



## EXHIBIT "A"

March 8, 2021

Matthew Bushak, P.E.  
Senior Transportation Engineer  
City of Round Rock  
3400 Sunrise Road  
Round Rock, Texas 78665

RE: University Boulevard Speed Study

Dear Matt,

HDR has completed a speed study on University Boulevard (between IH 35 and SH 130) located in Round Rock, Texas, as shown in **Figure 1**. The purpose of the study was to document and evaluate the existing posted speed limits on University Boulevard by performing spot speed studies along the corridor, and to develop potential recommendations. Curve advisory speed and school zone speed evaluation was not part of this study. The following sections summarize our study methodology, results, and recommendations.

### Existing Roadway Network

The City of Round Rock Transportation Master Plan (Ref. 1) classifies University Boulevard as a major arterial. Currently, University Boulevard is a four-lane divided roadway with a continuous two-way left-turn lane (TWLTL) from IH 35 to A.W. Grimes Boulevard, and a two-lane undivided roadway from A.W. Grimes to SH 130. The 24-hour daily volume on University Boulevard varies from approximately 12,000 vpd (vehicles per day), west of SH 130 to around 22,000 vpd, east of Sunrise Road. The posted speed limit on University Boulevard is 45 mph between IH 35 and A.W. Grimes Boulevard, 55 mph between A.W. Grimes Boulevard and CR 110, and 60 mph between CR 110 and SH 130. The roadway network with existing speed limit signs is shown in **Figure 1**.

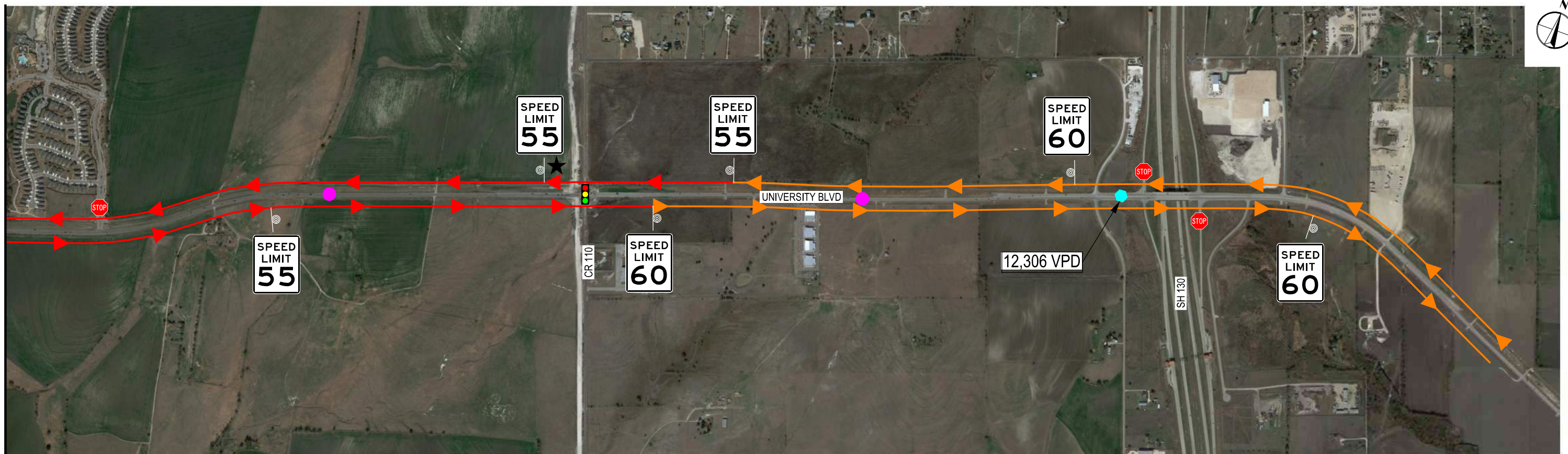
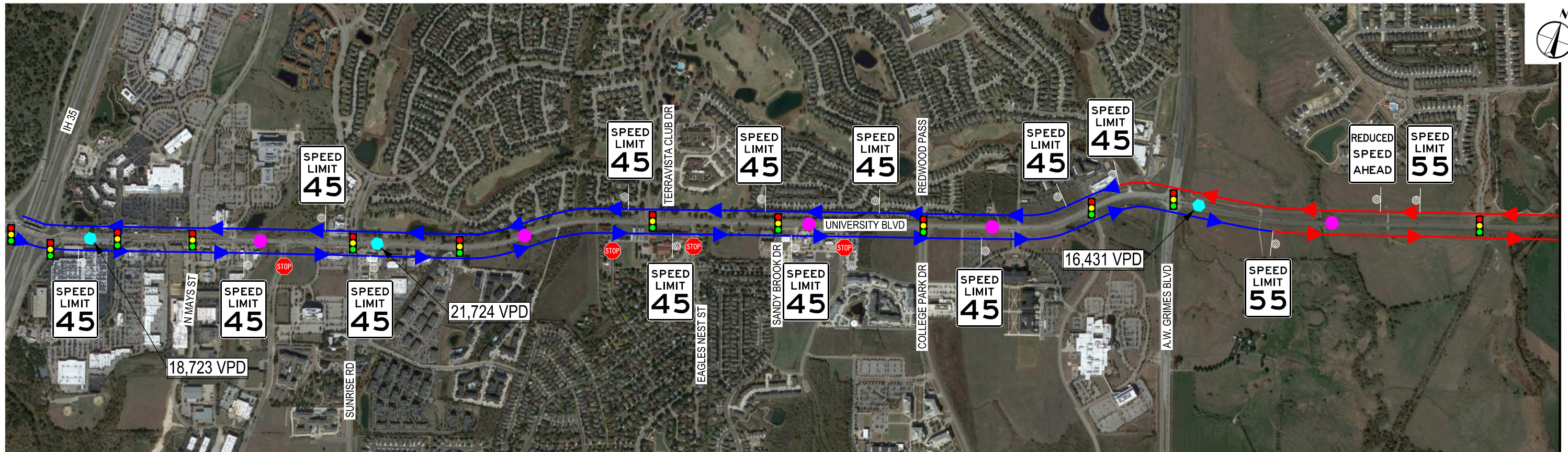
### Data Collection

As part of this study, spot speed data were collected by Gram Traffic Counting, Inc., using radar technology along the following segments of University Boulevard in both the eastbound and westbound directions on Tuesday, February 9, 2021:

1. 402 University Boulevard, between IH 35 and Sunrise Road
2. 651 University Boulevard, between Sunrise Road and Eagles Nest Street
3. 1151 University Boulevard, between Eagles Nest Street and College Park Drive
4. 1580 University Boulevard, between College Park Drive and A.W. Grimes Boulevard
5. 2521 University Boulevard, between A.W. Grimes Boulevard and Vizcaya Parkway
6. University Boulevard, between Vizcaya Parkway and CR 110
7. University Boulevard, between CR 110 and CR 130

The 85th percentile speed summary reports are included in Appendix A. 24-hour daily traffic volumes were collected at four locations along University Boulevard on February 9, 2021. The 24-hour volumes are shown in **Figure 1**. The 24-hour daily volume reports are included in Appendix B. A field review of the posted speed limit signs along the study corridor on February 9, 2021.





