Crash Analysis Studio

Ottawa, Ontario
Held on May 4, 2025

Session Participants

- **Matthew Pinder**, Senior Integrated Mobility Consultant; traffic safety advocate; local resident; avid cyclist
- **Tanu Verma**, Analyst at OXARO Inc.; lifelong resident; street safety enthusiast
- **Lesley Millar**, Crossing Guard at crash location; concerned community member; Ottawa native
- **Tony Harris** (moderator), Community Engagement Coordinator at Strong Towns

Summary of Crash Event

- The crash occurred at approximately 6:30 PM on September 9th, 2024 when a motorist driving a Mazda 3 turned left off of Conroy Road and struck three individuals walking south across Lorry Greenberg Drive.

- The motorist had two passengers in the car at the time of the collision, though further information about those passengers is not currently known.

- The individuals traveling by foot were family members walking southbound in a crosswalk; they had the right of way.
    - There was no advanced green light for northbound drivers at the time of the crash.
    - There is an advanced left turn signal for southbound drivers traveling through this intersection, but only during the PM peak period.[1]

- One female was not hurt, while the other female suffered only minor injuries. The male suffered serious—but not life threatening—injuries.
    - One female indicated that she saw the car and did not have time to react.
    - The second female was skinned by the side of the car and knocked to her knees.
    - When the motorist struck the male, he lost consciousness and landed five to ten meters away from the crosswalk.
    - The male was transported to Ottawa Civic Hospital.
    - The motorist—who claimed the sun was in his eyes during the turn—stayed on the scene and cooperated with law enforcement.

[1] This was confirmed by Ward Councillor Jessica Bradley's team following the session. The limited operation of this signal may pose close calls for crossing guards and students, like the ones noted by panelist Lesley Millar during this session.

- At its intersection with Lorry Greenberg Drive, Conroy Road has five lanes dedicated to automobile traffic.
    - Four of these lanes—two northbound and two southbound—are for through traffic.
    - The third northbound lane is for both through traffic and left-hand turns; it does not feature an advanced green light for protected turns.
    - There are bike lanes on both the east and west sides of the road.
    - Sidewalks also line Conroy Road on either side.

- The speed limit on Conroy Road is posted as 60 kilometers per hour (km/h), or about 37 miles per hour (mph).
    - The speed limit on Lorry Greenberg Drive is posted as 50 km/h (approximately 31 mph).

- All four legs of the intersection are signalized and marked with dedicated crossing spaces.
    - The crosswalks on the north and south portions of Conroy Road are striped with white paint.
    - There are parallel line crosswalks and push buttons for non-motorists crossing Lorry Greenberg Drive.

- Weather reports and pictures taken from the scene of the crash both indicate it was a warm and sunny evening.

Contributing Factors

This collision at Conroy Road and Lorry Greenberg Drive was neither an isolated incident nor simply the product of driver error; the crash was the consequence of a roadway system not fully calibrated for the safety of all users. The intersection's wide lanes, long crossing distances, and vehicle-centric signal phasing create conditions that prioritize driver speed and throughput. These design choices come at the expense of visibility, accessibility, and predictability for those traveling on foot, by bike, or via transit.

Panelists and respondents to the survey issued by Strong Towns Ottawa emphasized that speeds along Conroy Road exceed what's appropriate for this location. It is incongruent to try and make Conroy Road facilitate high speed traffic when it also serves as a neighborhood connector, bus transfer point, and walking corridor. Nearly 40% of vehicles in the speed study conducted for this session were found to be exceeding posted limits. Furthermore, northbound drivers turning left onto Lorry Greenberg—like the one in this crash—must make split-second decisions in high-stress conditions with limited visibility and no protected signal phase. The skewed angle of the intersection forces drivers to look nearly perpendicular to their direction of travel to see pedestrians in the crosswalk.

Other factors like long signal cycles, sun glare, and rapid bus transfers create an environment where both motorists and non-motorists are more inclined toward risky behavior. This intersection features a design that heightens the likelihood of conflict amongst road users, largely by hastening—rather than slowing—their decision-making processes.

