



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Railroad, Pipeline and Hazardous Materials Safety

Washington, D.C. 20594

**Collision of Two Southeastern Pennsylvania Transportation Authority (SEPTA)
Light Rail Vehicles (Trolleys)**

Philadelphia, Pennsylvania

January 4, 2017

NTSB accident number: DCA17FR003

Keys #: 94653

HUMAN PERFORMANCE GROUP FACTUAL FINDINGS

HUMAN PERFORMANCE GROUP

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ACCIDENT SYNOPSIS

For a summary of the accident, refer to the *Accident Summary* report in the docket for this investigation.



Figure 1: Aerial view photo of SEPTA Trolley 9085 (right) and Trolley 9101 (left) after collision (photo courtesy of 6 abc news, Philadelphia, Pennsylvania).



Figure 2: Photo of SEPTA Trolley 9101 with bumper displaced from vehicle and laying on the ground (photo courtesy of SEPTA).

DETAILS OF THE INVESTIGATION

NTSB investigators were on scene investigating the accident with Party Members for four days following the accident (January 6 – January 9, 2017). During the on-scene investigation, seven interviews were conducted. All interviews took place at SEPTA headquarters in Philadelphia, Pennsylvania, and all person interviewed were employees of SEPTA:

1. Striking Operator	January 6, 2017
2. Struck Operator	January 6, 2017
3. Dispatcher	January 6, 2017
4. Senior Director of Surface Transportation	January 7, 2017
5. Supervisor	January 7, 2017
6. Assistant General Manager, System Safety	January 8, 2017
7. Transportation Manager	January 9, 2017

The “Striking Operator” was driving Trolley¹ 9085 when it collided with Trolley 9101, which was being driven by the “Struck Operator.” The Striking Operator interacted with the “Dispatcher” before operating the trolley on the morning of the accident. The “Supervisor” was the first SEPTA employee to arrive at the scene of the accident. He discussed the accident with the Striking Operator while on scene (before the Striking Operator was taken to the hospital in an ambulance). The “Transportation Manager” rode in the ambulance with the Striking Operator to the hospital after the accident.

Investigators spoke with the “Senior Director of Surface Transportation” about the illness policy contained in the *Agreement between Southeastern Pennsylvania Transportation Authority and Transport Workers Union of Philadelphia, Local 234 CTD Transport Workers Union of America/AFL-CIO, October 31, 2014* document. Finally, investigators discussed a number of system safety topics with the “Assistant General Manager, System Safety.”

Transcriptions of these interviews are available on the public docket. In addition, a synopsis of each of these interviews is provided in the NTSB Operations Factual Report, which is available in the public docket. In this report, these individuals will be identified by their titles. Factual content from these interviews, SEPTA documents, and other NTSB investigative efforts, is presented in the remainder of this report.

¹ In this report, light rail vehicles will be referred to as “trolleys.”

Operating Factors

The Striking Operator was 62 years old, and 6 feet, 8 inches tall.

Experience/Qualification

SEPTA records indicated that the Striking Operator:

- Had a CDL license Class B, which was due to expire on 1/2/2018. Vehicles included on the license were bus and “other rail”
- Had an authority date² of 1/27/2014 on his “Operator Qualification Record” for Suburban/Light Rail Training Section
- Completed new hire “Suburban Light Rail Training” on 4/4/2014
- Was “Qualified for Position” on 4/4/2014³

An interview with the Striking Operator revealed that he primarily operated trolleys, but occasionally operated buses as well (p.6, line 13):

Operator: I started in December. It'll be 3 years from today, I think the 27th, I have as an operator, trolley and bus, mainly trolley. At this point I'm currently still trolley, but we do buses every now and then.

NTSB: Okay. So about 3 years as a, as an operator?

Operator: Yes.

² SEPTA indicated in an email that the “authority date” was the date the Striking Operator was hired.

³ SEPTA indicated in an email that 4/6/2014 was the date the Striking Operator finished training and became an operator.

Training

SEPTA records documented the training history of the Striking Operator. At the time of the accident, the operator had completed the following training courses.

Training (Striking Operator)	
<u>Date</u>	<u>Class</u>
1/27/2014	EEO New Hire Orientation
2/25/2014	Surface Rail/Bus New Hire
7/10/2015	Light Rail LRV Re-Certification
8/3/2015	Key Surface Operator
4/29/2016	Light Rail LRV Re-Certification
7/21/2016	Surface City Rail Personal Emphasis Program

According to SEPTA’s 2016 Annual Recertification Training Program for Elmwood/Callowhill Operators documentation, light rail (trolley) operators were required to obtain recertification annually.⁴ Having completed his recertification on 4/29/2016 (see above), the striking operator was certified at the time of the collision. SEPTA’s recertification program contained the following:

- Review of current rules and rule revisions
- Green Line Operations
- Mechanical Push/Tow
- Performance Ride
- Examination

⁴ SEPTA provided a PowerPoint to the NTSB with the file name “2016 Recertification Program -Elm-Cal 1-6-2016.” The PowerPoint was used by instructors to provide on-going training to employees qualified at Elmwood and Callowhill, thereby satisfying the refresher requirements for trolley operators.

