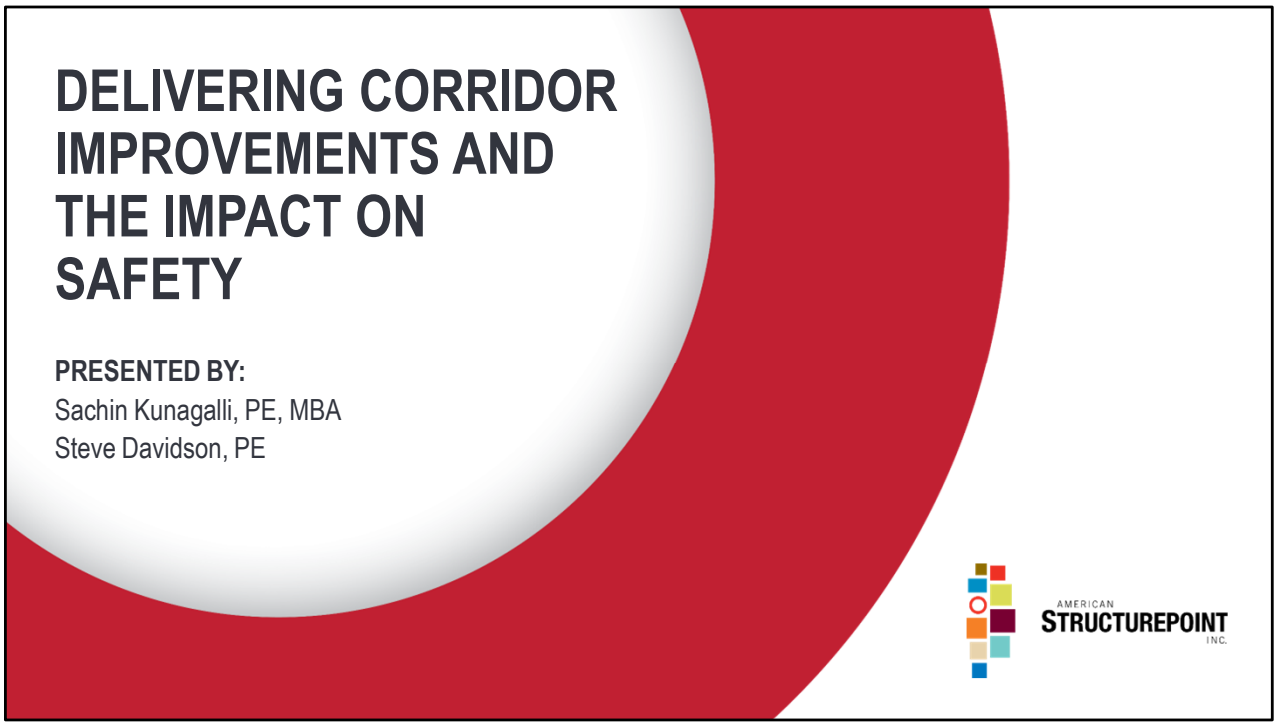
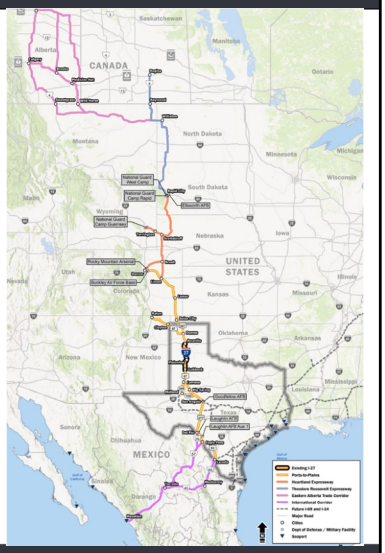


Good Morning everybody, so far we heard about the strategic importance of this corridor from previous presentations. Steve and I will talk about impact on safety from development of this corridor to interstate standards.

