

AUSTIN TRANSPORTATION DEPARTMENT

MEMORANDUM

TO: Gina Fiandaca, Assistant City Manager for Mobility

FROM: Robert Spillar, P.E., Director, Austin Transportation Department

DATE: May 9, 2022



SUBJECT: Recommendation of Speed Limit Changes

The Austin Transportation Department (ATD) completed this engineering study to recommend speed modifications for Level 3 and 4 streets as classified in the *Austin Strategic Mobility Plan (ASMP)* outside of the Urban Core of the City of Austin (City). Outside of the Urban Core is defined as outside of the area bounded by US 183, SH 71/US 290, and Loop 1 (MoPac). This study follows a comprehensive engineering study completed in May 2020 for Level 3 and 4 streets inside the Urban Core, which led to City Council approving ATD's recommendations for speed limit reductions in June 2020.

The City of Austin is a Vision Zero community with an established policy that seeks to eliminate serious injury crashes and fatalities on our mobility networks, especially when a vulnerable roadway user is involved. Based on historical crash data, we know that speed on area roadways is a leading cause of serious and fatal incidents. Other cities across the nation are actively dropping speed limits to generate a safer traveling environment and finding positive outcomes when speeds are reduced over a wide area of their street networks. In accordance with Texas State Law, ATD has completed an engineering analysis of speeds.

The intent of this engineering evaluation was to ensure consistent speed limits that can be better used to ensure driver expectations and provide for a safe mobility environment. As the City Traffic Engineer, and based on the engineering study completed under my supervision and authority, I make the following specific findings related to Level 3 and 4 street segments outside the Urban Core:

- **SP1.** For the following street segment, engineering study indicates that 25 miles per hour (mph) is a safe and prudent speed:
 - o Enfield Road from Lake Austin Boulevard to Winsted Lane.

- **SP2.** For the following street segments, engineering study indicates that 30 mph is a safe and prudent speed:
 - 35th Street (West) from Balcones Drive to Loop 1 (MoPac Expressway) (North) West Frontage Road.
 - Far West Boulevard from Chimney Corners to Loop 1 (MoPac Expressway) (North) West Frontage Road.
 - o Great Hills Trail from Stonelake Boulevard to Loop 360 (Capital of Texas Highway) (North).
 - Johnny Morris Road from 300 feet north of Point North Drive to Austin City Limits Line north of Breezy Hill Drive.
 - o Jollyville Road from N Capital of Texas Highway to Business Park Drive.
 - o Lake Austin Boulevard from Enfield Road to 1st/5th/6th Street (West) intersection.
 - o Lake Creek Parkway from R.M. 620 to U.S. 183.
 - o Payton Gin Road from U.S. 183 East Frontage Roa to Lamar Boulevard (North).
 - o Rutherford Lane from U.S. 183 (Anderson Lane) (East) to I.H. 35 (North) East Frontage Road.
 - Spicewood Springs Road from Loop 1 (MoPac Expressway) (North) East Frontage Road to Mesa Drive.
 - o Teri Road from I.H. 35 (South) East Frontage Road to Nuckols Crossing Road.
- **SP3.** For the following street segments, engineering study indicates that 35 mph is a safe and prudent speed:
 - o Ben Garza Lane from Brodie Lane to Loop 1 (MoPac Expressway) (South).
 - o Canyon Ridge Drive (West) from IH-35 (North) East Frontage Road to Tech Ridge Boulevard.
 - o Center Line Pass from Center Ridge Drive to Howard Lane (West).
 - o City Park Road from F.M. 2222 to Austin City Limits Line west of Bridge Point Pkwy.
 - o Davis Lane from Brodie Lane to Escarpment Boulevard.
 - Gracy Farms Lane from Metric Boulevard to Loop 1 (MoPac Expressway) (North) East Frontage Road.
 - o Kramer Lane from Burnet Road to Lamar Boulevard (North).
 - Lakeline Mall Drive from U.S. 183 (North) (Research Boulevard) to 1,500 feet east of Lyndhurst Street.
 - o Metro Center Drive from Riverside Drive (East) to end of Metro Center Drive.
 - o Old Bee Caves Road from U.S. 290/S.H. 71(West) to Austin City Limits Line.
 - Pond Springs Road from U.S. 183 (Frontage Road) (Northbound) (north intersection) to Hunters Chase Drive.
 - Ross Road from Pearce Lane to Austin City Limits Line north of Gilwell Drive.
 - o Rutland Drive from Burnet Road to 200 feet east of Golden Meadow Drive.
 - Stassney Lane (East) from Congress Avenue (South) to I.H. 35 (South) West Frontage Road.
 - o Stonehollow Drive from Metric Boulevard to Metric Boulevard.
 - o Tuscany Way from U.S. 290 to 2,500 feet north of U.S. 290.
- **SP4.** For the following street segments, engineering study indicates that 40 mph is a safe and prudent speed:
 - o Bluff Springs Road from William Cannon Drive (East) to Austin City Limits Line.
 - o Bradshaw Road from River Plantation Drive to Austin City Limits Line north of Kleberg Trail.
 - o Brodie Lane from 300 feet south of Alexandria Drive to Slaughter Lane (West).

- Center Lake Drive from Howard Lane (East) to Parmer Lane.
- Four Points Drive from R.M. 620 to River Place Boulevard.
- o Harris Branch Parkway from 700 feet north of Farmhaven Road to Gregg Lane.
- o Jollyville Road from Balcones Woods Drive to Great Hills Trail.
- McKinney Falls Parkway from Burleson Road to U.S. 183.
- o McNeil Drive from U.S. 183 to Parmer Lane.
- Metric Boulevard from Staton Drive to Howard Lane.
- o Metric Boulevard from Scofield Lane to Staton Drive.
- o Pearce Lane from Ross Road to Welsh Way.
- o Slaughter Lane (East) from I.H. 35 (South) East Frontage Road to Brandt Road.
- o Slaughter Lane (West) from Brodie Lane to Brasher Drive.
- o Slaughter Lane (West) from Manchaca Road to IH 35 (South) East Frontage Road.
- o Stassney Lane (East) from Teri Road to 1,200 feet south of Burleson Road.
- o Stonelake Boulevard from Loop 360 (Capital of Texas Highway) (North) to Braker Lane (West).
- o Tech Ridge Boulevard from Yager Lane to Parmer Lane.
- o Vega Avenue from William Cannon Drive (West) to Southwest Parkway.
- Wilson Parke Avenue from R.M. 620 to Woodbay Parke Drive.
- **SP5.** For the following street segments, engineering study indicates that 45 mph is a safe and prudent speed:
 - o Burleson Road from U.S. 183 to F.M. 973.
 - Dessau Road from Austin City Limits Line north of Howard Lane to 580 feet north of Brighton Lane.
 - o Howard Lane (East) from Dessau Road to I.H. 35 (North) West Frontage Road.
 - o Howard Lane (East) from Dessau Road to Immanuel Road.
 - o McCallen Pass from Parmer Lane to Howard Lane.
- **SP6.** For the following street segment, engineering study indicates that 50 mph is a safe and prudent speed:
 - o Southwest Parkway from Boston Lane to Austin City Limits Line west of Amara Trail.

Recommendation

Under the authority of the City Traffic Engineer, I have documented findings indicating that new speeds on a range of streets are warranted. I am recommending that, through a Request for Council Action (RCA), we modify speed limits on these Level 3 and 4 streets outside the Urban Core to meet the safe and prudent speeds identified by engineering analysis.

Furthermore, I recommend we request administrative authority to bring the identified streets into conformity with State Law related to signage. In this way, the department will develop and deploy a robust public education effort and appropriate signage installation program that is consistent with our current staffing and financial capabilities. As streets are appropriately posted and the community informed, those streets will be eligible for enforcement of the established speed limits.

I am seeking a place on the June 9, 2022, Council Agenda to bring this item. This item is also scheduled to be reviewed by the Council Mobility Committee on May 12, 2022.



AUSTIN TRANSPORTATION DEPARTMENT

MEMORANDUM

то:	Robert Spillar, P.E., Director, Austin Transportation Department	TALE OF TEXAS
FROM:	Eric Bollich, P.E., PTOE, Managing Engineer, Austin Transportation Department	ERIC A. BOLLICH
CC:	Anna Martin, P.E., Assistant Director, Austin Transportation Department	Solonal ENGLASS
	Lewis Leff, Transportation Safety Officer, Austin Transportation Department	E. SMAL 5/9/22
DATE:	May 9, 2022	21/102
SUBJECT:	Speed Modification Report – City of Austin Level 3 an Urban Core	d 4 Streets Outside of the

The Austin Transportation Department (ATD) completed this engineering study to recommend speed modifications for Level 3 and 4 streets as classified in the *Austin Strategic Mobility Plan (ASMP)* outside of the Urban Core of the City of Austin (City), defined as outside of the area bounded by US 183, SH 71/US 290, and Loop 1 (MoPac).

This study summarizes the background, methodology, and recommendations to set speed limits based on the context and operating characteristics of streets meeting the criteria set herein.

