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INTRODUCTION

The S Holgate St Crossing Study is a planning effort led by the Seattle Department of Transportation (SDOT) to evaluate transportation conditions along S Holgate St and the broader multimodal network in the South of Downtown (SODO) neighborhood. Supported by a \$2 million Federal Railroad Administration (FRA) grant through the Railroad Crossing Elimination Program, the study aims to address safety, mobility, and access challenges in a dynamic freight and rail corridor. This report establishes the existing conditions baseline, drawing on multimodal data, operational and safety analyses, and input from agency and community stakeholders. It also reflects coordination with ongoing SDOT and regional efforts to ensure that future strategies—particularly those related to a potential closure of the at-grade rail crossings—are well integrated, practical, and supportive of a safer, more efficient transportation system.

PROJECT BACKGROUND

S Holgate St is a key east-west arterial located in the heart of Seattle's SODO neighborhood, within the Duwamish Manufacturing/Industrial Center, the largest freight hub in the Pacific Northwest and a critical link in Washington State's freight, commuter rail, and Amtrak systems. It plays an essential role in connecting freight traffic to I-5, providing event access to major stadiums, and facilitating daily operations for the Port of Seattle, BNSF, and Amtrak. S Holgate St also supports general-purpose travel, connecting the Beacon Hill neighborhood to SODO and downtown Seattle. The S Holgate St corridor currently features three separate gate-controlled at-grade rail crossings, used by BNSF Railway, Amtrak, and Sound Transit. The BNSF mainline crossing west of 3rd Ave S (DOT# 927461X) includes 7 tracks and is one of the highest-risk at-grade rail crossing in the state.

Amtrak is planning to expand its maintenance and layover facility in SODO, which could result in up to a total of 15 tracks across S Holgate St between Occidental Ave S and 3rd Ave S. BNSF and Amtrak have requested that the City explore the potential permanent closure of S Holgate St between Occidental Ave S and 3rd Ave S to support this expansion. Such a closure would facilitate rail yard operations and improve facility security but would also require evaluation of impacts to the transportation network and adjacent corridors. The analysis supports SDOT's goal of ensuring that future changes to the rail network do not compromise safety, freight mobility, or access for people walking, rolling, biking, or driving. The study supports SDOT's Vision Zero commitment to eliminate traffic fatalities and serious injuries by identifying existing safety issues and evaluating the impacts of potential changes, particularly for vulnerable road users. It will also assess what infrastructure or operational improvements may be needed to maintain east-west connectivity in SODO, especially for freight and goods movement.

PURPOSE AND NEED

The purpose of the S Holgate St Crossing Study is to:

- Improve safety for all users;
- · Maintain multimodal access in the SODO neighborhood;
- Support existing railroad operations; and
- Accommodate planned rail yard expansions and other adjacent regional projects.

The project aligns with SDOT's mission to support a thriving equitable community powered by dependable transportation that provides safe and affordable access to places and opportunities. SDOT's core values - Equity, Safety, Mobility, Sustainability, Livability, and Excellence - provide the foundation for the project's objectives.

The need for this project arises from existing safety and operational deficiencies at the BNSF mainline at-grade rail crossing DOT# 927461X on S Holgate St, which:

- Serves an essential function within Seattle's Industrial Access Street network and the Heavy Haul Network;
- · Experiences multimodal demand; and
- Ranks among the highest-risk crossings in Washington State

This planning study will integrate technical analysis, stakeholder input, and diagnostic rail safety evaluations to guide future investments that protect vulnerable travelers and preserve freight and multimodal mobility in the study area.

KEY STAKEHOLDERS

S Holgate St plays a vital role in connecting freight, industrial, and event-related activity in Seattle's SODO neighborhood. As a result, a diverse group of stakeholders is directly invested in decisions about the future of the corridor. These include transportation agencies, freight and rail operators, stadium and event representatives, tribal governments, and representatives of collective businesses and industrial property owners.

Stakeholders represent a range of interests:

- Amtrak is planning an expansion that would significantly increase train activity on the BNSF Railway corridor
- The Port of Seattle and Northwest Seaport Alliance, including nearby freight-dependent businesses, rely on S Holgate St for truck access and as a key part of the Heavy Haul Network
- The SODO Business Improvement Area (BIA) advocates for a safe, clean, connected and engaged SODO, for the benefit of property owners, businesses, tenants, employees and patrons of the SODO district
- **Sound Transit** runs commuter rail and light rail through different at-grade rail crossings along S Holgate St and has major capital improvements planned for its light rail system that directly impacts S Holgate St
- Seattle Seahawks, Mariners, Sounders and Reign teams and ballpark operators have a vested interest due to the corridor's role in facilitating multimodal ingress and egress during major events
- **Local tribal governments**, including the Suquamish, Muckleshoot, Snoqualmie, and Duwamish Tribal Organization, are also engaged to ensure the study reflects their perspectives and priorities.

As part of this planning effort, SDOT is convening a Technical Work Group (TWG) composed of these primary agency, freight, rail, business, and tribal stakeholders to participate in identifying

existing issues, reviewing potential concepts, and evaluating how changes to the corridor could impact safety, mobility, and operations.

Beyond this core group, SDOT is engaging a broader network of stakeholders through a coordinated outreach effort. This includes community advisory boards, utility and emergency service providers, labor organizations, and public agencies with a role in transportation and infrastructure. The study team will also engage specific business and property owners near the corridor, particularly those who rely on S Holgate St for access and deliveries. Finally, outreach is designed to include people who travel through the area on foot, by bike, by vehicle, or by transit—as well as those attending events at nearby stadiums.

This inclusive approach ensures that technical insights are balanced with community perspectives and that a wide range of voices help shape the future of the S Holgate St corridor.

STUDY AREA CONTEXT

The full study area for this project covers most of the SODO neighborhood of Seattle, roughly bounded by S Royal Brougham Way and S Spokane St from north to south and between East Marginal Way S and I-5 from west to east. The study area and the location of the at-grade crossings on S Holgate St that are the focus of this study are shown in Figure 1.

PROJECT AREA

S Holgate St and the project study area are located in Seattle's SODO neighborhood and is in the Duwamish Manufacturing/Industrial Center. Directly to the north of the project study area are two large stadiums and event venues, Lumen Field and T-Mobile Park, that host the Seattle Seahawks, Seattle Sounders, Seattle Reign, and Seattle Mariners. Lumen Field hosts about 300 events annually including sports, concerts, and other large events and has capacity for approximately 68,000 people during Seattle Seahawks games and 37,000 people during Seattle Sounders and Seattle Reign games. T-Mobile Park hosts approximately 80 Mariners games along with concerts and has capacity for approximately 48,000 people.

To the west, the Port of Seattle operates Terminals 25, 30, and 46. The main entrance for Terminal 30, the Port's main terminal, is along E Marginal Way S with no direct access from S Holgate St. BNSF's Seattle International Gateway (SIG) intermodal facility, its entrance on S Hanford St, enables the movement of goods between maritime and rail transportation.

The Amtrak Maintenance Facility spans both sides of S Holgate St between Occidental Ave S and 3rd Ave S. The facility is not enclosed and has active tracks crossing the street, requiring staff to move between buildings on either side of S Holgate St as part of regular operations.

The project study area is located in an industrial and maritime zone, which generally allows only industrial and certain commercial uses with some zones in this class providing limited opportunities for workforce housing that supports industrial uses. Study area zones are named Maritime, Manufacturing, and Logistics, Urban Industrial, and Industry and Innovation (see Figure 2). In March 2025, the Seattle City Council passed the "Stadium Makers" bill, an ordinance that will allow residential uses in the Stadium Transition Area Overlay, a two-block stretch in a portion of the SODO neighborhood south of T-Mobile Park.

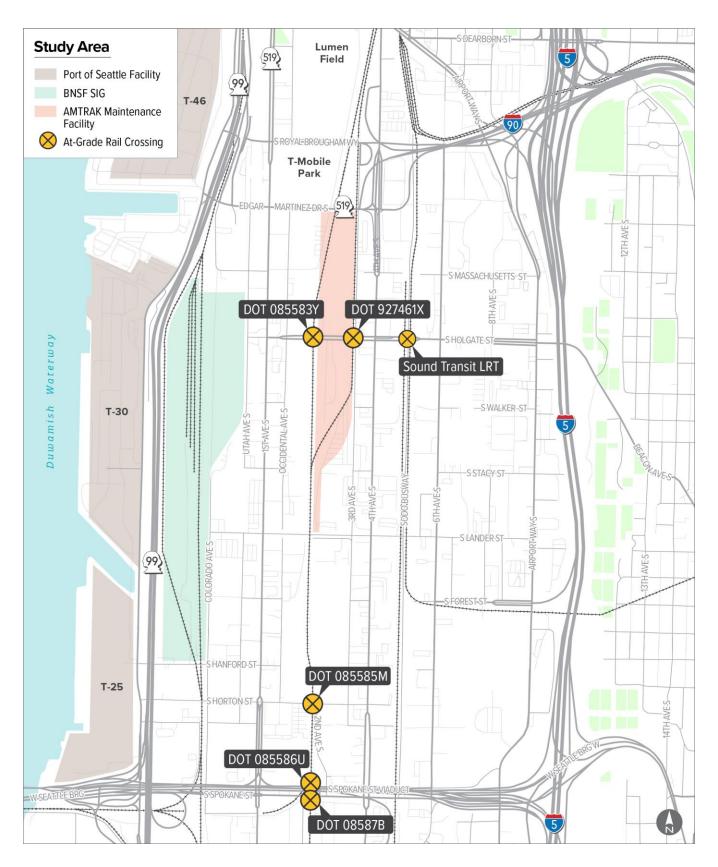


FIGURE 1: SODO STUDY AREA

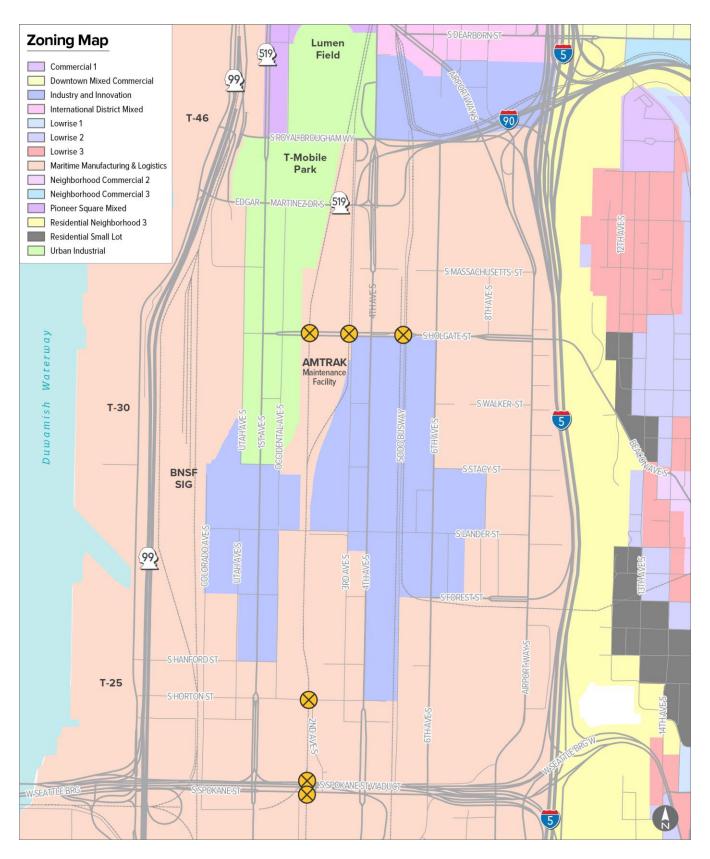


FIGURE 2: SODO AREA ZONING

MULTIMODAL FUNCTIONS

S Holgate St is designated an Industrial Access Street and Minor Arterial with a 25 mph speed limit. According to Seattle Streets Illustrated, Industrial Access Streets serve as connections to regional transportation facilities and are designed for large vehicle turning maneuvers into and out of industrial properties¹. This street type may provide opportunities for temporary parking of trucks or staging of equipment or other materials associated with industrial uses. S Holgate St is also part of Seattle's Heavy Haul Network, which supports the movement of overweight container trucks between port terminals and nearby rail or industrial facilities.

DEMOGRAPHICS

Replica was used to analyze travel patterns and demographics for people currently using S Holgate St at the subject rail crossings between Occidental Ave S and 3rd Ave S. Replica is a high-fidelity, disaggregate activity-based travel model, with data outputs at the network-link level.² This analysis includes who is using the S Holgate St corridor, trip origins and destinations, and their travel mode.

To make these evaluations, data was gathered for vehicles traveling along S Holgate St at this location and for Seattle residents over an average Thursday in Fall 2024 (which is Replica's latest dataset). Table 1 and Table 2 show the demographics of S Holgate St travelers compared to the demographics of travelers in the City of Seattle and Figure 3 shows trip summaries of users traveling through S Holgate St.

² Replica: https://studio.replicahq.com/



¹ https://streetsillustrated.seattle.gov/street-type-standards/industrial-access/

TABLE 1: TRANSPORTATION SYSTEM USER DEMOGRAPHICS

	PERCENT DISTRIBUTION			
DEMOGRAPHIC	Using S Holgate St	City of Seattle		
Race and Ethnicity				
White	53.8%	59.7%		
Asian	19.1%	17.0%		
Hispanic or Latino	11.8%	8.1%		
Black	7.5%	6.4%		
Two Races	5.8%	7.3%		
Other	0.9%	0.7%		
Native Hawaiian	0.9%	0.3%		
American Indian	0.2%	0.4%		
Language				
English	60.8%	67.7%		
Asian Pacific	15.9%	12.7%		
Spanish	9.5%	6.1%		
Indo European	7.6%	6.7%		
Other	3.4%	3.2%		
Group Quarters Language	2.8%	3.5%		

Users of S Holgate St are racially and ethnically diverse compared to Seattle's residents. A smaller percentage of corridor users identify as White (53.8% compared to 59.7%), with higher Asian (19.1%), Hispanic or Latino (11.8%) and Black (7.5%) users. User languages follow a similar pattern with fewer English-only speakers (60.8% compared to 67.7%), with higher Asian Pacific language speakers (15.9%), Spanish speakers (9.5%), and Indo-European language speakers (7.6%).

TABLE 2: EDUCATION, EMPLOYMENT, AND INCOME DEMOGRAPHICS

	PERCENT DISTRIBUTION			
DEMOGRAPHIC	Using S Holgate St	City of Seattle		
Education				
Bachelor's Degree	29%	31.2%		
Some College	26.2%	22.5%		
High School Diploma	19.2%	18.6%		
Advanced Degree	16.2%	13.2%		
K-12 Education	6.6%	9.6%		
No School	2.8%	2.5%		
Employment Status				
Employed	79.3%	62%		
Not in the Labor Force	18.5%	22.6%		
Under 16	2.0%	12.6%		
Unemployed	0.1%	2.73%		
Household Income				
\$0-15k	5.1%	8.4%		
\$15-25k	2.2%	2.7%		
\$25-50k	8.7%	7.9%		
\$50-75k	9.8%	8.3%		
\$75-100k	10.2%	7.9%		
\$100-150k	19.8%	15.1%		
\$150-200k	13.3%	12.3%		
Over \$200k	30.8%	37.3%		

Education levels for S Holgate St users are generally similar to the Seattle average, with slightly higher rates of advanced degrees and some college education. About 9.4% of corridor users have less than a high school education. Corridor users have a much higher employment rate than Seattle residents (79.3% compared to 62%), although this may be that corridor users 18 and younger are not captured along S Holgate St. Income distribution among users spans a wide range, over 30% have household incomes above \$200,000 and nearly 16% earn less than \$50,000 annually. This indicates that all income levels travel through S Holgate St. However, average income (\$184k compared to \$201k) and median income (\$134k compared to \$149k) for corridor users are less than Seattle residents.

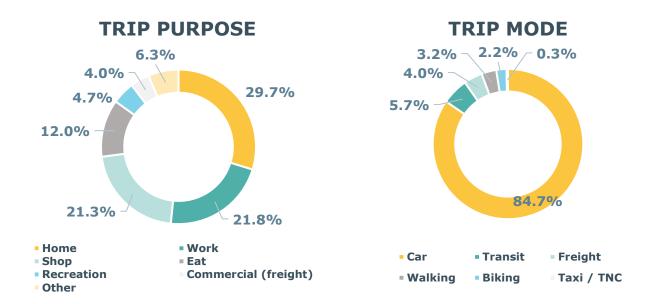


FIGURE 3: TRIP SUMMARIES ALONG S HOLGATE ST

The majority of trips along S Holgate St between the rail crossings are for home, work, and shopping, and a majority of the trips are with a car, suggesting most trips are for commuting and commercial activity.

PAST STUDIES

Over the past two decades, several studies have evaluated options for the future of the S Holgate St rail crossings, particularly in relation to safety, freight mobility, and major infrastructure projects in the area:

- **2000 Access Duwamish Report:** This regional freight mobility plan identified S Holgate St as a less desirable location for a grade-separated overcrossing due to site constraints.
- **2003 WSDOT S Holgate St Rail Crossing Study:** This WSDOT study recommended that the City of Seattle permanently close S Holgate St at the rail crossings to improve safety and rail operations.
- 2005 WSDOT Addendum to S Holgate St Rail Crossing Study: WSDOT reaffirmed their recommendation to close the street as part of the Amtrak Pacific Northwest Maintenance Facility project. However, SDOT stated that the street should remain open during the construction of the Alaskan Way Viaduct (AWV) Replacement Project and postponed a final decision.
- 2006 SDOT Phase 1 S Holgate St & S Royal Brougham Way Study: SDOT recommended keeping S Holgate St open through the duration of the AWV project.
- 2010 SDOT Phase 2 S Holgate St Railroad Crossing Study: SDOT concluded that S
 Holgate St should remain open, with safety improvements. It also advised that the closure
 recommendation be revisited if there were significant future changes to the transportation
 system in the area.

Since the 2010 study, the SODO transportation network has seen major changes, including the completion of the AWV Replacement Project and the opening of the new SR 99 tunnel in 2019 as well as the opening of the S Lander St grade separation over the BNSF mainline track in 2020. This new planning study by SDOT re-evaluates the multimodal needs of the transportation network based on current conditions and latest future plans.

CORRIDOR INFRASTRUCTURE AND CONDITION

This section describes the physical condition along S Holgate St. It covers the layout of the roadway, sidewalks, and bike and transit access, as well as pavement quality and underground soil conditions. Together, these elements provide a baseline understanding of how the corridor functions today and help identify needs for future design, maintenance, and safety improvements.

ROADWAY GEOMETRY

The project area on S Holgate St features a four-lane cross section from Occidental Ave S to 3rd Ave S with two eastbound travel lanes and two westbound travel lanes, each approximately 11 feet wide. A median approximately 22 feet wide, with paved and unpaved segments, separates the eastbound and westbound traffic and is used for equipment staging. The south side of the roadway has an unpaved shoulder, and the north side has an inconsistently paved buffer adjacent to a paved sidewalk varying between 4 to 6 feet wide. The total right-of-way for S Holgate St is 130 ft. The S Holgate St cross section is shown in Figure 4.

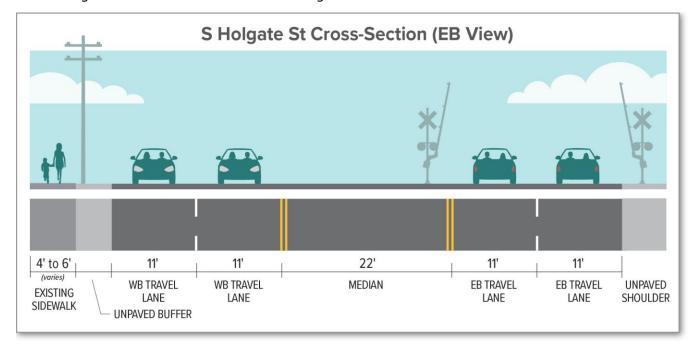


FIGURE 4: S HOLGATE ST CROSS-SECTION

NON-MOTORIZED FACILITIES

People walking and biking along S Holgate St do not have full facilities present. No bicycle facilities are in place at this location, and a sidewalk is only provided on the north side of the roadway. While the sidewalk meets the minimum width standard, its accessibility varies due to inconsistent surface materials, deteriorated condition and frequent driveways. Additional information on levels of traffic stress for people walking and biking is provided in the Non-Motorized Conditions section on page 36.

TRANSIT FACILITIES

S Holgate St does not have any transit service running directly along it, but the surrounding study area includes many transit routes and stops, as well as light rail service. King County Metro and Sound Transit operate multiple bus routes on nearby streets with stops located along 1st Ave S, Edgar Martinez Dr S, 4th Ave S, the SODO Busway, 6th Ave S, and Airport Way S. Most routes have peak-period headways between 10 and 30 minutes.

The Link Light Rail 1 Line runs adjacent to the SODO Busway with stations located south of S Royal Brougham Way (Stadium Station) and north of S Lander St (SODO Station). Both stations are served by light rail with 8-minute headways during peak periods as of Summer 2025.

PAVEMENT CONDITIONS

A detailed evaluation of existing pavement conditions along S Holgate St, from Occidental Ave S to 3rd Ave S, was conducted in June 2025 and is summarized in Appendix A. The assessment combined field observations with a review of historical pavement data provided by SDOT. The evaluation found widespread pavement distress, including fatigue (alligator) cracking within wheel paths, rutting near stop bars and rail crossings, and edge failures along both travel directions. Some patched areas were also failing, and panels within rail crossings showed signs of structural damage. These conditions are consistent with the corridor's role as a major freight route and its long history of repeated use and maintenance. More detailed findings, photos, and supporting data are available in the appendix.

SUBSURFACE CONDITIONS

A review of historical soil and groundwater conditions along the S Holgate St corridor shows that the area is likely not suitable for shallow foundations. To support a potential new grade-separated structure, deep foundations would likely be needed. The ground beneath the roadway includes a mix of loose and soft soils, including man-made fill with wood waste and clay, which can settle over time. Soils deeper underground consist of saturated sand and silt that could lose strength during an earthquake, leading to ground movement or settlement. More stable soils suitable for supporting structures are located 70 to 90 feet below the surface. These findings are detailed in the geotechnical memo provided as Appendix B and will help guide design and construction decisions.

RAIL INFRASTRUCTURE AND OPERATIONS

EXISTING RAIL CROSSINGS

Freight and passenger rail lines bisect S Holgate St at three main locations in the study area and consist of a total of 11 tracks (Figure 5):

- East of Occidental Ave S (085583Y): two tracks used mainly by Amtrak as layover and maintenance for passenger rail
- West of 3rd Ave S (927461X): a seven-track section used in operations for Sound Transit's Sounder rail line, Amtrak, and BNSF freight carriers
- East of 4th Ave S, along the SODO Busway: two tracks used by Sound Transit's Link Light Rail

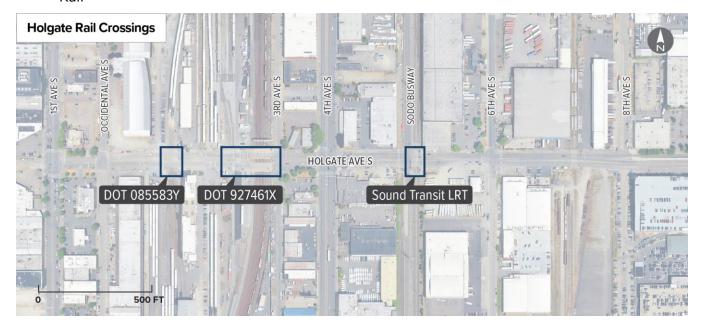


FIGURE 5: EXISTING AT-GRADE RAIL CROSSING ON S HOLGATE ST

The at-grade rail crossing located east of Occidental Ave S (085583Y) is a two-track crossing equipped with train-activated warning devices including flashing light pairs and vehicular gate arms for both approaches to the crossing. The total length of roadway within the crossing area is approximately 60-feet.

The at-grade rail crossing located west of 3rd Ave S (0927461X) is a seven-track crossing also equipped with train-activated warning devices that include flashing light pairs and vehicular gate arms for both approaches to the crossing. The total length of roadway within the crossing area is approximately 210-feet, and the distance from the crossing to the intersection of 3rd Ave S and S Holgate St, which is stop-controlled for 3rd Ave S only, is less than 10-ft.

The distance between the two at-grade rail crossings (085583Y and 0927461X) is approximately 250-feet. Both crossings have four travel lanes (two in each direction) and utilize both regulatory and warning signage, as well as pavement markings for the railroad crossings. Signage includes advance warning signage and regulatory signage to instruct roadway users where to stop during a

train event. Pavement markings includes edgeline and lane line striping, RXR pavement markings, as well as dynamic envelope markings. The project team conducted a Rail Crossing Diagnostic with project partners Amtrak and BNSF to document existing conditions and provide initial near-term and long-term recommendations. A summary of the Rail Crossing Diagnostic outcomes is provided in Appendix C.

TRAIN VOLUMES

Video was collected at each of the three at-grade crossings along S Holgate St to obtain detailed data on number, frequency and duration of train crossings. For the Sound Transit Link Light Rail crossing east of 4th Ave S, along SODO Busway, a single day of data was collected on Tuesday, April 22, 2025. For the more unpredictable at-grade rail crossings used by the Amtrak maintenance facility and freight carriers, seven days of train crossing data was collected from Sunday, April 20, 2025 – Saturday, April 26, 2025.

EAST OF 4TH AVE S

The at-grade crossing along the SODO Busway used by Sound Transit's Link light rail service is typically active 4am-1am including non-revenue train movement. The light rail runs a predictable schedule with headways ranging from 8 minutes during morning and evening peak periods to 10 minutes midday and afternoons and 12-15 minutes in the early morning and late night. On April 22, 2025, 218 gate down events were recorded. The gates were down on average 47 seconds with a minimum duration of 6 seconds and maximum observed duration of approximately 2 minutes.