CORRIDOR MAP



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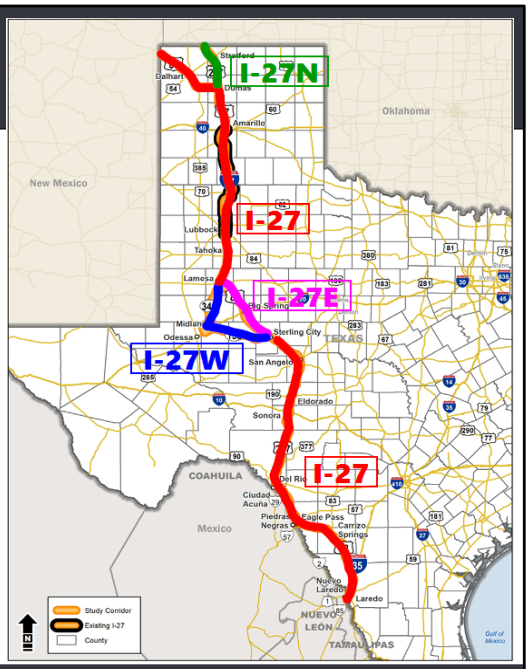
Most of you are probably familiar with this map. New interstate designations is not a regular occurrence. It always thrills me whenever I see this interstate logo of I-27. This couldn't have been possible without strong unwavering support from our elected officials.

PORTS-TO-PLAINS → I-27

- Sponsored by **Senator Ted Cruz** and co-sponsored by:
  - **Senator John Cornyn (R-TX).**
  - **Senator Martin Heinrich (NM).**
  - **Senator Ben Ray Luján (D-NM).**
- I-27 Numbering Act of 2023 (S.992) was unanimously approved on July 27, 2023, to formally name the Ports-to-Plains Corridor as Interstate 27 (**I-27**).



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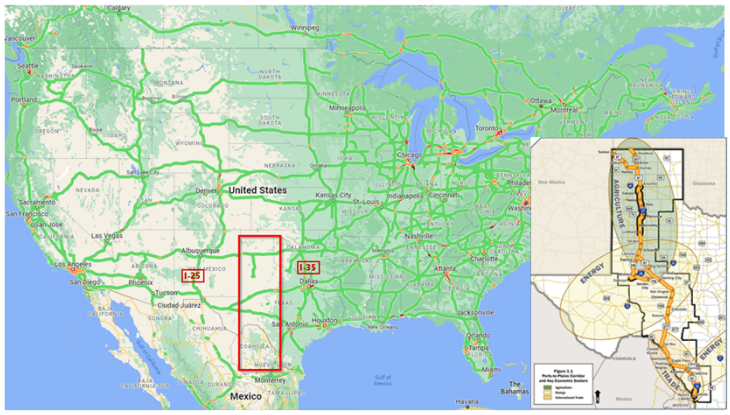
Thanks to Senator Cruz, Cornyn, Heinrich, and Ray Lujan – I-27 numbering act of 2023 was unanimously approved on July 27th of this year. This is a significant milestone for us. Let's take a moment here to thank our senators as well as hundreds of other passionate supporters of Ports-to-Plains corridor. Without their support, we couldn't have reached this milestone. I know none of you here are not going to ask why do we even need this corridor. As you heard from previous presenters, we have connectivity challenges west of I-35 and we need an alternate route for trade and border security.

INTRODUCTION



Source: Ports-to-Plains Advisory Committee Report (Oct 15, 2020)
https://ftp.txdot.gov/pub/txdot/get-involved/statewide/ports-plains/101520-advisory-committee-executive-summary.pdf

I-27 Supports

- Largest agriculture production in the country
- 39% of US crude oil production in Permian basin
- International trade – $262 Billion in 2019 across strategic gateways of Laredo, Eagle Pass and Del Rio

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What do we see in this US map?

- West of I-35 corridor, major N-S corridors have anywhere between 300 to 650 miles of separation. This is pretty significant. And what do we have in this area? Oil and agriculture products.
- East of I-35, look at the connectivity of road network.
- Now compare the economic activity between these two areas.
- Summary: Road network bring communities closer and improves quality of life.

TRUCK TRAFFIC MOVEMENT

How a Texas Border City Is Shaping the Future of Global Trade*

Laredo, across from Mexico on the Rio Grande, is primed to become one of the world's most important land ports as American companies reduce their reliance on factories in Asia.

- I-35 – only viable option for inbound truck traffic from Mexico.

