



STRONG TOWNS

Crash Analysis Studio

It's time to give car crashes the attention they deserve –
And stop them from happening in the first place.

Priority Campaign: Safe and Productive Streets



Charles Marohn · March 27, 2023

**Is a Drunk Pedestrian
Killed by a Driver
Something To Care
About?**



Charles Marohn · April 10, 2023

**Award-Winning
Complete Street Just
Another Deadly Stroad**



Asia Mielezsko · April 5, 2023

**Ager Road: Where
Complete Streets Fell
Short**



Charles Marohn · February 20, 2023

**The Sensitivity That
Killed Frank Radaker**



Two Scenarios



U.S. Department
of Transportation
**National Highway
Traffic Safety
Administration**

TRAFFIC SAFETY FACTS

Crash • Stats



DOT HS 812 115

A Brief Statistical Summary

February 2015

Critical Reasons for Crashes Investigated in the National Motor Vehicle Crash Causation Survey

Summary

The National Motor Vehicle Crash Causation Survey (NMVCCS), conducted from 2005 to 2007, was aimed at collecting on-scene information about the events and associated factors leading up to crashes involving light vehicles. Several facets of crash occurrence were investigated during data collection, namely the pre-crash movement, critical pre-crash event, critical reason, and the associated factors. A weighted sample of 5,470 crashes was investigated over a period of two and a half years, which represents an estimated 2,189,000 crashes nationwide. About 4,031,000 vehicles, 3,945,000 drivers, and 1,982,000 passengers were estimated to have been involved in these crashes. The critical reason, which is the

crash envelope that comprises of a sequence of events, referring to the above data elements, which eventually led to the crash.

This Crash•Stats presents some statistics related to one of the four data elements, namely “critical reason for the critical pre-crash event.” The data obtained through the sample of 5,470 NMVCCS crashes and the weights associated with them were used to obtain national estimates of frequencies and percentages along with their 95-percent confidence limits, as presented in the following sections.

Critical Reasons for the Critical Pre-Crash Event



Critical National

Summary

The National Motor Vehicle Crash Causality Study (NMVCCS) was conducted from 2008 to 2010 to collect information about the factors that lead to crashes involving motor vehicles. The study's purpose was to investigate during data collection, namely the pre-crash movement, critical pre-crash event, critical reason, and the associated factors. A weighted sample of 5,470 crashes was investigated over a period of two and a half years, which represents an estimated 2,189,000 crashes nationwide. About 4,031,000 vehicles, 3,945,000 drivers, and 1,982,000 passengers were estimated to have been involved in these crashes. The critical reason, which is the

crash movement, critical pre-crash event, critical reason, and the associated factors. A weighted sample of 5,470 crashes was investigated over a period of two and a half years, which represents an estimated 2,189,000 crashes nationwide. About 4,031,000 vehicles, 3,945,000 drivers, and 1,982,000 passengers were estimated to have been involved in these crashes. The critical reason, which is the last event in the crash causal chain, was assigned to the driver in 94 percent ($\pm 2.2\%$)[†] of the crashes. In about 2 percent ($\pm 0.7\%$) of the crashes, the critical reason was assigned to a vehicle component's failure or degradation, and in 2 percent ($\pm 1.3\%$) of crashes, it was attributed to the environment (slick roads, weather, etc.). Among an estimated 2,046,000 drivers who were assigned critical reasons, recognition errors accounted for about 41 percent ($\pm 2.1\%$), decision errors 33 percent ($\pm 3.7\%$), and performance errors 11 percent ($\pm 2.7\%$) of the crashes.

NMVCCS crashes and the weights associated with them were used to obtain national estimates of frequencies and percentages along with their 95-percent confidence limits, as presented in the following sections.