Summary of Recommendations

Based on this engineering evaluation, the Office of the City Traffic Engineer has determined the following speed limit modifications should be entered into the City's Code of Ordinances based on ATD's evaluation of safe and prudent speeds. ATD, under the authority of the Office of the City Traffic Engineer, intends to bring an item for Council action to set new speed limits on the identified streets based on the following recommendations:

• **Recommendation 1:** Modify speed limits on 54 Level 3 and 4 street segments, resulting in lowered speed limits between 5 miles per hour (mph) and 15 mph. Street segments impacted by Recommendation 1 are detailed in Table 1.

Additionally, many Level 3 and 4 streets do not have speed limits included in the City's Code of Ordinances but have posted speed limits. These streets should be added to the Code of Ordinances for enforceability as they are not covered by prima facie speed limits of 30 mph. Speed Modification Report – City of Austin Outside Urban Core Streets P a g e | 2 May 9, 2022

• **Recommendation 2:** Formally set speed limits in the City's Code of Ordinances on four Level 3 and 4 streets. Street segments impacted by Recommendation 2 are detailed in Table 2.

Per Texas Transportation Code, Section 545.356, speed limit modifications set by municipalities are effective when signs are posted messaging new speed limits.

• **Recommendation 3:** ATD will develop a plan to install signage needed for streets impacted by speed limit modifications recommended in this engineering study. The signage installation plan will include the design and placement of signage; prioritization of implementation based on documented safety concerns and geographic dispersion; and time and material cost estimations to complete sign installation. Given the quantity of signage requiring change, ATD will request Council authorize the speed changes, pending appropriate signage placement under the administrative authority of the Office of the City Traffic Engineer.

ATD's review of best practices revealed that comprehensive speed limit modifications are most effective when coupled with public awareness efforts. The intent of the effort is to reach a broad audience with a focused, consistent message to bring attention to the purpose and desired outcomes of speed limit modifications.

• **Recommendation 4**: ATD will conduct a citywide public awareness effort to increase awareness of the pending speed limit modifications. ATD will ensure that educational awareness materials are culturally relevant and that they explain the need for the change and their intended safety goal. ATD will partner with law enforcement agencies as possible to achieve the intended speed outcome through targeted education and enforcement activities, particularly on streets with documented speeding concerns.

Background

Level 3 and 4 streets are broadly defined as arterial (major) streets designed to carry high volumes of traffic, normally at higher speeds than streets in residential settings. They provide access to a variety of land uses and generally accommodate longer intracity trips. Austin has experienced decades of double-digit population growth and metropolitan area expansion, changing the operating characteristics of the City's roadway network during this time. Most of the speed limits on Level 3 and 4 streets that were established before this rapid growth and have not been evaluated for appropriateness under current developed conditions.

ATD completed a separate engineering report in 2020 with recommendations to lower speed limits on 15 Level 3 and 4 streets within the Urban Core. City Council approved these recommendations in June 2020, leading to lowered speed limits entered into the City's Code of Ordinances and posted on the corresponding streets by the end of that year. This study follows up that report addressing the previously unstudied arterials outside of the Urban Core.

Methodology

Texas Transportation Code, Section 545.356, and City of Austin Code, Chapter 12, give authority to municipalities to alter speed limits based an engineering and traffic investigation by a professional engineer. This speed modification report fulfills this engineering study requirement under authority of the Office of the City Traffic Engineer.

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The traditional transportation engineering methodology of investigating and recommending speed limits relies on the 85th percentile of vehicular speeds. This is based on the premise that drivers under unimpeded, free-flowing traffic conditions choose to travel at safe and prudent speeds for themselves and others. This methodology has limitations in urban settings where other considerations, such as turning conflicts, driveway density, and traffic signals, impede the natural flow of traffic and require more attention for drivers to operate safely.

ATD researched emerging national practice for setting speed limits that are more applicable to this network and decided to use an expert systems methodology for this engineering study. Expert systems are credited with starting in Australia and were based on numerous data collection studies and observations by engineering experts. These findings were used to develop computer programs replicating the thought processes and judgments of these experts based on a variety of street operating characteristics. Completed in 2006, *NCHRP 03-67: Expert System for Recommending Speed Limits in Speed Zones* was one of the first studies in the United States "to develop a new knowledge-based expert system for recommending enforceable, credible speed limits in speed zones," resulting in the original USLIMITS methodology.

The Federal Highway Administration (FHWA) subsequently released USLIMITS2 as a web-based tool to develop credible and consistent speed limits. Rather than relying foremost on the 85th percentile of vehicular speeds, USLIMITS2 uses these additional inputs in its methodology:

- 50th percentile speed
- Section length of streets
- Annual average daily traffic
- Adverse alignment
- One- or two-way operation
- Divided or undivided streets
- Number of through lanes

- Area type (adjacent development)
- Number of driveways/uncontrolled access points
- Number of traffic signals
- On-street parking and usage
- Pedestrian and bicycle activity
- Crash data

After working with FHWA representatives for firsthand instruction on this tool, ATD used USLIMITS2, combined with engineering judgment, to develop speed limit modifications in this engineering study. Appendix A includes a detailed summary of USLIMITS2 input values and output recommendations used for each engineering study. Appendix B includes maps of existing speed limits, speed limits recommended by ATD, and changes between the two values. National research and guidance materials on setting appropriate speed limits are included in Appendix C.

Findings and Recommendations

ATD analyzed 121 Level 3 and 4 streets located outside of the Urban Core using street characteristic inputs and USLIMITS2 methodology. The Office of the City Traffic Engineer applied engineering judgment to further reduce the speed limits on some streets resulting from the USLIMITS2 methodology based on continuity of speed limits on a street or consistency of speed limits with comparable streets. This engineering judgment was applied to harmonize speeds along arterials and to also maintain driver expectation for the purposes of safety.

Many roadways within the City of Austin have posted speed limits but are not formally documented in the City's Code of Ordinances. These roadway segments with undocumented speed limits were also studied and are included in Table 1 if the recommended speed is lower or equal to the posted speed.

Overall, speed limit reductions on 50 of these street segments were found to be appropriate, resulting in recommended reductions of 5 mph on 40 street segments, reductions of 10 mph on 9 street segments, and a reduction of 15 mph on one street segment. One street segment with an existing posted speed limit but not in the Code of Ordinances is recommended to remain at the posted speed limit.

Recommendation 1: Speed limits should be modified in or added to the City's Code of Ordinances per Table 1.

Council District	Street	Exte		Exist. Speed	Prop. Speed
		From	То	Limit	Limit
1	Canyon Ridge Drive (West)	IH-35 (North) East Frontage Road	Tech Ridge Boulevard	40	35
1	Dessau Road	Austin City Limits Line north of Howard Lane	580 feet north of Brighton Lane	50	45
1	Harris Branch Parkway	700 feet north of Farmhaven Road	Gregg Lane	50	40
1	Howard Lane (East)	Dessau Road	Immanuel Road	50	45
1	Johnny Morris Road	300 feet north of Point North Drive	Austin City Limits Line north of Breezy Hill Drive	35*	30
1&4	Rutherford Lane	U.S. 183 (Anderson Lane) (East)	I.H. 35 (North) East Frontage Road	40	30
1	Tech Ridge Boulevard	Yager Lane	Parmer Lane	45	40
1	Tuscany Way	U.S. 290	2,500 feet north of U.S. 290	40	35
2	Bluff Springs Road	William Cannon Drive (East)	Austin City Limits Line	45	40
2 & 5	Bradshaw Road	River Plantation Drive	Austin City Limits Line north of Kleberg Trail	45*	40
2	Burleson Road	U.S. 183	F.M. 973	55*	45
2	McKinney Falls Parkway	Burleson Road	U.S. 183	55	40
2	Metro Center Drive	Riverside Drive (East)	End of Metro Center Drive	40	35
2	Pearce Lane	Ross Road	Welsh Way	50*	40
2	Ross Road	Pearce Lane	Austin City Limits Line north of Gilwell Drive	40*	35
2	Stassney Lane (East)	Teri Road	1,200 feet South from Burleson Road	50	40
2	Teri Road	I.H. 35 (South) East Frontage Road	Nuckols Crossing Road	35	30

Table 1: Recommended Speed Limit Modifications

Delivering a safe, reliable, and sustainable transportation system that enhances the environment and economic strength of the region.

3	Stassney Lane (East)	Congress Avenue (South)	I.H. 35 (South) West Frontage Road	45	35
4 & 7	Kramer Lane	Burnet Road (2400 block)	Lamar Boulevard (North) (800 block)	40	35
4	Payton Gin Road	U.S. 183 East Frontage Road	Lamar Boulevard (North)	35	30
4 & 7	Rutland Drive	Burnet Road	200 feet east of Golden Meadow Drive	40	35
5 & 8	Brodie Lane	300 feet south of Alexandria Drive	Slaughter Lane (West)	45	40
5 & 2	Slaughter Lane (East)	I.H. 35 (South) East Frontage Road	Brandt Road	45	40
5 & 2	Slaughter Lane (West)	Menchaca Road	IH 35 (South) East Frontage Road	45	40
5	Slaughter Lane (West)	Brodie Lane	Brasher Drive	45	40
6	Four Points Drive	R.M. 620	River Place Boulevard	45	40
6	Lake Creek Parkway	R.M. 620	U.S. 183	40	30
6	McNeil Drive	U.S. 183	Parmer Lane	45	40
6	Pond Springs Road	U.S. 183 (Frontage Road) (Northbound)(north intersection)	Hunters Chase Drive	40	35
6	Wilson Parke Avenue R.M. 620		Woodbay Parke Drive	50	40
7	Center Line Pass	Center Ridge Drive	W Howard Lane	40	35
7	Gracy Farms Lane	Metric Boulevard	Loop 1 (MoPac Expressway) (North) East Frontage Road	40	35
7	Howard Lane (East)	Dessau Road	I.H. 35 (North) West Frontage Road	50	45
7	McCallen Pass	Parmer Lane	Howard Lane	50	45
7	Metric Boulevard	Staton Drive	Howard Lane	50	40
7	Metric Boulevard	Scofield Lane	Staton Drive	45	40
7	StonelakeLoop 360 (Capital ofBoulevardTexas Highway) (North)		Braker Lane (West)	45	40
8	Brodie Lane			40*	40
8	Davis Lane	Brodie Lane	Escarpment Boulevard	40	35
8	Old Bee Caves Road	U.S. 290/S.H. 71(West)	Austin City Limits Line	40	35
8	Southwest Parkway	Boston Lane	Austin City Limits Line west of Amara Trail	55	50
8	Vega Avenue	William Cannon Drive (West)	Southwest Parkway	45	40

Delivering a safe, reliable, and sustainable transportation system that enhances the environment and economic strength of the region.