BETWEEN OCCIDENTAL AVE S AND 3RD AVE S

The number of crossing events and their duration varies greatly at the two crossings between Occidental Ave S and 3rd Ave S due in main part to the unpredictability of freight activity. Figure 6 charts each of the events recorded over an entire week for both crossings. Table 3 summarizes gate down events for both crossings.

During the AM commuting peak between 6:00 AM and 10:00 AM, Figure 6 shows train activity remains high and is likely to cause frequent disruption to drivers, who may divert to Edgar Martinez Dr S or S Lander St to continue over the tracks. Longer train blockages (10 minutes or more at a time) seem to take place more during midday or in the early evening after the afternoon commuting peak. On average, S Holgate St is blocked for over three hours a day due to rail crossings between Occidental Ave S and 3rd Ave S. A previous study done for the S Holgate St rail crossing showed that in 2009 S Holgate St was blocked around 20% of the time throughout the day³; in comparison, the data collected for this study had a lower blockage rate, between 13% during the PM peak and 16% during the AM peak.

³ See South Holgate Street Railroad Crossing Study, Phase II (2010), Table 3: Hourly and Average Train Gate Closure Times on pg. 14.

Recorded Gate Down Times and Duration - S Holgate Street Counted April 20-26, 2025

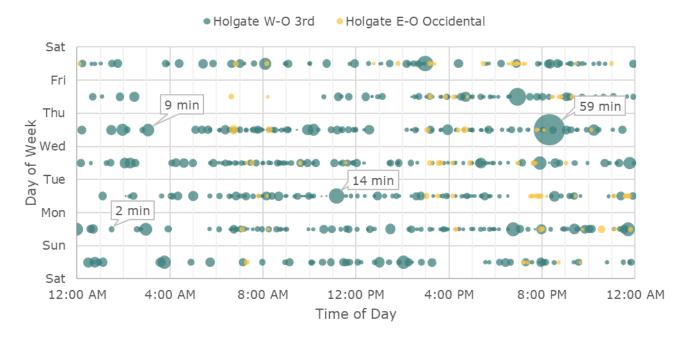


FIGURE 6: RAIL CROSSING "GATE DOWN" EVENTS ON S HOLGATE ST (927461X & 085583Y)

TABLE 3: RAIL CROSSING "GATE DOWN" SUMMARY ON S HOLGATE ST (927461X & 085583Y)

SUMMARY	W-O 3RD, MAINLINE DOT# 927461X	E-O OCCIDENTAL, DOT# 085583Y
AVE GATE DOWN TIME	0:02:32	0:01:21
# OF TIMES	77	13
MAX GATE DOWN TIME	0:59:01ª	0:05:07
MIN GATE DOWN TIME	0:00:10	0:00:10
AVE TIME BETWEEN GATE DOWNS	0:16:20	1:43:57
AVE DAILY TOTAL GATE DOWN TIME	3:13:45	0:17:41

^a Typical day max gate down time between 10 and 19 minutes

TRAFFIC OPERATIONS

Traffic operations for the SODO study area were analyzed using two methods to assess intersection capacity, delay and queues. A high-level assessment of traffic patterns across the SODO network used Synchro, a deterministic model, and a detailed simulation of S Holgate St, using the microsimulation model Vissim, considered the impacts of train blockages at the multiple rail crossings. This section includes a discussion of traffic volumes along S Holgate St, an overview of the main trip types and origins-destinations of those trips, and the results of the Synchro and Vissim analyses.

TRAFFIC ANALYSIS STUDY AREA

The traffic operations analysis and modeling tasks focus on a subset of the full study area and include intersections and roadway segments selected based on expected travel patterns and diversion routes anticipated with a S Holgate St closure. The study area to be used in the Synchro traffic analysis and Vissim traffic micro-simulation is shown in Figure 7 and listed in Table 4. Additional information on assumptions, data sources, and modeling methods is provided in Appendix D.

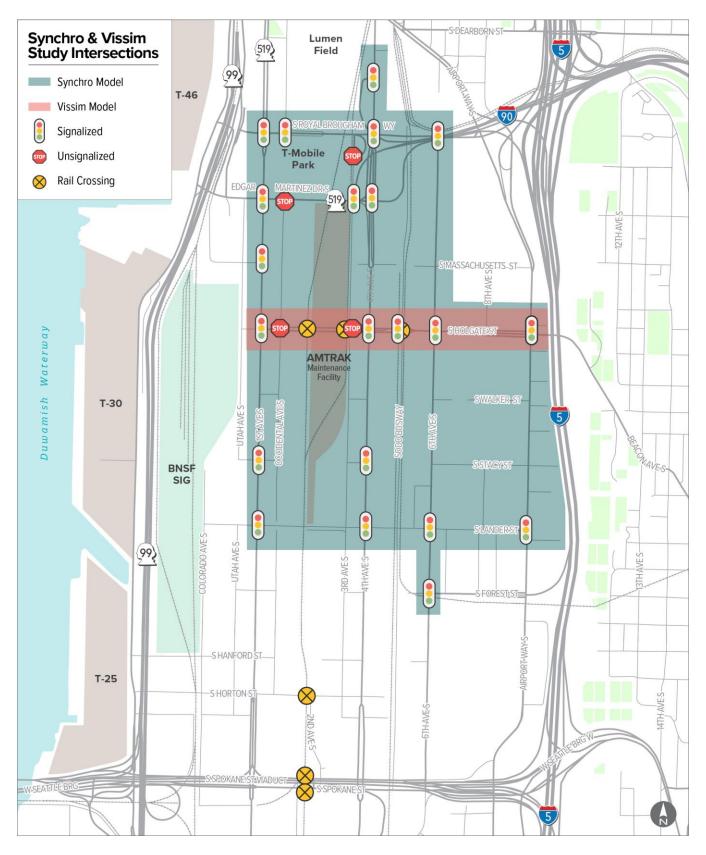


FIGURE 7: INTERSECTIONS FOR TRAFFIC OPERATIONS ANALYSIS (MAP)

TABLE 4: INTERSECTIONS FOR TRAFFIC OPERATIONS ANALYSIS (LIST)

INTERSECTION	TRAFFIC CONTROL	SYNCHRO STUDY AREA	VISSIM STUDY AREA
1st Ave S & S Royal Brougham Way	Signal	Х	
1st Ave S & S Atlantic St / Edgar Martinez Dr S	Signal	Х	
1st Ave S & S Massachusetts St	Signal	Х	
1st Ave S & S Holgate St	Signal	Х	Х
1st Ave S & S Stacy St	Signal	Χ	
1st Ave S & S Lander St	Signal	Χ	
Occidental Ave S & S Royal Brougham Way	Signal	Х	
Occidental Ave S & Edgar Martinez Dr S	Side-Street Stop	Х	
Occidental Ave S & S Holgate St	Side-Street Stop	Х	Х
S Holgate St Rail Crossing e/o Occidental Ave S (DOT 085583Y)	Rail Crossing		Х
S Holgate St Rail Crossing w/o 3rd Ave S (DOT 927461X)	Rail Crossing		Х
3rd Ave S & S Royal Brougham Way	All-Way Stop	Х	
I-5/I-90 Off-Ramp & Edgar Martinez Dr S	Signal	Х	
3rd Ave S & S Holgate St	Side-Street Stop	Χ	Х
4th Ave S & I-5/I-90 Off-Ramp	Signal	Х	
4th Ave S & S Royal Brougham Way	Signal	X	
4th Ave S & Edgar Martinez Dr S / I-5/I-90 On-Ramp	Signal	X	
4th Ave S & S Holgate St	Signal	X	Х
4th Ave S & S Stacy St	Signal	X	
4th Ave S & S Lander St	Signal	X	
SODO Busway / Link Light Rail Crossing & S Holgate St	Rail Crossing + Signal	Х	Х
6th Ave S & S Royal Brougham Way	Signal	X	
6th Ave S & S Holgate St	Signal	Х	Х
6th Ave S & S Lander St	Signal	Х	
6th Ave S & S Forest St	Signal	Х	
Airport Way S & S Holgate St	Signal	Х	Х
Airport Way S & S Lander St	Signal	Х	
Total Intersections in Traffic Analysis Study Area		25	9

TRAFFIC VOLUMES ON S HOLGATE ST

Existing traffic volumes on the S Holgate St rail crossing are shown in Figure 8. They were developed through all-day counts taken in November 2023 and factored up by 10% to match a recent May 2025 turning movement count that was done for the AM and PM peak periods. These counts showed an Average Daily Traffic (ADT) volume of **5,120 vehicles/day**, a decline from historical volumes on the corridor and reflective of completed large projects such as the Alaskan Way Viaduct Replacement and the S Lander St Bridge that have changed travel patterns in SODO. Travel patterns vary by direction: westbound volumes peaks in the morning and gradually decreases through the afternoon peak, while eastbound volumes build towards the afternoon peak with no pronounced drop in volume during midday. Heavy vehicles are up to 10% of the total volume during the AM peak and 5-10% in the late morning, but this share drops off through the afternoon. Overnight truck percentages are higher but reflect low overall traffic volumes during that period.

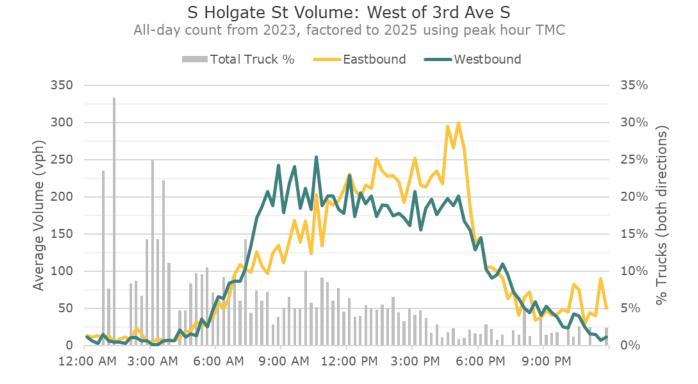


FIGURE 8: S HOLGATE ST TRAFFIC VOLUMES WEST OF 3RD AVE S

TRAFFIC PATTERNS AT S HOLGATE ST RAIL CROSSING

Understanding how people travel along S Holgate St, specifically where their trips begin and end, how they travel through SODO, and whether alternate routes exist, is central to evaluating the role of S Holgate St in the SODO network. For answering these questions, StreetLight Data was used to

assess these travel patterns for all vehicular modes⁴. This report covers a discussion specifically about freight truck traffic in a later section.

Figure 9 shows the most common origins and destinations of trips using S Holgate St between Occidental Ave S and 3rd Ave S, as well as the main origin-destination pairs using this stretch of S Holgate St. Figure 10 (page 23) shows the main origin/destination pair routes which cross the S Holgate St railway lines. Key origin-destination areas include parts of SODO and nearby regional corridors:

- NW Area: Between S Royal Brougham Way and S Holgate St, west of the railway line along 3rd Ave S
- W Area: South of S Holgate St and north of S Lander St, between the railway line and the BNSF railyard
- Regional roadways: I-5, I-90, SR 99, Beacon Ave S, 1st Ave S and 4th Ave S

The businesses immediately west of the S Holgate St rail line generate the most trips using that portion of S Holgate St, with much of those trips connecting to I-5 (both northbound and southbound) or to Beacon Ave S toward the Beacon Hill, Columbia City, and Seward Park neighborhoods. Besides trips internal to SODO, a relatively high share of this traffic connects Beacon Ave S to either SR 99 northbound or 1st Ave S leading to Pioneer Square and downtown Seattle.

The StreetLight Data analysis showed that many origin-destination trip pairs through SODO have alternatives to using S Holgate St between Occidental Ave S and 3rd Ave S. For example, trips from the south using I-5 to northwest SODO mainly use S Spokane St to 1st Ave S or cross the railway line using grade separated S Lander St or Edgar Martinez Dr S. Trips between Beacon Ave S and destinations west of the rail line often use S Holgate St, though some also divert to Edgar Martinez Dr S likely in response to rail crossing blockages.

Overall, routes using the S Holgate St between Occidental Ave S and 3rd Ave S could be classified into two main groups:

- Trips where S Holgate St has more direct alternate routes: such as those connecting to or from I-5 or I-90.
- Trips where S Holgate St is the direct route: primarily between Beacon Ave S and areas west of the rail line in SODO, or those accessing SR 99 or downtown via 1st Ave S.

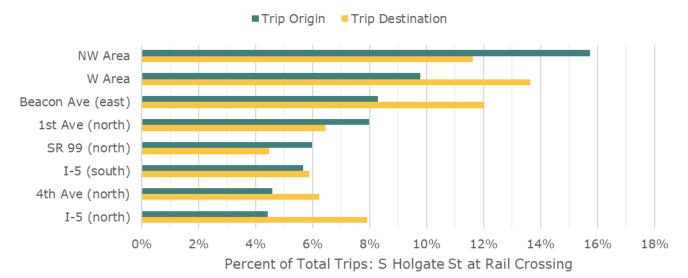
A parallel analysis using Replica data found similar travel patterns and confirmed that trip distributions did not vary significantly across demographic groups. Filters applied by race, ethnicity, language, education level, employment status, and household income showed consistent origin and destination trends for corridor users.

S HOLGATE ST CROSSING STUDY • EXISTING CONDITIONS • AUGUST 2025

⁴ StreetLight Data is a transportation analytics platform that derives mobility insights from GPS and location-based services data

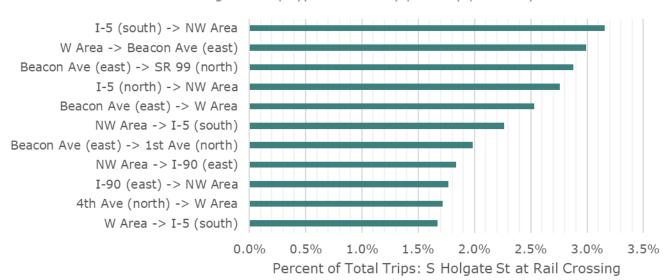
S Holgate St: Top Trip Origins and Destinations

Source: StreetLight Data | Typical Weekday | All Day | Jan-May 2023



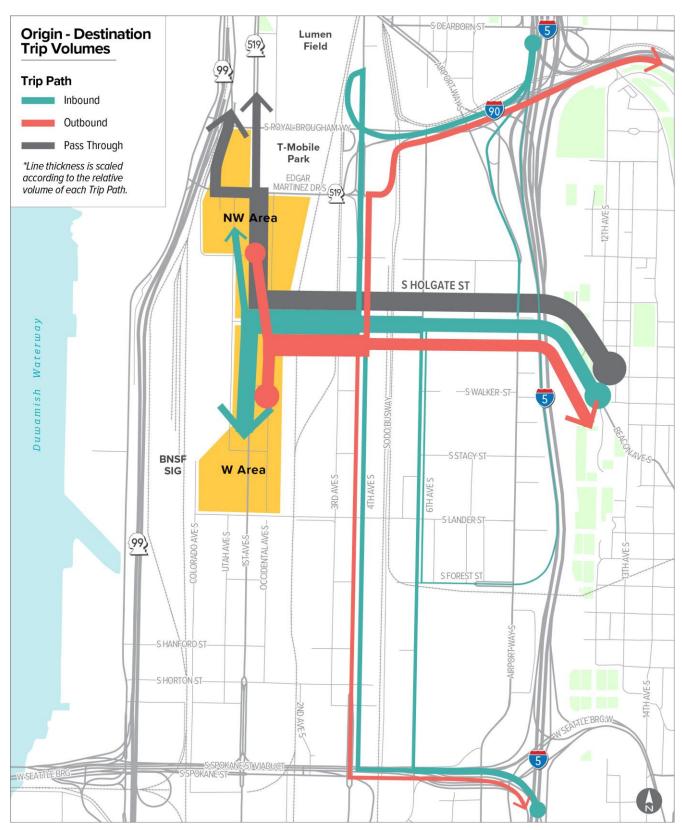
S Holgate St: Top Trip Origin / Destination Pairs

Source: StreetLight Data | Typical Weekday | All Day | Jan-May 2023



NW Area = between Royal Brougham and Holgate, west of the rail lines E Area = between Lander and Holgate, west of the rail lines

FIGURE 9: MAIN TRIP ORIGINS AND DESTINATIONS USING S HOLGATE ST RAIL CROSSING



Source: StreetLight Data, Top Routes between Origins and Destinations | All Vehicles | Mon-Thu, all-day | Jan-May 2023

FIGURE 10: MAIN ORIGIN/DESTINATION VEHICLE PATHS FOR S HOLGATE ST RAIL CROSSING

SYNCHRO ANALYSIS RESULTS

This section summarizes the technical results of the Synchro analysis for a network of 25 intersections, including S Holgate St and surrounding intersections. The goal of this analysis was to assess intersection operations during the AM and PM peak periods using Synchro 12. The model was developed to reflect observed conditions, including signal timing, roadway geometry, and traffic volumes. Measures of effectiveness focused on intersection delay and volume-to-capacity (v/c) ratios. All analyses followed WSDOT's Synchro and SimTraffic Protocol. Figure 11 displays intersection level of service (LOS) and Table 5 includes intersection delay, LOS and v/c ratios for the AM and PM peak periods.

Most intersections in the Synchro study area operate at acceptable levels of service in the AM and PM peak hours. Only one intersection in each peak period operated at a LOS E: 4th Ave S and S Lander St during the AM peak and 1st Ave S and S Lander St during the PM peak.

The v/c ratio ranges from 0.18 to 0.78 in the AM peak hour and from 0.20 to 0.77 in the PM peak hour. All the intersections in the study area are operating well below capacity, indicating no widespread congestion during typical peak hours.

A travel time analysis was also conducted using the Synchro model for three routes using S Holgate St, S Lander St, and Edgar Martinez Dr S, as shown in Figure 12 (page 27). Because Synchro does not simulate individual vehicles, travel times were estimated by adding the delay at intersections to the time it takes to drive each segment at free-flow speed. Travel times for eastwest routes reflect the variation in route length with S Holgate St being the most direct. Travel times using S Lander St also reveal generally higher congestion levels near 1st Ave S and 4th Ave S. A summary of the findings of this travel time analysis is presented in Table 6 (page 28).

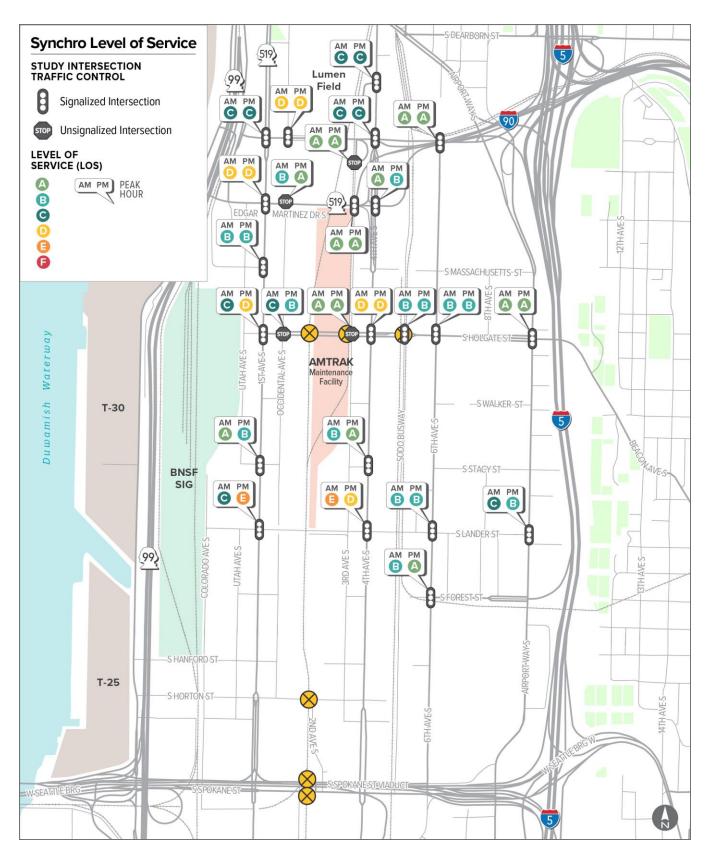


FIGURE 11: AM AND PM PEAK HOUR LOS RESULTS - SYNCHRO

TABLE 5: INTERSECTION OPERATION RESULTS - SYNCHRO

	CONTROL TYPE	AM PEAK HOUR			PM PEAK HOUR		
INTERSECTION		DELAY (S/VEH)	LOS	V/C	DELAY (S/VEH)	LOS	V/C
1st & Royal Brougham	Signal	28.5	С	0.40	30.4	С	0.39
1st & Atlantic / Edgar Martinez	Signal	45.0	D	0.78	52.0	D	0.68
1st & Massachusetts	Signal	15.9	В	0.35	16.7	В	0.31
1st & Holgate	Signal	30.6	С	0.43	36.4	D	0.46
1st & Stacy	Signal	4.1	Α	0.40	13.8	В	0.43
1st & Lander	Signal	32.8	С	0.54	58.0	Е	0.77
Occidental & Royal Brougham	Signal	43.7	D	0.18	39.4	D	0.22
Occidental & Edgar Martinez	Two-Way Stop	11.7	В	0.64	9.6	А	0.58
Occidental & Holgate	Two-Way Stop	15.3	С	0.41	13.0	В	0.44
3rd & Royal Brougham	All-Way Stop	7.7	А	0.22	7.8	А	0.27
I-5/I-90 & Edgar Martinez	Signal	5.6	А	0.53	5.6	А	0.52
3rd & Holgate	Two-Way Stop	9.5	Α	0.21	9.3	А	0.20
4th & I-5/I-90	Signal	29.4	С	0.61	31.5	С	0.59
4th & Royal Brougham	Signal	23.0	С	0.36	21.7	С	0.51
4th & Edgar Martinez	Signal	6.6	Α	0.51	10.6	В	0.62
4th & Holgate	Signal	52.8	D	0.62	45.4	D	0.61
4th & Stacy	Signal	10.2	В	0.44	3.3	А	0.41
4th & Lander	Signal	58.9	Е	0.67	50.5	D	0.72
SODO Busway & Holgate	Signal	13.0	В	0.22	13.6	В	0.21
6th & Royal Brougham	Signal	7.7	А	0.19	6.5	А	0.20
6th & Holgate	Signal	17.7	В	0.35	18.9	В	0.34
6th & Lander	Signal	14.2	В	0.37	15.4	В	0.40
6th & Forest	Signal	12.1	В	0.50	8.3	А	0.37
Airport & Holgate	Signal	6.1	А	0.36	9.8	А	0.57
Airport & Lander	Signal	20.7	С	0.63	18.0	В	0.62

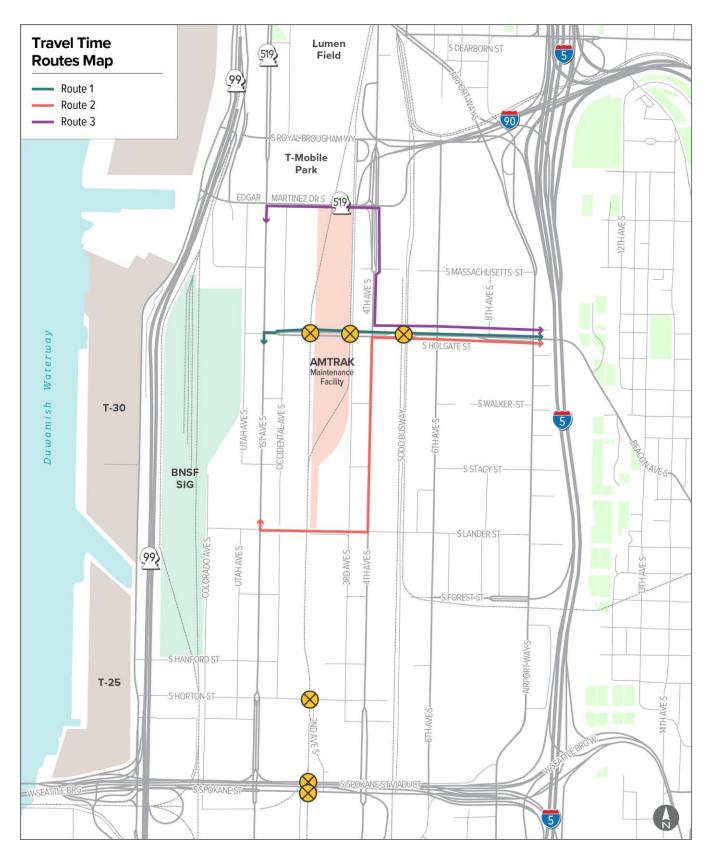


FIGURE 12: SYNCHRO TRAVEL TIME ROUTES

TABLE 6: ROUTE TRAVEL TIME RESULTS FROM SYNCHRO

DIRECTION	ROUTE	AM PEAK HOUR TRAVEL TIME (MIN)	INCREASE FROM ROUTE 1 (MIN)	PM PEAK HOUR TRAVEL TIME (MIN)	INCREASE FROM ROUTE 1 (MIN)
Eastbound (toward Beacon Ave S)	Route 1 – via S Holgate St	2.8	-	3.2	-
	Route 2 – via S Lander St	5.2	+2.4	4.9	+1.7
	Route 3 – via Edgar Martinez Dr S	3.8	+1.0	3.9	+0.7
Westbound (toward 1st Ave S)	Route 1 – via S Holgate St	3.6	-	3.5	-
	Route 2 – via S Lander St	5.3	+1.7	6.2	+2.7
	Route 3 – via Edgar Martinez Dr S	5.2	+1.6	5.4	+1.9

VISSIM ANALYSIS RESULTS

This section provides the technical results of the Vissim analysis on S Holgate St. The goal of the modeling process was to develop a model that could be used to analyze the interactions between the active rail crossings and closely spaced intersections between 1st Ave S and Airport Way S on S Holgate St. The priorities considered in the model development were to accurately simulate the effects of active rail crossing events and queue spillback during peak AM and PM periods while ensuring vehicle throughput and travel time reflected observed conditions. See Appendix E for details on Vissim model calibration.