Rules Compliance

SEPTA records revealed that the Striking Operator had passed 157 of the 158 (99.4%) rule compliance tests between 1/1/2016 and 12/1/2016. The failure was for the bus mode, and the description was “schedule maintenance.”

SEPTA records revealed that the Struck Operator had passed 185 of the 185 (100%) rule compliance tests between 1/1/2016 and 12/1/2016.

Performance and Safety Records

SEPTA maintains separate performance and safety records, but there is sometimes overlap between the two. For instance, when a trolley operator is involved in a chargeable (see below) accident, a record of the event will be shown on both the operator's performance and safety records.

Accidents are classified by the Director or Assistant Director of Transportation. A Chargeable Accident is one that is adjudged to be solely the result of the operator's actions. A Preventable Accident is one that is not entirely the result of the operator's actions but the operator could have done more to prevent it. An Unpreventable Accident is one in which the operator could have done nothing to prevent it. In addition, the following classifications are also used in SEPTA's performance and safety records:

- Posted – This is used to denote that a report was received and no action was necessary.
- Interviewed – This is used to denote that a report was received and the employee was interviewed about it.
- Counseled – This is used to denote that a report was received; the employee was interviewed; and, the employee was counseled in lieu of discipline.
- PEP – The employee was referred for Performance Evaluation Program (PEP)
- Verbal Warning – The first step in the disciplinary process
- Written Warning – The second step in the disciplinary process
- 1-day Suspension – The third step in the disciplinary process
- 3-day Suspension – The fourth step in the disciplinary process
- 5-day Suspension – A separate discipline process is used for signal violations, the first step of which is a 5-day suspension

The Performance Evaluation Program (PEP) is a one-day evaluation and refresher training course where operators are provided one-on-one evaluation by an instructor from SEPTA's Training Department. Prior to the start of PEP, the Instructor will review the operator's safety and performance record including accidents, customer complaints, etc. The PEP is made up of dialogue and discussion between the operator and Instructor as well as field observations of the operator's driving habits conducted by the Instructor. Operator participation is conducted at the discretion of the Director of Transportation and is meant to be a proactive intervention if the Director feels that the operator's recent performance is substandard.

Striking Operator Performance and Safety Record.

SEPTA performance⁵ and safety⁶ records for the Striking Operator revealed three (3) chargeable accidents in 2016. The chargeable accidents occurred on June 24, 2016, July 6, 2016, and October 21, 2016, and resulted in referral to PEP, a one (1) day suspension, and a three (3) day suspension respectively.

Struck Operator Performance and Safety Record.

SEPTA performance⁷ and safety⁸ records for the Struck Operator revealed two (2) chargeable accidents in 2016. The chargeable accidents occurred on September 28, 2016 and October 11, 2016. SEPTA records indicated that a single interview was conducted on October 14, 2016 pertaining to both chargeable accidents, and that a one (1) day suspension was administered as a result.

⁵ The Striking Operator's Performance Record is shown in Appendix A

⁶ The Striking Operator's Safety Record is shown in Appendix B

⁷ The Struck Operator's Performance Record is shown in Appendix C

⁸ The Struck Operator's Safety Record is shown in Appendix D

Behavioral Factors

Striking Trolley Operator Work/Rest Prior to the Accident

SEPTA records disclosed the Striking Operator’s work schedule. On the day of the accident, January 4, 2017, the operator went on duty at 11:30 am, and was on duty for 1 hour and 26 minutes when the accident occurred at 12:56 pm. Table 1 shows additional data regarding the Striking Operator’s work schedule.

Table 1. Striking Operator Work Schedule

LOCAL CLOCK TIME	LOCAL DATE													
	12/22/2016	12/23/2016	12/24/2016	12/25/2016	12/26/2016	12/27/2016	12/28/2016	12/29/2016	12/30/2016	12/31/2016	1/1/2017	1/2/2017	1/3/2017	1/4/2017
12:00:00 AM					12:33 AM						12:34 AM	12:33 AM		
1:00:00 AM														
2:00:00 AM														
3:00:00 AM														
4:00:00 AM														
5:00:00 AM														
6:00:00 AM														
7:00:00 AM														
8:00:00 AM														
9:00:00 AM														
10:00:00 AM														
11:00:00 AM	11:07 AM	11:07 AM			11:07 AM			11:07 AM	11:07 AM			11:07 AM		11:30 AM
12:00:00 PM			12:12 PM											12:56 PM
1:00:00 PM	1:22 PM	1:22 PM			1:22 PM			1:22 PM	1:22 PM			1:22 PM		
2:00:00 PM				2:29 PM						2:26 PM	2:29 PM			
3:00:00 PM	3:09 PM	3:09 PM			3:09 PM			3:09 PM	3:09 PM			3:09 PM		
4:00:00 PM														
5:00:00 PM														
6:00:00 PM														
7:00:00 PM														
8:00:00 PM														
9:00:00 PM	9:16 PM	9:16 PM			9:16 PM			9:16 PM	9:16 PM			9:16 PM		
10:00:00 PM			10:32 PM											
11:00:00 PM														
TIME ON DUTY 1 (hh:mm)	2:15	2:15	10:20	10:04	2:15			2:15	2:15	10:08	10:04	2:15		1:26
TIME ON DUTY 2 (hh:mm)	6:07	6:07			6:07			6:07	6:07			6:07		
TOTAL TIME FOR DAY	8:22	8:22	10:20	10:04	8:22			8:22	8:22	10:08	10:04	8:22		1:26
TIME OFF DUTY (hh:mm)	n/a	13:51	14:56	15:57	10:34			61:51	13:51	17:10	13:55	10:34		38:14

Note. Green shading is the time the employee was on duty. Yellow shading is the time of the accident.