Critical Reasons for the Critical Pre-Crash Event

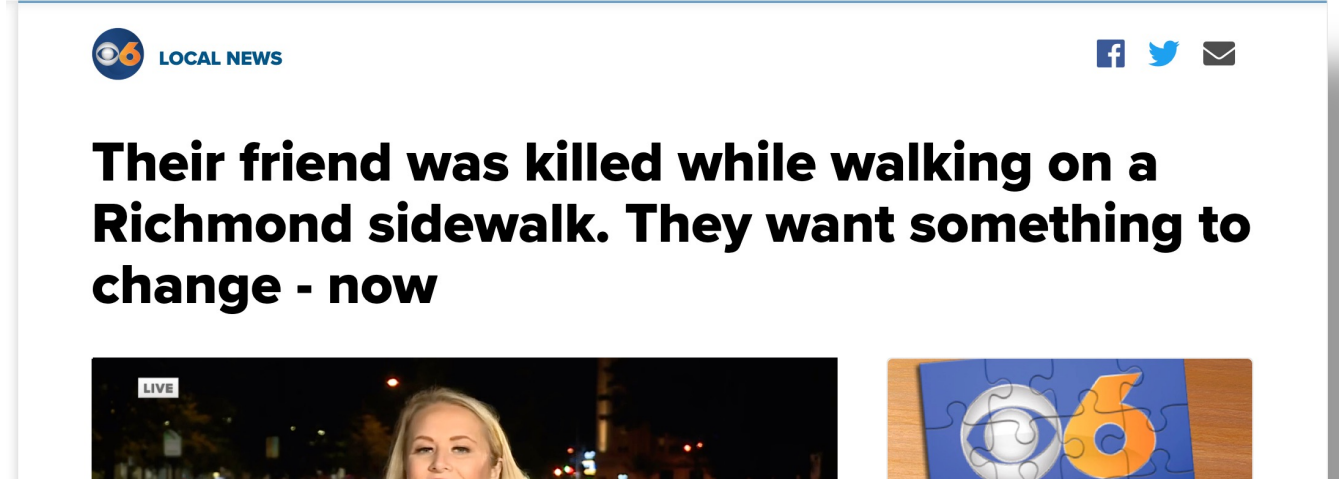
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of events, referring to
to the crash.

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the sample of 5,470

People are Demanding Action

Blame is not being accepted as a cause or an excuse



A screenshot of a local news article header. At the top left is the 'LOCAL NEWS' logo with a stylized '6' icon. At the top right are social media icons for Facebook, Twitter, and Email. The main headline reads: 'Their friend was killed while walking on a Richmond sidewalk. They want something to change - now'. Below the headline is a video player showing a woman speaking at night, with a 'LIVE' indicator in the top left corner. To the right of the video player is a graphic of the '6' logo on a wooden puzzle board.



Their friend was killed while walking in Richmond. They want to see changes.



The Crash Analysis Studio

- Demonstrate a model process for doing a full cause crash analysis.
- Examine street design factors that contributed to the crash.
- Make the process inclusive, non-threatening, and easily replicable.
- Create a feedback loop connecting analysis to design changes.
- Reference supportive literature and standards to empower changemakers.

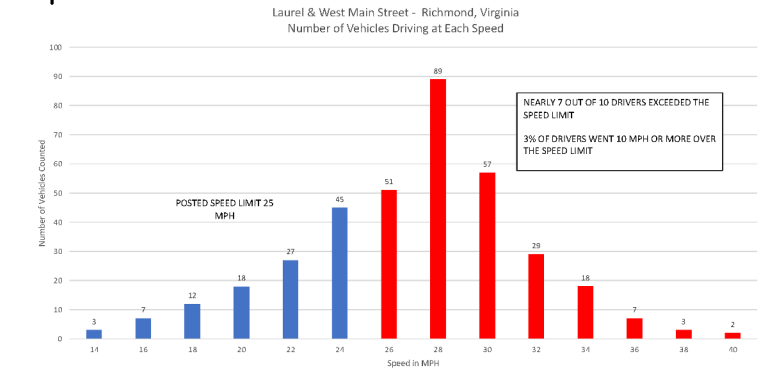


Data Collection

- News Reports and Coverage
- Police Report
- Speed Study
- Measurements
- Photographs
- Local Experts