10	35th Street (West)	Balcones Drive	Loop 1 (MoPac Expressway) (North) West Frontage Road	35	30
10	City Park Road	F.M. 2222	Austin City Limit Line west of Bridge Point Parkway	40*	35
10	Enfield Road	Lake Austin Boulevard	Winsted Lane	30*	25
10	Far West Boulevard	Chimney Corners	imney Corners Expressway) (North) West Frontage Road		30
10	Great Hills Trail	Stonelake Boulevard	Stonelake Boulevard Loop 360 (Capital of Texas Highway) (North)		30
10	Jollyville Road	Balcones Woods Drive Great Hills Trail		45	40
10	10 Jollyville Road N Capital of Texa Highway		Business Park Drive	35	30
10	Lake Austin Boulevard Enfield Road		1st/5th/6th Street (West) intersection	35	30
10	10Spicewood Springs RoadLoop 1 (MoPac Expressway) (North) East Frontage Road		Mesa Drive	35	30

* Existing speed limit is not documented in the City's Code of Ordinances. Listed existing speed limit is posted speed.

Four roadways in Table 2 within the City of Austin full purpose jurisdiction have no posted speed limits and are not included in the City's Code of Ordinances. The Office of the City Traffic Engineer applied engineering judgment to recommend speed limits on these streets to be added to the Code of Ordinances.

Recommendation 2: Speed limits should be formally set in the City's Code of Ordinances per Table 2.

Council		Exte	Posted	Prop.	
District	Street	From	То	Speed	Speed Limit
8	Ben Garza Lane	Brodie Lane	Loop 1 (MoPac Expressway) (South)	None	35
7	Center Lake Drive	Howard Lane (East)	Parmer Lane (East)	None	40
7	Lakeline Mall Drive	U.S. 183 (North) (Research Boulevard)	Terminus east of Lyndhurst Street	None	35
6	Stonehollow Drive	Metric Boulevard	Metric Boulevard	None	35

 Table 2: Recommended Streets for Code of Ordinances Speed Limit Establishment

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Signage Plan

Per Texas Transportation Code, Section 545.356, speed limit modifications set by municipalities are effective when signs are posted messaging new speed limits. For operational purposes, ATD recommends Council approve the new speed limits pending placement of the signs as per our normal process, giving the Office of the City Traffic Engineer the administrative authority to place the signs as quickly as is feasible.

Recommendation 3: ATD will develop a signage installation plan to evaluate signage needed for streets impacted by Recommendations 1 and 2 of this engineering study. This plan will include the following:

- Design and place signage to set speed limits on streets. This includes methods to increase sign conspicuity, which could include increased sign size, non-typical colors, and supplemental safety messages. A standard sign spacing will be developed, which could include a maximum distance between speed limit signs and consistent placement before and after intersections with major streets.
- Prioritize sign placement for streets with school zones and if within the City's designated High-Injury Network. Signs will be prioritized first if a school zone is located within the modified speed zone. Signs will be prioritized second if the modified speed zone is located within the City's designated High-Injury Network. Subsequent sign installation will be prioritized based on documented safety concerns and geographic dispersion.
- Estimate the time needed to install all needed sign changes citywide based on staff availability and material costs to make set speed limits effective.

Education and Enforcement

ATD's review of best practices revealed that comprehensive speed limit modifications are most effective when coupled with public awareness efforts as they help reach a broad audience with a focused, consistent message to bring attention to the purpose and desired outcomes of speed limit modifications.

Recommendation 4: ATD will conduct a citywide public awareness effort to increase awareness of the pending speed limit modifications. ATD will ensure that educational awareness materials are culturally relevant and that they explain the need for the change and their intended safety goal. ATD will partner with law enforcement agencies to achieve the intended speed outcome through targeted education and enforcement activities, particularly on streets with documented speeding concerns.

Conclusion

The speed limit modifications recommended in this engineering study are the result of a comprehensive, years-long traffic investigation of Level 3 and 4 streets outside the Urban Core in the City of Austin. It is a progressive and bold approach based on national best practice to modernize the speed limits on Level 3 and 4 streets which represent the highest propensity of serious injuries and fatalities in the City. These recommendations will help increase the safety of all users of the street network by setting speed limits to safe and prudent levels.

APPENDIX A

Contents:

USLIMITS2 Speed Zoning Reports

Non-law<				USLIMITS	2 An	alysi	s and	d Reco	mei	ndaitons	;											
Image <th< th=""><th>Roadway Name</th><th></th><th>Report</th><th>Area Type</th><th></th><th></th><th>Section Length in Miles</th><th>AADT</th><th>Adverse Alignment</th><th>Divided / Undivided/Two- Way-Left-Tum-Lane (TWLTL)</th><th>Number of Through Lanes (both directions)</th><th>Number of Unsignalized Access Points</th><th>Number of Signals</th><th>On Street Parking and Usage</th><th>Pedestrian/Bicyclist Activity</th><th>Number of Crashes (2017- 2021)</th><th>Number of Injury/Fatal Crashes (2017-2021)</th><th>Average Crash Rate per 100MVM</th><th>Average Injury Rate per 100MVM</th><th>Existing Speed Limit</th><th>Lowest USLIMITS2 Recommendation</th><th>Recommended Speed Limit</th></th<>	Roadway Name		Report	Area Type			Section Length in Miles	AADT	Adverse Alignment	Divided / Undivided/Two- Way-Left-Tum-Lane (TWLTL)	Number of Through Lanes (both directions)	Number of Unsignalized Access Points	Number of Signals	On Street Parking and Usage	Pedestrian/Bicyclist Activity	Number of Crashes (2017- 2021)	Number of Injury/Fatal Crashes (2017-2021)	Average Crash Rate per 100MVM	Average Injury Rate per 100MVM	Existing Speed Limit	Lowest USLIMITS2 Recommendation	Recommended Speed Limit
Image Image Image <	Ben Garza Lane	Brodie Lane		Complex	39.7	34.7	0.5	1000	NO	TWLTL	2	6	1	Low	Low	7	4	799	457	N/A	35	35
Distance																					40	35
martial martialmartial martialmartial 	Bradshaw Road			Res-Collector	42.8	37.0	0.9	1817	NO	Undivided	2	11	0	Low	Low	9	4	289	128	45	40	40
mate mate Mate mate <t< td=""><td>Brodie Lane</td><td></td><td>Slaughter Lane (West)</td><td>Commercial</td><td>41.7</td><td>37.4</td><td>1.8</td><td>19496</td><td>NO</td><td>Divided</td><td>4</td><td>50</td><td>5</td><td>Low</td><td>High</td><td>136</td><td>39</td><td>216</td><td>62</td><td>45</td><td>35</td><td>40</td></t<>	Brodie Lane		Slaughter Lane (West)	Commercial	41.7	37.4	1.8	19496	NO	Divided	4	50	5	Low	High	136	39	216	62	45	35	40
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Chrone Char ControlChrone Char C			-																		40 35	40 35
Dirit LeeSingle and the set of the set o	City Park Road	F.M. 2222	-	Res-Collector	43.5	38.9	1.1	4071	YES	Undivided	2	16	1	Low	Low	37	17	453	208	40	40	35
matrix other bit bi	Davis Lane		Escarpment Boulevard	Res-Collector	44.5	39.8	2.9	10201	NO	Divided	4	30	8	Low	Low	122	39	225	72	40	40	35
Description Symbol Sym	Dessau Road			Commercial	52.7	46.8	4.3	27477	NO	Divided	6	70	6	Low	Low	768	274	357	127	50	40	45
Description Des	Stassney Lane (East)			Complex	46.3	41.7	0.8	12443	NO	Divided	6	13	2	Low	High	211	73	1239	429	45	40	35
Instruction Base Austin Soutewel Base Austin Soutew	Stassney Lane (East)	Teri Road	1200ft South from Burleson	Commercial	48.8	42.4	1.0	15987	NO	Divided	4	4	1	Low	High	30	2	93	7	50	40	40
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LH. 35 (South) East Frontage	Slaughter Lane (East)			Res-Collector	50.5	44.3	5.1	28915	YES	Divided	6	155	19	Low	High	942	384	350	143	45	40	40
	Wilson Parke Avenue		Woodbay Parke Drive	Res-Collector	44.4	37.9	1.1	1391	NO	Divided	2	12	1	Low	High	5	6	179	215	50	35	40
Note: All segments listed are two-way roadways in developed areas.			-		1								Ĺ				-					Ľ

