

MEMO

TO: Carly Farmer, E.I.T.

FROM: Jemal Ali, PE, PMP; Larry Picasso, PE, PTOE

DATE: June 17, 2022

REQUEST TYPE: Speed Study

REQUEST: Speed study on Morningside Drive between Schmidt Avenue and Solms Road

RECOMMENDATION: Increase posted speed limit to 35 mph Morningside Drive between Schmidt Avenue and Solms Road

Background

WSP was contracted by the City of New Braunfels to complete a speed study for Morningside Drive between Schmidt Avenue and Solms Road as shown in **Figure 1**.

The purpose of this study is to address concerns by residents of speeding. Residents requested a speed study on Morningside Drive between Schmidt Avenue and Solms Road as a measure to improve traffic safety.

The statutory maximum speed limit in New Braunfels is 30 miles per hour (mph) except where otherwise established by ordinance and posted by official traffic signs.

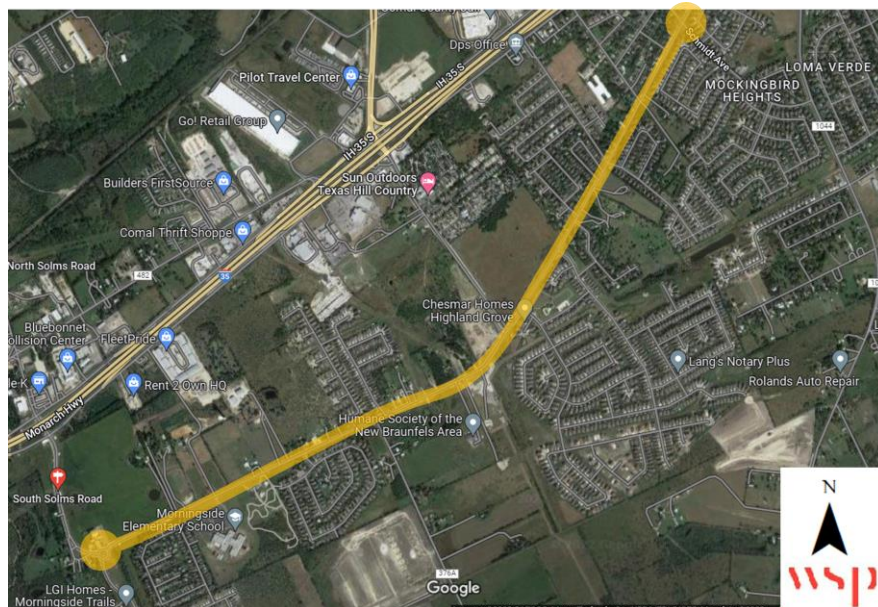


Figure 1 - Project Location

Guidance

Speed limits applicable to public streets are established:

- Statutorily - a maximum speed limit applicable to a particular class of road that is established by State Law; or
- As altered speed zone s- based on engineering studies

The maximum speed limits posted should be based primarily on the 85th percentile speed - the speed at or below which 85 percent of the vehicles travel. Other factors that may be considered when establishing or reevaluating speed limits include the following:

- Road characteristics
- Roadside development and environment
- Parking practices and pedestrian activity
- Reported crash experience

A city may declare a lower speed limit of not less than 25 miles per hour if the governing body determines that the prima facie speed limit on the streets is unreasonable or unsafe. By State Law, traffic engineering study is required for a city to lower a speed limit below 25 mph (Texas Transportation Code Sec. 545.356).

Site Investigation

A site investigation was completed for Morningside Drive in May 2022. The posted speed limit is 30 mph. Morningside Elementary School and Morningside Park are located along on the south side of Morningside Drive between Delta Drive and Bass Farm Road. The road has one lane in each direction, a continuous two-way center turn-lane, striped bike lanes, and sidewalks with curb on both sides.

Crash History

Five years of crash data was obtained for the period between January 1, 2017 and December 31, 2021 from the TxDOT Crash Records Information System (CRIS). The data represented all vehicle, bicycle, and pedestrian crashes.

