

CASE TITLE

Post-Crash Analysis Report

Date of Loss: [DATE]

[LAW FIRM]

Prepared by:

Rick August, PhD

Smart Drive Test Inc.



[DATE PREPARED]

TABLE OF CONTENTS

STATEMENT OF QUALIFICATIONS.....	4
CERTIFICATION	4
PURPOSE OF REPORT.....	4
SUMMARY OF FACTS.....	4
DOCUMENTS REVIEWED.....	5
FACTS & ASSUMPTIONS.....	9
<i>"T" Intersection of</i>	9
<i>DEFENDANT #2 (Transit Driver)</i>	10
<i>PLAINTIFF (Pedestrian & Passenger)</i>	14
<i>DEFENDANT (Driver)</i>	15
HUMAN BIOLOGY & SOCIAL NORMS.....	17
STANDARD OF CARE FOR BUS DRIVERS	18
<i>Smith Space Cushion Defensive Driving Taught to Bus Drivers</i>	19
<i>Correct Driver Procedure for Moving Through Intersections</i>	19
<i>Correct Procedure for Picking Up and Alighting Passengers</i>	20
OPINION.....	21

TABLE OF FIGURES

FIGURE 1- IMAGE LOOKING EAST-NORTHEAST FROM [ADDRESS] SHOWING THE TWO CROSSWALKS AND THE BUS STOP ON THE INTERSECTION’S OUTER NORTHEAST CORNER.....	9
FIGURE 2 - BUS STOP, SHELTER AND PULL OUT ON THE NORTHWEST CORNER OF [ADDRESS]..	10
FIGURE 3- SCREEN CAPTURE OF THE FRONT DOOR VIDEO CAMERA VIDEO AT 00:16 THAT CLEARLY SHOWS WITNESS WAITING AT BUS STOP #[NUMBER] INSIDE THE SHELTER.....	11
FIGURE 4- THE VIEW FROM THE FORWARD CAMERA AT 11:19:14, THE APPROXIMATE TIME OF THE BUS’S BRAKING.	12
FIGURE 5- IMAGE LOOKING SOUTHBOUND ALONG [ADDRESS] ON THE SOUTH SIDE OF THE INTERSECTION. HERE THE BUS IS COMPLETELY OFF THE TRAVELLED PORTION OF THE ROAD. THE BUS HAD BEEN MOVED AFTER THE INCIDENT AND BEFORE POLICE BEGAN THEIR INVESTIGATION.....	13
FIGURE 6- IMAGE SHOWING THE LOCATION OF THE STOPPED BUS. IT’S STILL IN THE INTERSECTION AND BLOCKING THE RIGHT LANE SOUTHBOUND. TWO CARS CHANGED LANES BEHIND THE BUS IN THE INTERSECTION TO MOVE AROUND IT. THE HAZARD OF THE CARS MOVING INTO HER LANE WAS WHAT DREW DEFENDANT ATTENTION AS SHE NEARED THE INTERSECTION’	13

FIGURE 7- SCREEN CAPTURE OF THE FORWARD VIDEO CAMERA VIDEO AT 00:15 THAT CLEARLY SHOWS PLAINTIFF APPROACHING THE INTERSECTION TO CATCH THE #[NUMBER] BUS SOUTHBOUND..... 14

FIGURE 8- TWO CARS CHANGED LANES BEHIND THE BUS IN THE INTERSECTION TO MOVE AROUND IT. THE HAZARD OF THE CARS MOVING INTO HER LANE WAS WHAT DREW DEFENDANT ATTENTION AS SHE NEARED THE INTERSECTION. 15

FIGURE 9- IMAGE SHOWING THE WHITE HONDA CIVIC (THE SECOND VEHICLE THAT MOVED AROUND THE BUS) JUST GETTING AROUND THE BACK OF THE BUS AS DEFENDANT CAR APPROACHED THE INTERSECTION. 16

FIGURE 10 - BOTH THE MAZDA CX-5 AND THE HONDA CIVIC STOPPED AFTER THE CRASH. THE DRIVERS WERE CLOSE ENOUGH TO THE INTERSECTION THAT THEY SAW THE COLLISION. THE CIVIC DRIVER PULLED OVER AND STOPPED. THE MAZDA DRIVER DID A "U" TURN AND RETURNED TO THE INTERSECTION..... 16

STATEMENT OF QUALIFICATIONS

I provide this report as a Post-Crash Investigation Expert in traffic safety, road user behavior, and driver education. In 1998 in London, ON, I wrote the train-the-trainer curriculum for transit drivers that taught them about passengers with disabilities and low-floor buses. In the early-2000s, I worked as a driver rehabilitation specialist helping drivers to return to driving after experiencing a brain injury, loss of limb, or other debilitating injury or disease.

