

High-Injury Roadways see reduction in severe crashes in 2021

Summary

New data show that streets which received engineering countermeasures, high visibility signage, and targeted enforcement on key dangerous driving behaviors as part of Vision Zero's [High-Injury Roadways initiative](#) have seen a 17% decrease in serious injury and fatal crashes this year compared with the previous three-year average. The HIRs also saw a greater reduction in crashes for several crash types and modes than comparable streets in Austin, but underperformed those streets in other crash categories. Vision Zero will continue to monitor the safety performance of these roadways and apply lessons learned to other priority corridors.

Problem Statement

Vision Zero's holistic approach to traffic safety relies on multipronged strategies involving safe street design paired with campaigns to promote safe driving behaviors. With limited resources, however, the program must prioritize where and how these combined strategies are deployed to achieve the greatest safety benefit.

The Solution

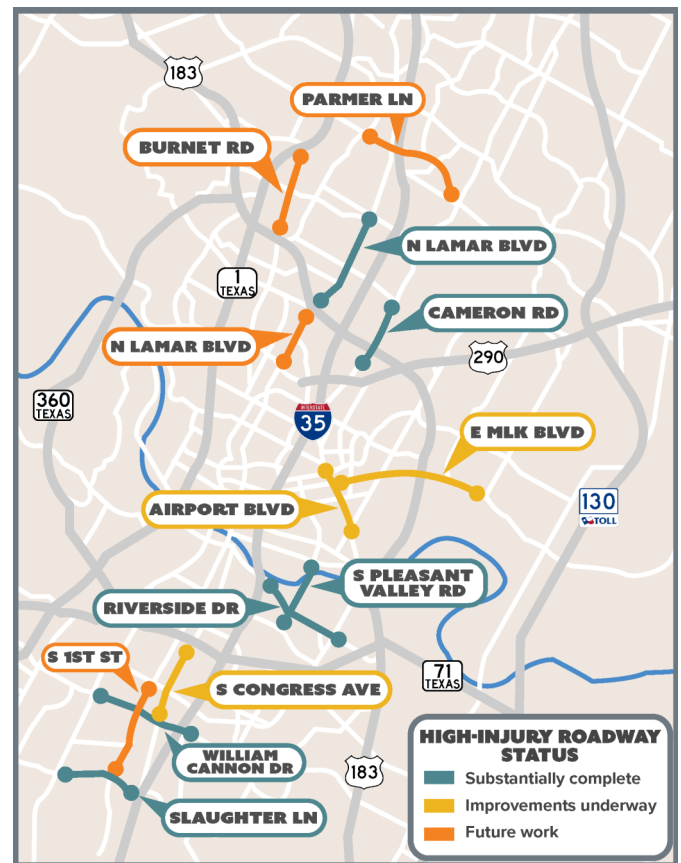
The Vision Zero team analyzed the most recent five years of crash data to identify roadway sections where combined street design and behavior change strategies might have the biggest impact in quickly reducing severe crashes. Staff identified 13 roadway sections that contained the greatest concentration of top crash locations based on [comprehensive cost](#) to designate as High-Injury Roadways (HIRs).

Starting in spring 2020, Austin Transportation Department staff convened regular meetings to conduct a detailed review of crash history and risk factors associated with individual HIRs. These discussions lead to the implementation of low-cost changes such as installing flashing yellow arrows, protected left turn phasing, leading pedestrian intervals, and retroreflective backplates at traffic signals; refreshing crosswalks, stop bars or other roadway markings; using plastic delineators to reduce vehicle conflicts; and improving street lighting. For the South Pleasant Valley Rd. HIR, Vision Zero partnered with ATD's Active Transportation and Street Design team to implement more substantial street design changes, including new bicycle facilities and pedestrian crossings as part of the [Longhorn Dam Multimodal Improvements](#) project.

To supplement the street design improvements Vision Zero also installed custom signage with safety messaging on key dangerous driving behaviors in both English and Spanish, and through the "Vision Zero in Action" initiative, Austin Police Department officers dedicated overtime resources towards targeted enforcement of speeding and distracted driving on the HIRs starting in late 2019.