Twenty-three total crashes were recorded during this time. Twelve crashes were non-injury, eight injury, and one fatal crash was recorded. No pedestrian or cyclist crashes were recorded.

Most of the crashes were reported as relative to driver inattentive and disregard for stop signs. However, three crashes were reported as related to fail to control speeding.

Data Collection

Traffic speed and volume data were collected on Thursday, May 12, 2022 for Morningside Drive. The average daily traffic (ADT) in vehicles per day (vpd) and the 85th percentile speed are shown in Tables 1 and 2.

Table 1 - 24-hour Count Summary

Location	Average Daily Traffic (ADT) Vehicles per Day (vpd) Date: 05/12/2022		
	EB	WB	Total
Near Morningside Park	1,499	1,418	2,917
Near Schmidt Avenue	2,440	2,171	4,611

Table 2 - Speed Count Summary

Location	85 th percentile Speed (mph) Date: 05/12/2022	
	Speed Limit	85 th
Near Morningside Park (EB/WB)	30 mph	40.3/42.2
Near Schmidt Avenue (EB/WB)		39.7/38.4

Recommendation

Based on the site investigation, crash history, and collected speed data it is recommended that the speed limit be increased to 35 mph. Although the 85th percentile speed was determined to be an average of 40 mph, due to the numbers of homes with direct driveway access it is not recommended to increase the posted speed limit to 40 mph. Additionally, the proximity of Morningside Elementary School and Morningside Park support the need to implement a posted speed limit of 35 mph.

Additional considerations for Morningside Drive include the installation of driver feedback signs and increased law enforcement to curb vehicular speeding. Driver feedback signs are beneficial in alerting drivers of their speeds and can aid in reducing speed on roadways. It is also recommended to study the intersection at Rueckle Road in Fall 2022 including a stop sign warrant analysis.

Appendices

Appendix A – 24HR Estimated Traffic Volumes and Speed Data

6/17/2022





Appendix A – 24HR Estimated Traffic Volumes and Speed Data



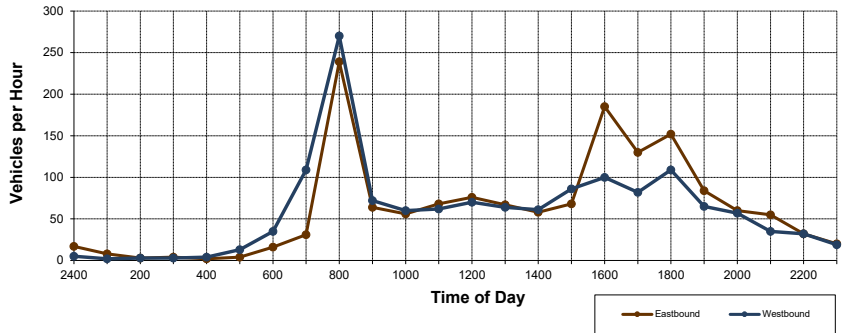
West End of Morningside Drive
at Morningside Park

Average Daily Traffic Data

Project No. : 2022005700
 Station No. : 900
 Counter No. : ACGR-1 / 5

 Day of Week: Thursday, May 12, 2022

 Site: **Eastbound / Westbound**
Morningside Drive
 Location: at Morningside Park
 City/State: New Braunfels, Texas



End Time	Eastbound Morningside Drive	Westbound Morningside Drive
15	1	0
30	1	1
45	4	1
100	2 8	0 2
115	1	1
130	0	1
145	1	1
200	1 3	0 3
215	1	1
230	1	2
245	1	0
300	1 4	0 3
315	1	0
330	1	1
345	0	3
400	0 2	0 4
415	1	2
430	1	1
445	1	5
500	1 4	5 13
515	2	3
530	1	9
545	5	10
600	8 16	13 35
615	6	13
630	3	20
645	8	27
700	14 31	49 109
715	76	95
730	78	104
745	62	40
800	23 239	31 270
815	17	17
830	22	23
845	18	15
900	7 64	17 72
915	8	18
930	22	14
945	8	15
1000	18 56	13 60
1015	17	13
1030	12	15
1045	15	18
1100	24 68	16 62
1115	14	15
1130	12	14
1145	21	20
1200	29 76	21 70