# LEGEND

	SIGNALIZED INTERSECTION		24 HOUR COUNT LOCATION		TEMPORARY SIGN
	TWO WAY STOP CONTROLLED		45 MPH ZONE		
	SPEED LIMIT SIGN		55 MPH ZONE		
	RADAR SPEED CHECK STATION		60 MPH ZONE		

NOTE: EXHIBIT BASED ON SIGNAGE OBSERVATIONS AS OF FEBRUARY 24, 2021.

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FIGURE 1  
UNIVERSITY BOULEVARD  
EXISTING SPEED LIMIT



## Crash Data

Data obtained from the TxDOT motor vehicle crash database (CRIS) (Ref. 2) were reviewed for University Boulevard between IH 35 and SH 130 between 2017 and 2019. TxDOT statewide crash rates were not available for 2020; therefore, this year was excluded from the analysis. During the three (3) year period, a total of 479 crashes were reported within the study corridor. Over the three-year period, crash rates ranged from around 53 crashes per 100 million vehicles per mile traveled (MVMT) in the CR 110 to SH 130 section, to around 2,000 crashes per 100 MVMT for the IH 35 to Sunrise Road section. The 3-year average crash rates for each of the four sections is provided below in **Table 1**. Typically, roadways are considered to have a significant safety concern when the crash rate is double or more than the statewide average. According to this criterion, the section of IH 35 to Sunrise Road qualifies as having a significant safety concern since the crash rate is more than 10 times the statewide average for a four-lane, divided roadway.

**Table 1. University Boulevard: 2017 – 2019 Average Crash Rates**

	Segment	Crash Rate per 100 MVMT	TxDOT Statewide Average Crash Rate	Exceeds Statewide Average?
1	IH 35 to Sunrise Road	1,965.00	157.44	Yes
2	Sunrise Road to A.W. Grimes Boulevard	261.67	157.44	Yes
3	A.W. Grimes Boulevard and CR 110	157.08	209.58	No
4	CR 110 to SH 130	52.63	209.58	No

## Speed Study Methodology

The recommendations for establishing speed zones are set forth in TxDOT's manual titled "Procedure for Establishing Speed Zones" (Ref. 3). The 85th percentile speed is a value that is used by many states and cities for establishing regulatory speed zones. The 85th percentile speed is based on the theory that the majority of drivers are reasonable and prudent, that they do not want to crash, and that they desire to reach their destination in the shortest possible time, and therefore, a speed at or below which 85 percent of people drive at any given location under good weather and visibility conditions may be considered as the maximum safe speed for that location.

A minimum of 125 free floating vehicles or two hours of speed data are collected on an average weekday during the off-peak period to establish the speed limit. The crash rate analysis and engineering judgment were utilized to propose the recommended speed limits. The existing posted speed limits, 85th percentile speeds, and the recommended speed limits are shown in **Table 2**.

**Table 2. University Boulevard: 85<sup>th</sup> Percentile Speed Summary – Tuesday, February 9, 2021**

Roadway Segment	Existing Posted Speed Limits		85 <sup>th</sup> Percentile Speed		Recommended Speed Limits	
	EB	WB	EB	WB	EB	WB
University Boulevard (IH 35 to Sunrise Road)	45	45	43	39	<b>40</b>	<b>40</b>
University Boulevard (Sunrise Road to Eagles Nest Street)	45	45	45	49	45	45
University Boulevard (Eagles Nest Street to College Park Drive)	45	45	42	46	45	45
University Boulevard (College Park Drive to A.W. Grimes Boulevard)	45	45	52	49	45	45
University Boulevard (A.W. Grimes Boulevard to Vizcaya Parkway)	55	55	62	60	55	55
University Boulevard (Vizcaya Parkway to CR 110)	55	55	54	55	55	55
University Boulevard (CR 110 to SH 130)	60	60	60	59	60	60

## Results

Based on the results of the speed study, the 85<sup>th</sup> percentile speeds on the 45 mph posted speed segments of University Boulevard fall between 39 and 52 mph, or approximately 7 mph above and 6 mph below the posted speed limit of 45 mph. The 85<sup>th</sup> percentile speeds on the 55 mph posted speed segments of University Boulevard fall between 54 and 62 mph, or approximately 1 mph below to 7 mph above the posted speed limit of 55 mph. The 85<sup>th</sup> percentile speeds on the 60 mph posted speed segments of University Boulevard fall between 59 and 60 mph, or approximately 1 mph below the posted speed limit of 60 mph.

The crash rates for the University Boulevard segment between IH 35 and Sunrise Road were calculated to be much higher than the statewide average crash rates for a 4-lane divided urban roadway. This may be attributed to the high driveway density (number of driveways per mile) for this segment, as typically an increase in the number of driveways per mile corresponds with an increase in crash rates due to the increase in conflict points. Since the crash rates for a two year period (2018 - 2019) for the segment between IH 35 and Sunrise Road were much higher than the average for other highways of similar classification (4 lane divided, urban) – therefore, an adjustment to the existing posted speed limits were considered.

## Recommendations

Typically, the legal speed limit may be set as much as 5 mph above or below the observed 85<sup>th</sup> percentile speed of the roadway. Most of the posted speed limits along University Boulevard conform to this range. The team reviewed the 85<sup>th</sup> percentile speed study data and the historical crash rate analysis to provide recommendations along University Boulevard. The proposed speed limits and

recommendations are illustrated in **Figure 2**.

The following recommendations are provided based on the speed study:

1. Consider decreasing the speed limit for the University Boulevard section between IH 35 and Sunrise Road to **40 MPH** for both eastbound and westbound directions, based on a review of the 85<sup>th</sup> percentile speed data and the crash rate analysis
2. Consider replacing the temporary **55 MPH** speed limit sign for the westbound direction, west of CR 110 to a permanent, ground mounted sign.
3. Consider conducting an access management study for the University Boulevard section between IH 35 and A.W. Grimes Boulevard (4 lane divided with a TWLTL) to study the impact of providing access management techniques – raised medians, driveway consolidation, and intersection improvements to decrease conflict points, that may eventually decrease the crash rates in this section. According to the Roadway Design Manual (Ref. 4), a raised median should be considered for locations where average daily traffic (ADT) exceeds 20,000 vehicles and the demand for mid-block turns is high.

Please feel free to contact me if you have any questions.

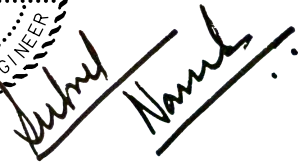
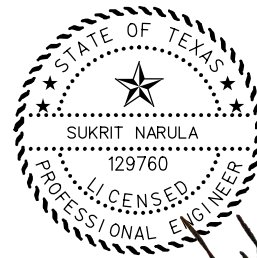
Sincerely,

HDR Engineering, Inc.