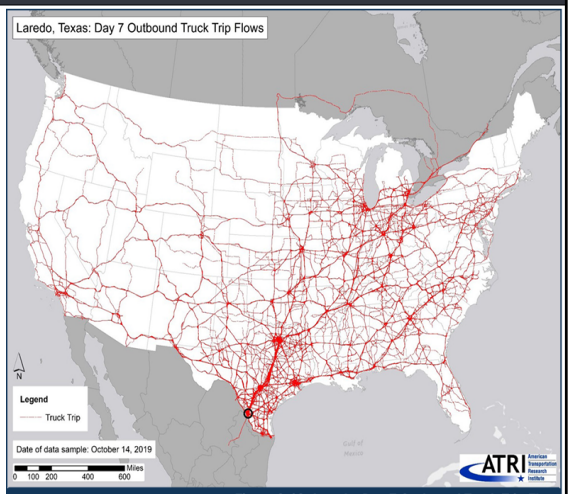

Figure 2.12: Laredo: Day 7 Outbound Truck Trip Flow
Source: ATRI, 2019

Source: Ports-to-Plains Advisory Committee Report (Oct 15, 2020)
https://ftp.txdot.gov/pub/txdot/get-involved/statewide/ports-plains/101520-advisory-committee-executive-summary.pdf
* NY Times (Jan 5, 2023) https://www.nytimes.com/2023/01/05/business/us-mexico-trade-laredo.html

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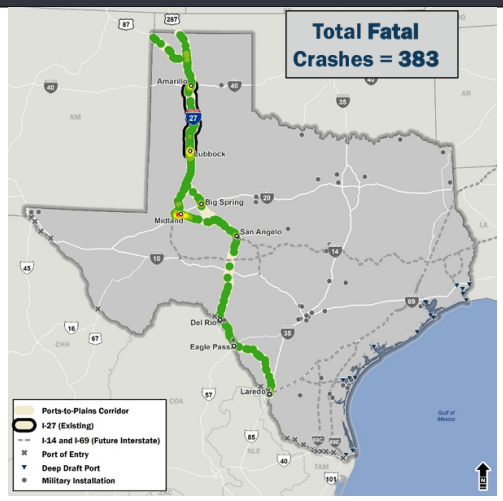
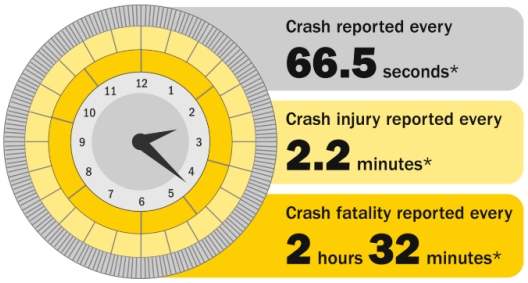
Earlier this year, there was an interesting article in New York time. Its not a matter IF this is going to happen, it's a matter of what we are go to do when this happens. Our only option right now is I-35.

SAFETY



Source: Ports-to-Plains Advisory Committee Report (Oct 15, 2020)
https://ftp.txdot.gov/pub/txdot/get-involved/statewide/ports-plains/101520-advisory-committee-executive-summary.pdf
https://data.texas.gov/stories/s/dvwk-533c



The peak fatality hour occurred on
Saturday and **Sunday** between **2** a.m. and **3** a.m.

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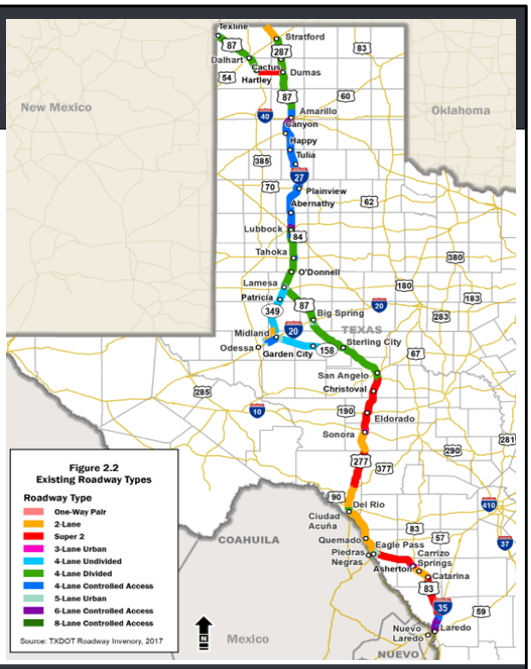
When we look at advisory report from 2020 supplemented by crash data from TxDOT, the report is alarming. As you see here, there is a crash reported approximately every minute. This is the data from TxDOT between 2010 and 2020. The report is not any better for ports-to-plains corridor.

