# Crash Analysis Studio – Conroy Road & Lorry Greenberg Drive in Ottawa, Ontario

## Introductory Trailer

**Chuck Marohn:** I want to give you two scenarios. Scenario number one a plane crashes. Scenario number two, two cars collide. In scenario number one, we pull out all the stops – we bring in the NTSB, we try to figure out exactly what went wrong. Scenario number two – we send out the cops, we sweep up the mess, and we go on our way.

**John Pattison:** If we, collectively – everyone on this call and the broader Strong Towns movement – if we do this right, we’re going to save thousands of lives.

**Edward Erfurt:** Mayors and local council members want to do the right thing. They have the ability to solve it. We’re going to help provide those tools for them.

## Session

**Tony Harris:** All right, hi, everyone. I know people are still filing in. I'm seeing the participant number slowly rise up. But I am going to begin and get us started. Just want to be respectful of everyone's time today. Let me begin by saying thank you for joining us, especially on a Sunday. I know that this is probably not how you typically spend your weekend, so we really appreciate you being here with us for this crash analysis studio session. My name is Tony Harris, and I am the Community Engagement Coordinator with strong towns, and I have been invited by our contacts in Ottawa to help moderate this session today, and in a few moments, I will introduce you to the rest of our expert panel. But first, I just want to talk about why we're here real briefly. So in the United States alone, it's widely recognized that over 40,000 people die in automobile crashes every year, and we know that these crashes happen throughout the rest of North America too, and we also know that 1000s more suffer traumatic injuries during these collisions. Now, despite the best work of public safety officials, these crashes are still happening, and they're affecting all of our lives. There is a prevalent misconception that car crashes are caused solely by mistakes that drivers make, so that might be looking at your phone, changing the radio, drinking alcohol and getting behind the wheel, speeding. The North American response to crashes usually focuses on assigning blame, often to drivers and sometimes to pedestrians too. Now the reality is that crashes are caused by multiple factors, and when a traumatic crash occurs, we need to identify all the contributing factors, learn all that we can and take action so we can reduce the number of injuries and deaths that are plaguing our communities.

So what you're going to see now is a session that follows the strong towns crash analysis studio approach. So our panelists are going to look at a crash that occurred at Conroy road and Lorry Greenberg drive, and it was actually a witness to this crash who applied to have this collision analyzed by us. So I'm going to begin with introductions, and then we'll review some facts of the crash. I have a presentation put together that I think will be helpful, and then our panelists will help us to assess the design factors that contributed to this collision. And then we'll look at some recommendations for changing up the calculus at this intersection, hopefully making it a safer place. I want to emphasize that our goal is not to assign blame. Rather, our objective is to learn as much as we can about what happened, identify factors and, you know, ultimately help to improve safety at this location for all road users. So let me begin with introducing our panel.

First, we have Matt Pinder. Matthew Pinder, who currently works as a senior integrated mobility consultant at Mobycon, where he contributes planning, design and engineering skills to a variety of projects in communities across Canada and the United States. Matt is passionate about improving the way the world moves congestion, public health, happiness, pollution, these are all issues that interface with how we get around and how we build our communities. And Matt is really engaged in tackling these issues from a variety of angles. Next we have Tanu Verma, who is a recent graduate, who works at a digital consulting company. She has lived in the green borough community for nearly 20 years, and she attended school in this community and regularly travels through the area by car, on foot and by bike. Her passions include improving traffic safety and making the city and community safer for everyone, including pedestrians, cyclists and drivers. And then next we have Leslie Miller, who was born in Ottawa but has lived in several places in Europe, the United States and Canada. She is a graduate of the University of Ottawa and St Lawrence College in Kingston, and she's now in her early 50s, and has raised two children to adulthood. And she really loves Ottawa and her community, which is why she's now the crossing guard at the intersection that we're discussing today. And I think this might be the first time we've had a crossing guard on one of our panels, which is really exciting. I know we've had some Safe Routes to School people, but yeah, so that stands out to me today.

