

Crash Analysis Studio

Session 7: Brandon, Manitoba

Held on July 21, 2023

Session Participants:

- **Tristan Cleveland, PhD**, Research Specialist and Urban Planner with Happy Cities; Urban design commentator and writer; Speaker and workshop facilitator with experience across municipal and national projects in the United Arab Emirates (UAE) and Canada
- **Michelle Lam**, Director of the Centre for Applied Research and Education in Indigenous, Rural and Remote Settings (BU CARES); Curriculum and Pedagogy Department faculty member at Brandon University
- **Areta Donnelly**, Campaign Director of Brandon & District United Way; member of both the Brandon Vision Zero task force and Age Friendly Committee
- **Edward Erfurt**, Director of Community Action at Strong Towns
- **Tony Harris** (moderator), Action Team Coordinator at Strong Towns

Summary of Crash Event

- The crash occurred shortly after 10:00 p.m. (CDT) on June 27, 2022 at the intersection of Lorne Avenue E and Park Street in Brandon, Manitoba.
 - The crash report lists a report time of 10:05 p.m. and states the collision occurred at 10:22 p.m.
- A 24-year-old, westbound motorist struck 45-year-old Grant Hamilton while he was cycling east on Lorne Avenue.
 - Hamilton flipped over the hood of the car. He tore the meniscus in his knee, his shoulder separated, and he lost his left pinky finger.
 - Hamilton received 25 stitches and had his hand reshaped at Winnipeg Health Sciences Centre.
- Hamilton indicates the following:
 - The street lights were on at the time of the collision.
 - His wife was cycling with him on their way home from a family event.
- The crash report indicates the following:
 - There were no witnesses or video surveillance.
 - The motorist stayed on the scene after the collision and cooperated with the reporting officers.
 - The intersection is controlled by two yield signs that apply to Park Street, with Lorne Avenue having the right of way. The studio participants identified that these

are not stop signs.

- Media sources state the following:
 - The motorist was fined under the Highway Traffic Act for driving without a valid license.
 - Hamilton and the motorist met by chance at the scene of the crash during a media coverage activity on July 13, 2022.
- The crash report does not mention that any impairment tests were administered to Hamilton or the motorist.
- Though the crash report does not appear to list the speed limit, media sources and Hamilton both confirmed that the limit was 50 kilometers per hour (km/h), or approximately 31 miles per hour (mph), at the time of the collision.
 - Hamilton reports that the city initiated a reduced speed perimeter of 30 km/h (18.6 mph) around Rideau park as of July 1, 2023.
 - Strong Towns does not have data to reflect whether or not this speed reduction has effectively slowed motorists.

Primary Contributing Factors

The design of Lorne Avenue E and Park Street prioritizes motorist users over cyclists and pedestrians; this heightens the likelihood of dangerous crashes for all parties.

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

- 1. Lorne Avenue E lacks the friction and congestion necessary to encourage automobile travel at safe speeds.**
 - a. Drivers may have a false sense of security speeding here due to inconsistently utilized on-street parking. Many of the spots remain empty while residents are at work during the day, yet fill to capacity during the evening hours.
 - b. Lorne Avenue E parking is limited to the north side of the road; this limits friction on the avenue's south side where Rideau park is located. Pedestrians and cyclists commonly frequent the park via the avenue's south side.
- 2. At the time of the collision, Lorne Avenue E featured a 50 km/h speed limit that prioritized high speed automobile travel; the design speed still values this form of travel over other objectives like cyclist and pedestrian safety.**
 - a. Obstacles that would slow the movement of traffic have been eliminated along this portion of road.
 - i. Wide curb radii remove the natural congestion created with the turning of cars.
 - ii. The intersection is unsignalized despite it being located on the northwest corner of Rideau park, a popular community center for locals.

