Crash Analysis Studio – Session 8 Transcript

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: Alright. Hi, everyone. I see we have some attendees joining in. I'm going to give another moment and then I'll get us started.

Okay, I think we are good to go. Alright. So, hi, everyone. Welcome. Thank you for being here with us today, at the Strong Towns Crash Analysis Studio. We're glad that you're here. My name is Tony Harris. I'm the Action Team Coordinator with Strong Towns. In a moment, I'll introduce you to the rest of our expert panel, but first let's talk about why we're here.

Last year over 40,000 people died in automobile crashes in the United States alone. Hundreds of thousands more suffered from traumatic injuries. Despite the best efforts of public safety officials, these numbers have been increasing and they affect all of our lives. There's a prevalent misconception that car crashes are caused solely by mistakes that drivers make, looking at your phone, changing the radio, speeding, even drinking alcohol. When a crash occurs, the North American response is to send out law enforcement and insurance agencies to assign blame. We

ask, “Who made the mistake that caused this crash, who should be blamed?” The reality is that crashes are caused by multiple factors, not just driver error. When the traumatic crash occurs, we need to identify all the contributing factors and learn all we can from the experience so that we can reduce the number of deaths and traumatic injuries in our communities.

What you're going to see now is a Crash Analysis Studio. Drawing from the best practices of the medical profession, we've convened a panel to review a crash that happened in Charlotte, North Carolina, where a driver struck and killed a pedestrian and named Michael-Luther Black. Jaden Blank, who is also one of our panelists today, nominated this crash for us to review. So today, I'll start by introducing you to our panel, then review the facts of the crash and - with our guests – we’ll evaluate the design factors that contributed to the collision. And again, our goal is not to assign blame. Our objective is to learn as much as possible about what happened and identify the many factors that contributed to this unfortunate crash.

So, before we get into the details and talk with our experts, we need to begin with the fact that this tragedy resulted in the death of 19-year-old Michael-Luther Black. Please take a moment of silence with me to honor and acknowledge him and the loss of his life. Thank you.

So now I'm going to introduce our expert panel for today. First, we have Christopher Miller. Christopher is a civil engineer licensed in both Tennessee and North Carolina with six years of engineering experience. His work with the Tennessee Department of Transportation included spot safety analyses and improvement projects. He's affiliated with the Charlotte Urbanists, which is how he heard about the studio session. Christopher is particularly interested in traffic signal timing at the intersection we're going to be looking at today.

Next, we have Chris Konecnik, an airline captain and an active member of both strong towns and Charlotte Urbanists. He decided to participate as a panelist because he finds the statistics on roadway fatalities in auto oriented environments throughout our country to be really unsettling. Chris sees a lot of deliberate efforts in the aviation industry to build out safety

protocols and believes that similar attention could help improve our roadways and transportation systems.

Next, we have Jaden Blank, who is an ambitious road safety enthusiast and as our nominator he gathered all the supporting information while in Charlotte for the Strong Towns National Gathering earlier this year. Jaden lived in Charlotte for 12 years and Michael-Luther was on Jaden's gymnastics team. Jaden is currently attending West Point Academy.

And then finally we have Edward Erfurt, who is the Director of Community Action with Strong Towns. Edward is a trained architect and urban designer with over 20 years of public-sector and private-sector experience. Edward has a skilled eye when it comes to evaluating the safety issues posed by road, streets, and intersections like the ones we're going to be looking at today.

So now I'm going to walk us through the details of this crash in Charlotte. I'm just going to share my screen give me one moment. Right window up, great. So we know that Michael-Luther Black was fatally struck by a Buick Envision at the intersection of West Mallard Creek Church Road and Claude Freeman Drive. And a crash report was not available to us because we don't qualify as a party of interest according to North Carolina. However, we do know that the crash occurred at 6:54 AM on February 14, 2022. And media coverage stated that Michael-Luther died on the scene at 7:04 AM. We noted that Michael-Luther was crossing on the west side of the intersection and that he reportedly did not have a walk signal.

