



AUSTIN TRANSPORTATION DEPARTMENT

MEMORANDUM

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

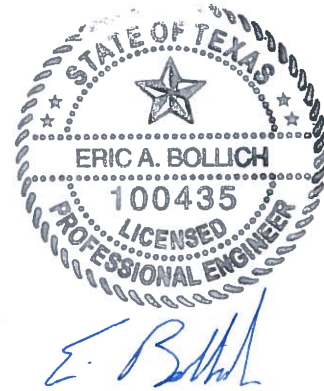
FROM: Eric Bollich, P.E., PTOE, Managing Engineer,
Austin Transportation Department

CC: Anna Martin, P.E., Assistant Director,
Austin Transportation Department

Lewis Leff, Transportation Safety Officer,
Austin Transportation Department

DATE: May 9, 2022

SUBJECT: Speed Modification Report – City of Austin Level 3 and 4 Streets Outside of the Urban Core



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.

- **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 on 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.

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.

Table 1: Recommended Speed Limit Modifications

Council District	Street	Extents		Exist. Speed Limit	Prop. Speed Limit
		From	To		
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

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	Scotfield Lane	Staton Drive	45	40
7	Stonelake Boulevard	Loop 360 (Capital of Texas Highway) (North)	Braker Lane (West)	45	40
8	Brodie Lane	F.M. 1626	Austin City Limits Line north of Sunland Drive	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

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	Loop 1 (MoPac Expressway) (North) West Frontage Road	35	30
10	Great Hills Trail	Stonelake Boulevard	Loop 360 (Capital of Texas Highway) (North)	35	30
10	Jollyville Road	Balcones Woods Drive	Great Hills Trail	45	40
10	Jollyville Road	N Capital of Texas Highway	Business Park Drive	35	30
10	Lake Austin Boulevard	Enfield Road	1st/5th/6th Street (West) intersection	35	30
10	Spicewood Springs Road	Loop 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.

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

Council District	Street	Extents		Posted Speed	Prop. Speed Limit
		From	To		
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