Investigators asked the Striking Operator about his sleep schedule during the 72 hours prior to the accident, but he was unable to recall this information beyond the night leading up to the accident. The language the Striking Operator used to describe his sleep on the night of January 3, 2017 is included in the following accident narrative.

Accident Narrative

January 3, 2017 (Tuesday)

SEPTA records showed that the Striking Operator did not work on the day prior to the accident. In an interview with investigators, the Striking Operator indicated that he woke up around 9:00 or 10:00 a.m. (p.54, line 22). Investigators asked the Striking Operator about how the days leading up to the accident, to which he responded (p.37, line 17):

Striking Operator: Well, Tuesday and Wednesday is my only day off. So Tuesday and Wednesday, if I'm not working, I'm running around running errands.

NTSB: Um-hum. Um-hum.

Striking Operator: You never have time to take care of your household things. So I know I took my kids out, went to the store, and that's when I started -- it was a wet rainy day, you know. That's what made me started coughing and it seemed like it got progressively worse. And all I ate that day was a popsicle.

NTSB: And what day was that?

Striking Operator: Tuesday.

NTSB: Tuesday.

Striking Operator: So that was the only thing that -- you know, it went down soft. It made my throat feel better.

The Striking Operator reported the following sleep schedule that night (p.40, line 21):

Striking Operator: I went to bed around 5:00 [p.m.] on Tuesday because I wasn't feeling good.

NTSB: Yeah.

Striking Operator: And I woke up like around 2:00, checked on the kids, went back to sleep and woke up around 8-something.

January 4, 2017 (Wednesday)

The Striking Operator reported feeling better on the morning of the accident (p.55, line 16):

NTSB: How did you feel when you woke up at 8:00 a.m.?

Striking Operator: I felt a whole lot better because the coughing was incapacitated at that point, you know. I was -- it was -- you know, because when you're coughing up phlegm and you just can't, you know -- so as long as I was able to blow my nose, it made me feel better, you know, warm washcloth compresses and stuff like that.

NTSB: Okay.

Striking Operator: Coughing was when you lay down, you know, you start coughing, I kind of like slept in a half up and half down position, you know, so I can get that relief.

The Striking Operator reported taking an over-the-counter (OTC)⁹ cold or flu medication on the morning of the accident (p.23, line 5):

Striking Operator: Yeah, over-the-counter.

SEPTA: Okay. Do you recall what you were taking?

Striking Operator: I put it in tea. So it was cold or flu medicine tea I take.

SEPTA: Do you recall the last time -- when the last time was you took the cold and flu medication prior to doing the job on Wednesday?

Striking Operator: The morning before I left.

The Striking Operator estimated that he took the cold medication around 9:00 a.m. (p. 60, line 7).

⁹ OTC medications are medications that have been found to be safe and appropriate for use without the supervision of a health care professional such as a physician, and they can be purchased by consumers without a prescription. <https://www.fda.gov/AboutFDA/Transparency/Basics/ucm194951.htm>

The Striking Operator indicated to investigators that Wednesdays were often an “extra day” for him. That is, Tuesdays and Wednesdays were his regularly scheduled days off, but he often worked on one of those days for overtime pay. The operator indicated that he typically put these overtime request in about a week in advance. Investigators discussed with him the notion of taking January 4, 2017 (Wednesday, the day of the accident) off (p.87, line 21):

NTSB: Did it ever cross your mind to take the day off?

Striking Operator: No, I wanted to work Wednesday.

Upon his arrival at work, the Striking Operator checked in with the Dispatcher before departing on his trolley route. Investigators spoke with the Dispatcher about this interaction (p.11, line 33):

NTSB: Okay. I -- do you recall, did Mr. Anderson have his paperwork with him when he checked in with you? Are you -- do you recall that at all?

Dispatcher: No. I remember him coming up to the window saying, Rodriguez, I'm here; I have run so and so. And I looked him, I said, okay, thank you, Mr. Anderson, and I just checked him off and he went on his -- he went on the street.

NTSB: Okay. And –

Dispatcher: I didn't have a conversation with him, just checked him off.

NTSB: And just to clarify, it's you checking him off on a sheet that you have –

Dispatcher: Um-hum [an affirmative response].

Investigators went to the depot where the Striking Operator and Dispatcher interacted on the morning of the accident. NTSB investigators took a photo of operators checking in with dispatchers (see Figure 3), and of the glass window that separated them (Figure 4).



Figure 3: Photo of operators interacting with dispatchers at a SEPTA depot in Philadelphia, Pennsylvania (photo taken by Michael Hoepf, NTSB).



Figure 4: Photo of the depot glass, with three holes, that separated dispatchers and operators (photo taken by Michael Hoepf, NTSB).

Two NTSB human performance investigators engaged in conversation on opposing sides of the glass, noting that the barrier reduced the volume of voice communications.

