

Crash Analysis Studio

Session 4: Meridian, Idaho

Held on April 28, 2023

Session Participants:

- **Erik Bootsma**, Architect; Owner of Bootsma Design; Master of Architecture, University of Notre Dame
- **Joyce Johnson**, Cycling commuter and concerned resident
- **Adrienne Weatherly**, Treasure Valley resident and volunteer with local bicycling community
- **Micah Deffries**, Cycling commuter; business owner; engaged citizen
- **Edward Erfurt**, Director of Community Action at Strong Towns
- **Rachel Quednau** (moderator), Program Director at Strong Towns

Summary of Crash Event

- The crash occurred at approximately 7:42 a.m. (MT) on November 2, 2022.
 - News coverage indicates the collision happened at the intersection of North Ten Mile Road and Pine Avenue in Meridian, Idaho amongst a collection of neighborhoods.
 - Since the collision is classified as an ongoing investigation, a police report establishing the facts of the crash is currently unavailable.
- A motorist struck Terry Binder as he was crossing North Ten Mile Road by walking along a Pine Avenue crosswalk; his death occurred at the scene of the crash.
 - News coverage does not specify if Binder was on the north or south side of North Ten Mile Road.
 - Though media sources indicate Binder was walking to the west, his father stated to at least one source that Binder was walking to school; if that is true, he would have been traveling east.
- The posted speed limit on Ten Mile Road at this intersection is 40 miles per hour (mph). A speed study measured the 85th percentile speed at 44 mph with 56% of drivers exceeding the posted speed limit.
- Media coverage did not state whether or not impairment tests were administered. Media sources indicate that the driver stayed on the scene post-collision and has been cooperative with the investigation. No charges or citations have been issued.

Primary Contributing Factors

The design of North Ten Mile Road demonstrates willful indifference to the safety of people walking, biking, and otherwise traveling outside of an automobile.

By constructing sidewalks and pedestrian crossing signals, the designers acknowledge the existence of pedestrians. By constructing bike lanes, the designers acknowledge the presence of people biking.

Despite acknowledging the existence of these non-automobile users of the roadway, the designers have created an environment that places pedestrians and cyclists in extreme danger. These are design decisions done with intent and full awareness of the consequences.

When it comes to drivers colliding with other automobiles, the designers have recognized that humans make mistakes and, therefore, have provided ample margin for error. Wide lanes, turn lanes, the extended timing of signals, and other forgiving features of the roadway attest to the caution of the designers in regard to an automobile colliding with another automobile.

When evaluating drivers colliding with pedestrians and cyclists, the designers have chosen to not exercise similar caution or provide a similar margin for error. Unprotected sidewalks and bike lanes mere feet from traffic traveling at lethal speeds incorrectly assume perfection by all parties. Wide crossing distances incorrectly assume drivers have a constant level of heightened awareness. For pedestrians and cyclists, the design assumes perfect decision-making by drivers, a condition the designers acknowledge -- through their own design -- is not reality.

The designers of North Ten Mile Road are aware that the automobile design speed for the road is lethal for pedestrians and cyclists, that anyone struck by a motor vehicle traveling at the design speed is extremely unlikely to survive. Yet, they have intentionally chosen to place pedestrians and cyclists in this environment, doing so in a way that exposes them to extreme risk.

This design expresses a conscious indifference to the safety of people walking and biking. That indifference, more than any other factor, is the underlying cause of the collision that killed Terry Binder. Without major changes to North Ten Mile Road, and other similarly designed roads in Meridian, a repeat of this tragedy is statistically inevitable.

Session participants also identified the following primary factors that contributed to this crash:

- 1. There is a dangerous mismatch between the design of North Ten Mile Road and the surrounding development pattern.**
 - a. North Ten Mile Road is designed for high speed motor vehicle travel.
 - b. North Ten Mile Road runs through the middle of several residential neighborhoods and business districts. These land use types create complexity of travel with many people walking and biking as part of their regular travel patterns.

- c. A through road to facilitate high speed automobile travel is not compatible with residential neighborhoods where people will walk or bike adjacent to the roadway, unprotected from traffic, and where people on foot or bike will need to cross the traffic stream.

2. The design speed, and the observed travel speed, of North Ten Mile Road is incompatible with humans on foot or bike.

- a. North Ten Mile Road is designed to facilitate high speed motor vehicle travel.
 - i. There are four through lanes, allowing for fast-moving traffic to pass slow-moving traffic, even during brief periods of congestion.
 - ii. Through lanes are 12-feet wide, a dimension used on highways and other high-speed thoroughfares.
 - iii. At the intersection of West Pine Avenue, there is a left turn lane in each direction of travel. The left turn lane is designed to remove turning traffic from the traffic stream so as not to impede through traffic.
- b. The posted speed limit of North Ten Mile Road is 40 mph. Most drivers (56%) exceed this speed limit.
- c. The 85th percentile speed -- the speed that only 15% of drivers exceed -- is 44 mph.
- d. The Insurance Institute for Highway Safety has indicated that fatality rates climb for auto collisions involving pedestrians at 20 mph. For auto speeds in excess of 40 mph, most pedestrian collisions will be fatal.
- e. By design, auto speeds on North Ten Mile Road are extremely dangerous to pedestrians and cyclists.

3. The development pattern adjacent to North Ten Mile Road forces people walking and biking to walk along or cross North Ten Mile Road, despite the known danger.