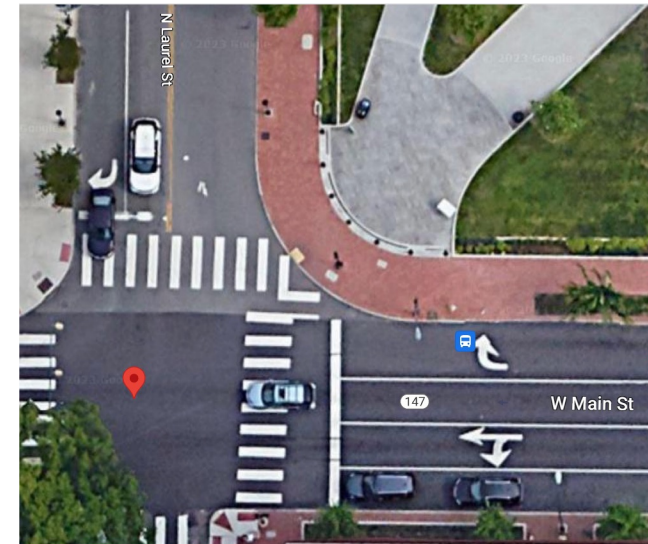
Speed Data



*Most college campuses have speeds that are 10-15MPH - is 25MPH just too fast?

**Speed study completed one month after VCU Safety Campaign

*85th percentile speed = 32 MPH



- ← Total Width – 55' 7.4"
- ← Sidewalk – 14'
- ← Width w/o Sidewalk – 41' 7.4"
- ← Turn Lane – 12' 6"
- ← Lane – 9' 11"
- ← Lane – 9' 6"
- ← Parking – 9' 8.4"

Connect with National Experts

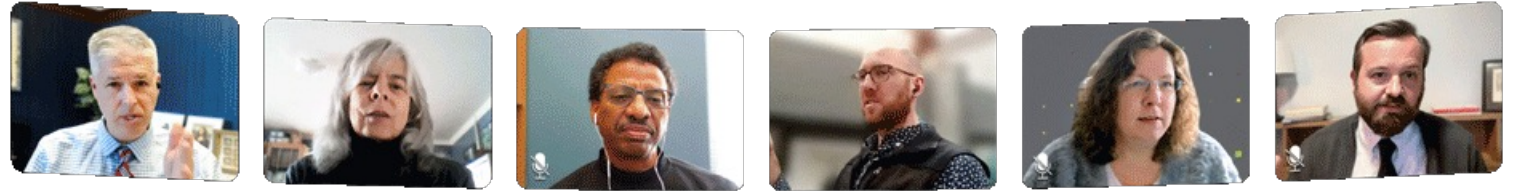


Inspire and Elevate Local Experts



Studio Format

- 60 - 90 minutes
- Public and Recorded
- Statement of Facts
- Describe contributing factors
- Focus on the local conditions
- Identify short-term and long-term actions to reduce contributing factors



Session 2: Hyattsville

- A new “complete street” results in the death of a pedestrian
- We identified 4 primary factors and 1 contributing factor
- We made 14 recommendations, including 8 immediate steps the city can take



Session 3: Richmond

- A highway through a college campus results in the death of a student
- We identified 4 primary factors and 2 contributing factors
- We made 14 recommendations, including 8 immediate steps the city can take



Session 7: Brandon

- Roadway design prioritizes moving vehicles at high speeds over all other design objectives
- We identified 5 primary factors and 1 contributing factors
- We made 12 recommendations, including 5 immediate steps the city can take



Public Investment Process for a Strong Town



1

Humbly observe where people in the community struggle.

2

Ask the question: What is the next smallest thing we can do right now to address that struggle?

3

Do that thing. Do it right now.

4

Repeat.





Academy course

Create a FREE training course that teaches people how to start their own Crash Analysis Studio

www.strongtowns.org/crash-studio