Jaden documented the West Mallard Creek Church Road speed limit to be 45 miles per hour. And at the time of the collision, the motorist was traveling east and Michael-Luther was running south. We know based on a weather report that that day in Charlotte was sunny and dry. However, we also know that sunrise didn't take place until 7:11 AM, which was after the crash. There's a map to illustrate the crash location. You can see the west side of the intersection is here on the left where there are multiple traffic lanes. And we know that the motorist was in a through traffic lane, but we're not sure which through traffic lane the motorist was in. So I've

illustrated the potential location of the motorist in yellow here. Michael-Luther is in blue with the direction that he was headed and then the potential crash locations are outlined in red here as well.

So, a little bit more about the crash. Media coverage indicated that the motorist was 64 years old at the time of the collision was uninjured and stayed on the scene. The motorist cooperated and was not issued a charge. The motorist was not impaired or speeding at the time of the crash. Police stated that the motorist had a solid green light and that there was a solid red hand on the pedestrian crossing light.

So, we know that at 45 miles per hour West Mallard Creek Church Road poses a danger to pedestrians involved in automobile crashes as well as danger to cyclists and motorists. Eastbound Mallard Creek Church Road has four traffic lanes. Two of them are for through traffic and then two are dedicated turn lanes going either north or south on Claude Freeman. There is a bike lane in the eastbound area of Mallard Creek Church Road and it has a four foot separation from through traffic. On westbound Mallard Creek Church Road we see that there are two through traffic lanes and a bicycle lane that's not buffered from through traffic but it is separated from the curb. We know that there are marked crosswalks at the crash location and at this intersection and that there are clear pedestrian push buttons present. So we also know based on information that Christopher Miller gathered for us that the west leg pedestrian crossing time is 31.75 seconds and then the east side of the intersection crossing time is 36 seconds.

So, I'm going to pull up these measurements here on West Mallard Creek Church Road and you can see that the total width of the road is 106.5 feet. The lanes for turning in through traffic are anywhere between 10.5 and 12 feet wide. The south side bike lane here is four feet wide and then the north side bike lane here is six feet wide. And then the north side has that large separation between the curb and the bike lane.

So, there are some visuals that Jaden gathered for us. The first illustrates the view of the driver at the collision site headed east like the motorist was; from this vantage point you can see that we're looking at a sizable intersection. We have a couple side views from the motorist perspective again. So, you're able to see here on the right hand side the pedestrian push button in signal and then in both photos you can see that there's a crosswalk clearly marked. Now here we have a view from the motorist perspective from the other side of the intersection - so this would be from across from the collision site, right. The motorist would have been driving on the left-hand side of this photo and you can see that there's a steady stream of cars turning to go on to Claude Freeman. And then these two photos are intended to illustrate - kind of - the stopping distance and the crosswalk again as well. You can note here on the left-hand side that there is a bike lane and that it's placed in between the right turn lane and a lane for through traffic. And then here we have a pedestrian perspective of the crosswalk on the west side of the intersection. So, this would have been where Michael-Luther would have been crossing. And then we also have a pedestrian perspective of the crosswalk on the east side of the intersection. Now I'm going to show another map shot just to illustrate the area surrounding the crash location, which is where the red pin is. And we're looking at a pretty auto-oriented suburban development pattern here. We note that we do have proximity to two highways so highway 85 and 485. And then on either side of the Mallard Creek Church Road, you're going to see strip malls, you're going to see neighborhoods, retail establishments, some commercial developments and some green spaces as well.

Finally, Jaden also managed to conduct a speed study for us. And so, when we're looking at this study, we see that 44% of the 500 drivers that were tracked were driving beyond the 45 mile per hour speed limit. 85% of these drivers were traveling at or below 50 miles per hour. And you can see that Jaden recorded a kind of wide range of speeds here with many of them being well above that posted speed limit.

Okay, so now I'd like to turn to our panel so that we can talk through the factors that we see at work here. Christopher Miller, if we could start with you, could you tell us about any kind of

contributing factors you see with this crash and if you'd like to use you know Google maps and screenshare to point out anything in particular, please feel free.

Christopher Miller: Absolutely. Alright, so. Alright, are people able to see my screen?

Tony Harris: I can see it.