APPENDIX B

Contents:

Existing Speed Limits (MPH), Non-Urban Core Arterials - North Austin

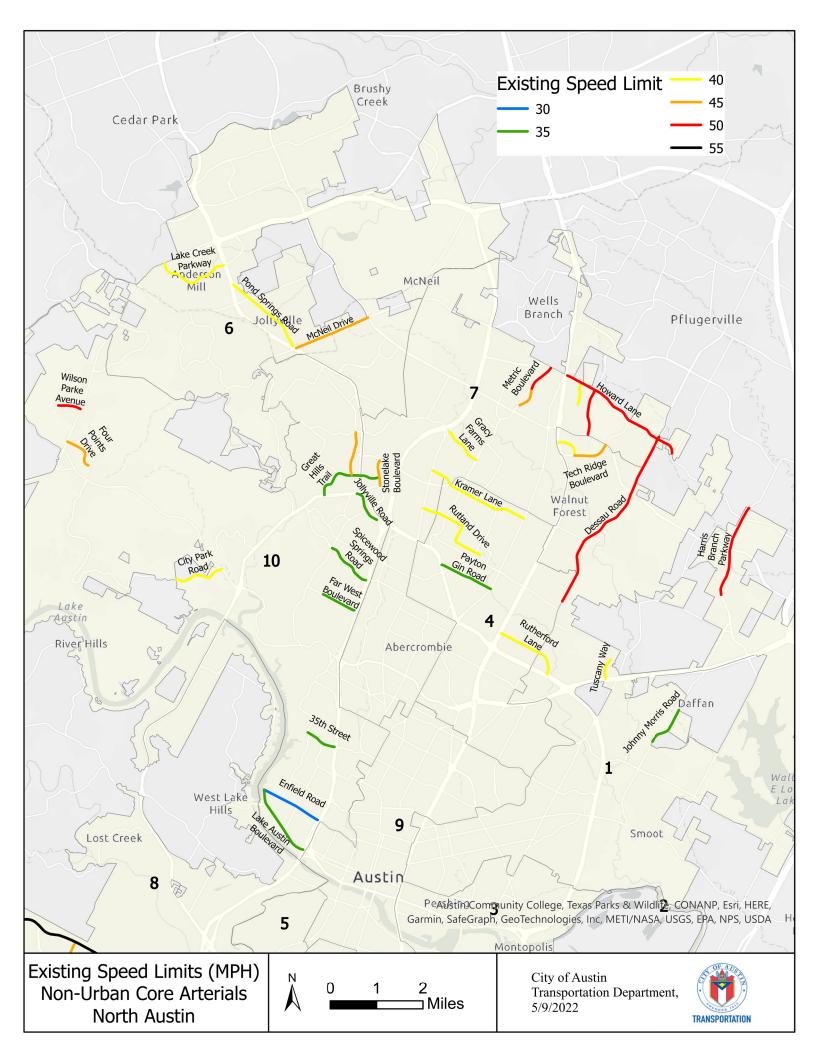
Proposed Speed Limits (MPH), Non-Urban Core Arterials - North Austin

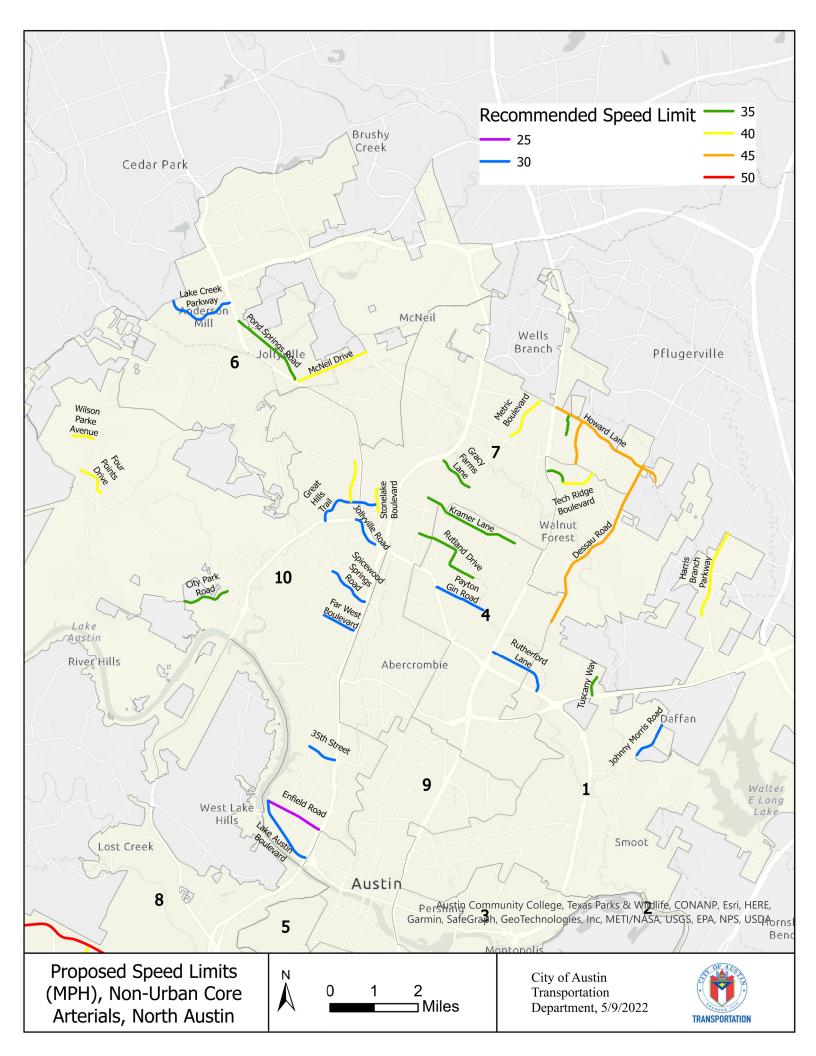
Difference in Speed Limits (MPH), Non-Urban Core Arterials - North Austin

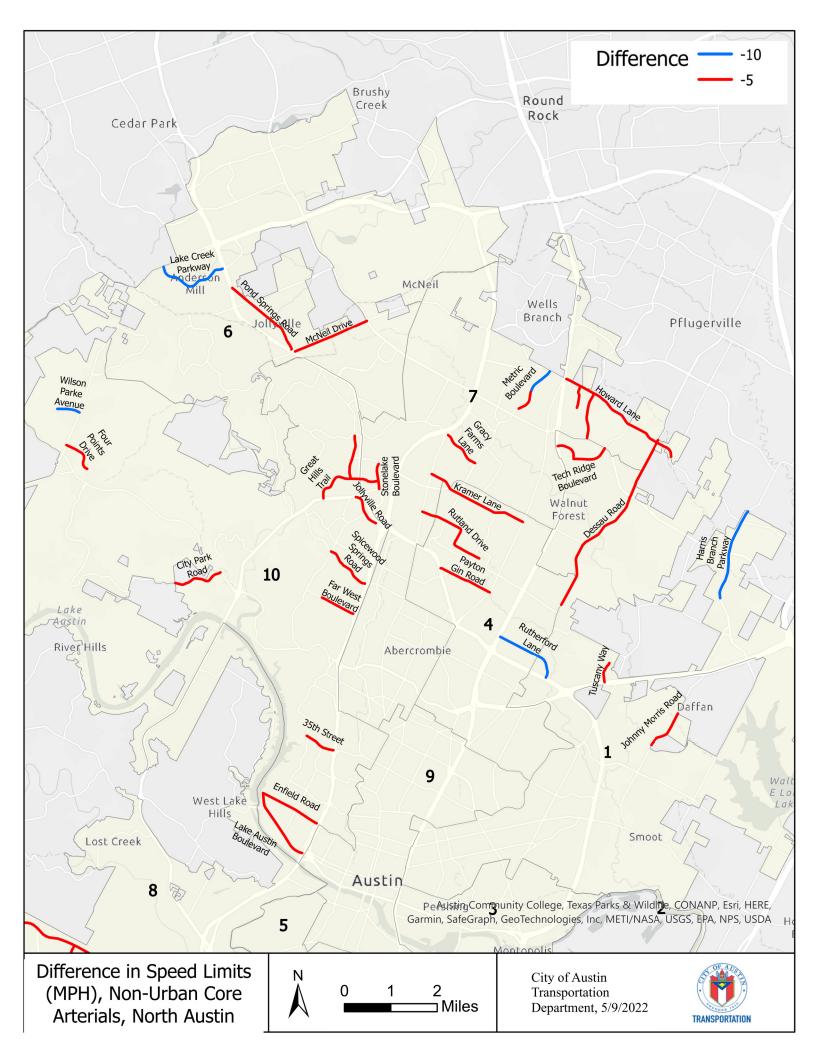
Existing Speed Limits (MPH), Non-Urban Core Arterials - South Austin