There were 383 fatal crashes as shown in this map provided by TxDOT at the advisory committee meeting on April 23rd of this year in Austin. This is a number that we need to focus our attention on. I know we can do better and this corridor will help reduce this number and improve safety.

I will get in more detail in later part of this presentation. Now lets look at the existing configuration of this corridor.

EXISTING CONFIGURATION

- **963 miles in Texas:**
  - 152 miles interstate highway (16%).
  - 811 miles non-interstate highway (84%).
  - 350 miles of two-lane undivided roadway(36%).
- **South of San Angelo:**
  - Two-lane/super 2.
- **North of San Angelo:**
  - Eight-lane/four-lane controlled access.



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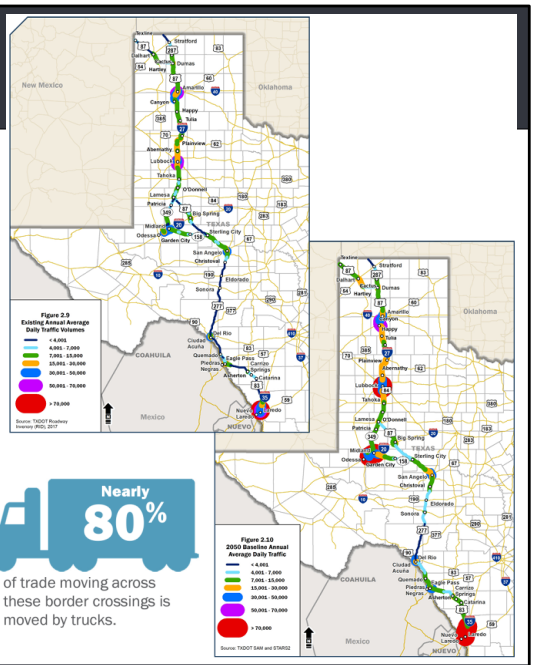
For all the major activities that happen on this corridor, this existing configuration is not able to handle the capacity and safety and reliability is a big concern.

TRAFFIC CONDITIONS

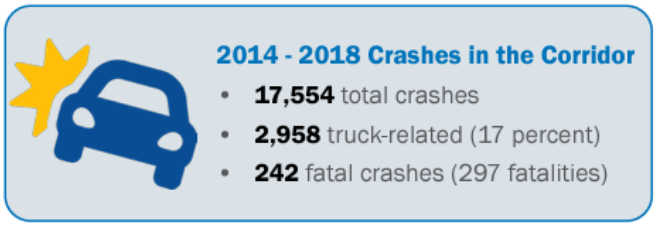
- **Traffic volume (67% increase):**
  - 2018 - 10,600 vehicles per day.
  - 2050 - 17,700 vehicles per day.
  - 80% of this increase is attributable to demographic changes.
- **Truck Traffic (73% increase):**
  - 2018 - 2,200 vehicles per day.
  - 2050 - 3,800 vehicles per day
  - Laredo carries 17,700 trucks per day.



Source: Ports-to-Plains Advisory Committee Report (Oct 15, 2020)
https://ftp.txdot.gov/pub/txdot/get-involved/statewide/ports-plains/101520-advisory-committee-executive-summary.pdf

CRASH STATISTICS

- 17,554 total crashes between 2014 and 2018 in the corridor.
- 350 miles of two-lane roadway and 95 miles of four-lane undivided roadway.
  - Crash rates are 48% to 97% higher than statewide crash rates for interstate facilities.
- 227 miles of roadway segments including 88 miles of two-lane facilities.
  - Crash rates exceed the respective statewide rate.



Source: TxDOT CRIS (Crash Records Information System)

Source: Ports-to-Plains Advisory Committee Report (Oct 15, 2020)
https://ftp.txdot.gov/pub/txdot/get-involved/statewide/ports-plains/101520-advisory-committee-executive-summary.pdf