Christopher Miller: Excellent. So here I have, according to – the length of the intersection - Google claims it's 115 feet, but 106 feet as stated. Still certainly within this range, we're talking about a very very long distance. This is not what is ideal even according to some of the more conservative design guidelines. So I have pulled up here the MUTCD[1], the you know the general regulating factor talking about how to more properly lay out any sort of a stop bar and one thing that they mentioned is. But they, they talk about where these the crosswalk should be in terms of its length and if you go over so many lanes and MUTCD said it's four lanes, that you should probably have some sort of a median able to break up the crossing into multiple separate movements.

Additionally, to go to a different source, I've got the NACTO[2] design guidelines, a much more progressive set of design guidelines, and this one is going to deal with the signal timing because this is a major corridor on the Mallard Creek Church Road. We grow you know the signal timing that I recorded is what we see here on the left, corridor-based signal timing, and on a major road, it's going to allow more time for cars crossing the intersection, which means that whenever it comes to crossing the road, you're going to have to wait and wait and wait. In the - I did not actually record specifically how long it was, but it was well over a minute and a half waiting compared to the 30 seconds you got to cross. So I'd say that the long crossing distance and the long wait between crossing intervals is one of the major contributing factors. And then I would like to also highlight the work that Jaden did with speed. So speed and crossing distance

[1] Manual on Uniform Traffic Control Devices
[2] National Association of City Transportation Officials

are easily factors number one and two or why this. In terms of other factors, I'll say that visibility was not necessarily a concern, nothing to look forward to. When I was on the site,I was able to see as a pedestrian cars coming in both directions. I was there at 7 in the evening rather than seven in the morning, but visibility was good, so I don't think we can focus on visibility, I think we focus on the general layout of these suburban streets and the wide crossing distances.

Tony Harris: Great, that's a really helpful summary with speed and crossing distance. I appreciate your notes on visibility too because I had some some questions about that myself. Perfect. If we could move to maybe Jaden next, if you'd like to tell us what you're seeing in terms of contributing factors.

Jaden Blank: Yeah, definitely here. Let me get my screen share going. Let's take a look at the screen. Can you see it?

Tony Harris: Yeah, I can see it now.

Jaden Blank: Okay. I just wanted to illustrate the like, the land use pattern as what exactly like contributed to why our Michael-Luther, we call him M.L., why he was crossing that direction. So on this side of the road, we have the large suburban neighborhood. And he lives somewhere in this neighborhood and he was walking to this bus stop right across the stroad to get to an appointment. And I just want to point out like this area right here. Like this bus stop seems to somewhat be planned in such a way that that it expects people to walk there with this sidewalk and the bus stop over here. But then the only, the only other, the only way that people can access it if you live over here is to cross the street.

And this bus, I believe I attached a picture of the bus schedule in there. And the bus only comes in maybe like once every hour to an hour and a half, in some circumstances. So, if he was trying to catch that bus and let's say the bus, the bus just pulls up and he's caught at the end of the signal. And as Chris just mentioned, the signal timing was well over a minute and a half. So if

he's caught at the end of that signal, that's the difference between him making it to work that day or him not making it to work. And on the other side of the intersection is pretty much just like a business center. And a lot of those people like when I was out there doing the speed study, I only saw one person actually get on that bus - I maybe saw probably five or six buses go by. I have that written somewhere but I don't have the data accessible right now. Yeah, that's, that's all I have to add right now.

Tony Harris: Thank you. That's helpful to think about the land use pattern and also the public transportation and what's available. Great. Chris Konecnik, can we turn to you?

Chris Konecnik: You absolutely may. Let me do the same screen share here. Um Jaden, I think you'll have to stop your screen share before I can start mine. Thank you. Sorry give me one moment. Alright, disregard. It says, I'll have to quit zoom if I'm going to share my screen.

Tony Harris: So I can also pull it up on mine if that would be helpful.

Chris Konecnik: That would be so helpful. Absolutely.

Tony Harris: Yeah no problem, go ahead and do that. Google Maps. Okay.