Session participants identified the following as contributing factors to this crash:

1. **Both the design speed and documented travel speed of Conroy Road are incompatible with pedestrian and cyclist traffic that is encouraged at this intersection and in the area surrounding it.**
    a. The current speed limits on Conroy Road and Lorry Greenberg Drive are, respectively, 60 km/h and 50 km/h.
        i. The speed limit for both roadways are relevant since the motorist was traveling north on Conroy and potentially accelerating into a left hand turn onto Lorry Greenberg.
    b. A speed study conducted for this studio indicated that 43% of northbound Conroy Road motorists—and 35% of southbound Conroy Road motorists—exceeded the posted speed limit. When averaged together, 39.2% of motorists exceeded the posted speed limit.
    c. The study stated the 85th percentile speed, or the speed at which 85% of drivers traveling at or below, fell between 62.8 km/h and 65.8 km/h[2].
    d. A pedestrian safety analysis states that fatality rates climb for automobile collisions involving pedestrians at approximately 40 km/h, or 25mph.
        i. When automobile speeds exceed approximately 64 km/h (40 mph), 45% of pedestrian collisions are found to be fatal.
        ii. The posted limit approaches the edge of lethality, particularly for people walking.
    e. Of the 380 motorists tracked, 6.84% of motorists (26) were found to be traveling at speed limits of 70 km/h or higher.
    f. 164 motorists—or 43% of the sample—were driving between 59.5 and 69 km/h. This data indicates that this space may communicate to drivers that it is a low-risk behavior to travel at speeds likely to result in pedestrian fatalities if a crash occurs.
    g. By design, vehicle travel speeds on Conroy Road subject non-motorist users—including people traveling by foot, cyclists, and public transit riders—and motorists to substantive danger.

2. **Conroy Road and its intersection with Lorry Greenberg Drive are designed to facilitate and prioritize high speed and high capacity automobile traffic in a manner mismatched with the non-motorist usage and residential developments in the surrounding neighborhoods.**
    a. Conroy Road features underutilized lanes that extend overall roadway width enough to contribute to high speed automobile travel.

[2] This speed approaches 41 mph in an area with a designated limit of approximately 37 mph.

i. The four travel lanes for northbound and southbound through traffic along Conroy Road are each 2.9 meters (9.5 feet) wide; these widths fall within the ten-foot measurement deemed appropriate for most urban areas.
ii. The shared lane for through traffic and left turns is also 2.9 meters wide, while the buffer area for northbound traffic measures 2.7 meters (8.8 feet) wide.
iii. Each bike lane on either side of the road measures 2 meters (6.5 feet) wide.
iv. Though the 2.9 meter wide lanes do not exceed width protocol, the northbound lanes are cushioned by an underutilized bike lane and a buffer area on either side.
v. This bike lane may extend the perceived width of the right hand northbound lane to 4.9 meters (16 feet).
vi. The buffer area may extend the perceived width of the left hand northbound lane or the shared lane for left hand turns to 5.6 meters (18.3 feet).
vii. These perceived extensions of lane width may impact driver behavior and decision-making.

b. The travel lanes for through traffic on Lorry Greenberg Drive are 3.25 meters (10.6 feet) wide and 3.6 meters (11.9 feet) wide; these lanes do exceed the width protocol for lanes in urban areas.
c. Wide turning radii and excessively long crossing distances expose vulnerable users for extended periods.
d. Excessive exposure and the distances outlined create a time-pressure dynamic that encourages risk-taking behaviors; road users who feel rushed are more likely to race across busy intersections to catch buses and take risky left turns through questionably sized traffic gaps.

