7053 Senate Bill 747: Establishes TriMet Crash Advisory Committee



Aaron Sturdy-Wagner, fatally struck by a MAX light rail train June 23, 2003



Danielle Sale, fatally struck by a TriMet bus April 24, 2010

What is a life worth?



CONTACT Darla Sturdy, Founding Member David Sales, Member Oregon and Southwest Washington Families for Safe Streets sturdy.darla@gmail.com | (503) 449-4987 **Table of Contents**

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MAX eve Aaron's I		o Federal govern	nment as injury now liste	d as fatality on
13-1	12/10/2007	102nd MAX	Not on Federal as fatality	
13-2	2/11/08	Farmington & Murray	Not on Federal as fatality	

MAX fatalities not included in .	Aaron's list					
1/24/2009	10th & Washington	1 fatality				
2/17/2010	Wallula Cut	1 fatality				
2/26/2010	173rd & Baseline	1 fatality				
8/16/14	Gresham City Hall	2 fatalities				
6/5/2017	Baseline near 175th	1 fatality				

Note: We don't have records to look at accuracy of bus incident reporting

14. MAX fatalities TriMet record request from Dan Maguire, 1986 - 2017 44-46

Year	TriMet	Federal Database
2002	2 fatalities	1 fatality
2006	1 fatality	0 fatalities
2014	4 fatalities	5 fatalities

15.2018 Bus/Rail Major Collisions (Incomplete; does not indicate who died.)

47-48

Senate Bill

TriMet Crash Advisory Board

My name is Darla Sturdy. Thank you Chair Senator Ginny Burdick and Vice Chair Senator Herman Baertschiger and the committee, for letting me speak today. I will tell you how my son, Aaron Wagner-Sturdy, died June 23, 2003. I will give you the facts of about TriMet's not completing Senate Bill 829, the law that I passed.

I will give you 20 years of facts regarding TriMet's culture, which shifts blame for crashes to the public, finding ways to avoid accepting responsibility for accident prevention. I will also show you inaccuracies in their reporting to everyone to hide critical information on safety. This will show you that we need this TriMet crash advisory committee and why they need to be held accountable and transparent.

My son, Aaron Wagner-Sturdy was awesome. He played six years of baseball, nine years of football, did snowboarding, was fourth in the nation Tae Kwon-do when he was nine, he just made varsity football, was in drama, and him and his sister were the first brother and sister in 100 years to both get first in state in drama. He did all these activities well and carefully, and never was injured. He also was a Christian and he went to church every Wednesday and Sunday, and he always told me how much he loved me. The day he died he was with the youth group that he coordinated himself for that day. So you can see, he had a great future ahead of him.

TriMet said within two hours of killing my son, it came over the media that he was racing the train, when in fact, the police report states from the operator that Aaron was going normal speed on his bike but she thought he would stop.

Darla Sturdy

(Pages 7-9). On June 23, 2003, my son was killed on a crosswalk by light rail. I spent the next three years watching TriMet go in and out of stations. In 2007, I came to the Capitol and passed a law, (pages 10) Senate Bill 829, to have them go back to every crosswalk throughout the entire light rail line to review the safety of the crosswalks and make changes.

(Pages 11-12). In 1999, TriMet did a poll of their operators and they told TriMet how dangerous the MAX stations were from Gresham to Hillsboro.

(Page 13). Korve Engineering did a report in 1999 with recommendations for pedestrian and bicycle grade crossings, as a result of two recent deaths. TriMet was supposed to go back to every crosswalk throughout the entire light rail line and make changes, but they never did.

(Page 14-15). TriMet provided a list of pedestrian and bike fatal collisions, not including cars, from 1986 through 2006. On this you'll see to the right, in 2002 where TriMet had killed two people. If you look at page 15, TriMet turned in only one fatality to ODOT that in turn went to the federal government's National Transit Database. (Pages 16-17) Just recently I found out in 2006 they did the same thing. One fatality was on TriMet's record, but zero were reported to the federal government.

(Page 18). From 1994 to 2006, on light rail only, TriMet had 505 collisions with pedestrians, bicyclists, and cars. The Transportation Committee asked TriMet and ODOT for this information, it took three months for them to get it, and we were all appalled at the total. Right now, I can't get the collision data from TriMet and their lobbyist Aaron Deas from 2007 to 2018.

(Page 19-21). The National Safety Council's guide says that all operators of commercial vehicles are trained to a higher level than the average driver. Secondly the prevention of an accident remains the responsibility of the operator, regardless of the right-of-way, according to the National

Transportation Safety standards. TriMet also embraces these standards in all their training.

With all the information I just shared with you, in 2007 I passed a law in memory of my son, Senate Bill 829 (page 22), having TriMet commission a study by an independent person of a sample of crosswalks throughout the entire light rail line, because they did not follow the recommendations of the 1999 Korve Engineering report.

In 2008 I went in front of TriMet's board of directors to find out how my law was coming along. They said, "What law?" with Fred Hansen, the General Manager of TriMet present, who was with me in Salem when the legislation was passed. Only because of my persistence, they finally did the report. (page 23).

In 2009 we had to go back to the Senate Transportation Committee to review the report on TriMet's crosswalks and stations that needed changes due to my law. At the time of the report there were 65 crosswalks and 45 stations. Actually, there were fifteen more crosswalks that needed changes per Steve Banton, head of safety for TriMet, bringing the total to 80 crosswalks and 45 stations.

(Page 24). March 5, 2009, while we were in legislation, the GM from TriMet, Fred Hanson, stated he would fix the station where my son was killed first and in memory of my son they would go back to the crosswalks and stations every year and re-inspect them to make sure the pedestrian is safe.

(Page 25). After that I went to Senator Rick Metzger, head of Transportation and said, "Since TriMet judges their own accidents and the only time they don't is when their driver is at fault and they have to bring in a third party because they're union." I asked Senator Metzger if we could pick 20 collisions out of the 505 and send them to the National Transportation Safety Board for review. TriMet didn't do this. They selected 20 crashes that were after the period that Senator Metzger wanted examined.

(Page 26-28). TriMet sent them to K&J Safety and Security Consulting, who is an independent consultant, not the federal government as I requested.

(Page 29). On November 23, 2009, a man got hit by a MAX train at the same spot as my son and died, the site Fred Hanson promised would be fixed first. Eight months later, TriMet had not fixed the crosswalks at the Gresham City Hall station. But, they did fix the crosswalk a week after they killed him.

TriMet tried to blame this on the City of Gresham for not granting building permits. On page 30, there is a letter from the City of Gresham indicating that "...TriMet is not required to obtain local permits for work that is conducted within their right of way." So the public was given an untrue statement from TriMet about why this work had not been completed before this man died.

In May of 2010 I met David Sale at a TriMet board meeting, whose daughter (pages 8-9) was killed when a TriMet bus went across three lanes and turned left, hitting five people in a crosswalk. Two died, one was Sale's daughter and the other was her best friend. David and I tried to get TriMet more accountable and transparent to the public. We asked for a task force, not knowing that a task force is a short recommendation, not an ongoing form of oversight. Being who we are from the general public we are just trying to get as much accountability from TriMet as we can and prevent further injuries and deaths. They put together a "Task Force on Safety & Service Excellence" delivering a final report (Page 31) in October 2010. The task force consisted of Tom Walsh, former TriMet General Manager, K&J Consultants, David and myself along with other members of the public, and TriMet employees. It lasted six months, and reached some important recommendations and observations.

Darla Sturdy

(Page 32). It said TriMet should consider a community advisory committee,

(Page 32), change their language about safety to eliminate the word "accident" and shift emphasis to the concepts and terminology around hazard identification, and

(Page 33) take a more proactive approach to safety. It also stated TriMet does not sufficiently analyze data to support identification of hazards and proactively work towards incident prevention.