So I'm going to go ahead and walk us through some of the details of this crash, and to do that, I'm going to share my screen, and I think you can see a PowerPoint that I have pulled up here, so let me bring that to the Center for me. Great. Okay, so let's start with what we know. We know that a. Male and two females were struck by a masa three at the intersection of Conroy Road, which I believe is regional road 125, and Lorry Greenberg drive. And we know that these individuals are family members. So the driver was Traveling northbound on Conroy road and taking a left hand turn onto Lorry Greenberg drive and our three people walking, they were headed southbound on Conroy road, and they were in the crosswalk. We know from the crash report that these folks were traveling by foot. Of course, they had the right of way. And to my knowledge, there's no advanced green light for motorists at this intersection, for motorists that are going northbound and taking that left hand turn off of Conroy. The crash occurred at 6:35pm, on September 9, 2024 and we know that the victims, survivors of the crash did receive a crash report, and pictures from the scene suggest that it was a warm and sunny evening in Ottawa on that day. So one female was uninjured and the other suffered some minor injuries. The male family member, he suffered serious injuries, but they were not life threatening, thankfully. And police were dispatched, I believe, at 6:31pm and arrived at 6:33pm which I would say, is pretty good response time. The mail was transported to Ottawa Civic Hospital, and the motorist stayed on the scene and cooperated with law enforcement. He claimed that the sun was in his eyes and that that was, you know, maybe what led to this situation, to this collision, there were two other passengers in the car, and to my knowledge, there were no reports of drugs, alcohol or impairment as factors in this collision.

So on this slide, you can see a map with the crash location marked by a red pin right toward the center there. And then, on this diagram photo, we've pulled up some illustrations to kind of depict the vantage points that the driver and the people walking had before the crash occurred, right? So I'm just going to click through and you'll see these blue boxes, these blue squares populating over in that corner of the intersection. So those represent our family members who were walking. They were headed southbound on Conroy. And then this orange box appears over here in the left hand turn lane. That's our motorist making the left hand turn onto Lorry Greenberg drive. And then we went ahead and outlined the crash location in red. And then on this slide, we have a video that's going to show you something similar to what I just described, right? So I'm going to quick play here, and you're going to see the walk signal comes up, our pedestrians, our family members are walking. The left turn happens, and then the collision takes place. So one female indicated that she saw the car but didn't have time to react. The male was hit by the hood of the car, split up toward the driver's side. I believe he hit his head on the line shaft and went unconscious. And then the other female was skinned by the side of the car and knocked to her knees. And then witnesses were not sure if the motorist was waiting for a green light or approaching the intersection during a green light. And then we just wanted to note too, after the collision, the man, the male family member, landed about five to 10 meters away from the crosswalk. So we tried to depict that down here as well.

Okay, so some more information that we know. The speed limit on convoy road is posted at about, well, not at about at 60 kilometers per hour. For any US folk on the call, that's about 37 miles per hour. Now, the speed limit on Lorry Greenberg is posted at 50 kilometers per hour. That's a little bit over 31 miles per hour. And as we stated, driver was headed north. Pedestrians were walking south. And I believe as of November 2024, there were plans to sue the driver for pain and suffering endured. So a little more on the overall conditions of this location, Conroy road has sidewalks on either side. There are four through traffic lanes. I believe two are going north, two would be going south. There is a center lane for through traffic and left hand turns. It's shared to my knowledge. And then on either side of Conroy road there are bike lanes right Lorry Greenberg consists of two through traffic lanes, and then there's a center lane for left hand turns as well. We're also looking at sidewalks on either side of Laurie Greenberg. And then, from what I've heard from our panelists and from some locals on the ground, you know, this intersection is surrounded by multiple community destinations, including some schools and parks. There's kind of a flow of humans walking on bicycles, you know, outside. Of cars that can kind of be expected in this area on a day to day basis.

So one of our volunteers did gather some photos of the crash location and surrounding area. I'm going to take us through these briefly. So this first shot is looking south on Conroy road. I believe this would be from the vantage point of the three family members where they began crossing. Now this one is pulled from Google Maps, I believe. So you're kind of viewing a head on shot of Laurie Greenberg, and I think this is what the driver might have been seeing as they were joining the flow of traffic just prior to the collision. Now here we have some images from the crash itself, so you can see evidence of damage that occurred to the car, the hood and the windshield in particular. And then on this slide, on the left, we have a shot of the full intersection taken from the corner where the family members were located prior to crossing. And then on the right is a shot, a similar shot from the corner, diagonal from where our walkers had been standing. So on the right hand side, I've been calling this the southeast corner. And we wanted to note here too, again, northbound travelers on Conroy aren't accessing an advanced screen light. Okay. Now this photo, I believe, is from the northeast corner, so that would be on the other side of Conroy from where our travelers had been standing. And you can see, you know, traffic signals, crosswalks, and there is an advanced green light for southbound traffic on Conroy. Now these next two photos illustrate crosswalks and push buttons from that southeast corner again, you can see that one of these crosswalks is fully striped and the other one is just marked by parallel lines. I would say this is evidence of some pedestrian infrastructure here. And then these two photos illustrate, you know, the crosswalks from the corner of the intersection that the pedestrians or family members were headed toward again, you see, you know, some of the signals, some signage, the style of crosswalks that are present. And then these two shots show crosswalks from the corner where the edestrians began crossing. Now this slide here, we actually have four shots on this slide trying to illustrate the surrounding area a little bit. The bottom left photo illustrates a, or includes, rather a 50 kilometer per hour speed limit sign on Lorry Greenberg. And it's, you know, kind of interesting to me, that there's a thank you for driving responsibly sign right above that speed limit marker, and just wanted to point that out. And these other photos, you know, you can see some evidence of businesses, sidewalks, homes, just to get a feel for the area.