3. **Northbound travelers on Conroy Road lack a protected left turn phase[3] to enter into the flow of traffic on Lorry Greenberg Drive; this design decision places motorists and non-motorists—especially those crossing Lorry Greenberg Drive—at substantially higher risk of collisions.**
    a. The absence of this signal requires drivers to simultaneously judge automobile flow from multiple lanes, the flow of cyclists and non-motorists from the multi-use path, *and* scan for pedestrians in the crosswalk.
    b. The difficulty of this task is compounded by the skewed angle of the intersection and any sightline obstructions.
        i. This task forces drivers to pivot their vision nearly 90° left to assess crosswalk conflicts, well outside their natural cone of vision.[4]

[3] This phasing prevents conflict by providing a green arrow for left turning vehicles while simultaneously stopping oncoming traffic and halting parallel pedestrian crossings.
[4] Though drivers are asked to scope conflicts outside of their natural cone of vision, visuals from Google Maps during the analysis session utilize a wide camera lens that depict the turn to be wider than it actually is.

c. Without a clear, dedicated turn phase, drivers often opt to "take the gap," increasing their speed through the turn.
d. In this case, the motorist may have accelerated into the intersection with limited visibility, striking the non-motorist family members who had the right of way.

4. **Poor visibility along Conroy Road and near its intersection with Lorry Greenberg Drive impact the decision-making capacities of all road users in a manner that encourages greater risk-taking by motorists and non-motorists alike.**
    a. The motorist reported sun glare as a contributing factor to the collision when interacting with law enforcement at the time of the crash.
        i. The crash occurred on a sunny evening about an hour before sunset.
        ii. While sunlight likely interfered during the *latter half* of the turn (when facing west), it would **not** have been a persistent obstruction.
    b. Panelists and survey respondents both confirmed that the placement of existing bus stops along Conroy Road create visibility challenges at this intersection.
    c. These sentiments highlight how quickly visibility can shift mid-turn and how rapidly risk can grow due to glare and visual clutter.

5. **Pedestrians, public transit users, and non-motorists are subjected to both poor signal timing and inflexible bus transfer schedules at this intersection.**
    a. The current signal cycle is approximately 2.5 minutes (150 seconds), causing long waits for people traveling by foot.
        i. NACTO[5] recommends cycle lengths as short as 60-90 seconds in urban areas with frequent and commonplace pedestrian crossings.
        ii. Wait times that are more than double recommended lengths often prompt non-motorists to cross against the signal or dash during questionable gaps in traffic.
    b. Recent changes to Ottawa's bus network have increased foot traffic at this location, particularly people rushing to make transfers between the 40 and 98 lines.
        i. This means that the Lorry Greenberg Drive and Conroy Road intersection now hosts two popular bus routes, with stops as infrequent as every half hour, without infrastructure calibrated for transfers that are both safe and swift.

6. **Conroy Road is a thoroughfare that is a mix between a street and a road, a type of hybrid road design often referred to as a stroad[6].**
    a. Common in both the United States and Canada, stroads are wide arterials that often provide access to suburban subdivisions, strip malls, drive-through fast food restaurants, and other automobile-oriented commercial establishments.
    b. The physical design of Conroy Road attempts to simultaneously accomplish two aims that typically conflict with each other:

[5] National Association of City Transportation Officials
[6] The Stroad (October 2017).

        i. Encourage fluid connectivity to move people from one location to another.
        ii. Satisfy the needs of non-motorists—traveling both on foot and by bicycle—that interact with the space as a neighborhood street.
    c. The dangers posed by design shortcomings typical to stroad environments are further exacerbated by the travel speeds observed and documented in this area.

Recommendations

The changes needed along Conroy Road and at its intersection with Lorry Greenberg Drive are reasonable and practical. The intersection, as it currently functions, is the result of design choices that value vehicle movement over human life. Many of these choices can be modified without excessive amounts of resources.

Some solutions—like quick-build improvements—are immediate: restriping crosswalks for higher visibility, reducing signal cycle lengths, and using flex posts to visually narrow the approach can all be implemented at low-cost for quick impact. Adding a protected left-turn phase, reducing non-motorist exposure, and repurposing excess space currently dedicated to buffer lanes are recalibrations that will support the longer-term transformation of this space.

Panelists and community members also pointed to broader, corridor-wide issues. The oversized footprint of Conroy Road feeds speeding and confusion throughout the area, not just at this single location. Systematic changes—such as reallocating right-of-way, improving transit integration, and adopting a consistent protected-turn policy—may help align this space with Ottawa's stated goals of safety, multimodal accessibility, and equity.

