




MEMORANDUM

TO: Mayor and Council

CC: Elaine Hart, Interim City Manager
Robert Goode, Assistant City Manager

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

DATE: February 15, 2017

SUBJECT: **Status Report on Speed Management Recommendations**

On May 19th, 2016, the Austin City Council passed Resolution 20160519-049 directing the City Manager to adopt and implement the Vision Zero Action Plan, including analyzing existing and emerging transportation practices related to the establishment of posted roadway speeds, with equal emphasis on high speed roads, secondary streets, and neighborhood streets, and to identify methods and opportunities to reduce posted speed limits. On December 15, 2016, the Austin City Council passed [Resolution 20161215-071](#) supporting the following speed management recommendations approved by the Council Mobility Committee:

1. Support legislative efforts to lower the *prima facie* speed in the urban district to 25 mph;
2. Incorporate target design speed into plans and manuals;
3. Systematically evaluate arterial speed limits citywide for appropriateness; and
4. Establish a neighborhood slow zone pilot project.

This memorandum provides information on each recommendation and next steps towards implementation.

Recommendation 1: Support legislative efforts to lower the *prima facie* speed in the urban district to 25 mph.

This recommendation is included in the City's State Legislative Agenda for the 85th Legislature. Representative Celia Israel has introduced HB 1368 this legislative session to lower the *prima facie* speed limit on streets in an urban district from 30mph to 25mph. The City of Austin's Intergovernmental Relations Office is coordinating with Rep. Israel and other cities on this legislation and the Austin Transportation Department is providing analysis and research as requested.

Background Information: Policy Action 44 in the Council-adopted Vision Zero Action Plan directs the City to "work at the local and state level to lower default speed limits

congruent with research on speed and best practices.” An initial analysis of factors contributing to fatal and serious injury crashes found that speeding (over the limit), while dangerous, contributed to relatively few fatal and serious injury crashes. The larger issue surrounding speed is that, legal speed or not, speeds over 20 mph are exponentially more deadly, especially to people outside of vehicles. The Vision Zero Task Force made this recommendation based on research that links higher speeds to increased crash occurrence and severity, including Richardsⁱ and Elvik et al.ⁱⁱ Rune et al. sum this research up: “There is a very strong statistical relationship between speed and road safety. It is difficult to think of any other risk factor that has a more powerful impact on accidents or injuries than speed.” Lower speeds can improve safety for all users, facilitate greater use of active transportation, while having a minimal effect on travel times.

Lowering the default urban district speed limit from 30 to 25 mph is well aligned with transportation safety research and emerging best practices from peer cities (see Case Studies at the end of this report). Lower speeds around homes and businesses would create a safer environment for all road users and could lead to smoother traffic flow. A study by the Transport Research Laboratory found crashes were reduced for each mile-per-hour reduction in speed, particularly in more urban areas,ⁱⁱⁱ while others have noted that lower speeds encourage greater use of active transportation.^{iv} Fewer and less severe crashes are especially important in these environments as more people walk and bicycle for leisure and transportation. As safety is improved for all users by lowering speeds, studies show that urban travel times are minimally affected, since travel time is mostly affected by slowing or stopping, such as at intersections, and level of congestion.^v A 1-mile trip at 25 mph takes 24 seconds longer to travel than the same trip at 30 mph, but someone walking hit at 25 mph is half as likely to die as someone struck at 30 mph.

Table 2 The effect on accident frequency of a reduction in mean speed for different types of urban road

<i>Group</i>	<i>Description</i>	<i>Percentage accident change per 1mile/h change in mean speed</i>
1	Highly congested town roads	6.2
2	Typical inner city link roads	4.5
3	Sub-urban link roads	3.3
4	Semi-rural (fast) link roads	2.2

(Source: Taylor et al., 2000)

Recommendation 2: Incorporate target design speed into plans and manuals.

The Austin Transportation Department is coordinating the publication of the Austin Street Design Guide which will define a hierarchy of streets with different contexts and functions. These differences inform the design of such streets, including the target travel speed. While highways' and some major arterials' primary purpose is to move people and goods, other road types, including neighborhood streets and minor arterials that are becoming populated with people and businesses, are about facilitating activities and a sense of place. The Austin Street Design Guide will be piloted through 2017 and serves as the precursor to updates to the Transportation Criteria Manual (TCM). The TCM provides comprehensive technical criteria to aid in the planning, design and coordination of all street elements.

Vision Zero is also being integrated into CodeNEXT, the City of Austin's update of its Land Development Code. The Austin Transportation Department will coordinate review of transportation safety-related elements of the draft Land Development Code with the Planning and Zoning Department.

Background Information: National research has shown how development patterns play an important role in the safety of streets. The less people drive and the shorter their trips, the less exposure to risk they have. Disconnected land use patterns, lower density, longer blocks, large parking lots and free or low cost parking, frequent driveways, and lack of street connectivity encourage driving to the detriment of walking, bicycling, and taking transit, contributing to higher traffic deaths.

The historical land use patterns and road designs designed to move motor vehicles quickly contribute to deaths and injuries on Austin's roads. CodeNEXT's identified goal of creating compact-and-connected development patterns that support transportation options can help to reverse this trend.

