STRONG TOWNS

Crash Analysis Studio

Meridian, Idaho Session Transcript

Session

Rachel Quednau: Hi, welcome to the Strong Towns Crash Analysis Studio. We are very glad that you're here with us. I'm Rachel Quednau; I'm the Program Director at Strong Towns. And in a moment, I'm going to 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. Hundreds of thousands more suffered traumatic injuries. And despite the best efforts of public safety officials, those numbers have been increasing, [and] all of our lives are impacted. And there's this prevalent misconception that car crashes are caused solely by mistakes that drivers make, looking at your phone, changing the radio, speeding, even drinking alcohol.

And when a crash occurs, the American response is often to send out law enforcement and insurance agencies to assign blame. Who made the mistake that caused this crash? Who do we blame? The reality is that crashes are caused by multiple factors, not just driver error. When a traumatic crash occurs, we need to identify all the contributing factors and learn what 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 have convened a panel to review a crash in Meridian, Idaho, where a driver hit and killed a pedestrian in a crosswalk. This crash was submitted to us by Marcus Batson.

At the time of the submission, Marcus lived in Idaho, he has since relocated, but maintains and ties to the community. So, we'll start by introducing you to our panel, then we will review the facts of the crash and assess the design factors that contributed to this crash. And again, our goal is not to assign blame, but to learn as much as possible about what happened and identify the factors that contributed to this unfortunate collision.

Before we get into the particulars of this crash and hear from our experts, we need to begin with the fact that this tragedy resulted in the death of 16-year-old Meridian High School Student Terry Binder. Please take a moment with me to honor and acknowledge Terry Binder and the loss of his life.

Thank you.

So I'm now going to introduce our panel for today. First, we have Erik Bootsma, who's an architect currently based in Richmond, Virginia. Erik helped us gather information and conduct analyses during our last crash session. And he's had a passion for building nearly his whole life. He built valuable experience in architecture by working for his father's construction firm during his teenage and college years. And Erik grew interested in the philosophy of architecture and aesthetics in his time at Thomas Aquinas College. He has his Master's in architecture from the University of Notre Dame, and Erik also previously lived in Idaho.

We also have joining us Joyce Johnson, who has been a cycling commuter for over 20 years. She's familiar with Meridian development patterns, and has also been involved in city planning in the Boise area. Joyce is familiar with the Ada County Highway District and the model it uses for oversight, and she's also ridden through the crash location many times and knows the roadways in that area very well.

Also joining us is Adrienne Weatherly, a long-time resident of the Treasure Valley. She's been walking, riding, cycling throughout the greater community for more than two decades.

Adrienne is mother of two high school teenagers that similar to Terry, also live within walking distance of their high school - and face traffic conditions like the ones being examined in this analysis - on a regular basis. Adrienne holds a Bachelor's in urban studies and community development from Boise State University, and volunteers at the local bicycling community.

Micah Jeffries has lived in the Treasure Valley for 29 years, including a year in Meridian less than a mile from the crash site, when he was just out of high school himself. He regularly traveled by bicycle across Ten Mile to commute to work during a two-year period where he donated his vehicle through a program with New Belgium Brewing to ride for a year to promote alternative transportation. And currently, he's a small business owner who advocates for transportation improvements across the Valley.

Finally, we have Edward Erfurt, who is Director of Community Action at Strong Towns. He's a trained architect and passionate urban designer with over 20 years of public and private sector experience; he has a keen eye when it comes to evaluating the safety issues posed by roads and intersections. I will hand it over to Edward now to go over details of this crash in Meridian, Idaho.

Edward Erfurt: Great, thank you Rachel. So, for the crash information, Meridian High School student Terry Binder, who's 16 years old, was fatally struck by a pickup truck while crossing Ten Mile Road at the Ten Mile Road and Pine Avenue intersection. The Meridian Police Department indicated in their investigation that it's still ongoing. So, this crash report is not available at the time of this Studio. Media coverage indicates Terry was crossing to the west side of the road. However, Terry's father, Joshua Binder, also states that Terry was walking to school, which would mean that he was headed east. This crash occurred [at] approximately 742 a.m. on November 2nd, 2022, which was before school. Weather reports indicate it was cloudy and there was rain on the previous night, so the roadways may have been slick.

Volunteers have documented the Ten Mile Road speed limit. It's posted at 40 miles per hour, while the Pine Avenue speed limit is posted at 35 miles per hour. The motorist was traveling north on Ten Mile Road. Binder was walking west - or east - across Ten Mile Road. There's conflicting reports, but we'll show you in our diagram where we believe this occurred. The collision took place on either [the] north side or south side of Ten Mile Road, but again, we will show where we believe this crash occurred. And media indicates the driver stayed [at] the scene of the crash and has not been issued any charges or citations.

This is the intersection with Ten Mile Road, north and south - Pine Road, east and west. As we zoom into the intersection, you can see that there's four cross- three crosswalks around the intersection, the fourth is under construction. We believe that Terry was in the intersection at this location, on north side, which would be consistent for the reporting from his father and would be consistent from location of his home towards the school, which he would be traveling at this time in the morning. The driver was at the northbound lane in Ten Mile Road traveling to the intersection.

For the crash details, this investigation is ongoing. Witness and driver statements are unavailable. The Ada County Coroners Office said that the manner of death is still pending. So, we do not have that police report as part of this crash. According to the media, the motorist was driving a blue GMC pickup truck and was not injured. The driver stopped past the collision and has been cooperative with the investigation. This particular area is a walk zone from Meridian High School. According to school policy, there's no designated bus service within a mile and a half of the school. One news correspondent stated that the speed limit was between 40 and 45 miles per hour. This reflects the multiple speed limits that are posted along Ten Mile Road. Looking at this particular location, the red star is Meridian High School. The circle is the intersection and where the crash and where Terry was hit. And the red is the mile and a half radius from the school where bus services aren’t provided. So this would be an area that would have lots of students walk into school.

