0	0	0	0	0	0	6	3	6	8	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-