Safety was included in the CodeNEXT Mobility Code Prescription, released July 2016, outlining three areas where safety should be an explicit focus:

1. Build safety into design: Improved code regulations to require safety and mobility improvements through the development process by utilizing tools such as a mitigation ordinance, street impact fee, and improved Traffic Impact Analysis processes.
2. Code for walking, bicycling, and transit: Creating code that encourages a diverse mix of uses, better connectivity, and densities that support transit ridership can also promote transit, walking, and bicycling.
3. Incorporate safety into review: Outside of code, addressing mobility and safety at the time of development will be improved with addition of staff and enhanced processes and procedures that incorporate mobility and safety as a part of initial development review.

Recommendation 3: Systematically evaluate arterial speed limits citywide for appropriateness.

Congruence of design speeds and posted speed limits and driver expectancy are keys to compliance with posted speed limits on roadways and safe mobility. Currently both the design speeds and posted speed limits on streets in Austin vary to some degree. The Austin Strategic Mobility Plan (ASMP), led by the Systems Development Division of the Austin Transportation Department, will include an update to the Austin Metropolitan Area Transportation Plan (AMATP) roadway table by evaluating functional classification, context, and mode specific plans which are primary factors that influence target design speed. This will form a basis for future evaluation of arterial speed limits for appropriateness citywide. The ASMP is anticipated to kick-off in March 2017, with the Roadway Table developed in October and November of that year. Plan adoption is planned in Spring 2018.

Recommendation 4: Establish a neighborhood slow zone pilot.

Vehicle speed is a key determinant in crash outcomes, especially for people outside of a vehicle. Lower speeds improve safety for all road users, encourage use of active transportation, and have a minimal effect on travel times, especially for shorter trips. A neighborhood speed reduction pilot would be used to determine the effectiveness of lowered speed limits, in combination with traffic calming devices, for reducing neighborhood traffic speeds. The Austin Transportation Department recommends pairing lowered posted speed with street design changes as a strategy to reduce speed. Prior experience has shown that signs alone will not reliably reduce speed.

Slow Zone Pilot Framework

The Slow Zone Pilot will be implemented in a two-phased approach. In Phase 1, ATD staff will develop criteria for the pilot and an implementation process for presentation to the community and to gather feedback. Phase 1 would also include additional work with Municipal Court, Austin Police Department and the Texas Department of Transportation to confirm compliance with reporting requirements as set forth in Sec. 545.365 of the state Transportation Code. In Phase 2, staff will select pilot neighborhoods and install speed limit signs and traffic calming devices.

Neighborhood selection criteria and public outreach processes are currently under development by the Austin Transportation Department but would likely include the following:

- The neighborhood should be clearly delineated (e.g. major arterial streets, natural features, large institutions at the periphery).
- Pilot must be in place two years or more for reporting to TxDOT.
- Pilot areas will be vetted through a public process.
- Pilot areas should be evaluated on the suitability of the existing cross-section for traffic calming, as well as land use characteristics such as the mix of residential, commercial, and community/civic land uses.

- Ability to comply with required reporting as well as capacity to collect and report on other data including vehicle speeds, volume, numbers of people bicycling and walking, crash history and reduction of crashes.

The pilot would select two or more neighborhood-scale locations to reduce speed limits to 25 mph. Residents and stakeholders of the Mueller neighborhood have expressed interest in participating in such a pilot. The pilot would include posting 25 mph speed limit signs—as allowed under Sec. 545.365 of the state Transportation Code—in combination with traffic calming such as bulbouts, speed cushions, delineators, striping, and other devices as needed.

The state transportation code currently sets the *prima facie* speed limit in an urban district at 30 mph, but Sec. 545.356 allows municipalities to lower speeds to 25 mph if deemed unreasonable or unsafe. To lower the speed to 25 mph under Sec. 545.365, the municipality is required to post speed limit signs and report to TxDOT two years of data showing:

- Number of traffic citations
- Number of warning citations
- Number of speed-related crashes

The Austin Transportation Department is currently working with the Austin Police Department, Municipal Court and the Texas Department of Transportation on process improvements necessary to comply with this reporting requirement. These reporting criteria will likely become moot if the *prima facie* speed limit is reduced to 25mph statewide.

Additional Enforcement and Education Strategies in Support of All Recommendations

An overarching theme of Vision Zero is that eliminating traffic deaths and serious injuries will require a multipronged approach. Simply reducing the posted speed limit will likely not reduce speeds to the desired degree. To achieve slower speeds within pilot Slow Zones, for example, the City will need to install traffic calming, enforce slower speeds, and educate the public about the purpose of treatments such as Slow Zones and how to drive in them.