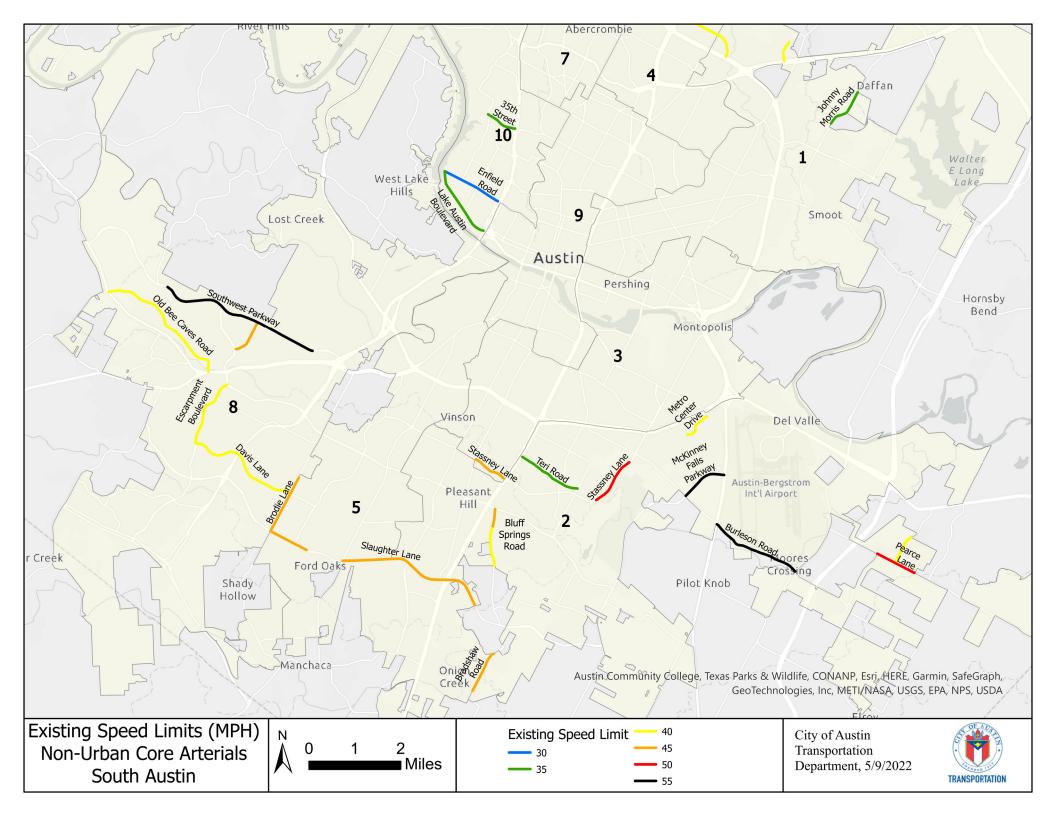
Proposed Speed Limits (MPH), Non-Urban Core Arterials - South Austin

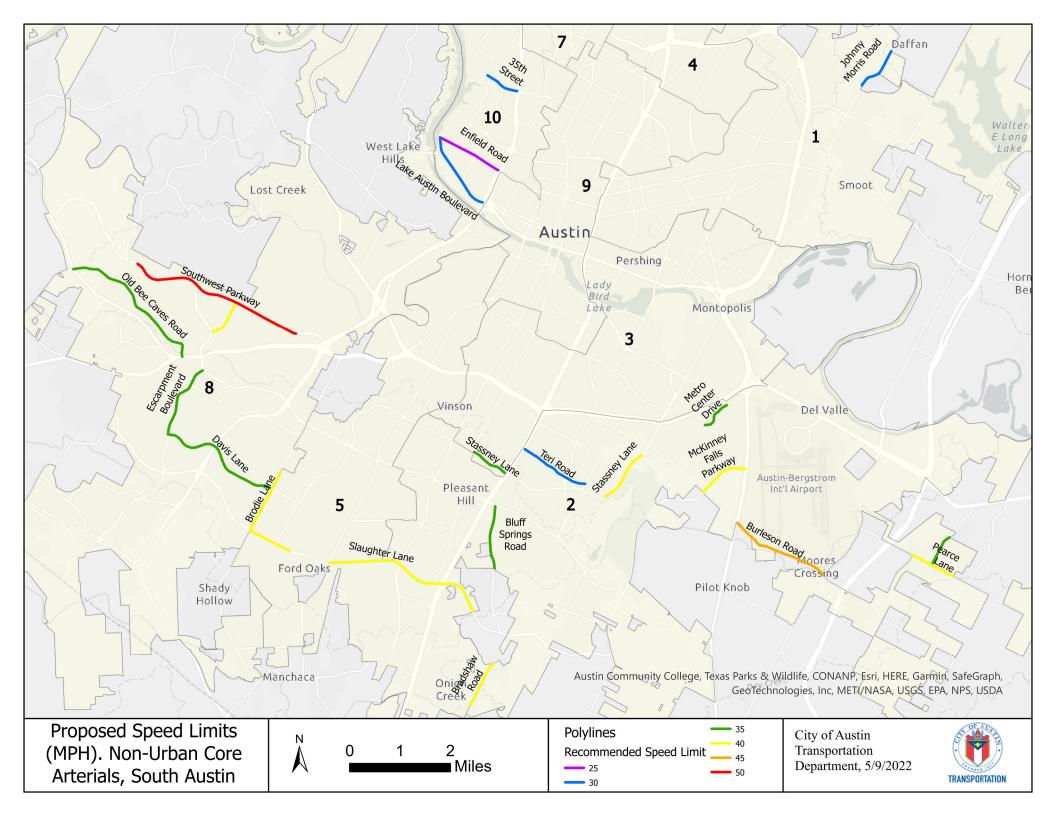
Difference in Speed Limits (MPH), Non-Urban Core Arterials - South Austin

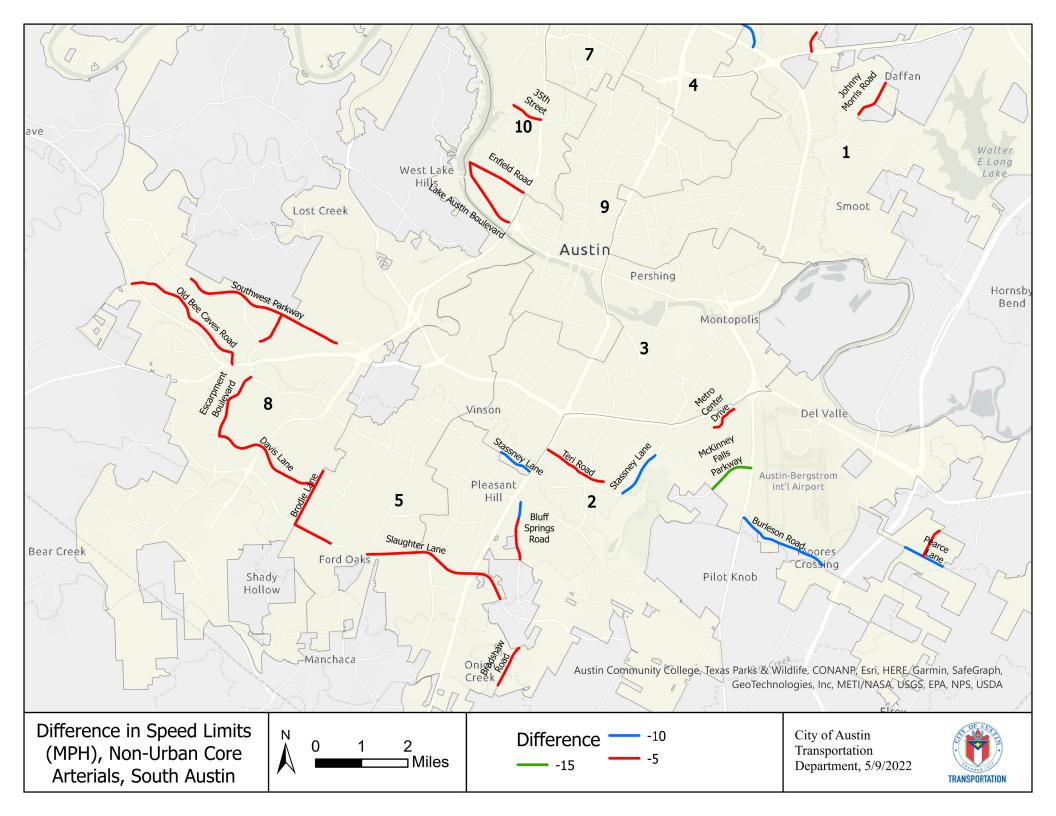












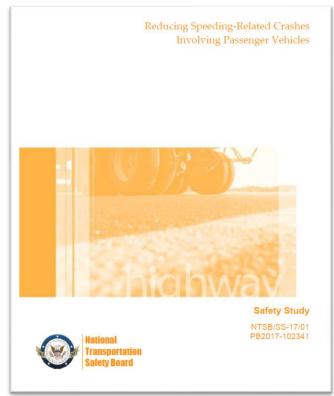
APPENDIX C

Contents:

National Research and Guidance on Setting Appropriate Speed Limits

National Research and Guidance on Setting Appropriate Speed Limits

Numerous national studies and reports mention the critical role that speed plays in severe traffic crashes. The National Transportation Safety Board, the Governors Highway Safety Association, the Insurance Institute for Highway Safety, National Highway Traffic Safety Administration, and the Federal Highway Administration are just a few of the organizations whose work we have reviewed in order to better understand the need for a comprehensive speed management approach.