Chris Konecnik: Thank you. So perks of going third here - a lot of what I've noticed about this incident is effectively what's already been mentioned. The two things I don't think have been mentioned yet. One - given that it's such a vast distance to cross over 100 feet, I'm really surprised there's no pedestrian refuge island in the middle. I think even if you're crossing against the signal as was presumably the case in this accident, you can use that island to take a breath and take a peak, right? And take a better survey of your surroundings before continuing across the intersection. Furthermore, this is a good scene right here actually – brought me right to my next point. That Mercedes waiting to turn there is a smaller sedan, but if that's a larger vehicle, a box truck, a pickup truck, that's going to block visibility through cars of everything to

the left of their driving path. If they're moving at 20 30 miles an hour, that's maybe not as big of an issue, but moving at 45 plus and seeing as almost half the drivers on this road are going above 45 miles an hour. That is, you know, concerning because at that point of conflict there, your your reaction time is milliseconds in this particular instance. I love that - Jaden you mentioned the bus schedule. I don't think we really think of a bus schedule is being a traffic safety issue, but haste makes waste and if you are in a rush to catch that bus, you're going to take actions that you wouldn't have taken otherwise. Whereas if you knew there was another bus coming in another five, ten minutes, you'd be more likely to accept the 90 second delay that it would take the way for the next light cycle. That is, that's about all I had.

Tony Harris: Great. Thank you. Yeah, that's helpful to point out the possibility that visibility could be a factor depending on, you know, the size of the cars that are moving through the intersection and… yeah, perfect. Thank you. Ed, can we turn to you next?

Edward Erfurt: Yeah, again, I'm reinforcing what I think many of you have already identified within this. We have a we could identify this as a very suburban land use pattern. We can - we can describe the distances on foot that someone that would be using this. This system of when we look at what the planners have from a transportation side, have opted to do at this particular location. If I'm looking at this from, from a regional side, this is coming off of a freeway. There's clearly a choice of which roads to go to. I know the traffic would be here. The last thing I would expect to see on this type of road is a cyclist or a pedestrian. The system just doesn't seem compatible for that. When we look at some of those sight distances and the busing, I agree. I see looking at this in a little bit more depth. What I think about a young guy trying to get to work. There's a lot of decision-making that we make every day, especially if you're young and healthy – “I know I can run across the street”. I may see a red light up there, not across, but I can make some decisions of doing that and weighing what those pieces are, and surveilling the environment that I'm in. Maybe you would take the actions that you would not otherwise take. When we look at this particular location and we think about this, not knowing all the facts…

The cars moving through this intersection have a certain sight line, especially if there's a car waiting to turn, it's limited. When we think about a 45 mile per hour speed car is coming through here, they're going to need three to 400 feet of stopping distance to slow down a 45 mile per hour car moving through. I don't think these drivers, if there was one visible piece there, if there was one car driving next to you, whether there's a car stopping at this red line you would see that. As the pedestrian coming through this intersection, you can also see they have an even shorter line of sight. So if I'm running to get to the bus, if I know that that is *the* bus, the fact that I have to walk all the way across all of these lanes and all of these distances, I may make a judgment call that I can run past this, but that judgment call quickly becomes - the decision making time there shrinks a lot on this. And when you think about this type of intersection and this wide road, that's pretty significant at this location. So, understanding those patterns, understanding that, you know, what would be the difference if this bus stopped on Mallard Creek versus turning the corner.

Again, I think from a transportation side, our transportation engineers would say, “oh, no, we don't want a bus to stop on Mallard, that's going to slow down traffic. That's going to create congestion. It will be safer for the bus to go around the corner.” There's also, in busing, moving further from the corner so that when people get off the bus, they don't cross the street in front of the bus to slow it down and it's the tail of buses out, so it directs you back to the intersection to cross. All of those well-intentioned design features of where you would set up a stop, are things that would contribute that longer distance to get to this stop. And I could see even myself, my wife always complains that I'm looking at the conditions and not looking at the signs. So, you know, the making a judgement call, if there are no cars there, I don't know what the traffic numbers would be at this time in the morning. But, where we've seen in other locations, if this is a bus you take regularly – people are familiar – if this is a path you regularly run on. You become comfortable with this. Both as a driver and as a pedestrian. So, those wide distances.

