

DRUGS & ALCOHOL AMONG FATAL CRASH VICTIMS

A Comparative Analysis of Toxicology Results and Crash Data Reports

— October 2023 —

KEY FINDINGS

1. Compared to Travis County medical records, State crash reports for traffic fatalities significantly undercount the percentage of fatal crash victims who tested positive for drug use or who had a blood alcohol content (BAC) of .08 or higher.
2. The Travis County Medical Examiner's Office noted a BAC at or above .08 or drug use in most traffic fatalities across all modes, from 64% of passenger fatalities, on the low end of the range, to 100% of micromobility fatalities, on the high end.

Vision Zero analyzed the differences in toxicology reporting for fatal crash victims at various public agencies in our continued effort to enhance our understanding of the top factors associated with fatal and serious injury crashes in Austin. This analysis does not imply that impairment was a causal factor in all of these crashes, but it does highlight the analytical limits of solely using crash reports to understand the top contributing factors and behaviors associated with severe crashes. This analysis is based on a review of the Texas Department of Transportation's (TxDOT) Crash Records Information System (CRIS) database of crash reports (i.e. CR-3 reports) and toxicology reports from the Travis County Medical Examiner's Office (TCME).

PROBLEM STATEMENT

Crash reports from law enforcement officers who respond to incidents have historically served as the primary source of information for understanding the basic facts and potential contributing factors of crashes. While these reports provide valuable information and can inform data-driven safety strategies, they also have limitations. Crash reports tend to focus on liability from a legal perspective and rarely consider the influence of street design on collisions. Additionally, there may be contributing factors that officers don't always have time to investigate at the scene of the crash, particularly for fatalities and serious injuries.

Understanding the details of drug- or alcohol-involved crashes can also prove challenging when relying solely on crash reports. One reason is that crash report forms do not always allow for toxicology reporting for non-drivers. As [the CDC](#) notes, 38% of the 11,600 people who died in crashes involving alcohol-impaired drivers in 2020 were someone other than the impaired driver, such as a passenger or pedestrian. Toxicology for these individuals is not always accounted for.

ANALYSIS

Recognizing the need to bring in additional data sources to provide a more complete picture of safety trends, Austin's Vision Zero team compared the information on drug and alcohol use in Austin CR-3 crash reports to toxicology data from TCME. From 1/1/2018 to 12/31/2022, there were 448 fatal crash victims in Austin's Full Purpose Jurisdiction within Travis County, for which TCME had authority to conduct toxicology testing, and which met Austin Transportation and Public Works' (TPW) fatality reporting protocols.

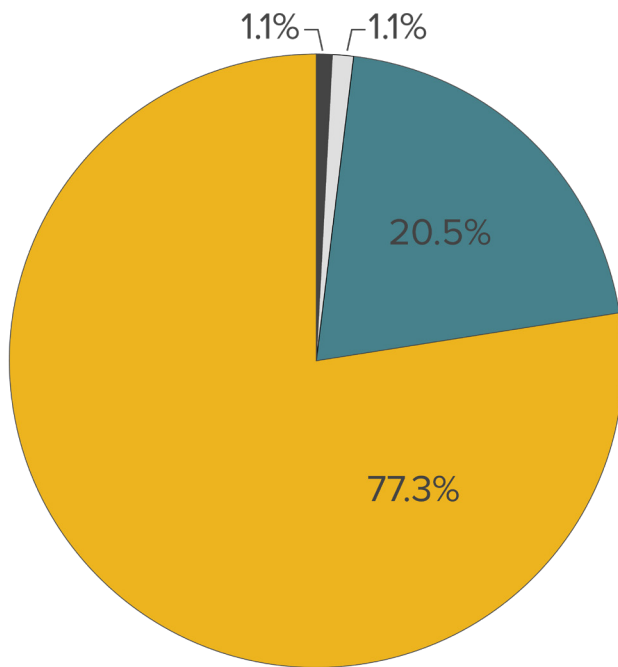
Vision Zero staff pulled data from the State and County sources to compare how agencies noted drug and alcohol use for these 448 victims. CR-3 crash reports and TCME toxicology reports both include places to record specific test results for alcohol and drugs. Using these forms, staff labeled each fatality as a binary "yes" or "no" for drugs or alcohol across the reporting agencies' data. A positive result for drugs, at any concentration, counted as a "yes" and the top three drugs detected were THC, amphetamines, and cocaine. A BAC equal to or greater than .08 defines a person as legally intoxicated in Texas and counted as a "yes" in this analysis. However, unless someone is driving a motor vehicle, it is not necessarily illegal for a person, such as a pedestrian or passenger, to have a BAC at or above .08. While drug or alcohol use correlates with fatal crashes, this paper does not assign causality for specific cases.