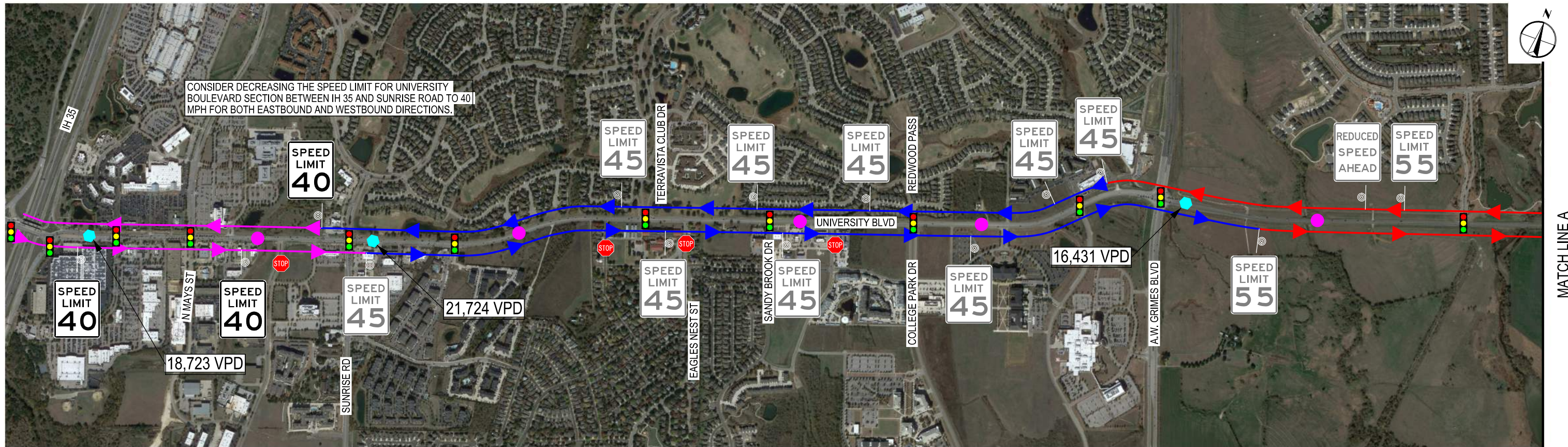
Sukrit Narula, P.E., PTOE  
*Traffic Engineer*

MM



03/08/2021





# LEGEND

	SIGNALIZED INTERSECTION		24 HOUR COUNT LOCATION		60 MPH ZONE		SPEED LIMIT XX	EXISTING SIGN
	TWO WAY STOP CONTROLLED		40 MPH ZONE		X,XXX VEHICLES PER DAY (VPD)		SPEED LIMIT XX	PROPOSED SIGN
	SPEED LIMIT SIGN		45 MPH ZONE		★ TEMPORARY SIGN			
	RADAR SPEED CHECK STATION		55 MPH ZONE					

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FIGURE 2  
UNIVERSITY BOULEVARD  
PROPOSED SPEED LIMIT



## References

1. City of Round Rock  
2017 Transportation Master Plan Update, Round Rock, Texas
2. TxDOT  
2020 Crash Records Information System, Austin, Texas
3. TxDOT  
2015 Procedures for Establishing Speed Zones, Austin, Texas
4. TxDOT  
2020 Roadway Design Manual, Austin, Texas

## **Appendix A. Speed Data Summary**

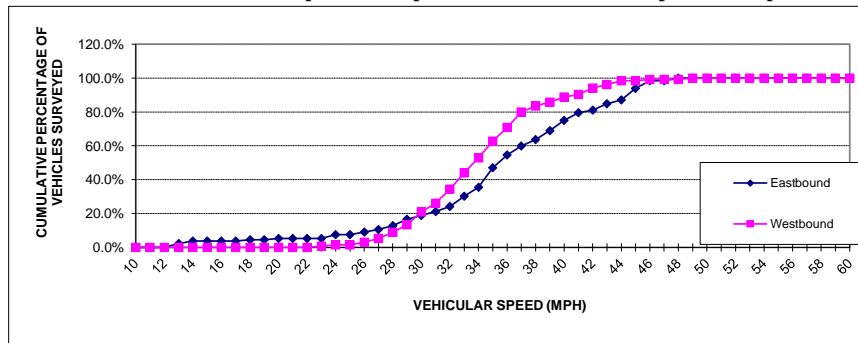


# IH 35 to Sunrise Road

Hwy: University Blvd Weather: Clear Site 1 - 30.5603N, -97.6843W  
 Date: 2/9/2021 Time: from 9:00 AM to 9:31 AM

Vehicle Mean Speed	Number of Vehicles Surveyed		Cumulative Total of Vehicles Surveyed		Cumulative Percent of Vehicles Surveyed	
	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound
10	0	0	0	0	0.0%	0.0%
11	0	0	0	0	0.0%	0.0%
12	0	0	0	0	0.0%	0.0%
13	3	0	3	0	2.3%	0.0%
14	2	0	5	0	3.8%	0.0%
15	0	0	5	0	3.8%	0.0%
16	0	0	5	0	3.8%	0.0%
17	0	0	5	0	3.8%	0.0%
18	1	0	6	0	4.5%	0.0%
19	0	0	6	0	4.5%	0.0%
20	1	0	7	0	5.3%	0.0%
21	0	0	7	0	5.3%	0.0%
22	0	0	7	0	5.3%	0.0%
23	0	1	7	1	5.3%	0.7%
24	3	1	10	2	7.6%	1.5%
25	0	0	10	2	7.6%	1.5%
26	2	2	12	4	9.1%	3.0%
27	2	3	14	7	10.6%	5.2%
28	3	5	17	12	12.9%	9.0%
29	5	6	22	18	16.7%	13.4%
30	3	10	25	28	18.9%	20.9%
31	3	7	28	35	21.2%	26.1%
32	4	11	32	46	24.2%	34.3%
33	8	13	40	59	30.3%	44.0%
34	7	12	47	71	35.6%	53.0%
35	15	13	62	84	47.0%	62.7%
36	10	11	72	95	54.5%	70.9%
37	7	12	79	107	59.8%	79.9%
38	5	5	84	112	63.6%	83.6%
39	7	3	91	115	68.9%	85.8%
40	8	4	99	119	75.0%	88.8%
41	6	2	105	121	79.5%	90.3%
42	2	5	107	126	81.1%	94.0%
43	5	3	112	129	84.8%	96.3%
44	3	3	115	132	87.1%	98.5%
45	9	0	124	132	93.9%	98.5%
46	6	1	130	133	98.5%	99.3%
47	0	0	130	133	98.5%	99.3%
48	2	0	132	133	100.0%	99.3%
49	0	1	132	134	100.0%	100.0%
50	0	0	132	134	100.0%	100.0%
51	0	0	132	134	100.0%	100.0%
52	0	0	132	134	100.0%	100.0%
53	0	0	132	134	100.0%	100.0%
54	0	0	132	134	100.0%	100.0%
55	0	0	132	134	100.0%	100.0%
56	0	0	132	134	100.0%	100.0%
57	0	0	132	134	100.0%	100.0%
58	0	0	132	134	100.0%	100.0%
59	0	0	132	134	100.0%	100.0%
60	0	0	132	134	100.0%	100.0%

