



TEXAS PEDESTRIAN SAFETY COALITION

TPSC Meeting

Wednesday, June 17, 2020



Agenda



10:00 – 10:10: Welcome, Introductions, and Virtual Meeting Overview

10:10 – 10:20: Update on 2020 Texas Pedestrian Safety Forum

10:20 – 10:40: Update on Strategic Highway Safety Plan

- Eva Shipp, Texas A&M Transportation Institute

10:40 – 10:50: Pedestrian Safety Updates from Local, Regional, and State Transportation Agencies

10:50 – 11:20: Lowering Texas' Pedestrian Death & Injury Statistics:

What do we know and what can we do?

- Dr. Kara Kockleman, University of Texas at Austin

11:20 – 11:30: Stakeholder Updates

11:30: Adjourn



Virtual Meeting Best Practices



- Please stay muted unless you are speaking
 - This limits distracting sounds and noises that detract from the meeting
- Please use webcam if you can
- Actively participate in the meeting
 - Use WebEx chat
 - Use Poll Everywhere for communication
 - Participate in polls
 - Speak up!



Quick Refresher: Poll Everywhere

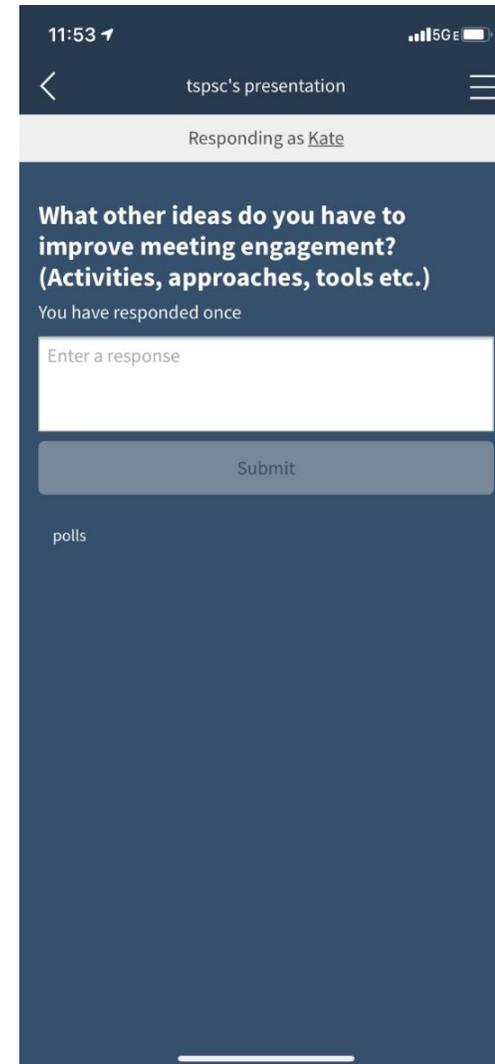
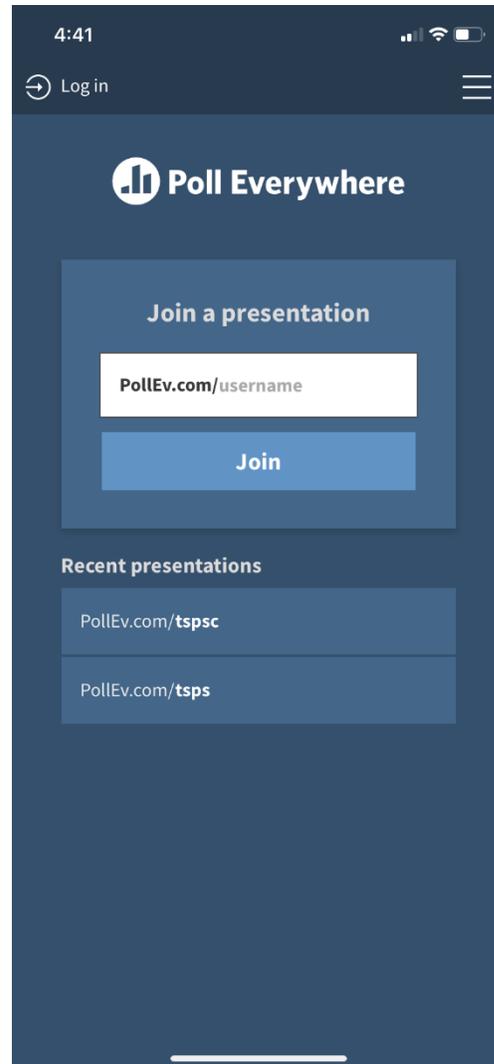
- Participate through:
 - smartphone application
 - cell phone text
 - web browser (smart phone or computer)

🗨️ Respond at [PollEv.com/tspsc](https://poll-ev.com/tspsc)
📱 Text **TSPSC** to **37607** once to join, then text your message

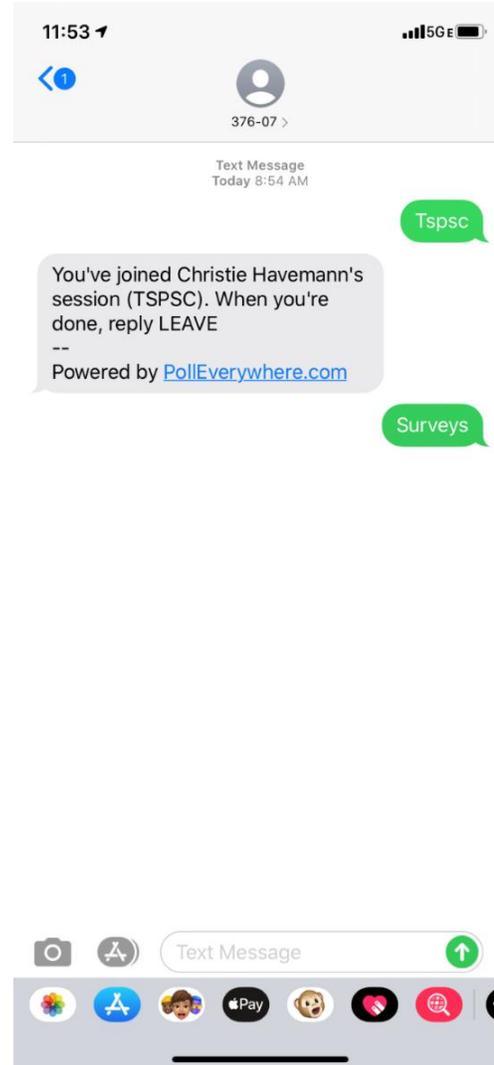
What presentations, topics, sessions, and/or speakers would you like to see at the 2020 Pedestrian Safety Conference?