DATA RESULTS

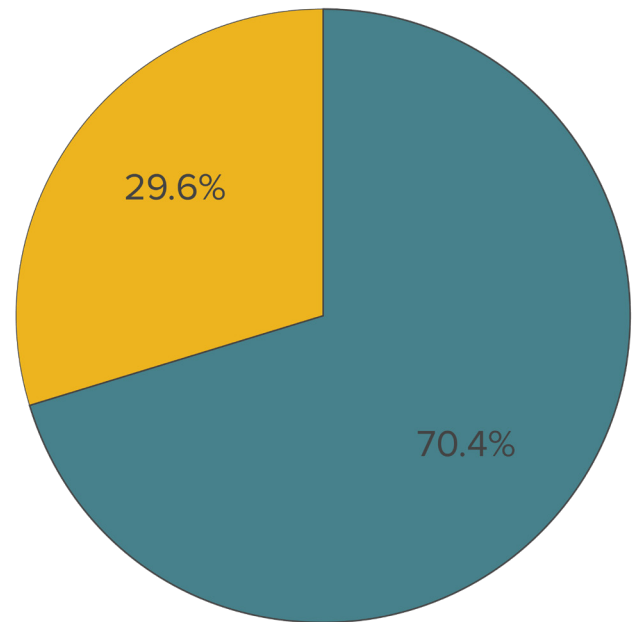
Looking at traffic fatalities between 1/1/2018 and 12/31/2022 in the Travis County subset of crashes, toxicology results in Austin varied significantly between agencies. **TCME noted BAC levels at or above .08 or positive results for drugs 47 percentage points higher than State CR-3 forms.**

- TCME reports noted a BAC at or above .08 or positive results for drugs for fatal crash victims 77% of the time and no alcohol or drug use 21% of the time. One percent of the time, TCME found a BAC below .08 and did not have toxicology records 1% of the time.
- CR-3 crash reports noted a BAC level at or above .08 or positive results for drugs for fatal crash victims 30% of the time and no alcohol or drug use 70% of the time.

TCME Drug & Alcohol Results
in Travis County Subset



CR-3 Drug & Alcohol Results
in Travis County Subset

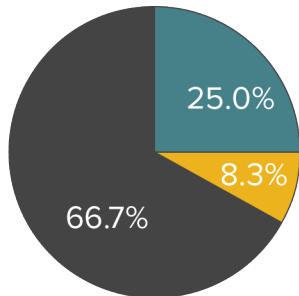


● Drugs/Alcohol Noted
 ● No Drugs/Alcohol Noted
 ● BAC < 0.08
 ● Missing Data

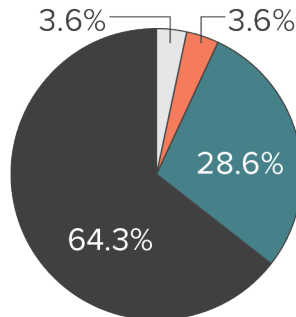
When comparing TCME data to crash reports for non-drivers and vulnerable users killed in collisions, the differences between positive drug or alcohol results generally increase. For these cases, TCME data reported BAC levels at or above .08 or drug use 33 to 67 percentage points higher than crash reports, with the largest discrepancy occurring for fatal crashes involving cyclists. In the Travis County subset of collisions, from 1/1/2018 to 12/31/2022, there were 12 cyclist fatalities, 56 passenger fatalities, 38 motorcyclist fatalities, 175 pedestrian fatalities, 161 driver fatalities, and six micromobility fatalities. **Overall, TCME noted a BAC at or above .08 or drug use in most fatalities across all modes, from 64% of passenger fatalities, on the low end of the range, to 100% of micromobility fatalities, on the high end.**