(Page 34). The task force also recommended that Mr. Sale and I meet and talk with operators about safety. David and I went to board meetings and nothing was ever brought up about us helping, even though we offered our help.

(Page 35-40). In 2015 a girl by the name of Amy Laing, was hit by the MAX train, severed her leg, and suffered many other serious injuries. There was an article in the paper February 25, 2019 that said a jury awarded her \$15 million but she will only get \$682,000 because they have a liability cap.

(Page 41). In 2010, from the law that I passed, TriMet should have put in channelization at the crosswalk where she was hit. This was again suggested in a 2014 update to their design criteria. TriMet only made these changes after Laing was hit. The pattern we see again and again is that TriMet refuses to make changes the law requires until another innocent person is hurt or killed. Even worse, they only make the changes at the crash location.

(Page 42). In the summer of 2018, I went to Senator Laurie Monnes-Anderson looking for some help to get statistics from TriMet on how many train collisions from 2007 through 2017 they had between pedestrians, bicyclists, and cars. They sent back 2011-2017 and said they couldn't find 2007 through 2010. (Page 43). I received from Aaron Deas, the lobbyist from TriMet, a fatality report for buses and MAX. In doing my research Aaron had two fatalities that might just be injuries because they are not in the federal database as fatalities (Page 43, Exhibits 13-1 and 13-2). Then I found six more fatalities that were not on Aaron's list but were in the federal database. So this report is not true and accurate.

(Page 44-46). A separate records request from Dan Maguire at TriMet showed some of the same inconsistencies noted in 2002 and 2006 and another in 2014.

(Page 47-48). In March 2019 I received a list of "major collisions" from Aaron Deas. It doesn't include all collisions, but only a very small portion of a much larger total. Why would TriMet want to hide that total from us?

This overview of TriMet's safety history is meant to give you the facts regarding TriMet's culture, which focuses on shifting blame for crashes to the public. The agency is constantly seeking ways to escape accepting responsibility for accident prevention.

I have two things I'd like to propose. First, what can we do to make sure TriMet complies with Senate Bill 829, since I've proven that they haven't updated the stations and crosswalks as should have been done?

Second, the failure to properly judge accidents has a cascading effect. It makes the process of judging accidents less credible, it doesn't help their future prevention because it states nothing more can be done, and ultimately the public is less safe. For these and many more reasons I have come to you to ask that you please pass Senate Bill 1053

My son had a saying, "Dream big. Don't let the little things get in your way." To me that means, I can't save my son but I can save your loved ones. Thank you very much for letting me speak today.

Testimony



Wagner's memory lives on

ill Kalanges

AGE EDITOR

"Roses are red, violets are blue, mommy osh dang, I love you!"

This poem is just one of many memories ft on Aaron Wagner's bedroom walls after is death.

Wagner was involved in a fatal accident ith a Max train over the summer.

On cards left on Wagner's bedroom desk, iends wrote memories of him for his family. One reads, "My favorite memory of aron is when I was having a bad day. Aaron ud Sean came up to me and said that when was ready, they would sing for me to cheer

In Sean came up to me and said that which was ready, they would sing for me to cheer e up. Even though they never did, I know at someday when I go to heaven (Aaron) ill and that's well worth waiting for." The memory that almost every single

In the memory that almost every single emory card mentions is that no matter what e situation, Wagner always managed to ear a smile on his face. Pictures of agner's smile cover his bedroom walls om top to bottom.

The Tae-Kwon-Do belts, medals and ama awards on the walls make it clear that agner did not just sit back and watch eryone else have fun. Along with Taewon-Do Wagner went on to take up four her sports in high school, including football id wrestling.

And that was just the beginning. Entering high achool, Wagner faced the mflict of deciding whether to stick with restling or start drama. Wagner decided to it wrestling and start what would become very productive drama career.

"Aaron was very enthusiastic," drama acher Sara Dempsey said. "He loved to live is to the fullest."

Last year alone, Wagner was a dancer for 2 2003 spring musical *Godspell*, part of the ige crew for the 2002 fall play *You Can't*

Aaron Wagner, his sister Savanah and mother, Darla Sturdy pose for a quick picture after the siblings make state for the drama depatment. Savanah and Aaron were the first siblings to make state together.

 Take It With You, elected to be on the Drama
 youth group.

 Council for the 2003-04 school year and was
 Wagner

 a state qualifier for his One Act performance
 church in fro

 in Switched at the Crossroads.
 and one of

Wagner's sister, former student Savannah Wagner, also qualified for state, making them the first brother and sister to go to state in the school's history.

Wagner always sought to please his family. Written in his daily drama class reflections, Wagner said, "I hope one day in the future I will get be a lead (in a play) and make my family proud." Wagner never got the chance to have a lead, however his family still supported him with smiles on their faces as he performed on stage.

Wagner's faith was a key aspect in his life. He attended Mountain View Christian Church every Sunday and Wednesday for Wagner chose to be baptized in this church in front of friends and family April 2 and one of his best friends, Sean Garcia, baptized him.

Wagner and Garcia, along with junior Josh Williamson, were known to students as the Three Amigos.

This past summer, Wagner, with his church youth group, traveled to Tijuana, Mexico where they built a church. While there, Wagner was awarded a medal called The Order of Paul. He received this award, which is very seldom given, for always being a gentleman to the ladies.

Wagner was notoriously known for wearing a shirt that read "I like church," and a hat reading "Jesus is my homeboy."

For Prom, Wagner simply donned his "

Beginning this year, five local high

The CAL center offers a program for

juniors and seniors that immerses students

in a two-year intensive study of the funda-

mentals of medical sciences, technology,

engineering and advanced manufacturing.

Students can learn about the medical and

engineering field, while doing hands on ac-

tivities, such as lab experiments or explor-

planned, created and constructed," princi-

"The CAL Center was very thoughtfully

It began when schools including

Gresham, Barlow, Reynolds, Centennial

and Corbett came together five years ago,

and thought of a place where students could

learn lessons they would not ordinarily

ing the medical field.

pal Paul Boly said.

schools will have unique access to state-

of-the-art-technology at the \$7 million Cen-

ter for Advanced Learning (CAL).

Jesus is my homeboy" hat a regular T-Shirt and tie so that his morn would not have to spend money on a tux.

"Aaron taught me that life was too short to not give the loving God your all," sophomore Kaitlyn Dirksen said.

Wagner was an inspiration to many.

Nearly 700 people attended his memorial service and left letters to him and his family. Some did not even know Wagner personally.

Wagner was not one to have his individuality influenced by others. His mother, Darla Sturdy, remembers he would tell her that he loved her no matter who was around.

"(Aaron's death) has been really hard for me. Sometimes I just wish he would walk through the door," Sturdy said. "Its been hard to accept."



SARAH LILLY

PAGE EDITOR

Gophers show support, race sigainst cancer

SHLEY TJADEN

One day of the year the streets are not aced by motor traffic. A day when street ms and light signals are of no importance. This day the streets are covered by a hite cloud stretching over 3 miles. A cloud ade up of over 43,000 individuals racing r the same cause: the cure for breast cancer. Last Sunday, Portland's Waterfront Park id its Twelfth Annual Race for the Cure. nning for the cause were the cheerleading uads and Renaissance.

In 2002 \$1,7 million was raised and this ar's goal was \$2 million.

Donning their Gopher spirit the cheer

squad and Renaissance donated what they could to help cause.

The cheerleaders have remained consistent in joining each year, but now Renaissance and the womens soccer team have both proudly entered the race for the second consecutive year.

Traditionally, participants do not start join the race until later in life, as the risk of breast cancer seems more likely, but these students are well aware of the risk it poses and what they can do to help.

Senior Lacy Patrick, student director of Renaissance helped in organizing the decision to continue entering the Race for the Cure this year.