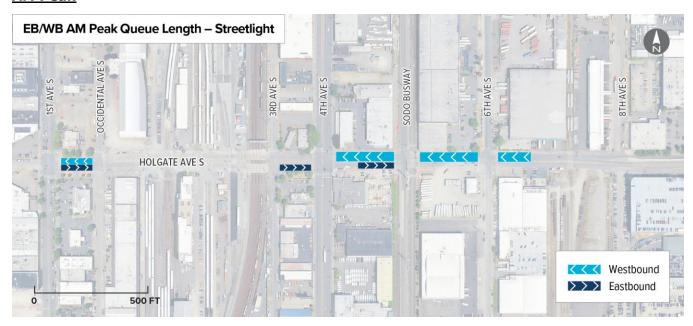
STUDY AREA

All Vissim study intersections (shown in Figure 7) are signalized except for S Holgate St and Occidental Ave S and S Holgate St and 3rd Ave S which are stop-controlled. Additionally, three active at-grade railway crossings were modeled which include the Sound Transit LRT tracks east of 4th Ave S (adjacent to the SODO Busway), BNSF mainline tracks west of 3rd Ave S (DOT#927461X), and Amtrak maintenance facility tracks east of Occidental Ave S (DOT#085583Y).

QUEUE LENGTHS

Queue lengths were compared to typical traffic data streamed from Google Maps API and a StreetLight Data Congested Segments analysis. The StreetLight Data analysis showed congestion associated with rail crossings in eastbound and westbound directions as shown Figure 13.

AM Peak



PM Peak

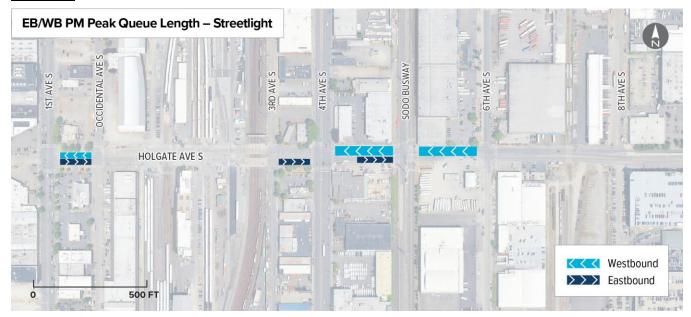
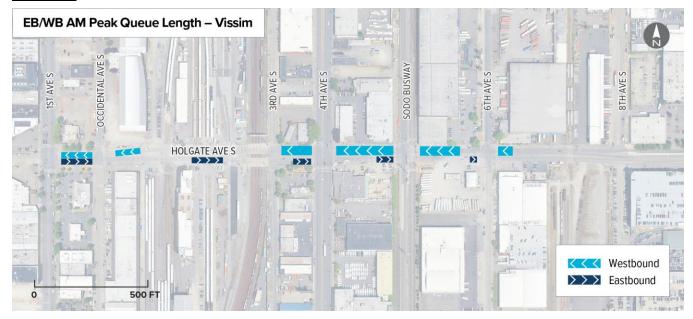


FIGURE 13: STREETLIGHT DATA PEAK PERIOD QUEUE LENGTHS

95th percentile and maximum queue lengths are reported for the AM and PM periods. In both periods, significant queuing occurred in the westbound direction caused by rail crossing events and matched the StreetLight Data analysis. Starting from the Sound Transit LRT rail crossing east of S Holgate St and 4th Ave S and ending at 6th Ave S, 95th percentile queue lengths exceeded storage capacity in the westbound direction, extending through and influencing queueing at the closely spaced upstream intersections. The Vissim queueing results showed longer westbound queues in the AM due to the distribution of gate down time and frequency. Eastbound queue lengths in the AM and PM periods are also closely related to rail crossing events and show patterns of queuing at

rail crossing gates that were found in StreetLight. Figure 14 shows the average maximum queue lengths at each intersection across the simulation.

AM Peak



PM Peak

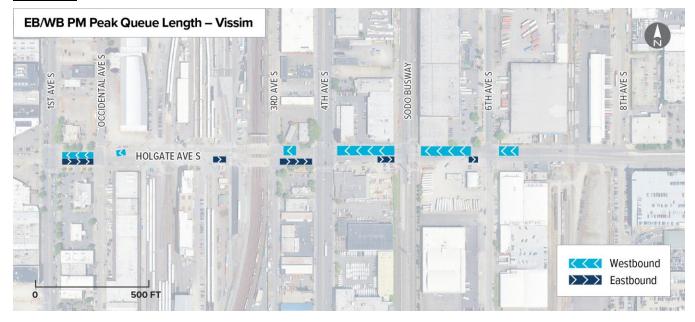


FIGURE 14: SIMULATED PEAK PERIOD MAXIMUM QUEUE LENGTHS

95th percentile queues are reported in Table 7 and Table 8 for the AM and PM periods, respectively.

TABLE 7: 95TH PERCENTILE QUEUE LENGTHS AM PEAK PERIOD

APPROACH	MOVEMENT	HOLGATE & 1ST	HOLGATE & OCCID- ENTAL	HOLGATE & 3RD	HOLGATE & 4TH	HOLGATE & SODO BUSWAY	HOLGATE & 6TH	HOLGATE & AIRPORT
	Left	25	-	-	85	-	-	70
NORTH- BOUND	Thru	265	85	80	775	130	245	160
	Right	-	-	-	-	-	-	-
	Left	50	-	-	135	-	-	-
SOUTH- BOUND	Thru	135	215	60	260	80	155	120
	Right	-	-	-	-	-	-	-
	Left	-	-	-	150	-	35	80
EAST- BOUND	Thru	70	0	180	105	110	85	-
	Right	-	-	-	-	-	-	60
	Left	-	-	-	285	-	60	-
WEST- BOUND	Thru	255	130	270	315	250	150	-
	Right	-	-	-	-	-	-	-

Bold = Exceeds Storage Capacity

TABLE 8: 95TH PERCENTILE QUEUE LENGTHS PM PEAK PERIOD

APPROACH	MOVEMENT	HOLGATE & 1ST	HOLGATE & OCCID- ENTAL	HOLGATE & 3RD	HOLGATE & 4TH	HOLGATE & SODO BUSWAY	HOLGATE & 6TH	HOLGATE & AIRPORT
	Left	60	-	-	50	-	-	125
NORTH- BOUND	Thru	265	65	45	390	120	260	50
	Right	-	-	-	-	-	-	-
	Left	85	-	-	280	-	-	-
SOUTH- BOUND	Thru	305	135	35	470	120	220	255
	Right	-	-	-	-	-	-	-
	Left	-	-	-	240	-	25	80
EAST- BOUND	Thru	205	0	105	190	160	140	-
	Right	-	-	-	-	-	-	65
	Left	-	-	-	365	-	90	-
WEST- BOUND	Thru	235	35	90	365	330	180	-
	Right	-	-	-	-	-	-	-

Bold = Exceeds Storage Capacity

DELAY AND LOS

Congestion along S Holgate St is highly dependent on the length and frequency of unpredictable train crossing events (see Figure 6 and Table 3). This causes a wide distribution of delay experienced at each intersection and excessive delay resulting in LOS E-F when crossing events last greater than 1 minute (LOS E begins at 55 seconds of incurred delay). Intersection LOS on the corridor ranges from A-F. The intersections closest to the rail crossings gates (Sound Transit LRT tracks east of 4th Ave S (adjacent to the SODO Busway), BNSF mainline tracks west of 3rd Ave S (DOT#927461X), and Amtrak maintenance facility tracks east of Occidental Ave S (DOT#085583Y) experience the greatest delay and worst LOS (F) rating in the study area. Through movements going eastbound and westbound are prioritized on the corridor resulting in LOS F for many side street and turning movements. For example, the left turning movements at S Holgate St and 4th Ave S exceeds 5 minutes of delay going northbound, southbound, and westbound due to the congestion on S Holgate St, signal operations during preemption, and minimal green time allocated to the movements. Figure 15 displays intersection LOS; Table 9 and Table 10 include intersection delay and LOS for the AM and PM peak periods, respectively.

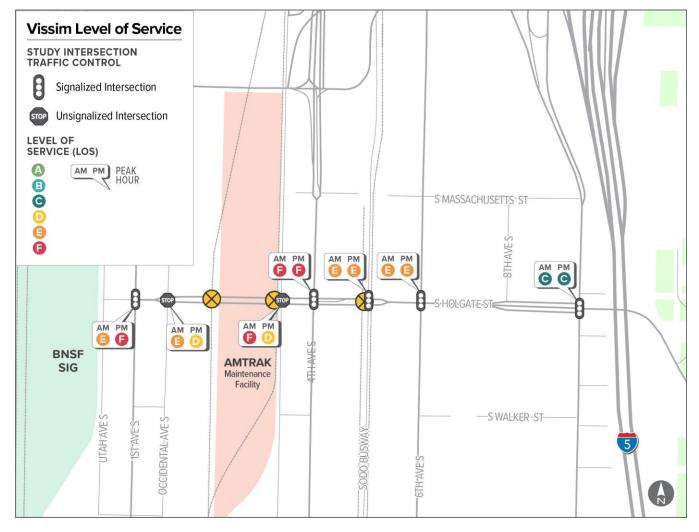


FIGURE 15: EXISTING CONDITIONS AM AND PM PEAK HOUR LOS RESULTS - VISSIM

TABLE 9: AM PEAK DELAY (SECONDS) AND LOS RESULTS

APPROACH	MOVEMENT	HOLGATE & 1ST	HOLGATE & OCCID- ENTAL	HOLGATE & 3RD	HOLGATE & 4TH	HOLGATE & SODO BUSWAY	HOLGATE & 6TH	HOLGATE & AIRPORT
	Left	33 (C)	48 (E)	148 (F)	345 (F)	-	127 (F)	45 (D)
NORTH- BOUND	Thru	46 (D)	39 (E)	46 (E)	145 (F)	85 (F)	126 (F)	17 (B)
	Right	48 (D)	28 (D)	35 (E)	147 (F)	49 (D)	122 (F)	-
	Left	29 (C)	77 (F)	11 (B)	304 (F)	-	115 (F)	-
SOUTH- BOUND	Thru	31 (C)	71 (F)	26 (D)	98 (F)	65 (E)	105 (F)	15 (B)
	Right	36 (D)	69 (F)	47 (E)	167 (F)	25 (C)	121 (F)	37 (D)
	Left	228 (F)	11 (B)	101 (F)	185 (F)	40 (D)	42 (D)	167 (F)
EAST- BOUND	Thru	56 (E)	1 (A)	157 (F)	125 (F)	36 (D)	27 (C)	-
	Right	240 (F)	3 (A)	151 (F)	129 (F)	-	27 (C)	8 (A)
	Left	178 (F)	70 (F)	101 (F)	344 (F)	-	42 (D)	-
WEST- BOUND	Thru	186 (F)	68 (F)	174 (F)	282 (F)	86 (F)	41 (D)	-
	Right	198 (F)	25 (C)	68 (F)	220 (F)	53 (D)	48 (D)	-
INTERSECTI	ON TOTAL	73 (E)	48 (E)	130 (F)	165 (F)	70 (E)	63 (E)	22 (C)

TABLE 10: PM PEAK DELAY (SECONDS) AND LOS RESULTS

APPROACH	MOVEMENT	HOLGATE & 1ST	HOLGATE & OCCID- ENTAL	HOLGATE & 3RD	HOLGATE & 4TH	HOLGATE & SODO BUSWAY	HOLGATE & 6TH	HOLGATE & AIRPORT
	Left	66 (E)	45 (E)	39 (E)	346 (F)	83 (F)	147 (F)	148 (F)
NORTH- BOUND	Thru	79 (E)	30 (D)	29 (D)	120 (F)	161 (F)	141 (F)	8 (A)
	Right	84 (F)	26 (D)	33 (D)	133 (F)	75 (E)	138 (F)	-
	Left	68 (E)	44 (E)	41 (E)	357 (F)	-	155 (F)	-
SOUTH- BOUND	Thru	68 (E)	45 (E)	32 (D)	90 (F)	115 (F)	140 (F)	14 (B)
	Right	50 (D)	41 (E)	42 (E)	90 (F)	33 (C)	144 (F)	13 (B)
	Left	218 (F)	6 (A)	9 (A)	224 (F)	-	56 (E)	204 (F)
EAST- BOUND	Thru	224 (F)	1 (A)	49 (E)	129 (F)	42 (D)	38 (D)	-
	Right	209 (F)	3 (A)	57 (F)	128 (F)	25 (C)	43 (D)	14 (B)
	Left	185 (F)	36 (E)	5 (A)	501 (F)	-	65 (E)	-
WEST- BOUND	Thru	187 (F)	37 (E)	23 (C)	208 (F)	101 (F)	54 (D)	-
	Right	201 (F)	12 (B)	3 (A)	299 (F)	67 (E)	46 (D)	-
INTERSECT	ON TOTAL	104 (F)	26 (D)	35 (D)	157 (F)	74 (E)	76 (E)	21 (C)

NETWORK PERFORMANCE

AM and PM network performance are shown in Table 11 and Table 12, respectively. Network performance was measured through system network delay (reported as vehicle hours of delay), system unserved demand (latent demand and latent delay), vehicle miles traveled, and travel time. Overall, there is more demand in the PM model resulting in higher total delay, latent demand (unrealized demand that is unable to enter the network), and latent delay (unrealized delay related to latent demand). On average, the AM and PM periods experience similar levels of average delay (35.1 and 34.5 seconds, respectively). Although corridor congestion results in overcapacity intersection approaches and long delays, particularly in the westbound direction, the network performance results show that >99% of the demand is processed within each period.

TABLE 11: AM NETWORK PERFORMANCE RESULTS

	AVERAGE DELAY / VEH (SEC)	VEHICLE HOURS OF DELAY (HRS)	LATENT DEMAND (VEH)	LATENT DELAY (VEH- HRS)	VEHICLE MILES TRAVELED (MI)	TRAVEL TIME (HRS)	THROUGH- PUT
AVG	35.1	56.3	0.4	0.8	2784.5	151.4	5620
STDDEV	3.5	5.6	0.5	0.3	10.5	5.8	17
MIN	30.9	49.4	0.0	0.5	2767.1	144.4	5588
MAX	41.1	65.8	1.0	1.4	2798.8	161.5	5645

TABLE 12: PM NETWORK PERFORMANCE RESULTS

	AVERAGE DELAY / VEH (SEC)	VEHICLE HOURS OF DELAY (HRS)	LATENT DEMAND (VEH)	LATENT DELAY (VEH- HRS)	VEHICLE MILES TRAVELED (MI)	TRAVEL TIME (HRS)	THROUGH- PUT
AVG	34.5	66.0	3.2	2.0	3187.6	173.8	6721
STDDEV	1.2	2.3	5.8	3.2	7.2	2.4	20
MIN	32.9	62.8	0.0	0.5	3174.5	170.4	6687
MAX	36.8	70.5	18.0	11.2	3198.3	178.9	6752

RESULTS SUMMARY

Traffic operations on S Holgate St are strongly affected by unpredictable train activity along the corridor. The length and frequency of crossing events contribute to delay and queueing, particularly during peak travel periods. Consistent with existing conditions in the field, westbound travel experiences higher delay and longer queues than eastbound traffic, resulting in spillback through upstream intersections from 4th Ave S to 6th Ave S. The eastbound direction also experiences delay and queuing associated with the rail crossing gates, though the queues do not spill back to upstream intersections. Side street operations were found to be affected by congestion on S

Holgate St and rail crossing events with movements crossing and turning onto S Holgate St experiencing high delay and long queues.

NON-MOTORIZED CONDITIONS

The existing conditions for people walking and biking were evaluated using Level of Traffic Stress (LTS), a method that rates the comfort of using the facility on a scale of 1 to 4. A lower score indicates lower stress and a more comfortable experience, while a higher score reflects greater stress due to traffic, speed and roadway design. For this study, WSDOT definitions for pedestrian and bicycle LTS were used, as provided in the WSDOT Design Manual⁵. WSDOT targets LTS 1 or LTS 2 for complete streets projects.

LTS is influenced by factors including the width of the pedestrian and bicycle facilities, separation from motor vehicles, the number of vehicular travel lanes, traffic volumes, and posted speeds. The WSDOT definitions of LTS do not consider factors such as presence of driveways, pavement condition, ADA accessibility (including curb ramps), or the nature/quality of the barrier between walking/rolling facilities and vehicle lanes. While LTS scores provide a good starting point and a high-level overview of a corridor's suitability for walking and rolling, caution should be used when applying an LTS score to assess a corridor's multi-modal accessibility and overall comfort level.

PEDESTRIAN LEVEL OF TRAFFIC STRESS (LTS)

Pedestrian LTS for the SODO study area was determined using the *WSDOT Design Manual* Section 1510.02(5)(a). Data for the analysis was primarily sourced from the City of Seattle GeoData portal, and additional data was collected using Google Street View and volume counts from IDAX. The resulting LTS for the segments in this analysis are shown in Figure 16.

The pedestrian LTS analysis shows a mixture of low- and high-stress facilities throughout SODO. These higher stress locations often occur where pedestrian infrastructure is present on roads with higher vehicle speeds and volumes. This can result in conflicting influences: quality facilities can reduce stress, while heavy traffic can increase it. In some areas, low stress ratings may reflect low traffic activity rather than high-quality pedestrian design, especially in the industrial parts of SODO.

The main north-south roadways through SODO (1st Ave S, 4th Ave S, 6th Ave S, and Airport Way S) were mainly low-stress (LTS 1 or 2) due to the presence of parking or a concrete or landscape barrier between vehicle lanes and the sidewalk, despite being along relatively high-traffic roads that include 2-3 lanes in each direction. While the experienced comfort of these roads may not match the analysis results, this points to opportunities to improve walking comfort along SODO's main roadways by using the existing cross section (for example, by improving or better-defining some of the barriers between vehicle and pedestrian travel lanes).

East-west facilities showed more distinct gaps in low-stress walking facilities, especially over the rail tracks between Occidental Ave S and 3rd Ave S. While Edgar Martinez Dr S and S Royal Brougham Way had low-stress (LTS 2) walking facilities, both roads require traversing a staircase between the stadiums and 4th Ave S.

⁵ See WSDOT Design Manual, Sections 1510.02 and 1520.02 for Level of Traffic Stress guidance for pedestrians and bicycles, respectively.



S HOLGATE ST CROSSING STUDY • EXISTING CONDITIONS • AUGUST 2025

BICYCLE LEVEL OF TRAFFIC STRESS (LTS)

Bicycle LTS for the SODO study area was determined using the *WSDOT Design Manual* Section 1510.03(3)(a). Data for the analysis was primarily sourced from the City of Seattle GeoData portal, and additional data was collected using Google Street View and volume counts from IDAX. The resulting bicycle LTS for the segments in this analysis are shown in Figure 17.

The analysis found that major roadways, including 1st Ave S, 4th Ave S, 6th Ave S, Airport Way S, and S Holgate St, typically provide high or very high stress environments for people biking. However, low and very low stress segments were identified elsewhere, such as along E Marginal Way S where the new protected bike lane facility was assumed to be completed. As with pedestrian LTS, some low-stress ratings may reflect low traffic volumes and speeds rather than dedicated or protected bicycle infrastructure.

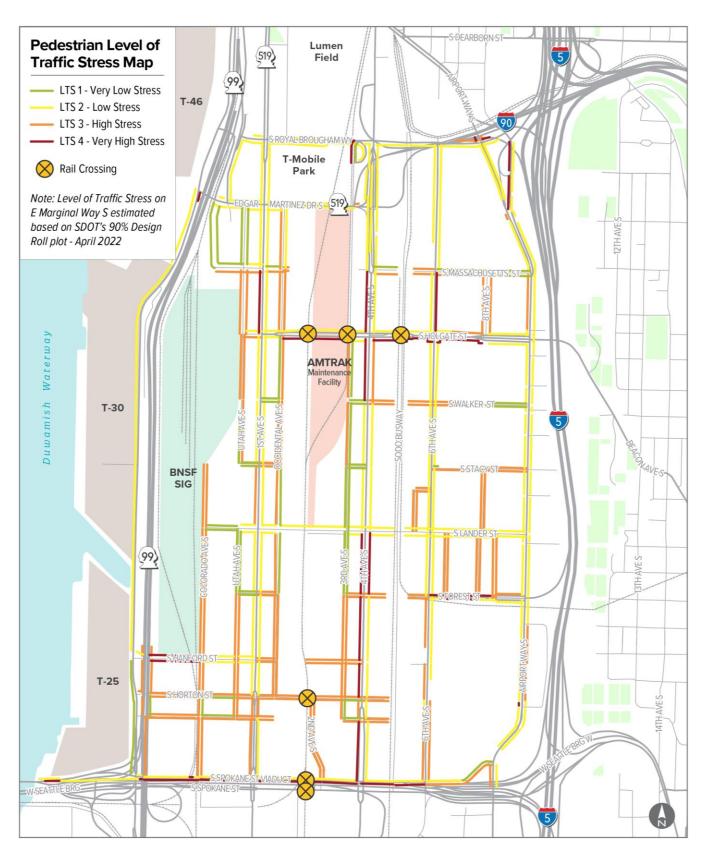


FIGURE 16: PEDESTRIAN LEVEL OF TRAFFIC STRESS (LTS)

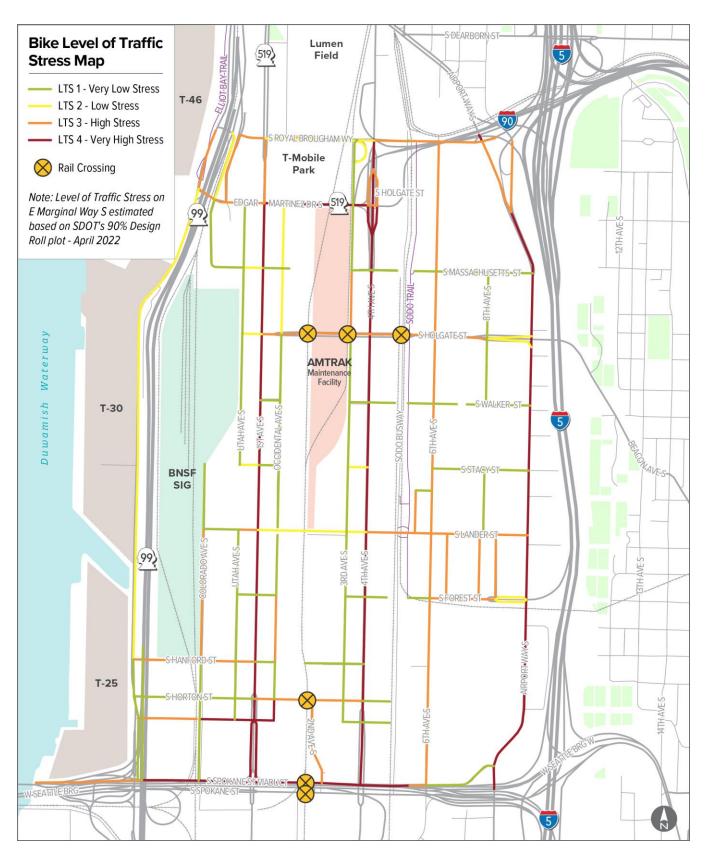


FIGURE 17: BICYLE LEVEL OF TRAFFIC STRESS (LTS)

FREIGHT TRUCK OPERATIONS

The SODO district in Seattle is part of the Duwamish Manufacturing and Industrial Center (MIC) and is also a Business Improvement Area (BIA). The district is home to a portion of the Port of Seattle and a large intermodal freight facility. Freight traffic in the area therefore is a combination of trips accessing local businesses and those carrying goods from the Port facilities to the wider region and across the country, either by truck directly or by transferring to freight rail.

This section first discusses the main freight truck trip generators in SODO and the main times of day and day of week for freight activity. Next, the origin-destination travel patterns for freight trips into and out of SODO – along with trips passing through the area – are analyzed. Lastly, the main routes taken by these trips are discussed, with a focus on the freight truck trips using the S Holgate St rail crossing.

NOTES ON METHODOLOGY

Much of the overall freight truck activity in SODO was analyzed through StreetLight Data, which uses a variety of data sources, including in-vehicle and personal navigation apps, to source their input data and produce aggregate truck volume and route estimates. For most freight truck trips in SODO and general truck routes into and out of the district, StreetLight Data produced analysis results that drew from a representative sample size. For some trip sets – in particular, trips related to Terminal 30 and trips to the BNSF Intermodal Facility – there were significant gaps in data, and it was determined that other sources/assumptions would be needed to represent these trips.

To supplement the analysis from Streetlight Data, trip distribution figures for Terminal 30 came from the October 2024 report *Cargo Terminal Access Strategy for Seattle Harbor*⁶, which provided forecasts of all Port of Seattle terminal operations. Streetlight Data is still used to assess freight traffic around SODO as a whole, as a much larger sample size of general freight traffic data was obtained for general freight vehicles in SODO.

FREIGHT TRUCK ACTIVITY

Truck activity in SODO can be divided into three main generators: the Port of Seattle Terminal 30, the BNSF SIG Intermodal Facility, and the individual industries/business in the SODO study area. The first two parts of this section go into detail about the individual Terminal 30 and BNSF SIG Intermodal Facility, while the last section compares freight activity over SODO as a whole.

PORT OF SEATTLE TERMINAL 30

RFID scan data of freight trucks entering and exiting Terminal 30 was provided by the Northwest Seaport Alliance for April through December 2024. The average daily profile of trucks entering and exiting Terminal 30 is shown in Figure 18.

⁶ See Cargo Terminal Access Strategy for Seattle Harbor. Produced for the Northwest Seaport Alliance by Heffron Transportation, Inc. October 2024.