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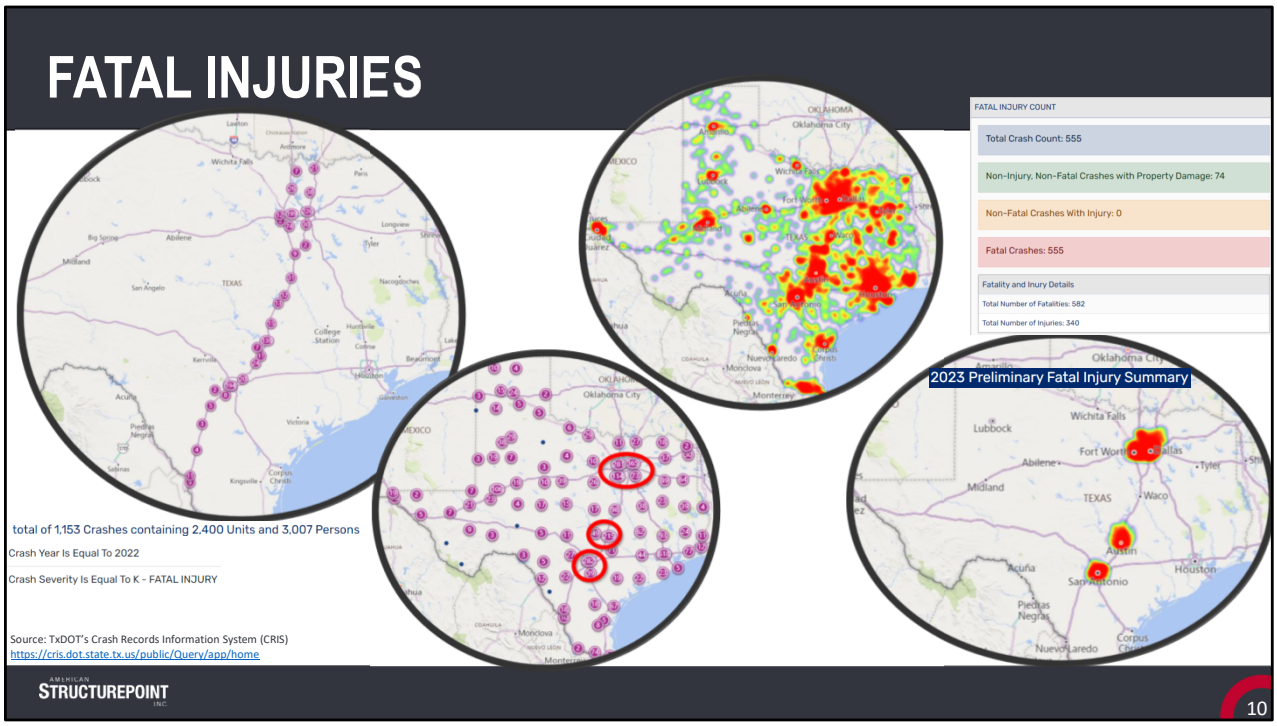
- The analysis based on TxDOT's Crash Records Information System (CRIS) indicates that of the 17,554 total crashes, seventeen percent or 2,958 were truck-related crashes.
- Truck crash rates were highest in urban areas such as Big Spring, Midland, Amarillo, Dumas, and Dalhart where truck volumes are higher and the route features at-grade intersections and increased crash exposure through towns.
- Overall truck crash rates were lowest on the current I-27 Corridor, including Lubbock, when compared to the other larger cities in the Corridor.
- The overall fatality rate is 1.31 per 100 MVMT, slightly over the statewide average of 1.29.



As the heat map here shows, fatalities are concentrated in metros along I-35 in San Antonio, Austin, Dallas and Fort Worth.

We can improve this statistics by providing an alternative for trucks to use other than I-35.

Now lets see what are the factors that will lead to safer roadway.

FACTORS CONTRIBUTING TO SAFETY

- Multiple lanes per direction.
- Grade separation.
- Traffic mix (trucks and cars).
- Controlled access.
- Safety features such as cable median barriers, rumble strips and turn lane improvements.

By Highway System

Highway System	Traffic Crashes per 100 million vehicle miles	
	Rural	Urban
Interstate	62.08	144.32
U.S. Highway	72.08	177.84
State Highway	94.10	217.69
Farm-to-Market	118.18	225.28

By Road Type

Road Type	Traffic Crashes per 100 million vehicle miles	
	Rural	Urban
2 lane, 2 way	102.13	213.77
4 or more lanes, divided	62.95	158.28
4 or more lanes, undivided	97.61	283.09

Source: TxDOT Crash Statistics 2018

FACTORS CONTRIBUTING TO SAFETY (CONT..)

- Multi-lanes per direction smoothens traffic flow.