From 2002-6, I worked as a bus driver with Greyhound, Australia and one of the regional bus lines there. I earned my driving instructor's license in 1997; I am currently licensed as a commercial driving instructor in British Columbia, Canada. The bulk of my driving instruction career has been with semi-truck and bus drivers. I have a PhD from the University of Melbourne, Australia where I studied legal history. Specifically, policing and law as it relates to traffic.

CERTIFICATION

I certify that:

- a) I am aware of my duty to assist the court;
- b) I have prepared this report in conformity with that duty, and;
- c) I am not an advocate for any party in this case.

If required, I can provide additional oral or written testimony in conformity with that duty.

PURPOSE OF REPORT

As requested in your correspondence to me on [DATE], I have investigated the crash between pedestrian PLAINTIFF and the white Mazda sedan driven by DEFENDANT. Specifically, I've been asked to determine if the transit bus driver, DEFENDANT #2, operated the vehicle with a reasonable standard of care.

SUMMARY OF FACTS

On [DATE] at approximately [TIME], southbound transit bus #[NUMBER] driven by DEFENDANT #2 missed stopping at the [ADDRESS] bus stop #[NUMBER]. The bus stop is located on the northwest corner of the "T" intersection. It was a clear [DAY],

roads were dry, and there was moderate traffic along [ROAD] in both directions. The bus stop has a pull-out for transit buses. DEFENDANT #2 missed both the stop and the passenger waiting there. He moved through the intersection on a green light.

At the bus stop, WITNESS waited inside the bus shelter for both her friend PLAINTIFF and the #[NUMBER] bus. As DEFENDANT #2 passed the bus shelter (located approximately 5m north of the intersection on its west side), PLAINTIFF arrived at the intersection's northeast corner. She faced a "Do Not Cross" signal. Missing the passenger at the bus stop, DEFENDANT #2 slowed the bus through the intersection, stopping on its south side. He stopped the bus on an angle in the right lane with its backend in the intersection.

The position of the stopped transit bus caused upstream traffic to change lanes in order to move around the bus. This changing traffic situation demanded DEFENDANT attention. She focused on the transit bus and the two other cars that changed lanes to move around the obstacle. The DEFENDANT was looking at the west side of the intersection.¹ PLAINTIFF approached from the east.

Seeing the bus stopped on the southwest corner (kitty corner from her position) PLAINTIFF crossed in the crosswalk against the light. Between PLAINTIFF and the bus stop there were 5 lanes of traffic—2 southbound and northbound respectively and a southbound left-turning lane. PLAINTIFF misjudged the southbound traffic. In the first southbound lane past the southbound left-turning lane, PLAINTIFF was struck by the white Mazda sedan driven by The DEFENDANT. My findings and analysis of the collision are outlined below:

DOCUMENTS REVIEWED

1. Motor Vehicle Accident Report, Dated [DATE]
2. Police - matter under investigation, Dated [REDACTED]
3. Police - defendant's information, Rec'd [DATE]
4. [REDACTED] - registered owner search of def [REDACTED], Dated [REDACTED]
5. [REDACTED] - driver's licence search of def [REDACTED], Dated [REDACTED]
6. [REDACTED] Region - Traffic Signal Timing, Dated [REDACTED]
7. [REDACTED] Police
 - A. [REDACTED] Police to OV - Encl. File, dated [REDACTED]
 - B. Motor Vehicle Accident Report, Dated [REDACTED]
 - C. Scene Measurement Log received [REDACTED]
 - D. Airbag Control Module, received on [REDACTED]

¹ Transcript of the Examination for Discovery of [REDACTED], 8 July 2020, 24-4 and 28-2.