Typical Daily Truck Activity - Terminal 30 Source: NWSA, RFID Scan Data | Apr-Dec 2024

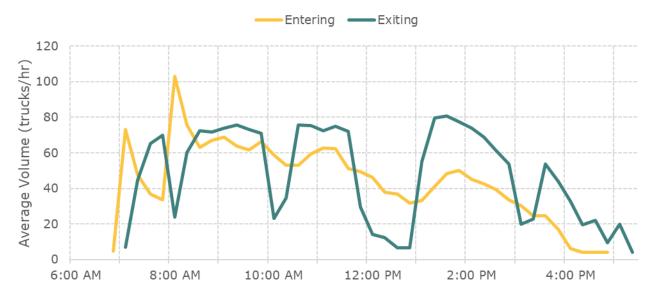


FIGURE 18: TYPICAL DAILY TRUCK ACTIVITY - TERMINAL 30

Terminal 30 generally has the highest amount of overall activity in the morning, roughly between 8:00-10:00 am, and overlapping with a typical commuting peak. Truck volumes during this period peak at a total of around 140 trucks per hour. This activity – with the exception of pauses as shown in the exiting truck volumes – remains fairly steady throughout the morning and drops off through the afternoon.

BNSF SIG INTERMODAL FACILITY

Freight truck data for the BNSF rail yard facilities was meant to center around its two main access points: the south entrance along S Hanford Street (referred to as South SIG), and the north entrance on S Massachusetts Street to the west of Utah Avenue S (referred to as North SIG). However, at the time of this report, data on freight truck access is not available, either through BNSF or through StreetLight Data. Figures for trips related to this facility are covered as part of the section *Access To Terminal 30* starting on page 45.

OVERALL FREIGHT TRUCK ACTIVITY GENERATED IN SODO

As an industrial and commercial center, SODO generates freight truck activity throughout the district. Figure 19 shows that freight movement is highest during the morning and midday periods on weekdays, with minimal activity on weekends. To analyze where freight activity was concentrated, SODO was divided into several zones based on major roadways and rail corridors, including Terminal 30 (Port of Seattle) and the BNSF rail yard facilities. Based on StreetLight Data, as shown in Figure 21, weekday freight activity is primarily centered around local businesses and industrial operations. Terminal 30 contributes less than 10 percent of total truck traffic in the area. Note that activity at the BNSF rail yard is not included in the data. Freight traffic is particularly

concentrated toward the southeast parts of the district, south of S Holgate St and east of the SODO Busway.

Profile of Truck Trips Generated in SODO by Time of Day Streetlight Data: Zone Activity Analysis | Jan-Dec 2023

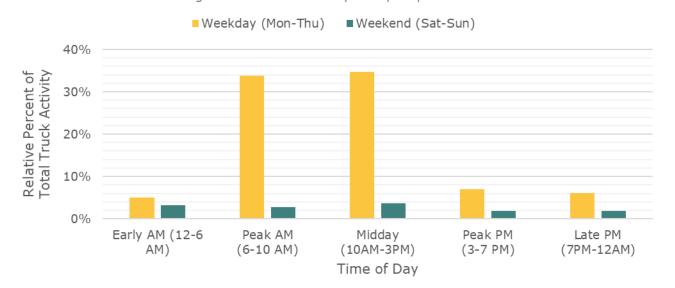
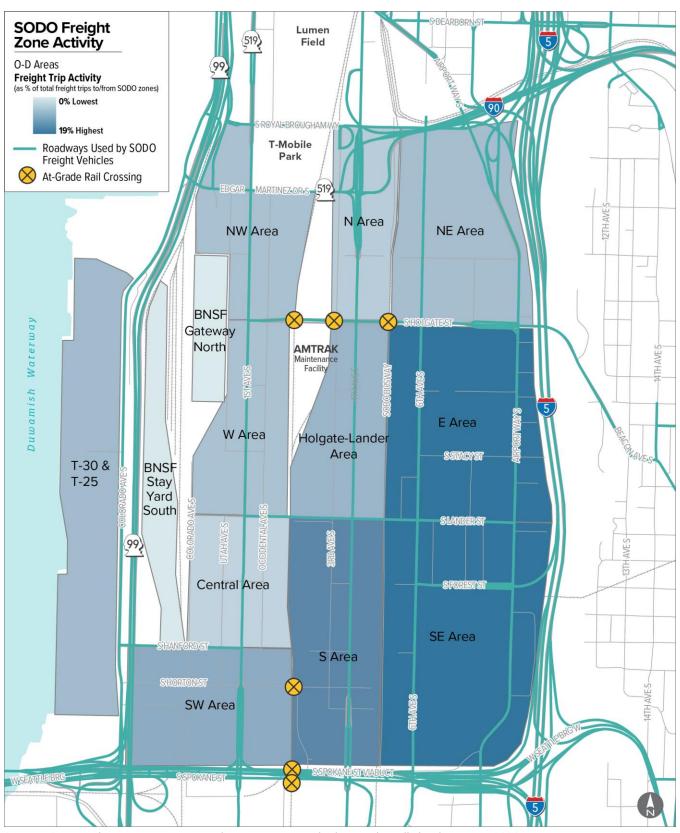


FIGURE 19: TIME OF DAY FREIGHT TRUCK ACTIVITY IN SODO FOR WEEKDAYS AND WEEKENDS

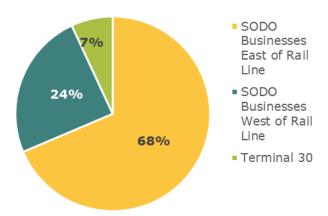


Source: StreetLight Data, Zone Activity | Heavy Duty Trucks | Mon-Thu, all-day | Jan-Dec 2023

FIGURE 20: FREIGHT TRUCK ACTIVITY BY ZONE IN SODO

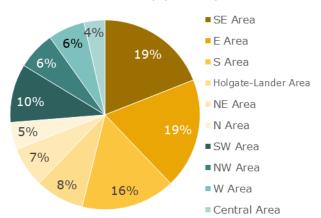
Share of Truck Activity - SODO

Source: StreetLight Data | Typical Weekday | All Day



SODO Business Truck Activity

Source: StreetLight Data | Typical Weekday | All Day



BNSF SIG Intermodal Facility not included due to lack of data

FIGURE 21: FREIGHT TRUCK RELATIVE ACTIVITY IN SODO

KEY FREIGHT MOVEMENTS/DESTINATIONS

This section discusses the nature of trips both generated by sites in SODO (including Terminal 30) and trips passing through the area. It includes a brief overview of the main origins/destinations of freight truck trips accessing Terminal 30.

TRUCK TRIP PATTERNS THROUGH SODO

While the previous section focused on freight activity generated within SODO, a large portion of freight traffic in the area is not generated by these sites. Instead, many trucks use the arterial roadways in SODO to travel through the district (noted here as pass-through trips) between regional highways and freight corridors.

Figure 22 shows truck trips by time of day and trip type. A majority of freight traffic is passing through SODO rather than generated by businesses or port/rail facilities. While the morning peak and midday see similar levels of traffic generated inside SODO, freight traffic passing through the area is significantly higher in the late morning and early afternoon.

Most pass-through trips are concentrated along Edgar Martinez Drive S, which serves as a key connection between I-90 to the east and SR 99 or 1st Ave S to the west. Not counting this sub-set of cut-through trips, traffic elsewhere in SODO is roughly evenly distributed between activity generated in the area versus passing through.

Profile of Truck Trips in SoDo by Time of Day Streetlight Data: O-D Analysis | Mon-Thu, All-Day | Jan-May 2023

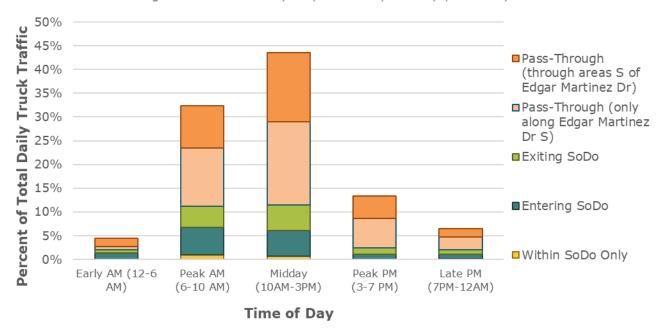


FIGURE 22: PROFILE OF TRUCK TRIPS IN SODO BY TIME OF DAY

ACCESS TO TERMINAL 30

As Streetlight Data was found to not reflect trips to/from Terminal 30 and the BNSF SIG Intermodal Facility, trip distribution figures around this terminal came from data and forecasts provided by the Northwest Seaport Alliance.

Figure 23 summarizes the primary travel routes for freight trips to and from Terminal 30. Over two-thirds of Terminal 30 trips travel to/from the wider region, with the majority of these trips to the south along I-5 and SR 99 or SR 509. Truck trips that stay local to the area mainly travel between Terminal 30 and the BNSF SIG Intermodal Facility (all of these trips use the south entrance off of S Hanford St rather than the north entrance off of S Massachusetts Ave). A smaller portion of Terminal 30 trips stay locally in SODO, with 8% traveling to and from individual businesses in the area.

Trip Distribution to/from Terminal 30

Source: Northwest Seaport Alliance (CTAS, Oct 2024) | Terminal 30, 2019
Daily Truck Trip Distribution

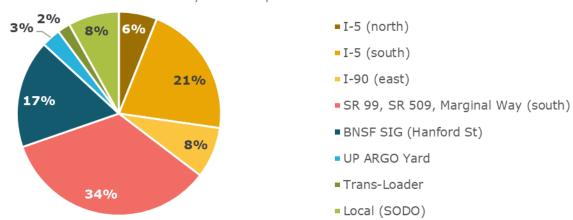
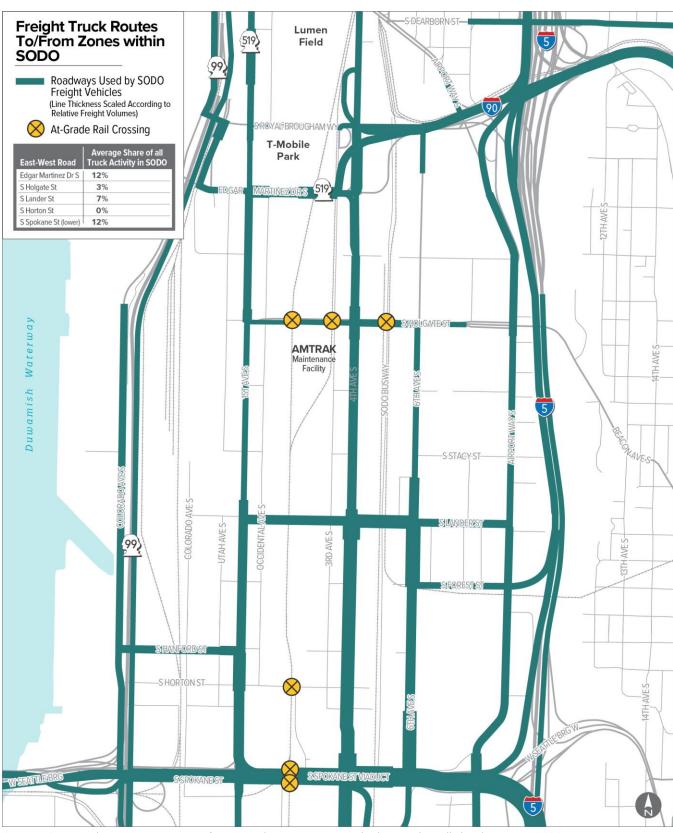


FIGURE 23: TRIP ORIGINS/DESTINATIONS FOR PORT OF SEATTLE TERMINAL 30

ROUTES THROUGH SODO

StreetLight Data was used to identify the main routes used by freight trucks traveling to or from businesses, port terminals, and rail facilities within SODO. Figure 24 shows the freight truck trips either starting or ending within SODO (including Terminal 30); the figure does not include pass-through freight trips in SODO. The share of truck activity (as a percent of <u>all</u> freight trips starting or ending in SODO) is also given for each east-west roadway over the main freight rail line.

The most frequently used crossings by freight trucks are Edgar Martinez Drive S and the lower level of S Spokane St, each accounting for 12 percent of all SODO-based truck trips. These routes provide the most direct access to I-5 and I-90 and are key freight corridors for regional travel. In contrast, S Holgate St is used by 3 percent of all SODO-based truck trips and S Lander St accounts for 7 percent of all SODO freight traffic; these roadways primarily serve local freight activity that stays within SODO. The Spokane St Viaduct does not carry much freight traffic going into or out of SODO (this analysis did not consider freight trips traveling on the Viaduct toward Terminal 5 or Harbor Island) – it accounts for around 3 percent of all freight traffic, almost entirely using the ramps to/from 1st Ave S.



Source: StreetLight Data, Top Routes for Zones | Heavy Duty Trucks | Mon-Thu, all-day | Jan-Dec 2023

FIGURE 24: TRUCK TRIP ROUTES TO/FROM PORT, RAIL & SODO ZONES

EVENT OPERATIONS

The following sections describe typical stadium events and their effects on the surrounding transportation network. Topics include the types and frequency of events at Lumen Field and T-Mobile Park, how traffic is managed during large events, and the role of S Holgate St in accommodating event-related travel.

TYPICAL EVENTS AT LUMEN FIELD AND T-MOBILE PARK

Sporting events constitute the majority of events that occur at both Lumen Field and T-Mobile Park. However, there are several other events that occur at these stadiums, such as concerts and other public gathering events, including large flat shows such as the Seattle Boat Show and graduation ceremonies. There are several days throughout the year in which both Lumen Field and T-Mobile Park host separate major events—such as a Seahawks, Sounders FC, or Reign FC game at the former and a Mariners game at the latter—which further affects traffic operations in the area. Table 13 and Table 14 detail typical events that occur at Lumen Field and T-Mobile Park throughout a typical year.

TABLE 13: TYPICAL LUMEN FIELD EVENTS

EVENT TYPE	FREQUENCY	TYPICAL ATTENDANCE	TYPICAL DAY OF WEEK	TYPICAL START/END TIME	TYPICAL SEASON	
SEATTLE SEAHAWKS	1-3 games per month	65,000 - 70,000	Sunday	1:25 - 4:00 PM	August- January	
				2:00 - 4:00 PM		
SEATTLE SOUNDERS	2-4 games per month	28,000 - 35,000	Saturday	5:30 - 7:30 PM	February- October	
		,		7:30 - 9:30 PM		
		8,000 -	Consider	4:30 - 6:30 PM	March-	
REIGN FC	2-3 games per month	15,000	Sunday	7:00 - 9:00 PM	November	
LUMEN FIELD CONCERTS	1-2 events per month	65,000 – 72,000	Saturday	4:00 PM – midnight	Spring- Summer	
WAMU THEATER	1-6 events per month	4,000 - 7,000	Friday Saturday	6:00 - 11:00 PM	Year round	
LARGE FLAT SHOWS	2-5 events per year	30,000 - 60,000*	Any	10:00 AM - 6:00 PM	Year round	

^{*} Typically multi-day events

TABLE 14: TYPICAL T-MOBILE PARK EVENTS

EVENT TYPE	FREQUENCY	TYPICAL ATTENDANCE	TYPICAL DAY OF WEEK	TYPICAL START/END TIME	TYPICAL SEASON
SEATTLE MARINERS	10-15 games per month	25,000 - 35,000	All	1:10 - 3:45 PM 6:40 - 9:15 PM	April- September
CONCERTS	1-2 events per month	35,000 – 45,000	Thursday, Friday, Saturday	6:00 - 11:00 PM	Summer
GRADUATION CEREMONIES	4-6 events per year	2,500 - 20,000	All	Afternoon	June
ENCHANT CHRISTMAS (WINTER ICE RINK)	Every day	8,000 - 15,000 per day	All	4:00 - 11:00 PM	November 22 – December 29 (in 2024)

STADIUM EVENT TRAFFIC CONTROL

In 2024, 44% of attendees drove to events at Lumen Field. Of the 56% of attendees who did not drive to the event in their personal vehicle, the most common modes of travel were the Link light rail, Sounder commuter rail, walking, and Transportation Network Companies (TNCs), like Uber or Lyft.

Events at T-Mobile Park have a similar mode split to Lumen Field, with 49% of eventgoers driving to the ballpark in 2024. Other popular travel modes are the Link light rail, TNCs, and walking.

Figure 25 and Figure 26 detail typical ingress and egress routes for stadium events. Major ingress/egress routes include I-5 and I-90, which are the regional corridors that provide access to and from the city center. Minor ingress/egress routes include SR-99, the West Seattle Bridge, various north-south surface streets such as 1st Ave S and 4th Ave S, and smaller east-west surface streets such as S Holgate St. In the hours preceding and immediately following events at Lumen Field and T-Mobile Park, traffic control measures are implemented to manage crowd flows and prioritize traffic efficiency. Traffic controls are typically in place two hours before and after the event starts/ends. It can be extended to around three hours for major events at Lumen Field or T-Mobile Park. As a result, some surface streets near the stadium area, such as Occidental Ave S, are closed to through traffic before and after stadium events.

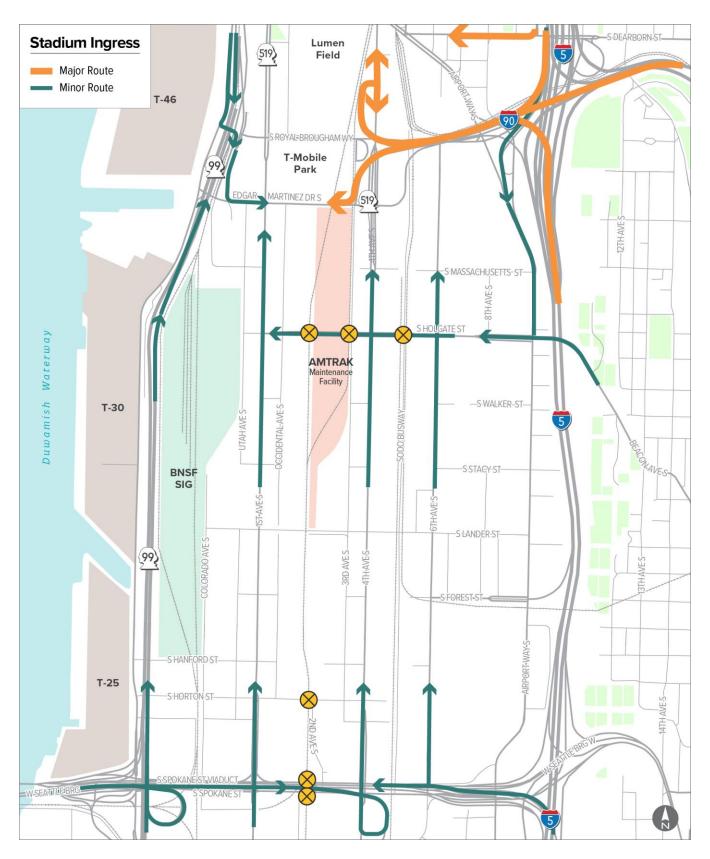


FIGURE 25: TYPICAL INGRESS ROUTES FOR STADIUM EVENTS

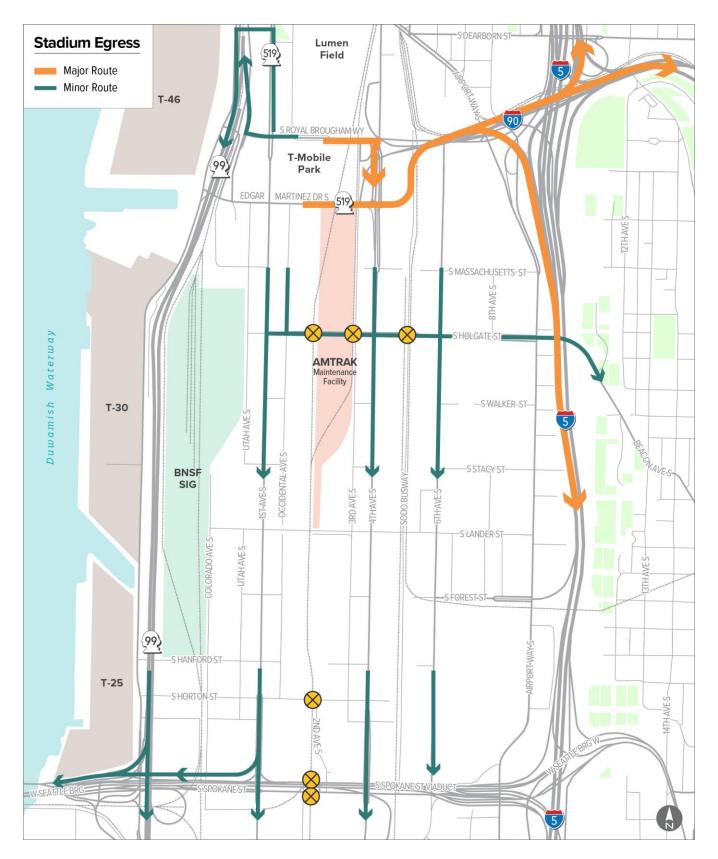


FIGURE 26: TYPICAL EGRESS ROUTES FOR STADIUM EVENTS

ROLE OF S HOLGATE ST FOR LARGE SCALE STADIUM EVENTS

To better understand the role of S Holgate St on days with large-scale events, traffic activity was analyzed over a 24-hour period on a Mariners game day. The selected event was a Seattle Mariners home game against the New York Yankees with a start time of 6:40 PM on Tuesday, May 13, 2025. Intersection turning movement counts were collected primarily along 1st Ave S and S Holgate St. They were broken into 15-minute increments including counts of light and heavy-duty vehicles, as well as pedestrians and bicyclists crossing each leg of the intersection.

Figure 27 shows the 24-hour vehicle counts in 15-minute intervals along S Holgate St east of 1st Ave S on the game day. This figure illustrates a traffic pattern similar to that of a typical urban roadway with AM and PM rush hour peaks. However, while the AM peak occurs around the typical 8-9 AM timeframe, the PM peak extends from the typical 3 PM to as late as 6 PM. The prolonged PM peak correlates with Mariners game's start time of 6:40 PM, indicating that a portion of the PM peak traffic were event related. However, the event-related traffic along S Holgate St did not appear to significantly increase the PM peak hour volume. The data also reveals that heavy vehicles make up about 6.7% of all vehicular traffic on the game day.



FIGURE 27: HOLGATE ST (EAST OF 1ST AVE S) TRAFFIC COUNT - 5/13/25

When compared to other adjacent streets, S Holgate St carries a relatively small amount of overall vehicular traffic on game days. The segment of S Holgate St immediately east of 1st Ave S saw a total of 5,548 vehicles over the 24-hour period of the game day on May 13th, 2025. This is much lower than other adjacent roadways also used as event ingress/egress routes, such as Edgar Martinez Dr S, S Lander St, 1st Ave S, and 4th Ave S, as shown in Table 15. However, the presence of multiple at-grade railroad crossings on S Holgate St poses challenges to event traffic management. In 2024, a new traffic control post was added by the Seattle Police Department

(SPD) at the BNSF railroad crossing, following concerns about egress traffic from Mariners games blocking railroad tracks.

TABLE 15: GAME DAY VEHICULAR TRAFFIC ON S HOLGATE ST AND NEARBY STREETS

24-HOUR GAME DAY VEHICULAR TRAFFIC*
5,500
25,300
30,300
11,700
17,800
18,400
25,800
26,200

^{*}Rounded to the nearest hundred

Pedestrian counts were also collected on the game day and are visualized in Figure 28. There is a substantial increase in pedestrian activity at the intersection of S Holgate St and 1st Ave S before and after the game. The increase in pedestrian traffic prior to the game is more broadly distributed starting two to three hours prior to the game and lasts until the game start, while the post-game traffic increase is more immediate and quicker to return to normal levels.

A comparison of pedestrian volume of S Holgate St with other nearby streets shows that S Holgate St likely carries a small proportion of overall pedestrian travel within the stadium area on game days. Table 16 compares overall pedestrian crossings at various intersections near the stadiums. The only intersection that experiences less pedestrian crossing activity is the S Lander St / 1st Ave S intersection, likely due to its further distance away from the stadium.

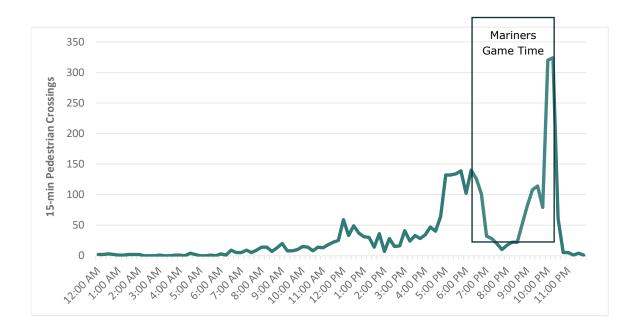


FIGURE 28: PEDESTRIAN CROSSINGS AT S HOLGATE ST AND 1ST AVE S INTERSECTION - MARINERS GAME DAY (05/13/2025)

TABLE 16: TOTAL PEDESTRIAN CROSSINGS AT INTERSECTIONS NEAR THE STADIUMS ON MARINERS GAME DAY (05/13/2025)

INTERSECTION	TOTAL PEDESTRIAN CROSSINGS*
S HOLGATE ST / 1ST AVE S	3,300
EDGAR MARTINEZ DR S / 1ST AVE S	14,700
S LANDER ST / 1ST AVE S	1,700
4TH AVE S / ROYAL BROUGHAM WAY S	12,400

^{*}Rounded to the nearest hundred

Bicycle usage along this segment of S Holgate St is limited, with the traffic count never exceeding four bicyclists within any 15-minute period. In summary, S Holgate St carries a relatively small share of event-related vehicular and pedestrian traffic when compared to its adjacent streets, while it serves as an important east-west connection within the local street network. While its use is lower, the presence of multiple at-grade railroad crossings on S Holgate St, with instances of reported vehicles track-blocking and railroad trespassing by pedestrians, create operational and safety issues along the street during events.