Poll Everywhere: Smartphone Application



Poll Everywhere: Cell Phone Text



Poll Everywhere: Web Browser



Secure | https://pollev.com/tspsc?_ga=2.82050261.2139576966.1574282118-1061770673.1574282118

Apps UT Is Mercury in Retro... The Beauty Look B... 5 Day Weather For... Facebook Nordstrom: Shoes,... RENT Twitter ConnectCarolina |... Pinterest Writing Posts « Wo... Other Bookmark

Christie H. Your presentation

Christie Havemann, this is your response page. Participants use this page to respond to your polling activities.

To make it your own, you can add a logo, change the colors, and customize the URL.

[Customize](#) [Don't show again](#)

Responding as [Christie H.](#)

Brainstorm Session: What ideas do you have to improve virtual meeting engagement?

You have not responded

Submit

No responses submitted yet.



WebEx Chat Function



A screenshot of a Cisco Webex Meeting interface. The window title is "Cisco Webex Meetings". The top menu bar includes "File", "Edit", "Share", "View", "Audio", "Participant", "Meeting", and "Help". The main area is mostly empty with a large, faint "BE" watermark and the text "Waiting for others to join". On the right side, there is a "Participants" panel showing one participant: "Ben Ettelman (Host, me, internal)". At the bottom, there is a toolbar with several icons: a phone, a red envelope, a share icon, a video camera, a person icon, a speech bubble icon (highlighted with a red circle), a plus sign, and a red X. A red rectangular box with the text "Click to open chat box" is positioned above the speech bubble icon, with a red line pointing from the box to the icon.



WebEx Chat Function



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Choose who you send chat to, will be either a specific user or everyone

Chat will appear here

Enter text here



2020 Texas Pedestrian Safety Forum



- 2020 Texas Pedestrian Safety Forum will be held virtually
- Date will not change: Thursday, August, 6
- Forum will start at 9:00 a.m. and go until to mid-afternoon
- Format will be similar to in-person event
 - Hour sessions to keep things fresh
 - Opportunity to identify more national speakers
 - Plenty of opportunity for engagement (discussion, Q&A, etc.)
- Registration will be open this week
- Agenda is being developed—will be shared with coalition ASAP
 - Contact b-ettelman@tti.tamu.edu if you would like to present.



UPDATE ON STRATEGIC HIGHWAY SAFETY PLAN

Eva Shipp, Texas A&M Transportation Institute

e-shipp@tti.tamu.edu



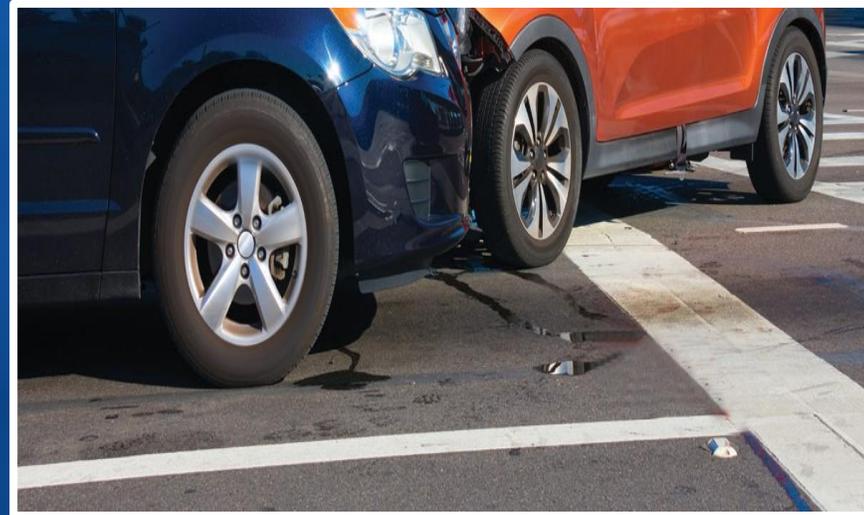
Pedestrian EA Team



June 17, 2020

Topics

- SHSP background
- SHSP Website & Review
- Collecting Programs and Projects
- Gap analysis
- Traffic Safety Calendar
- Refine Countermeasures and Action Plans



2017-2022 Texas SHSP Background

- Plan for Texas
- Current version submitted to FHWA in 2017
- Will be updated for 2022 (every 5 years)
- 7 EA Teams - data driven process
- Proven strategies, countermeasures, and action plans to reduce fatalities and serious injuries
- Track progress over time / evaluation

SHSP Website

www.texasshsp.com

Texas Strategic Highway Safety Plan

ABOUT EMPHASIS AREAS RESOURCES TEXAS SHSP CONTACT
CALENDAR TELL US WHAT YOU'RE DOING TRAFFIC SAFETY CONFERENCE



What do distracted, impaired, and speeding drivers, older road users, pedestrians, and lane departure and intersection crashes have in common?

They are the seven areas of greatest concern related to Texans dying or being seriously injured on our roadways.

Click to learn more



What can we do about it?

Click on the icons below to learn what you can do and what others are doing to address these issues.

SHSP Website

www.texasshsp.com

The screenshot displays the website's navigation menu with links for ABOUT, EMPHASIS AREAS, RESOURCES, TEXAS SHSP, CONTACT, CALENDAR, TELL US WHAT YOU'RE DOING, and TRAFFIC SAFETY CONFERENCE. The main header features the title "Texas Strategic Highway Safety Plan" and a sub-header "Pedestrian Safety". A central image shows a city street scene with a bus, a car, and a cyclist. Text next to the image states, "Pedestrian crashes are on the rise in Texas." Below the image is a navigation bar with tabs for DESCRIPTION, FATALITIES AND SERIOUS INJURIES, CONTRIBUTING FACTORS, WHERE CRASHES OCCUR, DEMOGRAPHICS, and STRATEGIES. The breadcrumb trail reads "Home — Emphasis Areas — Pedestrian Safety — Description".

THE PROBLEM

Crashes with pedestrians are a concern given that the pedestrians are more likely to sustain fatal or severe injuries compared to vehicle occupants.