These recommendations represent a design philosophy shift—from managing traffic to protecting people. To minimize the likelihood of future injuries and fatalities, Ottawa should adopt the practices outlined below. These actions will signal that the city is actively treating intersections as public spaces worthy of care, intention, and dignity.

Immediate:

1. Install high-visibility (zebra-style) crosswalk markings on all four legs of the intersection to increase driver yielding rates and pedestrian visibility, as the current parallel-line crosswalk on Lorry Greenberg lacks the contrast needed to command driver attention.
    a. Quickly and affordably implement this change through municipal repainting efforts or with contractors during routine maintenance windows.
    b. The City of Ottawa should prioritize this as a retrofit for safety-critical intersections and include the introduction of high-visibility markings into upcoming resurfacing projects.

2. Add yield-to-pedestrian signage at all crossings to reinforce Ontario law and signal priority clearly to drivers.

3. Install temporary flex posts along northbound Conroy Road to reshape the visual geometry of the street *without* calls for major reconstruction. These posts may be deployed to:
    a. Narrow the approach by closing off the buffered lane area, thus signaling to drivers they are entering an area that requires more care.
    b. Tighten the turning radii for left-hand maneuvers to prevent drivers from taking sweeping arcs at high speeds.
    c. Reclaim excess asphalt as a pedestrian space or to guide vehicles into correct lanes.[7]

4. Initiate a traffic volume and conflict analysis to formally justify the installation of a protected northbound left-turn phase on Conroy Road.

5. Shorten signal cycle length to reduce pedestrian wait times and discourage risky crossing behaviors, especially for bus transfers.

6. Consolidate or better coordinate bus stops to reduce mid-intersection transfers and reduce the likelihood that pedestrians will cross against signals.
    a. Moving stops to the *same side* of the intersection—or slightly staggering arrivals—may reduce the urgency and unpredictability that fuel mid-cycle crossings.
    b. Small changes, like better posted schedules or signage, may also reduce the stress experienced by riders.

7. Work with appropriate departments and local agencies—such as OC Transpo and Ottawa Public Health (OPH)—to plan small-scale outreach initiatives or campaigns[8] focused on intersections with high pedestrian and transit usage.
    a. Active outreach may help drivers realize that their habits and behavior may put vulnerable road users at risk.

8. Elected officials of Ottawa should provide direction and guidance to municipal staff for the desired user behavior along Conroy Road–particularly at its intersection with Lorry Greenberg Drive—as an initial step toward improving safety for all road users.
    a. Elected leadership should prepare a resolution supporting this objective. This resolution should state:
        i. Safety for all users shall be the primary design priority that outranks all others for this location.
        ii. All future design and planning efforts for these roadways shall be contextual to an urban character safe for motorists and non-motorists.

[7] Relevant case studies include the Danforth Bike Lanes implemented during a complete street pilot project and pedestrianization projects—like the one on Rue Sainte Catherine Ouest—found throughout the city of Montreal.
[8] Toronto's Vision Zero back to school road safety campaign may be a good example to reference.

iii. Temporary safety measures should be utilized–and more permanent measures designated and worked toward–when dangerous conditions or undesired user behaviors are identified.
iv. A renewed commitment to goals laid out in documents like—but not limited to—the Community Safety and Well-Being Plan.

9. Form an interdisciplinary team of city staff from multiple departments to act as rapid responders[9] to automobile collisions.[10]
    a. This team should convene following a serious crash and be responsible for documenting factors that contribute to crashes as demonstrated in this Crash Analysis session. These findings should be shared with the elected leadership and the public.
    b. Grant this team agency to immediately implement short term or temporary physical improvements to the street that respond to the contributing factors of the crash.
        i. As outlined above, many of these improvements should be quick build projects undertaken with available resources that can be deployed in a matter of days.
        ii. Charge the team with the authority to implement the immediate actions suggested in this report; encourage them to work toward near-term and long-term recommendations.