There's also things we can look at this intersection that Christopher has pointed out that we can identify as some systematic things that I see on here. When we look at the sections we shared on the presentation, there's some weird things that show up. This goring, where there's a lane that's a continuation of right turn lane that the paint drops off. There's something I've never quite seen before - we might describe this bike lane as somewhat of a buffered piece, but it appears that the lanes were mis-sized when we're going to go through the intersection. But this type of stuff also is confusing for users. So, again, not only is it widening the road than further than it needs to be. It's adding things that when you look at the striping on the ground, I think adds confusion and distraction to this type of intersection. Why, on this one, there's that little section on that location of that bike lane and not on the edge seems kind of strange.

So, again, looking at that - I totally agree that the width of this intersection is not designed for pedestrian to cross it. It's designed for the through movement of cars. There's nothing other than the pedestrian signal and the timing of that, the distance of crossing and the no pedestrian things are things that would contribute and encourage a pedestrian to do things that you would not normally do. The fact that the busing and the bus stop, so that clearly everybody riding the bus is on foot. And there is zero development on the other side of the street. I mean, you have to go through a ditch, I think, from the office buildings to get to the bus stop. So, clearly the intent is to service the homes across the street. Again, compounds on the fact that we have this wide intersection and all of the ideas of haste makes waste. Again, somebody trying to get to work, trying to get across the street, making, you know, making judgment decisions on the conditions you see in front of you. But some of those design features and those conditions are hiding the real dangers that you have on this road. Knowing cars are going 45 miles per hour, even a little bit faster. It takes a long time for that car to stop - and even the headlights, it may be difficult to judge as a pedestrian how far away that driver actually is. And you can imagine most of us when we're crossing the street in everyday attire – it would not be uncommon for somebody to be in clothing that would be difficult to be seen in the low light conditions, but you're relying on the speed of your feet to get out of that. So a lot of compounding things I see

here that are troubling from what we're asking people to do in this intersection that make it really really unsafe and dangerous for the pedestrian.

Tony Harris: Thank you. That was really helpful. I like how you tied some of the details into the kind of systematic design factors that are there too, because I think those components are really important. If anyone has any reactions regarding factors or responses that they, they'd like to voice, please feel free. Otherwise, we can - we can move forward into recommendations.

Christopher Miller: Yes, I would just like to say from when I initially reviewed the data and the assumption. My first reaction is that this is nothing special unfortunately. This is just about the most standard suburban intersection I can imagine with extra turn lanes with I guess the one detail of the strange configuration of the bike lane, but other than that, I don't really see anything unique, which is I think one of the larger tragedies of this crash is that there's nothing unique about it unfortunately.

Edward Erfurt: Yeah, I agree with Christopher on this. We could have been in Columbus, Ohio. We could have been in Wichita. The conditions here - the only difference between this and those other areas are the trees and the landscaping planted there. But the conditions unfortunately is something that we repeat and they're following loosely the standards we use everywhere. And that's really I think what's extremely tragic here. And as we go through recommendations unlike some of the other crash studios we've looked at. It's hard to find recommendations here of quick fixes because it's following a standard on a roadway that's being asked to do things that don't connect.

Tony Harris: Right, right, understood. Well, if we could turn back to Christopher Miller and move into recommendations on, on any parts that we do think might be, be able to be addressed, I think that would be that would be great.

Christopher Miller: Yes, thank you. So when thinking about my recommendations I split them into three categories, which I would say first are immediate fixes the quick fixes you mentioned. Then intermediate fixes and then long-term fixes. So, for quick fixes, I identified the first one which would be re-timing the signal. So we have very short - well, these are legally allowable crossing times. You know, if you were to go through the roadway design process and the 32 and a half seconds or whatever it was -

Tony Harris: I think it was 31.75.

Christopher Miller: Thank you. That is legally allowable that is up to standard, but because it's legally allowable doesn't mean the most convenient for pedestrians and as we see, you know pedestrians might not necessarily wait for a full one and a half to two minutes cycle in order to get their next 30, you know, 30 seconds. I think that retiming the signal is one thing that could be done here for effectively free just retiming it.