Patrick hopes Renaissance will continue its participation in this event for future years.

"I feel it is a good idea to have students participate in many community events, especially ones like Race for the Cure," Patrick said.

Each participant was given a T-Shirt. "I want people to realize that high school students care," Patrick said.

CAL begins challenging year

learn in a traditional school environment.

Through construction bonds, the school districts were able to pay for the CAL building to be built.

The students are instructed by teachers and also host local business and industry guest speakers. While attending the CAL center students will be given the opportunity to earn college credits for every successfully completed course.

By the end of their senior year, CAL students will complete a capstone project, which is a senior project.

"The CAL Center provides a place with real life experience. It is not just learning from a textbook, it is learning from the people who actually do it," junior and technology student, Travis Bach said.

In addition, the extensive application process requires a students to submit an essay for admittance.

"I think it is a good place to allow students to specialize with more resources and expertise," counselor Scott Lipner said.



DANIELLE "DANI" NICOLE SALE

March 3, 1988 ~ April 24, 2010

Danielle was born in San Mateo, California on March 3, 1988. She died in a tragic bus/pedestrian accident on April 24, 2010, in Portland, Oregon.

Danielle had wisdom, insight and grace far beyond her chronological age. For example, when she was in the 1st grade, she organized a "Penny Drive" to raise money for the homeless, successfully raising hundreds of dollars. She was able to connect to people with genuine compassion, love, empathy and tolerance.

While she was attending Fort Vancouver High School, she successfully completed the Certified Nursing Assistant Program (CNA) at the Clark County Skills Center. After graduating high school in 2006, she went on to attend Boise State University, dreaming of becoming a registered nurse. After her freshman year at BSU, Danielle made the decision to work full time to pay for her own education, holding down three jobs to attain that goal.

Danielle was blessed to enjoy an extremely close bond to her large extended family, as well as her parents and her three siblings, calling them her "best friends". Because of this bond, she decided to move back to her hometown of Vancouver, to live closer to them and to continue her education at Clark College, with a longer term goal of transferring to a university BSN program.

She was passionate about working with people who had Alzheimers, or were facing their own end of life. When she learned of her mother's diagnosis of MS, she worked diligently to both understand the disease, and what affect that disease has on people. She was curious about the world around her, and loved to travel (especially to Mexico, Hawaii and the Caribbean). For her Senior High School trip, she traveled to Europe, which ignited her desire to discover the world.

Dani had a love and appreciation of God, and stated that she was "not afraid to die" because she knew in her heart that death was a continuation of her journey with Him. Dani had the uncanny ability to act silly and fun, and make other people laugh with her facial expressions, words and/or stories. She was a deep and insightful thinker who loved to have long talks with those close to her about her beliefs, while being open to hearing the thoughts and beliefs of others.

Danielle is the beautiful and loving daughter of David and Jeannette Sale, and much loved sister to Ashley, Kayla and Joshua Sale.

She was preceded in death by her sister Kristy Cassidy in 2004, her uncle Michael Christian in 2009 and her grandfather Dennis Sale in 1997.

She is survived by her grandparents, Jim and Phyllis Strosahl and grandmother, Mary Sale, Aunt Michelle Strosahl (Robert, Abriana), Uncle Brad and Janice Strosahl (James, Brittany), Uncle Doug and Hannah Strosahl (Mason, Katelyn), Aunt Marilyn Christian (Trudy, Mike), Aunt Margie and Jim Pickens (Jessie, Chad), Uncle Bob and Kim Sale (Barrett, Christiana, Kelsey), Uncle Randy Sale (Brittany), Aunt Linda Sale and many other loved second-cousins, aunts and uncles.

It goes without saying that Danielle will be greatly missed by those who loved her and had the pleasure of knowing her. As a gift to her, all donations can be made in her name to Alzheimer's research (www.alz.org) or Multiple Sclerosis Society research (www. NMSS.org).

A celebration of her life will be held on Thursday, May 13, 2010, at 3:00 p.m. at Evergreen Memorial Gardens, 11010 NE 112th Ave., Vancouver, WA 98684. Please sign her guest book at <u>www.columbian.com/obits</u>

SENATE /0 BILL 829

Aaron's Bridge To Safety



WHAT IS A LIFE WORTH?

A copy of the 8/3/99 poll taken of Tri-Met operators regarding their opinion as to the most dangerous Tri-Met stations

Jaseline-Road Gated Crossing - (train / ped)

- . Gresham Area Gated Crossings (train / ped / auto)
- 5. Gated Crossing West Of Beaverton Creek Station (train / ped)
- 6. Gated Crossings On Both Sides Of Millikan Way Station (train / ped)
- 7. Gated Crossings at 117th Avenue And 114th Avenue (train / ped)
- 8. Gated Crossings at NE Elam Young Pkwy East & West (train / ped)

SECTIONS OF TRACK WITH HIGH PROBABILITY FOR TRESPASSER / TRAIN CONFLICT

- 1. Banfield Gateway to Lloyd Center (curved areas during day / all sections at night)
- 2. Westside Tunnel
- 3. Westside All sections 35 mph and above with hills and curves during day / all sections 35 and above at night.
- 4. Cleveland Avenue P/R to 197th & Burnside (all sections at night)
- 5. 197th & Bumside to Gateway (all sections at night)

SECTION #2

PLATFORMS WITH POSSIBLE PEDESTRIAN / TRAIN CONFLICT CENTER OF ADVANCE LEARDING

FIGH

JCHOOL

- 1. Gresham Civic Station NW Civic Way Gresham, OR
- Ruby Junction / 197th Westbound & Eastbound Stations 197th & Burnside Gresham, OR
- Rockwood / 188th Westbound & Eastbound Stations 188th & Burnside Gresham, OR
- 4. 172nd Westbound & Eastbound Stations
 172nd & Burnside
 Gresham, OR
- 162nd Westbound & Eastbound Stations 162nd & Burnside Gresham, OR

Korve Engineering

116 New Montgomery Street Suite 531 San Francisco, CA 94105 (415) 908-1560 (415) 908-1561 Fax

www.korve.com

THIS REPORT STAFED

A FEW EXSAMPLES

< ATTACHED

ON SESIDE

TO FIX SAME LOCATIONS

"Progressive Solutions for the 21st Century"

MEMORANDUM

- To: Harry Saporta, Tri-Met Manager Safety Systems
- From: Lewis Ames, AICP (Ext. 238) Hans Korve, P.E. Joaquin Siques
- Date: October 27, 1999

Re: Tri-Met LRT-Pedestrian and Bicycle Grade Crossing Safety Recommendations

1.0 Report Purpose

2

This memo presents Korve Engineering's recommendations to enhance safety at selected pedestrian and bicycle at-grade crossings of the Tri-County Metropolitan Transportation District of Oregon (Tri-Met) light rail transit system. The recommendations are based on Korve Engineering's (KORVE) North American light rail research, field evaluations of the Tri-Met LRT system, and interviews with Tri-Met staff and light rail vehicle operators. The recommendations are also drawn from KORVE's initial review of the record of two recent fatalities including site visits to the accident sites. Following this initial submittal; a more comprehensive review of the system will be prepared.

Safe travel for pedestrians and bicyclists near light rail systems is similar to safe travel near roadways. Where the routes of pedestrians and bicyclists cross light rail tracks, five conditions should exist:

- 1. Safety built into the design of the roadway, sidewalk and light rail crossings.
- Public safety education that provides information to reduce risky behavior and increases awareness of light rail transit operations and potential dangers around trains.
- 3. Safe and responsible behavior by pedestrians-bicyclists travelling near tracks and trains.
- Safe light rail operations including speed standards, light rail vehicle safety features and light rail operator training.
- 5. Safety enforcement of traffic codes that define unsafe behavior around light rail trains.