Now, one of our volunteers helped get measurements of the intersection as well. So I'm going to take us through those so on convoy road, you can see that each of these four through traffic lanes for driving, each of those are 2.9 meters wide. So that's about nine and a half feet each. The shared through and left turn lane is also 2.9 meters wide. There is a buffer area on the northbound side of Conroy that was depicted for me, that is about 2.7 meters wide. Then we have the segment of the road with the lamp in its center, that's 1.45 meters. And then each bike lane on either side is about two meters. So the width across the pavement, what I calculated was 22.65 meters, or about 74 and a half feet. And then when you add in the planting strips the sidewalks on either side, that width jumps up to 43 meters, which I believe would be 141 feet. Now when we look at Lorry Greenberg, potentially a little less complicated. Here you can see one drive lane or one through traffic lane is 3.25 meters wide. It's a little over 10 and a half feet. And then the other drive lane is 3.65 meters wide. That's closer to 12 feet. The center turn lane is 2.9 meters wide. So that's the same width as the shared through traffic and turn lane on Conroy. And those measurements make the width across the pavement 9.8 meters, or about 32 feet. And then when you add in the planter strips, the sidewalks, the bus stop, that total width jumps up to about 20 meters.

Okay, so when we're looking at kind of the overall development pattern in this area, there were a few observations I wanted to point out that I thought might be useful for today's discussion. So Conroy road is perpendicular to Hunt Club Road, which I believe is highway 32 and Hunt Club Road has a speed limit of 80 kilometers per hour. So I'm going to advance us to the surrounding area map here. So. So to my knowledge, Hunt Club Road is the road down here that's depicted kind of in that beige, yellow, so you can see that Conroy Road, which runs in this direction. You know, we're fairly close to the intersection. We're not right on top of it, but it's close enough that I felt like we should note it. And then again, you know, the intersection itself. There are some schools in the area, I believe some fields, potentially some waiting pools, I think a couple playgrounds, you know, again, enough destinations that you're going to see locals moving between neighborhoods, moving along these streets on a regular basis.

So strong towns Ottawa played, you know, a big role in helping to get some information put together for for this session, strong towns, Ottawa is the local conversation group in the area, and they helped to distribute a survey to community members to try and learn more about how they experienced this intersection, which I think was a really great undertaking. And there were 63 survey responses, right? And the survey itself ran from March 9 to may 2, which was just a couple days ago. And we have this handy pie chart here, right? So 41.4% of respondents indicate that they travel through the intersection by car. I believe 34 a little over 34% stated that they travel through one foot 18.6% stated that they ride their bikes through this intersection too, and about 5% reported using the bus. So some of the key findings that we wanted to highlight here drivers often speed to avoid oncoming traffic, since there isn't a protected left turn for northbound motorists on Conroy, there was a statement that bus stop placement blocks the intersection, so limited visibility often leads to some close calls and potential collisions with traffic and cars. It was stated that cars typically don't yield to pedestrians, and some pedestrians, of course, move slower than others, and there are cases where pedestrians might not abide by the walk signal. I do want to note that in this crash, in this collision, our pedestrians were abiding by the signal, to my knowledge. And then there's also some confusion about the bike path or the multi use path. Questions like, you know, who has the right of way? Should bikers be dismounting when they're crossing? You know, those types of questions have come up. And then there were a few quotes from survey participants here that we included. These will be available in the PDF of the presentation that we share afterward, too. I'm just going to read one of these off. I felt like they were really powerful. My childhood friend passed away at this intersection while riding her bike to the plaza. It has been almost 20 years, and it still angers me that nothing has been done about the safety of this intersection. And as I was reading through, you know, these, these different quotes, when you start to get a compilation of experiences and statements like this, it really, to me, highlights the the need for some change, okay, and our community contact and some of their colleagues also conducted a speed study for us. So this study was conducted between around 4pm and 5:45pm under typical free flow traffic circumstances, and what we found there were 380 cars tracked, and a little over 39% of the drivers were found to be going over the speed limit. We calculated that 6.84% of cars were traveling at 70 kilometers an hour or higher, and then we found the 85th percentile speed. That would be the speed at which 85% of drivers were traveling at or below that landed somewhere between 62.8 and 65.8 kilometers per hour. That's close to 40 miles per hour, which would be about three miles per hour above the speed limit. Okay, so I'm going to stop sharing my screen. Great. Now I see everyone back in the front. I'd like to turn to our panel now, if that's okay, and you know, just ask. Maybe we could start with Matt. You know, what are you seeing here in terms of factors that might have contributed to this crash? And I'm going to invite you to feel free to share your screen if there's anything like on Google Maps or anything that you'd like to share to help you make your points.