The other thing is still small, but I guess a little bit of a longer term one. And that would be reducing the speed limit from 45 to either 40 or possibly 35, even though this is, you know, as the highway designers would say a major thoroughfare connecting multiple interstates. And people want to be traveling at high speed through the region with the commercial development with the bus stops with all of the subjects around it. Some amount of speed lowering could be done once again for roughly free.

And then the third, this one's a little bit more actionale - concrete, but I believe that if the medians were extended and widened to the four feet wide and then extended over the crosswalk that would provide - the minimum allowable refuge under ADA law in this case, where you need to provide enough space for a wheelchair to stop there. But, you know, those would be what I would call my short-term recommendations, these will not necessarily solve the problem, but these simply reduce some of the severity of the factors that led to it.

If I were to share my screen again, I have using Google, sketched up a few medium and then the longer term. So, here we have the more medium one. And one factor I didn't sketch up here, but I could quickly is to deal with this awkward, you know, turn out which is designed to allow trucks to maneuver, you know, through this intersection and especially a truck that wants to leave here, but then pull directly back into the commercial area. So, one thing that you could do is because this is designed only for heavy trucks, well, if we really want to focus on pedestrian safety, this is once again more medium-term suggestions - either putting some sort of a curb lining there or the, the plastic domes that I've seen for intersection bulb outs in places like obviously, are more urban areas, such as New York City or Hoboken, the Jersey have done a lot of this, but we could make this into a more pedestrian friendly area and allow pedestrians to stand there and, you know, reduce the length with the crossing distance. The other thing I've included on here is to, once again, include that median widening to allow that to be a refuge area. And then, down here, I've kind of shown what a possible rearranging of the bike lane situation would be because with the current situation, I think that that confuses drivers and confuses pedestrians are making this wide area. If we were to instead have the bike lane on the outside edge of the road instead of in between the turn lane and the through lane, we could either have that be still the painted buffer between the road and the bike lane or we could have it be some sort of a concrete or some sort of physical protection that would kind of make this intersection make more sense, be less confusing for drivers, less confusing for pedestrians and on the off-chance that cyclists actually used this infrastructure, it would make it much safer for cyclists. So that is what I've labeled as the partial rebuild where we, you know, very slightly take this and we make some minor adjustment.

But for what I'd consider a long term rebuild. And here I've used the same brown for a present sidewalk and I think that for long-term pedestrian safety, if this is going to be a place with pedestrians still need to cross. If this is of course not taking into consideration anything with a bus stop, which would also make it an effect. We could take that strange painted gore marking and entirely replace it with concrete and then we could also remove a turn lane because I think that right turn lanes are generally overused in you know roadway design and really really

lengthene the crossing distance required. And now with this we can reduce the crossing distance to 70 feet ,80 feet, which is much more reasonable than a hundred and six hundred and ten or whatever is precisely the distance. So longer term I think we really need to look into actual removing lanes and reducing the crossing length.

Tony Harris: That was a really helpful breakdown. Thank you, Christopher. I appreciate that. If we could go to maybe Chris Konecnik next on recommendations.

Chris Konecnik: Sure Tony if I could borrow your screen share again and that'd be very helpful.

Tony Harris: Yeah, no problem. Let me pull back up to where we were. Okay

Chris Konecnik: And if I could just get a satellite top-down view.

Tony Harris: Okay Oh, to where we were.

Chris Konecnik: Okay. So my biggest thinking that I think could be fixed tomorrow is the, the left turn lane and the potential that it has to shield through traffic from anybody that's crossing in front of them. If there were not a concrete median here I think we'd likely see that left turn line set back quite a ways to accommodate left turning traffic on Claude Freeman Drive. And I find it interesting that that set back is there to accommodate vehicles, but in this case a similar set back could help give that wider angle - Edward I like the diagram that you showed that illustrated the angles of visibility for those through drivers. So moving that left turn lane set back, could widen that, could give maybe a few more milliseconds of reaction time, which could be the difference between not even stopping but just slowing to the point that a collision wouldn't be fatal. So that's what I had for a quick fix.