Near Term (within the next 12 months):

10. Pilot a protected left turn phase for northbound traffic on Conroy Road.
    a. Review data from the traffic volume analysis to determine if the existing shared left turn and through traffic lane should be modified to left-turns only; if so, initiate that change.
    b. Modify any signal hardware to convey to drivers this is a protected left-hand turn for motorists.
    c. Introduce any additional signage—temporary or permanent—to help motorists grow accustomed to this change.

11. Re-time pedestrian signals alongside the pilot project to avoid phase overlap and introduce a leading pedestrian interval (LPI) or pedestrian head start signal.
    a. A signal that provides a three to five second head start could substantially reduce risk for non-motorists, especially for road users like children and the elderly who may cross slower than able-bodied adults.

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[9] For more information on rapid response models, see Pedestrian Safety Gets Big Boost From New Cincinnati Initiative (January 2023).
[10] Ward Councillor Jessica Bradley and the Director of Transportation are two political stakeholders to consult with during team formation; these parties have already initiated change processes to improve this intersection.

12. Pilot a temporary bus-only lane along Conroy Road using flex posts and paint.
    a. Test converting one of Conroy's underutilized lanes—or otherwise reallocated pavement—into a dedicated bus lane, at least during high-volume hours.
    b. Monitor the effectiveness of the bus lane for speeding up service; adjust and scale the pilot based on public response and performance.

13. Partner with at least one local agency to carry out driver education initiatives or projects,
    a. Initial campaigns may focus on—but shouldn't be limited to—one of the following deliverables:
        i. Signage reminding drivers of right-of-way laws.
        ii. Community-based public service announcement (PSA) posters near bus stops or schools.
        iii. Collaboration with driving schools or licensing offices to refresh materials on crosswalk behavior and yielding.
    b. Engage in a second campaign or initiative once an initial project has been completed.

14. Introduce or upgrade glare-reducing elements at corners where sun angles routinely impair visibility. This may include:
    a. Adding anti-glare visors to traffic signals, as these small hoods help shield signal faces from direct sunlight, ensure signals aren't misread, and improve visibility for drivers.
    b. Replacing any shiny or overly reflective signs with low-glare coatings to potentially reduce momentary blindness caused by sunlight.

15. Explore—and potentially pursue—Automated Speed Enforcement (ASE) as a supplemental measure to support traffic calming along Conroy Road.
    a. When paired with public education and effectively marked signage, speed cameras have been shown to encourage a culture of compliance and reduce crashes.
    b. ASE should be framed as a temporary support while permanent roadway reconfigurations and design-based safety improvements are formed and implemented.

Long Term and Systematic:

16. Reconfigure the geometric dimensions of this intersection to reduce turning radii and shorten crossing distances.
    a. Suggested actions include:
        i. Installing permanent curb extensions.
        ii. Installing center medians with pedestrian refuges.
        iii. Realigning any skewed corners.

17. Reallocate excess buffer and greenspace along the Conroy Road corridor to reduce the road's perceived width and calm driver behavior; reclaimed space may be repurposed for dedicated bus lanes, curb-protected bike lanes, or multi-use paths.

18. Systematically apply protected turn phasing across Ottawa's regional roads as part of a Vision Zero implementation strategy.

Concluding Statement

The series of design flaws present along Conroy Road and at the crash location are dangerous for Ottawa community members and visitors. Design emphasis that prioritizes traffic flow over non-motorist safety and usability has caused injuries and deaths in communities across Ontario and in locations throughout North America. In Ottawa, local leaders and citizens need to lead by example by treating Conroy Road and its intersection with Lorry Greenberg Drive as a people-centric place. Road user behavior and expectations will slowly change to help standardize this treatment as common practice.

By evaluating the numerous factors that contribute to a crash, we believe that designers, decision-makers, and the general public 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 maintained. Substantive changes to Conroy Road and Lorry Greenberg Drive should prioritize pedestrian safety alongside motorist usage. Further transformation of this intersection into a place treated and cared for like a local roadway stands to benefit Ottawa, its residents, and its visitors.