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

USLIMITS2 Analysis and Recomendaitons																					
Roadway Name	Section Limit 1 Report	Section Limit 2 Report	Area Type	Average 85th Percentile Speed	Average 50th Percentile Speed	Section Length in Miles	AADT	Adverse Alignment	Divided / Undivided/ Two-Way-Left-Turn-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
Ben Garza Lane	Brodie Lane	Loop 1 (MoPac Expressway) (South)	Complex	39.7	34.7	0.5	1000	NO	TWLTL	2	6	1	Low	Low	7	4	799	457	N/A	35	35
Bluff Springs Road	William Cannon Drive (East)	Austin City Limits Line	Res-Collector	48.2	42.5	1.3	9189	NO	Undivided	4	20	3	Low	Low	147	68	701	324	45	40	35
Bradshaw Road	River Plantation Drive	Austin City Limits Line north of Kleberg Trail	Res-Collector	42.8	37.0	0.9	1817	NO	Undivided	2	11	0	Low	Low	9	4	289	128	45	40	40
Brodie Lane	300 feet south of Alexandria Drive	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
Brodie Lane	F.M. 1626	Austin City Limits Line north of Sunland Drive	Res-Collector	43.7	39.5	1.5	7328	NO	Undivided	2	18	3	Low	Low	47	17	230	83	40	40	40
Burleson Road	U.S. 183	F.M. 973	Complex	61.8	55.7	2.0	10070	YES	Undivided	4	17	2	Low	Low	113	67	307	182	55	50	45
Center Lake Drive	Howard Lane (East)	Parmer Lane	Complex	39.3	30.3	1.2	5000	NO	TWLTL	4	18	0	Low	Low	12	2	106	18	N/A	40	40
Center Line Pass	Center Ridge Drive	Howard Lane (West)	Complex	39.3	34.2	0.5	1079	NO	Undivided	4	8	1	Low	Low	44	12	4754	1297	40	35	35
City Park Road	F.M. 2222	860ft west of Bridge Point Pkwy	Res-Collector	43.5	38.9	1.1	4071	YES	Undivided	2	16	1	Low	Low	37	17	453	208	40	40	35
Davis Lane	Brodie 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
Dessau Road	Austin City Limits Line north of Howard Lane	580 feet north of Brighton Lane	Commercial	52.7	46.8	4.3	27477	NO	Divided	6	70	6	Low	Low	768	274	357	127	50	40	45
Stassney Lane (East)	Congress Avenue (South)	I.H. 35 (South) West Frontage Road	Complex	46.3	41.7	0.8	12443	NO	Divided	6	13	2	Low	High	211	73	1239	429	45	40	35
Stassney Lane (East)	Teri Road	1200ft South from Burleson Road	Commercial	48.8	42.4	1.0	15987	NO	Divided	4	4	1	Low	High	30	2	93	7	50	40	40
Enfield Road	Lake Austin Boulevard	Winsted Lane	Res-Collector	30.8	25.9	1.3	5271	NO	Undivided	4	60	2	High	Low	36	8	281	63	30	25	25
Escarpment Boulevard	Davis Lane	William Cannon Drive (West)	Residential Subdivisions	46.1	40.9	1.5	7937	NO	Divided	4	16	3	Low	High	56	22	254	100	40	40	35
Far West Boulevard	Chimney Corners	Loop 1(MoPac Expressway) (North) West Frontage Road	Commercial	40.8	34.1	1.1	9244	NO	Divided	4	30	4	Low	High	85	30	442	156	35	30	30
Four Points Drive	R.M. 620	River Place Boulevard	Complex	46.8	41.7	0.8	3996	YES	Divided	4	12	1	Low	Low	26	6	463	107	45	40	40
Gracy Farms Lane	Metric Boulevard	Loop 1 (MoPac Expressway) (North) East Frontage Road	Commercial	42.5	37.7	0.9	4768	NO	TWLTL	2	18	3	Low	High	44	13	581	172	40	35	35
Great Hills Trail	Stonelake Boulevard	Loop 360 (Capital of Texas Highway) (North)	Commercial	41.3	36.3	1.5	6145	YES	Divided	4	26	5	Low	High	101	21	593	123	35	30	30
Harris Branch Parkway	700 feet north of Farmhaven Road	Gregg Lane	Res-Collector	48.5	43.1	3.5	9919	NO	Divided	4	30	3	Low	Low	194	73	304	115	50	40	40
Tech Ridge Boulevard	Yager Lane	Parmer Lane	Complex	46.6	41.2	1.6	7025	NO	Divided	6	16	3	Low	Low	140	57	705	287	45	40	40
Howard Lane (East)	Dessau Road	I.H. 35 (North) West Frontage Road	Complex	53.2	46.9	2.4	20695	NO	Divided	4	30	5	Low	Low	386	169	419	183	50	45	45
Howard Lane (East)	Dessau Road	Immanuel Road	Complex	50.5	44.3	0.5	11428	NO	Divided	4	5	1	Low	Low	31	9	323	94	50	45	45
Johnny Morris Road	300ft north of Point N Drive	Austin City Limits Line north of Breezy Hill Drive	Res-Collector	39.7	34.2	2.9	5188	NO	Undivided	2	22	2	Low	Low	109	59	394	213	35	30	30
Jollyville Road	Balcones Woods Drive	Great Hills Trail	Complex	47.6	41.4	0.9	11021	NO	TWLTL	4	31	3	Low	Low	134	33	716	176	45	40	40
Jollyville Road	N Capital of Texas Highway	Business Park Drive	Commercial	37.0	31.7	0.8	797	NO	Undivided	2	26	0	Low	Low	10	5	893	446	35	30	30
Kramer Lane	Burnet Road	Lamar Boulevard (North)	Res-Collector	41.9	36.7	2.3	6625	NO	TWLTL	2	90	5	Low	High	204	61	740	221	40	35	35
Lake Austin Boulevard	Enfield Road	1st/5th/6th Street (West) Intersection	Commercial	39.1	34.2	1.6	7032	NO	Undivided	4	37	7	Low	High	87	19	424	93	35	30	30
Lake Creek Parkway	R.M. 620	U.S. 183	Res-Collector	36.4	32.1	1.6	6642	NO	Divided	4	40	2	Low	High	64	15	330	77	40	30	30
Lakeline Mall Drive	U.S. 183 (North) (Research Boulevard)	Terminus east of Lyndhurst Street	Commercial	41.7	35.3	1.0	2986	NO	Divided	2	10	2	High	High	95	20	1743	367	N/A	35	35
McCallen Pass	Parmer Lane	Howard Lane	Commercial	51.8	45.4	1.0	9505	NO	Divided	4	6	3	Low	Low	224	99	1304	576	50	45	45
McKinney Falls Parkway	Burleson Road	U.S. 183	Res-Collector	47.7	42.9	1.0	5457	NO	Undivided	2	9	1	Low	High	59	21	592	211	55	40	40
McNeil Drive	U.S. 183	Parmer Lane	Complex	48.7	43.6	1.7	19553	NO	TWLTL	4	53	8	Low	Low	277	66	457	109	45	40	40
Metric Boulevard*	Staton Drive	Howard Lane	Res-Collector	47.7	42.4	3.2	16826	YES	Divided	4	44	10	Low	High	378	107	388	110	50	40	40
Metric Boulevard*	Scotfield Lane	Staton Drive	Res-Collector	47.7	42.4	3.2	16826	YES	Divided	4	44	10	Low	High	378	107	388	110	45	40	40
Metro Center Drive	Riverside Drive (East)	end of Metro Center Drive.	Commercial	44.1	38.2	0.6	1759	NO	TWLTL	4	17	0	Low	Low	14	12	681	584	40	35	35
Old Bee Caves Road	U.S. 290/S.H. 71(West)	Austin City Limits Line	Res-Collector	44.6	39.7	3.1	2677	NO	Undivided	2	96	1	Low	Low	54	11	357	73	40	35	35
Payton Gin Road	U.S. 183 East Frontage Roa	Lamar Boulevard (North)	Res-Collector	32.0	26.4	1.2	9349	NO	TWLTL	2	51	3	Low	High	141	47	700	233	35	25	30
Pearce Lane	Ross Road	Welsh Way	Residential Subdivisions	46.1	39.3	0.9	10840	NO	Undivided	2	10	1	Low	Low	77	29	428	161	50	40	40
Pond Springs Road	U.S. 183 (Frontage Road) (Northbound)(north intersection)	Hunters Chase Drive	Commercial	43.8	38.4	1.9	6429	NO	TWLTL	2	90	4	Low	High	107	24	483	108	40	35	35
Ross Road	Pearce Lane	Austin City Limits Line north of Gilwell Drive	Res-Collector	41.9	36.2	0.7	7232	NO	Undivided	2	10	2	Low	Low	42	17	482	195	40	35	35
Rutherford Lane	U.S. 183 (Anderson Lane) (East)	I.H. 35 (North) East Frontage Road	Commercial	41.2	35.9	1.5	9114	NO	TWLTL	2	46	4	Low	High	108	27	439	110	40	30	30
Rutland Drive	Burnet Road	200 feet east of Golden Meadow Drive	Res-Collector	40.7	35.2	2.4	10468	YES	TWLTL	4	112	7	Low	High	333	128	723	278	40	30	35
Southwest Parkway	Boston Lane	Austin City Limits Line west of Amara Trail	Commercial	57.3	51.5	4.2	19190	YES	Divided	6	50	5	Low	Low	177	59	120	40	55	50	50
Spicewood Springs Road	Loop 1 (MoPac Expressway) (North) East Frontage Road	Mesa Drive	Res-Collector	41.0	36.4	2.2	11187	YES	Divided	4	50	5	Low	High	100	32	224	72	35	35	30
Stonehollow Drive	Metric Boulevard	Metric Boulevard	Complex	42.7	37.3	0.9	1222	YES	TWLTL	4	19	2	Low	Low	38	11	1893	548	N/A	35	35
Stonelake Boulevard	Loop 360 (Capital of Texas Highway) (North)	Braker Lane (West)	Complex	51.0	44.4	0.6	3822	NO	Divided	6	6	2	Low	Low	83	26	2164	678	45	40	40
Teri Road	I.H. 35 (South) East Frontage Road	Nuckols Crossing Road	Res-Collector	38.1	32.1	1.4	4220	NO	Undivided	2	120	1	High	High	127	35	1170	322	35	30	30
Tuscany Way	U.S. 290	2,500 feet north of U.S. 290	Complex	39.8	34.5	0.9	9037	YES	TWLTL	2	40	1	Low	Low	45	14	317	99	40	30	35
Vega Avenue	William Cannon Drive (West)	Southwest Parkway	Res-Collector	43.4	38.5	0.8	1772	YES	Undivided	2	8	0	Low	Low	25	4	991	159	45	40	40
35th Street (West)	Balcones Drive	Loop 1(MoPac Expressway) (North) West Frontage Road	Res-Collector	40.5	35.8	0.7	9895	NO	Undivided	4	8	3	Low	Low	29	8	236	65	35	40	30
Canyon Ridge Drive (West)	IH-35 (North) East Frontage Road	Tech Ridge Boulevard	Res-Collector	40.5	35.6	1.9	7864	YES	Undivided	2	32	2	Low	High	108	46	407	173	40	35	35
Slaughter Lane (West)	Brodie Lane	Brasher Drive	Res-Collector	50.5	44.3	5.1	28915	YES	Divided	6	155	19	Low	High	942	384	350	143	45	40	40
Slaughter Lane (West)	Manchaca Road	IH 35 (South) East Frontage Road	Res-Collector	50.5	44.3	5.1	28915	YES	Divided	6	155	19	Low	High	942	384	350	143	45	40	40
Slaughter Lane (East)	I.H. 35 (South) East Frontage Road	Brandt Road	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	R.M. 620	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.