**Matt Pinder:** Yeah, thanks Tony and Hey everyone. I think in my my intro, what wasn't said is that I, in addition to being a engineer who talks about safety improvements quite often, I also live pretty close to the area, and I frequently cycle through this intersection, often with my three year old daughter in a seat on my bike, so I'm pretty well aware of the the experience of crossing this crosswalk. And as someone who is always thinking about designs, I've thought about this one pretty often too. So I think that the survey points were really on point there. There was a lot of really great insights shared there. And so you know, my my engineering perspective when we're. Thinking about safety, the first thing we always have to think about is land use. So what's going on in the way that this community is designed that has led to this crash at the micro level? And if you zoom out, and if you look at what's going on here, we have schools very close to the intersection, we have retail very close to the intersection, and a lot of housing so people live near here and they want to cross this intersection to get to amenities, and when there's things like parks and pools and schools, it's not just able bodied adults traveling through here, it's kids. Kids are our most vulnerable road user. They don't have fully developed brains. They don't have the ability to simply just perceive all the traffic risks around them. Older adults experience this as well as they age. So, you know, I would expect that if you cross this intersection, you would basically need to be hyper vigilant of what's going on around you, and that's just something that children and older adults and many other people just don't have the ability to realize and at the macro level, again, Conroy road is very much a highway. It's designed to move people in cars over very long distances, and it is splitting this community in half just south of here. You mentioned Hunt Club, but past Hunt Club, it turns into a rural highway where cars are moving at probably 90 kilometers an hour, maybe even faster, and drivers are transitioning as they enter this community into the desire for lower speeds, but many people take longer to adapt, so that's that's causing people entering this community to still be in the highway driving mindset as they reach this intersection. And then the last thing I'll say about land use is, when you design environments like this, you're basically forcing people to need cars to get around, which is creating more car traffic at this intersection. And if this environment was designed to be more pedestrian friendly, there would be less people driving, and then less exposure, so that that's like the macro level lens, and that's really important to establish, because that is what leads to these collisions happening. But when we look at the micro factors of the intersection itself, I think the allowing driver to make a left turn across oncoming traffic and a crosswalk is a huge safety issue. There's so much data out there that shows that if you you called it a protected turn, that's the technical term, but a dedicated signal for that left turning traffic. It essentially eliminates all collisions related to left turns like it is a it is as close to a silver bullet solution as we can get in in the Road Safety world. So that that's a big glaring gap, the fact that there's a bicycle path there that carries two way traffic. That means that drivers are not only needing to see people moving at walking speed, but moving at rolling speed, which, especially with E bikes, can be anywhere between 20 and 30 kilometers an hour. That's a lot that we're asking for a driver to do as they're looking at two oncoming lanes of traffic and a crosswalk, the fact that the intersection is so wide, there's this concept of a cone of vision. So as a driver, I can only see a certain amount of degrees away from straight when I look, and when that crosswalk is so far to my left, as I'm sitting at that intersection, you need someone to be physically turning their head to look at that conflict. And if they're focused on the oncoming traffic, then it's really just outside of their perceived area of vision. So this driver might have looked and seen no, no oncoming traffic, and then initiated the turn, and then only after they started to turn, they would have had an opportunity to actually see the conflict in that crosswalk. It was brought up that there's no high visibility pavement markings for that crosswalk itself. The the East West ones have it, but the north south one is just two striped lines. There's similarly, some really good evidence from research that shows the we call it the zebra crossing, or the ladder crossing. This is really good for visibility, like it is noticeably better from a safety experience. So I do wonder why, why did they re paint this whole intersection and only do the zebra crossings on two out of the four crossings, when they could have, could have done all four. And then the last thing I'll say a very micro factor to this as i i plugged in the time and date of the collision as as you were introducing it. And it's very likely that the Sun position was a factor in this collision. So driver turns, and then the sun would have been directly glaring into their eyes and making them making it more difficult to see the pedestrians that were starting the crossing there. So that's some of the technical factors that I would review from an engineering perspective. But I'd love to hear the on the ground perspective from the other two panelists.