- E. Collision Reconstruction Synopsis
 - 1) Collision Reconstruction Synopsis
 - 2) Appendix A - Scale Diagram
 - 3) Appendix B - Mechanical Examinations
- 8. [REDACTED] - Report, Dated Dec 31, 2021
 - A. [REDACTED] Engineering Investigations Ltd., Engineering Assessment, Accident Reconstruction, Dated Dec 31, 2021
 - B. Form 53 - Signed by [REDACTED]
 - C. Motor Vehicle Collision Report
 - D. Map of Collision Location
 - E. Aerial Photographs
 - F. [REDACTED] Engineering Photographs
 - G. Rear-facing camera still-frames
 - H. Police Collision Scene Photographs
 - I. Front door (side-facing) camera still-frames
 - J. Forward-facing camera still-frames
 - K. Figure 1 - Collision Site Diagram
 - L. Figure 2 - Plan and Elevation Views
 - M. Figure 3 - Enlarged Collision Site Diagram
 - N. Figure 4 - Estimation of the location of the rear-facing bus camera
 - O. Figure 5 - Review of the initial post-impact movement of the Mazda seen in video recording
 - P. Figure 6 - Pre-impact positioning of the southbound Mazda vehicle
 - Q. Figure 7 - Estimation of the location of the northbound tractor-trailer combination at Frame #711
 - R. Figure 8A - Plotting of the location of the northbound tractor-trailer combination at Frame #711 (..i.e: at $t = -4.7$)
 - S. Figure 8B - Estimating PLAINTIFF's view to the north as she stepped forward from the northeast corner of the intersection
 - T. Figure 9 - Rate of pedestrian movement, and estimation of length of additional time required for PLAINTIFF to clear the northbound passing lane
 - U. Figure 10 - Location where DEFENDANT would need to have seen PLAINTIFF in order to be able to brake her vehicle to a complete stop north of where PLAINTIFF was crossing [ROAD]
- 9. 9. [REDACTED] Forensic
 - A. [REDACTED] Forensic, Letter of Opinion, Dated Feb 10, 2022
- 10. [REDACTED] Property Damage File
 - A. 50 Colour Photographs
 - B. Estimate
 - C. Media Release
- 11. [REDACTED] Police File received Feb 4, 2019



- A. YRP to OV re: Encl. Police File
- B. MVAR
- C. Call Hardcopy
- D. General Occurrence Information
- E. Detective Summary of Detective [REDACTED], Dated [REDACTED]
- F. Initial Officer Report of [REDACTED], Dated [REDACTED]
- G. Supplemental Report of [REDACTED], dated [REDACTED]
- H. Supplemental Report of [REDACTED], Dated [REDACTED]
- I. Supplemental Report of [REDACTED], Dated [REDACTED]
- J. Supplemental Report # 4 of Detective [REDACTED], Dated [REDACTED]
- K. Supplemental Report # 5 - Audio Statement of [REDACTED], Dated [REDACTED]
- L. Supplemental Report #6 of Detective [REDACTED], Dated [REDACTED]
- M. Civilian Witness Statement of [REDACTED], dated [REDACTED]
- N. Statement of DEFENDANT #2, Dated [REDACTED]
- O. Statement of [REDACTED], Dated [REDACTED]
- P. Statement of [REDACTED], dated [REDACTED]
- Q. Statement of WITNESS, dated [REDACTED]
- R. Statement re: [REDACTED] provided video statement
- S. Statement re: DEFENDANT #2 provided video statement
- T. Collision Reconstruction Synopsis
- U. Collision Investigation Field Notes with Rough Sketch
- V. Notes of D/Cst [REDACTED]
- W. Notes of Sgt [REDACTED]
- X. Notes of PC [REDACTED]
- Y. Notes of PC [REDACTED]
- Z. Notes of PC [REDACTED]
- AA. Notes of PC [REDACTED]
- BB. Notes of PC [REDACTED]
- CC. Notes of PC [REDACTED]
- DD. Notes of PC [REDACTED]
- EE. Notes of PC [NAME] (Badge #[NUMBER])
- FF. Notes of PC [REDACTED]
- GG. Notes of Cst. [REDACTED]
- HH. Notes of FIA, [REDACTED]
- II. Notes of PC [REDACTED]
- JJ. Notes of PC [REDACTED]
- KK. Notes of D/C [REDACTED]
- LL. Notes of D/C [REDACTED]
- MM. Notes of PC [REDACTED]
- NN. Notes of D/C [REDACTED]
- OO. Notes of PC [REDACTED]
- PP. Notes of D/C [REDACTED]