Prior to the accident, the Striking Operator reported feeling groggy (p.16, line 14):

NTSB: Do you remember how far in front of you he was when you got onto Lancaster?

Striking Operator: No. Actually, I probably started -- by the time he got on Lancaster, he was, he was -- I didn't go behind him when he went through the light. He was already through the light. But I did see him in front of me, and then, you know, when I was driving past 36th Street, 37th Street, I started getting groggy, and that's when, you know.

NTSB: Okay.

Striking Operator: I opened up and I see the trolley in front of me and I tried to slam on the brakes.

The Striking Operator made the following statements about his actions after the collision (p. 74, line 15):

NTSB: Okay. Now after the trolleys, after the trolleys hit, what did you do?

Striking Operator: I was kind of out of it.

NTSB: Okay.

Striking Operator: It took me a couple of minutes to get myself alert. Like I said, the noise on the overhead. So I don't know -- you know, I don't think I like blanked out, but I know I was extremely -- I wasn't alert to what was going on, you know.

NTSB: Okay. What's the next thing you remember going on and what did you do? Obviously you went to the hospital. What happened between the time of the hit and going to the hospital?

Striking Operator: By that time, I know I opened the doors and I seen a passenger on his side that was injured, you know.

NTSB: Um-hum.

Striking Operator: But then you -- you had people coming up on the trolley by that time, so, you know. But I was still not really cognizant of myself, you know. I was still kind of, you know, and I was laying down, you know. I was like extremely, you know, and I don't think it was the impact. I think -- I don't know if it was all part of the whole process of what I just, you know.

NTSB: Okay. So you're laying there. What's the next thing?

Striking Operator: Well, I sat there for a while and just had my head down on the thing because I was -- I didn't -- my energy level was, you know, zapped.

NTSB: Okay.

Striking Operator: So by that time, people were coming up and they was asking questions, are you all right, you know. You know, I didn't feel no physical pain on myself but I was more or less concerned with the other people but I couldn't, you know, really get up and assist them.

The Supervisor stated the following regarding his interaction with the Striking Operator after the accident (p. 8, line 2):

NTSB: Can you elaborate on those conversations?

Supervisor: Well, I spoke to the operators. Initially, I asked them, you know, how were they, you know, if they were feeling good, then I asked them what took place, how did the accident occur, okay. The one that was sitting was basically the one that wasn't strike -- it was the -- I'm sorry. The one that was struck, he was just sitting at the light, okay, at the time of the strike. I spoke with the one that did the striking. He initially told me that his foot slipped off the brake pedal, okay, then when I went back to talk with the operator again, he recanted his story. He stated that due to medication that he had taken prior to his scheduled time caused him to black out, which caused his foot to slip off the brake pedal.

During my conversation with the operator, he seemed very -- he wasn't coherent at all. He even gave me the wrong account number. It was a different account number. I distinctly asked the operator his account number. He gave me the wrong account number. It was just one digit off, but he gave me the wrong account number. The rescue and paramedics came, spoke with the operator, took the operators down to -- after system safety spoke with the operators, they took them to the hospital and stuff like that.

Investigators spoke with the Transportation Manager (who estimated that he arrived on the scene of the accident around 1:45 p.m.) about his interaction with the Striking Operator after the accident. He indicated that (p.6, line 24):

Transportation Manager: I was in rescue with him. Rescue was right around the corner -- the hospital from, from the accident, in like two minutes. We was in rescue. They were doing his vitals and everything like that. I was on the bus with him when he was being interviewed by the accident -- conducted the police accident investigating unit also. Once in the hospital, they put him in a wheelchair. Him and the other operator was in a wheelchair. We was in the waiting room.

I wasn't sitting that far from him and he just said to me like, "[Dang], I blacked out." And that was it. Nothing more, nothing less.

The Transportation Manager indicated that the Striking Operator seemed coherent to him after the accident (p., line 6), but was shaken up (p.12, line 11):

NTSB: Okay. I think you were asked earlier how he seemed to you in terms of being coherent and did -- how, how did he seem to you?

Transportation Manager: He seemed shaken (ph.) up. I mean he just had a really bad accident. I mean he wasn't cracking jokes or anything. He just was like -- I guess he was like, "Wow, I can't believe what just happened." You know, he wasn't upset. He wasn't crying. He was just like, you know, like -- I guess to say he was like -- I guess like -- I guess sucking it all in.

Illness

SEPTA Fitness For Duty Policy

As discussed in the medical factual report for this accident, fitness for duty of operators is covered under the SEPTA Rail Operations Division, Authority Standard Rules (ASR) govern all SEPTA rail employees. ASR-4, Fitness for Duty which states:

Employees must not perform any service while affected by any condition that could impair their ability to perform their duties properly. Such conditions include fatigue, use, and effect of over-the-counter medications, personal situations that affect alertness or one's ability to concentrate, etc. Employees must notify the Authority Medical Department of any condition not already on record that could impair their ability to perform their duties.

SEPTA Attendance Point System

The SEPTA/Transport Workers Union Attendance Point System is a collectively bargained system that provides employees the opportunity to improve their records through steady attendance and attempts to provide an objective basis for the imposition of discipline for non-attendance. The system was first introduced in 1989. The last revision has been in effect since 1 November 1998.