The recommendations in this report focus on the first three of these conditions. However, all discussions of light rail safety touch all five conditions.

ISF_NTSERVERVPLANNING\1999\Trimet Safety Analysis 199095\Phase | Folder\Recommendations Report\Ti-Met Memo 102599.Doc

EXHIBITE

Table 2

MAX Pedestrian/Bike Collisions - Fatal MOT INCLUDING CAR'S

January 1, 1986 - December 31, 2006

Ranfield 9. Unicourt
Exclusive Right of Way
Exdusive Right of Way
Exclusive Right of Way
Exclusive Right of Way
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Fychisive Right of Wave
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Exclusive Right of Way
Station Crossing
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Station Platform
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Grade Crossi ficate the total numb fimpacts (i.e., fatali RFGS and Mode	Fatalities by Type of Grade 1 0 0 Crossing Crossing 9 0 Crossing 0 9 0 Crossing 0 9 0 Protected Rail Grade 0 0 1 1 Vehicle follows vehicular traffic lights to govern movement through the intersection. 1 1 1 Vehicle follows vehicular traffic lights to govern movement through the intersection. 1 1 1 1 Unprotected Street-running Grade Crossing - An intersection of street and light rail tracks, located in a mixed rail vehicle does not use traffic lights or other traffic-control devices to guide movement through the intersection. 1	
S. Rail Grade Crossing Incidents And Crossing Incidents please indicate the total number of rail grade cros please indicate the total number of rail grade cros number of impacts (i.e., fatalities and injuries). number of impacts (i.e., fatalities and injuries). RFGS and Mode Crossing Incident	Fatalities by Crossing Injuries by Crossing Protected R signs, bells a vehicle foll vehicle foll rail vehicle foll	
		Antonin di selara

15

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9	2006	00001	King County Department of Trans	LR	PT	0	0	0	0	0	0
41	2006	00008	Tri-County Metropolitan Transport	LR	DO	9	0	1,	0	12)	22
112	2006	00040	Central Puget Sound Regional Tra	LR	DO	0	0	0	0	0	0
113	2006	00040	Central Puget Sound Regional Tra	LR	PT	0	0	0	0	0	0
185	2006	10003	Massachusetts Bay Transportation	LR	DO	6	26	33	0	59	124
349	2006	20004	Niagara Frontier Transportation A	LR	DO	1	0	0	0	17	18
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392	2006	20080	New Jersey Transit Corporation	LR	PT	0	0	0	0	0	0
599	2006	30019	Southeastern Pennsylvania Transp	LR	DO	409	0	0	0	194	603
607	2006	30022	Port Authority of Allegheny County	LR	DO	2	0	0	0	0	2
641	2006	30034	Maryland Transit Administration	LR	DO	0	0	0	0	0	0
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Table 1

PAVE THIES ENFORMATED ON 4/5/2007 TO RECK METSGER

MAX Collisions - Annual

January 1, 1994 - December 31, 2006

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Year	Pedestrian	Bicyclist	Motor Vehicle*	Total	Train Hours	Train Miles	Avg Weekday Boarding Rides	Train-Miles Per Collision
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1995	m		52	L C	TTT/cc	07/1000	24,508	40,260
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	,	7	δč	45	257,644	3,816,932	102, 600	84.821
I otal	76	27	402	505				
Annual Average	5.8	2.1	30.9	38,8			8	

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Numbers of accidents include every incident of contact, including minor fender benders, clipped mirrors, and many other incidents in which no injuries were reported and material damage was minimal.

Train Hours and Train Miles are represented per fiscal year (July-June).

*Note: For each one million train moves through traffic-signed controlled intersections, TriMet experiences approximately 7 incidents involving trains and motor vehicles. Many of the incidents occur when the motorist violates a traffic signal or turns in front of a train.

Table 1

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National Safety Council

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MOTOR VEHICLE

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GUIDE

ACCIDENT REVENTABILIT

The organization may spend a great deal of time and resources on the verification process. For instance, if the driver alleges that a mechanical condition of the vehicle contributed to the accident, the vehicle should be inspected by a qualified mechanic. The inspection should take place as quickly as possible — before the alleged defective part has been repaired or replaced.

Usually, a driver's account of the accident becomes distorted as time passes. Therefore, the safety representative should ask the driver to put the account in writing promptly and to sign and date it.

The safety representative may need to investigate some accidents on the scene, in person. There are no rules to follow. These accidents could involve other moving vehicles, pedestrians, or fixed objects. The representative must decide, for example, when to evaluate the condition of other vehicles in person or when to interview an injured pedestrian.

The representative should conduct any investigation as quickly as possible after the accident. Otherwise, temporary physical evidence such as tire marks and pavement scuffs will disappear. Also, with the passage of time, people will forget or magnify details of the events.

The organization bases its decision of preventability on the information collected. To help ensure that the decision is fair, the safety representative should assemble all pertinent documents in one file relating to the case. The case file should be turned over to the decision-maker in a timely and orderly fashion, according to the organization's established policy.

Making the Decision

The fleet safety professional uses the information collected about the accident to determine a number of things. Among them are the cause of the accident, the driver's performance skill, and the driver's judgment in taking action appropriate to the circumstances. The key decision in terms of avoiding future accidents, however, is preventability.

The person or persons responsible for making the decision of preventability have a great deal to consider. What did the driver do or not do to contribute to the accident? To prevent the accident? Was the driver's defensive action appropriate? How about timing?

The decision-maker answers these questions and classifies an accident into the categories of preventable or non-preventable.

However, some organizations classify certain types of accidents as preventable almost automatically. These accidents are usually preventable since no other drivers were involved. A typical example is when a vehicle is negligently driven off the road.

Whether the decision is preventable or non-preventable, the safety representative should assure the driver of several things. One is that the decision is not arbitrary.

A second is that the classification of preventable is not solely based on or determined by legal liability. In fact, the organization may classify the accident as driver preventable, in spite of the fact that the other motorist received a traffic citation.

Accidents While Turning

Turning movements — like passing maneuvers — require exacting care on the part of the driver. The driver making the turn is responsible for preventing squeeze plays at both left and right turns. The driver may be responsible regardless of whether the accident involved other vehicles, scooters, bicycles, or pedestrians.

A U-turn that results in a collision is a *preventable* accident. Failure to properly position the vehicle for the turn is a sign of error. So is failure to check the rearview mirror and to check pedestrian and traffic lanes.

Drivers sometimes feel that accidents caused by sudden turns by others are not preventable. However, extra precaution must be taken based on information received from the driver of the other vehicle immediately preceding the incident. At the first sign of a sudden turn, your driver should take immediate defensive action. Failure to take all appropriate defensive action indicates preventability.

Accidents Involving Passengers

Passenger accidents are *preventable* when they are caused by careless operation of the vehicle. It does not matter what type of vehicle is involved, nor whether another vehicle was involved. Accidents involving passengers are *preventable* when your driver stops, turns, or accelerates abruptly.

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The accident also may be *preventable* even though the driver took emergency action to avoid a collision. Proper driving prior to the emergency might have eliminated the need for the evasive maneuver.

Accidents Involving Pedestrians

Most court decisions generally rule in favor of any pedestrian hit by a moving vehicle. An unusual route of a pedestrian at mid-block or from between parked vehicles does not relieve a driver from taking precautions to prevent such accidents.

The professional driver must slow down in any area where accidents are likely to involve pedestrians. The driver must adjust speed whether or not signs indicate lower speed limits or show other warnings. This means slowing in school zones, shopping areas, residential streets, and other areas with special pedestrian traffic.