Eastbound 85%tile speed is 43 mph Westbound 85%tile speed is 39 mph

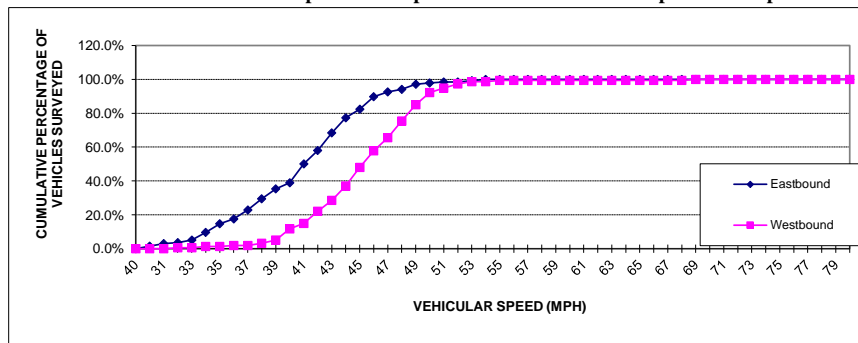


# Sunrise Road to Eagles Nest Street

Hwy: University Blvd Weather: Cloudy Site 2 - 30.563928, 0-97.674190  
 Date: 2/9/2021 Time: from 9:00 AM to 9:35 AM

Vehicle Mean Speed	Number of Vehicles Surveyed		Cumulative Total of Vehicles Surveyed		Cumulative Percent of Vehicles Surveyed	
	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound
30	2	0	2	0	1.5%	0.0%
31	2	0	4	0	2.9%	0.0%
32	1	1	5	1	3.7%	0.6%
33	2	0	7	1	5.1%	0.6%
34	6	1	13	2	9.6%	1.3%
35	7	0	20	2	14.7%	1.3%
36	4	1	24	3	17.6%	1.9%
37	7	0	31	3	22.8%	1.9%
38	9	2	40	5	29.4%	3.2%
39	8	3	48	8	35.3%	5.2%
40	5	10	53	18	39.0%	11.7%
41	15	5	68	23	50.0%	14.9%
42	11	11	79	34	58.1%	22.1%
43	14	10	93	44	68.4%	28.6%
44	12	13	105	57	77.2%	37.0%
45	7	17	112	74	82.4%	48.1%
46	10	15	122	89	89.7%	57.8%
47	4	12	126	101	92.6%	65.6%
48	2	15	128	116	94.1%	75.3%
49	4	15	132	131	97.1%	85.1%
50	1	11	133	142	97.8%	92.2%
51	1	4	134	146	98.5%	94.8%
52	0	4	134	150	98.5%	97.4%
53	1	2	135	152	99.3%	98.7%
54	1	0	136	152	100.0%	98.7%
55	0	1	136	153	100.0%	99.4%
56	0	0	136	153	100.0%	99.4%
57	0	0	136	153	100.0%	99.4%
58	0	0	136	153	100.0%	99.4%
59	0	0	136	153	100.0%	99.4%
60	0	0	136	153	100.0%	99.4%
61	0	0	136	153	100.0%	99.4%
62	0	0	136	153	100.0%	99.4%
63	0	0	136	153	100.0%	99.4%
64	0	0	136	153	100.0%	99.4%
65	0	0	136	153	100.0%	99.4%
66	0	0	136	153	100.0%	99.4%
67	0	0	136	153	100.0%	99.4%
68	0	0	136	153	100.0%	99.4%
69	0	1	136	154	100.0%	100.0%
70	0	0	136	154	100.0%	100.0%
71	0	0	136	154	100.0%	100.0%
72	0	0	136	154	100.0%	100.0%
73	0	0	136	154	100.0%	100.0%
74	0	0	136	154	100.0%	100.0%
75	0	0	136	154	100.0%	100.0%
76	0	0	136	154	100.0%	100.0%
77	0	0	136	154	100.0%	100.0%
78	0	0	136	154	100.0%	100.0%
79	0	0	136	154	100.0%	100.0%
80	0	0	136	154	100.0%	100.0%

Eastbound 85%tile speed is 45 mph Westbound 85%tile speed is 49 mph



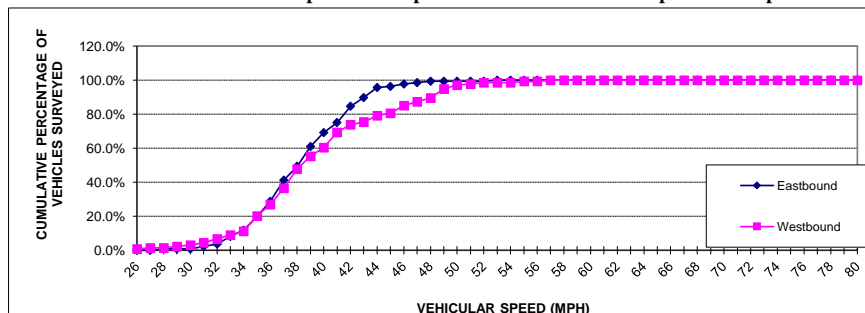


# Eagles Nest Street to College Park Drive

Hwy: University Blvd Weather: Cloudy Site 3 - 30.5672N, -97.6641W  
 Date: 2/9/2021 Time: from 9:34 AM to 10:12 AM

Vehicle Mean Speed	Number of Vehicles Surveyed		Cumulative Total of Vehicles Surveyed		Cumulative Percent of Vehicles Surveyed	
	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound
26	0	1	0	1	0.0%	0.7%
27	0	1	0	2	0.0%	1.5%
28	1	0	1	2	0.7%	1.5%
29	0	1	1	3	0.7%	2.2%
30	0	1	1	4	0.7%	3.0%
31	2	2	3	6	2.2%	4.5%
32	2	3	5	9	3.7%	6.7%
33	6	3	11	12	8.1%	9.0%
34	5	3	16	15	11.8%	11.2%
35	11	12	27	27	19.9%	20.1%
36	12	9	39	36	28.7%	26.9%
37	17	13	56	49	41.2%	36.6%
38	11	15	67	64	49.3%	47.8%
39	16	10	83	74	61.0%	55.2%
40	11	7	94	81	69.1%	60.4%
41	8	12	102	93	75.0%	69.4%
42	13	6	115	99	84.6%	73.9%
43	7	2	122	101	89.7%	75.4%
44	8	5	130	106	95.6%	79.1%
45	1	2	131	108	96.3%	80.6%
46	2	6	133	114	97.8%	85.1%
47	1	3	134	117	98.5%	87.3%
48	1	3	135	120	99.3%	89.6%
49	0	7	135	127	99.3%	94.8%
50	0	3	135	130	99.3%	97.0%
51	0	1	135	131	99.3%	97.8%
52	0	1	135	132	99.3%	98.5%
53	1	0	136	132	100.0%	98.5%
54	0	0	136	132	100.0%	98.5%
55	0	1	136	133	100.0%	99.3%
56	0	0	136	133	100.0%	99.3%
57	0	1	136	134	100.0%	100.0%
58	0	0	136	134	100.0%	100.0%
59	0	0	136	134	100.0%	100.0%
60	0	0	136	134	100.0%	100.0%
61	0	0	136	134	100.0%	100.0%
62	0	0	136	134	100.0%	100.0%
63	0	0	136	134	100.0%	100.0%
64	0	0	136	134	100.0%	100.0%
65	0	0	136	134	100.0%	100.0%
66	0	0	136	134	100.0%	100.0%
67	0	0	136	134	100.0%	100.0%
68	0	0	136	134	100.0%	100.0%
69	0	0	136	134	100.0%	100.0%
70	0	0	136	134	100.0%	100.0%
71	0	0	136	134	100.0%	100.0%
72	0	0	136	134	100.0%	100.0%
73	0	0	136	134	100.0%	100.0%
74	0	0	136	134	100.0%	100.0%
75	0	0	136	134	100.0%	100.0%
76	0	0	136	134	100.0%	100.0%
77	0	0	136	134	100.0%	100.0%
78	0	0	136	134	100.0%	100.0%
79	0	0	136	134	100.0%	100.0%
80	0	0	136	134	100.0%	100.0%