- QQ. Notes of D/C [NAME] (Badge #[NUMBER])
- RR. Major Case Management - Supplemental
- SS. Related Accident Details
- TT. Clearance Information
- UU. Follow-up Reports
- VV. Related Property Reports
- WW. Forensic Identification Reports
- XX. Seized Property
- YY. Administrative - Complainant Information
- ZZ. Invest Conclusion
- AAA. Vehicle Impound Forms
- BBB. Time Extension
- CCC. Investigative Activity
- DDD. Supervisor Attendance - Sgt. [REDACTED]
- EEE. Supervisor Notification - Detective [REDACTED]
- FFF. OV to YRP re: MVAR Req., dated
- GGG. 4 911 Audio calls (previously served)
- HHH. 4 Witness Videos and 1 Audio witness statement (previously served)
- III. [REDACTED] Bus video (Previously Served)
- JJJ. 176 [REDACTED] Police Photographs (previously served)

Transcript of the Examination for Discovery of DEFENDANT #2 on behalf of the [REDACTED], 8 July 2020

Transcript of the Examination for Discovery of DEFENDANT, 8 July 2020

Transcript of the Examination for Discovery of [REDACTED], 9 July 2020

Transcript of the Examination for Discovery of PLAINTIFF, 9 July 2020

Transcript of the Examination for Discovery of [REDACTED], 19 May 2021

Transcript of the Examination for Discovery of [REDACTED], 29 March 2021

Transcript of the Examination for Discovery of [REDACTED], 30 March 2021



FACTS & ASSUMPTIONS

- I relied on the letter provided by [Law Firm] dated [DATE].
- It was a clear, sunny day with moderate to light traffic.²

"T" INTERSECTION OF [ADDRESS]

- This north-south stretch of [ROAD] is a demarcation between farmland to the west, and the bedroom-community of [COMMUNITY] on the east.



Figure 1- Image looking east-northeast from [ROAD] showing the two crosswalks and the bus stop on the intersection's outer northeast corner.³

- The "T" intersection of [ADDRESS] only had two crosswalks, as opposed to four: one running east to west on its north perimeter. The other running north-south on the intersection's east side.
- This north crosswalk only accesses the transit stop located on the northwest outer corner.
- The transit stop located there has space for transit buses to pull off the traveled portion of the road.

² [REDACTED], "Motor Vehicle Accident Report," ([REDACTED] Police, [REDACTED]).

³ 11 Colour Photographs from [REDACTED] Police, [REDACTED], 17-246348 B _8278276.jpg.



Figure 2 - Bus stop, shelter and pull out on the northwest corner of [ADDRESS].⁴

DEFENDANT #2 (TRANSIT DRIVER)

- In late-August students at the College were on summer break.
- The #[NUMBER] bus ran at 20-minute intervals.
- Bus #[NUMBER] was empty from the College to the transit stop at [INTERSECTION]
- At noon, DEFENDANT #2 would finish his shift at the [LOCATION]. In other words, it was his last run of the day.
- Transit's #[NUMBER] current schedule (2023) indicates a time of 10 minutes from the College to the [ADDRESS] Intersection.
- Google's current transit time is 12 minutes.
- Although unreliable, the time on the bus' cameras indicated a time of less than 10 minutes from the College to the bus stop #[NUMBER].⁵
- The bus was one to two minutes ahead of schedule.⁶
- Four groups of people primarily ride public transit:

⁴ Google Maps, accessed 25 May 2023.

⁵ Owing to the change in format of the bus video, the time stamp may not be reliable. [REDACTED], "Letter of Opinion: Re: [REDACTED] Incident Date: [REDACTED]," (MEA Forensic, 2022), 2-3.

⁶ [REDACTED], interview by Detective [REDACTED] ([REDACTED]), [REDACTED], 2:50:58; [REDACTED], interview by Detective [REDACTED], 2017. 2:02:18

1. adolescents,
 2. students,
 3. new immigrants,
 4. and single parents.⁷
- Being on the same run for almost eight weeks, DEFENDANT #2 should have recognized both the bus shelter with its pullout, and the potential passenger that was approaching the intersection to catch the bus.⁸



Figure 3- Screen capture of the Front Door video camera video at 00:16 that clearly shows WITNESS waiting at bus stop #[NUMBER] inside the shelter.⁹

⁷ Amer Shalaby Eric J. Miller, Ehab Diab, Dena Kasraian, "Final Report: Canadian Transit Ridership Trends Study," (University of Toronto, 2018), 89.

⁸ *Transcript of the Examination for Discovery of* [REDACTED], 6-6.

⁹ [REDACTED] Transit ([REDACTED] Bus) Front Door Camera, [DATE], 00:16.