The professional must take precautions in areas where people are using bicycles, tricycles, motor scooters, and skateboards. People using such equipment are often the young, the elderly, or the inexperienced. The driver who fails to reduce speed when this type of equipment is operated within sight-distance has failed to take the necessary precautions to prevent an accident. Keeping within posted speed

the necessary precautions to prevent an activity supplies value realized the proper precaution when unusual conditions call for a voluntary reduction of speed.

Accidents in Bad Weather

Adverse weather conditions are not an excuse for involvement in an accident. Rain, snow, fog, sleet, and icy pavement do not cause accidents. These conditions merely increase the hazards of driving.

Failure to adjust driving to the prevailing weather conditions should result in a ruling of *preventable*.

74th OREGON LEGISLATIVE ASSEMBLY -- 2007 Regular Session

Enrolled Senate Bill 829

Sponsored by Senator MONNES ANDERSON, Representative FLORES; Senators AVAKIAN, BURDICK, METSGER, MORRISETTE, Representatives BOQUIST, ESQUIVEL, LIM, OLSON, G SMITH (at the request of Darla Sturdy in memory of Aaron Wagner-Sturdy)

CHAPTER

AN ACT

Relating to light rail.

Be It Enacted by the People of the State of Oregon:

<u>SECTION 1.</u> The Tri-County Metropolitan Transportation District of Oregon shall commission a study by an independent person with expertise in light rail system safety to review a representative sample of the pedestrian crossings of the district's light rail system and make findings and recommendations to the district regarding the safety of the pedestrian crossings.

Passed by Senate April 12, 2007 retary of Senate

President of Senate

Passed by House May 29, 2007



Received by Governor:

Approved:

2007 Governor

Filed in Office of Secretary of State:

., 2007 Secretary of State

Page 1

Light Rail Pedestrian and Bicycle Crossing Final Report

TRIGMET See where it takes you.

September 8, 2008

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Senate Committee on Business and Transportation 3/5/09

> Disk 1/1 58 Mins



Oregon Legislative Media 900 Court St. NE, RM 35 Salem, Or. 97301 (503) 986-1195

ON THE VERY FRONT OF THES IS FRED HANSON THE GM FOR TRI-MET AND THE ME DARLA STURDY TAUKING ABOUT WHAT THE LAW HAS DONE. THE FRED HANSON STATES THAT THEY WERE FEXENQ GRESHAM STATION FIRST AND IS THE WAS SPEAKENY BUT IN MOV. 2009 THEY KILLED A MAN SAME PLACE AS My son AND THEY HADN'T PUT THE Z CRUSSENGS IN YET -3 MONTHS LATER - NO ONE HOLDS THEM ACCOUNTABLE.

Table 1

PAVE THES ENFORMATED ON 4/5/2007 TO RECK METSGER

MAX Collisions - Annual

January 1, 1994 - December 31, 2006

Year	Pedestrian	Bicyclist	Motor Vehicle*	Total	Train Hours	Train Miles	Avg Weekday Boarding Rides	Train-Miles Per Collision
1994	m	Ţ	18	22	59,112	885,720	24,508	40,260
1995	m	1	23	27	59,268	886,440	27,350	32,831
1996	1	ъ	24	26	59,544	865,920	28,025	33,305
1997	9	н	26	33	59,751	893,520	30,417	27,076
1998	8	ß	42	53	66,713	964,468	40,267	18,198
1999	10	m	41	54	130,231	2,237,688	62,308	41,439
2000	2	0	29	31	143,094	2,558,107	68,250	82,520
2001	10	4	28	42	144,674	2,590,668	73,758	61,683
2002	9	m	, 37	46	183,647	3,171,775	77,825	68,952
2003	13	2	33	48	192,520	3,271,824	81,042	68,163
2004	2	2	52	38	201,235	3,497,866	91,667	92,049
2005	2	4	34	40	263,113	4,056,783	98,250	101,420
2006	5	2	38	45	257,644	3,816,932	102, 600	84,821
Total	76	27	402	505				
Annual Aveřage	5.8	2.1	30,9	38,8				

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Train Hours and Train Miles are represented per fiscal year (July-June).

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*Note: For each one million train moves through traffic-signed controlled intersections, TriMet experiences approximately 7 incidents involving trains and motor vehicles. Many of the incidents occur when the motorist violates a traffic signal or turns in front of a train. EXBHIGIT 1

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3257 Elcano Lane Cantonment, FL 32533-6876

July 17, 2009

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Shelly Lomax Director, Operations Support TriMet 4012 SE 17th Avenue Portland, OR. 97203

Ms. Lomax:

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Sec. 1

مكريك فكماكمة

The following summary report is provided for your review. Twenty (20) TriMet accident reports were provided to me for review. These accidents had previously been reviewed by TriMet using National Safety Counsel Guidelines (NSC) and TriMet was seeking an independent review of the same accidents to determine how effectively TriMet was applying the NSC Guidelines when reviewing accidents to determine preventability. The accident reports (cases) were provided to me without disclosing TriMet's previous determinations on preventability to allow for a "blind" review.

Safety and Security Consulting Services, Inc.

15

As requested by TriMet, I (K&J) reviewed, analyzed and provided an opinion as to the cases preventability or non-preventability based on a strict adherence to standards established and published by the National Safety Counsel (NSC).

Following my independent review of the cases TriMet provided to me a summary of the TriMet determinations for the same 20 cases. A comparison of the K & J determinations verses the TriMet determinations show that 15 of the 20 cases reviewed resulted in the same determinations. This is a favorable corollary of 75%. Of the 5 cases that the determinations did not match (2 bus and 3 rail) between K & J and TriMet, one case was rated more restrictive (preventable vs non-preventable) and 4 less restrictive (non-preventable vs preventable). If the more restrictively rated case is factored into the cases that resulted in the same determinations, a corollary of 80% would be achieved. For your convenience, I have attached a spreadsheet to assist in your review of these determinations.

Based on the TriMet determination data, I have reviewed my case findings on the 5 cases in which the TriMet determinations did not coincide with the K &J determinations. In all five cases, based on the data collected and provided to me, the determinations I have provided would not change, however, the same could be said for the TriMet determinations. The reason for this apparent conflict is that when applying the standards of accident preventability as published by the National Safety Counsel (NSC) a degree of personal experience may have to be included when making a determination.

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In summary, the independently derived determination data between K & J and TriMet compare extremely favorably. The strong corollary between the two supports the fact that TriMet has a strong grasp of the preeminent standards established and published by the National Safety Counsel (NSC).

If I can provide you any additional information, please contact me at (850) 450-1031.

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Sincerely,

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James Tucci, P.E., CSP, WSO-CSSD President/Chief Engineer K & J Safety and Security Consulting Services, Inc.

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TriMet Accident Audit

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		ACCIDENT DATE	9/17/08	11/1/07	11/16/07 **	8/14/08	11/30/07	3/24/08	4/12/09	10/22/02/2018	1/29/09	612/02/07	12/17/08	9/2/07	File 0/23/08/55/6	2/6/09	10/23/07	11/7/08	11/7/08	12/16/08	7/21/08	14
		CLAIM NUMBER	2009-0726	2008-1285	2008-1448	2009-0444	2008-1564	2008-26892	2009-2656	2008-0266	2009-2033	1. 12008-177218 AM	2009-1622	2008-0643	2008-2108	2008-2238	2008-1185	2009-1284	2009-1257	2009-1613	2009-0196	2007-3437
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Menu

WEATHER

Man dies when hit by MAX train in Gresham

Updated Nov 23, 2009; Posted Nov 23, 2009 Subscribe

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0 shares

By Tom Hallman Jr. | The Oregonian/OregonLive

A man who reportedly darted in front of a MAX train at the Gresham City Hall station died about 8 p.m. Sunday when he was struck by a westbound train. Authorities said it appears the man was at the east end of the platform and ran to catch an eastbound train.

An investigation is underway.