Points are assessed against employees for various incidents of non-attendance. Examples of attendance deviations and subsequent points assessments include:

- Sick Turn-Ins – 2 points
- Misses (Lateness) – 5 points
- Pattern Sick Turn-Ins – 4 points

No points are assessed for approved FMLA-related absences. For every month in which an employee has no incident of non-attendance covered by the point system, the employee's point total will be reduced by two (2) points. Additionally, employees can earn a paid day off for every 180 days of perfect attendance as well as an unpaid day off for every 90 days of perfect attendance.

An employee who accumulates twenty (20) or more points will be subject to progressive discipline each time his/her point total reaches twenty (20). The imposition of progressive discipline will reduce the employee's point total by ten (10). Employees that accumulate fifteen (15) points are immediately counseled by their Director to ensure they are aware of their proximity to the discipline threshold.

The point system was developed as a means for both SEPTA and TWU to afford employees the opportunity to report off sick whenever they are not well enough to work while maintaining an objective means for management to monitor employees for substandard attendance. Employees may report off sick at any time prior to or during their shift. The employee may volunteer to work one of their days off in order to "make up" the day lost due to illness. If the employee works that day the points are expunged. Employees are given sixty (60) sick days each year and the days are cumulative. The point system is intended to maintain a fair and objective measurement of whether employees' attendance is within acceptable standards and ensures equitable treatment of all employees.

Approximately 10% of SEPTA's 221 Trolley operators utilize the sick leave policy each week. Of 141 operators at the Elmwood District, 92% received points for attendance deviations while only 8% received discipline for substandard attendance in CY 2016. Of the 80 trolley operators at Callowhill District 81% received points for attendance deviations while only 4% received discipline for substandard attendance in CY 2016.

To gain additional insight about the SEPTA Attendance Point System, investigators spoke with the Senior Director of Surface Transportation (page 5, line 9):

NTSB: During yesterday's interviews with SEPTA operators, we heard reference a couple of times about a point system that's in place and they were talking in reference to if there are absences or if there are incidents. And so, if you can shed some light about the policies that are in place and how it affects these trolley operators?

Senior Director of Surface Transportation: Well, it's negotiated with the union. It's in the labor agreement and it's -- really, there's two relevant things in the labor agreement and actually a third thing that was not spoken of yesterday. You have your Attendance Point System which outlines in very specific language both penalties and credits for having absences that aren't FMLA approved. And the other thing that wasn't gone into, but is important is -- and again, it's negotiated -- is the sick leave policy, you know, how you accrue sick leave and the matters that affect that accrual. And then, finally, you know, with any sort of illness that's documented by a physician, it could be a single absence or it can be a condition that will allow you to have intermittent leave of a certain frequency and duration, which takes you say outside the whole attendance policy. You don't, you do not get a point for a serious illness or a condition, like a recurrent condition.

NTSB: Okay. So, again, to meet that criteria, you would need physician approval?

Senior Director of Surface Transportation: Correct.

NTSB: Okay. And if you don't have physician approval, can you walk us through that process?

Senior Director of Surface Transportation: Yeah. So, if I have an absence, I called out today, and you have 15 days to get the physician's documentation, but if you don't -- if you chose not to do that or if it's not done, then you are issued two points in this points, the Attendance Point System.

NTSB: I'm sorry. The 15 days, how does that work?

Senior Director of Surface Transportation: You have 15 days to have the FMLA request completed and submitted.

NTSB: Before the absence occurs?

Senior Director of Surface Transportation: After the absence.

NTSB: Oh, okay.

Senior Director of Surface Transportation: Yeah. Oh, yeah.

NTSB: So, initially, you may have a 2-point deduction, but if you end up seeing a physician?

Senior Director of Surface Transportation: It would just be adjusted.

NTSB: Okay.

Senior Director of Surface Transportation: That's the lingo we would use for going in the computer and -- of removing the two points. It's just adjusted and then you would note the -- every approval has a number assigned to it, so it would be adjusted as per FMLA such and such number.

The Senior Director of Surface Transportation went on to remark that he believed that the point system was a “good system,” and added that “I think it works. People do have the opportunity to care for parents, children, you know, as needed.” (p.8, line 55). Much of the remainder of the interview pertained to how the system functioned under a variety of different situations.¹⁰

Striking Operator Usage of the Attendance Point System

SEPTA records revealed that the Striking Operator had used the Attendance Point System multiple times in 2016. One of these instances was for personal illness: on 8/27/2016 he did not report for work and was given two points. The SEPTA Points History Report for the Striking Operator revealed a balance of 0 (zero) points on 12/01/2016. The report showed that he had not exceeded 6 (six) points at any time during his employment with SEPTA.

¹⁰ Interested readers may refer to the full transcript of the interview, and associated errata sheet, which can be found on the public docket.

Striking Operator Perception of SEPTA Illness Policies

When investigations spoke with the Striking Operator about how he felt, he reported emotional distress regarding SEPTA's illness policies (page 71, line 18):

*NTSB: Hey, it's Dr. [NTSB medical doctor] again. How are you now?
Like how are you feeling now?*

Striking Operator: Physically -- I'm more emotionally distraught than I am physically, you know. I'm used to working in pain, you know, it's just something you do. It's, you know -- I come to work, push yourself because you got to work, you know. You don't have a system that's set up to call out when you feel like it because everything is -- you take a hit for it.