**Tony Harris:** Yeah, thank you, Matt, that's really helpful. There's a particular intersection in my town. For about two weeks a year, right at like 8am the sun hits just right, so you can't tell what the signals look like. And if you're local, that's maybe not a huge problem. But I think about I have thought about that multiple times as I've been looking at this crash in Ottawa. Yeah. Thank you, Tanu, would you like to go next on factors?

**Tanu Verma:** Yeah, sure. Thank you, Tony, yeah. So Matthew mentioned a lot of great points. I think the sun glare, it was mentioned in the PowerPoint. And I also read the police report beforehand. So yeah, I saw that the driver claimed that the sun was in their eyes, which suggested reduced visibility, of course, so they probably couldn't see the signals, the signs, and maybe even the pedestrians if the sun was low on the horizon, if it was six or 7pm another one that's pretty obvious is the unprotected left turn the driver has to yield to both oncoming traffic and pedestrians on the crosswalk. So misjudging this gap, misjudging the speed of the oncoming traffic, and failing to yield could have been some factors in this kind of tying into the last point, but the speed of the turn, I'm not exactly sure what the speed that the driver was going at, but taking a left turn too quickly could reduce the reaction time, especially if the pedestrian suddenly comes into view, and finally, just maybe there was an obstructed view, like maybe other cars were in the left hand turning lane on Laurie Greenberg going to Conroy or something like that. So maybe that could have thrown the driver off. Yeah, those are just some factors I came up with.

**Tony Harris:** Yeah, great. That's really helpful. Thank you. Thank you. Leslie, could we come to you next on factors?

**Lesley Millar:** Sure. Thanks Tony. And hello everyone. You might have noticed I was sitting here nodding my head all through Matthew and Tanu is speaking Matthew 100% pretty much nailed everything that I wanted to address. And Tanu yes, that I know at some times in the year looking down. Lorry Greenberg, the sun is directly in your eyes, and I sometimes have trouble seeing when there are kids approaching and until they're right in front of me. So just one other thing that I wanted to touch on that hasn't been mentioned is that here in Ontario, it is the law that if there's any pedestrian within a crosswalk, no car is supposed to pass through it, and that includes even if it's a divided road, like convoy road is there's that median in the middle, and drivers Just don't seem to care. I would say that one in 10 knows the rules and follows them. But I've experienced it over and over again as I pass through with the kids. As soon as I have cleared a lane, someone will zip in behind me, or, even worse, they'll try to beat me by turning quickly in front of the kids and me. And so I don't know, you know, the solution to that, better education for drivers, perhaps really trying to emphasize patience, but you know, I'm I'm crossing these kids in the morning and the evening at the same time when people are trying to rush to work or get home from work. And so, you know, the productive crossing is really the purest, fastest solution to that.

**Tony Harris:** Yeah, absolutely. Any other thoughts, or maybe, like, personal accounts and moving through this area, from you all that you that you want to highlight, like as a cyclist or as a pedestrian or as a driver,

**Matt Pinder:** I think I could jump in. There's like, there's this always notion of being in a rush, and probably at times like this, you witness that on the ground Leslie to see that people just don't have a lot of patience at intersections like this. And I think that that, on its own, is something that we need to dissect what what causes people to be so in a rush here and impatient being close to schools that are in a very car dependent neighborhood means a lot of parents rushing to drop off their kids, or rushing to pick up their kids, and then wanting to get the heck out of there and get home. The fact that this is a regional road means that that it's possible that driver could have come from pretty far away and just wanted to get home at the end of a long. Drive that these are the things that cause this behavior, that that we we think is contributing to crashes like this. And then you encouraged us to share visuals. So let me share, yeah, this one. So I found this on Google. Here's the driver's perspective before they they make the turn a driver sitting in the left turn lane. This illustrates that Kona vision concept I was talking about. You're looking right here to see. Is there any oncoming traffic? And this crossing is so far to the left that only after you probably decide that you have a gap in traffic, does your attention turn to this corner? And by then it's probably too late. The driver finds them in this situation of you can't stop because there might be oncoming traffic. You have to keep going. And I see situation to be in, Matthew,