Eastbound 85%tile speed is 42 mph Westbound 85%tile speed is 46 mph

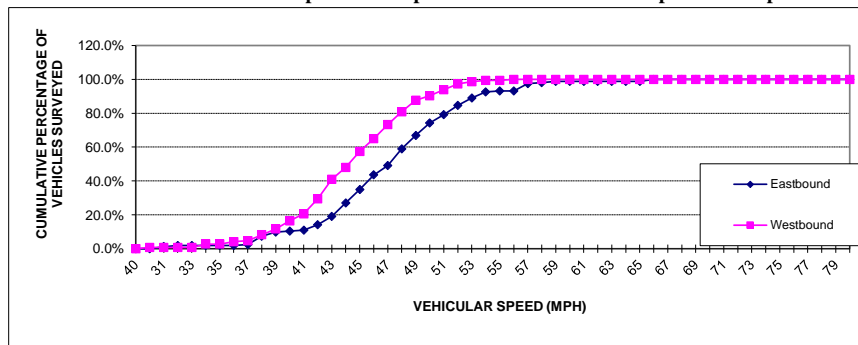


## College Park Drive to A.W. Grimes Boulevard

Hwy: University Blvd Weather: Cloudy Site 4 - 30.569468, -97.656833  
 Date: 2/9/2021 Time: from 9:45 AM to 10:15 AM

Vehicle Mean Speed	Number of Vehicles Surveyed		Cumulative Total of Vehicles Surveyed		Cumulative Percent of Vehicles Surveyed	
	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound
30	0	1	0	1	0.0%	0.7%
31	2	0	2	1	1.2%	0.7%
32	1	0	3	1	1.8%	0.7%
33	0	0	3	1	1.8%	0.7%
34	0	3	3	4	1.8%	2.7%
35	0	0	3	4	1.8%	2.7%
36	0	2	3	6	1.8%	4.1%
37	1	1	4	7	2.5%	4.8%
38	8	5	12	12	7.4%	8.2%
39	4	5	16	17	9.8%	11.6%
40	1	7	17	24	10.4%	16.4%
41	1	6	18	30	11.0%	20.5%
42	5	13	23	43	14.1%	29.5%
43	8	17	31	60	19.0%	41.1%
44	13	10	44	70	27.0%	47.9%
45	13	14	57	84	35.0%	57.5%
46	14	11	71	95	43.6%	65.1%
47	9	12	80	107	49.1%	73.3%
48	16	11	96	118	58.9%	80.8%
49	13	10	109	128	66.9%	87.7%
50	12	4	121	132	74.2%	90.4%
51	8	5	129	137	79.1%	93.8%
52	9	5	138	142	84.7%	97.3%
53	7	2	145	144	89.0%	98.6%
54	6	1	151	145	92.6%	99.3%
55	1	0	152	145	93.3%	99.3%
56	0	1	152	146	93.3%	100.0%
57	7	0	159	146	97.5%	100.0%
58	1	0	160	146	98.2%	100.0%
59	1	0	161	146	98.8%	100.0%
60	0	0	161	146	98.8%	100.0%
61	0	0	161	146	98.8%	100.0%
62	0	0	161	146	98.8%	100.0%
63	0	0	161	146	98.8%	100.0%
64	0	0	161	146	98.8%	100.0%
65	0	0	161	146	98.8%	100.0%
66	2	0	163	146	100.0%	100.0%
67	0	0	163	146	100.0%	100.0%
68	0	0	163	146	100.0%	100.0%
69	0	0	163	146	100.0%	100.0%
70	0	0	163	146	100.0%	100.0%
71	0	0	163	146	100.0%	100.0%
72	0	0	163	146	100.0%	100.0%
73	0	0	163	146	100.0%	100.0%
74	0	0	163	146	100.0%	100.0%
75	0	0	163	146	100.0%	100.0%
76	0	0	163	146	100.0%	100.0%
77	0	0	163	146	100.0%	100.0%
78	0	0	163	146	100.0%	100.0%
79	0	0	163	146	100.0%	100.0%
80	0	0	163	146	100.0%	100.0%

Eastbound 85%tile speed is 52 mph      Westbound 85%tile speed is 49 mph



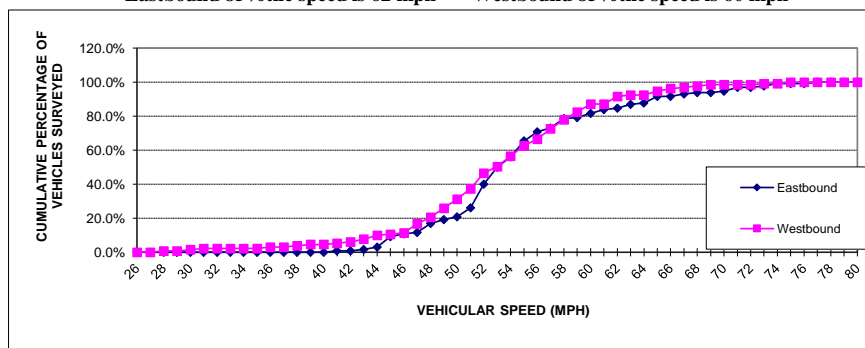


# A.W. Grimes Boulevard to Vizcaya Parkway

Hwy: University Blvd Weather: Cloudy Site 5 - 30.57424N, -97.6421 W  
 Date: 2/9/2021 Time: from 10:20 AM to 11:00 AM

Vehicle Mean Speed	Number of Vehicles Surveyed		Cumulative Total of Vehicles Surveyed		Cumulative Percent of Vehicles Surveyed	
	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound
26	0	0	0	0	0.0%	0.0%
27	0	0	0	0	0.0%	0.0%
28	0	1	0	1	0.0%	0.8%
29	0	0	0	1	0.0%	0.8%
30	0	1	0	2	0.0%	1.5%
31	0	1	0	3	0.0%	2.3%
32	0	0	0	3	0.0%	2.3%
33	0	0	0	3	0.0%	2.3%
34	0	0	0	3	0.0%	2.3%
35	0	0	0	3	0.0%	2.3%
36	0	1	0	4	0.0%	3.1%
37	0	0	0	4	0.0%	3.1%
38	0	1	0	5	0.0%	3.8%
39	0	1	0	6	0.0%	4.6%
40	0	0	0	6	0.0%	4.6%
41	1	1	1	7	0.8%	5.3%
42	0	1	1	8	0.8%	6.1%
43	1	2	2	10	1.5%	7.6%
44	2	3	4	13	3.1%	9.9%
45	8	1	12	14	9.2%	10.7%
46	2	1	14	15	10.8%	11.5%
47	1	7	15	22	11.5%	16.8%
48	7	5	22	27	16.9%	20.6%
49	3	7	25	34	19.2%	26.0%
50	2	7	27	41	20.8%	31.3%
51	7	8	34	49	26.2%	37.4%
52	18	12	52	61	40.0%	46.6%
53	13	5	65	66	50.0%	50.4%
54	8	8	73	74	56.2%	56.5%
55	12	8	85	82	65.4%	62.6%
56	7	5	92	87	70.8%	66.4%
57	3	8	95	95	73.1%	72.5%
58	7	7	102	102	78.5%	77.9%
59	1	6	103	108	79.2%	82.4%
60	3	6	106	114	81.5%	87.0%
61	3	0	109	114	83.8%	87.0%
62	1	6	110	120	84.6%	91.6%
63	3	1	113	121	86.9%	92.4%
64	1	0	114	121	87.7%	92.4%
65	5	3	119	124	91.5%	94.7%
66	0	2	119	126	91.5%	96.2%
67	2	1	121	127	93.1%	96.9%
68	1	1	122	128	93.8%	97.7%
69	0	1	122	129	93.8%	98.5%
70	1	0	123	129	94.6%	98.5%
71	3	0	126	129	96.9%	98.5%
72	0	0	126	129	96.9%	98.5%
73	1	1	127	130	97.7%	99.2%
74	2	0	129	130	99.2%	99.2%
75	0	1	129	131	99.2%	100.0%
76	0	0	129	131	99.2%	100.0%
77	1	0	130	131	100.0%	100.0%
78	0	0	130	131	100.0%	100.0%
79	0	0	130	131	100.0%	100.0%
80	0	0	130	131	100.0%	100.0%

