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**Williamson County
Unified Road System**

To: Williamson County Commissioners' Court
From: Joe M. England P.E., County Engineer
Date: August 10, 2010
**Subject: Proposed Speed Limit on
Westinghouse Road (CR 111)**



According to the 2006 edition of the Texas Manual on Uniform Traffic Control Devices the following factors should form the basis of an engineering and traffic investigation for determining the proper numerical value for a speed zone. The factors are as follows:

When a speed limit is to be posted, it should be within 5 mph of the 85th-percentile speed of free-flowing traffic.

Option:

Other factors that may be considered when establishing speed limits are the following:

- A. Road characteristics, shoulder condition, grade, alignment, and sight distance;
- B. The pace speed;
- C. Roadside development and environment;
- D. Parking practices and pedestrian activity; and
- E. Reported crash experience for at least a 12-month period.

Upon my field investigation, I found that the section of Westinghouse Road (CR 111) from the existing city limits of Georgetown, Texas eastward to FM 1460 consist of an urban street design within a commercial/rural environment with a currently adopted speed limit of 40 MPH.

August 10, 2010

Page Two

The section of Westinghouse Road (CR 111) from the existing city limits of Georgetown, Texas eastward to FM 1460 consist of approximately 120 feet of right-of-way (ROW), both a five lane undivided section and a four lane divided section, and curb and gutter. The grade is flat with few horizontal and vertical curves. There is some roadside development and culture (limited commercial and rural residential) which generates restrained roadside friction. Parking is off of the right-of-way. There is very little pedestrian activity. To this date, I have no accident information for the last 12-month period that would dictate any certain speed limit.

Four speed studies were conducted from July 15 to July 21, 2010 on the section of Westinghouse Road (CR 111) from the existing city limits of Georgetown, Texas eastward to FM 1460. The result of these studies shows an 85% speed of 51-57 MPH. The 10 MPH pace speed was a range of 41-50 and 46-55 MPH.

The pace speeds would indicate a proposed posting of either 50 or 55 MPH with the 85% suggesting the upper limit of this range. It has been my experience that a consistent speed limit is preferable to multiple speed limits for a given section of roadway. This section of roadway will likely continue to experience development which will increase roadside friction thus creating the need to reduce the speed limit. With these factors in mind, it is my professional opinion that a posting of 50 MPH is proper for the section of Westinghouse Road (CR 111) from the existing city limits of Georgetown, Texas eastward to FM 1460.

Williamson County Unified Road System

3151 SE Inner Loop, Suite B
Georgetown, Texas 78626
512-943-3330

Site Code
Station ID: WE

Direction 1

Start	1	36	41	46	51	56	61	66	71	76	81	86	91	96	Total
Time	35	40	45	50	55	60	65	70	75	80	85	90	95	999	
7/21/10	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3
01:00	1	8	2	8	2	2	0	0	0	0	0	0	0	0	21
02:00	1	4	5	7	3	0	0	0	0	0	0	0	0	0	20
03:00	0	3	10	3	2	1	0	0	0	0	0	0	0	0	19
04:00	0	3	4	4	5	1	0	1	0	0	0	0	0	0	18
05:00	2	13	32	22	6	3	1	0	0	0	0	0	0	0	79
06:00	7	26	64	37	8	3	1	0	0	0	0	0	0	0	146
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	11	55	119	82	26	10	2	1	0	0	0	0	0	0	306
Percent	3.6%	18.0%	38.9%	26.8%	8.5%	3.3%	0.7%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	06:00	06:00	06:00	06:00	06:00	05:00	05:00	04:00							06:00
Vol.	7	26	64	37	8	3	1	1							146
PM Peak															
Vol.															
Total	303	1577	3193	2335	997	293	78	27	5	0	2	0	0	0	8810
Percent	3.4%	17.9%	36.2%	26.5%	11.3%	3.3%	0.9%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	