View Comments

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Ad Choices



CITY OF GRESHAM

March 28, 2019

Ms. Darla Sturdy

Re: SB 747

Dear Ms. Sturdy:

You recently inquired about any permits TriMet may have applied for with the City of Gresham related to station improvements at the City Hall light rail stop. Specifically, you asked if the City of Gresham's permitting process may have delayed any safety improvements between 2007 and 2009, or later. I checked with our land use and building officials, and learned that we have no records of TriMet applying for permits for work at that stop. Our personnel speculate that this is likely because TriMet is not required to obtain local permits for work that is conducted within their right-of-way.

I could not find any record of a permit being requested, and therefore could not find anything that would indicate that Gresham's permitting or land use processes would have delayed any TriMet safety improvements. Please let me know if you have any additional questions.

Sincerely,

Eric Chambers Government Relations Director

Final Report

3

TriMet Safety & Service Excellence Task Force

10/20/2010

Members of the public have described their need for more collaboration between TriMet and its customers and partners both in decision-making processes and in response to identified issues.

Community conversations will be required to harness the knowledge of all constituents and thereby improve the safety of the region's public transportation for everyone. TriMet should consider a community advisory committee that would allow TriMet's customers and partner stakeholders the opportunity to weigh in as TriMet makes decisions. It would also provide an opportunity for customer engagement on the agency level beyond the limitations of current public testimony to the board. Engagement with the community should also include an improved process for collecting and responding to safety issues that are identified by the public.

5. Engagement with partner organizations

TriMet should continue to strengthen its work with partner organizations in the identification of hazards. Metro's new transportation safety committee may be a resource for TriMet.

6. Language and definitions

Within TriMet there is no common definition of safety or universal understanding of what it means. There is limited ownership of safety in the language TriMet uses, e.g., the frequent use of "accident" when referring to collisions and the perceived comfort with "non-preventable" as a description.

TriMet should eliminate the term "accident" from its vocabulary to the extent practicable, and instead use words that are descriptive of the event in order to highlight the predictable and preventable nature of most collisions and injuries.

Additionally, TriMet should shift emphasis to the concepts and terminology around "hazard identification" from accidents, which underlines a more proactive approach to safety.

Accountability, Empowerment and Support

7. Executive Director of Safety

The Phase I K&J Report identified the need for a director of safety who reports directly to the general manager. The task force believes this position should be elevated to the level of executive director to ensure that the person selected is engaged in leadership conversations and decision making at the executive leadership team level.
Tools, Systems and Processes

12. Safety "Dashboard"



Safety must be measured from a known baseline to improve performance. Currently, TriMet does not sufficiently "mine" or analyze data to support the identification of hazards and to proactively work towards incident prevention.

TriMet should develop a safety "dashboard," comprised of key metrics that can be used to continually monitor and report on safety performance.

13. Data analysis in support of hazard identification and incident prevention

TriMet should use in-house resources to evaluate safety-related data. Data that are collected should be analyzed and distilled into information that can readily inform operator training, service planning, line risk assessments and response to operator feedback.

The new Executive Director of Safety should be responsible for ensuring that the safety program includes a comprehensive framework and methodology to identify risks and hazards, and minimize or eliminate those hazards to prevent incidents. This would include making sure that all operator feedback, incident reports, customer comments and supervisor observations must be communicated in a way to support the safety agenda.

14. Yellow Card program

The Yellow Card program (operator feedback) and the Service Improvement Process (customer feedback) should be reviewed to ensure that safety issues are addressed in a timely manner and that operators are notified of the evaluation/action taken. Further, TriMet should consider wholly rebranding the Yellow Card program to ensure that any improvements are not overshadowed by baggage that may come with its previous title.

15. Systematic "hot spot" review

TriMet should use data to determine where safety "hot spots" may exist or are likely to develop over time, and take a systematic approach to evaluating and treating such "hot spots." Based on employee comments to the Task Force, the Portland Transit Mall is a "hot spot" in need of review.

Such a review would require working with partner organizations to address the relationship between three spheres of influence over safety on the street: (1) the operator and bus equipment; (2) the roadway, track way and related infrastructure; and (3) other users, such as cyclists, pedestrians and motorists.

- Seems to be a disconnect between what management/staff think and what operators think—is it just a breakdown in communication?
- TriMet needs more transparency; have people like Ms. Sturdy and Mr. Sale talk with operators.
- Focus should be on bystander safety; need to give operators the tools they need to change their attitudes; have safe drivers talk to other operators.
- Find more methods (like Operators' Report) to communicate with employees.
- There should be more presence of transit police, management and administrative employees in the "bull pen."
- Need to work on communication around hazards and incidents. What is the tolerance level for these?
- Need improved communication and more trust between drivers and management.
- Lack of understanding of safety and lack of definition of safety; tolerance for lack of safety.

Public Education/Partnerships

- Only measurement tool known in transit that measures public awareness campaigns is reductions in incidents in targeted groups; successful techniques by other transit agencies include: blogging, public chat rooms, weekly safety outreach efforts in schools and community user groups; other approaches can include partnering with DMV to further educate young drivers.
- TriMet has conducted a number of public outreach safety campaigns. These efforts have included: integration of safety messages in existing communication tools and channels, materials for grade, middle and high schools, outreach at venues other than schools for kids (movie ads, skate parks, etc.), partnerships with BTA, partnerships with Operation Life Saver. TriMet spends \$40-\$50,000 annually on these campaigns; TriMet does not routinely measure the impact of these campaigns, but anecdotal information suggests recall of safety messages is high.
- It was suggested that the newly formed Technology Advisory Committee might be a good forum for municipal collaboration.
- Better communication with traffic division and police.
- Need a public awareness campaign as well as law enforcement on the Mall.
- Need to work with the public and with people who have been impacted.
- Have operators make announcements when the bus is turning.
- Need to build trust, reinforcement of being heard and follow-up on customer involvement.



oregonlive.com

Jury awards \$15 million after MAX train severs leg of pedestrian wearing hoodie and maybe earbuds

Updated Feb 26, 2019; Posted Feb 25, 2019

•

6-8 minutes

NOTE: Based on new information, this story has been updated to reflect a different range of amounts Andrea Laing could receive.

A Portland jury on Monday awarded \$15 million to a woman whose right leg was severed by a MAX train as she tried to run across the tracks to catch a train on the other side.

The amount Andrea "Amy" Laing actually will receive could possibly range from as little as \$682,800 or to as much as \$8.7 million, under various Oregon laws applying to the case.

Laing was wearing a hoodie when she was struck by a eastbound MAX train at the Elmonica/Southwest 170th station in Beaverton <u>on</u> <u>Nov. 16, 2015</u>. Although it was disputed at trial, TriMet argued she was wearing earbuds that were playing loud music, as evidenced by an emergency responder who picked them up off the tracks after Laing was hit.

During a 10-day trial, TriMet argued that Laing tried to dart across the tracks without looking both ways first, in a rush to catch a westbound train that had already reached the station. The eastbound train struck her.



In addition to an above-the-knee amputation, Laing also suffered broken ribs, fractures of facial bones and many internal injuries, including damage to her spleen that required its removal.

She spent five weeks in the hospital. A surgeon said she likely survived the catastrophic injuries only because of her youthful age. She was 23 at the time.

Laing's attorneys sought a protective order from Multhomah County Circuit Judge Christopher Ramras to bar the public release of the TriMet surveillance video of the accident. Ramras granted the order. The video was repeatedly played in court, and The Oregonian/OregonLive took still frame photos of it.

Laing sought more than \$27 million in damages.

She contended TriMet and MAX operator Gabe Sutherland were significantly at fault for her injuries.

Jurors found TriMet 43 percent at fault, the MAX operator 15 percent at fault and Laing 42 percent at fault.