End Time	Eastbound Morningside Drive	Westbound Morningside Drive
1215	18	19
1230	19	11
1245	12	16
1300	18 67	18 64
1315	16	18
1330	11	14
1345	17	17
1400	14 58	12 61
1415	19	17
1430	16	17
1445	15	21
1500	18 68	31 86
1515	36	25
1530	87	38
1545	33	19
1600	29 185	18 100
1615	32	15
1630	31	19
1645	31	22
1700	36 130	26 82
1715	32	31
1730	49	31
1745	37	29
1800	34 152	18 109
1815	22	19
1830	15	17
1845	17	13
1900	30 84	16 65
1915	17	12
1930	14	15
1945	16	20
2000	13 60	10 57
2015	12	11
2030	14	9
2045	19	7
2100	10 55	8 35
2115	9	5
2130	11	15
2145	3	11
2200	9 32	1 32
2215	8	4
2230	5	7
2245	3	3
2300	4 20	5 19
2315	10	1
2330	1	1
2345	5	3
2400	1 17	0 5

Daily Traffic Data
 Total ADT **1,499** **1,418**
2,917



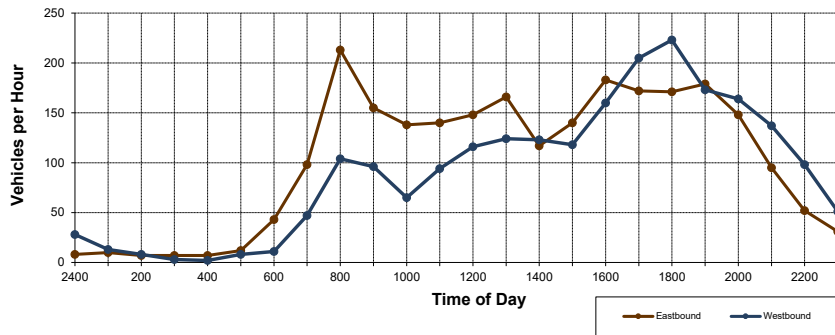
East End of Morningside Drive
West of Schmidt Avenue

Average Daily Traffic Data

Project No. : 2022005700
 Station No. : 1000
 Counter No. : ACGR- 7/ 10

Day of Week: Thursday, May 12, 2022

Site: **Eastbound / Westbound Morningside Drive**
 Location: West of Schmidt Avenue
 City/State: New Braunfels, Texas



End Time	Eastbound Morningside Drive	Westbound Morningside Drive
15	3	3
30	3	6
45	4	1
100	0	10
115	2	2
130	1	1
145	2	3
200	2	7
215	2	1
230	1	0
245	0	2
300	4	7
315	1	1
330	1	0
345	1	0
400	4	7
415	0	3
430	4	4
445	2	0
500	6	12
515	10	2
530	10	1
545	11	2
600	12	43
615	13	10
630	22	6
645	24	10
700	39	98
715	42	30
730	60	20
745	66	31
800	45	213
815	38	23
830	34	25
845	41	19
900	42	155
915	32	12
930	39	17
945	28	16
1000	39	138
1015	33	19
1030	31	30
1045	38	28
1100	38	140
1115	33	31
1130	37	25
1145	36	25
1200	42	148

End Time	Eastbound Morningside Drive	Westbound Morningside Drive
1215	52	29
1230	29	26
1245	41	36
1300	44	166
1315	34	33
1330	33	26
1345	26	28
1400	24	117
1415	36	23
1430	32	30
1445	40	37
1500	32	140
1515	38	37
1530	52	41
1545	45	49
1600	48	183
1615	33	49
1630	46	45
1645	35	52
1700	58	172
1715	29	59
1730	52	74
1745	49	48
1800	41	171
1815	56	47
1830	45	54
1845	39	50
1900	39	179
1915	39	38
1930	36	40
1945	35	42
2000	38	148
2015	28	41
2030	32	38
2045	21	36
2100	14	95
2115	21	32
2130	11	30
2145	11	22
2200	9	52
2215	10	16
2230	9	12
2245	6	16
2300	6	31
2315	3	3
2330	1	11
2345	1	7
2400	3	8