**Lesley Millar:** can I add to that? If you can leave that slide up. That would be fantastic. So if you look to the right of this picture, there was one day that I was crossing a child and myself and we were coming south on that on that right hand side intersection, yeah. And precisely what you describe occurred. There was someone turning left where that light blue car is, yeah, and we were in the middle of the closer lane when the turning car realized we were there, and he had two choices, either strike us or slam on his brakes, and the driver, of course, thankfully, slammed on the brakes, but he was struck by a car traveling north on Conroy road because he was trying to beat the car across the lanes, and the car didn't have time to react, and that happened right next to us, at like a meter and a half away from us. And if you know, debris from the accident had come flying at us, or you know, if the person hadn't stopped, it could have been disastrous.

**Tony Harris:** Wow, wow. Thanks for sharing that. That's really upsetting to hear and really powerful to hear. And Leslie correct me if I'm wrong, but you've, you've been in this position now for, like, do you say a little over a year or a full year?

**Lesley Millar:** Yeah, as of May 1, it was a full year, yeah? So I've experienced all the seasons,

**Tony Harris:** yeah, yeah, all the seasons in a full a full school year too. Yeah, okay.

**Matt Pinder:** Think it's worth just saying that you know, for every one of these crashes, there's 10 more near misses, or maybe 100 more yes and yes, that could have almost happened but didn't. And we should probably care about those just as much as we care about the ones that did.

**Tony Harris:** Yeah, absolutely, absolutely, very easy for a driver to not make that decision to stop. Yeah, whether it be hopefully, it would be unintentional, but yeah, that's a that's a risky situation to be in. Okay, any other thoughts on factors before we go to recommendations? Okay? Great. Well, if anything comes up, feel free to interject back in but I'll bring us back to Matt to start, if that's okay. You know, any thoughts on improving the safety at this particular intersection for all road users? Like, what would you recommend or advise people to think through?

**Matt Pinder:** Yeah, so we've already started hinting at solutions. But as an engineer who's who's recommended these, I can speak to some of the constraints to them too, because you have to be able to, like, immediate term, cheap stuff, versus longer term reimagining. The city just visited this intersection, actually, and resurfaced the whole road. So sadly, there, there was a like, some of that's usually the best opportunity to do a lot of this stuff, because you have a construction contract, you have crews in place, and it's too bad that they, they didn't take the opportunity to put it back better. But I mean, the number one recommendation I would make out of this is add a left turn signal. This is just, it's just such an obvious thing there. The City of Ottawa, to its credit, has a program where they are installing protected left signals all over the city. They have their own internal back, their internal process for how they decide where where these go, but they only have enough budget to implement five or 10 of these per year, and that means that locations like this that certainly warrant it, or maybe, you know, 30, 40/50, on this warrant list, and they have to go through all these other intersections before they can get there. This is just a very simple it's a it's a pretty cost effective intervention, and it might. Be another half a million dollars in the budget, and they could do 20 per year instead of 10 or something like that. So everything comes back to money, of course, but I think that was, that's the number one thing I would do. The cheapest thing I would do would be to add zebra markings to the east and west crossings. I'll share my screen, screen visual aid for this, just the fact that there are no high visibility markings here, I think is a is a real gap. Everyone can still see me drawing on this.

**Tony Harris:** Yeah, I can.

**Matt Pinder:** So that's one thing I would do. And then in the in the longer term, I would want to completely change the geometry of this intersection. Things like corner radius. You can see this. This corner is very wide. It's probably designed for the one truck every week that has to pull in here to supply the stores. But things like making this radius much smaller, like this would encourage drivers to turn much slower. You'd want to do that on every corner that's going to that's not necessarily going to help the left turn conflict, but it is going to make actually it will. I'll say, Why? Because if your corner is a lot smaller here, your pedestrians actually have a shorter distance to cross the intersection. So we call that exposure, the amount of time that a pedestrian spends within the intersection, at risk in a point where they could be in conflict with traffic. We want to make that as short as possible. The other thing for the east, west crossing for exposure is having something like a refuge island that sticks out into the intersection. Here you can see these are way set back, and that's clearly designed so that a car turning left here can just go really fast to merge onto this fast road in a wide angle. If you do something like extend the refuge into the intersection, then that car has to take a much shorter path and is much in a much more visible spot of that crosswalk. And then to your point, Leslie, about drivers taking their first gap they can as soon as the crosswalk is cleared, you basically have a two stage crossing at that point where there is a space in the middle of the intersection where you feel a little bit of comfort that you're away from turning traffic. And for children and older adults, 43 meters is the width of this intersection. That is a that is two thirds of a minute that an able bodied person takes to cross this intersection. It could be a minute crossing with a child, and that is a long time to spend in a place where you're completely exposed to traffic conflicts as the parent of a three year old, to motivate your daughter to walk in one direction continuously for 60 seconds is a real big challenge. So the fact that we're asking people to do this on a regular basis and kids to get to school is is a real problem. I'll pause there so that Tanu and Leslie can add to this as well.