Eastbound 85%tile speed is 62 mph Westbound 85%tile speed is 60 mph

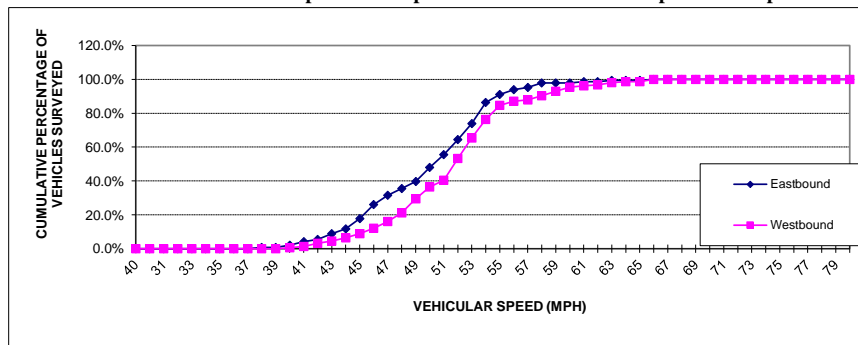


## Vizcaya Parkway to CR 110

Hwy: University Blvd Weather: Cloudy Site 6 - 30.581783, -97.621826  
 Date: 9/4/2019 Time: from 10:30 AM to 11:00 AM

Vehicle Mean Speed	Number of Vehicles Surveyed		Cumulative Total of Vehicles Surveyed		Cumulative Percent of Vehicles Surveyed	
	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound
30	0	0	0	0	0.0%	0.0%
31	0	0	0	0	0.0%	0.0%
32	0	0	0	0	0.0%	0.0%
33	0	0	0	0	0.0%	0.0%
34	0	0	0	0	0.0%	0.0%
35	0	0	0	0	0.0%	0.0%
36	0	0	0	0	0.0%	0.0%
37	0	0	0	0	0.0%	0.0%
38	1	0	1	0	0.7%	0.0%
39	0	0	1	0	0.7%	0.0%
40	2	1	3	1	2.1%	0.6%
41	3	1	6	2	4.1%	1.3%
42	2	3	8	5	5.5%	3.2%
43	5	2	13	7	8.9%	4.5%
44	4	3	17	10	11.6%	6.4%
45	9	4	26	14	17.8%	9.0%
46	12	5	38	19	26.0%	12.2%
47	8	6	46	25	31.5%	16.0%
48	6	8	52	33	35.6%	21.2%
49	6	13	58	46	39.7%	29.5%
50	12	11	70	57	47.9%	36.5%
51	11	6	81	63	55.5%	40.4%
52	13	20	94	83	64.4%	53.2%
53	14	19	108	102	74.0%	65.4%
54	18	17	126	119	86.3%	76.3%
55	7	13	133	132	91.1%	84.6%
56	4	4	137	136	93.8%	87.2%
57	2	1	139	137	95.2%	87.8%
58	4	4	143	141	97.9%	90.4%
59	0	4	143	145	97.9%	92.9%
60	0	4	143	149	97.9%	95.5%
61	1	1	144	150	98.6%	96.2%
62	0	1	144	151	98.6%	96.8%
63	1	2	145	153	99.3%	98.1%
64	0	1	145	154	99.3%	98.7%
65	0	0	145	154	99.3%	98.7%
66	1	2	146	156	100.0%	100.0%
67	0	0	146	156	100.0%	100.0%
68	0	0	146	156	100.0%	100.0%
69	0	0	146	156	100.0%	100.0%
70	0	0	146	156	100.0%	100.0%
71	0	0	146	156	100.0%	100.0%
72	0	0	146	156	100.0%	100.0%
73	0	0	146	156	100.0%	100.0%
74	0	0	146	156	100.0%	100.0%
75	0	0	146	156	100.0%	100.0%
76	0	0	146	156	100.0%	100.0%
77	0	0	146	156	100.0%	100.0%
78	0	0	146	156	100.0%	100.0%
79	0	0	146	156	100.0%	100.0%
80	0	0	146	156	100.0%	100.0%

Eastbound 85%tile speed is 52 mph      Westbound 85%tile speed is 55 mph



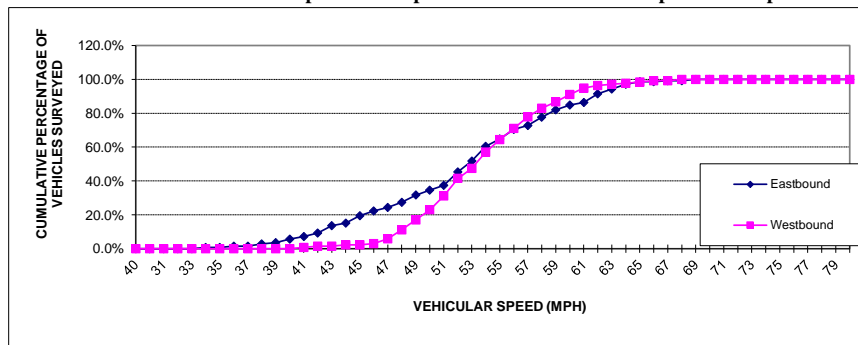


# CR 110 to SH 130

Hwy: University Blvd Weather: Cloudy Site 7 - 30.5860N, -97.6083W  
 Date: 2/9/2021 Time: from 1:30 PM to 2:05 PM