For the overall site conditions, this is a stroad environment. This segment of Ten mile has a 40 mile per hour speed limit. Pine Avenue has a 35 mile per hour speed limit. Ten Mile Road, Northbound and Southbound consists of three lanes - two for thru traffic and one dedicated left turn lane to go either west or east on pine. Crosswalks are clear with push buttons. The lights are backplated so they're easy to see in different light conditions. They're on poles so they're not going to move in those intersections and they're at all four segments of the intersection. During the past two decades, the turn lanes were added to this intersection during redevelopment. So, the crossing distances at this intersection became greater over time. This is a view looking northbound on Ten Mile Road looking towards the intersection. This is a view looking westbound on pine towards the intersection where we can see all of the lanes. Our nominators did some measurements on Ten Mile Road. And we can see that there are eight foot wide sidewalks on the sides of the road to accommodate pedestrians. There are bike lanes on Ten Mile Road to accommodate cyclists. The travel lanes vary in width from 11 and a half to 12 feet. And there's a center turn lane which is a 12-to-13-foot dimension. There is a discrepancy between the north and the south side. So the right side of the intersection is a southern leg of Ten Mile. The left side is the north side of Ten Mile El. [In some of the photos and maps during this session, the north side is actually displayed on the right-hand side.]

And there's a slight discrepancy of where these two road segments are connecting through the intersection. Here's a roadway section. We utilize Street Mix to kind of outline what Ten Mile Road looks like. Again, you can see the bike lanes, the wide sidewalks, and all the travel lanes. So, it's a fairly wide roadway section, but accommodates all the users. Now at the intersection, I'm going to point out the switch box here that's wrapped in an art and is the memorial that's for Terry. So this is looking in the east side, looking west on pine across Ten Mile. That switch box is now in the upper right of this photograph. So now we're on Ten Mile looking north. That transformer switch box is on the left. So ,we're on Ten Mile looking south. And now we are on the left. You can see the transformer box. We are at the - looking south at Ten Mile at the general vicinity where we believe Terry was hit.

For the overall site conditions, this is a sub-urban, or suburban, development pattern that is auto-oriented. There's proximity to Meridian High School, the elementary school, and the charter school, but these have limited bus service we described earlier. There are commercial uses such as Albertsons, McDonald's and FedEx, and that type of commercial use around this intersection, and out from there are a lot of single-family subdivisions. The particular grid in this part of the city is about a one mile by half=mile large city grid. So, the half mile portion of the grid is Ten Mile Road. The one mile portion is Grove or Pine. Between that grid section, there is development within that. The development within that large grid has limited connectivity. Ten Mile Road and Pine Avenue, they extend to the entire city. So, they are routes throughout all of that. And Ten Mile Road connects to nearby Interstate 84.

We did a preliminary speed study on the ground. So, as we need to recognize that as cars go faster, there's an exponential risk of fatality with that. When we looked at the speed data within this intersection, we found that all vehicles that were operating in this area were operating in a fatal speed. So if a car at these speeds would hit a pedestrian, it was in the fatality range. We found that 56% of the drivers were speeding through this section of road. So we can begin to see where the drivers are speeding here. The 85th percentile for the speed on this road is 44 miles per hour, which is in excess of the posted speed for this intersection. Rachel, I'll hand it back to you and we will talk to our panelists.

Rachel Quednau: Thank you. So yeah, I'll invite our panelists now to come back on. We're going to hear from each of them about the factors that they see best contributing to this crash in the design of the street. Erik, let's start with you. Can you tell us what you're seeing in this street design that might have contributed to the crash? And if you'd like to screen share to point out specific things you are free to do that as well.

Erik Bootsma: Sure, sure. I think it's [a] very interesting issue, which is happening throughout this area. By the way, it's - looking at the street view, it gives you a very interesting… it's surprising how quickly this area has been developed. This is from 2007, so it's 15 years ago. This

is a rural road, there's a house there, and this is a dirt road that Pine Avenue was, and it was essentially two lanes here and two lanes going. I do recall when this Ten Mile Road - up until I think about ten or fifteen years ago - simply ran over the top of I-84 here, but this intersection had been built, I think, it's about ten years ago if my memory serves correct. It may be longer. But since then, this entire area has become even more developed.

And so then Ten Mile Road has become like Meridian Road and particularly [like] Eagle Road just to the east has become a major artery running north and south. It's just by the factor of becoming that interchange there. So to me, it makes perfect sense that, now, that this has become that speed has become the priority for this intersection. And so you can see the transformation of it from a very simple country road into what we see today. And in the pace of how - things quickly, things are changing, you saw from the other photographs that this condition is no longer there either. This was still fields up until about four years ago. And now this is all the bell-ups.

And now we have, let's see, we have our photos from contributors that we're looking at. You know, this is on Pine Avenue itself. So now it's already becoming a massive intersection in a massive road going all four directions. And it's clear to me that the size of this road and the size of the road, bringing north and south is absolutely [a] contributor in it being a fatal collision here. I think what's interesting - looking through some of the notes and some of the reports - I've had this article from the Idaho Statesman quoting from Terry's father, that I walk here where Terry's life was taken almost daily. He said, “the crosswalk at Ten Mile does not, doesn't ever turn for a walk signal. I hit the button and get skipped multiple times. It gets to the point where I cross without a signal.” The school zone ends a half a block from where Terry was killed. So what it means is that this intersection, this crosswalk here has been de-prioritized - it seems like for the sake of moving as much traffic as possible north and south on this road.

And so that it seems to me that the likelihood is that Terry stood there, waited for the crosswalk, waited for the crosswalk, was running late for school and decided to make a run for

it. And it may be that again, this, because - this is a two lanes traveling in either direction, perhaps somebody had stopped in this, in this left lane. And then he continued to go cross and the car in the right lane didn't see or didn't understand why a car would have stopped here and then just continued through. And that's [a] possibility or it could have been just a moment of distraction going through here because this this road is designed under highway standards. The speed limit is 40 miles an hour. Pardon?