**Tanu Verma:** Okay, cool. Thank you, Matthew. I'll share some of my recommendations now with Matthew, like the high visibility crosswalks for the short term would be the best. Like he said, the city just repaved the Conroy road, and they didn't add these, which is very disappointing. So I would assume we would have to wait till the next repaving for another short term recommendation. Perhaps the city could install just a yield to the pedestrian signage. I don't believe there's one there yet. And, of course, I don't think it's a 100% fix all solution, because people ignore signs all the time, but maybe you would help even one person or the medium term. I don't know if this is medium term or long term, but the city could install a pedestrian activated flashing signal. We have a few more in the neighborhood that have been put up over the last few years. So this would kind of alert drivers more to when there's a pedestrian crossing. I think one also would be adjusting the signal timing. So I've seen in downtown a lot there's signals that give pedestrians the Head Start to start crossing before cars can even start driving. So in the case of this collision, maybe that could have helped as well. The pedestrians would be further along the crosswalk. So that's one option, and then permanent kind of long term, of course, the protected left signal. It's been talked about a lot, so I won't really highlight it, but yeah, I think that's absolutely the best way we could fix this intersection. Yeah, so pass it on to Leslie to see if she has anything else to add.

**Lesley Millar:** Yeah. Yeah, I've those are all excellent points, and I was going to highlight them as well. But the other thing that I and I, I really some I don't know, I'm an idealist, and I don't know what the solution is, but better driver education. You know, beyond any of these other fixes that would require time and money, and we need to just educate the drivers, because the law is already there. The law is in place that you are not to turn or cross those crosswalks as long as there's a human being in them. And you know, I just don't, I don't know what systems there would be in place to improve that education, but I just wanted to bring that up as well.

**Matt Pinder:** I think that's a good point. Leslie, I would, I would bring it back to like, is there a consequence for poor driving behavior? Yeah, people probably know that they shouldn't be doing this stuff, but I think the across the city of Ottawa, over the last few years, they've been really rolling out automatic speed enforcement. So this is actually a location that's going to get a camera soon, but what automatic speed enforcement does is it creates a consequence for breaking the speed limit where there wasn't really one before, like you'd have to have a police there watching people and then pulling people over. It's a very laborious process, but what I've seen across the city after the city has started implementing these is people actually respect the speed limit more, because there is a consequence for for breaking it. Now, how do you create the consequence at this intersection is more difficult because you have a police officer there in addition to a crossing guard at the rush hour. That sounds pretty challenging, but yeah,

**Lesley Millar:** yes, I've often thought that would be perfect just to have a law enforcement officer there when the kids are crossing. But of course, that's not a realistic expectation.

**Tony Harris:** Well, it makes me wonder, with automatic speed enforcement too, and I say this because I'm probably guilty of it myself, if, well, I think with red light cameras, I guess if I know where, where there's speed enforcement happening, I'm less likely to speed that location, but I might be more likely to speed a little bit further up the road, right? That's where my mind jumps to, but I'll leave that there.

**Matt Pinder:** I think thinking, thinking really long term, to move on topic. Sure this road, Conroy Road, is part of the regional road network that's meant to move people, particularly from the growing South End suburbs, through this community and into downtown. I think that that's going to be an increasing contributor as time goes on, because there's going to be more people living in the South End who are driving through this area, adding more traffic and more conflicts to this intersection. The City of Ottawa is updating its transportation master plan right now, and they're predicting a lot more car demand, movement demand on this corridor, which means traffic will increase, and their proposed solution to it is to widen the road for bus lanes so that busses don't get caught in this traffic, but this is already such an incredibly wide road, and I would not want to see this intersection get even wider than it is today, unless there were significant local safety investments that went along with something like that. So we always have to, like, put these things in the big picture of what's going to happen over the next 20 years, and I without any of these improvements we're discussing, this is just going to get worse,

**Tony Harris:** right, right? Yeah, it stood out to me in the survey results too, that it was 5% of people said that they use the bus and, I mean, I don't live here, right? So I wasn't sure what to expect. But that number did stand out

**Lesley Millar:** I just want to add about the bussing. Since April 27 Ottawa has changed its routing on the OC transpose system, and I've now noticed a lot more foot traffic from pedestrians getting off and on the busses, and that's also created a bit more close call scenarios, because they've put in another bus stop maybe 50 meters down Conroy road, and people are now having to run across Conroy road from the 40 on one side to get across to the 98 on the other side, because they're arriving so close together, and it is just made things even worse, basically, alone. Yeah. Uh, I'm hoping that over time, they'll iron out the kinks and they will provide more of a gap between these busses arriving and just departing. It's only been a week, right?