SAFETY ANALYSIS

This section presents key findings from crash history reports and the near-miss analysis conducted using video analytics. The safety analysis is organized into the four sections based on the data set used:

- **SODO Study Area:** This area encompasses the larger SODO study area from S Royal Brougham Way to the north, Airport Way S to the east, S Spokane St to the south and E Marginal Way S to the west. This study area includes all the crashes retrieved from WSDOT Public Disclosure Request Center between January 2020 to December 2024 within the boundary; however, crashes on the West Seattle Bridge, SR-99 and I-5 were excluded from this study area.
- **S Holgate St Corridor Study Area:** This study area involves crashes retrieved from the WSDOT Public Disclosure Request Center between January 2020 to December 2024 that occurred within the S Holgate St corridor from Utah Ave S to Airport Way S. All crashes that occurred along the segment and intersection related crashes at crossing streets were included in this analysis.
- Rail-related Crashes: This section summarizes the crash reports provided by the Federal Railroad Administration and Sound Transit.
- **Near-Miss Analysis:** This section summarizes key findings from the near-miss video analytics conducted by Street Simplified. The data used for this analysis involved collecting continuous video from April 21, 2025, to April 30, 2025.

Figure 29 provides a map of the study area boundaries.



FIGURE 29: SAFETY STUDY AREA BOUNDARIES

CRASH HISTORY AND TRENDS

The crash data for the SODO Study Area and S Holgate St Corridor Study Area was retrieved from the Washington State Department of Transportation (WSDOT) Public Disclosure Request Center database between January 1, 2020, to December 31, 2024. Crash records include all data collected by the reporting officer, including crash identification (jurisdiction, location, date, time), demographics (age, sobriety, safety equipment usage), environmental (weather, road surface), and crash details (type of collision, contributing circumstance, vehicle type, severity).⁷

The collision severity is defined in the WSDOT Safety Analysis Guide as follows:

- Fatal injury: A collision that results in the death of a person within 30 days of the collision.
- Suspected serious injury (serious injury): A collision that results in broken bones, dislocation, severe lacerations, or unconsciousness, but not death.
- **Suspected minor injury (minor injury):** A collision that results in other visible injuries, including minor lacerations, bruising, and rashes.
- **Possible injury:** A collision that results in the complaint of non-visible pain/injury, such as confusion, limping, and soreness. No wounds or injuries are readily evident.
- **Property damage only (PDO) or No Apparent Injury:** A collision without injury or complaint of pain but resulting in property damage to a vehicle or other object. There is no physical evidence of injury.

The most severe crashes are commonly classified as FSI (Fatal or Severely Injured).

SODO STUDY AREA

The following section will provide a summary of crash data for the larger SODO Study Area from S Royal Brougham Way to the north, Airport Way S to the east, S Spokane St to the south and E Marginal Way S to the west. For the purposes of this report, crashes on the West Seattle Bridge, State Route 99 and I-5 were excluded from this analysis.

CRASHES OVER TIME

Between 2020 and 2024, a total of 849 crashes were reported within the SODO study area. Of these, 14 crashes resulted in a fatality and 40 resulted in serious injuries. While the overall number of crashes increased steadily over the five-year period, peaking in 2023, there was a slight decline in total crashes in 2024. However, the annual number of fatal and serious injury crashes remained relatively consistent, fluctuating between 9 and 12 per year. Table 17 and Figure 30 present an annual breakdown of crash severity, including fatal, serious injury, minor injury, possible injury, no apparent injury, and unknown severity categories.

Onder 23 U.S. Code § 148 and 23 U.S. Code § 407, safety data, reports, surveys, schedules, lists, compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential crash sites, hazardous roadway conditions, or railway-highway crossings are not subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.

TABLE 17: NUMBER OF CRASHES BY SEVERITY BETWEEN 2020 AND 2024 FOR SODO STUDY AREA

YEAR	FATAL	SERIOUS INJURY	MINOR INJURY	POSSIBLE INJURY	NO APPARENT INJURY	UNKNOWN	TOTAL
2020	3	8	16	27	73	2	129
2021	4	9	37	37	78	4	169
2022	3	6	31	42	93	2	177
2023	3	6	37	38	105	8	197
2024	1	11	36	31	92	6	177
TOTAL	14	40	157	175	441	22	849

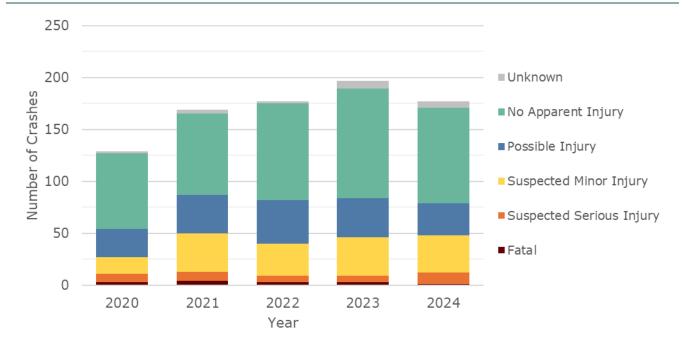


FIGURE 30: TOTAL NUMBER OF CRASHES BETWEEN 2020 AND 2024 FOR SODO STUDY AREA

The low number of collisions in 2020 could be explained by the impact of COVID-19, where there were significant declines in traffic exposure. On March 24, 2020, Governor Inslee enacted the "Stay Home, Stay Healthy" order that required every Washingtonian to stay home (excluding essential activities) and closed all non-essential businesses. Based on the 2020 Washington Annual Traffic Safety Report, the highway traffic volumes reduced to 60% of the volume from 2019. Increased

crash frequency and crash severity in 2020 and 2021 are consistent with state and national trends.⁸

2020-2024 CRASH SUMMARY

This section provides a high-level summary of crash statistics for the five most recent years of data between 2020 and 2024. Figure 31 displays the proportion of crash types, revealing that entering at angle (24%) and rear-end (16%) are the top two crash types for all severities. Figure 32 displays the top twelve reported contributing circumstance, revealing "unknown distraction" and "did not grant right-of-way to vehicle" as the highest proportion of crashes.

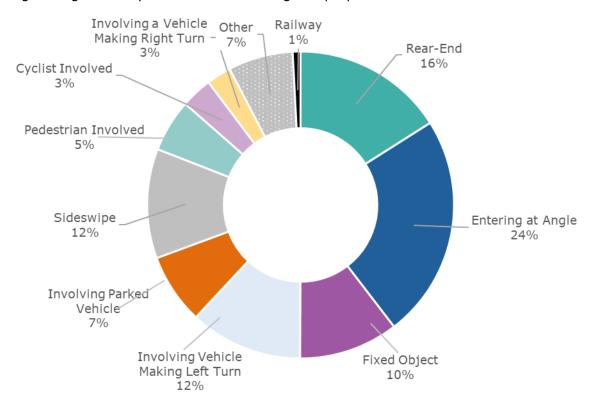


FIGURE 31: PROPORTION OF CRASH TYPES FOR SODO STUDY AREA (2020-2024)

S HOLGATE ST CROSSING STUDY • EXISTING CONDITIONS • AUGUST 2025

⁸ NHTSA's National Center for Statistics and Analysis: https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813561

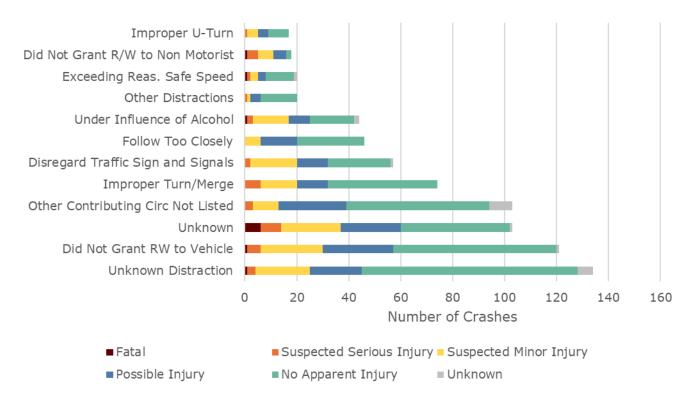


FIGURE 32: TOP 12 CONTRIBUTING CIRCUMSTANCES FOR CRASHES BY SEVERITY FOR SODO STUDY AREA (2020-2024)

Table 18 highlights the total number of crashes, fatal and serious injury crashes (FSI) by various attributes.

TABLE 18: SUMMARY OF COLLISION ATTRIBUTES FOR HOLGATE STUDY AREA (2020-2024)

	ATTRIBUTE	TOTAL NUMBER OF CRASHES (849 TOTAL)	% OF TOTAL CRASHES	FSI CRASHES (FATAL AND SERIOUS INJURY) (54 TOTAL)	% OF TOTAL FSI CRASHES
	Intersection Related	470	55%	28	52%
	Distracted Driver Involved	206	24%	10	19%
	Lane Departure	135	16%	10	19%
	Speeding	42	5%	5	9%
<u>(65+</u>	Older Driver (65+) Involved	90	11%	4	7%

ATTRIBUTE	TOTAL NUMBER OF CRASHES (849 TOTAL)	% OF TOTAL CRASHES	FSI CRASHES (FATAL AND SERIOUS INJURY) (54 TOTAL)	% OF TOTAL FSI CRASHES
Alcohol Impaired	56	7%	6	11%
Heavy Vehicle Involved	113	13%	8	15%
Pedestrian Involved	52	6%	21	39%
Cyclist Involved	30	4%	6	11%
Unrestrained Occupant	17	2%	4	7%
Motorcyclist Involved	24	3%	7	13%

Over half the crashes in the SODO Study Area were reported intersection related and a quarter of crashes involved a distracted driver.

Vulnerable road users, such as pedestrians and bicyclists, accounted for only 9% of total crashes, but they were involved in half (50%) of all FSI crashes. These figures indicate that when a crash involves a vulnerable road user, the likelihood of serious injury or death is high. Figure 33 shows the total number of pedestrian and bicycle crashes over the five-year study period, showing that the year 2024 reported the highest number of pedestrian crashes and the year 2022 reported the highest number of bicyclist crashes.

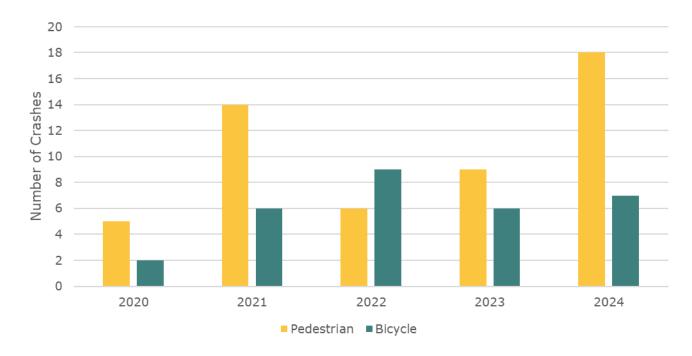


FIGURE 33: NUMBER OF PEDESTRIAN- AND BICYCLIST-INVOLVED CRASHES FOR SODO STUDY AREA (2020-2024)

Figure 34 provides a map of all crashes by severity in the SODO Study area. Between 2020 and 2024, a total of fourteen fatal and 40 serious injury (FSI) crashes were reported within the SODO Study Area. Of the 14 fatal crashes, 50% involved a vehicle traveling straight and striking a pedestrian. Additionally, half of these fatal incidents occurred under dark lighting conditions despite the presence of street lighting, suggesting potential deficiencies in illumination at certain locations within the study area.

As shown on Figure 34, 4th Ave S experienced the highest concentration of FSI crashes, accounting for eight fatalities and twelve serious injuries, representing approximately 37% of all FSI crashes in the area. Notably, all four pedestrian fatalities along this corridor occurred under dark lighting conditions, highlighting a recurring safety concern.

In contrast, the S Holgate St Corridor recorded three fatal and three serious injury crashes during the same period. Each of the fatal crashes involved a vulnerable road user, underscoring the heightened risk for pedestrians and bicyclists along this corridor.

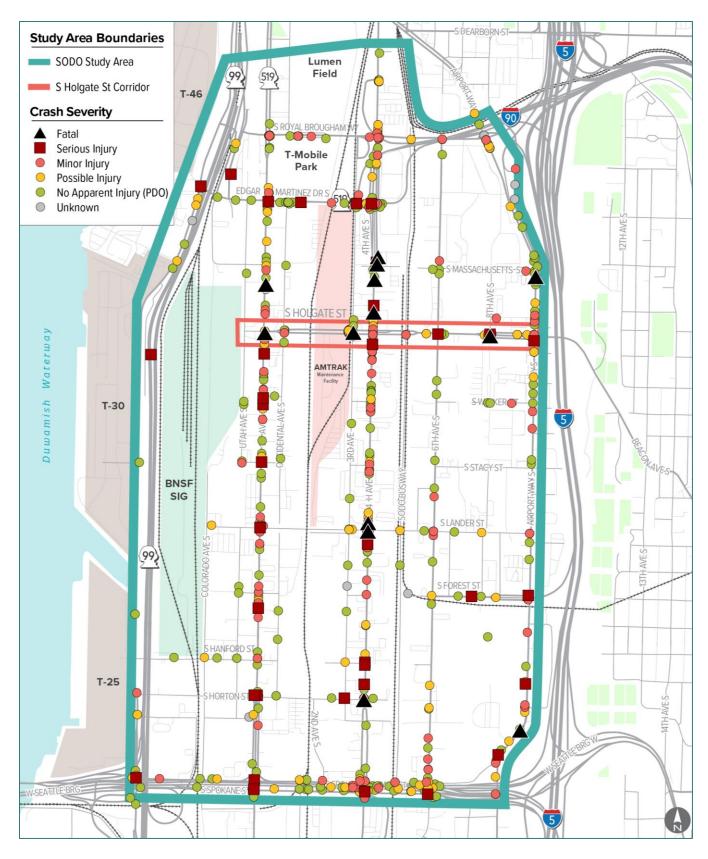


FIGURE 34: CRASHES WITHIN SODO STUDY AREA BOUNDARY (2020 TO 2024) (SOURCE: WSDOT)

S HOLGATE ST CORRIDOR STUDY

The following section provides a summary of crash data for S Holgate St from Utah Ave S to Airport Way S.

CRASHES OVER TIME

Between 2020 and 2024, S Holgate St Corridor reported over 93 crashes, including three fatal crashes and three serious injury crashes. Overall, the reported crash trends over time have increased each year with a small drop in 2024. Table 19 and Figure 35 display the number of crashes by severity per year.

TABLE 19: NUMBER OF CRASHES BY SEVERITY BETWEEN 2020 AND 2024 FOR S HOLGATE ST CORRIDOR

YEAR	FATAL	SERIOUS INJURY	MINOR INJURY	POSSIBLE INJURY	NO APPARENT INJURY	UNKNOWN	TOTAL
2020	2	1	2	2	6	1	14
2021	0	0	8	2	8	1	19
2022	1	1	6	4	7	1	20
2023	0	0	5	4	12	0	21
2024	0	1	4	7	6	1	19
TOTAL	3	3	25	19	39	4	93

The low number of collisions in 2020 could be explained by the impact of COVID-19, where there were significant declines in traffic exposure, similar to the SODO Study Area trend.

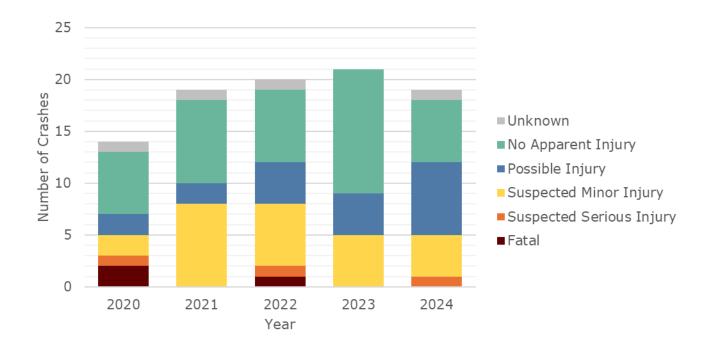


FIGURE 35: TOTAL NUMBER OF CRASHES BETWEEN 2020 AND 2024 FOR S HOLGATE ST CORRIDOR

2020-2024 DATA ANALYSIS

This section provides a high-level summary of crash statistics for the five most recent years of data between 2020 and 2024 along S Holgate St Corridor. Figure 36 displays the proportion of crash types, revealing that entering at angle (27%) and rear-end (20%) are the top two crash types for all severities. Figure 37 displays the top twelve reported contributing circumstance, revealing "did not grant right-of-way to vehicle" and "unknown" as the highest proportion of crashes.

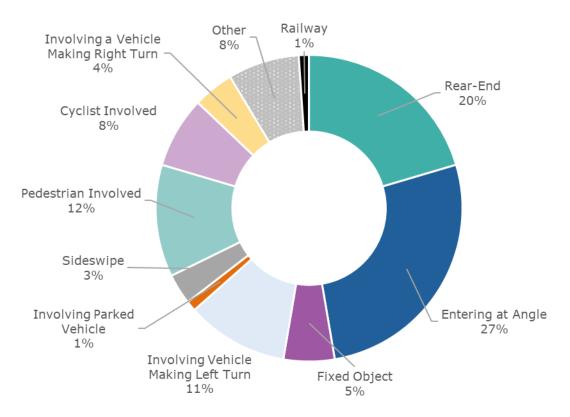


FIGURE 36: PROPORTION OF CRASH TYPES FOR HOLGATE ST (2020-2024)

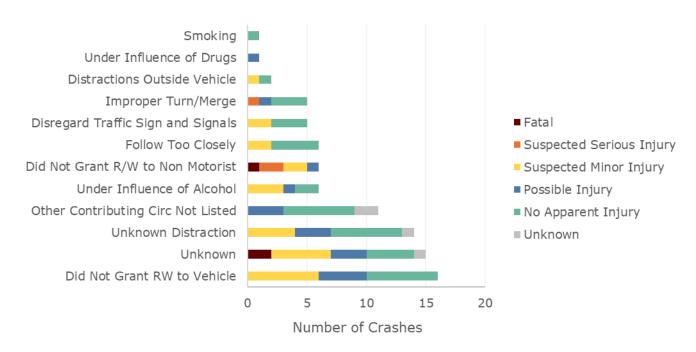


FIGURE 37: TOP 12 CONTRIBUTING CIRCUMSTANCES FOR CRASHES BY SEVERITY FOR S HOLGATE ST (2020-2024)

Table 20 highlights the total number of crashes and fatal and serious injury (FSI) crashes by various attributes.

TABLE 20: SUMMARY OF COLLISION ATTRIBUTES FOR S HOLGATE ST (2020-2024)

ATTE	RIBUTE	TOTAL NUMBER OF CRASHES (849 TOTAL)	% OF TOTAL CRASHES	FSI CRASHES (FATAL AND SERIOUS INJURY) (54 TOTAL)	% OF TOTAL FSI CRASHES
Inter	rsection Related	78	84%	6	100%
Distr	racted Driver Involved	23	25%	1	17%
Lane	e Departure	4	4%	0	0%
Spee	eding	1	1%	0	0%
Olde	r Driver (65+) Involved	10	11%	0	0%
Alcoh	hol Impaired	6	6%	0	0%
Heav	vy Vehicle Involved	9	10%	0	0%
Pede	estrian Involved	11	12%	2	33%
Cycli	ist Involved	8	9%	3	50%
Unre	estrained Occupant	3	3%	0	0%
Moto	orcyclist Involved	2	2%	0	0%

Over three quarters of the crashes on S Holgate St were reported intersection related and a quarter of crashes involved a distracted driver.

Vulnerable road users, such as pedestrians and bicyclists, accounted for only 21% of total crashes, but they were involved in a majority (83%) of all FSI crashes. These figures indicate that when a crash involves a vulnerable road user, the likelihood of serious injury or death is high. Figure 38 shows the total number of pedestrian and bicycle crashes over the five-year study period, showing that the year 2024 reported the highest number of pedestrian crashes and the year 2022 reported the highest number of bicyclist crashes.

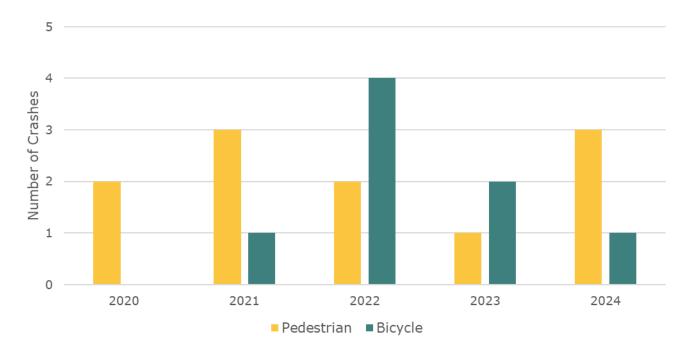


FIGURE 38: NUMBER OF PEDESTRIAN- AND BICYCLIST- INVOLVED CRASHES FOR S HOLGATE ST (2020-2024)

RAIL-RELATED CRASHES

The following section summarizes the crash reports provided by the Federal Railroad Administration and Sound Transit.

FRA-REPORTED RAIL CROSSING CRASHES

Between 1975 and 2024, there were a total of 51 reported crashes from the FRA that was shared with the project team. The crashes were then filtered to the area along the S Holgate St Corridor. Of that total, 8 collisions were reported on the west at-grade rail crossing (085583Y) east of Occidental Ave S and 7 collisions were reported on the east at-grade rail crossing (927461X) west of 3rd Ave S. The collisions are summarized by location and date in Table 21.

TABLE 21: FRA RAIL-RELATED CRASHES ALONG HOLGATE CORRIDOR (1975-2024)

RECORD ID #	DATE & TIME	EVENT	SEVERITY
RAIL CROSSIN	IG ID: 085583Y	(EAST OF OCCIDENTAL AVE S)	
NW1214201	12/05/2014 6:10 PM	31-year-old female driving 10 mph westbound went around the gate and was struck by a freight train travelling north at 20 mph.	Fatality (driver)
NW0111202	01/30/2011 2:10 PM	57-year-old male was walking over the rail crossing while warning flashers were on both sides of crossing. He was struck and killed by a freight train travelling at 30 mph.	Fatality (pedestrian)

RECORD ID #	DATE & TIME	EVENT	SEVERITY
20128WSD01	01/28/1992 7:25 AM	An auto driver, with a passenger, was travelling 5 mph westbound went around the gate and stopped on the train crossing. The train was travelling south at 3 mph and was reported "yard/switching" when it struck the vehicle.	2 Injures (driver and passenger)
PA0167	01/30/1991 1:45 AM	An auto driver travelling 20 mph eastbound did not stop when flashers were on. The train was travelling northbound at 2 mph and was reported "yard/switching" when it hit the vehicle.	Non-injury
PA 254	03/12/1988 9:00 PM	A truck driver travelling 10 mph westbound went around the gate and was reported moving over the crossing when it was struck by a southbound train travelling at 10 mph.	Non-injury
121687A	12/16/1987 5:30 PM	A truck driver travelling 10 mph eastbound stopped then proceeded to move over the crossing while both sides provided flashing warning. A passenger train was travelling 5 mph southbound when it struck the truck.	Non-injury
PA189	02/15/1981 8:55 PM	An auto driver travelling 5 mph stopped then proceeded to move over the crossing (while flashers were on) when it was struck by a train travelling at 2 mph.	Non-Injury
PA550	04/13/1979 9:40 PM	An auto driver was travelling westbound at 20 mph and did not stop and was hit by a train travelling 3 mph.	Injury (driver)
RAIL CROSSIN	G ID: 927461X	(WEST OF 3RD AVE S)	
NW0624203	06/28/2024 9:23 AM	An auto driver was travelling westbound at 30 mph that went around the gates and was reported moving over the crossing. A freight train travelling 25 mph southbound struck the driver and caused the driver an injury.	Injury (driver)
NW0624204	06/28/2024 9:30 AM	A male auto driver, with two passengers, travelling westbound went around the gates and was reported stalled or stuck on the train crossing. A northbound train travelling 25 mph struck the automobile.	Non-Injury
NW0423201	04/14/2023 10:20 PM	A 50-year-old male pedestrian walking eastbound, went around the gates, and was reported walking over the crossing when he was struck by a work train travelling southbound at 25 mph.	Injury (Pedestrian)
NW0819202	08/11/2019 10:00 AM	A 65-year-old male was reported walking eastbound and trespassing when he was struck and killed by a freight train travelling northbound at 19 mph.	Fatality (Pedestrian)

RECORD ID #	DATE & TIME	EVENT	SEVERITY
NW0418203	04/27/2018 11:45 PM	A male pedestrian, who was reported trespassing, was sitting on the crossing and was struck by eastbound freight train travelling at 21 mph.	Fatality (Pedestrian)
NW0617200	06/04/2017 9:08 AM	60-year-old male pedestrian walking eastbound was reported "preceded gates" and was struck by a northbound freight train travelling 15 mph.	Fatality (Pedestrian)
20160920	09/20/2016 4:14 PM	A 76-year-old male driver was driving an automobile travelling westbound and was reported "stalled or stuck on crossing". A commuter train travelling 39 mph southbound struck the driver.	Injured (Driver)

Source: Federal Railroad Administration

SOUND TRANSIT-REPORTED CRASHES

Between 2013 and 2025, there were a total of 7 collisions and 42 near-misses recorded by Sound Transit for the rail crossing east of 4th Ave S and used by the Link light rail trains. The collisions are summarized in Table 22.