Vehicle Mean Speed	Number of Vehicles Surveyed		Cumulative Total of Vehicles Surveyed		Cumulative Percent of Vehicles Surveyed	
	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound
30	0	0	0	0	0.0%	0.0%
31	0	0	0	0	0.0%	0.0%
32	0	0	0	0	0.0%	0.0%
33	0	0	0	0	0.0%	0.0%
34	1	0	1	0	0.7%	0.0%
35	0	0	1	0	0.7%	0.0%
36	1	0	2	0	1.4%	0.0%
37	0	0	2	0	1.4%	0.0%
38	2	0	4	0	2.9%	0.0%
39	1	0	5	0	3.6%	0.0%
40	3	0	8	0	5.8%	0.0%
41	2	1	10	1	7.2%	0.7%
42	3	1	13	2	9.4%	1.5%
43	6	0	19	2	13.7%	1.5%
44	2	1	21	3	15.1%	2.2%
45	6	0	27	3	19.4%	2.2%
46	4	1	31	4	22.3%	3.0%
47	3	4	34	8	24.5%	5.9%
48	4	7	38	15	27.3%	11.1%
49	6	8	44	23	31.7%	17.0%
50	4	8	48	31	34.5%	23.0%
51	4	11	52	42	37.4%	31.1%
52	11	14	63	56	45.3%	41.5%
53	9	8	72	64	51.8%	47.4%
54	12	13	84	77	60.4%	57.0%
55	6	10	90	87	64.7%	64.4%
56	8	9	98	96	70.5%	71.1%
57	3	9	101	105	72.7%	77.8%
58	7	7	108	112	77.7%	83.0%
59	6	5	114	117	82.0%	86.7%
60	4	6	118	123	84.9%	91.1%
61	2	5	120	128	86.3%	94.8%
62	7	2	127	130	91.4%	96.3%
63	4	1	131	131	94.2%	97.0%
64	4	1	135	132	97.1%	97.8%
65	2	1	137	133	98.6%	98.5%
66	0	1	137	134	98.6%	99.3%
67	1	0	138	134	99.3%	99.3%
68	0	1	138	135	99.3%	100.0%
69	1	0	139	135	100.0%	100.0%
70	0	0	139	135	100.0%	100.0%
71	0	0	139	135	100.0%	100.0%
72	0	0	139	135	100.0%	100.0%
73	0	0	139	135	100.0%	100.0%
74	0	0	139	135	100.0%	100.0%
75	0	0	139	135	100.0%	100.0%
76	0	0	139	135	100.0%	100.0%
77	0	0	139	135	100.0%	100.0%
78	0	0	139	135	100.0%	100.0%
79	0	0	139	135	100.0%	100.0%
80	0	0	139	135	100.0%	100.0%

Eastbound 85%tile speed is 60 mph Westbound 85%tile speed is 59 mph



## **Appendix B. 24-Hour Daily Volume Data**

# GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A  
Georgetown, TX 78626  
**512-832-8650**

Page 1

Site Code: 1  
Station ID:  
University Blvd  
West of University Oaks Blvd  
Latitude: 0' 0.0000 Undefined

Start Time	09-Feb-21 Tue	Westbound		Hour Totals		Eastbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		17	173			5	162				
12:15		6	163			8	157				
12:30		11	152			5	145				
12:45		3	159	37	647	11	144	29	608	66	1255
01:00		2	179			5	174				
01:15		6	152			8	147				
01:30		6	166			6	148				
01:45		4	159	18	656	3	151	22	620	40	1276
02:00		3	188			2	132				
02:15		3	191			2	145				
02:30		4	194			3	143				
02:45		7	177	17	750	5	154	12	574	29	1324
03:00		1	174			4	152				
03:15		4	132			7	143				
03:30		7	168			4	150				
03:45		7	192	19	666	1	149	16	594	35	1260
04:00		10	163			3	159				
04:15		14	199			11	151				
04:30		20	217			6	157				
04:45		36	177	80	756	16	155	36	622	116	1378
05:00		44	186			9	163				
05:15		40	188			11	165				
05:30		62	213			21	156				
05:45		93	131	239	718	33	136	74	620	313	1338
06:00		81	161			35	148				
06:15		104	133			78	158				
06:30		112	133			112	146				
06:45		99	114	396	541	142	129	367	581	763	1122
07:00		121	137			154	113				
07:15		146	112			161	143				
07:30		202	105			219	115				
07:45		166	89	635	443	219	92	753	463	1388	906
08:00		123	87			197	97				
08:15		150	81			177	91				
08:30		145	61			187	75				
08:45		140	63	558	292	175	66	736	329	1294	621
09:00		130	62			146	57				
09:15		126	53			158	47				
09:30		120	40			136	47				
09:45		128	39	504	194	158	42	598	193	1102	387
10:00		122	43			157	38				
10:15		117	33			132	26				
10:30		131	26			162	37				
10:45		135	16	505	118	145	22	596	123	1101	241
11:00		156	27			134	22				
11:15		163	15			151	17				
11:30		184	12			126	16				
11:45		166	6	669	60	159	14	570	69	1239	129
Total		3677	5841			3809	5396			7486	11237
Percent		38.6%	61.4%			41.4%	58.6%			40.0%	60.0%
Grand Total		3677	5841			3809	5396			7486	11237
Percent		38.6%	61.4%			41.4%	58.6%			40.0%	60.0%

ADT ADT 18,723 AADT 18,723



# GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A  
Georgetown, TX 78626

**512-832-8650**

Page 1

Site Code: 2  
Station ID:  
University Blvd  
East of Sunrise Rd  
Latitude: 0' 0.0000 Undefined

Start Time	2/9/2021 Tue	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		8	160			13	202				
12:15		10	145			11	218				
12:30		14	162			9	218				
12:45		12	144	44	611	4	195	37	833	81	1444
01:00		8	145			14	188				
01:15		4	137			8	194				
01:30		11	153			5	203				
01:45		3	145	26	580	7	183	34	768	60	1348
02:00		7	132			6	191				
02:15		4	170			4	190				
02:30		7	147			5	210				
02:45		8	125	26	574	9	198	24	789	50	1363
03:00		5	137			5	196				
03:15		8	149			15	198				
03:30		3	152			11	230				
03:45		5	154	21	592	13	186	44	810	65	1402
04:00		10	189			14	236				
04:15		3	195			12	222				
04:30		14	186			28	245				
04:45		24	205	51	775	46	256	100	959	151	1734
05:00		16	200			50	226				
05:15		23	237			41	236				
05:30		27	223			68	241				
05:45		53	209	119	869	94	192	253	895	372	1764
06:00		33	193			119	217				
06:15		74	210			120	224				
06:30		85	175			169	170				
06:45		104	177	296	755	170	161	578	772	874	1527
07:00		111	172			191	155				
07:15		111	176			224	132				
07:30		140	158			290	147				
07:45		160	126	522	632	280	115	985	549	1507	1181
08:00		129	146			200	95				
08:15		116	109			230	88				
08:30		117	81			210	70				
08:45		167	78	529	414	206	78	846	331	1375	745
09:00		112	65			176	73				
09:15		120	68			184	62				
09:30		124	55			183	52				
09:45		116	54	472	242	173	49	716	236	1188	478
10:00		108	39			168	52				
10:15		123	49			175	45				
10:30		144	26			164	30				
10:45		145	34	520	148	207	22	714	149	1234	297
11:00		121	28			185	20				
11:15		134	23			181	13				
11:30		136	22			205	14				
11:45		152	16	543	89	214	20	785	67	1328	156
Total		3169	6281			5116	7158			8285	13439
Percent		33.5%	66.5%			41.7%	58.3%			38.1%	61.9%
Grand Total		3169	6281			5116	7158			8285	13439
Percent		33.5%	66.5%			41.7%	58.3%			38.1%	61.9%