National Transportation Safety Board Safety Study

- found that speed was a documented factor in 31% of all traffic fatality crashes nationally. "Speed—and therefore speeding—increases crash risk in two ways: (1) it increases the likelihood of being involved in a crash, and (2) it increases the severity of injuries sustained by all road users in a crash." The study demonstrates how speeding presents different risks for different road users. People walking, biking, and riding scooters are all much more vulnerable to serious injury or fatality when a speeding car is involved. The risk for vulnerable users more than doubles from 20 MPH to 30 MPH and is increasingly worse at higher speeds. Speed influences the risk of crashes and crash injuries in three ways:

• The distance a vehicle travels from the time a driver detects an emergency to the time the driver reacts is increased.

- The distance needed to stop a vehicle once the driver starts to brake is increased.
- The exponential increase in crash energy. For

example, when impact speed increases from 40 to 60 mph (a 50% increase), the energy increases by 125% (IIHS, 2018b)."

May 2007

NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM

erations, Capacity, and Traffic Cor

Responsible Senior Program Officer: Andrew C. Lemer

Research Results Digest 318

AN EXPERT SYSTEM FOR RECOMMENDING SPEED LIMITS IN SPEED ZONES

This digest presents the results of NCHRP Project 3-67, "Expert System for Recommending Speed Limits in Speed Zones." The study was conducted by a team led by the University of North Carolina Highway Safety Research Center with Wade Trim Associates, Inc. and PB Farradyne, Inc. Raghavan Srinivasan, Senior Transportation Research Engineer at the Highway Safety Research Center, was the Principal Investigator.

SUMMARY

This digest describes research conducted to develop a knowledge-based expert system decision-support tool for recommending speed limits in speed zones on highways and local roads that are considered credible and enforceable. The tool is intended to assist responsible authorities in setting speedzone limits to enhance traffic safety and operating efficiency. The system has been designed to be useful for all types of primary roadways, from rural two-lane segments to urban freeway segments. The system does not address statutory limits such as maxi-mum limits set by legislatures for Interstates and other major classes of roadways, temporary or part-time speed limits such as those posted in work zones and school zones, or variable speed limits that change as a function of traffic, weather, and other conditions. The expert system is designed to be implemented as a web-based software application.

The digest is based primarily on the final report for NCHRP Project 3-67, "Expert System for Recommending Speed Limits in Speed Zones" (available from

the project description page of the TRB website: http://www.trb.org/TRBNet/Proj ectDisplay.asp?ProjectID=821). The project reviewed current literature on guidelines, criteria, and procedures used for setting speed limits in speed zones in the United States and experience with use of XLIMITS. USLIMITS, and other existing speed-limit expert systems. A group of subject-matter experts engaged in setting and enforcing speed limits was convened to provide un-derlying decision rules for the expert system. The software application was developed with consideration of user needs and requirements for long-term management and maintenance of the expert system. (The application can be accessed through the Internet at http://www2.uslimits.org and is available for download and installation on an Internet server from the TRB website at http://www.trb.org/news/blurb_detail.asp? id=7568.)

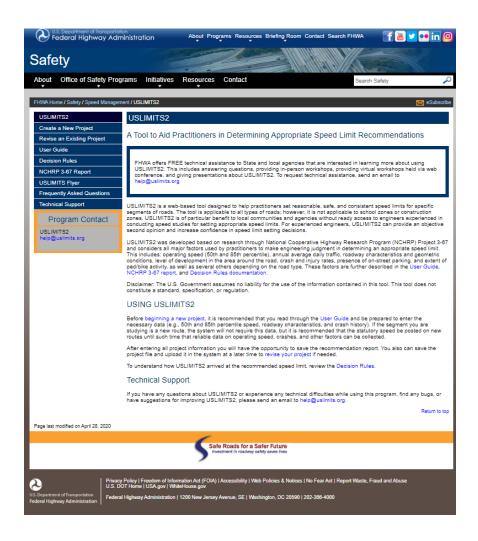
This digest is organized into three sections and an appendix. The first section describes the motivation for the research and the scope of NCHRP Project 3-67. The second section describes the decision rules embedded in the expert system and how

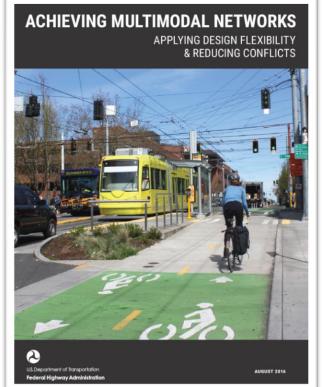
TRANSPORTATION RESEARCH BOARD

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Summary, 1 Research Scope and Motivation, 2 Expert System Decision Rules and Their Derivation, 4 The Software Application and Its Use, 5

Appendix: Expert System Decision Rules and Logic for USLIMITS2, 6 <u>USLIMITS2</u> – The FHWA developed this web-based tool to "help practitioners set reasonable, safe, and consistent speed limits for specific segments of roads." Its methodology was based on NCHRP 03-67 and uses several factors of street operating characteristics as inputs to develop recommended speed limits. The <u>User Guide</u> and <u>Decision Rules</u> documentation provide further details and guidance on how to use the USLIMITS2 tool.

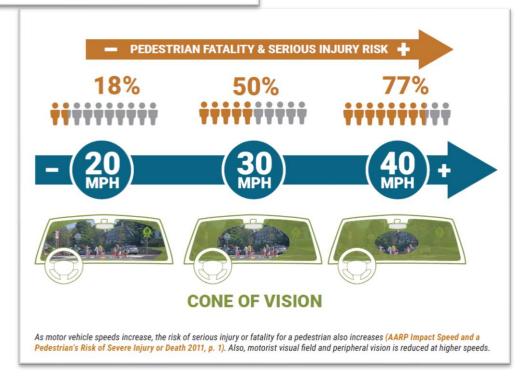




FHWA "Achieving Multimodal Networks" -

Safety as a Guiding Principal: "Where modes come together, the design should eliminate conflicts to the greatest extent possible. If it is not feasible to eliminate the conflict entirely, designers should minimize the speed differential between modes to ensure that if a crash occurs, the severity of the injury is likely to be lower...Designers have the flexibility to set design speeds lower than the posted speed limit."

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Spotlight on Highway Safety CERC Bernard Safety Cercan Safety Spotlight on Safety Cercan Safety Spotlight on Safety Challenge

<u>Governors Highway Safety Association</u> - "Speeding remains a publicly-accepted driving behavior that is reinforced among motorists, policymakers and transportation stakeholders. National surveys of U.S. drivers have found that although drivers identify speeding as risky, drivers nonetheless continue to speed. Drivers have a minimal perception of risk of either getting a ticket, causing a crash, or violating social norms."

"Research has shown raising speed limits to match the 85th percentile speed increases the average operating speed of the roadway, consequently increasing the 85th percentile speed."

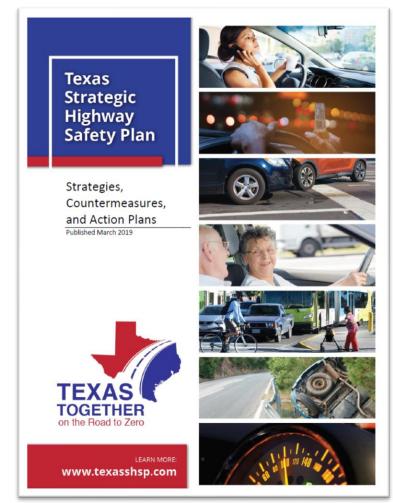
"In 2013, the Washington legislature enacted a law allowing municipalities to establish a maximum speed limit of 20 mph in a residential or business district. This new law mandates that a reduced speed need not be based on any traffic or engineering studies, which were acknowledged as procedural roadblocks to making speed limit changes. The law also allows a municipality to reinstate a former speed limit if deemed necessary within a year of its change without a traffic or engineering study. New York City, which has a high-

profile Vision Zero initiative, reduced its citywide speed limit to 25 mph as authorized by a 2014 New York State law. As of January 9, 2017, Boston reduced its default speed limit from 30 mph to 25 mph. IIHS evaluated the effects of this speed limit reduction and found that the reduction was associated with a 0.3% reduction in mean speeds. However, when looking at the odds of vehicles exceeding 25 mph, 30 mph, and 35 mph, reductions were increased to 2.9%, 8.5%, and 29.3% respectively. This study concluded that lowering the speed limit in urban areas is an effective countermeasure to reduce speeds and improve road safety (Hu and Cicchino, 2018b)."

Report Recommendation: Improve State and Local Policy

"Support Speed Limits According to Vision Zero Principles: States and localities should set reasonable speed limits in accordance with Vision Zero principles in built-up areas where there is a mix of vulnerable road users and motor vehicle traffic, at intersections and locations with a high risk of side collisions, and on rural roads without a median barrier to reduce the risk of head-on collisions.

States should also provide local communities with discretion to set speed limits and deploy speed management countermeasures in order to meet local needs."