Half a dozen jurors who spoke with The Oregonian/OregonLive after the verdict said TriMet failed to listen to recommendations on ways to improve pedestrian safety in a report written by an engineering firm many years earlier.

Jurors criticized TriMet for failing to install features such as a "swing gate" that would force pedestrians to stop and open the gate before stepping onto the tracks. It could increase the likelihood that pedestrians would look both ways, they said.

Jurors said TriMet also could better alert pedestrians when more

37

than one train is pulling into the station: An electronic sign that flashes the word "Trains" with arrows pointing in both directions would serve as an eye-catching warning, they said.

Even so, jurors also found Laing was at fault for failing to adequately look out for the incoming train and take reasonable safety precautions.

But they didn't fault Laing for wearing a hoodie, given Oregon's cold and wet weather. They noted the video surveillance showed a large hood -- and they didn't have evidence that it blocked her field of vision.

Jurors also said TriMet hadn't proven that Laing was listening to loud music. Surveillance video didn't show whether she was wearing her earbuds. What's more, even if she had been wearing earbuds, there's no evidence that they prevented her from hearing the sound of the train's horn, jurors said.

Laing's attorneys, Randolph Pickett and Sonia Montalbano, criticized the train operator for not braking sooner and not sounding the horn earlier. An expert said Sutherland began to blast the horn 1.9 second before impact.

On the morning of the accident, Laing was walking toward the MAX station at 9:12 a.m. when she saw the westbound train -- the one she wanted to ride to work -- had pulled into the station. She began to run. An instant before getting hit by the eastbound train, she appears to see it and rapidly try to slow down. But she couldn't in time and was hit by the corner of the approaching train.

Laing was run over by the train, which took 10 seconds to come to a complete stop.

Laing doesn't have a memory of the accident. She repeatedly left the courtroom when video was shown to jurors or when witnesses described what they saw and the aftermath. TriMet faulted Laing for not heeding warning signs or features designed to get pedestrians to "Stop, look and listen."

"You'd seen the 'Look Both Ways' sign?" TriMet's attorney, Michael Shin, asked Laing.

"Yes," Laing testified.

"You'd seen the tactile strip, the white strip, with bumps?" Shin asked.

"I saw them every day," Laing said. "It became habitualized."

"And you saw the 'Don't Stand Here' sign in the middle of the tracks?" Shin asked.

"Yes," Laing responded.



Andrea "Amy" Laing testified during a nine-day trial in Multnomah County Circuit Court in February 2019.



Deborah Kay Anderson, who was stopped in her car waiting for the train to pass, testified she saw Laing pick up her pace as she stepped onto the tracks.

"It looked like 'poof.' She was gone, she disappeared," Anderson said. "It looked like it sucked her underneath."

Anderson said she and a friend who was riding in her car called 911 and rushed to Laing's aid. Anderson described the train operator as distressed.

"He came out of the train and fell to his knees," Anderson said. "He just turned into a puddle, crying sadness."

The jury awarded \$5 million in economic damages for lost wages and past and future medical costs, and \$10 million in noneconomic damages for Laing's pain and suffering. Because the jury found TriMet and its MAX operator 58 percent at fault, Laing's attorneys likely will argue the agency must pay out 58 percent of the \$15 million, or \$8.7 million.

But TriMet likely will argue the most it's on the hook for is \$682,800. That's the amount Oregon law caps TriMet's liability at, under designated limits for public agencies such as TriMet. The tort claim limit law, however, is hotly debated. Higher courts have been asked to rule on its constitutionality.

TriMet hasn't decided yet whether it will appeal.

"TriMet appreciates the work of the jury and thanks the jurors for their service," the agency said in a statement. "We will consider possible next steps in this case."

Laing's attorneys declined comment.

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-- Aimee Green

agreen@oregonian.com

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Current Criteria – January 2010

		LRV DESIGN SPEED	0
CROSSING	15 MPH AND LESS	16 TO 35 MPH***	GREATER THAN 35 MPH
Ordinary,no special conditions	Detectable Warning only	Basic treatment	Basic treatment; AT
Spactal Conditiona:	Treatments listed be	Treatments listed below are in addition to those above	se above
Moderate Sight Realriction ⁴⁴	1	Channeling; AT; PT gales/barriers	Channeling; AT; PT gales/barriens
Severe Sight Restriction**	1	Channeling; AT; Automatic ped cates	Channeling; AT; Automalic ped dates
High Pedestrian Activity	1	Channeling	Channeling
Extreme perlestran surges, high ped inattention or hurried behavior, school zone; transit centers	Basic (reatment, Channeling	Chameling: AT; PT gates/barriers	Channeling: AT; PT gates/barriers
Angled crossing or odd geometry; mid-block pedestrian z- crossings	Basic trealment; Channeling; PT gales/barriers	Channeling; PT gates/barriers; AT	Channeing; PT gates/bamers; AT
 Basic Passtve 1 markings, Dete Other Passive 1 Basic Active To devices. Other Active To 	Basic Passive Treatments (PT): STOP HERE and D matchings: Detectable Warning: Look Both Ways' sign Other Passive Treatments: Channeling, Swing gates Basic Aaive Treatments (AT): Pedealinan Itaahing sig exciss: Other Active Treatments: Automatic pedealinan gates Other Active Treatments: Automatic pedealinan gates	Basic Passive Treatments (PT): STCP HERE and 'DON'T STAND HERE pavement matkings: Detectable Warning, 'Look Both Ways' signage. Other Passive Treatments: Channeling, Swing gates or Pedeatrian harriers. Basic Active Treatments (AT): Pedeatrian faahing signafights and audible warring desicar. Other Active Treatments: Automatic pedeatrian gates	TAND HERE pavement strian barriers. s artd audible warring
 This chart is inten be considered. Per consistent with all requirements. 	ded as a guide anly. tom safely analysis (nMet design atteria	 This chart is inherided as a guide only, and not a mandate, as to what finalmants should be considered. Parlown select analysis for each location. Apply treatments in a manner consistent with all Triblet design orders and other governing code and regulatory requirements. 	o what treatments should reatments in a manner e and regulatory
" Eliminale sight r	estrictions if feasible.	ته المانة المانية ال	n line-of-sight criteria.
""Crossings imme	diately adjacent to lig	**Crossings immediately adjacent to light rail platforms fall into this calegory	his calegory.

Suggested Updates 2014

Design Criteria Update

CURL FEDESTRUAN CROSSING APPL AND I.R.V DESIGN SPEED COLOR A I.E.SS 15 NPH AND 15 TO 33 MPH ⁴⁴⁻⁶ 35 MPH ⁴⁴⁻⁶ A CONDITION 15 NPH AND 15 TO 33 MPH ⁴⁴⁻⁶ 35 MPH ⁴⁴⁻⁶ A CONDITION 15 NPH AND 15 TO 33 MPH ⁴⁴⁻⁶ 55 MPH ⁴⁴⁻⁶ A CONDITION 15 NPH AND 15 TO 33 MPH ⁴⁴⁻⁶ 56 MPH ⁴⁴⁻⁶ A CONDITION 15 NPH AND 15 TO 35 MPH ⁴⁴⁻⁶ 56 MPH ⁴⁴⁻⁶ CONDITION HAND 15 NPH ⁴⁴⁻⁶ 56 MPH ⁴⁴⁻⁶ 35 MPH ⁴⁴⁻⁶ CONDITION HAND 15 NPH ⁴⁴⁻⁶ 56 MPH ⁴⁴⁻⁶ 35 MPH ⁴⁴⁻⁶ CONDITION MA PT galestructures 77 Jubomsic pod 37 Jubomsic pod Conditions Understructures AT-7 Jubomsic pod 37 Jubomsic pod 37 Jubomsic pod Control Protection AT-7 Jubomsic pod AT-7 Jubomsic pod 37 Jubomsic pod Control Protection AT-7 Jubomsic pod AT-7 Jubomsic pod 37 Jubomsic pod Control Protection A	criteria	Y		GREATER THAN 35 MPH	trent;	Add basic	T	ii AT airc ped	7	siame	anters,	pavement All gated crossings waming get AT	ents should a mazonar ory	criteria		Beneficial Control Con
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702/51-Laing