NTSB: Um-hum.

Striking Operator: So you try to work as much as you can, you know.

NTSB: Okay.

Striking Operator: If you really need to call out, then you call out.

When investigators followed up on the topic, the Striking Operator commented further (p.81, line 15):

NTSB: A little bit ago you said -- you used the phrase, taking a hit for calling off.

Striking Operator: Um-hum.

NTSB: Can you -- what does that mean?

Striking Operator: Well, we get points for stuff. It goes in our record. You know, if you have a miss, you know, if you miss your scheduled thing, you take like big points. Nobody wants to do that. They'll call out before they do that. Because the hit is less if you call out than if you miss your run. And that's -- I don't know if that's all part of the negotiations, you know, because I try to keep my call-out schedule exemplary. So I very rarely call out.

NTSB: Got you. Got you. So you -- so that's kind of a -- so you try to stay out of -- you know, you try not to accumulate points and that sort of a --

Striking Operator: Well, I try to keep something clean. It's hard to keep anything clean but I try to keep something -- whatever I can salvage, I'm trying to keep clean, you know.

Task Factors

Passenger Loading

The Striking Operator reported light passenger loading on the day of the accident due to a trolley in front of him picking up most of the passengers (p.11, line 18):

NTSB: How was the passenger loading that day? Do you remember?

Operator: Very light for me. Very light for me. The trolley had just went down the street so there wasn't too many people there to -- by the time I left.

Weather

The weather at the time of the accident was partly cloudy, 54 degrees Fahrenheit, and visibility was clear. Refer to the *Weather Study* in the public docket for this investigation for a comprehensive report.

Medical

Refer to the *Medical Factual Report* in the public docket for this investigation.

Video Report

Refer to the *Video Report* in the public docket for this investigation for a text description of the video recorded by the cameras on board SEPTA Trolley 9085.

Post-Accident Actions

SEPTA provided the following description of post-accident corrective actions either completed or in progress:

- *33% of SEPTA Clerk Receivers have been trained on Drug & Alcohol recognition for conducting the check-in process at the reporting window.*
- *One district has had the check-in window reconfigured to give Dispatchers and Clerk Receivers the ability to conduct face-to-face check-ins with operators without the partition.*
- *Special emphasis was placed on Efficiency Testing on trolley operators with respect to the rules governing following distance during street operations. Over the course of a month, 71 observations were made by System Safety & Transportation Department staff.*
- *Following the discovery of the emergency button issue during the NTSB investigation, SEPTA Engineering developed a fix. All vehicles have received the modification but for the 2 accident vehicles and 4 double-end vehicles currently in vehicle overhaul (VOH). The VOH vehicles will receive the modification during VOH.*
- *An OTC Medication advisory was distributed Authority-wide on 22 June 2017.*

Appendix B - Striking Operator's Safety Record

Form 6290 Revised 12-16-78

SAFETY RECORD SUMMARY

LAST NAME: [REDACTED] FIRST: [REDACTED] MIDDLE: [REDACTED] AUTHORITY SENIORITY: [REDACTED] ACCOUNT NUMBER: [REDACTED]

1st Depot: **Callowhill** 2nd Depot: _____ 3rd Depot: _____

Seniority: Rail [REDACTED] Seniority: Rail _____ Seniority: Rail _____

Bus _____ Bus _____ Bus _____

DATE OF ACCIDENT	CODE	PASS. WIT.	DESCRIPTION OF ACCIDENT	DATE INTERVIEWED	INTERVIEWED BY	C-P-U	PTS.	CUM. PTS. 12 MONTHS	DISCIPLINE - REMARKS ALSO POST ON PERFORMANCE CARD
3-27-14	14	5-2	Commer w/ Parked AUTO	-	[REDACTED]	S	-	-	STUDENT IN TRAINING
4-25-14	15	4-0	Commer w/ Parked AUTO	GA 5-16-14	[REDACTED]	C	-	-	WRITTEN WARNING
7-9-14	02	15-	CAR U TURN in front of Trolley	-	[REDACTED]	U	-	-	POSTED
9-8-14	52	15-0	Commer with Truck	9-23-14	[REDACTED]	P	-	-	INTERVIEWED
3-7-15	66	30-0	PEDESTRIAN Fell on Track	3-18-15	[REDACTED]	-	-	-	INTERVIEWED
4-8-15	02A	4-1	AUTO Out of Trolley	-	[REDACTED]	U	-	-	POSTED
5-15-15	84	1-0	SICK PASS.	-	[REDACTED]	-	-	-	POSTED
4-23-15	71	30-0	INCIDENT with w/c Pass	-	[REDACTED]	-	-	-	POSTED
6-28-15	84	40-0	SICK PASS.	-	[REDACTED]	-	-	-	POSTED
7-3-15	41A	30-0	Pass Fell boarding F-Door	-	[REDACTED]	-	-	-	POSTED
8-20-15	60	11-0	Collision w/ Parked Auto mirror	9-8-15	[REDACTED]	U	-	-	INTERVIEW
9-24-15	4A	40	Collision w/ Parked Van	10-20-15	[REDACTED]	P	-	-	INTERVIEW
10-7-15	76A	15-0	Pass closed in D 2 Door	-	[REDACTED]	-	-	-	POSTED
10-5-15	12A	8-0	Collision w/ Parked Suburban Auto Broken	10-20-15	[REDACTED]	P	-	-	See Performance with written warning
10-20-15	60	25-0	Police search bus for Suspect	-	[REDACTED]	-	-	-	POSTED
10-20-15	22	2-0	Auto slams into rear of trolley	-	[REDACTED]	U	-	-	POSTED
10-30-15	89	20-0	Pass cut fingers on handrail	-	[REDACTED]	-	-	-	POSTED
11-3-15	2-A	20-1	Contact w/ AUTO	-	[REDACTED]	U	-	-	POSTED
11-18-15	86	70-0	Pass Robbed on trolley	-	[REDACTED]	-	-	-	POSTED
12-4-15	89	40-0	Pass went to board via wheel chair lift	-	[REDACTED]	-	-	-	POSTED
1-3-16	33	3-0	AUTO HIT REAR OF Trolley	-	[REDACTED]	U	-	-	POSTED
1-15-16	83A	7-0	Panel opened + Hit Pass.	-	[REDACTED]	-	-	-	POSTED
1-24-16	12-B	3-0	Truck Contact L side trolley	-	[REDACTED]	U	-	-	POSTED