…

I think that's okay. But it's 40 miles an hour of at the lanes are quite wide and it has this bike lane here, but it is actually more of a distracted driver buffer so that drivers can really feel comfortable driving on this road without very much input and constant attention to what's going on. So a moment of inattention is not generally going to cause any problems for drivers dealing with other cars and dealing with anything because essentially the road has been cleared of any, any distractions or any obstructions, anyway, through there. So expecting someone to see [a] pedestrian crossing this road is probably not something that's normally what they encounter, except for at these intersections.

I would say another sort of contributing factor to that would be that this entire area is all single family housing and sort of the typical sprawled development so that it's auto oriented so that everything that they have they need to get will have to be accessed by a car. You will have to drive to get to anything - to get to the convenient store, there may be a sidewalk here, but certainly if you're walking here to get to this convenience store there or this is a bank I believe, yeah credit union. You're not walking across here to go to that bank. It's all auto-oriented and so so everything you have here is oriented to the people that you're going to encounter in this intersection are going to be other drivers and not people. So, it is something that you're just not expecting. Idaho has an opportunity too. Treasure Valley has been developing [at] a breakneck speed. There's also some, some notes in here about transit, about that there were not – were

not any options to take the bus because it was - as Edward had mentioned, there within the walk shed so that a bus was not available. School bus, local transit options are very limited.

I'm not as familiar now with what the what the bus options are but I know in general Idaho has been very averse to adopting public transit as part of their planning process here and so there is,there's very little public transit that could be relied upon to get you from point A to point B with any regularity, certainly if you're running late that's not going to be an option. It's, to me as an architect, who looks at design, the design of this road I don't know - with the priorities that they have for moving traffic and having traffic be auto-oriented that much can be really done to this to make this better.

Certainly if one was to institute some sort of road diet on this, people would start to complain and again in the in the notes and in in here there's a you know another article that you know traffic is a top Meridian challenge, here's why, and the reason it's a top challenge is because they built everything to be auto-oriented. So houses are built so that you'd have to drive to everything, business is your ability, have to drive to everything, and that now traffic is beginning to become a top issue it's becoming a clogged and I noticed this too. I'm, like I said before, I have a brother who lives in Garden City, I grew up in Baker City in Eastern Oregon, I know Idaho very well and I lived in Boise with my brother there for a while and when I come home to see my family I fly into Boise and so traveling now through the Treasure Valley it reminds me of Los Angeles now. The level of traffic and the congestion is there and the reason that that is there is because they've planned it according to auto-oriented principles and a lack of having transit and transit options for people who are unable to or too young to be able to drive anywhere and so it's something that I think contributed to this. So that - so that's kind of my analysis of looking at this this accident. It's a tragic, it's a tragic result I think of a very one-sided looking way at designing a road and planning on the whole.

And as far as coming up with a quick fix for this I don't I don't know if there is one without a very long-term plan that so that's kind of my soapbox today. So again, like I said, if you know

when I lived there in Boise you know I looked in Meridian. Between Caldwell to Boise, there's a spur line of the main railroad that runs through there, it runs in a side loop it's not very busy. If Meridian, if the state of Idaho had gotten together and said, “hey, let's run a commuter train to run between those things and then feeder buses to run to that,” perhaps a system of transit could have been developed so that it would have been very robust. But certainly, people have an idea that the cars keep your freedom the problem is that now we're seeing again like as they said traffic is the number one problem that is now beginning to affect people's freedom to move around and certainly not very free for people who are having to walk everywhere.

So anyway, but yeah, I mean if we could do anything to this intersection maybe it could be getting thin turn lanes it could be certainly. I'm looking at two at these bike lanes which again I think are just - seem like to be an afterthought - it's looking extremely dangerous. I don't know if I wasn't walking I'm not sure I want to draw a ride. I certainly would not want to ride over, back again, I certainly would not want to ride on Ten Mile here along the highway. Maybe east -> west on Pine, that'd be slightly better, because it's only one lane. But again, I think it's very interesting there's a bike lane here on the right and then the latest photos if I can get… I find it change, they've changed that, configure it is so now that the bike lane is actually in between the turn and the turn lane to the right to get into this this bank. So it's even worse and I can't imagine you know putting your children on that and feeling it’s all safe. Yeah so this, and so many things, I think it's a systemic problem here to use a kind of a cliche term right now but it is systemic to the way that they've planned the Treasure Valley. So okay I'll get off my soapbox now, I appreciate it.

Rachel Quednau: Yeah thank you Erik. Thanks for bringing up the transition of this area just over the last ten or so years - pretty dramatic transformation and as you pointed out to be an extremely auto-oriented space where pedestrians are not really accounted for. Drivers are not really looking for them. Thanks too for pointing out that anecdote from the father of Terry that the walk signal, apparently, in his experiences is just not working. Let's now hear from Joyce

Johnson. Joyce can you tell us what factors you see in the design of this street that may have contributed to the crash?

Joyce Johnson: Sure, thank you, 100% I agree with what Erik has put in front of all of us with the growth. It has been about 12 years since they introduced that new interchange at Ten Mile an I-84 which is taking a lot of traffic off of Eagle Road which goes to the west and also Meridain Road which runs parallel to the east and sorry my screen just decided to flip out so I like I'm looking for help from the heavens which I am –

Rachel Quednau: You're good.