APPENDIX B

Contents:

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

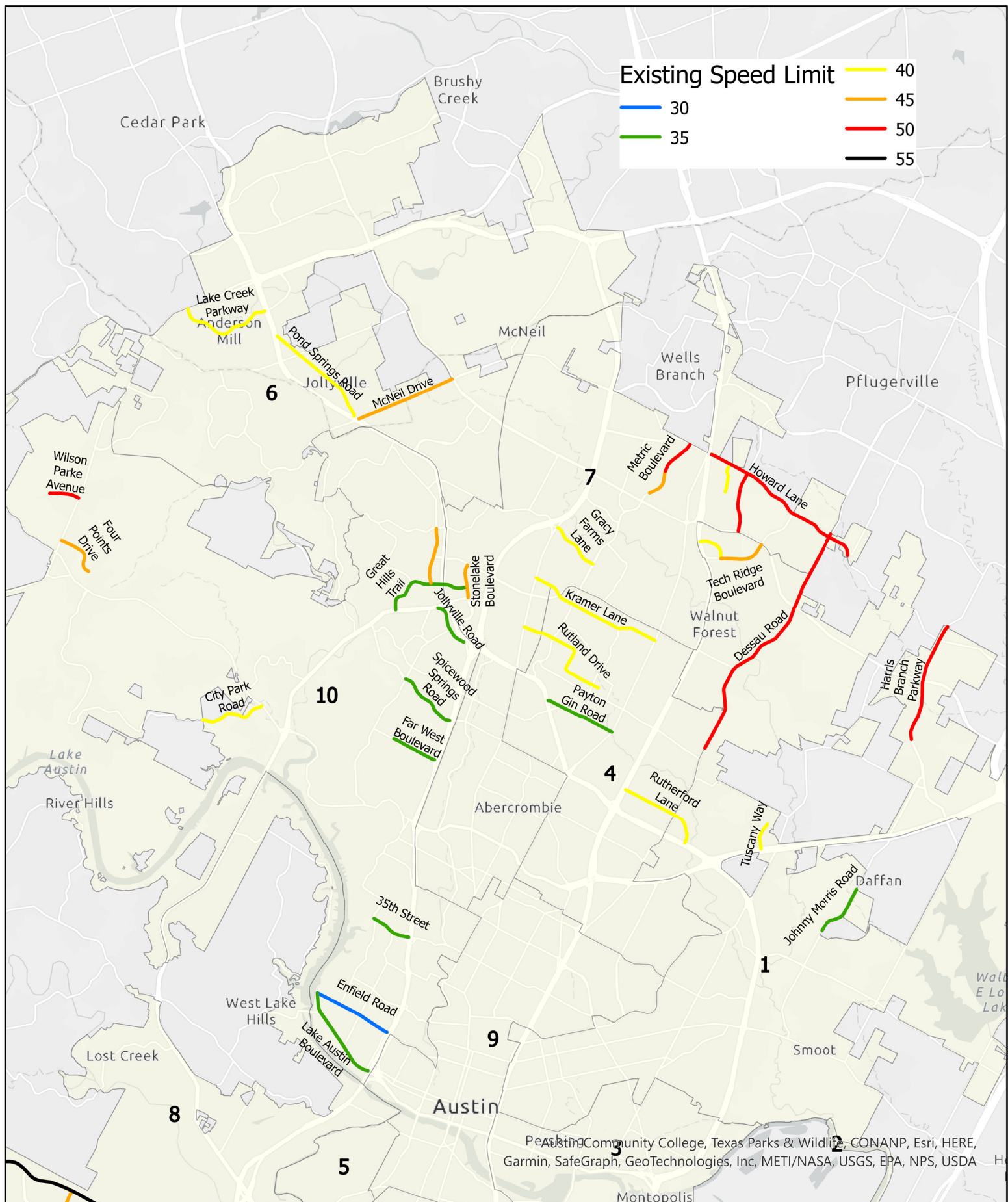
Proposed Speed Limits (MPH), Non-Urban Core Arterials - North Austin