Intermediately, if you were to buffer that left turn lane. Perhaps take the really strange buffer on the right side of the road there and move it between the left turn lane and the through

traffic. That could then add a few more degrees of visibility which could then add another millisecond or two of reaction time. I really do believe an intersection of this side - of this size - absolutely should have a refuge island. So in the long-term that's what I would add and to Chris Miller's point - the crossing signal timing is approximately three feet per second would be required if you started crossing right when it turned to a walk signal. I know I can walk three feet per second. I'm sure everybody on this call can probably walk three feet per second, but there's a huge segment of our population, namely the elderly and the disabled for whom three feet per second would be a challenge at best. And it just so happens that that same segment of the population disproportionately relies on public transit a lot more too. So the fact that there's a bus stop there and and slower movers of our population are not taken into consideration is another thing that I think should absolutely be reconsidered with this intersection.

And then per Chris Miller's other point about the, fixing the buffer, the bulb out, at the top of the intersection there. There are other intersections that I've seen in Charlotte that utilize a half height bump out. So the curve kind of comes down about three inches or so and then extends out and then descends another three inches or so, which allows fire trucks big semi trucks to make that turn, but also allows pedestrians in every other circumstance to step out that much further before crossing the street. And so I think that could even go into a intermediate timeframe fix for that portion of the intersection.

Tony Harris: Great. I'm going to stop sharing my screen. Thank you that was really helpful to hear. I appreciate what you laid out in terms of like who's using public transit too, right, when we're thinking about how, how these intersections are designed and who they're designed for. Jaden, could we come to you next?

Jaden Blank: Yeah, of course, let me get my screen share going. Now reducing the crossing distance is something that should be considered, but I think in this scenario with this road here. It's not really. There's a very low chance that it'll change that people will be able to change it to make it more accommodating for pedestrians. I think a short-term solution would just be to

either move the bus stop to this side or add a new bus stop because only a couple hundred meters down the road, there's another there's another bus stop right here, but I believe that one serves different routes. So moving either moving or adding an additional bus stop right here to accommodate people coming from this neighborhood would reduce the need to cross the dangerous road in the first place. And that's all.

Tony Harris: Perfect. Thank you.

Christopher Miller: If I could quickly add on to what Jaden mentioned. I'll share my screen one more time. So here I have pulled up the route map for the number 54 which was the bus stop mentioned. Now worth noting that this is not with north facing up. This is with roughly west facing up on this map. So Claude Freeman Drive and Prosperity Church road or West Mallard Church Creek Road, is you know, where the bus kind of makes this you know, broad turn from across the road. So, we're turning left or right depending on the direction. And so it would actually be relatively easy to maneuver the bus stop on the different corners of the intersection because as it was mentioned, there's really no pedestrian connections to the bus stop where they are right now other than fully crossing the road.The bus stops could move onto west Mallard Creek Church Road. You know, with some sort of, especially, you know, we could turn that that very wide bulb out into a bus bay, which would still allow you to keep the area there for trucks and other turning movements. But just want to lay out what the bus route looks like as well. So you know, the bus is making a turning movement on its part of the route at this intersection.

Tony Harris: That's really helpful to see it illustrated. Yeah, Jaden go ahead.

Jaden Blank: Yeah, and I think I think just I was just going to say that at turning that wide turning loop into a bus stop, would probably be the best solution. Like the most practical solution that I could see actually solving a problem rather than - I mean changing the road design would be the most ideal, but that's doesn’t really seem practical on this case.

Tony Harris: Right, right. Okay, Edward, can we hear from you?

Edward Erfurt: Yeah, so I really like all of these ideas of moving forward about changing the character of the road. Providing the pedestrian refuge and all of those pieces from the perspective of making. By introducing more pedestrians into that environment. I'm not as optimistic with that. I want to share a different approach that will probably be controversial to a lot of folks. I think am approach that could be taken here is to remove the sidewalks. Remove the bike lanes. Allow this to be a pedestrian or a vehicular route completely. If I look at the urbanism along and the buildings that are built here, even though the buildings are pushed to the street, there's no access to the street. There actually what would be on the backside and if you look at any of the strip shopping malls as I go into those areas there, they're designed like streets, but it's a slower speed with on street parking. It's narrow or clearly there are things that could be improved in these shopping districts. But this is within the properties of where the front doors are and there's an expectation of where pedestrians would be. And that would be something that we can see along the corridor that could be implemented through every single development as it's coming forward. And it has the most interest to that the buses could be routed into these areas and get the busing even out of that conflict. I think there's two perspectives here.