DATA CONTINUED

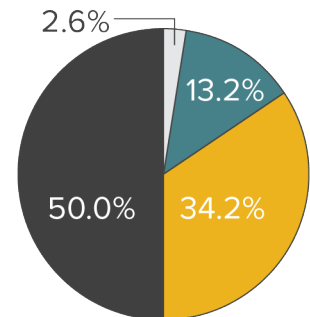
TCME vs CR-3 Results for Cyclists



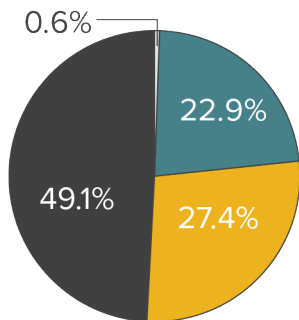
TCME vs CR-3 Results for Passengers



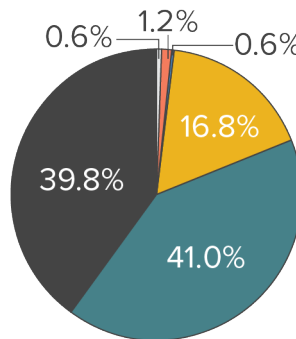
TCME vs CR-3 Results for Motorcyclists



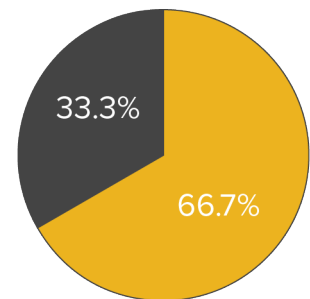
TCME vs CR-3 Results for Pedestrians



TCME vs CR-3 Results for Drivers



TCME vs CR-3 Results for Micromobility Users



Both: Drugs/Alcohol Noted

Both: No Drugs/Alcohol Noted

TCME: Drugs/Alcohol Noted, CR-3: Not Noted

TCME: BAC < 0.08, CR-3: Not Noted

TCME: Missing Data, CR-3: Not Noted

CR-3: Drugs/Alcohol Noted, TCME: Not Noted

ADDITIONAL DISCUSSION

Our analysis found significant differences between the datasets regarding the scale of drug and alcohol use among fatal crash victims in Austin. Several factors can explain the discrepancy between reporting agencies. First, peace officers investigate legal liability and may not typically update CR-3s with toxicology when the person killed is assumed to be at fault but did not kill or injure another person. Second, law enforcement officers do not conduct or request drug testing of fatal crash victims but rather rely on medical examiner's offices for toxicology updates after screenings. TCME, on the other hand, runs toxicology tests for all fatalities, unless the victim has been in the hospital for a long period or a suitable biological sample from around the crash time is not available. Third, CR-3 forms do not have space to note alcohol or drug use for passengers or people besides the driver or other primary person involved per unit, and therefore will inevitably undercount drug and alcohol use among those victims. Fourth, there may be delays or inaccuracies based on available data and timing. For example, investigating agencies had until July 1st, 2023 to report on data from 2022.

These findings suggest that drug and alcohol use plays a far larger role in traffic fatalities than is suggested by crash reports, which have historically been the primary source of data for traffic safety efforts. This analysis underscores the need to integrate alternative data sources, such as TCME data, into Vision Zero's processes to provide more accurate information about the potential upstream causes of severe crashes and to better prioritize strategies and initiatives.

WHAT WE ARE DOING

Based on the findings from our analysis of TCME data, Vision Zero has begun working with the Austin Police Department (APD) Vehicular Homicide Unit to update all fatal crash reports consistently moving forward so that the crash data more accurately capture the extent to which drugs and alcohol are present in fatal crash victims. Currently this is a manual process and there is a desire to automate this in the future.

Vision Zero continues to explore the use of alternative data sources to supplement our use of crash data and gain a more complete picture of the traffic-related incidents that are occurring on Austin's roadways. Beyond the topic of drugs and alcohol, we have also formed the following partnerships:

- In 2021 we worked with Austin-Travis County EMS and Austin Fire to understand their data systems and how to identify calls for service that are related to motor vehicle crashes. We continue to build tools to better leverage this information and more quickly identify crash trends, as well as the scale of vulnerable user crashes that do not receive crash reports.
- We established relationships with Austin Public Health and Dell Seton to acquire summary-level scooter injury data. A study in Austin with [Austin Public Health and the Centers for Disease Control](#) showed that only 16% of scooter incidents were related to interactions with motor vehicles. Therefore, to better understand the frequency and severity of scooter-related crashes in Austin, we couldn't rely only on motor vehicle crash reports. Acquiring this information is challenging due to data and privacy standards with private health care facilities; however, it has given us more insight than was available in the past.

Vision Zero also continues to support several initiatives focused specifically on preventing impaired driving. TPW has provided funding for APD's No Refusal Initiative (NRI), which allows law enforcement officers to obtain blood sample search warrants for drivers who refuse breathalyzer tests but are suspected of being over the legal BAC limit. Specifically, TPW funding has paid for overtime costs of APD detectives to assist in processing arrests for the NRI. According to APD, there were over 1,250 DWI-related arrests during the NRI in 2020. The program seeks to improve BAC testing capacity and provides critical evidence to prosecutors in jury trials, particularly for intoxication manslaughter vehicle crashes.

More recently, Vision Zero staff are serving on an Impaired Driving Action Team, formed by Austin Public Health in October 2022, to bring together more than 20 local and regional partners to implement evidence-based strategies, using a public health framework, to prevent impaired driving. Currently the action team is carrying out identified objectives in four focus areas—Enforcement, Prosecution, and Diversion; Data Improvement; Education and Awareness; and Policy and Prevention—and continues to meet regularly to update on progress and identify next steps.

This research and the initiatives described above are consistent with the [Austin Strategic Mobility Plan](#), which calls on Vision Zero to prioritize evidence-based safety strategies and share information with key partners and the public. This research advances Vision Zero's responsibility to "develop a deep understanding of the risk factors that lead to severe crashes," target contributing factors, and evaluate safety interventions.



Vision Zero Analytics is a series of white papers reporting on innovative research and initiatives conducted by Austin Transportation and Public Works Department in an effort to significantly reduce fatalities and serious injuries in our community. Questions or comments on this report can be sent to VisionZero@AustinTexas.gov