Form 6290 Revised 12-16-78

SAFETY RECORD SUMMARY

LAST NAME: [REDACTED] FIRST: [REDACTED] MIDDLE: [REDACTED] AUTHORITY SENIORITY: [REDACTED] ACCOUNT NUMBER: [REDACTED]

1st Depot: **Callowhill** 2nd Depot: _____ 3rd Depot: _____

Seniority: Rail [REDACTED] Seniority: Rail _____ Seniority: Rail _____

Bus _____ Bus _____ Bus _____

DATE OF ACCIDENT	CODE	PASS. WIT.	DESCRIPTION OF ACCIDENT	DATE INTERVIEWED	INTERVIEWED BY	C-P-U	PTS.	CUM. PTS. 12 MONTHS	DISCIPLINE - REMARKS ALSO POST ON PERFORMANCE CARD
6-24-16	52	20-0	Suburban Bus 5762 14 Hwy Driver mirror	7-6-16	[REDACTED]	C	-	-	PEP
7-6-16	57	10-0	Contact at Parked AUTO	8-11-16	[REDACTED]	C	-	-	See Performance
8-25-16	87	20-0	Alleged Reckless Driving	-	[REDACTED]	-	-	-	POSTED
9-2-16	64	20-0	Pass Fell	-	[REDACTED]	-	-	-	POSTED
10-7-16	84	50-0	Pass Altercation	-	[REDACTED]	-	-	-	POSTED
10-24-16	21	25-0	Contact w/ SUB	11-25-16	[REDACTED]	C	-	-	See Performance
11-24-16	84	40-0	Pass Brake F-Door glass	-	[REDACTED]	-	-	-	POSTED
10-21-16	71	25-0	Contact w/ SUB	11-25-16	[REDACTED]	C	-	-	See Performance

Appendix C - Struck Operator's Performance Record

FORM 6187 - Revised 1-1-74

PERFORMANCE RECORD

Last Name: [Redacted] First: **Callowhill** Middle: [Redacted] Authority Seniority: [Redacted] Account Number: [Redacted]

1st Depot: [Redacted] 2nd Depot: [Redacted] 3rd Depot: [Redacted]

Seniority: Rail [Redacted] Seniority: Rail [Redacted] Seniority: Rail [Redacted]

Bus [Redacted] Bus [Redacted] Bus [Redacted]

Cashier [Redacted] Cashier [Redacted] Cashier [Redacted]

Date of last	Commendations	Fare Collection	Improper Operation	Pass-Up	Public Complaints	Schedule Maintenance	Signals & Switches	Smoking	Uniform	Vehicle Signs	Other	Length of Miss	REMARKS	Date Interviewed	Interviewed By	ACTION
10-6-14											✓	CCS	ONE MONTH EVALUATION	10-6-14	[Redacted]	INTERVIEW
10-21-14											✓	CCS	NO WAY BILL	10-27-14	[Redacted]	COUNSEL
11-12-14												CCS	RDR-921C	11-28-14	[Redacted]	COUNSEL
11-24-14					✓							CCS	RDR-30 (5mins)	12-4-14	[Redacted]	COUNSEL
1-2-15													WAYBILL CASE	1-8-15	[Redacted]	CCS
1-18-15											✓	CCS	ABR-2B LICENSE	1-26-15	[Redacted]	CCS
3-12-15												CCS	SIX MONTH EVALUATION	3-12-15	[Redacted]	INTERVIEW
6-24-15		✓										CCS	BDR-153D	7-8-15	[Redacted]	COUNSEL
8-7-15											✓		COMPLETION PDP	8-10-15	[Redacted]	COUNSEL
9-3-15		✓										CCS	ASF-12-F3	9-24-15	[Redacted]	COUNSEL
3-28-16					✓							CCS	CS-764833	4-12-16	[Redacted]	INTERVIEW
9-28-16		✓										CCS	Substandard Safety Chargeable Accident	10-24-16	[Redacted]	1-DAY
10-24-16		✓										CCS	Substandard Safety Chargeable Accident	10-14-16	[Redacted]	1-DAY