ADT ADT 21,724 AADT 21,724

# GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A  
Georgetown, TX 78626  
**512-832-8650**

Page 1

Site Code: 3  
Station ID:  
University Blvd  
East of AW Grimes Blvd  
Latitude: 0' 0.0000 Undefined

Start Time	09-Feb-21 Tue	Westbound		Hour Totals		Eastbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		5	108			7	115				
12:15		12	116			10	135				
12:30		3	122			8	126				
12:45		3	133	23	479	15	114	40	490	63	969
01:00		5	102			3	114				
01:15		3	105			2	108				
01:30		1	113			9	129				
01:45		4	120	13	440	6	122	20	473	33	913
02:00		7	97			7	131				
02:15		3	118			5	156				
02:30		6	132			4	164				
02:45		5	135	21	482	8	117	24	568	45	1050
03:00		3	116			3	181				
03:15		4	126			5	156				
03:30		2	152			4	180				
03:45		15	144	24	538	2	190	14	707	38	1245
04:00		8	133			8	201				
04:15		12	146			8	189				
04:30		13	154			20	169				
04:45		50	145	83	578	30	207	66	766	149	1344
05:00		41	162			30	235				
05:15		47	197			30	206				
05:30		76	168			39	233				
05:45		95	143	259	670	44	173	143	847	402	1517
06:00		102	136			50	153				
06:15		113	122			84	133				
06:30		162	101			98	155				
06:45		172	83	549	442	136	128	368	569	917	1011
07:00		155	84			137	121				
07:15		200	96			115	102				
07:30		178	70			134	98				
07:45		227	37	760	287	136	81	522	402	1282	689
08:00		158	49			105	82				
08:15		182	51			98	63				
08:30		159	47			100	72				
08:45		129	38	628	185	106	55	409	272	1037	457
09:00		103	29			100	47				
09:15		124	23			104	45				
09:30		136	31			127	39				
09:45		129	22	492	105	96	32	427	163	919	268
10:00		113	21			113	37				
10:15		120	17			88	29				
10:30		102	15			103	22				
10:45		149	7	484	60	91	22	395	110	879	170
11:00		123	12			109	19				
11:15		98	8			118	17				
11:30		134	9			117	10				
11:45		124	6	479	35	118	12	462	58	941	93
Total		3815	4301			2890	5425			6705	9726
Percent		47.0%	53.0%			34.8%	65.2%			40.8%	59.2%
Grand Total		3815	4301			2890	5425			6705	9726
Percent		47.0%	53.0%			34.8%	65.2%			40.8%	59.2%

ADT ADT 16,431 AADT 16,431

# GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A  
Georgetown, TX 78626  
**512-832-8650**

Page 1

Site Code: 4  
Station ID:  
University Blvd  
West of SH 130 SBFR  
Latitude: 0' 0.0000 Undefined

Start Time	09-Feb-21 Tue	Westbound		Hour Totals		Eastbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		4	77			5	72				
12:15		9	84			8	96				
12:30		8	87			6	82				
12:45		2	96	23	344	11	90	30	340	53	684
01:00		5	75			2	76				
01:15		1	81			1	76				
01:30		7	79			2	79				
01:45		8	78	21	313	5	94	10	325	31	638
02:00		4	62			3	88				
02:15		4	107			7	101				
02:30		2	108			6	118				
02:45		2	88	12	365	3	103	19	410	31	775
03:00		3	92			6	117				
03:15		2	108			2	121				
03:30		6	112			7	118				
03:45		9	89	20	401	3	157	18	513	38	914
04:00		8	104			8	172				
04:15		8	120			5	168				
04:30		26	126			12	136				
04:45		38	107	80	457	20	165	45	641	125	1098
05:00		34	133			26	189				
05:15		41	126			23	170				
05:30		74	133			29	159				
05:45		88	102	237	494	44	153	122	671	359	1165
06:00		95	120			42	108				
06:15		108	90			70	98				
06:30		136	84			72	103				
06:45		127	66	466	360	76	88	260	397	726	757
07:00		140	55			104	73				
07:15		170	67			115	65				
07:30		163	46			114	75				
07:45		139	28	612	196	129	50	462	263	1074	459
08:00		140	34			80	35				
08:15		121	44			78	42				
08:30		106	36			85	41				
08:45		95	21	462	135	79	36	322	154	784	289
09:00		80	16			68	36				
09:15		87	17			75	28				
09:30		122	25			93	25				
09:45		88	16	377	74	63	24	299	113	676	187
10:00		63	19			76	22				
10:15		84	11			86	24				
10:30		94	6			63	14				
10:45		93	6	334	42	82	11	307	71	641	113
11:00		68	12			81	6				
11:15		74	5			86	12				
11:30		82	7			73	4				
11:45		75	6	299	30	86	12	326	34	625	64
Total		2943	3211			2220	3932			5163	7143
Percent		47.8%	52.2%			36.1%	63.9%			42.0%	58.0%
Grand Total		2943	3211			2220	3932			5163	7143
Percent		47.8%	52.2%			36.1%	63.9%			42.0%	58.0%

ADT ADT 12,306 AADT 12,306



## **Appendix C. Crash Data Summary**

2017-2019 Crashes Summary for University Boulevard					
Selected Signalized Crossroads	IH 35	to  Sunrise Road	to  N.A.W. Grimes Blvd	to  CR 110	to  SH 130
Distance (miles)	0.70	1.96	2.30	1.41	
AADT	18,723	21,724	16,431	12,306	
Total Crashes	282	122	65	10	
Crashes per Mile	403	62	28	7	
Crashes (per 100 Million- Vehicle-Miles)	1,965.00	261.67	157.08	52.63	

**2017-2019 Crashes Summary for Univeristy Boulevard**

Location	Year	Total
IH 35 to Sunrise Road (4-lane, divided)	2017	95
	2018	101
	2019	86
Sub-Total		282
Sunrise Road to N.A.W. Grimes Boulevard (4-lane, divided)	2017	50
	2018	31
	2019	41
Sub-Total		122
A.W. Grimes Boulevard to CR 110 (2-lane, undivided)	2017	15
	2018	28
	2019	22
Sub-Total		65
CR 110 TO SH 130 (2-lane, undivided)	2018	1
	2019	2
	2020	7
Sub-Total		10
<b>Total Crashes</b>		<b>479</b>



## Crash Rates for University Boulevard

Segment	Crash Rates per 100 MVMT				
	2017	2018	2019	3 Yr Average	Corridor Average*
IH 35 to Sunrise Road (4-lane, divided)	1985.90	2111.32	1797.76	1965.00	1083.43
Sunrise Road to A.W. Grimes Blvd (4-lane, divided)	321.72	199.47	263.81	261.67	
N.A.W. Grimes Blvd to CR 110 (2-lane, undivided)	108.74	5894.99	159.49	2054.41	
CR 110 to SH 130 (2-lane, undivided)	15.79	31.58	110.53	52.63	
State wide Average 4 lane, divided (Urban)	160.93	156.59	154.81	157.44	157.44
State wide Average 4 lane, divided (Rural)	57.66	60.43	56.94	58.34	58.34
State wide Average 2 lane, undivided (Urban)	207.2	205.75	215.80	209.58	209.58
State wide Average 2 lane, undivided (Rural)	102.48	102.09	99.12	101.23	101.23