One, do we make this a more humanized roadway, which requires the reconstruction of the road. It requires us to go and look at the buildings adjacent to the road. We have to do something different, so we're going to take the 12 foot lanes and move them to 10 foot. We're going to increase the center medians. We're going to make the sidewalks wider. There's several miles of this roadway right off the freeway that that would have to be adapted for that. The other thing is that we could go tomorrow and put up barriers and close the bike lanes and put them in the shopping center. Close the sidewalks and put them out there.

We're going to have a different perspective if the buses still had to be across the street. Then we should look at getting the pedestrian safely across the street. I think there's kind of three ways to do that. We increase the safety and the timing at these particular intersections. We put a full stop on all directions so that it's completely dedicated to the pedestrian. Maybe you go to a different location where there's some other bus stops and you focus all the pedestrian traffic there and again you put a traffic light that's not related to a street, it's related strictly to pedestrians. It stops the traffic when the pedestrians need to go. We final them all into one location. Or you provide an avenue where you go up or under. All of these are leading to a different characteristic of that roadway moving it from a pedestrian oriented focus or a complete streets or a street where you have a combination for all users. And you just accommodate the users of which I think the engineers have designed for this. I mean even the bike lanes. Unprotected bike lanes on a 45 mile per hour road is a recipe for disaster. The cyclists have no chance at 45 miles an hour if they're hit by a car. I mean we'll be talking about another studio and about another fatality with that piece. So much different is something I'm trying to share with that. Going in a different direction for the corridor because we can see these similar problems on every single intersection. And the idea of subtraction of the pedestrian out of this doing everything we can to keep them away from this. And then we can see the roadway approach and a little more controversial than what we've talked about with all the other possible recommendations.

Tony Harris: Yeah, that's definitely a little bit of a different approach. Jaden, did you have something?

Jaden Blank: Yeah, I just wanted to add that when I was out there doing the speed study. I didn’t see a single cyclist on the bike lanes, but I saw about five on the sidewalk. So that goes to show about how the cycle lanes are getting on.

Tony Harris: Yeah, that's a good piece of information to have in terms of tallies of cyclists and pedestrians and who's using what components of the street, definitely. Any other recommendations or responses?

Chris Konecnik: If I may - to Edward's idea about kind of converting the philosophy of the street north of Mallard Creek Church Road, I noticed there is quite a wide sidewalk that's actually set back from the, from the road, it's buffered by grass and trees. I feel like that would also make a good multi-use path perhaps and how it would substitute both sidewalk and - and bike lanes and the fact that it's on the side of the shopping center and the residential area means that a bus stop place north of that intersection. And so it's a good way to preserve the path right as well as all the businesses as well as all the homes and completely eliminate the need to cross, Mallard Creek Church Road. So I do like that idea of rethinking the purpose of that street.

Tony Harris: Yeah, thank you. That's really interesting to think about a multi-use path in that area.

Well, if we are finished with recommendations, I'll take us into our closing for today. Again, thank you everyone for, being here with us. I'm just going to share my screen one more time. Okay, so some thanks that we want to hand out. So thank you to our panelists Christopher Miller, Chris Konecnik, Jaden Blank and Edward Erfurt for being with us here today. And I want to give a big special thank you to Jaden for nominating this crash in the first place and helping to gather all the necessary resources and making sure that we got the details ironed out properly. Thank you to the Charlotte Urbanists and other community members who have been involved over the past couple of months as we've been preparing for this session. Thank you to our sponsor for this event who is an anonymous donor. And of course, thank you to Strong Towns staff who have also assisted. You can find a recording of this session and all of our Crash Analysis Studio sessions by going to strongtowns.org/crash-studio. There you'll also soon find resources for establishing a crash analysis studio in your own community. Our next studio session will take place on September 22nd and you can find more information about that on

our website as well. So, on behalf of my colleagues and the panel here today, thank you for watching this session of the Crash Analysis Studio. Keep doing what you can to build a strong town. Take care.