Results

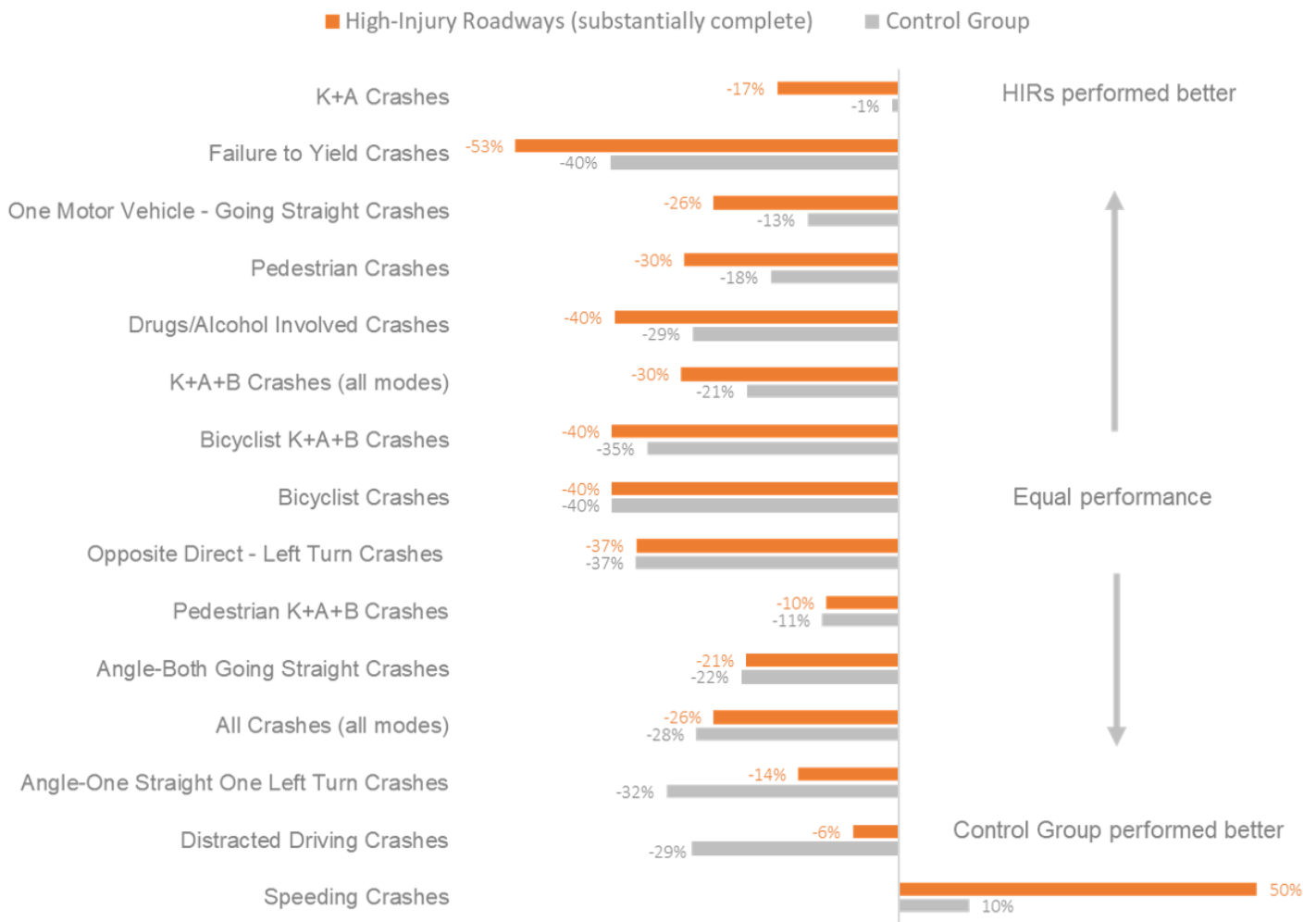
Vision Zero staff compared crash statistics for the six "substantially complete" HIRs (see above map) with a control group made up of the other seven HIRs that are either underway or to be addressed in the future, plus all remaining [Level 3 and 4 Streets](#) in Austin, excluding frontage roads. Crashes in 2021 through August were compared with the previous three-year average (2017-2019 through August); data for 2020 was excluded from the previous three year average due to the significant travel pattern changes associated with the COVID-19 pandemic.



Six of the 13 High-Injury Roadways have received the most attention thus far and are considered substantially complete.

The graphic below shows how the “substantially complete” HIRs performed compared with the Control Group for a select set of crash types and modes. Both the HIRs and the Control Group saw substantial reductions in crashes for nearly all crash types in 2021 vs the previous three years, which is likely primarily the result of reduced travel activity during the pandemic. The HIRs did, however, show a greater reduction in crashes than the Control Group for several categories, including serious injury and fatal crashes (“K+A Crashes”). While KA crashes in the Control Group declined only 1% compared with the previous three-year average, **KA crashes on the substantially complete HIRs decreased 17%**. These HIRs also outperformed the Control Group in crashes involving Failure to Yield, crashes involving One Motor Vehicle Going Straight (which are typically the result of speeding, distraction or impairment), crashes involving pedestrians, and others. One outlier was the finding that crashes with Speeding noted as a primary contributing factor increased for both the HIRs and the Control Group, however this contributing factor was noted in a very low number of crashes overall (i.e. HIRs combined went from an average of 6 in 2017-2019 to 9 crashes total in 2021).

High-Injury Roadways vs. Control Group, 2021 vs 3-Year Average ('17 - '19) through August



Future Work

Vision Zero will continue to monitor the effectiveness of the various safety strategies that have been implemented on the High-Injury Roadways to better understand which combinations of interventions are most impactful in reducing severe crashes. Work on three additional HIRs—Airport Boulevard, E. Martin Luther King, Jr. Boulevard, and S. Congress Avenue—is already underway and engineering countermeasures are being installed in the coming months. The remaining four are planned to be analyzed in 2022.