15th Percentile : 39 MPH
50th Percentile : 44 MPH
85th Percentile : 51 MPH
95th Percentile : 55 MPH

Stats
10 MPH Pace Speed : 41-50 MPH
Number in Pace : 5528
Percent in Pace : 62.7%
Number of Vehicles > 60 MPH : 112
Percent of Vehicles > 60 MPH : 1.3%
Mean Speed(Average) : 44 MPH

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Direction 1

[illegible]

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Site Code
Station 1

Direction 1

Start Time	1	36	41	46	51	56	61	66	71	76	81	86	91	96	Total
Time	35	40	45	50	55	60	65	70	75	80	85	90	95	999	
7/21/10	2	2	4	6	3	0	0	0	0	0	0	0	0	0	1
01:00	0	2	7	11	3	0	0	0	0	0	0	0	0	0	2
02:00	1	1	3	2	3	3	0	0	0	0	0	0	0	0	1
03:00	0	1	1	1	0	0	0	0	0	0	0	0	0	0	
04:00	0	1	2	1	0	0	0	0	0	0	0	0	0	0	
05:00	7	15	15	12	5	0	0	0	0	0	0	0	0	0	5
06:00	7	20	31	7	4	1	2	1	0	0	0	0	0	0	7
07:00	5	24	38	13	6	0	0	0	0	0	0	0	0	0	8
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Total	22	66	101	53	24	4	2	1	0	0	0	0	0	0	27
Percent	8.1%	24.2%	37.0%	19.4%	8.8%	1.5%	0.7%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	05:00	07:00	07:00	07:00	07:00	02:00	06:00	06:00							07:00
Vol.	7	24	38	13	6	3	2	1							8
PM Peak															
Vol.															
Total	430	1475	2612	2176	1022	241	48	10	5	1	1	0	1	0	802
Percent	5.4%	18.4%	32.8%	27.1%	12.7%	3.0%	0.6%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	

15th Percentile : 38 MPH
50th Percentile : 45 MPH
85th Percentile : 51 MPH
95th Percentile : 55 MPH

Stats
10 MPH Pace Speed : 41-50 MPH
Number in Pace : 4788
Percent in Pace : 59.7%
Number of Vehicles > 60 MPH : 66
Percent of Vehicles > 60 MPH : 0.8%
Mean Speed(Average) : 44 MPH

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Station ID

Direction 1

Start Time	1	36	41	48	51	56	61	66	71	76	81	86	91	96	Total
7/21/10	35	40	45	50	55	60	65	70	75	80	85	90	95	999	
01:00	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	4	2	2	0	0	1	0	0	0	0	0	0
03:00	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0
04:00	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0
05:00	1	1	10	5	3	1	0	0	0	0	0	0	0	0	2
06:00	2	7	7	17	2	2	2	0	0	0	0	0	0	0	3
07:00	0	6	13	8	5	4	1	0	0	0	0	0	0	0	3
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	3	16	33	40	15	9	3	0	1	0	0	0	0	0	12
Percent	2.5%	13.3%	27.5%	33.3%	12.5%	7.5%	2.5%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	06.0%
AM Peak	06:00	06:00	07:00	06:00	07:00	07:00	06:00	02:00							3
Vol.	2	7	13	17	5	4	2	1							
PM Peak															
Vol.															
Total	87	325	1192	1397	1279	611	198	41	9	1	1	1	0	1	514
Percent	1.7%	6.3%	23.2%	27.2%	24.9%	11.9%	3.8%	0.8%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	

15th Percentile : 42 MPH
50th Percentile : 49 MPH
85th Percentile : 56 MPH
95th Percentile : 60 MPH

Stats 10 MPH Pace Speed : 46-55 MPH
Number in Pace : 2676
Percent in Pace : 52.0%
Number of Vehicles > 60 MPH : 252
Percent of Vehicles > 60 MPH : 4.9%
Mean Speed(Average) : 49 MPH