Daily Traffic Data
 Total ADT 2,440 2,171
 4,611

Site Eastbound Morningside Drive
 Location at Park East of Solms Road
 Dates: 5/12/2022
 Counter No. ACGR_1



24 Hour SPEED DATA

Time	0 to 15	>15 to 20	>20 to 25	>25 to 30	>30 to 35	>35 to 40	>40 to 45	>45 to 50	>50 to 55	>55 to 60	>60 to 65	>65 to 70	> 70	TOTAL
12:00 AM	0	0	0	1	3	1	0	0	0	3	0	0	0	8
1:00 AM	0	0	0	0	2	0	1	0	0	0	0	0	0	3
2:00 AM	0	0	0	1	0	0	2	0	0	0	0	0	1	4
3:00 AM	0	0	0	1	0	0	1	0	0	0	0	0	0	2
4:00 AM	0	0	0	0	2	2	0	0	0	0	0	0	0	4
5:00 AM	0	0	0	2	5	5	2	2	0	0	0	0	0	16
6:00 AM	0	0	5	7	7	8	3	1	0	0	0	0	0	31
7:00 AM	0	59	95	55	24	2	3	1	0	0	0	0	0	239
8:00 AM	0	6	12	13	9	16	8	0	0	0	0	0	0	64
9:00 AM	0	0	2	9	17	20	7	1	0	0	0	0	0	56
10:00 AM	0	1	8	14	17	20	4	0	4	0	0	0	0	68
11:00 AM	1	1	5	18	24	14	11	2	0	0	0	0	0	76
12:00 PM	1	0	5	9	19	20	7	6	0	0	0	0	0	67
1:00 PM	0	0	2	6	18	17	13	2	0	0	0	0	0	58
2:00 PM	0	4	17	18	14	7	7	1	0	0	0	0	0	68
3:00 PM	2	38	57	34	21	21	12	0	0	0	0	0	0	185
4:00 PM	0	0	4	18	43	37	21	5	1	1	0	0	0	130
5:00 PM	0	0	3	26	41	57	20	2	3	0	0	0	0	152
6:00 PM	0	0	1	17	25	25	9	7	0	0	0	0	0	84
7:00 PM	0	0	2	6	17	20	11	3	1	0	0	0	0	60
8:00 PM	0	0	0	10	24	11	4	2	4	0	0	0	0	55
9:00 PM	0	0	1	4	7	9	9	1	0	0	0	0	1	32
10:00 PM	0	0	2	5	7	4	0	2	0	0	0	0	0	20
11:00 PM	0	1	0	1	6	1	1	3	2	1	1	0	0	17

1499

Percentile Speed (MPH)	10th 21	15th 22.3	50th 32.8	85th 40.3	90th 42.2	Minimum Speed 9.3 (MPH)	Maximum Speed 70.8 (MPH)
Pace Range	Speed 29-38 MPH		43.91%	Number 667		Average Speed	31.9 (MPH)

Site Westbound Morningside Drive
 Location at Park East of Solms Road
 Dates: 5/12/2022
 Counter No. ACGR_5