- DEFENDANT #2 maintained at an approximate speed of 60kph until passing bus stop #[number] and realizing that a pedestrian waited there he slowed the bus through the intersection.¹⁰
- DEFENDANT #2 began to brake and slow the bus just as the front of the bus passed the bus shelter.



Figure 4- The view from the Forward camera at 11:19:14, the approximate time of the bus' braking.¹¹

- On the south side of the intersection, after the crash and before the police investigation, DEFENDANT #2 pulled the bus completely off the travelled portion of the road.

¹⁰ Immediately after the crash, DEFENDANT #2 testified that he stopped the bus to check for damage after a white car cut him off. In a "accident report" he stated that he stopped after someone accused him of striking PLAINTIFF. Neither the bus video, nor expert analysis of the crash and video support these stories. [REDACTED], "Statement of [REDACTED]," 1:47:52; [REDACTED], "Engineering Assessment Accident Reconstruction," ([REDACTED] Engineering Investigations Ltd, 2021), 24. In his Examination of Discovery in 2020—three years after the crash—DEFENDANT #2 deposed that he stopped because he missed the passenger at the stop. Had he failed to pick up the passenger the outsourcing company for which he works would have reprimanded him. He also deposed that it was safe to stop.

¹¹ [REDACTED], "Letter of Opinion: Re: [REDACTED] Incident Date: [REDACTED]," 10.



Figure 5- Image looking southbound along [ROAD] on the south side of the intersection. Here the bus is completely off the travelled portion of the road. The bus had been moved after the incident and before police began their investigation.¹²



Figure 6- Image showing the location of the stopped bus. It's still in the intersection and blocking the right lane southbound. Two cars changed lanes behind the bus in the

¹² 11 Colour Photographs from Police, [DATE], 17-246348 B _8278258.jpg.

intersection to move around it. The hazard of the cars moving into her lane was what drew DEFENDANT attention as she neared the intersection.¹³

PLAINTIFF (PEDESTRIAN & PASSENGER)

- PLAINTIFF lived in the bedroom-community of [COMMUNITY], a three-minute walk from the bus stop #[number].
- PLAINTIFF often took transit with her friend WITNESS.¹⁴
- On other trips, WITNESS and PLAINTIFF caught the same #[NUMBER] bus at different stops.
- On this day-[DATE]-WITNESS was early. She walked to bus stop #[NUMBER] where she knew her friend PLAINTIFF caught the bus.¹⁵
- PLAINTIFF knew to within the minute when she had to leave home to catch the #[NUMBER] bus southbound.



Figure 7- Screen capture of the forward video camera video at 00:15 that clearly shows PLAINTIFF approaching the intersection to catch the #[number] bus southbound.¹⁶

¹³ [REDACTED], "Letter of Opinion: Re: [REDACTED] Incident Date: [REDACTED] 7," 6; [REDACTED], "Engineering Assessment Accident Reconstruction."Rear-facing camera still frames; [REDACTED] Region Transit ([REDACTED] Bus) Rear Facing Camera, [DATE], 00:15.

¹⁴ [REDACTED], "Statement of [REDACTED]," 3:08:17.

¹⁵ Ibid.

¹⁶ [REDACTED] Transit ([REDACTED] Bus) Forward Facing Camera, [DATE], 00:15.

- PLAINTIFF was approximately 10m from the northeast corner of the intersection at the same instant that the DEFENDANT #2's bus was approximately 10m north of the bus stop.

DEFENDANT (DRIVER)

- Two white vehicles changed lanes in the intersection to pass the stopped transit bus.
- The first, a white Mazda CX 5, saw the stopped bus and fluidly changed lanes through the intersections, passing the white Honda Civic.
- The white Honda Civic failed to identify the stopped bus in time, and stopped behind it waiting for traffic to clear. The Mazda CX-5 passed and then the driver of the Honda Civic changed lanes and moved around the stopped bus.



Figure 8- Two cars changed lanes behind the bus in the intersection to move around it. The hazard of the cars moving into her lane was what drew DEFENDANT attention as she neared the intersection.¹⁷

¹⁷ [REDACTED], "Letter of Opinion: Re: [REDACTED] Incident Date: [REDACTED]," 6; [REDACTED], "Engineering Assessment Accident Reconstruction." Rear-facing camera still frames; [REDACTED] Transit ([REDACTED] Bus) Rear Facing Camera, [DATE], 00:15.