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



Existing Speed Limit

— 30	— 40
— 35	— 45
	— 50
	— 55

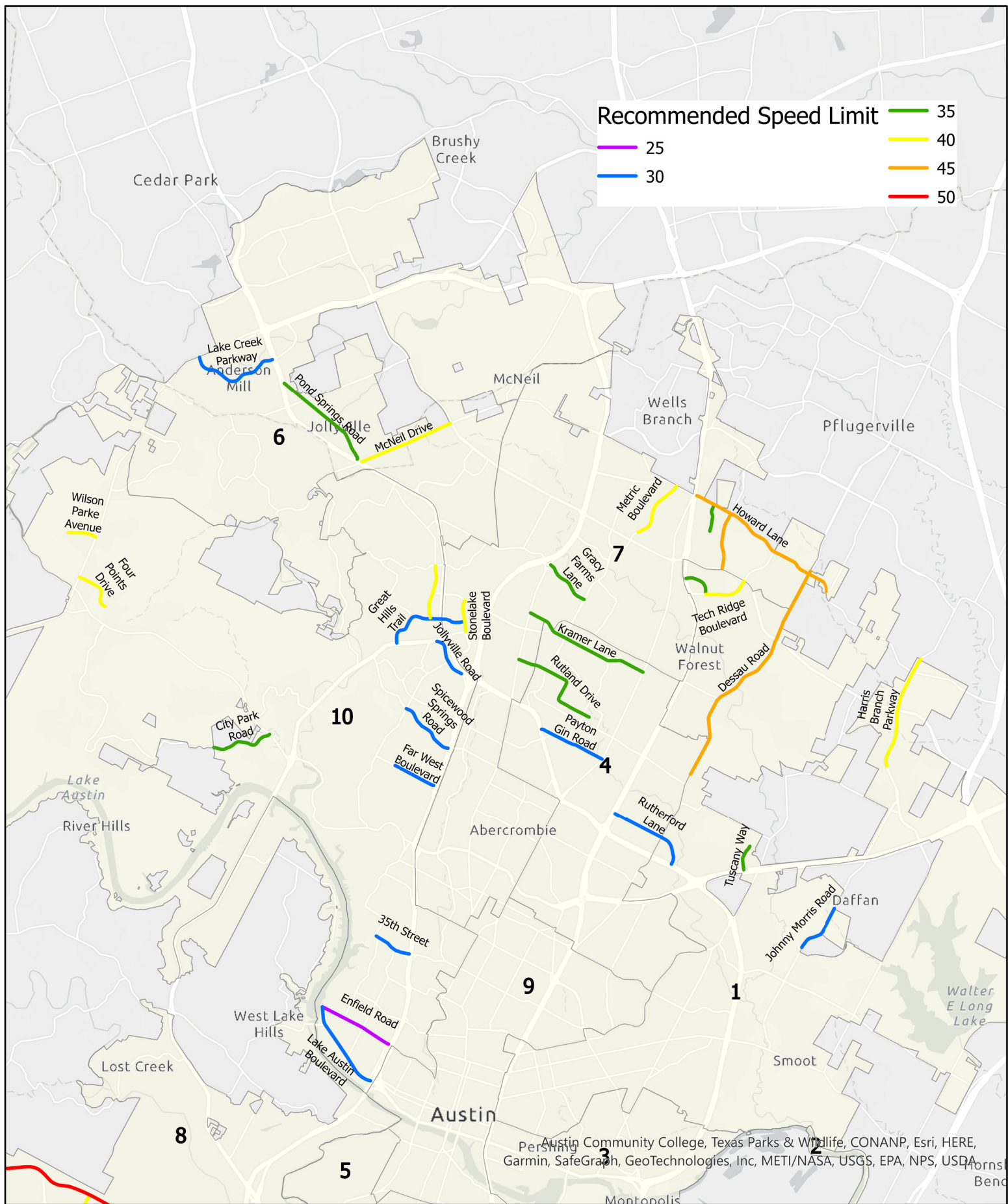
**Existing Speed Limits (MPH)
Non-Urban Core Arterials
North Austin**



City of Austin
Transportation Department,
5/9/2022



Austin Community College, Texas Parks & Wildlife, CONANP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA

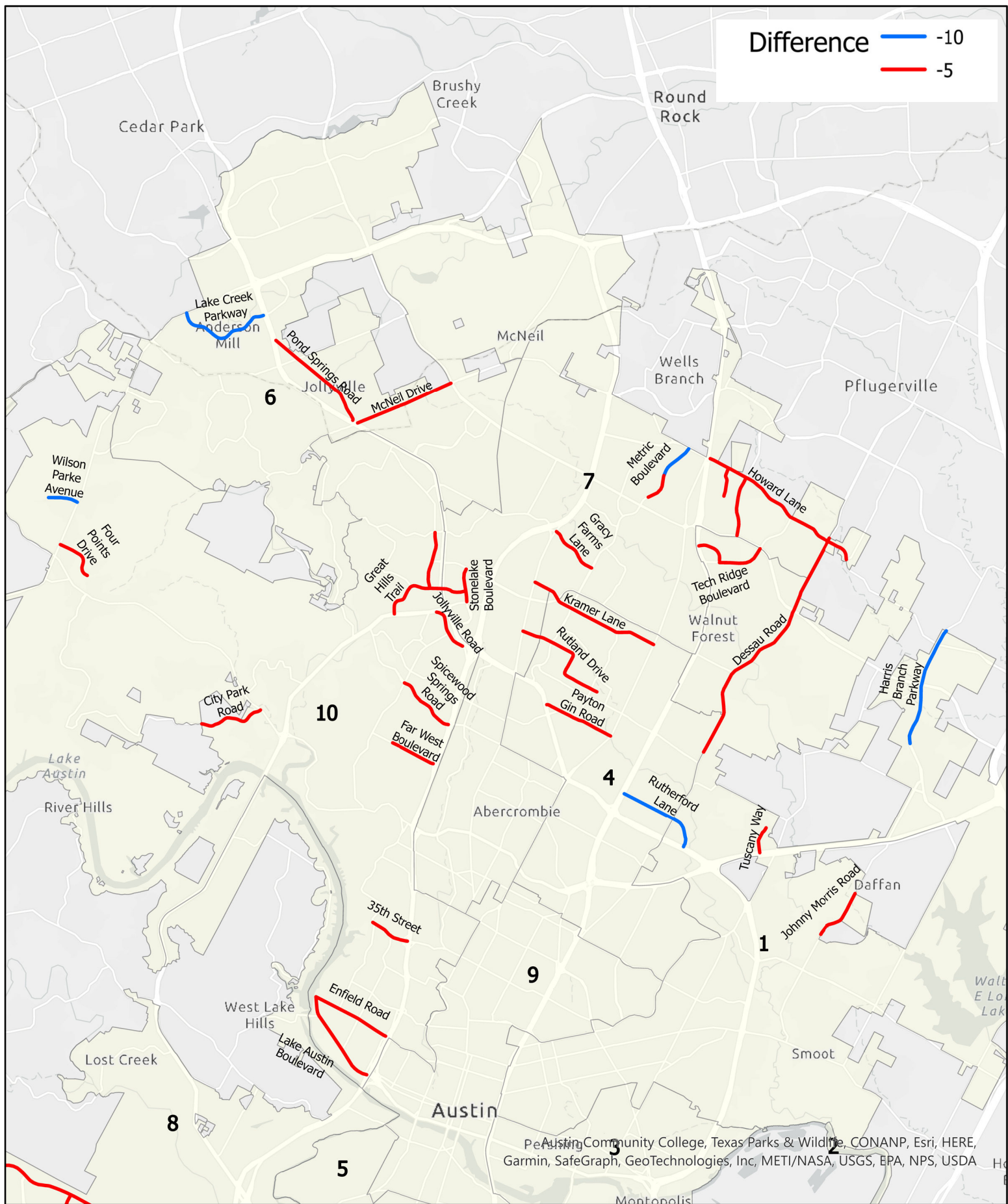


**Proposed Speed Limits
(MPH), Non-Urban Core
Arterials, North Austin**



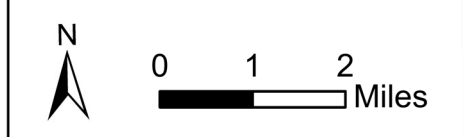
City of Austin
Transportation
Department, 5/9/2022