The Pedestrian Safety emphasis area encompasses crashes that involve at least one pedestrian and one motor vehicle. Pedestrian crashes accounted for 3,434 fatal crashes (16 percent of all fatal crashes) and 6,815 severe crashes (7 percent of all serious crashes) from 2010–2016

79% of fatal pedestrian crashes occurred at nighttime.

COMBATING THE ISSUE

- STRATEGIES
- PROGRAMS AND PROJECTS
- EMPHASIS AREA TEAM

© 2020 Texas Strategic Highway Safety Plan

- Feedback
 - Email
 - Survey forthcoming

Collecting Programs & Projects

Texas Strategic Highway Safety Plan

ABOUT EMPHASIS AREAS RESOURCES TEXAS SHSP CONTACT

CALENDAR **TELL US WHAT YOU'RE DOING**

TRAFFIC SAFETY CONFERENCE

Home — Tell Us What You're Doing

SIGN UP TO BE AN EMPHASIS AREA TEAM MEMBER

Name

First Last

Organization

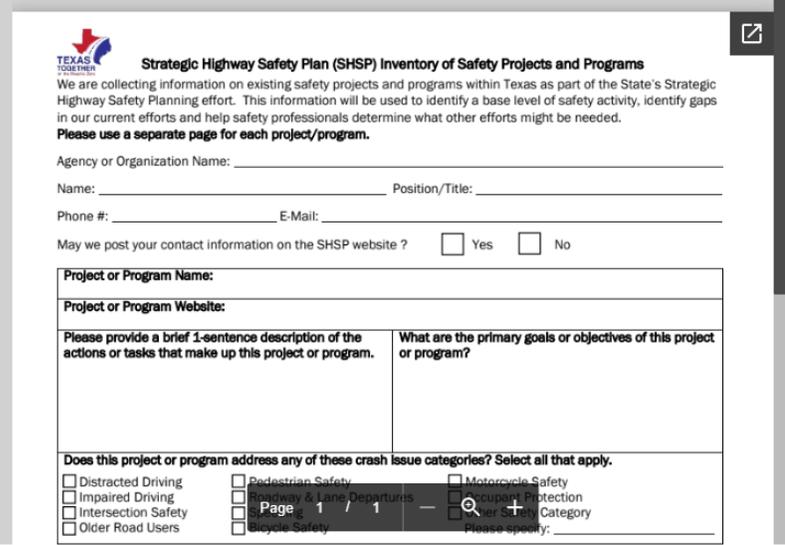
Email

Emphasis Area Team you would like to be a part of:

- Distracted Driving
- Impaired Driving
- Pedestrian Safety
- Intersection Safety
- Speeding
- Roadway and Lane Departures
- Older Users

Tell Us What You're Doing

Let us know what you're doing by filling out our form below. Select the "Download" option below the form, save it to your computer and email a copy to [Stacey Schrank](#).



Strategic Highway Safety Plan (SHSP) Inventory of Safety Projects and Programs

We are collecting information on existing safety projects and programs within Texas as part of the State's Strategic Highway Safety Planning effort. This information will be used to identify a base level of safety activity, identify gaps in our current efforts and help safety professionals determine what other efforts might be needed. **Please use a separate page for each project/program.**

Agency or Organization Name: _____

Name: _____ Position/Title: _____

Phone #: _____ E-Mail: _____

May we post your contact information on the SHSP website? Yes No

Project or Program Name:	
Project or Program Website:	
Please provide a brief 1-sentence description of the actions or tasks that make up this project or program.	What are the primary goals or objectives of this project or program?
Does this project or program address any of these crash issue categories? Select all that apply.	
<input type="checkbox"/> Distracted Driving	<input type="checkbox"/> Pedestrian Safety
<input type="checkbox"/> Impaired Driving	<input type="checkbox"/> Roadway & Lane Departures
<input type="checkbox"/> Intersection Safety	<input type="checkbox"/> Motorcycle Safety
<input type="checkbox"/> Older Road Users	<input type="checkbox"/> Occupant Protection
<input type="checkbox"/> Bicycle Safety	<input type="checkbox"/> Other Safety Category
Please specify: _____	

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[Download \(PDF 187KB\)](#)

Gap Analysis - Underway

SIGN UP TO BE AN EMPHASIS AREA TEAM MEMBER

Name

First Last

Organization

Email



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	<input type="checkbox"/> Other Safety Category
	Please specify: _____

Download (PDF 187KB)

Traffic Safety Calendar

Texas Strategic Highway Safety Plan

ABOUT EMPHASIS AREAS RESOURCES TEXAS SHSP CONTACT

CALENDAR TELL US WHAT YOU'RE DOING TRAFFIC SAFETY CONFERENCE

Home — Calendar

UPCOMING EVENTS:

- MON 20 APR 2020** **SHSP Speeding EA Team Meeting**
2 PM - 3 PM
- WED 22 APR 2020** **SHSP Impaired Driving EA Team Meeting**
2 PM - 3 PM
- THU 23 APR 2020** **SHSP Intersection EA Team Meeting**
10:30 AM - 11:30 AM

Calendar

All | Upcoming | 2016 | 2017 | 2019 | 2020

MON 20 APR 2020 **SHSP Speeding EA Team Meeting**
2 PM - 3 PM WebEx
WebEx information for joining this online meeting:

Meeting number (access code): 926 745 750

Meeting password: SHSP

Monday, April 20, 2020

2:00 pm | Central Daylight Time (Chicago, GMT-05:00) | 1 hr

- Campaigns
- Coalition meetings
- Conferences
- Forums
- Training opportunities

Assess Strategies, Countermeasures and Action Plans

- Identify and describe stakeholder actions needed to implement action plans
- Identify and define clear metrics for assessing progress and success

Assess Strategies, Countermeasures and Action Plans

Problem for some countermeasures & action plans:

- Lack precise language
- Lack clear metrics that could be used to assess progress or success

Review countermeasures & action plans

- Make sure action items are written in a way that can be measured & quantified.
- Identify & define metrics

Metrics: A Review

SHSP Targets (Outcomes)

- Fatalities & suspected serious injury counts & rates
- Long term accomplishments

Outputs (Performance Evaluation)

- Intermediate accomplishments
- Metrics simple, countable
- Examples
 - Number rumble strips installed
 - Number training kits created
 - Number of officers trained

Example: Intersections

Strategy

Improve pedestrian visibility at crossing locations.



COUNTERMEASURES



Countermeasure



Improve pedestrians' visibility at crossing locations.