Joyce Johnson: Again certainly there has been a dramatic increase in population in the valley I've been here since 2011 and [I'm] part of the problem, I'll admit that. It also brings a lot of - with the growth - a lot of sprawl and we've got commuters coming from the southwest portion of the county from Kuna, as the south, the northwest portion of the county from Star where the housing is more affordable and people are constantly running late. I worked for nearly ten years for 8 county assessors off this and so [I've] watched the development of the subdivisions in the roadways and have been a huge advocate. The first two years I was here I set on the ACHD which is the highway district here locally for just Ada County and that only runs to Black Cat road which is two miles to the west of this crash site. There's a lot of disconnect in the treatment of roadways as Erik pointed out. The bike lane developed through this area does not hug the curb it goes in between the turning traffic and the north and southbound traffic. That creates confusion on the part of motorists. I also drive I drive as little as possible but having worked downtown and living in the southeast portion of the Valley, I was fortunate to have a bus route and also a three-and-a-half-mile commute which I did quite often by bicycle and so I've heard my coworkers who work in the outlying portions of the county talk about being late all the time. All the time. Like if you're late for the bus you missed it you're not - you know - and the bus isn't going to speed so, that solves a lot of problems.

One detail that I did note is that there is bus service through this area, but what the local bus system calls Meridian is the “Great White Whale”. I've heard this in a presentation many years ago. It's a joke. They call Meridian the great white whale because it's a huge, underserved portion of the valley that gets a little or infrequent service and so when a student - and my boys, I have young 20-somethings - were able to walk to school, my oldest son didn't drive until he was 18 years old. He didn't need to and he didn't want to and he didn't like driving. Um, they preferred to walk and ride their bike to school but were blessed that we're only a mile and a half from their school where we live.

In situations such as this, I was excited when I saw Ten Mile now being developed um when we first moved here and that interchange being put in they were doing all the right things on paper they applied all the right criteria to putting in bike lanes and signals but it's being done in, as far as I'm concerned, to gradual [of a] way. It's not meeting the standards that go to the north and the south as soon as you get north of Meridian, south of Meridian, south of I-84 you're on a country road. On Ten Mile Road, there is no traffic enforcement so the speeds going through there are what we've seen in in the numbers um much higher than limited and there's no enforcement on that. And we have a road that goes behind my house that's marked 35 miles an hour. I can guarantee you since we've done work from home after the shutdown there's cars doing well over 50, 60 miles an hour on a 35 mile an hour road because there's no turn lanes, there's no intersections, so the driver mentality obviously is, “I can get their faster if I go beyond the speed limit. There's nobody here to impede that. There's no turning traffic. There's no driveways along here.” Um, the map data that you that you show of the aerial image is from the county assessors map, that pre-extension of Pine Avenue to the west that has all developed. And it's now obviously you can see from the photos a four-way intersection with signals. And it’s just, the driver mentality has not caught up with, “Now you're in the city, now you need to be watching for children, for dogs for squirrels um there is no reason for you to be going this fast.” And then there's no enforcement on top of that.

Rachel Quednau: Yeah, thank you, um I appreciate you sharing, especially about the um issues of speeding and people always mentioning the running late. I'm sure that factors in, especially when we're looking at a road that is basically designed like a highway, and just totally invites people to speed. Adrienne Weatherly, let's hear from you on what design factors you might see in the street, um in addition or besides what's been mentioned already.

Adrienne Weatherly: Sure, absolutely and I really appreciate the feedback that Erik and Joyce have both provided – they're spot on as far as the growth is concerned. Um, I've lived you know in the Treasure Valley for - since the 90s um but have lived along Ten Mile about three miles up from where this crash happened for the last 12 years and so I can appreciate the widening of the roadway as it was happening first-hand and uh you know intersections turning from stop signs to stop lights and lanes going from two lanes to these major arterial type [of] designs and so I think it plays a huge role in - um how fast it has happened - plays a huge role in, um, in situations like this. And also you know riding, I'm more of a cyclist than a pedestrian in this community I commute to work um the Ten Mile corridor is an option for me to get to work on my bicycle. I have about five and a half miles to go and three miles of that would be um a Ten Mile stretch coming from the north headed southbound and then I would head toward Meridian High School so pretty much exactly the route that Terry took would be a route that I could take on my bicycle. I did it one time and I've ridden Ten mile several times um but it's definitely not uh nothing short of a hostile environment for a cyclist to be in that bike lane with absolutely no buffer um and this speed limit posted is 40 miles per hour but to have people go that speed is a rare occurrence and it feels incredibly dangerous [at] best uh when you're, you know, on a bicycle and vulnerable.

So I would say that those - that type of environment is a problem. Um, one thing regarding the speed limit too that I think may have played into this uh this environment as well to the south you're coming off of the freeway, the interstate, and um the Ten Mile corridor is a major north-south corridor for people coming from the east from Boise where a lot of people work they commute back to the Meridian area, but then like Joyce was saying there's a lot of growth in

the communities north of Meridian. Star and um Middleton areas are booming right now with construction lots of people moving into the Valley in that area. So when they're coming from the south, from the freeway, Ten Mile is pretty much the closest major arterial to get further north to those other communities at this point. Um now there is a connection that's happening right now it's uh highway 16 and that's [going to] show up on the west side of the Valley before you get into other communities more westward that will be a major connector for those northerly communities but it's not built yet. So a lot of people coming from the Boise area get off of the Ten Mile interchange, head north on Ten Mile to get to their connections down to Star and Middleton um so there's a ton of traffic that has started coming down those roadways and what happens when you come off the freeway the speed limit right when you come off of the connector and you're headed northbound on Ten Mile the speed limit is 45 and then just about a mile-ish south of where uh this incident occurred with Terry, this speed limit changes to 40. Um, so people and you can almost see that in the speed study, that people if they're not paying attention and how much are people paying attention to speed limit signs as they're transitioning down the same roadway that they've been driving down and that transition in speed limits is happening um so I think that could be a factor that are attributed to that is that you come from a 45 mile per hour speed limit, transition to a 40 mile per hour speed limit and it stays 40 miles per hour until you basically get to the end of Ten Mile and hit the highway on the north side.