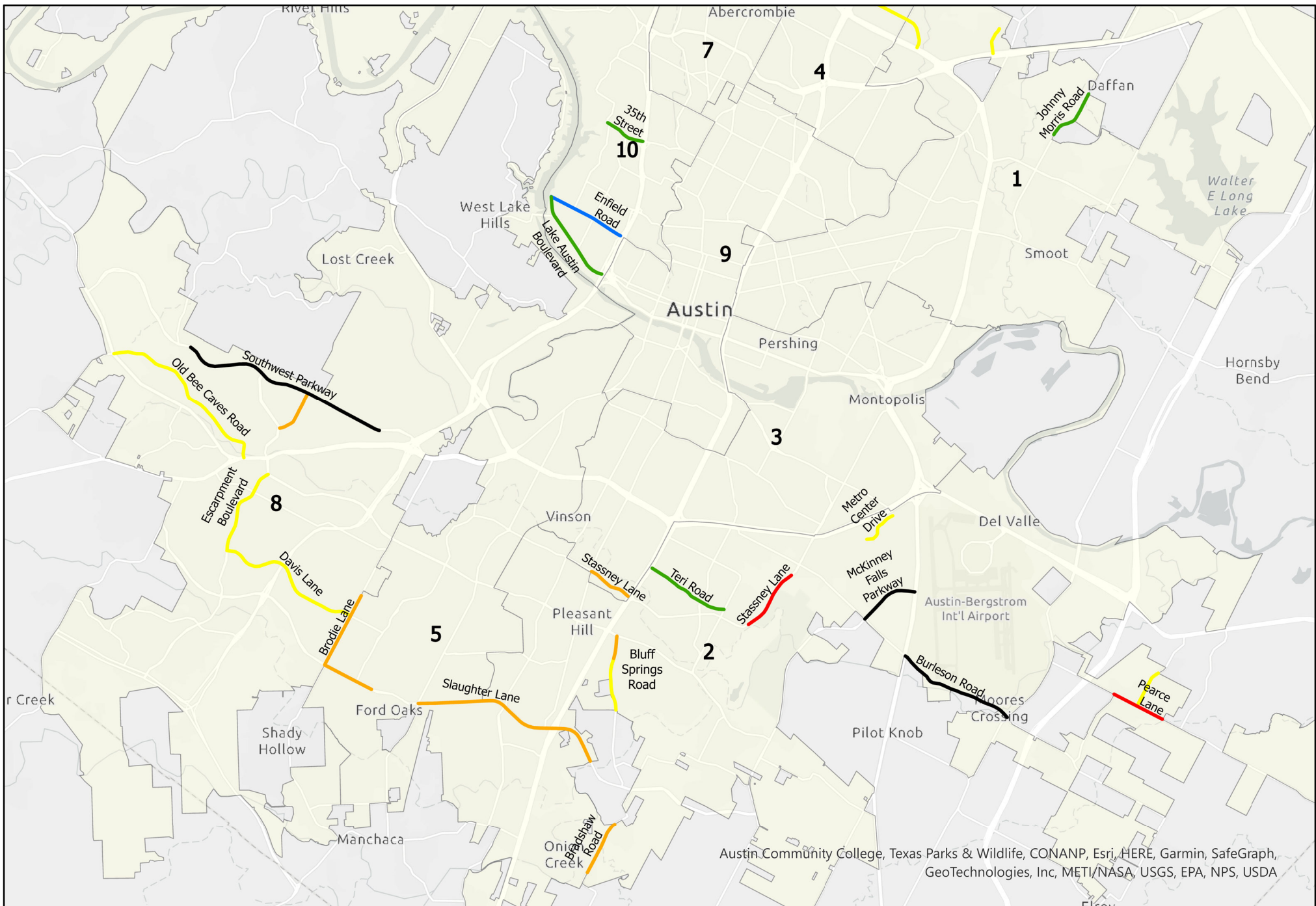




Map data provided by Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA

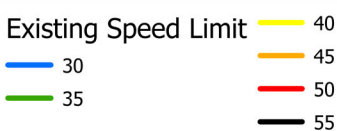
Difference in Speed Limits (MPH), Non-Urban Core Arterials, North Austin





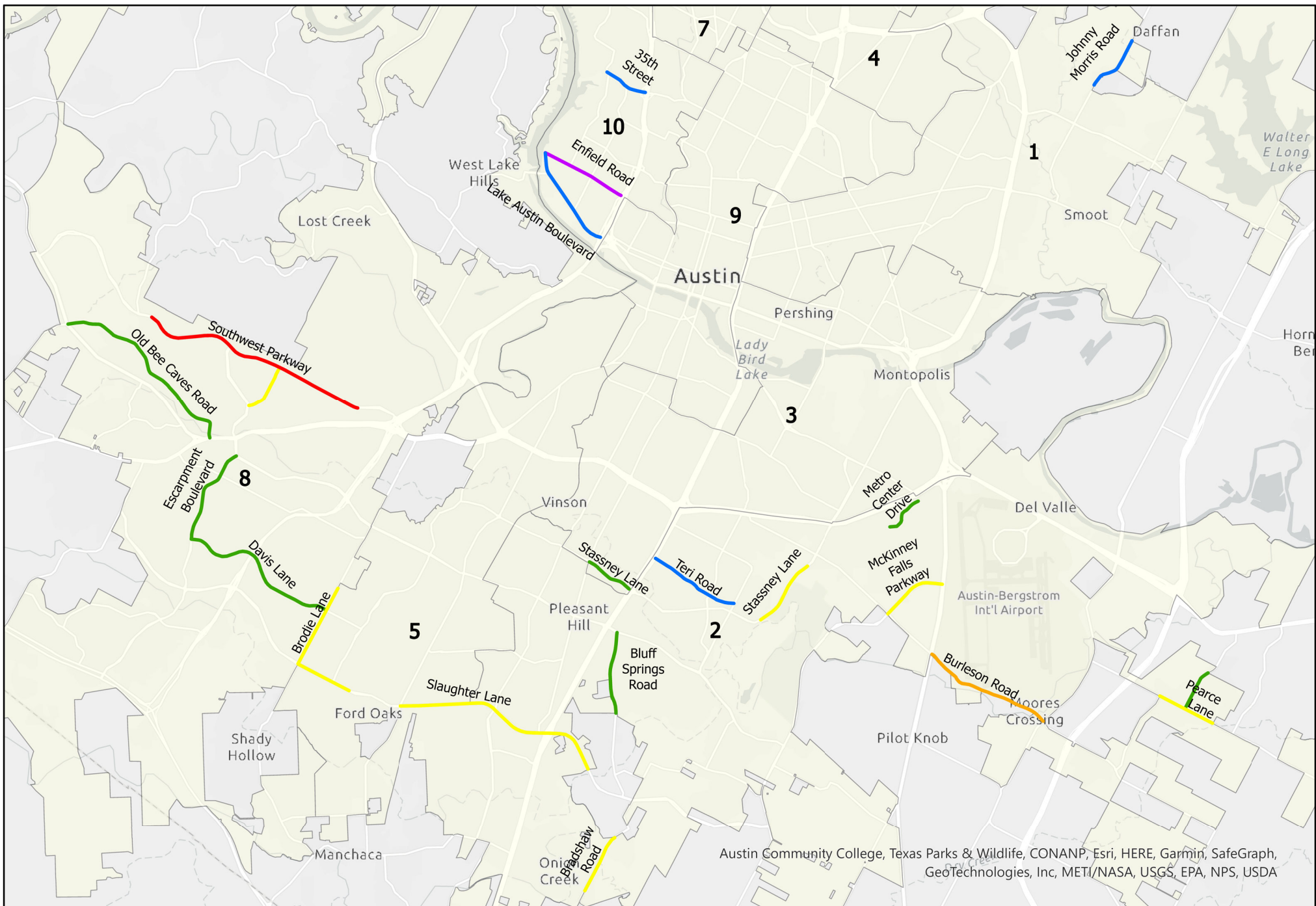
Austin Community College, Texas Parks & Wildlife, CONANP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA

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




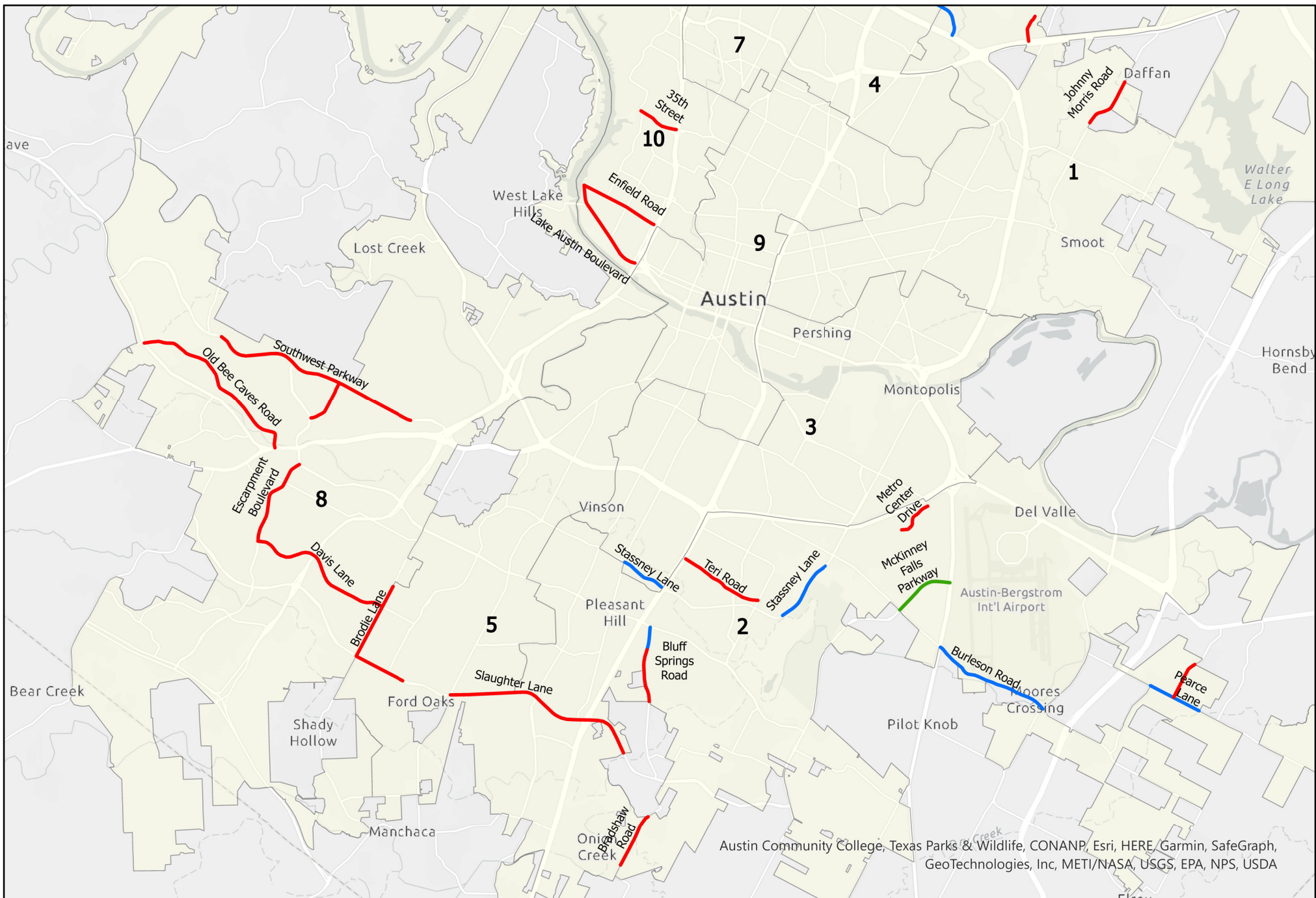
City of Austin
Transportation
Department, 5/9/2022






Austin Community College, Texas Parks & Wildlife, CONANP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA

<p>Proposed Speed Limits (MPH). Non-Urban Core Arterials, South Austin</p>	<p>N</p> <p>0 1 2 Miles</p>	<p>Polylines</p> <p>Recommended Speed Limit</p> <ul style="list-style-type: none"> 25 30 35 40 45 50 	<p>City of Austin Transportation Department, 5/9/2022</p> 
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Austin Community College, Texas Parks & Wildlife, CONANP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA

<p>Difference in Speed Limits (MPH), Non-Urban Core Arterials, South Austin</p>	<p>N</p> <p>0 1 2 Miles</p>	<p>Difference</p> <p>-10</p> <p>-15</p> <p>-5</p>	<p>City of Austin Transportation Department, 5/9/2022</p> 
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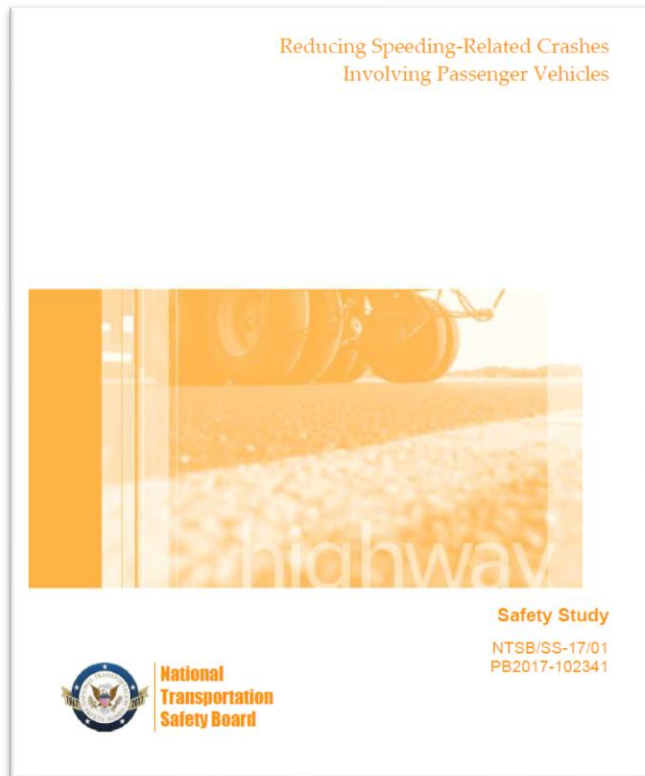
APPENDIX C

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)."

NCHRP 03-67 – This digest presents the results of the study titled “Expert System for Recommending Speed Limits in Speed Zones,” describing “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.” It contains three sections: Research Scope and Motivation; Expert System Decision Rules and their Derivation; and Software Application and its Use.

May 2007

NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM

Subject Area: IVA Highway Operations, Capacity, and Traffic Control

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 speed-zone 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 maximum 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/ProjectDisplay.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 underlying 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/blurbs_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

CONTENTS

Summary, 1
Research Scope and Motivation, 2
Expert System Decision Rules and Their Derivation, 4
The Software Application and Its Use, 5
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TRANSPORTATION RESEARCH BOARD
OF THE NATIONAL ACADEMIES

USLIMITS2 – 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 [User Guide](#) and [Decision Rules](#) documentation provide further details and guidance on how to use the USLIMITS2 tool.

The screenshot displays the USLIMITS2 web application. At the top is the U.S. Department of Transportation Federal Highway Administration header with navigation links (About, Programs, Resources, Briefing Room, Contact, Search FHWA) and social media icons. Below this is a 'Safety' sub-header with links (About, Office of Safety Programs, Initiatives, Resources, Contact) and a search bar. The main content area is titled 'FHWA Home / Safety / Speed Management / USLIMITS2' and includes a 'Subscribe' button. A left sidebar contains a menu with links: USLIMITS2, Create a New Project, Revise an Existing Project, User Guide, Decision Rules, NCHRP 3-67 Report, USLIMITS Flyer, Frequently Asked Questions, Technical Support, Program Contact, and USLIMITS2 help@uslimits.org. The main content area features the title 'USLIMITS2' and subtitle 'A Tool to Aid Practitioners in Determining Appropriate Speed Limit Recommendations'. It includes a text box stating that FHWA offers free technical assistance, a detailed description of the tool's purpose and methodology, a disclaimer, and instructions on how to use the tool. A 'Return to top' link is located at the bottom right of the main content area. The footer contains the FHWA logo, the slogan 'Safe Roads for a Safer Future', and contact information for the Federal Highway Administration.

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USLIMITS2

A Tool to Aid Practitioners in Determining Appropriate Speed Limit Recommendations

FHWA offers FREE technical assistance to State and local agencies that are interested in learning more about using USLIMITS2. This includes answering questions, providing in-person workshops, providing virtual workshops held via web conference, and giving presentations about USLIMITS2. To request technical assistance, send an email to help@uslimits.org

USLIMITS2 is a web-based tool designed to help practitioners set reasonable, safe, and consistent speed limits for specific segments of roads. The tool is applicable to all types of roads; however, it is not applicable to school zones or construction zones. USLIMITS2 is of particular benefit to local communities and agencies without ready access to engineers experienced in conducting speed studies for setting appropriate speed limits. For experienced engineers, USLIMITS2 can provide an objective second opinion and increase confidence in speed limit setting decisions.

USLIMITS2 was developed based on research through National Cooperative Highway Research Program (NCHRP) Project 3-67 and considers all major factors used by practitioners to make engineering judgment in determining an appropriate speed limit. This includes: operating speed (50th and 85th percentile), annual average daily traffic, roadway characteristics and geometric conditions, level of development in the area around the road, crash and injury rates, presence of on-street parking, and extent of ped/bike activity, as well as several others depending on the road type. These factors are further described in the [User Guide](#), [NCHRP 3-67 report](#), and [Decision Rules documentation](#).

Disclaimer: The U.S. Government assumes no liability for the use of the information contained in this tool. This tool does not constitute a standard, specification, or regulation.

USING USLIMITS2

Before [beginning a new project](#), it is recommended that you read through the [User Guide](#) and be prepared to enter the necessary data (e.g., 50th and 85th percentile speed, roadway characteristics, and crash history). If the segment you are studying is a new route, the system will not require this data, but it is recommended that the statutory speed be posted on new routes until such time that reliable data on operating speed, crashes, and other factors can be collected.

After entering all project information you will have the opportunity to save the recommendation report. You also can save the project file and upload it in the system at a later time to [revise your project](#) if needed.

To understand how USLIMITS2 arrived at the recommended speed limit, review the [Decision Rules](#).

Technical Support

If you have any questions about USLIMITS2 or experience any technical difficulties while using this program, find any bugs, or have suggestions for improving USLIMITS2, please send an email to help@uslimits.org.