Countermeasure: Improve nighttime visibility of pedestrians.

Abbreviated Steps for Implementation

1. Identify locations and conditions where nighttime visibility of pedestrians is a concern (e.g., bus stops and high-nighttime-activity areas).
2. Identify suitable treatments. (See examples in the note below.)
3. Identify and secure funding.
4. Implement the treatments.
5. Educate the public on looking for pedestrians at night and being visible while walking.
6. Evaluate the efficacy of the treatments and share information with stakeholders.



Metric Examples

- Number of treatments installed.
- Number of public outreach activities.

Metrics: Process

1. Refine wording if needed.
2. Define metrics for outputs & potential data sources.
3. Document what stakeholders need to do to implement action plans.

Refine Countermeasures & Action Plans



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Wrap Up

- Next meeting – Pedestrian Forum in August
- Dedicated email – texasshsp@tti.tamu.edu
- Eva Shipp: e-shipp@tti.tamu.edu
- Questions
- Comments

Thanks very much!

PEDESTRIAN SAFETY UPDATES FROM LOCAL, REGIONAL, AND STATE TRANSPORTATION AGENCIES





Developing Countermeasures to Decrease Pedestrian Deaths

TxDOT Innovative Research Project 20-080

Dr. Kara Kockelman, Kenneth Perrine, Max Bernhardt,
Mashrur Rahman, & Dr. Alex Karner



TEXAS

The University of Texas at Austin



Presentation Outline

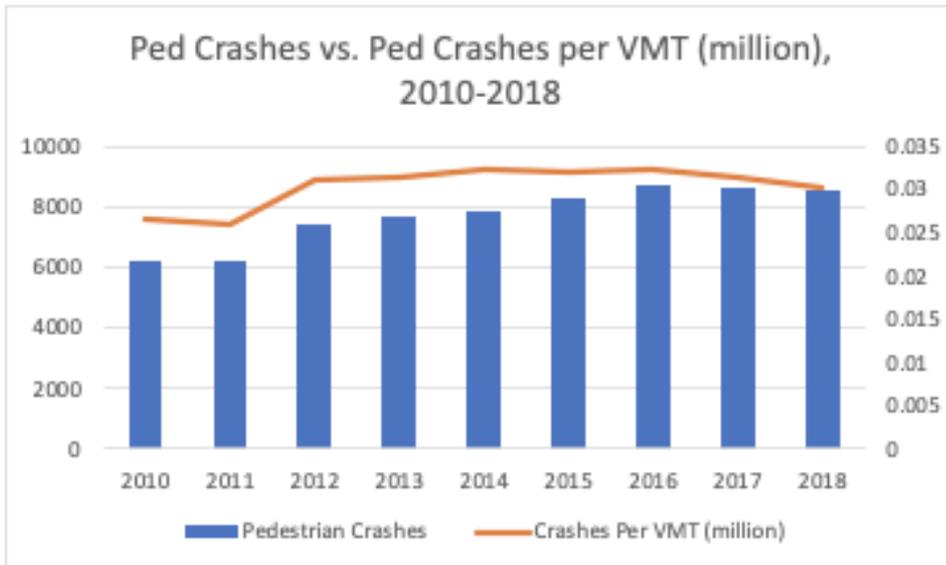
- Literature Review Highlights
- Preliminary Results
- Next Steps
- Q&A



'Creative crosswalk' with pedestrian-hybrid beacon on Lake Austin Boulevard in Austin, Texas

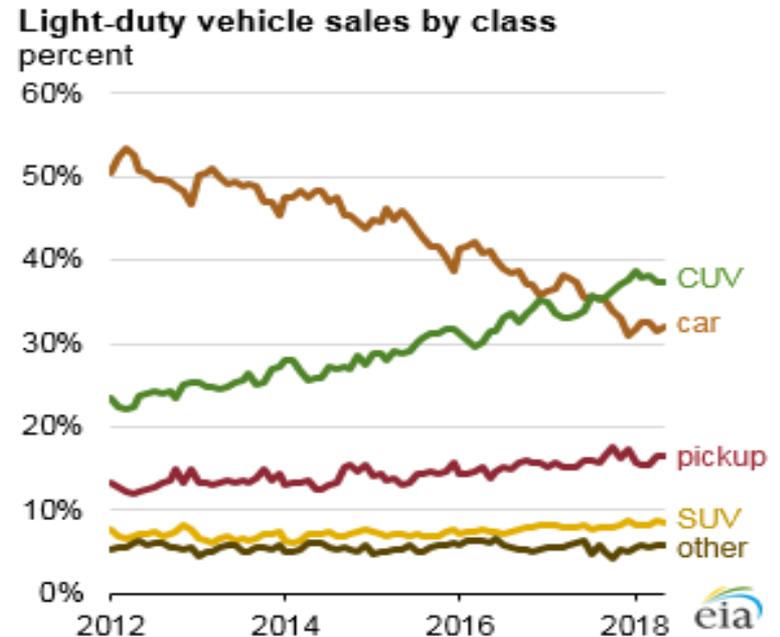
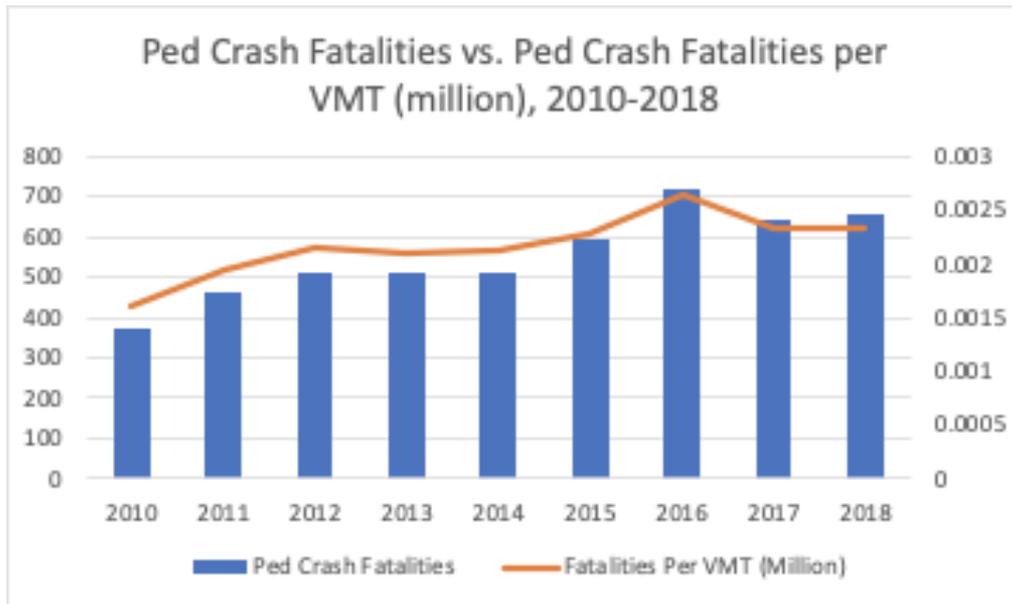
Lit Review Highlights