24 Hour SPEED DATA

Time	0 to 15	>15 to 20	>20 to 25	>25 to 30	>30 to 35	>35 to 40	>40 to 45	>45 to 50	>50 to 55	>55 to 60	>60 to 65	>65 to 70	> 70	TOTAL
12:00 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	2
1:00 AM	0	0	0	0	2	0	1	0	0	0	0	0	0	3
2:00 AM	0	0	0	0	2	1	0	0	0	0	0	0	0	3
3:00 AM	0	0	0	0	1	1	2	0	0	0	0	0	0	4
4:00 AM	0	0	0	1	2	4	4	1	1	0	0	0	0	13
5:00 AM	0	0	1	2	8	11	6	4	2	1	0	0	0	35
6:00 AM	1	1	20	12	31	28	11	4	1	0	0	0	0	109
7:00 AM	2	67	131	44	16	9	1	0	0	0	0	0	0	270
8:00 AM	0	1	7	20	16	17	7	4	0	0	0	0	0	72
9:00 AM	1	1	0	4	13	22	14	3	2	0	0	0	0	60
10:00 AM	0	2	1	5	17	20	11	6	0	0	0	0	0	62
11:00 AM	1	0	1	8	17	25	14	3	1	0	0	0	0	70
12:00 PM	0	0	1	9	19	16	12	6	1	0	0	0	0	64
1:00 PM	0	2	1	6	20	17	10	4	1	0	0	0	0	61
2:00 PM	0	7	25	14	15	15	8	2	0	0	0	0	0	86
3:00 PM	20	10	17	12	13	9	14	3	2	0	0	0	0	100
4:00 PM	0	0	1	6	15	27	26	5	2	0	0	0	0	82
5:00 PM	0	2	0	2	28	43	26	7	1	0	0	0	0	109
6:00 PM	0	2	0	4	9	22	17	8	1	2	0	0	0	65
7:00 PM	1	0	1	2	18	12	14	5	4	0	0	0	0	57
8:00 PM	0	0	0	2	14	7	9	3	0	0	0	0	0	35
9:00 PM	0	1	0	5	2	13	7	3	1	0	0	0	0	32
10:00 PM	0	0	0	0	3	8	5	2	1	0	0	0	0	19
11:00 PM	0	0	0	1	1	1	1	0	0	0	1	0	0	5

1418

Percentile Speed (MPH)	10th 21	15th 22.3	50th 34.1	85th 42.2	90th 43.4	Minimum Speed 6.8 (MPH)	Maximum Speed 61.5 (MPH)
Pace Range	Speed 34-43 MPH		44.99%	Number 638		Average Speed	33.0 (MPH)

Site Eastbound Morningside Drive
 Location West of Schmidt Avenue
 Dates: 5/12/2022
 Counter No. ACGR_10



24 Hour SPEED DATA

Time	0 to 15	>15 to 20	>20 to 25	>25 to 30	>30 to 35	>35 to 40	>40 to 45	>45 to 50	>50 to 55	>55 to 60	>60 to 65	>65 to 70	> 70	TOTAL
12:00 AM	0	0	0	1	4	3	1	1	0	0	0	0	0	10
1:00 AM	0	0	0	2	2	3	0	0	0	0	0	0	0	7
2:00 AM	0	0	0	1	2	3	1	0	0	0	0	0	0	7
3:00 AM	0	1	0	0	3	2	0	1	0	0	0	0	0	7
4:00 AM	0	0	0	4	4	4	0	0	0	0	0	0	0	12
5:00 AM	0	0	2	10	14	9	5	1	2	0	0	0	0	43
6:00 AM	0	0	5	19	37	30	6	1	0	0	0	0	0	98
7:00 AM	0	0	3	31	83	77	18	1	0	0	0	0	0	213
8:00 AM	0	0	6	15	58	55	15	5	1	0	0	0	0	155
9:00 AM	0	1	3	24	46	44	14	5	1	0	0	0	0	138
10:00 AM	0	0	10	37	37	35	16	4	1	0	0	0	0	140
11:00 AM	0	1	3	29	50	37	24	4	0	0	0	0	0	148
12:00 PM	1	0	3	26	69	46	15	4	1	1	0	0	0	166
1:00 PM	0	0	1	12	47	37	15	5	0	0	0	0	0	117
2:00 PM	2	0	3	21	40	46	24	3	1	0	0	0	0	140
3:00 PM	0	0	1	22	69	66	19	4	2	0	0	0	0	183
4:00 PM	0	0	1	19	45	76	26	4	0	1	0	0	0	172
5:00 PM	0	0	0	18	68	63	17	5	0	0	0	0	0	171
6:00 PM	0	0	1	17	68	61	24	6	2	0	0	0	0	179
7:00 PM	1	0	1	15	55	48	24	3	0	0	1	0	0	148
8:00 PM	0	0	3	17	32	34	7	2	0	0	0	0	0	95
9:00 PM	0	0	1	10	22	14	5	0	0	0	0	0	0	52
10:00 PM	0	1	4	9	6	7	4	0	0	0	0	0	0	31
11:00 PM	0	0	0	1	1	5	1	0	0	0	0	0	0	8