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				Collisions		Collision	ns per 100,00	0 Miles
Year	Mode	Miles	Vehicle	Pedestrian	Bicycle	Vehicle	Pedestrian	Bicycle
2011	MAX	3,942,295	22	7	3	0.56	0.18	0.08
2012	MAX	3,936,958	35	10	3	0.89	0.25	0.08
2013	MAX	3,919,425	25	10	2	0.64	0.26	0.05
2014	MAX	3,939,912	24	13	3	0.61	0.33	0.08
2015	MAX	4,218,137	36	13	4	0.85	0.31	0.09
2016	MAX	4,535,507	39	9	5	0.86	0.20	0.11
2017	MAX	4,558,157	46	14	2	1.01	0.31	0.04

TriMet Fatalities 2007-2018 Bus/MAX

FROM TRI-MET DAN MAQUERE PRR 2018-380

Fiscal Yr	Description	Date of Incident	# of fatalities	Location
ication de la	14 fatalities involving train & pede	etrian in restr	ricted righ	t of way
FY86	Pedestrian walking in ROW	7/28/1986	1	Halsey & Banfield Freeway
FY90	Pedestrian walking in ROW	1/1/1990	1	NE 21st & Banfield Freeway
FY91	Pedestrian in ROW	3/2/1991	1	NE 53rd & Banfield Freeway
FY92	Pedestrian walking in ROW	2/25/1992	1	NE 29th & Banfield Freeway
FY92	Pedestrian walking in ROW	6/22/1992	1	NE 82nd Avenue EB
FY94	Pedestrian in limited access ROW	5/1/1994	1	NE 60th & Banfield Freeway
-Y99	Pedestrian walking in ROW	6/5/1999	1	East of FairPlex
FY00	Pedestrian walking in ROW	10/11/1999	1	Adjacent to Hwy 217 (Hwy 217 & Walker)
Y02	Pedestrian stepped onto tracks in front of train	1/4/2002	1	Main St./Gresham
Y06	Pedestrian walking in ROW walked into front corner of train	9/28/2005	1	NE 193rd & Burnside
Y08	Pedestrian walking in ROW	11/19/2007	. 1	NE 82nd Avenue EB
Y09	Pedestrian stepped in front of train	4/27/2009	1	West of Goose Hollow
Y10	Pedestrian walking in ROW	2/17/2010	1	Wallulla Cut
Y15	Pedestrian leaned into EB trackway	10/10/2014	1	160th & Burnside
	12 fatalities involving train & pedes	strian at or nea	ar a statio	n
Y00	Rider at crossing in station area	8/2/1999	1	Millikan Way
Y02	Rider fell into side of moving train	2/8/2002	1	PGE Park (18th and Yamhill)
	Passenger in wheelchair rolled off platform and was pulled under train	8/1/2004	1	NE 148th & Burnside
Y06	Pedestrian walked in front of train	5/14/2006	1	NE 188th & Burnside
Y10	Rider stepped in front of train	11/22/2009	1	Gresham City Hall
	Elderly rider leaned against moving train	1/28/2011	1	NW 6th & Davis St Station

	Pedestrian stepped in front of train -		1	1
FY14	accidental	9/5/2013	1	near NE 7th and Holladay
FY14	Pedestrian walked in front of train	12/22/2013	1	At SE Division St Station
FY15	Pedestrian crossing against light, fell into side of moving train	8/7/2014	1	E 122nd Station
FY15	Woman in mobility device and son went between two cars of moving train	8/16/2014	2	Gresham City Hall
FY16	Male trespassed across eastbound trackway and tripped over chain into westbound trackway	1/10/2016	1	Hillsboro Central
	3 fatalities involving train & pedes	trian at interse	ctions	
FY99	Pedestrian at intersection	6/14/1999	1	Baseline Road
FY10	Pedestrian stepped in front of train at intersection	2/26/2010	1	173rd & Baseline
Y17	Pedestrian ran in front of train at intersection	6/5/2017	1	Baseline near 175th
	2 fatalities involving train & bicycli	sts	1	
Y99	Bicyclist in ROW	9/20/1998	1	Cedar Hills Boulevard
Y03	Bicyclist hit by train	6/23/2003	1	Gresham City Hall



	6 fatalities confirmed suicides			
FY01	Suicide at station	4/9/2001	1	Fair Complex station
FY02	Suicide in ROW	10/20/2001	1	East of Beaverton TC
FY11	Male moved into path of train at station	6/27/2011	1	NE 122nd
FY13	Suicide in ROW	9/8/2012	1	near SW Baseline Rd crossing
FY16	Minor in restricted ROW	11/29/2015	1	ROW 300 ft south of Bybee
FY18	Suicide in ROW	12/1/2017	1	ROW near 17th & McLoughlin Blvd.
	3 fatalities involving train & autos			
FY91	Collision with vehicle	1/16/1991	1	NE Holladay & MLK
FY09	Collision with vehicle	1/24/2009	1	10th & Washington
FY18	Collision with vehicle	8/6/2017	1	SE 99th & Burnside
	FY: no fatalities			
FY87	No fatalities			
FY88	No fatalities			
FY89	No fatalities			
FY93	No fatalities			
-Y95	No fatalities			
-Y96	No fatalities			
-Y97	No fatalities			
Y98	No fatalities			
Y04	No fatalities			
Y07	No fatalities			
Y12	No fatalities			
	Updated 8/13/18			TOTAL: 40
		-		CONFIRMED SUICIDES: 6

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between Orenco Ran over a person sitting on the running rail a fatality
lison
6
4th & Morrison PEDstepped off the sidewalk into the side of the train
Hawthorne Bridge PED stepped off the curb and hit the bus
2nd & Burnside PED walked out in front of bus
19th & PED walking beside the bus, fell Hawthorne
82nd & Causey Vehicle turns left in front of bus
Sundail & Rogers Bus rear ended while servicing a stop Circle
Canyon & Weston Bus was rear ended
Rosa Road & Bus rear ended auto Farmington
8th & Division Cyclist ran the z gate and hit the train Place
Lombard & Bus was side swiped
oth & Alder Bicyclist ran into the back of the bus
158th & Merlo Lady (wearing ear buds and lookin at her phone) walks in front of train and hounced off
102nd & Shearer bus turning left hits auto

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8-Jun	Rail	Grand & Holladay	train made contact with bicyclist who was traveling against	
16-Jun	Rail	Bybee MAX station	Derson jumps out in front of train	
24-Jun	Rail [.]	Grand & Holladay	small truck ran red light and made contact with train	no injuries on train - fire evac. train
5-Jun	Bus	Cedar Hills & Leahy	veh rolled back into veh 1	
25-Jun	Bus	92nd & Sandy	Veh 2 hit veh 1 head on	
13-Mar	Rail	17th & Haig	train came in contact with bicyclist	
28-Mar	Rail	Interstate & Alberta	Auto in the intersection	train evacuated
20-Mar	Bus	TV Hwy & Imlay	Bus rear ended	
27-Feb	Bus	Beaverton Hilsd Hwy & Lombard	Bus was t-boned	
11-Jan	Rail	Skidmore Fountain	made contact with PED	cloudy/rain
28-Jan	Rail	Burnside & Stark	car runs run light	evacuated by police into ROW-cloudy wet
31-Jan	Rail	181st & Burnside	train hits PED running in crosswalk	

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