- **Total ped crashes reported per VMT appear stable, but death counts & rates rising: +31.6% in Texas** from 2010 to 2018
- **% crash deaths that are Peds also rising (2010-2018):**
 - 13% → **17% US** & 12% → **18% Texas**



Lit Review (2)

- Walk-miles aren't rising much. Rise in ped deaths is occurring alongside **popularity of CUVs & light-duty trucks (pickups, SUVs & vans)**. These vehicles have **large hoods & grills** that peds (and cyclists) cannot clear (GHSA, 2018).



Source: Energy Information Administration

Key Crash Factors

Pedestrian Walk Speeds & Age Effects:

- Those age **65+** tend to walk **28% slower** than those under age 65 (Avineri et. al, 2012).
- Being **70 yo** rather than **30 yo** deliver **same death risk** as having vehicle hit you at **11.8 mph higher speed** (Tefft 2013).

Vehicle Speed Effects:

- 3% added fatality risk for every 1 mph increase in speed from 25-40 mph. **90% risk** of **death** when hit **at 55 mph** (Tefft 2013).
- **Median impact speeds:** 14 mph for injury vs. 35 mph for killed ped (Tefft 2013).

Time of Day, Gender, & Drug/Alcohol also important (to be discussed)
+ Homelessness (50+% of Austin ped deaths in recent years!)

Countermeasures

- TX's **Safe Routes to School (SRTS)** **lowered** rates of **school-age ped injuries by 42.5%**, primarily through signage + crosswalk improvements (DiMaggio 2015).
- NYC Study suggests **streets with bike lanes are 40% less deadly**, & **speed humps** lower speeds by 19% lower speeds (NYCDOT 2010).
- **Educational campaign** impacts are still **debated**, but LA study may have **increased awareness** for school-aged children (ex: 41% looking both ways, vs. 10% prior to a ped safety unit in class) (Bachman 2015).



Data Details

TxDOT's statewide motor vehicle traffic **Crash Records Information System** = **CRIS** = for reported + recorded crashes only.

We analyzed > **5.6M police-recorded crashes** available in Texas' **CRIS 2010-2019** database.

Important variables in CRIS:

- **Crash** type, injury severity, location, time, road geometry.
- **Vehicle** characteristics.
- **Person** characteristics (crash-involved peds, cyclists & vehicle occupants).

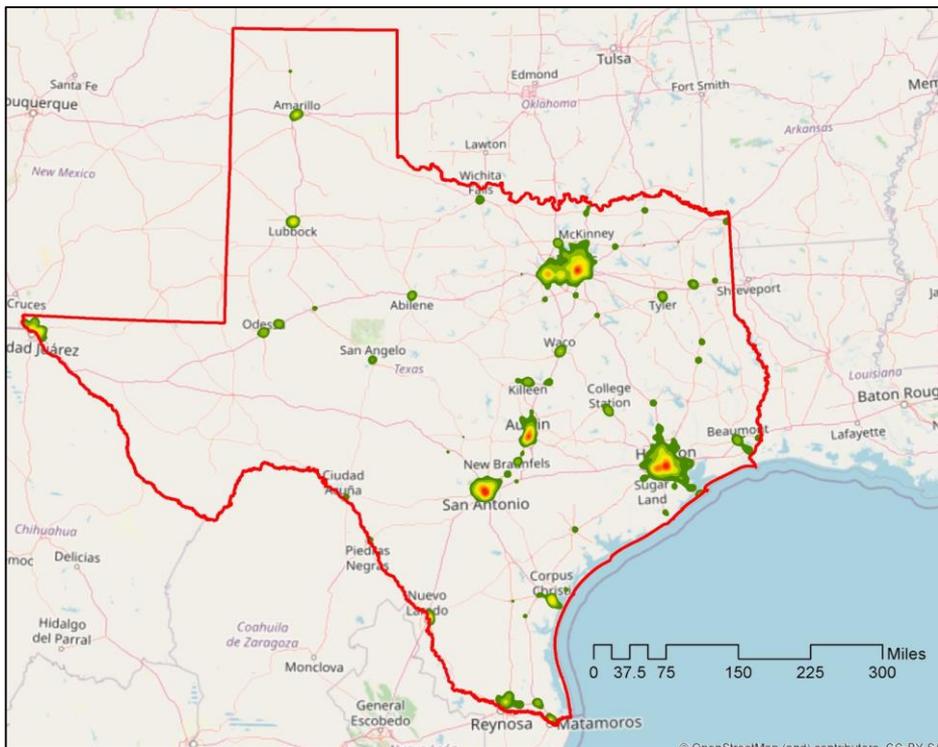
Note: Crashes not reported/recorded are not included in CRIS.

Roadway Inventory: Link attributes, AADT, geometry + **Land use** details, **topography**, rainfall/climate, ... **What else?**

From 2010 through 2019...