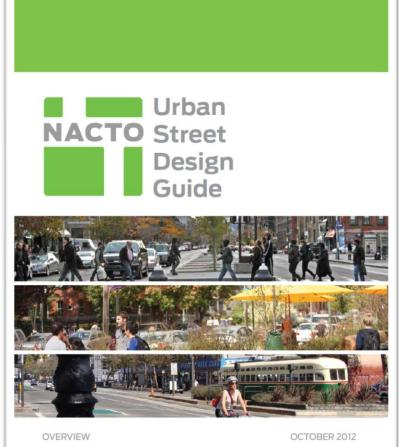
Texas Strategic Highway Safety Plan -

Pedestrian Safety, Strategy 6A -Encourage use of target speeds that consider pedestrians, land use, and the roadway context (e.g., a target speed of 35 mph or less on arterials). Other examples are to provide design flexibility guidance for techniques to reduce operating speeds on surface streets; encourage use of tree-lined medians, bicycle lanes, and safe and attractive pedestrian crossings and walkways; and support use of traffic calming for local streets.

All Users Safety, 6B - Design new roadways for a target speed appropriate for the adjacent environment and safety of all users rather than for a design speed intended to maximize motor vehicle speeds.

Speeding Strategy 1: Encourage use of target speeds for arterial, collector, and local roadways; encourage use of target speeds with pedestrian, land use, and roadway context, including options for

target speeds of 35 mph or less on arterials and the evaluation of existing speed limits to appropriate target speeds.



NACTO Urban Street Design Guide -

"There is a direct correlation between higher speeds, crash risk, and the severity of injuries... Design streets using target speed, the speed you intend for drivers to go, rather than operating speed. The 85th percentile of observed target speeds should fall between 10–30 mph on most urban streets."



AUSTIN TRANSPORTATION DEPARTMENT

MEMORANDUM

то:	Robert Spillar, P.E., Director, Austin Transportation Department	ST. A TE OF TE
FROM:	Eric Bollich, P.E., PTOE, Managing Engineer, Austin Transportation Department	ERIC A. BOLLICH
CC:	Anna Martin, P.E. PTOE, Assistant Director, Austin Transportation Department	CONTRACTOR OF CONTRACTOR
	Lewis Leff, Transportation Safety Officer, Austin Transportation Department	5/9/2Z
DATE:	May 9, 2022	5/9/22
SUBJECT:	School Zone Speed Modification Report – City of Austin Stre	ets

Based on a comprehensive engineering evaluation of streets in the City of Austin, the Office of the City Traffic Engineer has determined six school zone speed limit modifications should be entered into the City's Code of Ordinances based on ATD's evaluation of safe and prudent speeds. These modifications lower existing speed limits of the school zones and not the beginning and ending extents on the streets.

Summary of Recommendations

Based on this engineering evaluation, the Office of the City Traffic Engineer has determined the following school zone speed limit modifications should be entered into the City's Code of Ordinances based on ATD's evaluation of safe and prudent speeds. ATD, under the authority of the Office of the City Traffic Engineer, intends to bring an item for Council action to set new school zone speed limits on the identified streets based on the following recommendation:

• **Recommendation 1:** Modify school zone speed limits on six streets, resulting in lowered speed limits by 5 miles per hour (mph) on these segments. Street segments impacted by Recommendation 1 are detailed in Recommendation Table 1.

Background

In order to establish, modify, or alter the existing speed limit of a street, Texas traffic laws require that a traffic engineering investigation be performed. Based on engineering investigations completed by the Austin Transportation Department (ATD), City Council passed Ordinance NO. 20220203-031, -032, and -

033 on February 3, 2022, to reduce the normal posted speed limits on sections of Salt Springs Road, West Slaughter Lane, and Nuckols Crossing Road, respectively.

To adhere to Texas Administrative Code of establishing school zone speed limits no greater than 15 mph under the accompanying normal posted speed limit, and to follow ATD's standard practice of not establishing school zone speed limits not less than 20 mph, existing school zones on these streets should be reduced by 5 mph:

- 1. Salt Springs Drive (Palm Elementary School)
- 2. West Slaughter Lane (Gorzycki Middle School)
- 3. Nuckols Crossing Road (Widen Elementary School/Mendez Middle School)

On the Request for Council Action dated February 3, 2022, ATD did not include recommended modifications to existing school zones listed above. Therefore, ATD intends to bring an item for Council action to amend City Code Section 12-4-64 (D) to reduce speed limits, during certain times, for students attending the above schools following these standard practices.

Additionally, ATD has developed 'Speed Modification Report – City of Austin Streets Outside of the Urban Core,' which recommends lowering the normal posted speed limits on Level 3 and 4 streets as classified in the *Austin Strategic Mobility Plan (ASMP)*. Outside of the Urban Core is defined as outside of the area bounded by US 183, SH 71/US 290, and Loop 1 (MoPac).

The following three streets outside of the Urban Core have existing school zones which should lowered by 5 mph to reduce speed limits, during certain times, for students attending the below schools based on the resulting difference between the school zone and posted speed limits:

- 1. Kramer Lane (McBee Elementary School)
- 2. Metric Boulevard (Parmer Lane Elementary School/Westview Middle School)
- 3. Slaughter Lane (Casey Elementary School)

Methodology

Texas Transportation Code, Section 545.356, and City of Austin Code, Chapter 12, give authority to municipalities to alter speed limits based an engineering and traffic investigation by a professional engineer. Texas Administrative Code, Title 43, Part 1, Chapter 25, Subchapter B, Rule § 25.23 states the reduced school speed limit should not be more than 15 mph below the posted speed limit. This speed modification report fulfills this engineering study requirement under authority of the Office of the City Traffic Engineer. Maps presenting the existing and proposed school zone speed limits are included at the end of this report.

Findings and Recommendations

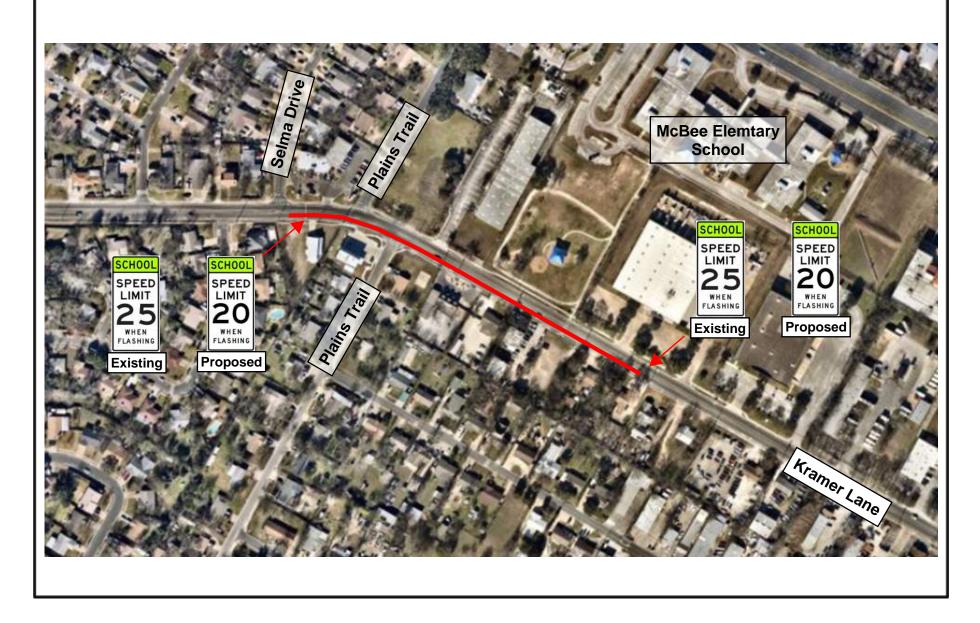
Recommendation 1: School zone speed limits should be modified in the City's Code of Ordinances per the following Recommendation Table 1.

Street (School)	Exte	Exist. Speed	Prop. Speed	
	From	То	Limit (mph)	Limit (mph)
Kramer Lane (McBee Elementary School)	Selma Drive	720 feet east of Plains Trail	25	20
Metric Boulevard (Parmer Lane Elementary School/ Westview Middle School)	250 feet south of Scofield Lane	250 feet north of Scofield Lane	30	25
Slaughter Lane (Casey Elementary School)	295 feet west of Texas Oaks Drive	365 feet east of Texas Oaks Drive	30	25
Nuckols Crossing Road (Widen Elementary School/ Mendez Middle School)	200 feet north of Palo Blanco Lane	200 feet south of Village Square Drive	25	20
W Slaughter Lane (Gorzycki Middle School)	1,100 feet north of Barstow Avenue	900 feet south of R.M. 1826	35	30
Salt Springs Drive (Palm Elementary School)	206 feet north of Asa Drive/Colton Bluff Springs Road	206 feet south of Tara Drive	25	20

Table 1: Recommended School Zone Speed Limits

Conclusion

The school zone speed limit modifications recommended in this engineering study are the result of a comprehensive traffic investigation of streets in the City of Austin. Based on Texas Administrative Code and ATD's standard practice, school zone speed limits are established to be no greater than 15 mph under normal posted speed limits. These school zone speed limit modifications will help increase the safety of all users of the street network and the consistency of school zones throughout the City of Austin.