Um I also agree with Erik and Joyce when they talked about the pedestrian traffic in this area. As you can see from the pictures that, um, we went over when we detailed the when uh the first details of the area we're coming out at the beginning of our segment here and that, what Erik shared um there's a lot of development on the west side of Ten Mile at Pine, that new section of Pine, that roadway is just being developed right now. I believe there's high density housing going in at that location um and so maybe we'll see a little bit more foot traffic once that density develops but right now you can see there's still a farmhouse in the area [um] one of the corners of the intersection is still a lot and it's undeveloped so it would be kind of weird for a multitude of other people walk-, uh, other transportation modes happening in this area

outside of a vehicle. Um regarding the bus transit system, the valley regional transit, if I was understanding their traffic route right now they do come down Pine um but then once that bus gets to Pine it's had itself bound toward the freeway um to complete its loop and if that were the case then there's no stop on the west side of the Ten Mile Road so Terry would have had to cross the road anyway if he was going to try to catch that bus to go anywhere um and so it's kind of designed so that there wouldn't have been good connectivity in that area anyway.

Um a note about alternative transportation again if Terry didn't want to walk his father said that he was running late and so the bus wasn't an option which means that he decided to walk if uh - and i will say, having children in the same school district over the year, I know how unreliable the busing system can be especially in the winter time, sometimes those drivers are running late - getting reliable transportation in that area is difficult so unless you've got somebody who's dedicated to driving a private automobile to him from all the time which is, also, and can be challenging for a lot of people, I think that would be a barrier. Going back to the roadway design, I think especially if the driver in this scenario was headed northbound on Ten Mile Road headed from the freeway to this intersection there is a lot of visual clutter. There is a lot of uh new businesses that have gone, uh that have been developed on the east side of Ten Mile so if you're coming off of the freeway and you're headed northbound all along that east side of Ten Mile has been in development phases, certain different development phases over the last several years, so there's a lot of visual clutter there and then moving up the road too so I think [of] that as a factor as well.

Lots of construction so you can see that there, probably at the time that this incident occurred there was probably uh construction signs maybe things on the sidewalks, diverting attention uh those sort of things, and then I would say with the driver um I don't know what kind of pickup truck I mean it said it was a Blue GMC pickup truck, but here in Idaho people like big pickup trucks and stuff so I don't know if the size of the vehicle maybe was a factor. Sometimes line of sight is different when you're sitting in a truck versus when you're sitting in a uh a sedan or say like a Prius or something like that so I don't know if that could have been a factor as well. And I

think - oh I just had a couple thoughts on, when we were talking about the push button and Terry's father said that the crosswalk signal skips over pedestrians - and i agree with Erik that there could be a hypothesis that maybe Terry had decided to jump the light because sitting there waiting and Terry was already late for school and maybe this driver was late for work and you know it created an unfortunate situation. I don't know that's all speculation, but I was going to say um it's possible I was, I was just wondering if it was possible that maybe the Highway District had changed that pedestrian, whatever the big button cycle was at that time because of the construction going on in the area. And I know that the Highway District also has a "tell us" feature where, if you enter a concern on their website you can give them a concern or "hey check out this light" kind of thing that they will check it out. So I don't know if Terry's father [or] Terry had um maybe done that and talked to the Highway District um or if the Highway District had changed the configuration. Well construction was going on in that area so i think all those factors could plan to it as well. And, just the timing of the lights and the signaling, so I think that's all I had to add.

Rachel Quednau: Thank you Adrienne. I think you mentioned in the beginning, definitely important to highlight that there's a highway very close to this intersection and a lot of people coming off who are just probably continuing basically at highway speeds, others that confusion about the decrease in the speed limit, there a lot of people aren't paying attention to. Yeah, appreciate your comments. Micah Deffries, let's go to you - what design factors have you noted in this area that might have contributed to the crash?

Micah Deffries: Well I think Erik Joyce and Adrienne all laid out really good points. There's it - and as far as design factors go - uh it's hard to come up with a large scale idea that the community might go for. I think like you know roundabouts are really effective near schools I live near one, that I was not excited about when it first got put in but now [I] love it because I was concerned about students exiting around this thing that I didn't have experience with and I think they're fantastic but I don't, you know, I don't know what the city would go for. A lot of our infrastructure is brand new and we'll probably have years to go before it's updated. I know

Boise, Meridian, and Nampa next door have all, at different times, been the fastest growing city in the nation and a lot of our infrastructure is brand new and I don't know how much appetite there is for redesigning it, although I would like to see that. I think there is one factor contributing to the crash that hasn't yet been discussed at all, which will lead to my end point, is that at this time of year uh at that time of the morning it would have been dark. Like this was there was not full sunlight and I don't - I think theree probably would have been some light but it wouldn't have been a whole bunch of it - it would have been low and the light if it was uh it wouldn't have been directly in the driver's eyes if he was heading north, of course, it would have been to the driver's left.

But I know from when I was- I used to cycle across this road, I used to live near this intersection and I would do a long commute several times a week pushing 20 miles and I would not currently - as a side note - I would not do that commute nowadays, [it's] because so much has happened to the development they were just mostly pretty lonely farm roads out there and you could just blast off and go really fast, you know and stay out the way because you're avoiding most of the cars in town but you're not anymore. But to me the light is a major factor anytime you're commuting and you're not in a vehicle you want to be aware of where the sun is in relation to the driver's eyes. If you're at an intersection you know the driver has the sun low and straight in their eyes they likely can't see or they're going to take a quick glance and make an assumption and that's very, very dangerous.

And it occurred to me that, as we're analyzing what happens on this morning, that there's a bunch of things we don't know. We don't know which lane the vehicle was in, there's unknowns on which way Terry was traveling and ultimately even if we had access to the police report there's things we don't know because how many witnesses were there? Was there video? Is this driver going to say things that benefit them, you know, which is pretty natural uh for us to do in that situation so… I think when we're looking at all the factors contributing to this I think one is lack of knowledge because anytime there's a problem, that's worth solving, a problem is always more than one problem. And I've spent a great deal of time in my head thinking right

how do we come up with a good answer to this question because there's so much we don't know and that's the true of any instance like this. So like what was- did the driver have heavily tinted windows and driving in the dark uh which reduces their visibility and that's illegal uh here in Idaho - was this person making a lane change illegally in the intersection, was this person going five miles over the speed limit -reducing reaction time?