- Texas' **pedestrian crash count** rose **+46%**.
- **Ped deaths rose +86%** vs. 19% increase in recorded motor vehicle fatalities, **15% population**, & **20% state VMT**.
- **62% increase in ped deaths per capita** (1.49 → 2.41 ped deaths per 100,000 residents per year) vs. **13.4%** increase in **walk-miles traveled** (WMT), using 2009 vs 2017 NHTS data.
- Are drivers or peds **too distracted** &/or taking **more risks**? **Vehicle designs** too aggressive? **Homeless** numbers rising fast? Are **distances walked to one's car** or transit rising a lot? (What % of **ped exposure** is not in the NHTS?) **Mental health**, suicidal tendencies, & other issues? *Let us know!*

CRIS Data Heat Map



Pedestrian Crashes: 2010-2019

Top 5 Texas cities for ped deaths:
**Houston, Dallas, San Antonio,
 Austin & Ft. Worth (36% of TX
 total)**

Among these, **Austin** has **highest % ped deaths** (vs all crash deaths), but **“just” 84 mi walked per person/yr** (vs 112 mi US average & <80 in other TX cities)

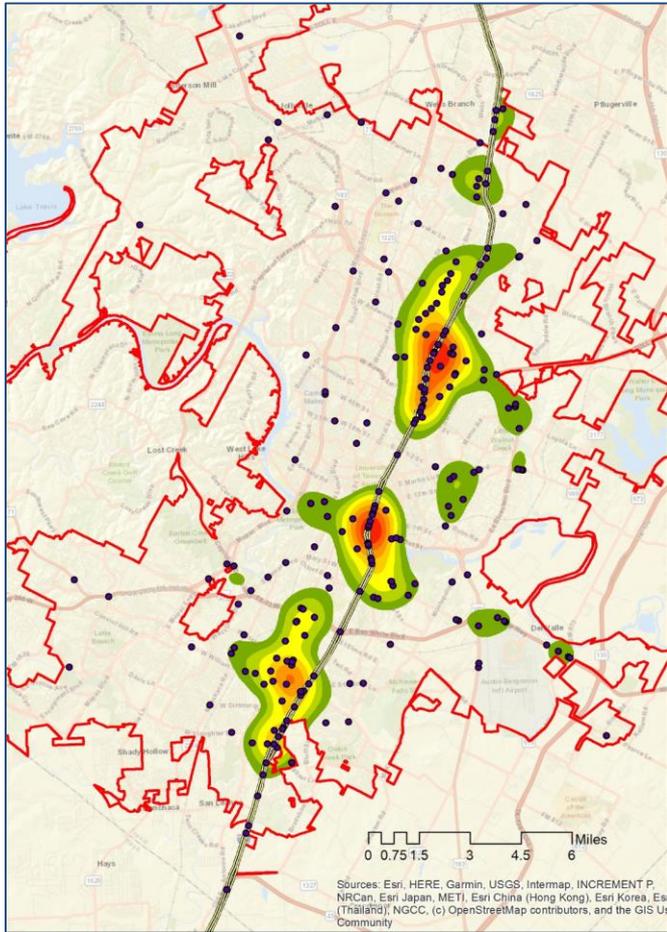
Dallas has most ped deaths per capita (40 per 100k pop) among Texas cities (pop. >100,000).



Top TX Cities: Ped Deaths/Capita

City Name	Population	Ped Deaths (2010-2019)	Ped Deaths/100k residents over 10 yr
Dallas City	1,197,816	478	39.91
San Antonio	1,327,407	474	35.71
Corpus Christi	305,215	106	34.73
Austin City	790,390	249	31.50
Beaumont	118,296	37	31.28
Fort Worth	741,206	231	31.17
Houston	2,099,451	635	30.25
El Paso	649,121	192	29.58
McAllen	129,877	37	28.49
Waco	124,805	34	27.24

Austin Hot Spots



**Ped Death Heatmap for Austin
 (2010-2019)**

28% of Austin’s ped deaths are on **IH-35**:

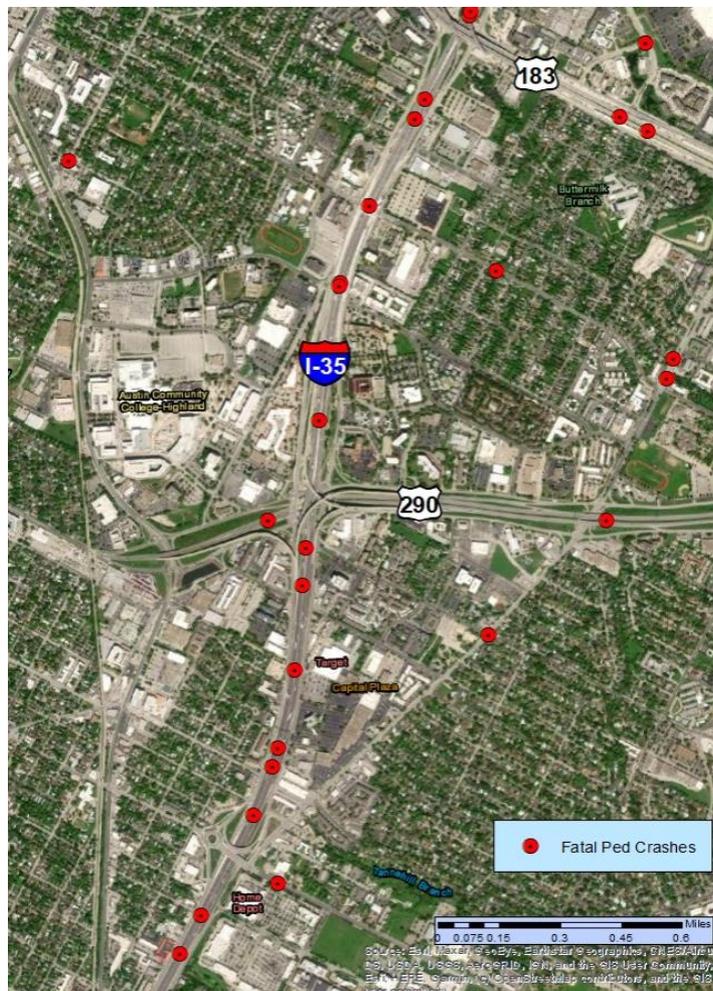
- South of 290
- Between 290 and 183
- Between Wlm Cannon & Slaughter Ln

55% of City of Austin ped deaths in 2019 experiencing **homelessness (!)**.