- iii. There are no marked crosswalks at the intersection with Park Street, although there are sidewalks on both sides of Lorne Avenue and into the surrounding residential neighborhoods.
 - b. As of July 1, 2023, the speed limit at the crash location was reduced to 30 km/h.
 - i. Prior to this reduction, a speed study indicated that 18.5% of drivers were speeding; this study was conducted during construction work that likely decreased motorist speeds.
 - ii. Had the reduced limit been in place at the time of this study, 88% of drivers would have been speeding.
 - iii. This three-hour study also noted 12 pedestrians and 14 cyclists sharing the road with motorists; these are significant totals given the 140 cars tracked.
- 3. Roadway and intersection signage neither sufficiently calms motorist traffic nor encourages awareness of travelers using other modes of transportation.**
 - a. The intersection is controlled by two yield signs that apply to Park Street, with Lorne Avenue having the right of way. The use of a yield sign versus a stop sign is not a typical condition found in transportation manuals.
 - b. This intersection and others like it rely on drivers to observe and obey easily ignored yield signs.
 - c. On Lorne Avenue E and parallel streets, there are stretches of up to twenty blocks where users encounter only two stop signs; this nurtures driver complacency, particularly for travelers familiar with the neighborhood.
- 4. Roadway maintenance and cleanup are neither thorough nor frequent enough to ensure cyclists can safely utilize the roadway in its entirety.**
 - a. The potholes that line the sides of the road limit the amount of space that cyclists can safely travel over; this heightens the likelihood of more dangerous interaction with motorists in shared travel lanes.
 - b. Cyclists hugging the curb, navigating around potholes, and weaving amongst parked cars may have reduced capacity to monitor oncoming traffic. Additionally, oncoming motorists may not accurately predict cyclist behavior since cyclists engage with potholes and roadway friction differently than automobile drivers.
- 5. Paint-designated sharrows and “Share the Road” signs do not adequately build expectations that Lorne Avenue E and surrounding streets are to be shared by multi-modal users.**
 - a. While sharrows may have been considered best practice ten to twenty years ago, [research since then](#) has shown that sharrows don’t actually achieve much in the way of changing behaviors and increasing safety.

Related Contributing Factors

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

6. When combined with poor roadway design, darkness or insufficient street lighting may limit the visibility of road users and their lines of sight.

- a. Design that fails to encourage heightened driver awareness does not mitigate any increased risks posed by nighttime navigation.

Recommendations

There are multiple ways to address the outlined factors and minimize the likelihood of future collisions, fatalities, and traumatic injuries where this crash took place. At the intersection of Park Street and Lorne Avenue E, the following practices should be adopted.

Immediate:

1. Immediately convert all yield signs into stop signs throughout the neighborhood; paint stop bars to reinforce the stops.
2. Organize locals to conduct another speed study to determine if the pilot speed reduction has resulted in lower speeds. If speeds have not adequately decreased, share the results with the city to build pressure for more action.
3. Erect signage at the Lorne Avenue E and Park Street intersection to turn it into a four-way stop; use paint to designate stop bars and crosswalks at this intersection to heighten driver awareness for all users.
 - a. Paint and traffic cones could be used to create a temporary mini traffic circle at this intersection as an alternative to a four-way stop.
4. Either set aside a protected bike lane on Lorne Avenue utilizing temporary poles and traffic cones, or adjust the current on-street parking—which is south side only—to alternate between north and south sides of the street on each block.
5. Introduce optical narrowing of Lorne Avenue with paint and temporary poles, curb extensions, bump outs or neckdowns at intersections and mid-block.

Near Term (within the next 12 months):

6. Observe and study the impacts of the temporary interventions on Lorne Avenue E and, if they effectively slowed traffic, begin the process to make these permanent.
7. Repeat the successful temporary measures at other similar intersections within the neighborhood.
8. Address the damaged pavement on Lorne Avenue E; pay particular attention to the cartway where cyclists ride.
9. Review all city street details and make appropriate removals and revisions, such as replacing yield signs with stop signs at four-way intersections.
10. Form a multidisciplinary, ad hoc committee composed of 3-4 city staff empowered to respond to crashes and their contributing factors. This committee would review contributing factors of crashes, have the authority to implement temporary changes to address these factors, and ultimately strengthen public safety.

Long Term and Systematic:

11. Modify the built environment at this intersection to make all temporary measures permanent which may require relocating curbs and narrowing pavement.
12. Update city standards to include:
 - a. Temporary measures that can be implemented by the city in 24 hours when speed is identified as a contributing factor in a crash or identified as a safety concern by residents.
 - b. Development details that will result in slower speeds and accommodation for all users. These details would include permanent versions of temporary measures, such as—but not limited to—protected bike lanes, mini traffic circles, curb extensions, on-street parking, and protocols for right-sizing lane widths.

Concluding Statement

The series of design flaws present along Lorne Avenue E and at its intersection with Park Street are dangerous. These flaws are typical in many locations throughout North America, and likely in many places across Manitoba and Canada. Design emphasis that prioritizes unrestricted traffic flow at high speeds over the safety of cyclists and pedestrians has caused serious injuries and deaths in communities like Brandon throughout much of North America.

By evaluating the multiple factors that contribute to a crash, we believe that decision-makers, the public, and designers can move beyond the current approach, which seeks only to assign blame to involved parties, to a model that helps change the way these spaces are designed, developed, and cared for. In Brandon, we believe ongoing changes to this location should prioritize pedestrian and cyclist safety as a crucial component of development.