SINGLE LANE HIGHWAY

Source: https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.rogersar.gov%2FDocumentCenter%2FView%2F27840%2FSOP-304---Roadway-Incident-Safety-B&psig=AOvVaw1hBMZcM9rGHi7Ls0qnZAA&ust=1691778580315000&source=images&cd=vfe&opi=89978449&ved=0CBAQjRxqFwoTCOjbi-nc0oADFQAAAAAdAAAAABAJ

MULTILANE HIGHWAY

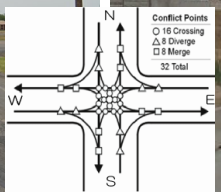
Source: https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.quora.com%2FWhat-is-the-difference-between-a-two-lane-highway-and-freeways-segment-multilane-highways-Where-do-we-most-usually-see-it&psig=AOvVaw1hBMZcM9rGHi7Ls0qnZAA&ust=1691778580315000&source=images&cd=vfe&opi=89978449&ved=0CBAQjRxqFwoTCOjbi-nc0oADFQAAAAAdAAAAABAm

FACTORS CONTRIBUTING TO SAFETY (CONT..)

- Grade separation reduces/eliminates conflict points.

AT GRADE INTERSECTION

Source: Google Maps

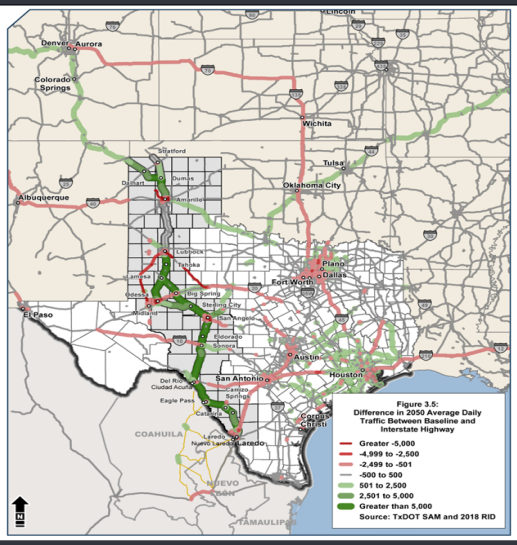


GRADE SEPARATED INTERSECTION

Source: https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.quora.com%2FWhat-are-the-uses-of-clover-shaped-flyovers&psig=AOvVaw0gWNW0x2EXPLIL5xZuZnEB&ust=1694277685534000&source=images&cd=vfe&opi=89978449&ved=0CA8QjRxqFwoTCNiO4bG6m4EDFQAAAAAdAAAAABAR

FACTORS CONTRIBUTING TO SAFETY (CONT.)

- Alternative route for trucks to utilize I-27 reduces truck traffic % on I-35, helping with congestion mitigation in San Antonio, Austin, Dallas, etc.



Source: Ports-to-Plains Advisory Committee Report (Oct 15, 2020)
https://ftp.txdot.gov/pub/txdot/get-involved/statewide/ports-plains/101520-advisory-committee-executive-summary.pdf

FACTORS CONTRIBUTING TO SAFETY (CONT.)

- Controlled access removes cross-street/driveway conflicts.

UNCONTROLLED ACCESS

CONTROLLED ACCESS

Source: Google Maps

FACTORS CONTRIBUTING TO SAFETY (CONT.)

- Highways with safety features such as barriers, rumble strips and turn lane reduce crash severity compared to highways without these features.

HIGHWAY WITHOUT BARRIERS, RUMBLE STRIPS, OR TURN LANES[1]

TYPICAL HIGHWAY WITH CABLE BARRIERS[2]

TYPICAL HIGHWAY WITH RUMBLE STRIPS[3]

TYPICAL HIGHWAY WITH DEDICATED TURN LANES[4]

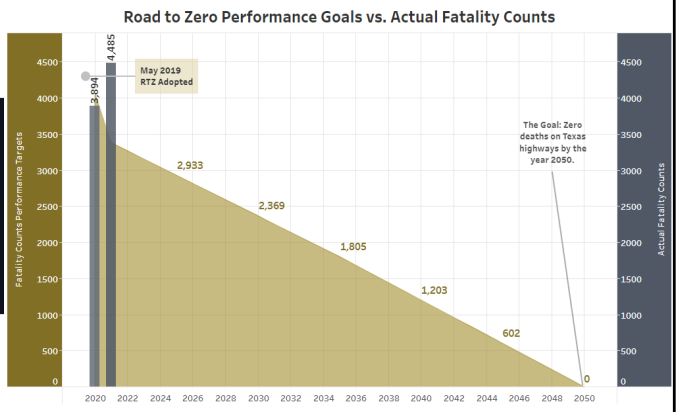
Source:

1. https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.ayresassociates.com%2Fthe-long-and-short-of-it-lifespans-of-paved-roadways%2F&psig=AOvVaw191-BQywsOzOWPhTx7mlNy&ust=1691781967943000&source=images&cd=vfe&opi=89978449&ved=0CBAQjRxqFwoTCICvx8Dp0oADFQAAAAAdAAAAABAE
2. https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.desmoinesregister.com%2Fstory%2Fopinion%2Fcolumnists%2Fiowa-view%2F2017%2F08%2F07%2Ftwo-lane-iowa-highways-dangerous%2F537538001%2F&psig=AOvVaw1U79qND1CwoarR-dHzGkcY&ust=1691780850603000&source=images&cd=vfe&opi=89978449&ved=0CBAQjRxqFwoTCLCKvajI0oADFQAAAAAdAAAAABAE
3. https://www.google.com/imgres?imgurl=https%3A%2F%2Fthejointsolution.com%2Fwp-content%2Fuploads%2F2021%2F10%2FRumble-Strips-1.png&tbnid=XAZ6sD7wTstXjM&vet=12ahUKEwiCsKKW5tKAAxUeKt4AHYIqCCEQMygCegUIARDKAQ..i&imgrefurl=https%3A%2F%2Fthejointsolution.com%2Frumble-strips-and-longer-lasting-roads-is-that-possible%2F&docid=o9d5R81iqyq92M&w=1263&h=559&q=highways%20with%20rumble%20strips&hl=en&ved=2ahUKEwiCsKKW5tKAAxUeKt4AHYIqCCEQMygCegUIARDKAQ
4. https://www.google.com/url?sa=i&url=https%3A%2F%2Fsafety.fhwa.dot.gov%2Fprovencountermeasures%2Fpdf%2F13_Left-%2520and%2520Right-Turn%2520Lanes_508.pdf&psig=AOvVaw1BYSA638ifsf8GONjshoXf&ust=1691781807768000&source=images&cd=vfe&opi=89978449&ved=0CBAQjRxqFwoTCLjWrObo0oADFQAAAAAdAAAAABAI

KEY TAKEAWAYS

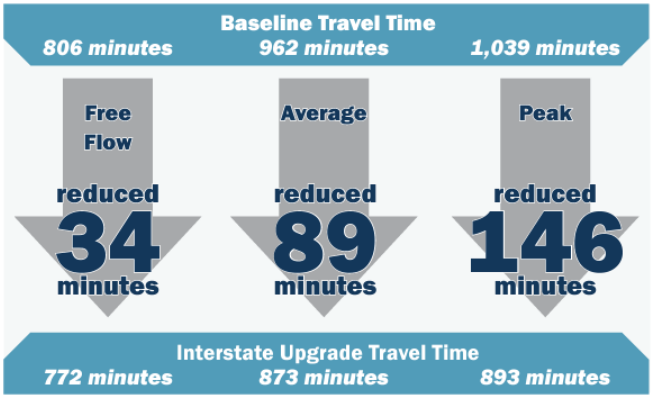
- Helps achieve TxDOT goal – “End the Streak.”

HELP
#EndTheStreakTX
End the streak of daily deaths on Texas roadways.



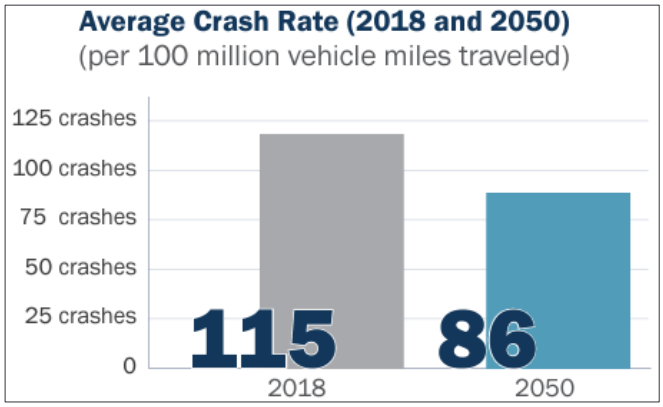
KEY TAKEAWAYS (CONT.)