Appendix D - Struck Operator's Safety Record

Form 6286 Revised 12-15-73

SAFETY RECORD SUMMARY

LAST NAME: [REDACTED] FIRST: [REDACTED] MIDDLE: [REDACTED] AUTHORITY SENIORITY: [REDACTED] ACCOUNT NUMBER: [REDACTED]

1st Depot: Callowhill 2nd Depot: _____ 3rd Depot: _____
 Seniority: Rail: [REDACTED] Seniority: Rail: _____ Seniority: Rail: _____
 Bus: _____ Bus: _____ Bus: _____

DATE OF ACCIDENT	CODE	PASS. WIT.	DESCRIPTION OF ACCIDENT	DATE INTERVIEWED	INTERVIEWED BY	C-P-U	PTS.	CUM. PTS. 12 MONTHS	DISCIPLINE - REMARKS ALSO POST ON PERFORMANCE CARD
1-14-14	62B	48-0	Pass leg stuck between ranking door	-	[REDACTED]	-	-	-	POSTED
1-26-14	63	4-0	Pass fell	-	[REDACTED]	-	-	-	POSTED
12-6-14	62C	5/0	Pass Fall exiting	-	[REDACTED]	-	-	-	POSTED
12-20-14	62B	5/0	Child leg stuck in door	-	[REDACTED]	-	-	-	POSTED
1-30-15	77	15/0	Pass hand stuck between door and rail	-	[REDACTED]	-	-	-	POSTED
2-20-15	84	30-0	Pass could not breathe	-	[REDACTED]	-	-	-	POSTED
3-7-15	12A	10-0	Operator w/ Parked auto	4-3-15	CCS	C	-	-	Written Warning
3-8-15	89	21-0	Pass Had Toy Gun	-	[REDACTED]	-	-	-	POSTED
3-15-15	84	20-0	Sick Pass	-	[REDACTED]	-	-	-	POSTED
3-16-15	60	20-0	Wood flew up & hit car	4-3-15	[REDACTED]	-	-	-	Interview
4-12-15	84	6-0	Pass's shaving brush stuck	-	[REDACTED]	-	-	-	POSTED
6-11-15	86	11-0	Misc Pass incident	-	[REDACTED]	-	-	-	POSTED
5-1-15	50A	0-1	Dray Couple - Hit Bus	7-28-15	[REDACTED]	P	-	-	INTERVIEW
7-14-15	12A	15-0	Collision w/ truck mirror	8-6-15	[REDACTED]	P	-	-	PER 11/1 and DISB
7-31-15	14-B	25-0	Pass fell boarding	-	[REDACTED]	-	-	-	POSTED
8-13-15	17A	32-0	Collision w/ Auto parked	8-21-15	[REDACTED]	U	-	-	Interview
10-16-15	12A	0-0	All wheel contact w/ auto	11-6-15	[REDACTED]	U	-	-	Interview
11-2-15	89	35-0	Alleged hand stuck in rear of Trolley	-	[REDACTED]	-	-	-	POSTED
11-25-15	82A	17-0	Pass fell during floor	-	[REDACTED]	-	-	-	POSTED
1-26-16	5L	4-0	Contact w/ Jeep	2-12-16	[REDACTED]	P	-	-	Written Warning
6-23-16	33	25-2	Salesman by grade	-	[REDACTED]	U	-	-	POSTED
7-5-16	84	16-0	Fight onboard	-	[REDACTED]	-	-	-	POSTED
8-21-16	47B	30-0	Pass Fall Boarding	-	[REDACTED]	-	-	-	POSTED

LAST NAME: [REDACTED] FIRST: [REDACTED] MIDDLE: [REDACTED] AUTHORITY SENIORITY: [REDACTED] ACCOUNT NUMBER: [REDACTED]

1st Depot: Callowhill 2nd Depot: _____ 3rd Depot: _____
 Seniority: Rail: [REDACTED] Seniority: Rail: _____ Seniority: Rail: _____
 Bus: _____ Bus: _____ Bus: _____

DATE OF ACCIDENT	CODE	PASS. WIT.	DESCRIPTION OF ACCIDENT	DATE INTERVIEWED	INTERVIEWED BY	C-P-U	PTS.	CUM. PTS. 12 MONTHS	DISCIPLINE - REMARKS ALSO POST ON PERFORMANCE CARD
9-10-16	89	30-0	Pass w/ knife	-	[REDACTED]	-	-	-	POSTED
9-25-16	10	0-0	Contact w/ L-Bus mirror	10-14-16	[REDACTED]	C	-	-	See Performance
10-11-16	5B	10-0	Contact w/ Cook blown tire	10-14-16	[REDACTED]	C	-	-	See Performance
11-22-16	62C	11-0	Pass SLIPPED	-	[REDACTED]	-	-	-	POSTED

DCA17FR003 – Human Performance Factual Report

Compiled by: /s/ _____
Michael R. Hoepf, Ph.D.
Human Performance Investigator

Date: July 12, 2017

Approved by: /s/ _____
Bob Beaton, Ph.D., CPE
Chief, Human Performance and Survival Factors Division (RPH-40)

Date: July 12, 2017