And all these things are, could contribute to things that we'd want to solve, but while I was thinking about that, that lack of knowledge, for quite some time, it occurred to me that there's a problem we can solve here which is you know if a student is within a mile and a half of the school and they're not allowed to get a bus and they're going to be on foot or bike or get a ride from a relative or something - why not have cameras at these intersections? Y'know we do have cameras at intersections around town but it is my understanding that they do not record anything. They're not there to capture red lights or - they're just there for like traffic monitoring purposes. But I think it's, it would be prudent in this situation to recommend cameras that are able to record for not just outcomes that are unfortunate like this one but there's a variety of negative outcomes near a school. I don't think we need to, you know, belabor that point too much but it I can definitely foresee the usefulness of being able to just to see video footage it would help. And if I was a driver in that situation, I drive a lot and I also keep a dash cam in my car it's just out of view here, and I do that knowing that if I get in incidents, that I have to provide that footage so it keeps me pretty darn honest when I drive because if I'm obligated to provide that footage if I'm in a situation like what happened in this morning in November and I think that I- and if I was- if I didn't cause this incident I would want there to be footage like that and I feel like if there's something we can do in the short-term - obviously there's an unknown about what sort of legal red tape there would be for that, obviously there would be some but that might be the earliest thing we could do that would prevent people from driving way too fast in, near a school zone at a time when a school should be expecting people to be crossing the street or asking them to because they're within this one mile and a half radius. So I don't know what to do, I mean there was a crash in Boise, at a similar time frame to this gentleman, or there was an older gentleman in Boise who died, who was hit by a driver who apparently had

been drinking from what I understand and I drove through that intersection which is also near a school… is that there was the orange flags that someone to put up orange flags to people to use when they cross the street and that, like I don't know how much of a solution that is I don't know what to offer because it feels like we're victim-blaming at that point or asking people to ask to not be hit by a car with a flag and I'm not sure how much I love that but it's an easy thing for a city to do. But I like the idea of having a camera at the intersection at least be able to understand what's going on and you know people perhaps, a little more cautious on the driver side.

Rachel Quednau: Yeah. Thank you. Especially appreciate you bringing up the potential, like, light factors at the time with the sun being low potentially in the driver's eyes and also, just meaning decreased visibility to see somebody on the side of the road and Adrienne had also mentioned kind of visual clutter that would again prevent a driver from seeing someone turn across the street. So thank you Micah. Edward let's go to you and hear any additional design factors that may have contributed to this crash.

Edward Erfurt: Yeah so when I look at an intersection like this and I think we've looked at these other intersections in in other crashes, I look for things that maybe weren't designed properly. So when I look at this intersection you know I start with the accessibility components because usually that's where some make it short change they don't follow pro-ag but I look at this intersection and this looks pretty good. It's a directional crosswalk, it's marked, there's a level area there isn't anything blocking the view of the driver or the pedestrian, can see the road. We've looked at other crashes and we said, "Well, maybe the crosswalks are awkwardly set but this is all pretty square. We've looked at other crashes where we've talked about the conditions on the ground in relation to kind of the streetlights being seen where they are. There are chances for those to, with a wind event, to blow up or there wasn't a backing behind it so a driver didn't know that the light was red because of the sunlight. And all those components from a design standpoint, I think the engineers succeeded on this. I think they have built a road to the book. They've got their right size bike lanes, they've added the extra wide sidewalks, so if

I was a traffic engineer this is one that we're probably in that A/B or A range depending on how you want to kind of calibrate it - they've done everything right. It's not like there was a curb radius that was wrong or there's not that there was a component to it that was mis-designed.

Even in all the development one of the other things that we can look at in [an] intersection that's maybe a problem is that when you approach an intersection, there's a math calculation that we have to do. So, if there are two lanes coming into the intersection, are there two lanes going out? Pine Avenue coming in and Ten Mile going out - it's the same amount of lanes so the intersection isn't being overbuilt for some sort of capacity issue. So I'm at a loss when it comes to kind of easy engineering fixes because I think that they've designed this intersection as it is to be designed and whether they're using the highway, the suburban or the urban standards I think they met the standards to it and that makes it really complicated here.

What I'm interested in is Erik's observations about a moment of distraction. So, in this intersection we have two operating systems. We have an operating system for the cars, so moving cars through this, a large volume of cars at a high speed. Anything over 25 miles per hour is a risk for a pedestrian [or] cyclist because, regardless of car size, you are now in a realm where you're in a percentile that, if you're hit by that car at over 25 miles an hour you're in that percentile of fatality and 35 to 40 it's the same. I mean there's a change to it but it's not good. So looking at this type of road from a car standpoint and a pedestrian standpoint we have two operating systems. From the pedestrian side: Is there a wide sidewalk? Are there cross signals? Is it a marked intersection? All those pieces are there. Is there a point to go to? Yes, we're taking people from homes to schools. So, we have two operating systems and unfortunately at this particular area a moment of distraction by the pedestrian, the cyclist, or the person driving the car sets up for failure. On this road section, a driver, a pedestrian could never make a mistake. One mistake, a slight sliver out of a lane stepping off the curb too early, the tolerance is here so tight no one can make a mistake.

If nobody can make a mistake, I think there's two things from an observational standpoint that I would look at - two incompatible things need to be broken apart. So either you need to remove all the cars or you need to remove all the people. Now, I know that sounds absurd but we've set this up to a system from the engineering standpoint. I say they've done this by the block they've done this by the book to fulfill the suburban development standards and when we look at the Treasure Valley growth and about how fast this is happening and how Adrienne has shared that not only is this fast growth but these are new people so they're unfamiliar with this particular intersection and this section of road so the expectation from drivers is that of that car we've added another piece to it where again that driver can't make a mistake but we've made it more complex because they're unfamiliar with this structure road. So from a designer standpoint I think they picked the wrong intersection. [If] the purpose of the intersection is to be able to provide a safe route for children to get to school and for cars to move through it, this is not the intersection. It's a well-designed intersection but it's the wrong intersection for the site and I think as Micah explained this is new infrastructure. "How do we get past that? And how do we get the right intersection here?" is a big question to me but I think the contributing factor that I see for this is that we have two incompatible systems. We have made this to the point that it is a type of design that we can never make a mistake in as a driver, as a pedestrian, or a cyclist and as a result because of those tight tolerances and trying to provide those things, I think it's not a poorly designed intersection I think it's the wrong design, the wrong intersection was picked here.