- Improves connectivity by providing safer and faster alternative.
- Reduce corridor travel time in 2050 over the baseline.
- Attract truck traffic from nearby parallel routes by providing improved access to international trade gateways of Del Rio, Eagle Pass, and Laredo.



KEY TAKEAWAYS (CONT.)

- **Improves safety**
  - Interstate upgrade leads to:
    - 15% to 25% crash reduction compared to US highways.
    - 35% fewer crashes than state highways.
    - 21% crash reduction overall in this corridor.



Source: Ports-to-Plains Advisory Committee Report (Oct 15, 2020)
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* The 2050 forecast is for the baseline, which includes the existing roadways in the Corridor plus any planned and programmed projects by TxDOT and the MPOs in the Corridor and does not include the interstate upgrade.

KEY TAKEAWAYS (CONT.)

- **Improves economy:**
  - $450 million – average annual benefit due to corridor-wide crash reductions.

Increase Average Annual GDP from the Interstate Upgrade in the Corridor

- **+$80 million** in Food and Agriculture
- **+ $450 million** in Warehousing and Distribution
- **+ $400 million** in Energy
- **+$1.27 billion** in Other Industries
- **$2.2 billion** total

Average Annual Savings to Industries and Consumers

- **$295 million** travel cost reduction in Food and Agriculture
- **$365 million** in more direct Warehousing output
- **$505 million** time and cost savings in Energy

These lower travel costs to transport goods and services will ultimately save consumers money as well.

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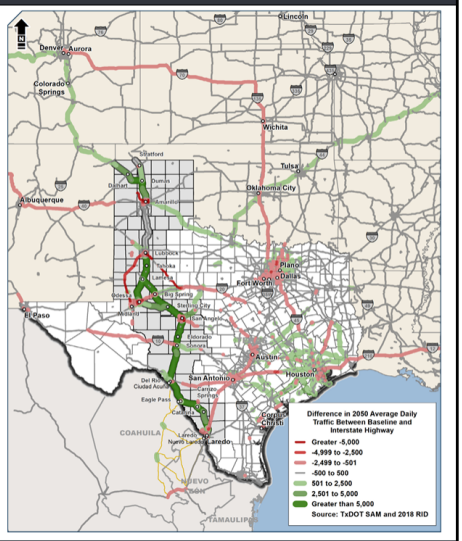
The interstate upgrade is estimated to reduce the crash rate by 21 percent Corridor-wide relative to the baseline. Crash reductions would result in a Corridor-wide average economic benefit of approximately $450 million annually.

KEY TAKEAWAYS (CONT.)

- **Relieves congestion by creating:**
  - Regional diversions.
  - National diversions.
  - Bi-National diversions.
- **Example: congestion relief along I-35.**
  - San Antonio.
  - Dallas.



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Regional

• Diversion of east/west trips from the US 57 (Eagle Pass to San Antonio) and US 90 (Del Rio to San Antonio) corridors. • Diversion of north/south trips from US 83, SH 55, and I-35 between Laredo and San Antonio.

National

• Diversions from key national corridors such as I-40, I-70, I-35, and I-10, and alters long-distance travel patterns between different regions of the United States and either Mexico or the Gulf of Mexico coast. • Diversions from the I-70/I-135/I-35 route from Denver to Dallas and instead favoring I-25 through New Mexico and connecting to US 87 in Texas. • Smaller national diversions – such as trips from the Pacific Northwest being attracted across the Rockies towards Denver and southward to the Ports-to-Plains Corridor were traced with diversions from I-10 and I-40 to the west. • Trips are attracted to I-44 from St Louis, Missouri to Wichita Falls and continuing towards the Corridor while diverting trips away from other east-west routes east of Texas, such as I-10.

Bi-National

• Diversion of trips between the Mexican states of Coahuila, Nuevo Leon, and Tamaulipas south of Texas, the Rocky Mountain and Midwest states of New Mexico, Colorado, Kansas, Oklahoma, and Missouri, and trips between the Gulf of Mexico coast toward the north

Mountain and Pacific Northwest states.

KEY TAKEAWAYS SUMMARY

- Helps achieve TxDOT goal – "**End the Streak**".
- Improves **connectivity**.
- Improves **safety**.
- Improves **economy**.
- **Relieves congestion** along I-35.

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THANK YOU!

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