Other Hotspots:

- North **Lamar Blvd** (183 to Braker Ln)
- **US 183** (East of IH-35, to 290)
- **US 71** (between US 183 & SH 130)

Austin's Capital Plaza Area



Fatal Ped Crashes on IH-35 (between 290 & 183)

Example Austin Hot Spots



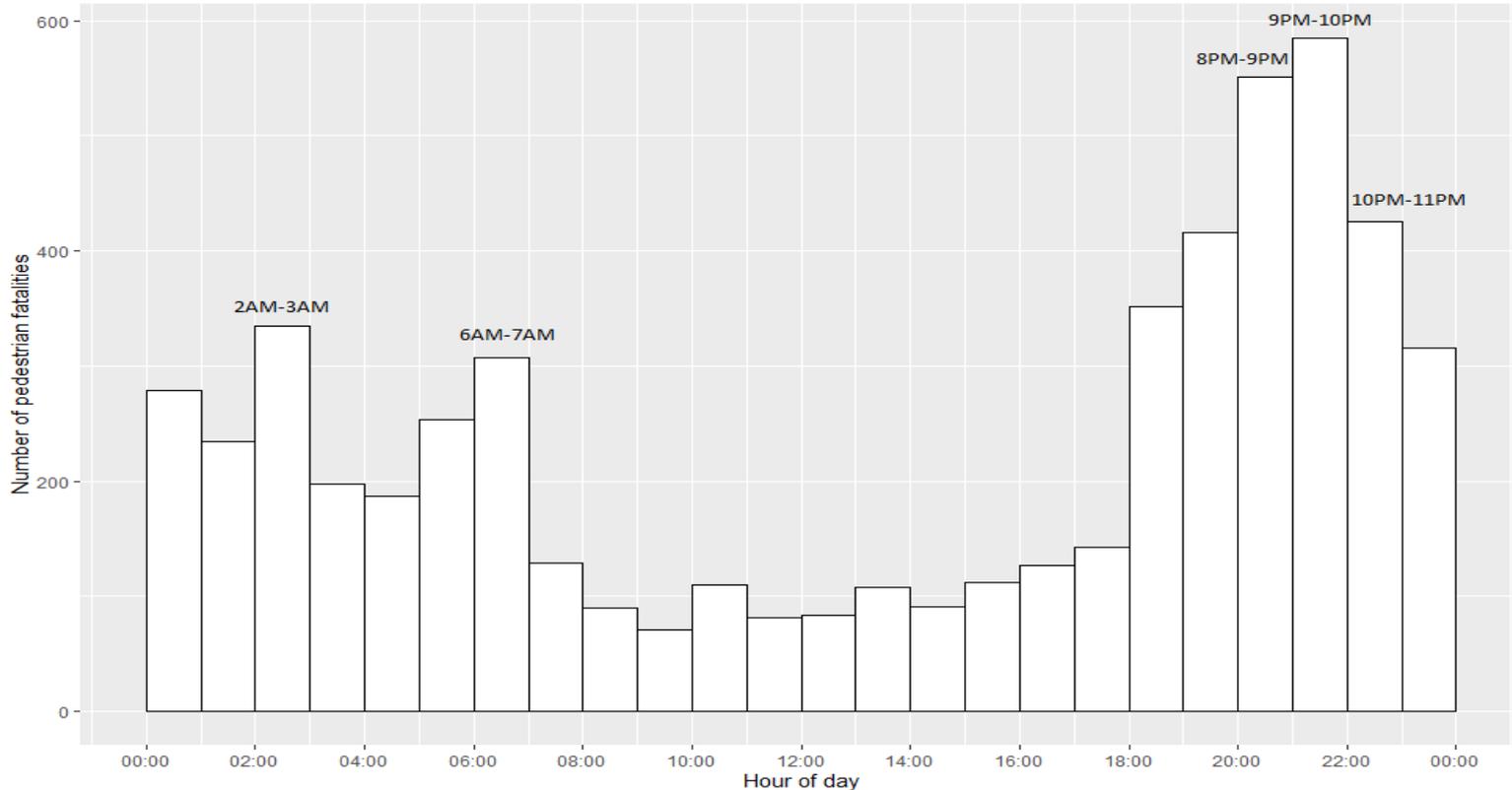
I-35 @ Rundberg Lane



I-35 @ Cesar Chavez-15th St.



TX Ped Deaths by Time of Day



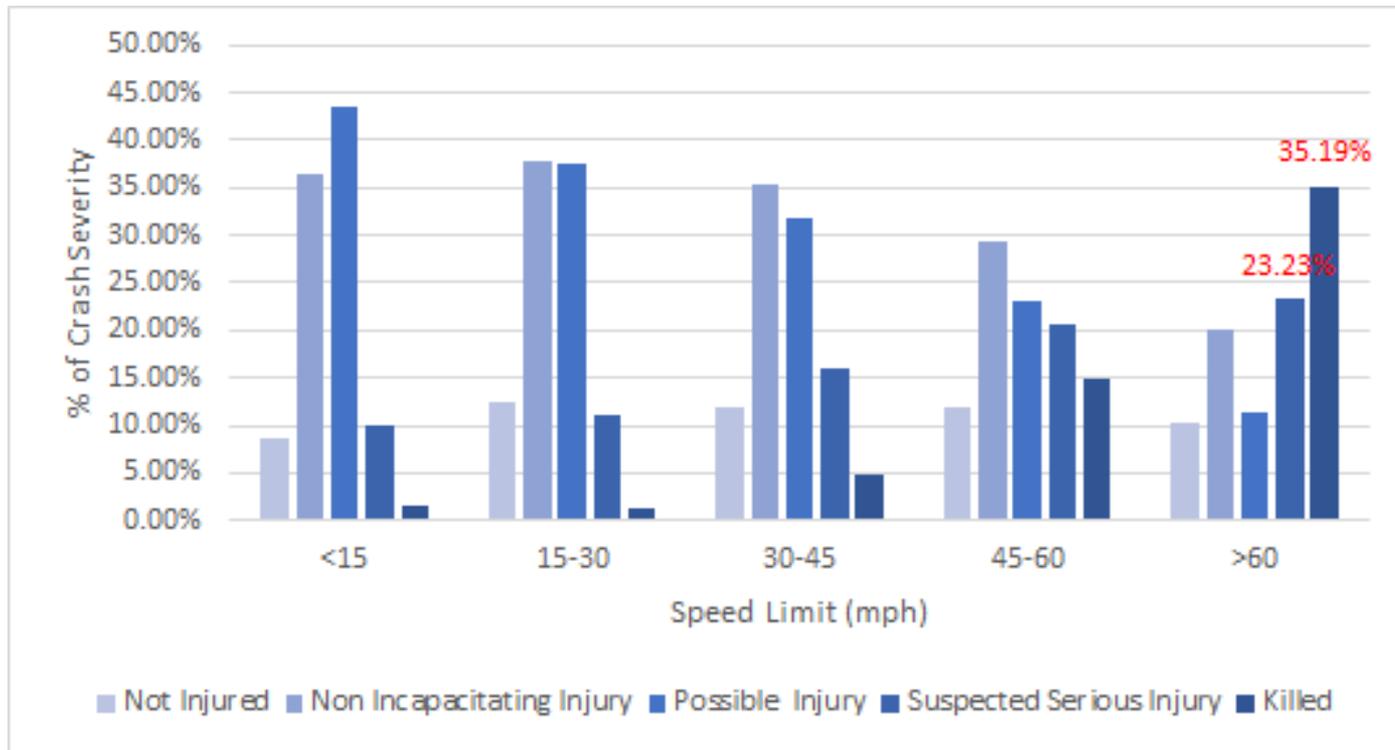
~80% of ped deaths occur occur at “nighttime”.