The Austin Transportation Department and the Austin Police Department have partnered to create **Vision Zero in Action**, which combines targeted education, outreach, and enforcement to improve safety. This program combines intensive, on-the-ground educational outreach and enforcement at locations with high numbers of crashes or high volumes of people walking or bicycling. The teams are composed of Austin Transportation Department and Austin Police Department staff and will target the following behaviors:

- Failure to stop at red lights and stop signs (all vehicles, including bikes)
- Speeding, including school zone speed compliance
- Vehicles using bus-only lanes or parking in bike lanes
- Driver inattention (i.e., enforcing the City's Hands-Free Ordinance)

- Failure to yield right of way (including at crosswalks or yield signs)
- Lane splitting (i.e., riding a bicycle or motorcycle in between lanes)
- Passing stopped school buses that are loading or unloading students
- Failure to stop at and/or activate pedestrian hybrid beacons (drivers and pedestrians)

Emerging Methods and Best Practices from Other Cities

Reducing urban speed limits is a practice embraced by other cities in the US pursuing Vision Zero goals and was one of the key lessons from the Vision Zero Cities Conference in 2016 as published in a report by the Vision Zero Network.^{vi} Austin joined the Vision Zero Network's Focus Cities in 2016 as an identified leader in working toward a goal of zero traffic deaths and serious injuries. A purpose of the Vision Zero Focus Cities is to share best practices. The following Vision Zero Focus Cities have reduced default speed limits as a part of their Vision Zero efforts.

New York City

New York City pursued state-level legislation to reduce its urban speed limit to 25 mph. New York City gained specific authority by an amendment to the State's Vehicle and Traffic Law, which sets municipal speed limits. New York City followed the state change with a local law change in 2014, which took effect on November 7, 2014, amending the New York City Administrative Code to reduce the official citywide speed limit from 30 miles per hour to 25 miles per hour. This new limit applies to all streets where there is no posted speed limit; limited access highways and some major arterial roads have posted limits of 30 mph or above, while some traffic calmed streets have limits below 25 mph.^{vii}

The NYC DOT also created a Neighborhood Slow Zone program, a community-based initiative that reduces the speed limit from 25 mph to 20 mph and adds safety measures within a select neighborhood area through a competitive application process. There are currently 26 designated Neighborhood Slow Zones across the city's boroughs. According to the NYC DOT, "The ultimate goal of the Neighborhood Slow Zone program is to lower the incidence and severity of crashes. Slow Zones also seek to enhance quality of life by reducing cut-through traffic and traffic noise in residential neighborhoods."^{viii}

Seattle

In 2013, Washington State passed legislation allowing localities to lower speed limits to 20 mph. In 2015, Seattle modified its urban speeds, lowering downtown streets to 25 mph from 30 mph, and reducing speeds to 25 mph on major arterial corridors throughout the city.

Similar to NYC, Seattle also created a 20 mph Zone program in 10 areas, mostly near schools and parks. The program was organized into two phases: In the first phase, Seattle posted 20 mph signs and markings and collected data of the efficacy of signs and markings alone. Like

other research on the effectiveness of posted speed limits without engineering or enforcement, Seattle DOT found that the 85th percentile speed was only slightly lowered by signs. In the second phase, street design changes and traffic calming devices were installed to reduce speeds.^{ix} Seattle has since lowered their *prima facie* speed, but has maintained speed limits on select arterials speed limits on the basis of an engineering studies.

Boston

In 2016, Boston also lowered its default speed limit from 30 mph to 25 mph in the city of Boston, unless otherwise posted. Speeds within school zones and other “municipally designated zones,” such as areas near senior centers or transit stations were decreased to 15 mph. Boston had to seek state legislative approval to lower default speeds and deviate from the 85th percentile method of setting speed limits. Boston’s experience may provide helpful background for Austin’s efforts to explore the ability to lower default speed limits to 25 mph.

Boston also has a Neighborhood Slow Streets program, piloted in two neighborhoods. Both locations are made up of local residential streets, bounded by larger arterials. The pilot approach includes gateway treatments to signal to drivers that they are entering a slow zone, a reduced 20 MPH speed limit, and traffic calming devices to regulate vehicle speeds. Boston’s slow zone toolbox includes gateways, street markings, speed humps, daylighting intersections (restricting parking at intersections to ensure visibility of all users in the street or on sidewalks), curb extensions, and raised crosswalks.

REFERENCES

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ⁱⁱ Elvik, Rune, Christensen, Amundsen, 2004, Speed and road accidents: An evaluation of the Power Model, Institute of Transport Economics, <http://www.trg.dk/elvik/740-2004.pdf>

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^{iv} https://www.heartfoundation.org.au/images/uploads/main/Programs/South_Australia/ReduceSpeed.pdf

^v Fotheringham, 2008, Monash University Accident Research Centre, http://www.monash.edu/__data/assets/pdf_file/0007/216736/muarc276.pdf

^{vi} Szczepanski, Carolyn, 2016, Vision Zero Network, <http://visionzeronetwork.org/11-lessons-from-the-2016-vision-zero-cities-conference/>

^{vii} <http://www.nyc.gov/html/dot/downloads/pdf/2014-10-twenty-five-mile-speed-limit-faq.pdf>

^{viii} New York City DOT, <http://www.nyc.gov/html/dot/html/motorist/slowzones-list.shtml>

^{ix} City of Seattle, <http://www.seattle.gov/visionzero/rules-of-the-road>