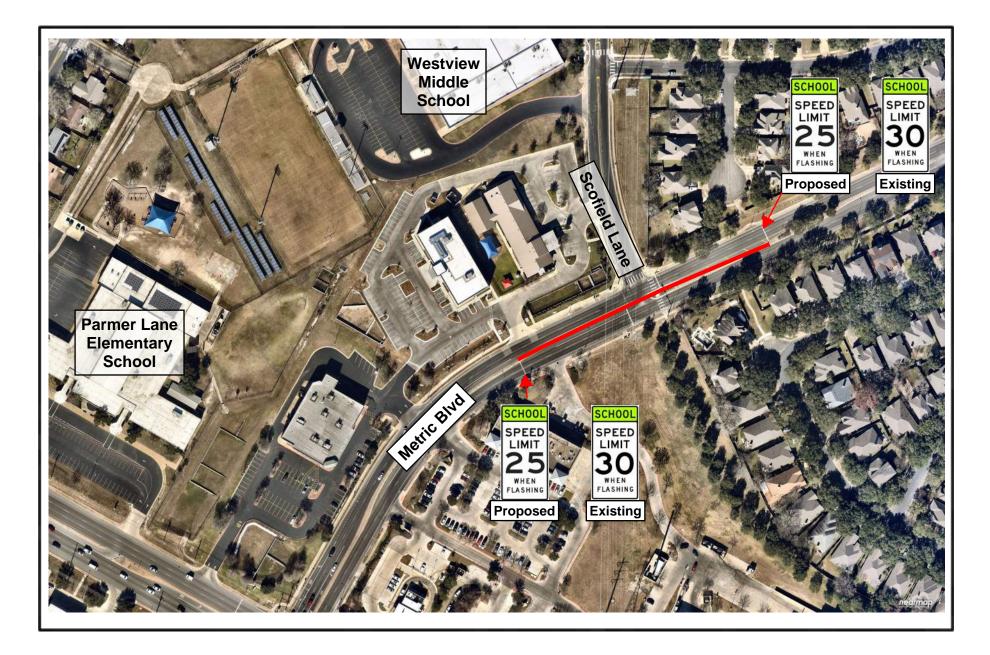


Kramer Lane (McBee Elementary School) Selma Drive to 720 ft east of Plains Trail

Austin Transportation Department Location Map

Existing SL: 25 MPH Proposed SL: 20 MPH





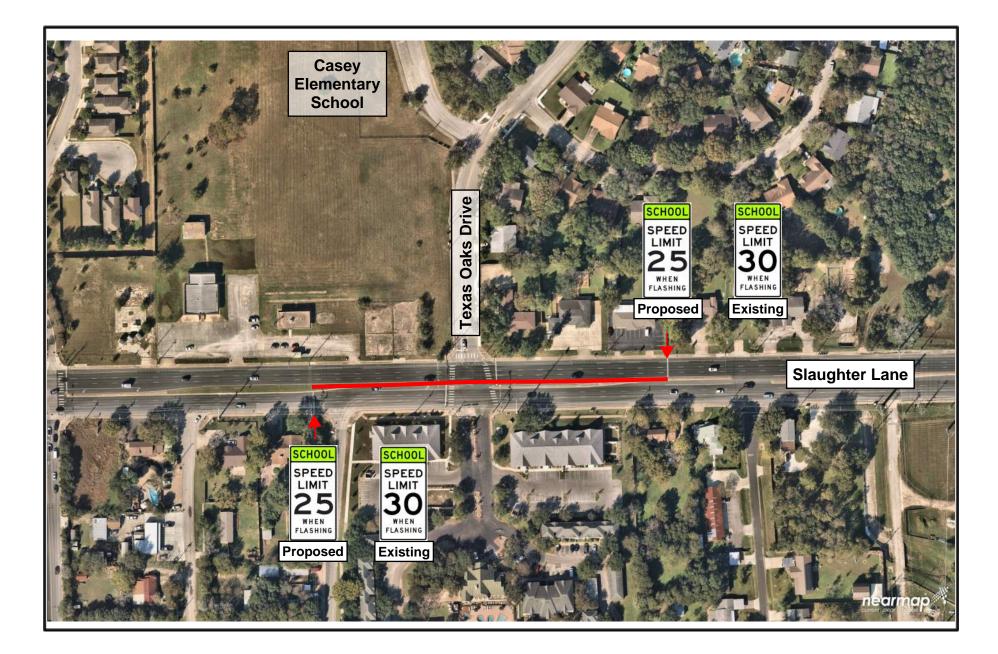


Metric Boulevard (Parmer Lane Elementary School/ Westview Middle School) 250 ft south of Scofield Lane to 250 ft north of Scofield Lane

Austin Transportation Department Location Map

Existing SL: 30 MPH Proposed SL: 25 MPH





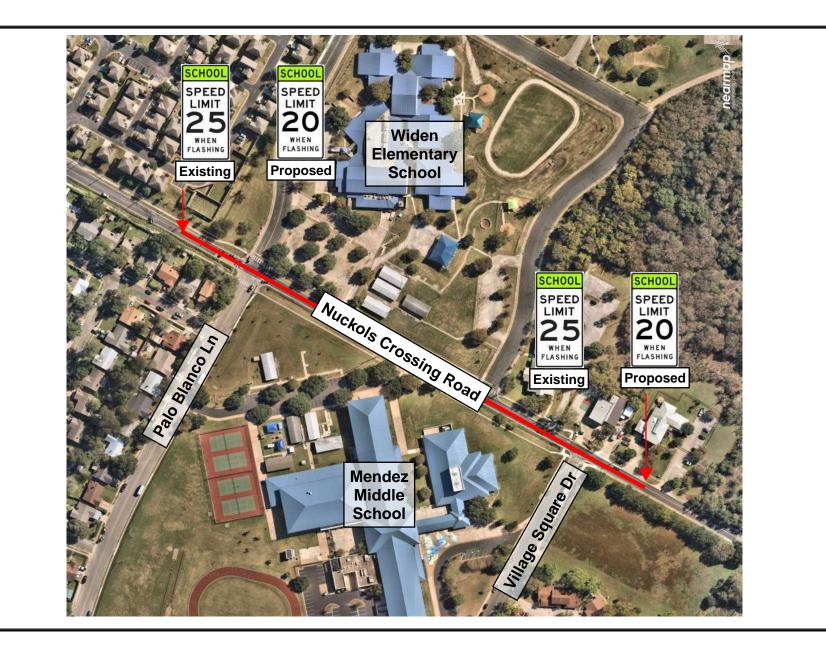


Slaughter Lane (Casey Elementary School) 295 ft west of Texas Oaks Drive to 365 ft east of Texas Oaks Drive

Austin Transportation Department Location Map

Existing SL: 30 MPH Proposed SL: 25 MPH





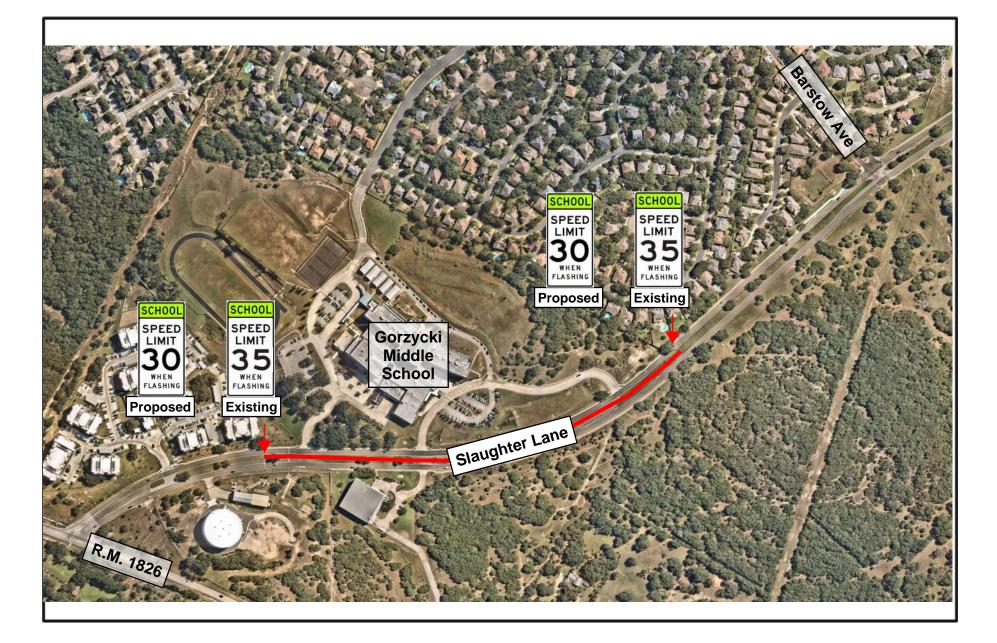


Nuckols Crossing Road (Widen Elementary School/ Mendez Middle School) 200 ft north of Palo Blanco Lane to 200 ft south of Village Square Drive

Austin Transportation Department Location Map

Existing SL: 25 MPH Proposed SL: 20 MPH







Slaughter Lane (Gorzycki Middle School) 1100 ft north of Barstow Avenue to 900 ft south of R.M. 1826

Austin Transportation Department Location Map

Existing SL: 35 MPH Proposed SL: 30 MPH







Salt Springs Drive (Palm Elementary School) 206 ft north of Asa Drive/Colton Bluff Springs Road to 206 ft south of Tara Drive

Austin Transportation Department Location Map

Existing SL: 25 MPH Proposed SL: 20 MPH