**Matt Pinder:**  You've really hit on something Lesley that I hadn't thought of, but, yeah, this is now the intersection of two high frequency bus routes. And when you have someone getting off at one corner of the intersection trying to catch a bus at the other corner of the intersection, you have pedestrians more but they're also pedestrians who are rushing and doing encouraging. That behavior in this environment is is really challenging. And what used to happen is this bus route, the 40, I think it would cross here and go through this neighborhood. Yes, now it dips way down below. So if you live here and you want to get up here, you now have to do a transfer, and that transfer is happening at this intersection, yeah,

**Lesley Millar:** on Friday afternoon, evening, a gentleman got off the, think the 98 on Lorry Greenberg, and he was running, no, it would have, I don't know what busses he was getting off of and getting onto, but yeah, no, he was trying to catch the 98 and it was sitting at the intersection on Lorry Greenberg, crossing Conroy road, and the guy saw that it was there, and he raced across Conroy road against the light to get to the other side before the bus got the signal to go. And I, you know, he was a full grown adult male. I'm not going to stand there and argue with him and tell him to stop. It's not within the parameters my job to do that, but my heart was just in my throat, because, you know, the cars are traveling at 60, and he actually forced some of the cars to slow down on his behalf so he could get across. And that's a bad example to the kids.

**Tony Harris:** Absolutely. Yeah, yeah, the signal timing, figuring out the like departure and arrival schedule on these busses, some sort of protection for left hand turns. All those stand out to me as potential recommendations. Yeah,

**Matt Pinder:** yeah. I'll add one more on this discussion too. What pedestrians to be rushing at an intersection as if they have to wait a long time to cross. And this section has, we call that the cycle length. That's the time it takes for an intersection to repeat itself. And I would guess this intersection has a very long cycle length. Maybe you can validate this with me. Leslie, pedestrians probably often have to wait up to two minutes to get a crossing here, so two and a half, to be exact. Okay, so on one side and you see your bus coming, on the other side, you're gonna start to panic, because you need to get that bus the next one could be coming in half an hour, and absolutely, more rushing behavior. That is another thing that could be changed at low cost. Is re time the intersection so it cycles more often, and then you have pedestrians waiting less time to cross the road. Yeah,

**Tony Harris:** absolutely, yeah. Thank you for pointing that out. Okay, any further recommendations before I take us into our closeout for the day. This has been really good so far. Thank you. Okay, well, I will move us into our closing segment then, and I'm going to share my screen one more time. Just take us back to our PowerPoint, I just want to offer some acknowledgements and thanks. So of course, to our panelists, we really appreciate you taking the time to be with us today, especially on a Sunday. I know it's a little bit abnormal from how we've how we've typically scheduled these sessions, but it's really great to have the three of you here with me. Thank you to the Ottawa local conversation group for their help with information collection. I know they played a big role. It's really cool to see that type of connection and engagement happening on the ground. I think there have been some other community members and, you know, volunteers and helpers that were outside of that group who have been participating over the past few months. So we really appreciate their support too. I want to offer a thank you to the sponsor of the crash analysis Studio project and anonymous donor, and thank you to strong town staff who have assisted me in getting ready for today. So you'll be able to find a recording of this session and all of our crash analysis studio sessions through our website. So if you go to strong towns.org/crash Studio, you should be able to find those through there. You can also learn more about our Free Academy course for establishing a studio of your own if you're interested. And you can request assistance from strong towns to conduct a virtual or an in person studio in the future. You can learn more about our upcoming sessions. I know I have at least two. Three more getting planned right now, if you happen to be interested in supporting strong towns and our work for safe streets, please consider becoming a member. I have friends that contribute as little as, like, $1 a year, and they get access to, you know, exclusive webcasts and, you know, discounts and other fun perks. You can check out strong towns.org/membership if you're interested in learning more on that, and yeah. On behalf of my colleagues and our panel here today, thank you for watching this session of our crash analysis studio and keep doing what you can to build a strong town. Take care.