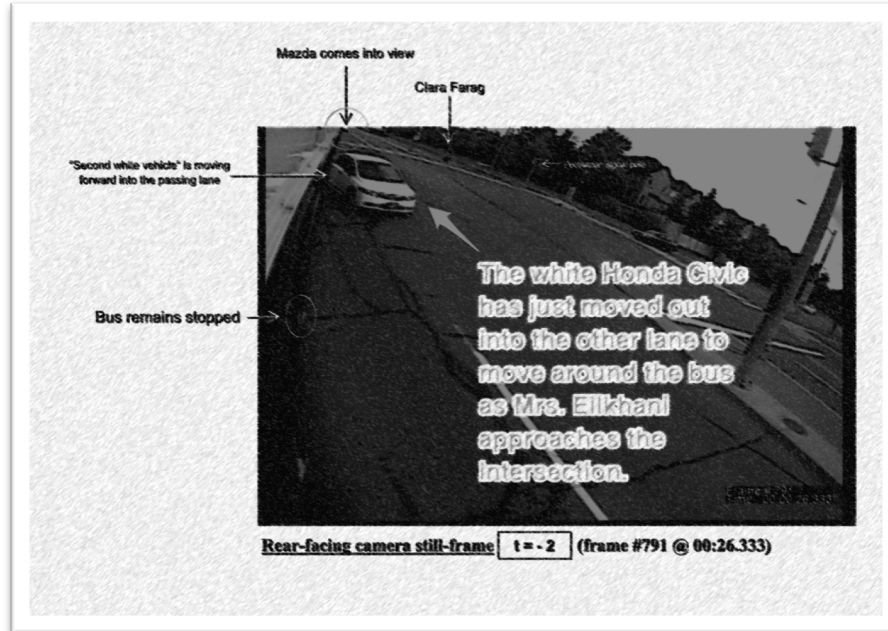


Figure 9- Image showing the white Honda Civic (the second vehicle that moved around the bus) just getting around the back of the bus as DEFENDANT car approached the intersection.¹⁸



Figure 10 - Both the Mazda CX-5 and the Honda Civic stopped after the crash. The drivers were close enough to the intersection that they saw the collision. The Civic driver pulled over and stopped. The Mazda driver did a “U” turn and returned to the intersection.¹⁹

¹⁸ "Engineering Assessment Accident Reconstruction." rear-facing camera still-frames

¹⁹ ██████████ Transit (██████ Bus) Forward Facing Camera, 24 August 2017, 01:04.

HUMAN BIOLOGY & SOCIAL NORMS ²⁰

A child in motion, stays in motion. It's like the child at the park chasing a ball out into the street. PLAINTIFF's goal was to catch the bus.

There is evidence to support that children's peripheral vision is less than that in adults. And even if they do receive the sensory input that warns them of danger, it takes longer to process and react than it would an adult.²¹ Being an adolescent, PLAINTIFF's reduced peripheral vision in combination with her goal, may have contributed to her missing the car that struck her.

"Road Sense" and the dangers posed by motor-vehicles is not innate. It is something taught and learned - often later in life. In other words, it's not like people's fear of heights, or their fear of bears and other predators when walking in the woods.

One's road sense is often over-ridden by society's view of traffic laws. By most, these are seen as technical offenses. It's similar to tax fraud. Speeding, jaywalking, crossing against the light—like tax fraud—are all seen as victimless crimes.²²

For the most part it is socially acceptable to commit these crimes. The real embarrassment is getting caught.

The shortest distance between point "A" and point "B" is a straight line. Because pedestrians are working to be efficient, it is acceptable to jaywalk or cross against the light. Walking to the intersection or crosswalk often means going out of their way. Waiting for the light to change in their favor, often means that pedestrians have to wait.

²⁰ The information in this section is gleaned from both courses and my work as a driving instructor, and my doctoral thesis. The thesis is cited below: Rick Clapton, "Intersections of Conflict."

²¹ Peter A. Hancock, "Do Children Have One Third Less Peripheral Vision Than Adults?," *International Journal of Occupational Safety and Ergonomics* 10, no. 2 (2015); Saskatchewan Prevention Institute, "Pedestrian Safety," <https://skprevention.ca/safety/pedestrian-safety/###>; Washburn & Sharp Shapiro, "Pedestrian Accidents Involving Children," <https://www.hsinjurylaw.com/library/pedestrian-accidents-involving-children.cfm>.