Rachel Quednau: Okay thank you Edward let's now take a few minutes to discuss some recommendations that might be able to improve the safety of this place. I know some folks have already gotten into recommendations a little bit but let's go around again so Erik, do you have any recommendations that you would add that might be able to increase the safety of this [intersection]?

Erik Bootsma: Well, I think yeah I was going to basically second what Edward was saying there about the, you know, this has been designed according to the standards of traditional suburban

roads and suburban streets that we have and it's designed well according to it and all the tolerances and everything. And in my philosophical training when you when you start to… you take a premise, and you follow it out and you start to get to the end of it it's called and then something absurd happens - it's reductio ad absurdum. And the thing is we have designs that lead to death and we have designs that lead to safety problems for people who are there so I think what we need to do is start to look at our design standards. There was a very good video of you know another Strong Towns contributor on Not Just Bikes on YouTube and he was talking about how the Dutch have different design standards for how they deal with road traffic and how they deal with local streets.

There needs to be a separation of these. Essentially we have a suburban highway - way to get cars moving as quickly as possible through it, intermixed with local traffic, intermixed with local pedestrian traffic. By changing the way we look at roads and how we plan them so that roads are roads - have cars on them - and streets have people and cars but at a much slower speed. We'll start to be able to fix these problems again like I said I think it's a systemic problem, you know unlike the Richmond example where we had ways that we could say, “We have better ways to design the inner streets, within the city, within an urban environment so that they're safer to move cars slower through it”, we have cross purposes here because you know they want to be able to make sure that cars and traffic move through both of both of these roads as efficiently as possible but then we've also got you know businesses and car and pedestrians and then people intermixing with it so we have to start to look at I think ways of designing our suburban areas so that the cars are separated out and then pedestrians are separated out from it.

I think continuing to go down the road that we are on and we have been on - like I said in my introduction, you know, that this has become you know the Treasure Valley, it looks to me like Orange County, California. Now, like I said, I grew up around here I remember when Meridian was smaller than my hometown of Baker City which is 10,000 people now and Meridian was 6,000 when I was a kid and this was all country roads and we've basically just plopped in an

older way of designing roads and just kind of done it really kind of I think of the planning has been done sort of ad hoc… that, "Okay, now we're sort of growing, we're getting more houses we're putting here now, we'll just widen this road and we'll widen this", but there's not a systemic sort of way of looking at both the transit system but also just the road system that that really needs to change and I think that's to me something that has to change both you know statewide locally but also nationally and there's a discussion that needs to be there. So that's my comments about that so I think it's just an illustrative example of what happens when everything has been done according to plan and yet people are still sadly dying because of it.

Rachel Quednau: Yeah, thank you. Adrienne are there any suggestions that you would add that might increase the safety of this intersection?

Adrienne Weatherly: Well I have a couple that might not be popular depending on who the decision makers are. Of course, there's always the option to lower the speed limit and it might be something that should be considered. You know, we've had the same problem on Eagle road for years that it has a really high speed limit 50 to 55 miles per hour depending on where you're at and there's a lot of businesses that don't have like frontage roads or anything it's just a right-in right-out and people have to get up to speed really quick and there's been a request to lower this speed limit from multiple agencies on that roadway so… you know lowering the speed limit is always a possibility to increase reaction time - if it's not to - I understand 25 miles per hour it can be a little bit of a hard pill to swallow for drivers, and myself included I mean I'm a driver too and I want to get from point A at point B in a timely manner but you know something closer to 35 miles per hour while there's businesses getting built and the level of traffic conflicts increases as businesses and developments, home developments, and density increases.

I wanted to share I know that Terry's father also had mentioned in that article that he would like to see a skywalk built and thought that that could be a possibility so I just wanted to share really quick this is a skywalk that is in Boise currently and it's been on a roadway that's been built like this for many years ever since I can remember but this is an example of a skywalk that

is here in the Treasure Valley that could be an option. Obviously, again might not be popular with the decision makers because of the amount of money and we're prioritizing obviously foot traffic in this situation over putting money toward you know building bigger roadways etcetera but I definitely think that this would be an excellent suggestion on any of our major arterials that have pedestrians going from - pedestrians and cyclists going from one side of a busy roadway to another so those are the couple things that… I thought of.

Rachel Quednau: Yeah, thank you, and appreciate showing that example from elsewhere in Boise, I guess it has been done.

Adrienne Weatherly: Yes.

Rachel Quednau: Joyce are there any recommendations that you would add that might help improve, increase the safety of this area?

Joyce Johnson: Oh absolutely, I think lowering the speed limit because Adrienne, as you pointed out, people want the speed limit lowered on Idaho 55 [Eagle Road] have you ever done 55 miles an hour from the interstate to State Street which is maybe - I don't know I should know this four miles, five miles? You cannot go 55 miles an hour because of the traffic, the turn-in, the turn-out, and just the fact that there are people that come up there because there's something called The Village which is this very… "sense-of-place" shopping mall, dining, offices and whatnot and people are wanting to go there because it's a cool place to meet but they are not familiar with the area. So yeah absolutely, speed limits lowered and also one thing that I want to say Micah brought up was redesigning for a roundabout. If I can share, the intersection of Star and Franklin Road, let's see if I can get that to pop up. There's an Amazon center here off to the south and west of this intersection and when they redesigned Star road everybody poops themselves because, "Amazon's coming, oh my gosh it's [going to] bring jobs." So they paid for a roundabout at Star and Franklin road and people cried like babies because they couldn't figure out how to use a roundabout so they tore it out and now it is a

four-way intersection again. And, to me, that tells me you absolutely are capable of redesigning the highway and the roadway in something that Erik said - for people. We are not sending our cars out on their own to run errands we're in these vehicles.