[Return to top](#)

Page last modified on April 28, 2020

Safe Roads for a Safer Future
Investment in roadway safety saves lives

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ACHIEVING MULTIMODAL NETWORKS

APPLYING DESIGN FLEXIBILITY
& REDUCING CONFLICTS



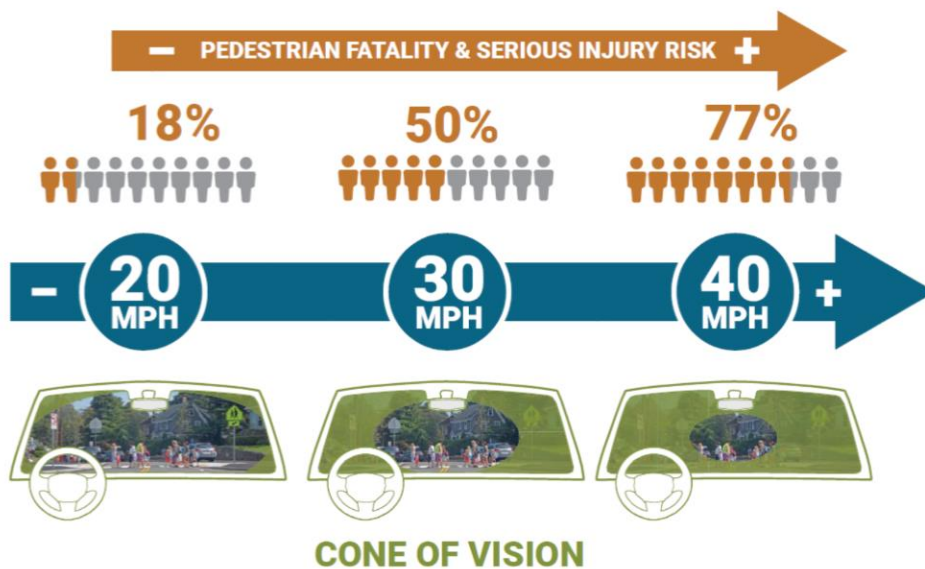
U.S. Department of Transportation
Federal Highway Administration

AUGUST 2016

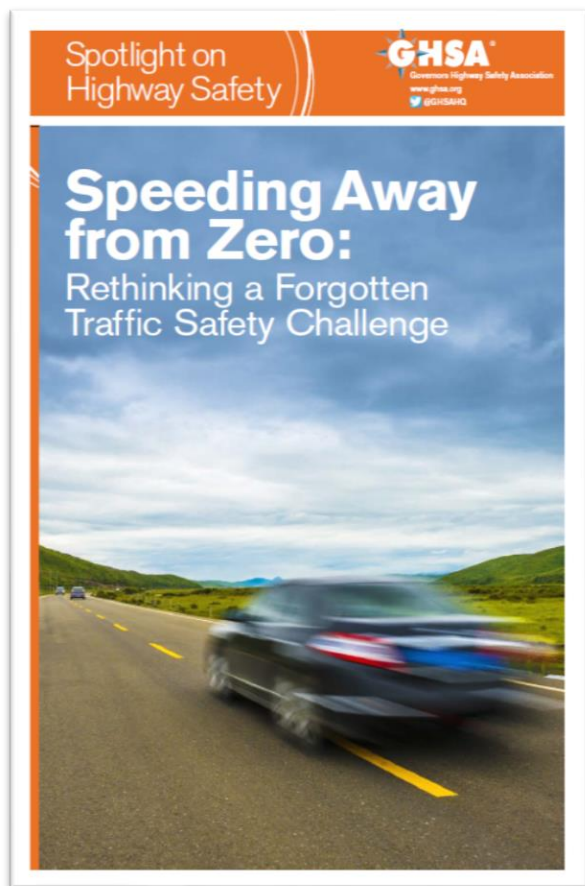
FHWA “Achieving Multimodal Networks” –

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.”

Page 23:



As motor vehicle speeds increase, the risk of serious injury or fatality for a pedestrian also increases (AARP Impact Speed and a Pedestrian's Risk of Severe Injury or Death 2011, p. 1). Also, motorist visual field and peripheral vision is reduced at higher speeds.



[Governors Highway Safety Association](#) - "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."

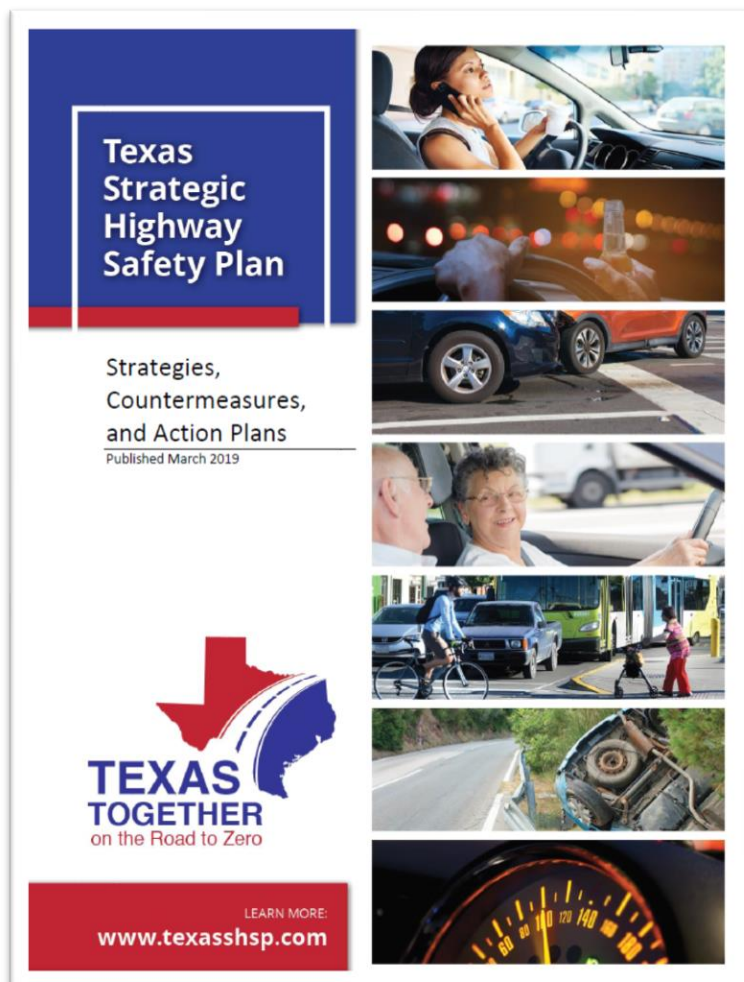
"In 2013, the Washington legislature enacted a law allowing municipalities to establish a maximum speed limit of 20 mph in a residential or business district. This new law mandates that a reduced speed need not be based on any traffic or engineering studies, which were acknowledged as procedural roadblocks 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.

The logo for the NACTO Urban Street Design Guide. It features the word "NACTO" in a bold, sans-serif font, with a green square to its left. To the right of "NACTO" is the text "Urban Street Design Guide" in a smaller, sans-serif font. A green square is also placed to the left of "Urban".

Urban Street Design Guide



OVERVIEW

OCTOBER 2012

[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."