²² Nigel Walker, *Crime and Punishment in Britain: An Analysis of the Penal System in Theory, Law, and Practice*, 2nd, revised ed. (Edinburgh,: Edinburgh U.P., 1968), 33 & 79; Rick Clapton, "Intersections of Conflict: Policing and Criminalising Melbourne's Traffic, 1890-1930" (The University of Melbourne, 2006), 23-25.

It is socially acceptable to speed rather than to be late for a meeting. For PLAINTIFF it was worse to be late for the rendezvous with her friend than it was to cross against the light. And our optimism bias is the very belief that nothing bad will happen to us.

STANDARD OF CARE FOR BUS DRIVERS

The Ontario Bus Driver's Handbook states:

"The most important concern for a bus driver is the safety of the passengers. Professional drivers who carry passengers must observe the rules of the road, understand and practice defensive driving, and take special precautions in loading and unloading."²³

Transit authorities are charged with a responsibility to facilitate the transition from pedestrian to passenger and vice-versa. In the words of the official Bus Driver's handbook, "take special precautions in loading and unloading."

- Scanning the road ahead, identifying bus stops, and stopping at designated stops;
- Using pullouts to move the bus off the travelled portion of the road when available;
- Recognizing potential passengers;
- Monitoring traffic around the bus when alighting and loading passengers;
- Maintaining the schedule or running slightly behind;
- Waiting for passengers that are clearly "running" for the bus.²⁴

At intersections, vulnerable road users are more likely to be sharing road space with cars, trucks and buses. And more than 40% of crashes occur at intersections.²⁵ A high percentage of these crashes at intersections involve vulnerable road users. On our

²³ Ministry of Transportation of Ontario, "Bus Handbook | Safe & Responsible Driving," (10 April 2017).<http://www.mto.gov.on.ca/english/handbook/bus/section3-0-0.shtml>

²⁴ Widespread transit authority policy and public outreach campaigns indicate that pedestrians should be at the stop five minutes prior to departure. Riders that take the same bus regularly DO NOT show up five minutes before departure.

²⁵ U.S. Department of Highways, Federal Highway Administration, "Intersection Safety."
<https://highways.dot.gov/research/research-programs/safety/intersection-safety>

roadways, 25% of traffic fatalities are vulnerable road users (pedestrians, cyclists, and motorcycle riders).²⁶

SMITH SPACE CUSHION DEFENSIVE DRIVING TAUGHT TO BUS DRIVERS

The Smith Space Cushion is a defensive driving model taught to many bus & truck drivers. The system was developed in the 1940s by Harold Smith and consists of the following five keys:

1. Get the Big Picture

- a. While scanning ahead do not forget the sides and rear
- b. Check Your Mirrors Every 5-8 seconds

2. Keep Your Eyes Moving

- a. Scan all intersections before entering

3. Aim High in Your Steering

- a. Look far down the road - 15 second eye-lead time

4. Make Sure They See You

- a. Communicate effectively

5. Leave Yourself an Out

- a. Effectively manage space around your vehicle²⁷

CORRECT DRIVER PROCEDURE FOR MOVING THROUGH INTERSECTIONS

- Scan intersection approximately ½ block before.
- Locate road users.
- Determine the controls and infrastructure of the intersection.
- Determine which road users may intersect with your path of travel.
- Are these road users a potential hazard; triage the hazards. For example, a right turning vehicle that may pull out in front of you.

²⁶ Government of Canada, Transport Canada, "Road Safety in Canada," <https://tc.canada.ca/en/road-transportation/publications/road-safety-canada>

²⁷ For more information on the Smith Space Cushion defensive driving model see: "The Smith 5 Keys," <https://www.drivedifferent.com/smith5keys/#:~:text=The%20safest%20position%20in%20traffic,front%20and%20one%20side%20open.>

- Vulnerable road users - crossing
- If hazard presents itself, cover the brake until you're past
- Immediately before entering intersection, scan left, centre, right, and left again
- Never move into an intersection that can't be cleared. If traffic prevents moving completely through the intersection, wait behind the STOP line until conditions change and you can move through and clear the intersection.