I almost got run over at a Fred Meyer which is a Kroger subsidiary grocery store yesterday in the parking lot by a guy in an Excursion, which is a big four-wheel drive SUV. He was going so fast he hit the cart I was pushing - a cart, the grocery cart is maybe three feet long he could have killed me, he was going that fast. So you're not designing these roads for the vehicles you're designing them for people and - I can't stress this enough - that we are reacting to deaths every single time we come to these discussions. People should not have to die to use our roadways. Tiny history lesson, the roads were designed for products to be brought to market, they were given up by adjacent land owners if you look at the grid system across the country the United States every mile was dedicated to a roadway when a farmer obtained that land they came to an agreement that 60 feet of road way on either side of the center line was going to be public - right away, dedicated - so that they could take goods to market and bring products to their farm for use. They were not designed for people to do 70 miles an hour to get somewhere and if you talk about slowing the speed then, it being inconvenient, I can tell you that [a] funeral is much more inconvenient for [a] family than it is to plan your day and not be late [for] work, or your meeting, or what have you by knowing how long it takes to get there - and we have Google Maps, which we didn't 45 years ago when I learned to drive you can plan that very well. Off soapbox.

Rachel Quednau: Thank you, Joyce. Um Micah any recommendations that you would add that increase the safety of this area ,I know you mentioned cameras you know people have different perspectives on that, of course, but yeah that's one idea anything else you'd add?

Micah Deffries: You know there are a couple a handful of intersections in the Valley that have you know, lights that are embedded into the road for when there's a crossing and I don't know how effective hose tools are as fas as preventing crahes…

Rachel Quednau: Uh-oh, we're losing Micah a bit… Micah you still there?

Micah Deffries: …it's so easy for them to get ruined…

Rachel Quednau: Alright, little bit of a connection issue with Micah unfortunately… So let's go to Edward and maybe we'll catch Micah in a second.

Edward Erfurt: Yeah, I think for me. When you design something like this, then when people use it normally and they make a tiny mistake and it results in a fatality, I think we've picked the wrong operating system. So normally I like to start small, but let me start big on these. I think this is the wrong designed intersection. And it doesn't, it doesn't meet the needs of the driver because it puts them at an enormous amount of risk. It doesn't meet the needs of the pedestrian and the kids going to school - puts them at an enormous amount of risk. And the cyclists, it puts them at a risk to a point that even the experienced cyclists within this panel wouldn't use this road. So it's the wrong operating system.

If I go up and down Ten Mile on the maps, there are other intersection choices that have been made roundabouts, center islands, refuge areas that have all been tried up and down this corner. And in area this close to the school prioritizing that, which is a land use policy decision there. We've got to - the margin of error is so low at this intersection, we have to make a bigger margin before there's an error. If I want to go through some immediate things that I think I would recommend for this. One I'd go to the school board immediately and have them revise their policy on busing. If the land use pattern is not amenable to pedestrians. And we didn't share this but we have photographs of the wintertime in this area where there's snow - none of these sidewalks are plowed. So, this is an afterthought. And the school is in the middle of a lot with huge parking lots to get to it, so you just need to provide that busing.

At the particular intersection, I think Micah had some great points with lighting. If lighting is an issue, especially for putting children through this to walk to school, the lighting needs to be increased and that could be as simple as a light fixture change. Or even on those overheads, you can add more lighting to light up this particular intersection, both at it and in advancing of those pieces. I would definitely look at the signal timing, so if there's a push button there. One, making sure it works. But also looking at there's some other non-intersection, like mid-block crossings along this corridor, providing the opportunity when that is pushed by a pedestrian to stopping all of the traffic, so freezing the whole intersection at one time - that would definitely increase that awareness. And anything you can do to increase driver awareness to the fact that there would be pedestrians at this location versus maybe some of the others. And we've seen that in lots of other areas where there's paint on the ground, not excessive signage because that is usually results where the pedestrian stands and hides them. But putting things on the ground or pulling the stop bars back further, so there's more breadth at the intersection and a better awareness that there's pedestrians potentially at that location. But the big one, which is the biggest one to tackle is getting the right intersection for this for what the community wants it to be used for, and it currently doesn't work for cars and it doesn't work for pedestrians.

Rachel Quednau: Yeah, thank you Edward. Thanks to really be the crux here. We have just too many conflicting priorities moving cars quickly and also a lot of people, especially children trying to walk to school and that's clearly resulted in this tragedy. So, let's close out here. Some thank yous that we want to extend first to Marcus who nominated this crash and helped gather the resources. Also special thanks to Don Kostelec and to Adrienne for their work helping to gather information and materials. And thank you to my colleague Tony for doing a lot of the planning behind the scenes. Thank you to other Meridian community members to have pitched in to help us plan this. And of course, thank you sincerely to our panelists, Joyce Johnson, Erik Bootsma, Adrienne Weatherly and to Micah, and of course also Edward, appreciate all of your contributions here.

I want to mention that there is a fundraiser set up in Terry Binder's name if you wish to contribute. And Tony just put the link in the chat there for everyone. Thank you also to our sponsor for this event, which is an anonymous donor. You can find a recording of this session and all of our other Crash Analysis Studio sessions by going to strongtowns.org/crash-studio. There you'll also soon find resources for hosting your own crash studio to look at crashes that might be taking place in your community. Our next one of these sessions is going to be on May 26th and you can find more information about that also by visiting the crash studio page on our website. So, on behalf of my colleagues and the assembled panel, thank you for watching this session of the Crash Analysis Studio and keep doing what you can to build a strong town. Take care everyone.