Worst hour for % ped deaths = 9 to 10 PM.

41% ped deaths = Friday 7PM - Sunday midnight

Crash Severity vs Speed Limit

Fatality rate increases with speed: **Median speed limit** in locations of **fatal** ped crashes **45 mph** vs **30 mph** for **non-fatal**.



Alcohol & Drugs

Alcohol &/or drugs were involved in **37.6% of ped deaths**.

Alcohol was involved in **24.4% of ped deaths** - mostly by pedestrians (21%).

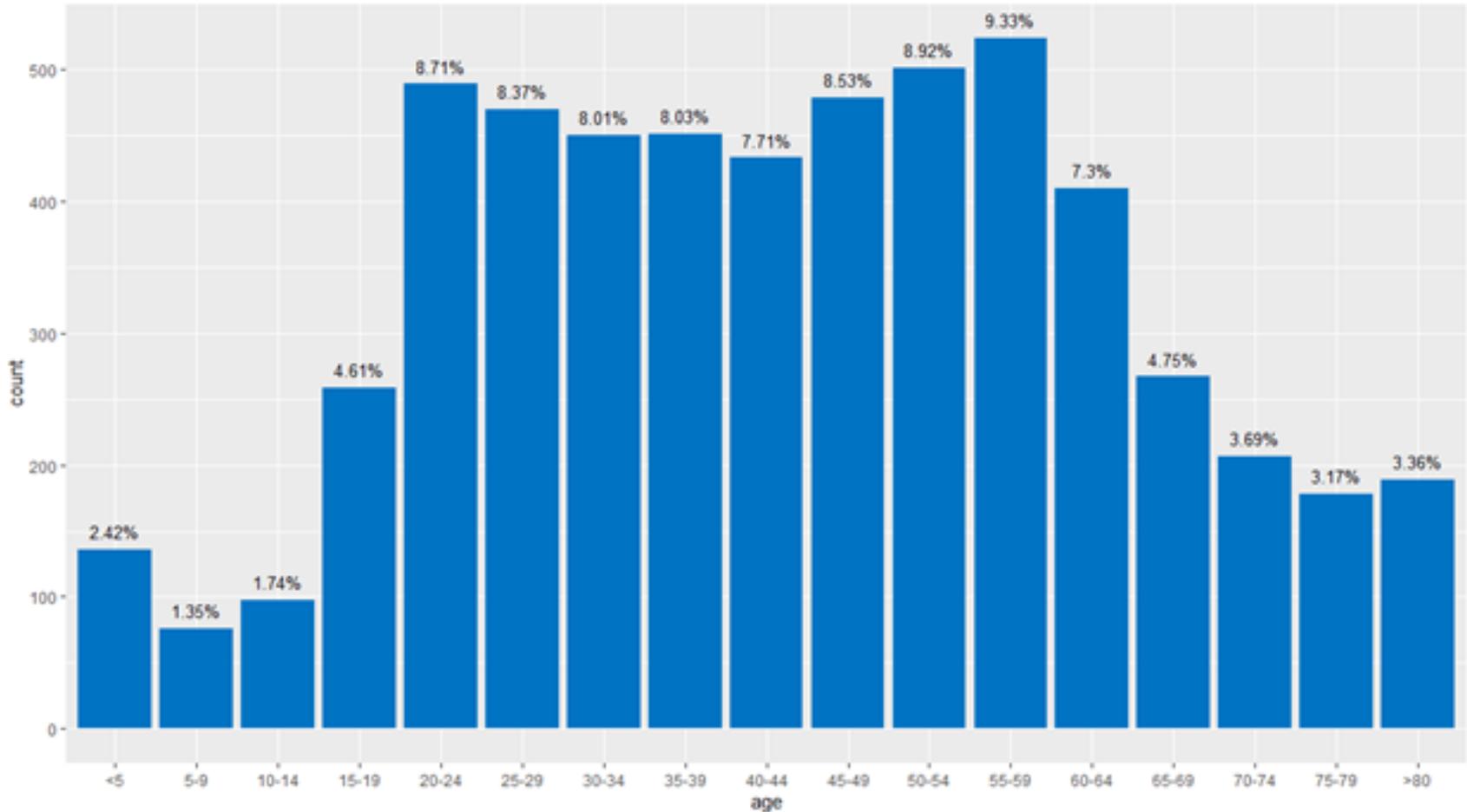
82% of these 24.4% were **at night** (8PM-6AM). **55%** of drug & alcohol deaths were on **“weekends”** (Friday 7 PM to Sunday midnight). **77.4%** were **male** ped or driver under influence. Drugs were involved in **20% of ped deaths**.

Alcohol Involvement in ped deaths...

	Driver Positive	Driver Negative	Driver Result NA	Total
Pedestrian Positive	59 (1.04%)	121 (2.13%)	1016 (17.91%)	1196 (21.08%)
Pedestrian Negative	75 (1.32%)	201 (3.54%)	1303 (22.96%)	1579 (27.83%)
Ped Result NA	114 (2.01%)	289 (5.09%)	2496 (43.99%)	2899 (51.09%)
Totals	249 (4.37%)	623 (10.77%)	5392 (84.86%)	5674 (100%)



Age of Killed Peds



58% are 20 to 54 years old. **72%** are male.

Over 30% have **drugs or alcohol** in their systems at time of death.

Next Steps

- **Predict Crash Counts & Injury Levels** Across Texas Links (using negative binomial across links & ordered probit models by crash)
- Describe **All Treatments**
- **Benefit-Cost Analysis** of Top Treatments
 - Following full assembly of datasets and developing **'decision trees'** for contributing factors to crashes.
- Identify & **Rank Top 200 Sites** for Treatment
- Make Additional **Recommendations**



Thank you for your time!

Questions & suggestions?

Please contact us - any time, at kkockelm@mail.utexas.edu