TABLE 22: SOUND TRANSIT LINK RAIL-RELATED CRASHES ALONG S HOLGATE ST (2013-2025)

RECORD ID #	DATE & TIME	EVENT	ROADWAY USER	SEVERITY
27248	11/3/2024 10:00 PM	A northbound train approached the crossing and reported all of the appropriate audibles and procedures. A female pedestrian was reported running across the crossing and was struck by the train and walked away.	Pedestrian	Uninjured
69	4/17/2017 8:42 AM	A southbound train approached the crossing and the train sounded horn and applied max break when it observed an eastbound pedestrian crossing. The pedestrian travelled approximately 24 feet from point of impact and was transported to hospital.	Pedestrian	Minor injuries
68	2/21/2017 8:23 PM	A northbound train struck a vehicle that bypassed the automatic crossing gates and flashers.	Vehicle	Unknown
2	8/10/2016 3:20 PM	A southbound train sounded its horn when a pedestrian entered the crossing from the west side gate. Train operator used max break, but struck pedestrian.	Pedestrian	Minor Injuries (lacerations)

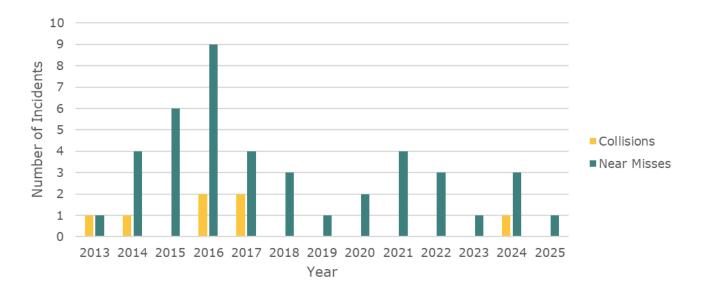
RECORD ID #	DATE & TIME	EVENT	ROADWAY USER	SEVERITY
54	2/18/2016 8:50 AM	A female pedestrian opened the pedestrian gate and walked in front of a northbound light rail vehicle and was struck.	Pedestrian	Serious Injury (life- threatening)
36	1/8/2014 3:49 PM	A pedestrian walking eastbound ignored traffic signals and warnings, and was struck by a light rail vehicle.	Pedestrian	Serious Injury (non- life threatening)
31	5/21/2013 7:07 AM	A pedestrian walking westbound was reported to have jumped in the in pathway of the light rail vehicle and was struck. The operator applied max break and horn prior to impact.	Pedestrian	Serious Injury (hospitalized)

Source: Sound Transit

Based on the report findings, these collisions are typically caused by roadway users ignoring or defying the protective measures in place at the crossing and on the trains themselves. For instance, the collision on May 21, 2013, involved a pedestrian jumping into the path of the train. The collision on January 8, 2014, involved a pedestrian crossing in the crosswalk against the signals. The collision on February 8, 2016, was caused by a pedestrian opening the pedestrian gate and walking in front of the train. The collision on August 10, 2016, involved a pedestrian entering the crossing despite the train operator sounding the horn. The vehicle collision on February 21, 2017, was due to the vehicle bypassing the automatic crossing gates. The collision on April 17, 2017, was caused by a pedestrian watching a northbound train while crossing but failing to notice a southbound train approaching despite that train sounding its horn. The most recent crash on November 3, 2024, was caused by a pedestrian running across the tracks while horns and audible signals were activated.

While none of the collisions reported during this timeframe were explicitly listed as fatal at the time of the collision occurring, it is unclear if those pedestrians who were hospitalized ultimately survived their injuries.

Figure 39 provides a breakdown of the number of collisions and near misses by year at the S Holgate St crossing adjacent to the SODO busway. Near misses are incidents in which a collision appeared to be imminent but was avoided through successful evasive actions by the train operator, the highway user, or both. Such incidents were deemed significant enough by the operator to be documented.



Source: Sound Transit

FIGURE 39: NUMBER OF COLLISIONS AND NEAR MISSES BY YEAR (HOLGATE CROSSING)

NEAR-MISS ANALYSIS SUMMARY

A near-miss analysis was conducted on S Holgate St at the main BNSF rail crossing (927461X) west of 3rd Ave S to identify problem areas and highlight instances where a crash almost occurred. Continuous video monitoring data was collected by Street Simplified using temporary cameras installed on either side of the rail crossing from Monday, April 21, 2025 at 6:30 PM to Wednesday, April 30, 2025 at 6:00 PM. During the study time period, there were a total of 748 total train crossings events.

Based on this continuous video collection and video analytics, the findings were summarized into two categories:

- 1. Intersection Related Issues
- 2. Instances where Gates were Down

The following subsections highlight the key findings from the near-miss analysis.

1. INTERSECTION-RELATED ISSUES

Figure 40 shows the existing lighting conditions for each corner of the intersection. In particular, the northeast and southeast corners could have better visibility with improved lighting.

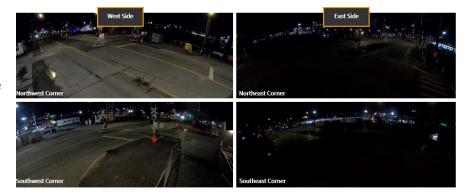


FIGURE 40: NIGHTTIME CONDITIONS AT S HOLGATE ST AND E RAILROAD CROSSING

Figure 41 shows there are trains regularly parked almost 200 feet from the crossing, which may obstruct the view of oncoming southbound trains around the corner.

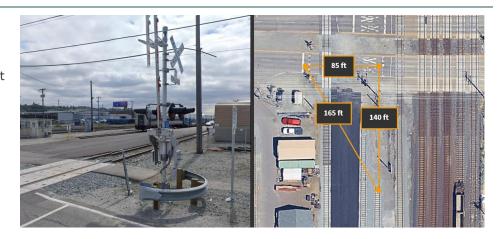


FIGURE 41: SIGHT DISTANCE LIMITATIONS ON THE NORTHBOUND TRAIN TRACK

The near miss analysis observed numerous Amtrak construction workers that were crossing the railroad tracks while gates were down. Figure 42 provides a screen capture of one of the incidents.



FIGURE 42: VIDEO CAPTURE OF AMTRAK WORKERS WALKING ACROSS THE TRACKS WHILE GATES ARE DOWN (APRIL 22, 2025)

2. INSTANCES WHERE RAIL CROSSING GATES WERE DOWN

Based on the video data collected, the gates at the railway crossing go down as a series of events:

- 1. Flashers turn on to alert traffic that a train is coming
- 2. 2 to 3 seconds later, the gates begin to lower to block traffic from crossing the railroad
- 3. 11 to 12 seconds after the flashers are activated, the gates are fully lowered to block traffic
- 4. Train crosses
- 5. After the train crosses, the flashers turn off, gates rise, and traffic is able to cross

During the near-miss study time period, the video analytics observed 44,534 vehicles crossing and 25,220 vulnerable road users (VRU) crossing the intersection. Vulnerable road users include those who walk and roll (bicycle or scooter).

Vehicle Crossings

For drivers, 98% of the observed vehicles complied with the gates flashing and stopped before entering the crossing. However, as shown in Figure 43, 230 vehicle drivers were observed to be crossing the intersection while the flashers were activated and 21 vehicles stopped on the tracks. Figure 44 provides a screenshot of the video capture where a truck driver ignored the activated flashers and was stuck under the gates. Furthermore, there were instances observed where vehicles would conduct U-turns at the intersection to avoid waiting for the train to cross.

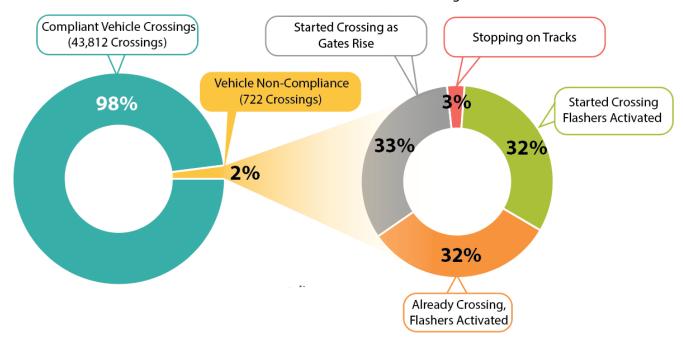


FIGURE 43: PROPORTION OF VEHICLE NON-COMPLIANCE WITH TRAIN CROSSING

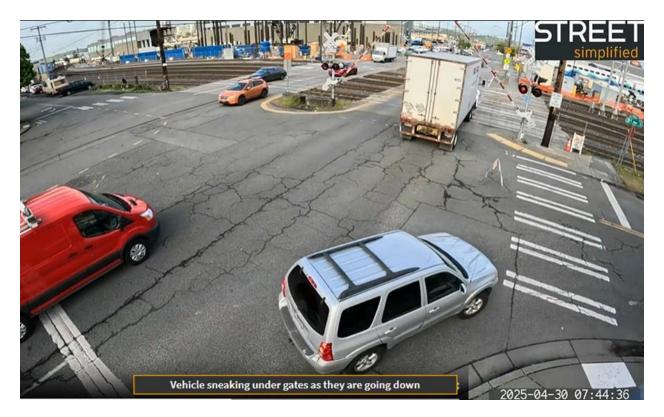


FIGURE 44: VIDEO CAPTURE OF A VEHICLE CROSSING UNDER THE GATES THAT ARE LOWERING (APRIL 30, 2025)

Vulnerable Road User Crossings

Vulnerable road users (VRU) are individuals who walk or roll (scooter or bike). The S Holgate St crossing experiences higher pedestrian and VRU volumes during event days due to the proximity to major event stadiums located east of the corridor and transit connections to the west of the corridor. Analysis of near-miss incidents revealed that out of 25,220 observed VRU crossings, approximately 95% of users adhered to safety protocols—stopping in response to flashing signals and waiting for passing trains, as shown in Figure 45. However, 323 individuals were documented crossing the railroad tracks while the gates were fully lowered, disregarding both the visual and audible safety warnings, as shown in Figure 46.

Vulnerable Road User (VRU) Non-Compliance Breakdown

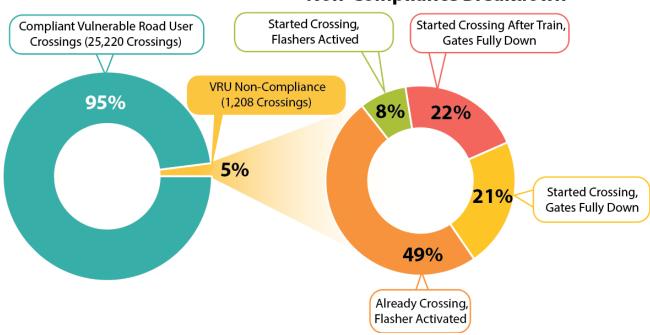


FIGURE 45: PROPORTION OF VRU NON-COMPLIANCE WITH TRAIN CROSSING



FIGURE 46: VIDEO CAPTURE OF PEDESTRIANS CROSSING OVER THE TRAIN WHILE GATES ARE FULLY LOWERED

CONCLUSIONS AND CONSIDERATIONS

The existing conditions analysis of S Holgate St reveals several critical challenges and considerations that should inform future decisions about the corridor's function, especially in light of potential closure scenarios. These findings reflect a combination of safety risks, infrastructure limitations, operational vulnerabilities, and multimodal needs.

SAFETY RISKS AND VULNERABLE USERS

- The corridor presents elevated safety risks for people walking and biking. From 2020 to 2024, 83% of fatal or serious injury crashes involved pedestrians or bicyclists.
- Despite the presence of warning systems, video analytics show ongoing non-compliance by both drivers and vulnerable road users during rail crossing events.

RAIL OPERATIONS AND NETWORK PERFORMANCE

- The segment between Occidental Ave S and 3rd Ave S is among the most operationally constrained in the corridor, with long and frequent train gate closures that contribute to network-wide queuing and delay.
- Vissim modeling confirmed severe queuing during peak periods, especially westbound where storage capacity is regularly exceeded.
- On average, S Holgate St is blocked for over three hours a day due to rail crossings between Occidental Ave S and 3rd Ave S. During the morning commute, S Holgate St is blocked 16% of the time, or 9-10 minutes of every hour.

MULTIMODAL ACCESS GAPS

- S Holgate St lacks dedicated bicycle facilities and has sidewalks that are discontinuous, vary in surface material, and are frequently interrupted by driveways
- Access to nearby light rail and bus services is impeded by gaps in pedestrian infrastructure and limited east-west connectivity during train events. Both Edgar Martinez Dr S and S Royal Brougham Way only allow east-west connectivity via a staircase and are thus inaccessible to pedestrians with mobility devices.

FREIGHT AND EVENT DEMANDS

- On a typical Mariners game day, S Holgate St carried approximately 5,500 vehicles, compared to 25,300 on Edgar Martinez Drive S and 11,700 on S Lander St.
- While S Holgate St plays a role in local freight circulation within the SODO area, particularly between sites along 1st Ave S and along S Holgate St to the east of 4th Ave S and the SODO Busway, it accounts for only 3% of total truck activity in the SODO area.
- Port and intermodal access remains essential, especially given the corridor's location within the City's Heavy Haul Network and proximity to Terminal 30; though it is not a primary route to the BNSF yard.

CONSIDERATIONS FOR FUTURE MODIFICATIONS

- Any closure or modification of the corridor should balance multimodal safety, freight
 mobility, multimodal traffic and event operations, rail operational needs and plans for
 maintenance site expansion, and community impacts.
- Future infrastructure improvements should focus on addressing known safety issues while aligning with project goals and implementation feasibility.
- Subsurface conditions along S Holgate St are not suitable for shallow foundations. Consideration of future structural improvements (such as grade separations) need to assess the need for deep foundations due to soft and loose soils and seismic risks.
- Additional outreach and coordination with corridor users, particularly those most affected by train delays or access changes, will be essential to inform future phases of the study.

APPENDICES

APPENDIX A. PAVEMENT CONDITIONS MEMORANDUM

APPENDIX B. GEOTECHNICAL CONSIDERATIONS MEMORANDUM

APPENDIX C. RAIL CROSSING DIAGNOSTICS MEMO

APPENDIX D. METHODS AND ASSUMPTIONS REPORT

APPENDIX E. VISSIM CALIBRATION MEMORANDUM

APPENDIX A.	PAVEMENT	CONDITIONS	MEMORANDUM	





S HOLGATE ST CROSSING STUDY

DATE: August 7, 2025

TO: Sara Zora | Seattle Department of Transportation

Wintana Miller | DKS Associates

FROM: Rory Cameron | Perteet

SUBJECT: Existing Conditions – Pavement Conditions Project # 24798-000

EXECUTIVE SUMMARY

This memorandum summarizes the existing conditions of pavement of S Hogate Street, from Occidental Avenue S to 3rd Avenue NE. The existing conditions of the pavement are based on a field investigation and research for the S Holgate Street corridor. Project limits of the corridor begin at Occidental Avenue S and extend east along S Holgate Street to 3rd Avenue NE. The project corridor is illustrated in Figure 1, Vicinity Map.

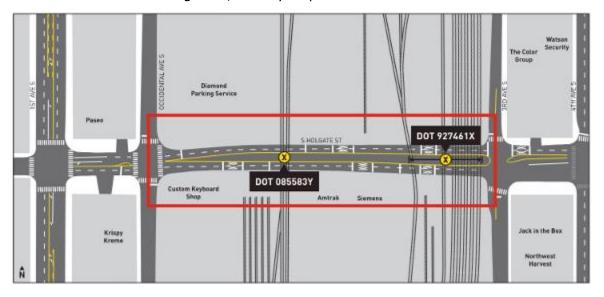


FIGURE 1: VICINITY MAP, S HOLGATE STREET CORRIDOR

The corridor is approximately 875 feet long and 0.66 lane-miles (with an average four-lane section, excluding the median area which is partially paved). S Holgate Street is classified as a minor arterial within the project limits. The corridor is also classified as a Heavy Haul Route in the Seattle Transportation Plan within the project limits. Traffic counts show approximately 74-76% of the

vehicles are cars and trailers, 16% two-axle long trucks, 1% buses, 5.5% two-axle six-tire trucks, and the rest larger vehicles.

PURPOSE

EXISTING PAVEMENT PURPOSE

The pavement investigation and evaluation were conducted in June 2025. The scope of work for this memorandum includes:

- Research of various sources of recorded historical data (provided by SDOT) to identify existing pavement age, materials, and depth.
- Performing a field investigation of the current pavement conditions.

EXISTING PAVEMENT MATERIAL

EXISTING PAVEMENT MATERIAL

S Holgate Street has been an important freight and rail corridor in the Seattle Street network serving Sound Transit, Amtrak, BNSF, numerous freight companies, and the travelling public since its initial construction in the early twentieth century. As the surrounding neighborhood has increased truck and train traffic on or across S Holgate Street, S Holgate Street has been repaired numerous times, as shown by maintenance records. As the City of Seattle has grown, the demand along this corridor has increased, resulting in accelerated wear of the HMA and PCC roadways.

Record documents that were accessed and analyzed for this report are shown in Table 1.

TABLE 1: HISTORIC RECORD DOCUMENTS IDENTIFIED FOR PAVEMENT EVALUATION

SOURCE	TITLE	VAULT/REF NO.	DATE
SPU RECORDS VAULT	South Holgate Street Et Al Private Contract	777-533	2002

TABLE 2: EXISTING PAVEMENT TYPES ON S HOLGATE STREET

LOCATION	EASTBOUND	MEDIAN	WESTBOUND
S HOLGATE STREET: 131 FT WEST OF RAIL CROSSING 927461X TO 3RD AVENUE S	Unknown	Unpaved	2" AC (Class A)/7" AC (Class E)/6" CR (54.5' wide) [2003]
S HOLGATE STREET: 156 FT WEST OF RAIL CROSSING 927461X	2" AC (Class A)/7" AC (Class E)/6" CR (33' wide) [2003]	Unpaved	Unknown



FIELD EXPLORATION

PAVEMENT CONDITION FIELD EVALUATION

A visual condition survey and an evaluation of pavement conditions was conducted on June 16, 2025. During this field investigation, areas of pavement distress were observed to determine if there was a significant source of the damage beyond normal wear due to traffic.

PAVEMENT SUMMARY

PAVEMENT CONDITION OBSERVATIONS

Based on the field exploration and a records search, we have reached several conclusions regarding the existing conditions.

Much of S Holgate Street is experiencing medium to high severity fatigue (alligator) cracking within the wheel path. A significant portion of corridor also exhibits low severity rutting which turns to medium severity near the stop bars and railroad crossings. There are patches ranging from low severity to high severity throughout the corridor. Some patches have high severity fatigue cracking within them, potentially indicating a base failure. The edge of the roadway has severe cracks and portions of asphalt have broken off. Some locations have attempted to patch the edge, which are experiencing failure. It was noted during the field exploration that some panels within the railroad crossing were severely cracked, indicating failure.

Based on a records search, the original plank road was replaced in the early twentieth century. Presumably, several roadway overlay or replacement projects have occurred since its initial construction. Records show several instances of utility work throughout the project area, resulting in narrow patches along the length of S Holgate Street.

Some drainage structures were observed in the gravel median, and one drainage structure was observed just east of railroad crossing 085583Y on the north side of the roadway.



ATTACHMENTS

ATTACHMENT 1. FIELD EXPLORATION NOTES

ATTACHMENT 2. TRAFFIC DATA

ATTACHMENT 3. PAVEMENT FIELD INVESTIGATION PHOTOS



ATTACHMENT	1. FIELD	EXPLORATION	NOTES



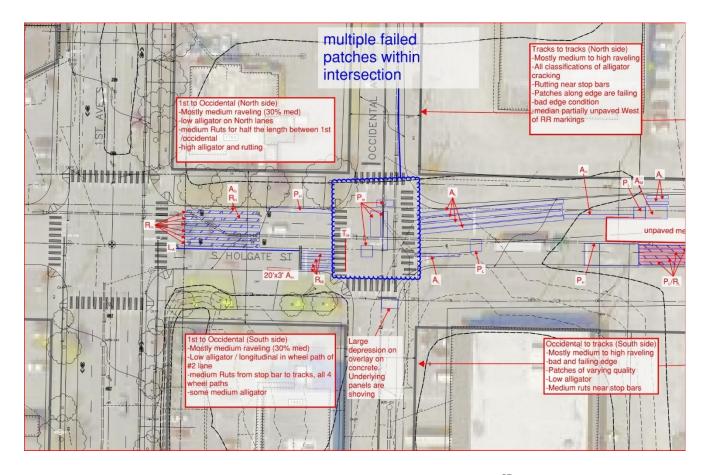


FIGURE 2 - PAVEMENT FIELD NOTES FOR S HOLGATE ST, BETWEEN 1 $^{\rm st}$ have and occidental ave

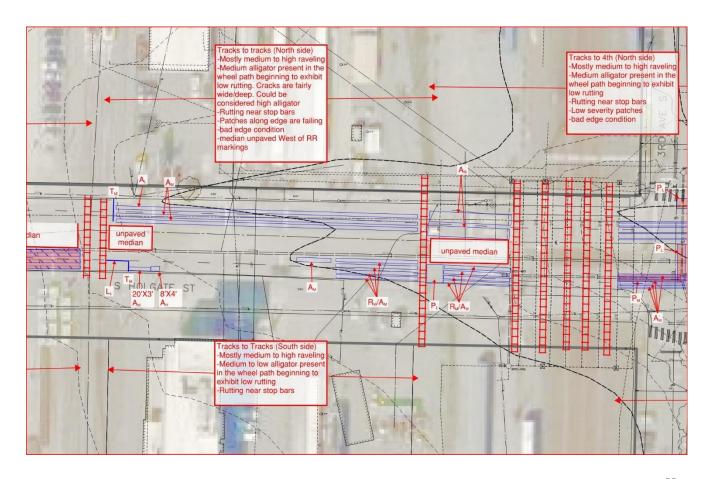


FIGURE 3 - PAVEMENT FIELD NOTES FOR S HOLGATE ST, BETWEEN OCCIDENTAL AVE AND 3 $^{\mbox{\scriptsize RD}}$ AVE S

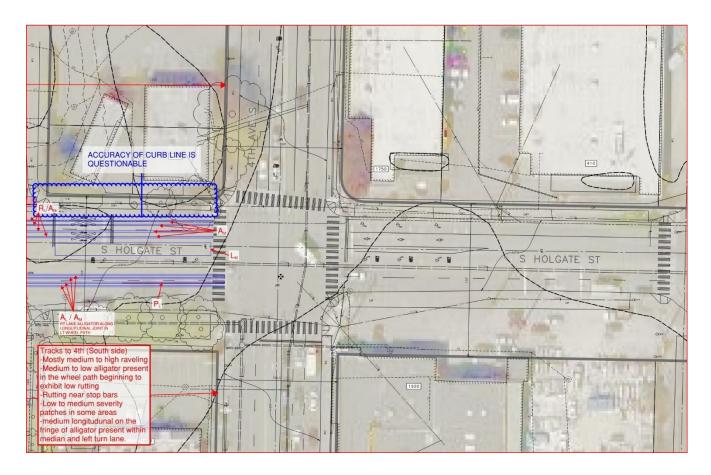


FIGURE 4 - PAVEMENT FIELD NOTES FOR S HOLGATE ST, BETWEEN 3^{RD} AVE S AND 4^{TH} AVE S

ATTACHMENT 2. TRAFFIC DATA

 Location:
 S Holgate St_E-0 Occidental Ave S

 Dates:
 11/28/23-11/30/23

 Site:
 10

Class 1 Class 2 Class 3 Class 4 Class 5 Class 6 Class 7

Eastbound Westbound Eastbound Eastbound

	Clas	Class 8		Class 9		Class 10		Class 11		s 12	Class 13	
	Eastbound	Westbound										
AM 1 Total (0000-0600)	0	1	2	0	2	0	0	0	0	0	0	1
AM 2 Total (0600-1200)	4	7	14	27	2	2	0	0	0	0	0	1
PM 1 Total (1200-1800)	6	9	10	9	1	0	0	0	0	0	0	0
PM 2 Total (1800-2400)	0	0	1	0	2	0	0	0	0	0	0	0
TOTAL	13	16	24	40	10	3	0	0	0	0	0	2

FIGURE 5-VEHICLE CLASSIFICATION VOLUMES-NOVEMBER 2023

City of Seattle Department of Transportation

ON STREET:: LOCATED:: CROSS STREET:: : S HOLGATE ST : E/O : OCCIDENTAL AVE S Site: 3186 Monday, 5/8/2023 1:00 PM -Monday, 5/15/2023 12:00 PM

Classification Grand Totals

							Averages WB							
Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi
12:00 AM	16.6	0.1	12.3	3.6	0.1	0.1	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
1:00 AM	7.0	0.0	5.9	0.6	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2:00 AM	7.6	0.0	6.7	0.4	0.1	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3:00 AM	10.4	0.0	8.9	1.1	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
4:00 AM	9.3	0.0	5.6	1.4	0.6	1.1	0.3	0.0	0.3	0.0	0.0	0.0	0.0	0.0
5:00 AM	25.3	0.4	18.1	4.4	0.3	1.3	0.3	0.0	0.3	0.1	0.0	0.0	0.0	0.0
6:00 AM	70.7	0.4	46.0	14.1	1.0	5.1	1.4	0.0	1.4	0.9	0.0	0.3	0.0	0.0
7:00 AM	101.9	0.3	68.4	18.3	1.0	9.6	0.3	0.0	2.6	0.4	0.3	0.6	0.0	0.1
8:00 AM	151.0	0.6	106.3	23.0	3.7	10.0	1.3	0.3	4.0	0.6	0.3	0.7	0.0	0.3
9:00 AM	174.1	0.7	121.7	29.6	2.7	13.9	0.1	0.0	4.3	0.7	0.3	0.1	0.0	0.0
10:00 AM	178.1	0.3	120.9	34.6	2.0	15.0	0.9	0.1	3.6	0.7	0.1	0.0	0.0	0.0
11:00 AM	176.3	1.3	120.3	31.3	3.6	11.6	1.0	0.0	4.7	0.9	0.1	1.1	0.0	0.4
12:00 PM	206.0	0.8	146.3	33.8	3.3	14.7	0.8	0.0	5.0	0.3	0.0	0.7	0.0	0.2
1:00 PM	168.4	0.4	118.9	26.7	1.9	13.3	1.1	0.1	4.4	0.7	0.1	0.7	0.0	0.0
2:00 PM	156.3	0.7	106.1	33.4	1.1	11.0	0.3	0.0	2.9	0.1	0.3	0.3	0.0	0.0
3:00 PM	152.7	0.7	114.1	24.3	1.4	7.9	0.1	0.0	3.3	0.1	0.1	0.4	0.0	0.1
4:00 PM	189.1	0.7	148.6	27.3	1.4	6.6	0.4	0.0	3.3	0.1	0.0	0.7	0.0	0.0
5:00 PM	180.1	0.9	143.4	25.4	0.3	7.4	0.0	0.0	2.3	0.0	0.1	0.3	0.0	0.0
6:00 PM	136.9	0.3	113.4	16.6	1.0	3.6	0.1	0.0	1.4	0.1	0.0	0.3	0.0	0.0
7:00 PM	83.6	0.4	69.7	10.7	0.3	1.4	0.1	0.0	0.9	0.0	0.0	0.0	0.0	0.0
8:00 PM	89.1	1.3	77.1	8.1	0.0	2.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
9:00 PM	68.9	0.4	55.9	7.9	0.3	3.6	0.0	0.0	0.7	0.0	0.0	0.1	0.0	0.0
10:00 PM	47.0	0.1	40.0	5.1	0.0	1.1	0.3	0.0	0.3	0.0	0.0	0.0	0.0	0.0
11:00 PM	29.7	0.1	23.9	4.1	0.1	1.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Daily Average	2436.1	11.1	1798.5	386.0	26.3	142.1	9.7	0.6	46.6	5.9	1.9	6.4	0.0	1.2
						Study Gr	and Totals							
	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Mult
WB	16847	77	12443	2668	181	980	67	4	321	41	13	44	0	8
		0.5%	73.9%	15.8%	1.1%	5.8%	0.4%	0.0%	1.9%	0.2%	0.1%	0.3%	0.0%	0.0%