2440

Percentile Speed (MPH)	10th 28.5	15th 29.7	50th 34.7	85th 39.7	90th 40.9	Minimum Speed 8.7 (MPH)	Maximum Speed 61.5 (MPH)
Pace Range	Speed 30-39 MPH		68.48%	Number 1,671		Average Speed	34.8 (MPH)

Site Westbound Morningside Drive
 Location West of Schmidt Avenue
 Dates: 5/12/2022
 Counter No. ACGR_7



24 Hour SPEED DATA

Time	0 to 15	>15 to 20	>20 to 25	>25 to 30	>30 to 35	>35 to 40	>40 to 45	>45 to 50	>50 to 55	>55 to 60	>60 to 65	>65 to 70	> 70	TOTAL
12:00 AM	0	0	3	3	4	3	0	0	0	0	0	0	0	13
1:00 AM	0	0	0	2	1	2	1	0	1	0	0	0	1	8
2:00 AM	0	0	0	1	0	1	0	0	0	0	0	0	1	3
3:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	2
4:00 AM	2	0	1	1	1	0	2	1	0	0	0	0	0	8
5:00 AM	0	1	1	6	1	1	1	0	0	0	0	0	0	11
6:00 AM	1	1	4	16	13	9	3	0	0	0	0	0	0	47
7:00 AM	3	0	13	28	41	16	3	0	0	0	0	0	0	104
8:00 AM	2	1	9	17	34	26	7	0	0	0	0	0	0	96
9:00 AM	0	0	7	8	22	19	6	2	0	0	0	0	1	65
10:00 AM	3	3	3	17	25	36	7	0	0	0	0	0	0	94
11:00 AM	0	4	14	15	50	27	4	2	0	0	0	0	0	116
12:00 PM	0	2	4	22	53	32	9	1	0	1	0	0	0	124
1:00 PM	1	2	8	23	51	31	6	1	0	0	0	0	0	123
2:00 PM	1	0	3	15	52	35	11	1	0	0	0	0	0	118
3:00 PM	2	5	10	22	55	52	12	2	0	0	0	0	0	160
4:00 PM	0	1	9	32	79	57	24	2	1	0	0	0	0	205
5:00 PM	1	0	13	27	107	60	13	2	0	0	0	0	0	223
6:00 PM	1	2	6	19	68	55	19	3	0	0	0	0	0	173
7:00 PM	0	6	7	21	70	44	13	2	1	0	0	0	0	164
8:00 PM	0	3	3	26	59	37	7	2	0	0	0	0	0	137
9:00 PM	2	1	8	12	35	35	3	2	0	0	0	0	0	98
10:00 PM	0	0	6	16	22	5	2	0	0	0	0	0	0	51
11:00 PM	0	2	0	7	11	8	0	0	0	0	0	0	0	28

2171

<u>Percentile Speed</u> (MPH)	<u>10th</u> 26.6	<u>15th</u> 28.5	<u>50th</u> 33.5	<u>85th</u> 38.4	<u>90th</u> 39.7	<u>Minimum Speed</u> 6.8 (MPH)	<u>Maximum Speed</u> 83.9 (MPH)
<u>Pace Range</u>	Speed 29-38 MPH		69.92%	Number 1262		<u>Average Speed</u>	33.0 (MPH)