- a. The area directly adjacent to North Ten Mile Road has hundreds of residential homes. This land is zoned for more residential development.
- b. The development pattern in the vicinity of North Ten Mile Road is suburban, with many cul-de-sacs funneling traffic onto curvilinear collector roads which, in turn, terminate at North Ten Mile Road and other major arterial roadways.
- c. The many residents of these areas who walk or bike are forced, by design, to North Ten Mile Road.

4. The School Walk Zone for Meridian High School forces students to walk in conditions that are critically unsafe.

- a. The West Ada School District does not provide bus service within 1.5 miles of the school.
- b. There are hundreds of residential homes that fall within the 1.5 mile exclusion zone. Many of these homes are on the west side of North Ten Mile Road.
- c. Students living in the exclusion zone are forced to walk, bike, or get a ride to school. Terry Binder was one of those students.

- d. Students living in the exclusion zone on the west side of North Ten Mile Road are forced to cross North Ten Mile Road in order to get to school. For students walking, such as Terry Binder, this means a high risk walk along, and then a high risk crossing of, North Ten Mile Road.
5. **At the intersection with West Pine Avenue, North Ten Mile Road is designed primarily for traffic speed and traffic flow, with conscious disregard for the safety of people crossing on foot.**
- a. The intersection is designed to privilege traffic on North Ten Mile Road, providing long throughput intervals and short crossing intervals on the road.
 - b. Even during inclement weather conditions, even during cold weather months, even during school commuting periods, cross traffic -- including pedestrians -- are required to wait to cycle through long intervals of through traffic before proceeding.
 - c. Pedestrians are required to wait for turning traffic to fully complete their movements before being allowed to progress.
 - d. The total crossing width of North Ten Mile Road is 88 feet. At a normal walking pace of 3 mph for a healthy adult, it will take 20 seconds to cross the entire roadway.
 - e. There is no midpoint refuge for a pedestrian or other safe area during the crossing of North Ten Mile Road. A person on foot must either travel the entire crossing distance during one interval or wait an entire cycle for traffic to stop.
 - f. A pedestrian waiting to cross North Ten Mile Road must stand adjacent to the roadway where traffic is traveling at lethal speeds. The pedestrian is fully exposed, unseparated and unprotected by any bollards or other protective barrier.
 - g. To the contrary, the designer has provided breakaway poles for the traffic signals so that a driver whose vehicle leaves the roadway will suffer less trauma if they hit the pole. The pole is adjacent to the space where a pedestrian is expected to stand. The designer has anticipated how to minimize trauma for the driver but, despite installing buttons and other things for pedestrians and thus being completely aware of their presence, has provided no accommodation for pedestrian safety.
 - h. The generous curb radii in the intersection provide for rapid turning movements and increased traffic flow.

Recommendations

To address the conscience indifference to the safety of people biking and walking in the area where this crash took place, a policy-level decision needs to be made regarding the goals and intent of the area. Elected officials need to give clear guidance and direction on whether North Ten Mile Road is to be a high-speed, high-capacity roadway or whether this part of Meridian is a residential neighborhood where residents will routinely bike and walk along and across the roadway.

Based on the information explored in this session, the current expectation is that this residential neighborhood in Meridian should accommodate people walking and biking; to make that happen safely, the following needs to be done:

Immediate:

1. Engage West Ada School District and the board of Meridian High School to advocate for a change to the busing policy, as it is demonstrably unsafe for students to walk or bike to school from within the 1.5 mile exclusion zone.
2. Use construction cones and temporary bollards to widen bike lanes and decrease the 85th percentile speed of automobile traffic along North Ten Mile Road.
3. Determine if the walk signals are in fact working properly. If they are malfunctioning, identify why and report this to Meridian Police or the relevant traffic enforcement authority.
4. Modify traffic signal timing to prioritize pedestrians by providing a three- to five-second “all red” condition before a walk signal is activated to prompt crossing.
5. Upgrade current lighting fixtures and, if necessary, install new lighting fixtures at the intersection to make pedestrians and cyclists more visible.
6. Use paint to make crosswalks unignorable to drivers and heighten their awareness of non-motorists.
7. Install temporary signage at this intersection that:
 - a. Prompts non-motorists to use the call button for crossing.
 - b. Heightens driver awareness of pedestrians and cyclists.

Near Term (within the next 12 months):

8. Engage elected leaders and transportation officials to pursue policy improvements on issues like signal timings, bus routes, and public transit accessibility.
9. Replace temporary bollards and cones with a permanent redesign that creates protection for cyclists and normalizes slower traffic flow - inclusive of a decreased 85th percentile speed.
10. After experimentation with temporary signage, determine and install the forms of permanent signage that most effectively engage drivers and non-motorists traveling on North Ten Mile Road.

Long Term and Systematic:

11. Shift new development in the neighborhoods that surround the crash location to increase interconnectivity within the local street network and reduce reliance on roads like North Ten Mile.
12. Explore the possibility of larger infrastructure changes such as creating a pedestrian skywalk, installing embedded-pavement flashing light systems, or erecting a roundabout.

Concluding Statement

The design flaws present along North Ten Mile Road - specifically at its intersection with Pine Avenue - are dangerous and widely accepted as commonplace. Design and transportation planning that prioritizes automobile speed while exhibiting indifference to non-motorist safety inherently creates conflict; this type of tension is typical in places such as Meridian and throughout localities across North America.

By evaluating the many factors that contribute to a crash, we believe that decision-makers, the public, and design professionals can move beyond the current approach, which seeks only to assign blame to involved parties, to a model that changes how these spaces are designed, constructed, and cared for. In Meridian, we believe implementing recommendations with varied scope and duration is crucial to building responses that improve design standards, prevent traumatic injuries, and ultimately save lives.