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FIGURE 6-HOURLY VEHICLE CLASSIFICATION VOLUMES, MAY, 2023



City of Seattle Department of Transportation

ON STREET:: LOCATED:: CROSS STREET::

: S HOLGATE ST : E/O : OCCIDENTAL AVE S

Site: 3176 Monday, 5/8/2023 1:00 PM -Monday, 5/15/2023 12:00 PM

Classification Grand Totals

							Averages EB							
Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Mult
12:00 AM	23.0	0.1	19.6	2.4	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1:00 AM	10.7	0.0	9.3	1.0	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2:00 AM	11.0	0.0	8.9	1.6	0.0	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.
3:00 AM	9.7	0.0	8.0	1.3	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.
4:00 AM	21.7	0.1	17.0	3.0	0.1	0.9	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.
5:00 AM	44.6	0.6	29.9	8.9	0.7	4.1	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.
6:00 AM	69.3	0.3	47.9	13.6	1.6	5.3	0.3	0.0	0.1	0.1	0.0	0.1	0.0	0.
7:00 AM	97.0	0.6	64.1	19.4	1.9	9.0	1.1	0.0	0.7	0.1	0.0	0.0	0.0	0.
8:00 AM	107.6	0.7	73.6	20.0	1.3	9.9	0.4	0.0	1.4	0.1	0.1	0.0	0.0	0.
9:00 AM	128.6	0.6	94.3	20.6	1.3	9.7	0.0	0.0	1.3	0.4	0.0	0.4	0.0	0.
10:00 AM	142.0	0.1	95.0	29.0	1.4	13.0	0.4	0.0	2.3	0.3	0.0	0.4	0.0	0.
11:00 AM	137.3	1.1	93.4	28.3	1.9	9.1	0.4	0.0	2.3	0.1	0.0	0.6	0.0	0.
12:00 PM	196.2	0.7	142.2	34.2	2.0	12.3	0.0	0.0	3.2	0.7	0.5	0.5	0.0	0.
1:00 PM	173.1	0.6	121.0	33.9	2.0	12.3	0.3	0.1	2.3	0.0	0.1	0.4	0.0	0.
2:00 PM	186.1	1.0	130.1	34.9	2.4	12.4	0.6	0.0	3.6	0.7	0.0	0.4	0.0	0.
3:00 PM	185.9	0.7	143.3	24.3	4.6	8.0	0.6	0.0	2.6	0.3	0.0	1.3	0.0	0.
4:00 PM	186.6	0.7	142.7	30.1	2.6	6.6	0.3	0.1	2.1	0.4	0.0	0.7	0.0	0.
5:00 PM	183.7	0.6	156.1	20.0	0.9	4.3	0.1	0.0	1.3	0.3	0.0	0.1	0.0	0.
6:00 PM	131.7	1.0	108.9	15.3	0.9	3.9	0.0	0.0	1.1	0.4	0.0	0.3	0.0	0.
7:00 PM	82.0	0.3	69.9	9.7	0.4	1.0	0.3	0.0	0.3	0.0	0.0	0.1	0.0	0.
8:00 PM	95.3	0.1	77.7	13.3	0.7	2.6	0.0	0.0	0.3	0.1	0.0	0.4	0.0	0.
9:00 PM	119.4	0.3	97.6	11.7	3.1	3.7	0.1	0.0	1.9	0.0	0.0	0.9	0.0	0.
10:00 PM	86.3	0.3	73.4	10.0	0.4	1.0	0.0	0.0	1.0	0.0	0.0	0.1	0.0	0.
11:00 PM	59.4	0.1	51.1	6.4	1.0	0.3	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.
Daily Average	2488.2	10.7	1874.9	392.7	31.3	131.2	6.0	0.3	28.3	4.2	0.9	6.9	0.0	0.
						Study Gr	and Totals							
	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axi Mul
EB	17221	74	12982	2715	217	906	42	2	195	29	6	48	0	
		0.4%	75.4%	15.8%	1.3%	5.3%	0.2%	0.0%	1.1%	0.2%	0.0%	0.3%	0.0%	0.09

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FIGURE 7-HOURLY VEHICLE CLASSIFICATION VOLUMES, MAY, 2023



Type Road

Classification	Grand Total of ALL Vehicles	

Classification	Grand T	otal of ALI 3rd A		5		S Holg	ate St			3rd	S Holgate St					
		South				Westb					bound		S Holgate St Eastbound			
Start Time	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn
12:00 AM	1				0	1	1					0	0		1	0
12:15 AM	(0	0	0	2	0			0		0	0		0	0
12:30 AM 12:45 AM	2		0	0	1	0	0					0	0		1 0	0
1:00 AM	ć		0	0	1	3	0					0	0	3	1	0
1:15 AM	Č		0	0	1	0	1					ő	0		1	0
1:30 AM	Č		0		0	0	0					0	0		0	0
1:45 AM	0		0		1	1	0					0	0	2	3	0
2:00 AM	(0	1	0	0	3	0	0			3	0	0	1	1	0
2:15 AM	(1	0	0	0	3	0	0	0	0	3	0	1	3	1	0
2:30 AM	(0	0	1	1	0					0	0	1	1	0
2:45 AM	0		0		0	3	0					0	0	0	0	0
3:00 AM	9		0	0	0	0	0					0	0	0	1	0
3:15 AM			0		1	0	0					0	0		0	0
3:30 AM 3:45 AM	(0	0	1 0	0 2	0					0	0	1 2	0	0
4:00 AM			0	0	0	0	0					0	0	2	0	0
4:15 AM	Č		0	0	0	0	0					o	0		1	0
4:30 AM	c		1	0	1	1	0					0	0	0	0	o
4:45 AM			0		0	4	0					0	0	2	2	0
5:00 AM	(0	1	0	0	0	0	0	1	0	0	0	0	3	0	0
5:15 AM	0		0		0	0	1					0	0	1	0	0
5:30 AM	(0		0	5	1					0	0	1	1	0
5:45 AM	(0	0	1	8	1					0	0	3	0	0
6:00 AM	9		0	0	0	4	0					0	0		0	0
6:15 AM 6:30 AM	1		0	0	1 0	5	0		0			0	0	7 15	0 2	0
6:45 AM			1 0	0	1	3	2			1		0	0	8	1	0
7:00 AM			1	0	1	8	0					0	1	21	1	0
7:15 AM	Č		0		2	11	1		0			0	0		2	0
7:30 AM	(0		0	6	3					0	0	2	0	0
7:45 AM		0	1	0	0	10	1	0	0	0	1	0	0	6	0	0
8:00 AM	(0	0	0	1	12	5	0	0	0	1	0	0	8	1	0
8:15 AM	(1	0	0	4	0					0	0	5	0	0
8:30 AM	1		1	0	0	17	3		1	0		0	0	8	0	0
8:45 AM	9		1		0	9	2					0	0	9	1	0
9:00 AM	(1	0	0	10	0					0	0		0	0
9:15 AM 9:30 AM	1		1 2	0	0	14 10	1		0			0	0	6 18	3 2	0
9:45 AM	ć		2	0	2	10	2					0	0		0	1
10:00 AM	1		0	1	1	10	4					0	2	7	0	ō
10:15 AM	c		1	0	0	12	4					0	1	25	0	0
10:30 AM	1	1	2	0	2	22	4					0	0	9	0	0
10:45 AM	() 2	2	0	2	21	3	0	1	1	. 5	0	1	14	3	0
11:00 AM	1		0		6	18	3					0	0		0	0
11:15 AM	1		2		2	17	3					0	2	16	3	0
11:30 AM	0		0		1	29	6					0	2	16	4	0
11:45 AM	9		2	0	1	19	3					.0	1	19	0	0
12:00 PM	(1 4	0	2	15 26	4 9					0	2	14 15	2	0
12:15 PM 12:30 PM	1		4	0	1	27	3					0	0	18	5	0
12:45 PM	1		3	0	3	30	3		2			0	4	20	1	0
1:00 PM	Č		2	0	3	33	16		2			0	1	21	3	0
1:15 PM	2		4	0	5	28	3					0	1	13	0	1
1:30 PM	0	3	1	0	1	31	8	1	2			0	1	21	1	0
1:45 PM		. 5	5	0	7	42	5	0	0	5	4	0	2	23	2	0
2:00 PM	4	F 75	3	0	4	39	11					0	4	21	2	1
2:15 PM	3		8	1	3	27	9		1	5		0	3	14	2	0
2:30 PM	1		5	0	5	38	8					0	3	18	4	0
2:45 PM	2		4	0	2	51	2	0		1		0	0		7	0
3:00 PM 3:15 PM	2		2		2	40 21	5 6					0	0		5	0
3:30 PM	1		4		3	40	6					0	2		1	0
3:45 PM	2		3		8	54	5					0	0		6	0
4:00 PM	1		2		6	72	12					0	1	35	2	0
4:15 PM	2		1		2	54	6					0	0		6	2
4:30 PM	C		4		1	60	5					0	2	33	4	0
4:45 PM	3		5		2	24	4					0	4		7	0
5:00 PM	4				2	18	2					1	0		2	0
5:15 PM	2	2	3	0	1	7	2	0	1	1	. 6	0	0	23	4	0

FIGURE 8-TURNING VOLUMES NOVEMBER 2023



5:30 PM	0	1	0	0	2	12	0	0	0	1	1	0	0	12	2	0
5:45 PM	0	1	1	0	2	9	0	0	1	3	4	0	0	5	4	0
6:00 PM	0	0	2	0	0	7	2	0	3	0	1	0	0	4	0	0
6:15 PM	1	0	0	0	0	11	1	1	0	2	2	0	3	12	1	0
6:30 PM	2	0	1	0	0	6	0	0	0	0	0	0	0	7	0	0
6:45 PM	0	0	2	0	0	9	0	2	0	0	4	0	0	7	0	0
7:00 PM	0	0	0	0	1	6	1	0	1	0	1	0	0	9	0	0
7:15 PM	1	1	2	0	2	10	0	0	0	0	2	0	1	12	0	0
7:30 PM	0	0	3	0	2	19	1	0	1	1	6	0	1	15	0	0
7:45 PM	2	0	2	0	1	17	2	0	0	1	1	0	0	9	1	0
8:00 PM	1	0	1	0	2	17	3	0	0	0	3	0	0	24	2	0
8:15 PM	2	2	0	0	2	16	1	0	0	1	3	0	2	102	2	1
8:30 PM	6	0	4	0	0	19	5	1	0	0	9	0	1	110	1	0
8:45 PM	9	1	4	0	0	23	4	0	0	0	12	0	0	116	2	0
9:00 PM	7	0	4	0	0	32	9	0	0	2	7	0	0	130	1	0
9:15 PM	0	1	3	0	2	20	9	0	0	1	3	0	0	82	2	0
9:30 PM	1	4	4	0	1	17	2	0	0	0	11	0	2	60	3	0
9:45 PM	3	1	2	0	2	8	1	1	0	2	11	0	2	10	1	0
10:00 PM	3	2	1	0	2	7	0	0	2	0	8	0	0	14	2	0
10:15 PM	4	1	2	0	1	4	0	0	0	1	7	0	0	13	2	0
10:30 PM	4	1	1	0	1	5	0	0	0	0	8	0	0	11	2	0
10:45 PM	1	2	1	0	4	3	0	0	0	0	5	0	0	3	1	0
11:00 PM	0	1	0	0	0	2	0	0	0	1	6	0	1	5	2	0
11:15 PM	2	0	0	0	0	4	0	0	0	0	3	0	0	4	1	1
11:30 PM	3	1	1	0	0	3	2	0	0	0	1	0	0	4	1	0
11:45 PM	1	0	0	0	0	4	0	0	0	0	2	0	0	3	1	0

FIGURE 9-TURNING VOLUMES, MAY, 2023 (CONTINUED)

ATTACHMENT 3. PAVEMENT FIELD INVESTIGATION PHOTOS

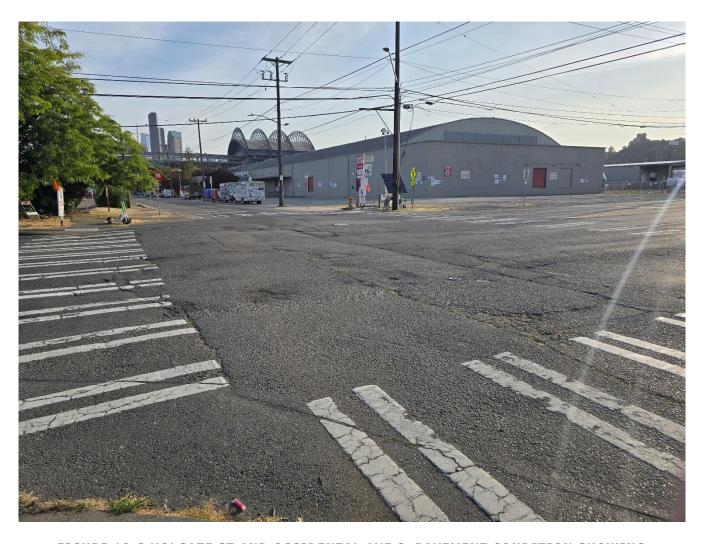


FIGURE 10-S HOLGATE ST AND OCCIDENTAL AVE S, PAVEMENT CONDITION SHOWING ALIGATORING AND CRACKING, SW CORNER LOOKING NE



FIGURE 11-S HOLGATE ST AND DOT# 085583Y CROSSING, PAVEMENT CONDITION SHOWING ALIGATORING AND CRACKING, SW CORNER LOOKING NW

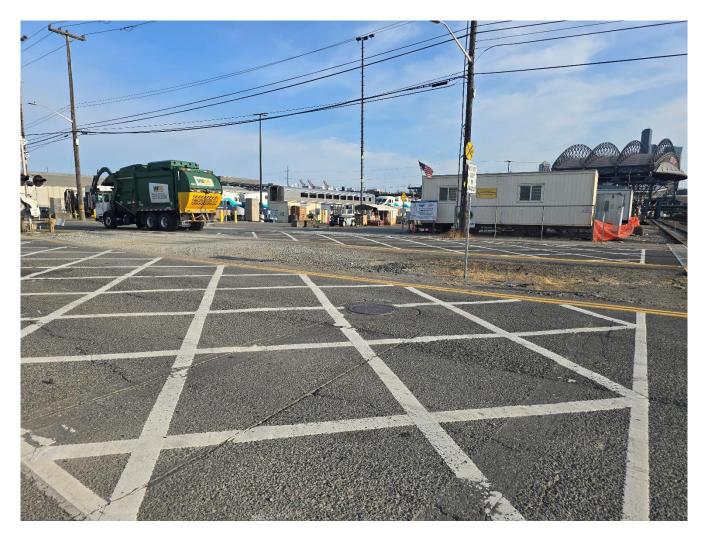


FIGURE 12-S HOLGATE ST BETWEEN DOT# 085583Y AND 927461X CROSSING, PAVEMENT CONDITION SHOWING ALIGATORING AND TRENCH REPAIR, SW CORNER LOOKING NW

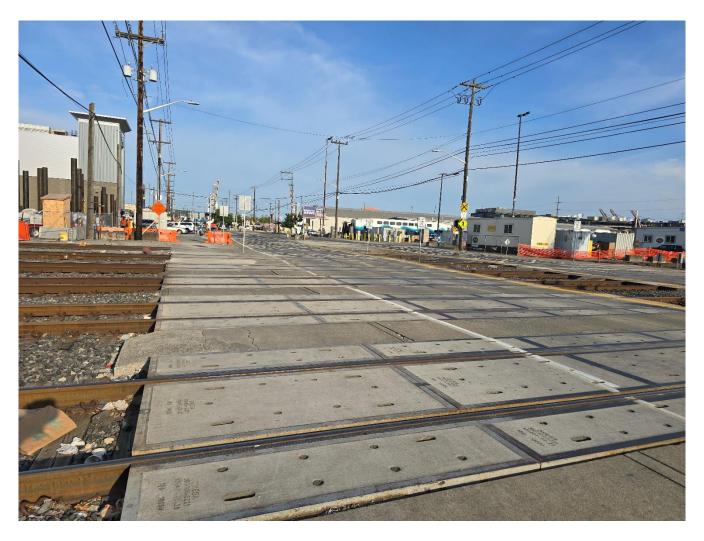


FIGURE 13-S HOLGATE ST AND DOT# 927461X CROSSING, PAVEMENT CONDITION SHOWING FAILURE OF PAVEMENT BETWEEN RAIL CROSSING, SE CORNER LOOKING NW

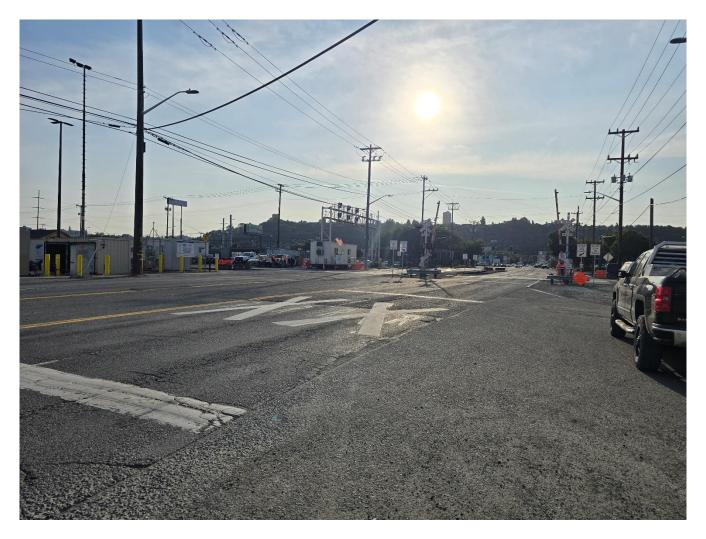


FIGURE 14-S HOLGATE ST AND DOT# 085583Y CROSSING, PAVEMENT CONDITION SHOWING ALLIGATORING OF PAVEMENT AND LATERAL CRACKING, SE CORNER LOOKING NE

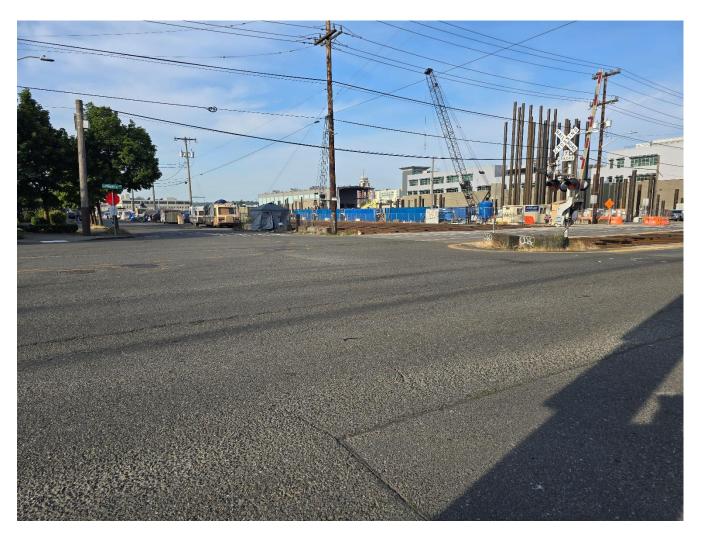


FIGURE 15-S HOLGATE ST AND 3^{RD} AVE S, NEAR DOT# 927461X, PAVEMENT CONDITION SHOWING LONGITUDINAL CRACKING AND PATCHING, NE CORNER LOOKING SW

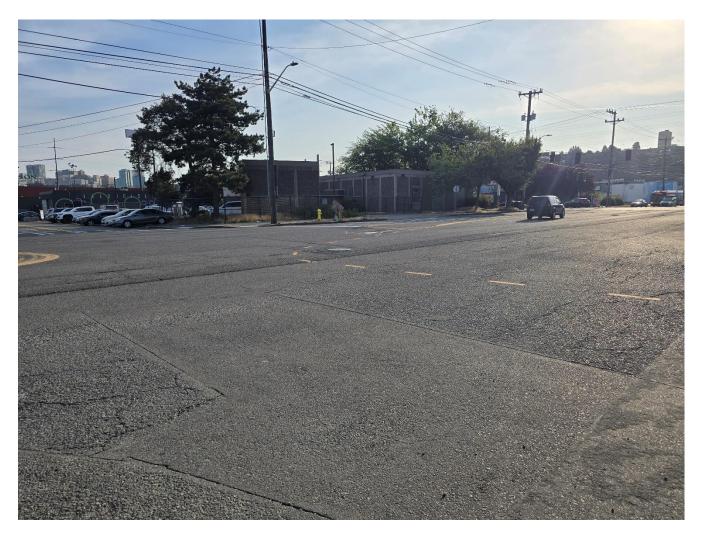


FIGURE 16-S HOLGATE ST AND 3RD AVE S, PAVEMENT CONDITION SHOWING ALLIGATOR CRACKING AND PATCHING, SW CORNER LOOKING NE

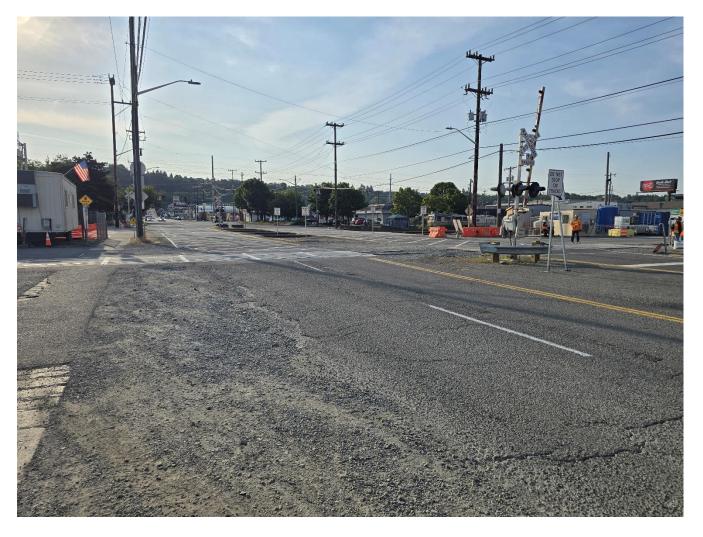


FIGURE 17-S HOLGATE ST AND DOT# 927461X, PAVEMENT CONDITION SHOWING ALLIGATORING, LONGITUDINAL AND LATERAL CRACKING, NW CORNER LOOKING SE

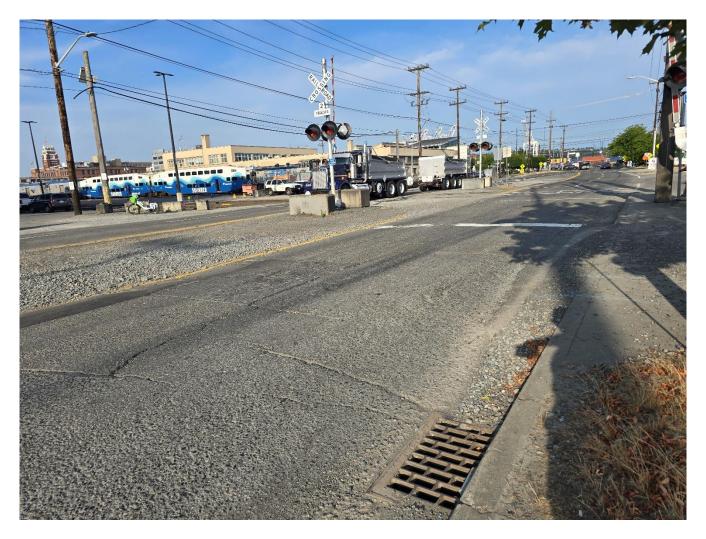


FIGURE 18-S HOLGATE ST AND DOT# 085583Y, ALLIGATORING, LONGITUDINAL AND LATERAL CRACKING, NE CORNER LOOKING SW



FIGURE 19- S HOLGATE ST AND DOT# 085583Y, ALLIGATORING, NW CORNER LOOKING SE

APPENDIX B. GEOTECHNICAL CONSIDERATIONS **MEMORANDUM**





S HOLGATE ST CROSSING STUDY

DATE: August 7, 2025

TO: Sara Zora | SDOT

Wintana Miller | DKS

FROM: Whitney Ciani | Ciani & Hatch Engineering

SUBJECT: Existing Conditions – Geotechnical Considerations Project # 24798-000

PROJECT UNDERSTANDING

In anticipation of this project, BNSF and Amtrak have requested that the City explore the potential permanent closure of S Holgate St between Occidental Ave S and 3rd Ave S. However, in lieu of a permanent closure of this road, the City is also exploring the option of constructing a grade separation structure to maintain access to S Holgate Street while facilitating the needs of BNSF and Amtrak. In support of this effort, the project team has utilized existing historical geotechnical data to determine anticipated soil and groundwater conditions and evaluated geologic hazards at the site to inform geotechnical design considerations.