CORRECT PROCEDURE FOR PICKING UP AND ALIGHTING PASSENGERS

- Where is the stop in relation to the intersection?
- Is there a pullout to move the bus off the travelled portion of the road?
- Check mirrors, signal and shoulder check in the direction you're going to move the vehicle.
- Look forward and scan area for:
 1. Pedestrians,
 2. Scooters & Skaters,
 3. Cyclists and other mobility devices,
 4. Motorcycle & Snowmobile Riders,
 5. Cars & Light Trucks,
 6. Trucks & Buses.
- Check mirrors and shoulder check again.
- In time between first check and second, there should be a minimum of 3 turn signal flashes.
- Move the vehicle to the side of the road, rechecking as needed, slow, and stop.

Professional truck and bus drivers are held to a higher standard of care. Despite the often-unpredictable actions of other road users, professional drivers are to scan thoroughly, observe, and communicate. These actions allow them to remain predictable on the roadway. These skills are in addition to obeying traffic laws.

Three of the five keys of the Smith Space Cushion Defensive driving model concern observation. This defensive posturing is most acute at intersections where there's a

high level of activity. In keeping with this activity, there is a greater risk to vulnerable road users. This group includes pedestrians that are moving to and from bus stops.

OPINION

In is my professional opinion that DEFENDANT #2 was remiss in his standard of care in operating a transit bus. His actions precipitated the events that led to the crash that seriously injured PLAINTIFF.

Owing to both the light traffic along the [ROAD] and that the College was on summer break, the bus ran ahead of schedule. Upon approaching the intersection, DEFENDANT #2 failed to identify the pullout at the transit stop. He also failed to see and locate [WITNESS] waiting at the bus stop; and PLAINTIFF approaching the intersection from the east. Owing to both the intersection's geography (only two crosswalks) and time that PLAINTIFF arrived at the intersection, DEFENDANT #2 should have identified her as a potential passenger.

DEFENDANT #2 testified that he stopped on the far side of the intersection because a white car cut him off. He stopped to check for damage on the bus. Three years later, he deposed that he simply stopped to pick up the WITNESS at the bus stop. Checking his mirrors, he deemed that it was safe.

Because the bus had stopped on the far side of the intersection, PLAINTIFF crossed against the light to catch the bus.

Bus drivers are not to stop in intersections owing to the high percentage of crashes that happen in this location - more than 40%. Stopping in an intersection is an unpredictable and dangerous action. This action often causes both distractions and other traffic to move around the stopped bus. In an attempt to prevent crashes, engineers and other transit authorities strategically place bus stops at a safe distance from intersections. Bus stops in high-density traffic areas often have pullouts to move the bus off the travelled portion of the road, thus increasing passenger safety. In conjunction with infrastructure, defensive driving courses move to educate bus drivers about the inherent risk of intersections and the dangers of stopping in this location.

When the bus stopped, two vehicles behind the bus changed lanes through the intersection. The first—a Mazda SUV—identified the bus early and seamlessly changed lanes in the intersection with minimal change in speed. The Honda Civic missed the bus blocking the west southbound lane and stopped directly behind it. There, the driver waited for the Mazda SUV to pass. When the Mazda passed, the Civic driver moved out and around the bus. Just as the Civic maneuvered past the bus, the white

Mazda sedan driven by the DEFENDANT approached the intersection. Her attention was forward, focused on the hazard to her right. That hazard was the cars changing lanes in the intersection to maneuver around the stopped bus.

Both the Mazda and Civic drivers were close enough to the crash that they stopped. The Mazda drove a short distance, executed a "U" turn, drove back, and stopped a short distance from the intersection in the northbound lanes. The Honda Civic stopped approximately 300m in front of the stopped bus. The DEFENDANT attempted to stop her car between the bus and the Civic. She was in shock owing to the crash. Like many, she forgot to put the vehicle in park before exiting. As she got out, the car began to roll away.²⁸ At the same time, DEFENDANT #2 rolled the bus forward a short distance. The point being, that the three vehicles were in close proximity. A change in speed and direction of the first two was going to require attention, assessment, and possible action on the DEFENDANT's part.

DEFENDANT eyes and attention were drawn to the vehicles moving around the stopped bus. And best defensive posturing would have seen the DEFENDANT shoulder checking to see if there was traffic to her right that would potentially cut her off. Because the stopped bus and the maneuvering traffic demanded her immediate attention, she missed the PLAINTIFF crossing against the light. As a result, the PLAINTIFF was struck, sustaining life-threatening injuries.

Sincerely,
Rick August, PhD

Smart Drive Test Inc.
2705 18 St., Vernon, BC V1T 4A3
250-540-8397

²⁸ [REDACTED] ([REDACTED] Bus) Forward Camera, 24 August 2017, 01:02.