REGIONAL GEOLOGY

Geologic information for the project area was obtained from the Geologic Map of Seattle, Washington (Troost et al. 2005). Surficial deposits mapped within the project area consist of tideflat deposits, with an overlay noting modified land.

The site is located within a north-south trending valley that was cut by historical glacial activity. This channel was carved into the glacially overridden soils that previously existed between Beacon Hill and West Seattle. After the glaciers retreated, the newly carved channel and the Puget Sound filled with seawater and provided an environment subjected to estuarine, alluvial, and deltaic deposition.

Before significant land alteration, the Duwamish River flowed into a larger embayment of Puget Sound. This embayment was later filled in by sediment, pushing the shoreline north to where it is today near Seattle. These tideflat soil deposits were continually reworked by marine and fluvial processes, which created significant amounts of interbedding and soil layer discontinuities.

Starting in the 1890s, controlled and uncontrolled fill deposits of varying composition (granular and cohesive) were placed over the alluvial and estuarine deposits. The fill was placed to raise the

grade of the entire area to transform it from tideflats to upland area that could be used and developed.

SOIL CONDITIONS

Subsurface conditions at the site were evaluated using historical geotechnical exploration data obtained from the Washington Department of Natural Resources (DNR) subsurface information portal and historical records provided by SDOT. Our interpretation of the subsurface soil conditions along the roadway corridor alignment based on the historical geotechnical data is shown in the Preliminary Cross Section, Figure 1. Based on historical logs, the site soils present below existing surface conditions (i.e., asphalt pavement section) were characterized into four general units:

Fill: Encountered in all historical borings along the project alignment, to depths up to 16 feet below ground surface. The fill generally consisted of fine- to medium-grained sand with variable silt and gravel content and sandy silt and clay. These soils were brown to gray and typically ranged in density from very loose to medium dense. Brick and concrete debris were observed in these soils, as well as thin layers of peat and wood fragments. Portions of the fill in Borings B-2 and B-3 (S&W 1997) were identified as hydraulic fill, extending from 6.5 to 11.5 and 4.0 to 12.5 feet below ground surface, respectively. Hydraulic fill soils ranged from silty clay to sandy silt and were soft to medium stiff.

Alluvium: Alluvial soils are deposited by flowing water, such as rivers or streams. Interbedded layers of coarse-grained and fine-grained alluvial deposits were encountered in all borings below the fill soils. These soils were generally wet, gray, and contained scattered shell fragments. Course-grained and fine-grained alluvium observed in the borings are described further below:

Fine-Grained Alluvium: Fine-grained layers were comprised of silt and clay ranging in consistency from very soft to stiff with occasional pockets of very stiff to hard deposits. The thickness of the fine-grained zones varied, ranging from only a few feet thick to approximately 60 feet thick.

Coarse-Grained Alluvium: The predominantly coarse-grained layers, comprised of sand with varying silt content, ranged from loose to dense. East of 4th Ave S, an up-to 25-foot-thick zone of medium-dense to dense coarse-grained soil was encountered between approximate elevations of -10 to -35 feet.

Estuarine Deposits: Estuarine soils form in partially enclosed bodies of water where freshwater rivers meet saltwater. Estuarine deposits were noted in historical borings B-1 (S&W 1997) and SD-115 (S&W 2004) and generally consisted of very soft to medium stiff silt interbedded within the alluvium. These soils typically exhibit some cohesion but are generally non-plastic to low plasticity silts. Discontinuous layers of estuarine silt were observed between depths of 7 and 106 feet.

Glaciolacustrine Deposits: Glacially overridden lacustrine deposits were encountered underlying the Alluvial/Estuarine Deposits in Borings B-3 (S&W 1997) and SD-115 (S&W 2004) at depths of 106 feet (approximate elevation -88 feet) and 89 feet (approximate elevation -69 feet), respectively. These soils generally consisted of dense to very dense silty, clayey sand interbedded with very stiff to hard sandy clay and silt.





GROUNDWATER CONDITIONS

The historical logs reviewed indicate that groundwater is generally shallow along the proposed alignment, varying between 2 and 11 feet below ground surface. Monitoring wells were not installed in the historical borings, and all groundwater information is based on conditions observed during drilling.

Groundwater levels observed at the time of drilling may not be representative of actual groundwater conditions at the site. Groundwater requires time to equilibrate due the use of slurry or water to advance the auger, drilling action, and the presence of fine-grained soil. Drilling action can result in smearing of fine-grained soils along the borehole sidewalls, decreasing the hydraulic conductivity of the soil. Groundwater can take up to hours or days to fully equilibrate.

GEOLOGIC HAZARDS

Based on the historical geotechnical data and site location, the following geologic hazards were identified along the project corridor.

Liquefaction Hazard: Liquefaction refers to a condition where vibration or shaking of the ground, usually from earthquake forces, results in the development of excess pore pressures in saturated soils and subsequent loss of strength in the deposits of soil so affected. Ground settlement, lateral spreading, and/or sand boils may result from soil liquefaction. Structures supported on liquefied soils could suffer foundation settlement or lateral movement that could be severely damaging to structures. Conditions favorable to liquefaction occur in loose to medium dense, clean to moderately silty sand that is below the groundwater level; certain silts and low-plasticity clays are also susceptible when saturated.

Based on the anticipated site conditions, the site is anticipated to pose a high risk of liquefaction hazard. Where identified, the effects of liquefaction should be considered and accounted for in the design of proposed improvements.

Lateral Spread Hazard: Lateral spreading involves lateral displacement of large, surficial blocks of soil due to underlying soil layers liquefying. Lateral spreading occurs as blocks of surface soils are displaced toward a nearby slope or free face by movement of underlying liquefied soil. Due to the relatively flat site conditions, our opinion is that lateral spreading does not present a significant risk to the project.

Near Fault Ground Motion Considerations: Near fault effects must be considered for structures and improvements that are within 6 miles of a known fault. Based on the U.S. Geological Survey (USGS) Interactive Fault Mapping Tool (USGS Faults Database), the nearest identified fault to the site is the Seattle Fault zone located approximately 0.75 mile (approximately 4,000 feet) south of the site. The effects considered for this project corridor include: (1) the large amplitude of the ground motions, given the proximity to the fault; (2) potential for ground rupture; (3) forward directivity; and (4) basin effects.

The impact of large amplitude ground motions that could occur due to rupture of the Seattle Fault are accounted for in the seismic design coefficients, which are based on the national hazard maps where the influence of the Seattle Fault Zone is already included. Forward directivity or basin





effects have the greatest effects on long-period structures; given the anticipated bridge spans, we anticipate that forward directivity and basin effects will be applicable for this project. Additionally, given the proximity to the fault zone, the impacts of ground rupture should be considered in design.

GEOTECHNICAL CONSIDERATIONS

Based on review of historical reports and data, near-surface soils along the project corridor are likely not suitable for shallow foundation support; deep foundations consisting of large diameter drilled shafts would likely be required for support of a grade separated structure. Undocumented fill, present to depths of 4 to 16 feet, contain zones of soft clay and wood waste, which may be susceptible to long-term consolidation settlement. Saturated loose to medium-dense sand and silt is present to depths of 90 to 110 feet and are susceptible to strength loss and settlement due to liquefaction following a design seismic event. Bearing soils at the site were observed between elevation -70 and -90 feet.

Consolidation settlement hazard is predominantly addressed by reducing the transmitted loading onto the susceptible soils; this can be accomplished by utilizing deep foundation elements that transfer the load to underlying, dense, glacially consolidated soils or using lightweight backfill materials (e.g., cellular concrete, geofoam, volcanic borrow) to reduce the total load that the soils undergo. Liquefaction-induced settlements can similarly be addressed by using deep foundation elements or by mitigating the risk of liquefaction through ground improvement. Ground improvement is a technique used to strengthen soil through densification and/or soil stabilization (i.e., mixing or injection of cement grout into the soil).

Due to the anticipated static consolidation settlement and liquefaction settlement at the site, the connection points between any proposed improvements founded on deep foundation elements or improved ground and the existing infrastructure will need to be considered. This can include any connecting pavement sections, utility alignments, or spanning structures. Design of these features can either be completed by similarly supporting the improvements on deep foundation elements or by designing with anticipated differential settlements in mind.

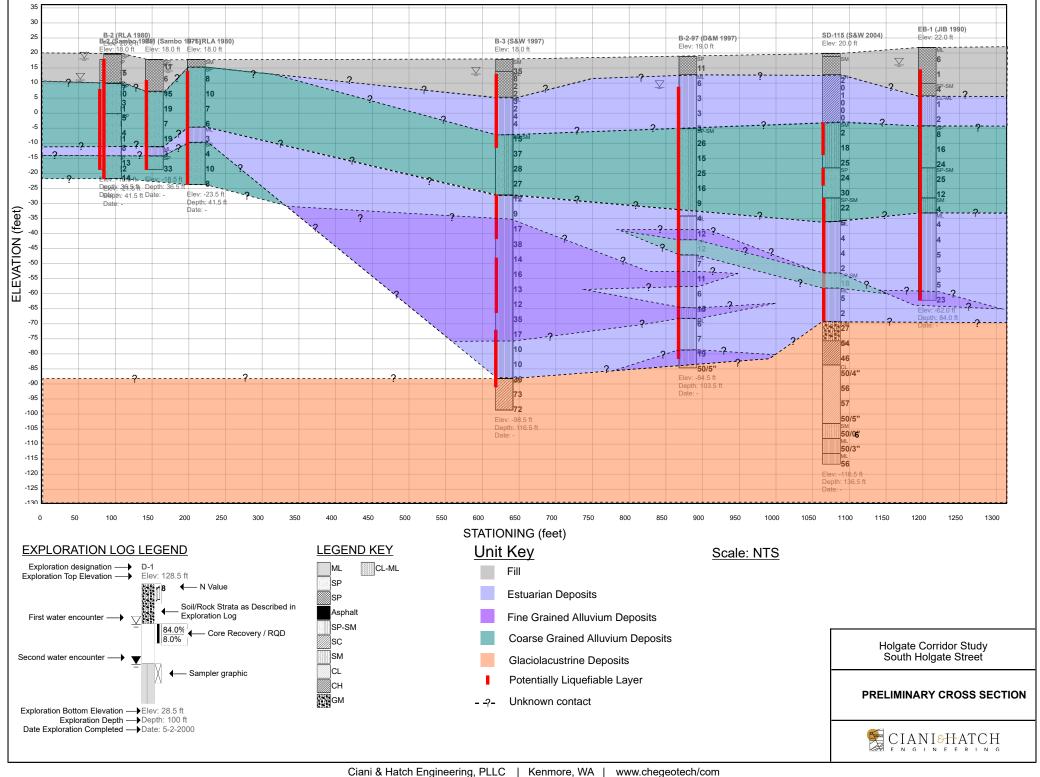
Attachments

Figure 1: Preliminary Cross Section

Attachment A. Historical Boring Logs







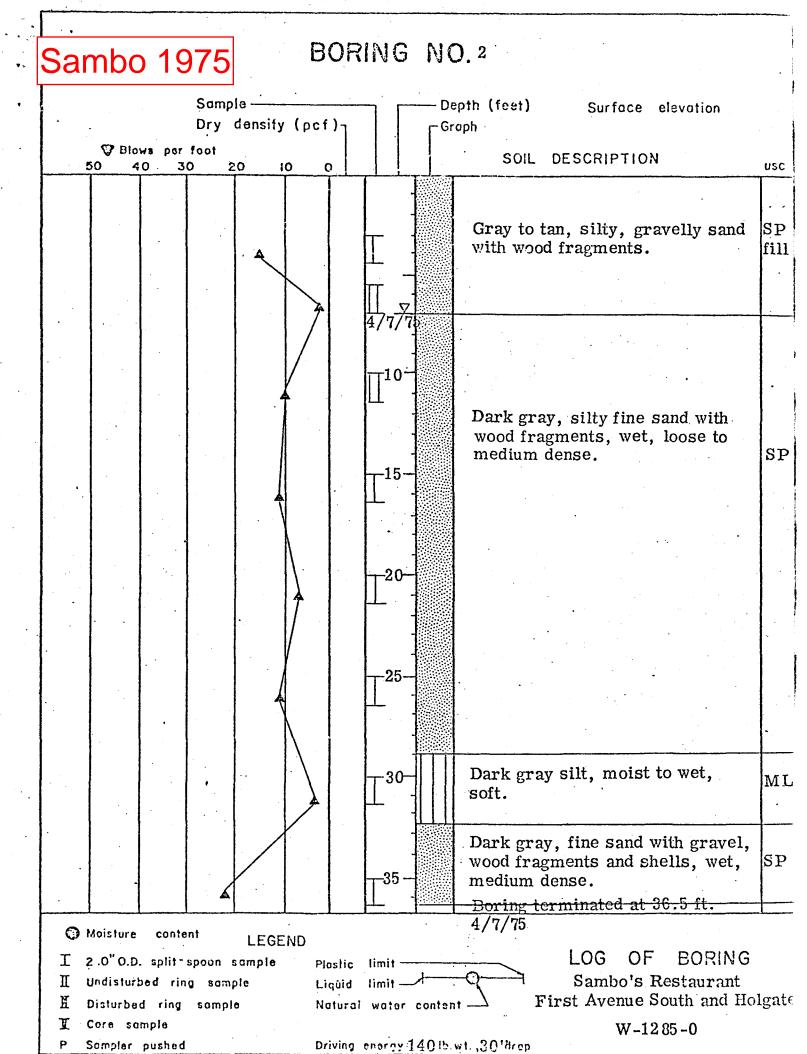
ATTACHMENT A. HISTORICAL BORING LOGS

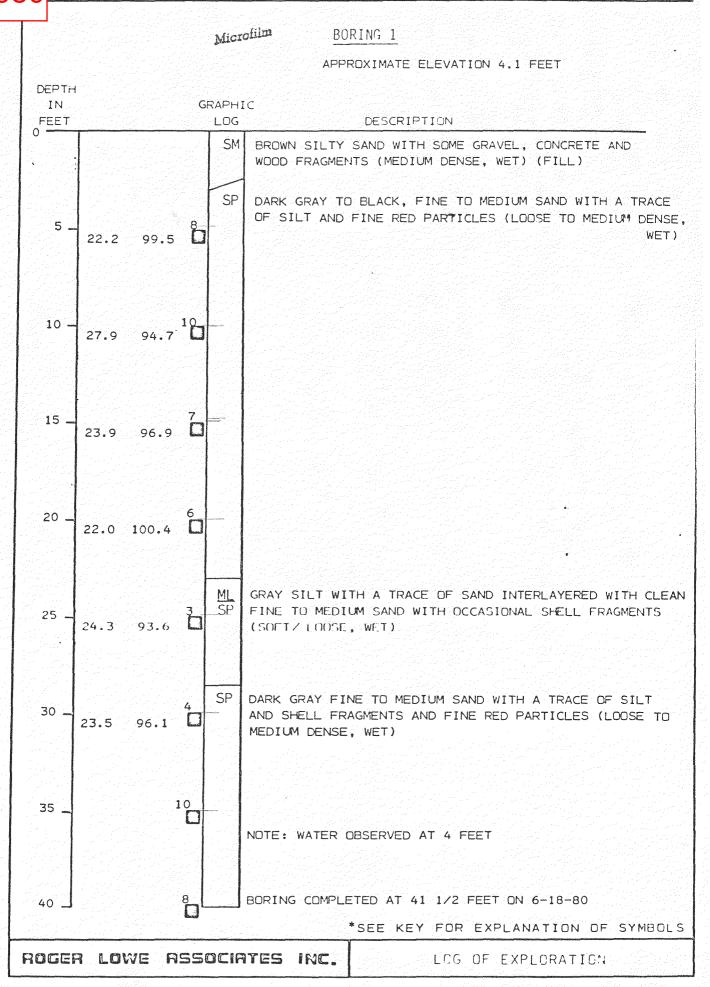
BORING NO. 1 **Sambo** 1975 Sample -Depth (feet) Surface elevation Dry density (pcf)7 Graph TBlows por foot SOIL DESCRIPTION USC 30 20 Dark brown to gray, gravelly SPsand - sandy gravel, moist, fill loose to medium dense. (Brick debris noted at 10 feet) X10 Dark gray, gravelly, medium -15 sand with shells, wet, medium \mathtt{SP} dense. (loose sands at 20 feet) -20° 25 Gray sand and silt with shells, SP-30 wet, very soft. MLSP Gray, medium sand, wet, dense. 35 Boring terminated at 36.5 ft. 4/7/75 Moisture content LEGEND OF BORING LOG 2.0" O.D. split-spoon sample Plastic limit -Undisturbed ring sample Liquid Sambo's Restaurant First Avenue South and Holgate Disturbed ring sample Natural water content -

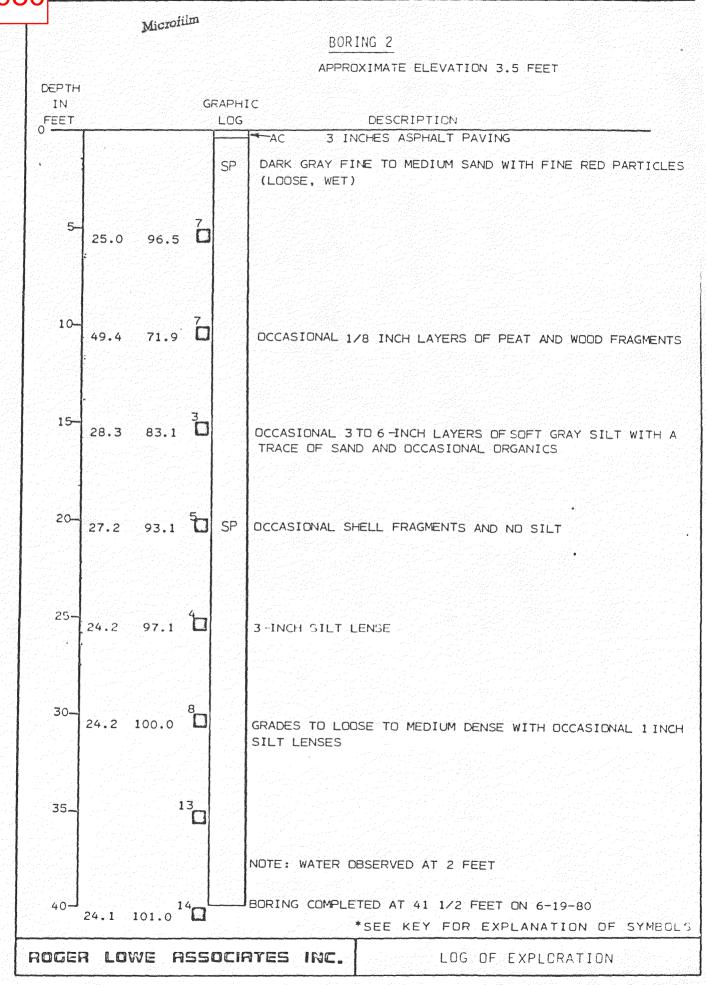
Driving enorgy:140lb.wt.,30!trop

Core sample
Sampler pushed

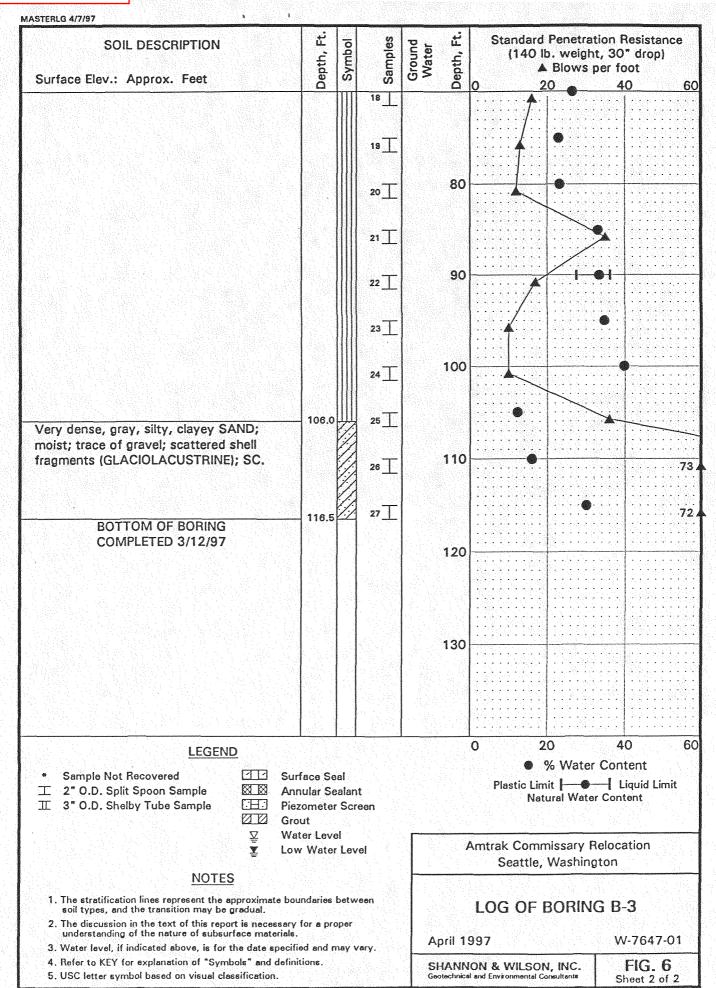
W-1285-0







&W 199 Samples Standard Penetration Resistance Ground DESCRIPTION Depth, I Depth, (140 lb. weight, 30" drop) ▲ Blows per foot Surface Elev.: Approx. Feet 60 Dense, dark brown to gray, silty, gravelly, fine to medium SAND; moist; scattered organics (FILL); SM. Soft to medium stiff, gray, slightly clayey **During Drilling** to clayey, sandy SILT; moist to wet; trace of fine gravel; scattered organics and clay 10 chunks (HYDRAULIC FILL); ML-SM. 12.5 Soft, gray, sandy, clayey SILT; moist to wet; trace of fine gravel; scattered clay chunks (ESTUARINE DEPOSITS); ML. 20 25.0 Medium dense to dense, dark gray, clean to slightly silty, fine to medium SAND; moist to wet; scattered shell fragments 30 (ALLUVIUM); SM-SP. 10 11 40 12] 45.0 Stiff to very stiff, dark gray, clayey, sandy 13 SILT interbedded with medium dense to dense, silty fine SAND; moist to wet; 50 14 scattered shell fragments (ESTUARINE DEPOSITS); ML-SM. 15 60 16 17 CONTINUED NEXT PAGE 60 LEGEND % Water Content 00 Sample Not Recovered Surface Seal Plastic Limit Liquid Limit 2" O.D. Split Spoon Sample Annular Sealant 工 Natural Water Content H II 3" O.D. Shelby Tube Sample Piezometer Screen M Grout Water Level Amtrak Commissary Relocation Y Low Water Level Seattle, Washington NOTES 1. The stratification lines represent the approximate boundaries between LOG OF BORING B-3 soil types, and the transition may be gradual. 2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials. **April** 1997 W-7647-01 3. Water level, if indicated above, is for the date specified and may vary. 4. Refer to KEY for explanation of "Symbols" and definitions. SHANNON & WILSON, INC. FIG. 6 5. USC letter symbol based on visual classification. Geotechnical and Environmental Consultant Sheet 1 of 2



T: Amtrak Maintenance Relocation

WATER LEVEL:

□ 10.50

PROJECT NO: 24859-016-016

PROJECT LOCATION: Seattle, WA

DATE STARTED: January 31, 1997

GROUND SURFACE ELEVATION: 19.0

DRILLING CONTRACTOR: Geoboring & Development, Inc.

DATE COMPLETED: January 31, 1997

DATUM:

DRILLER: Pat Ternes

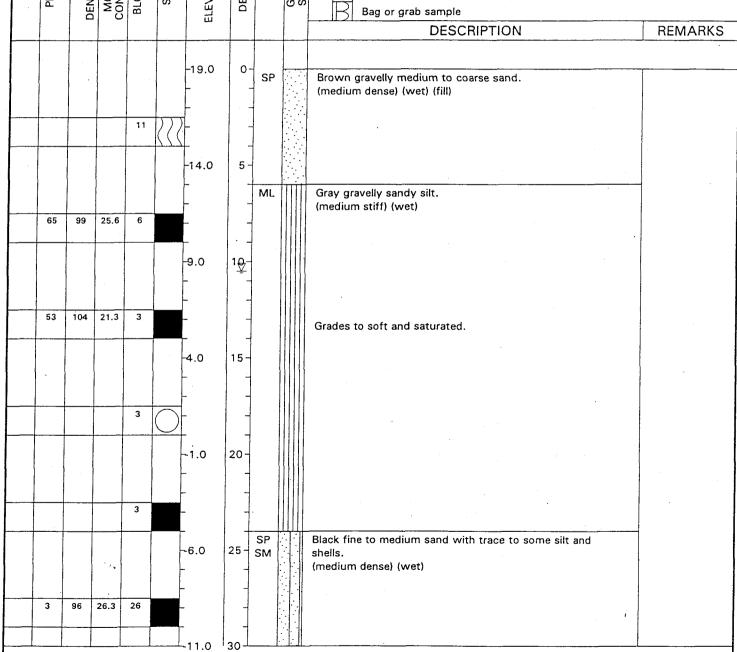
WEATHER

DRILLING METHOD: Hollow stem auger

FIELD ENGINEER: T. S. Parkington

PREPARED BY: T. S. Parkington

SAMPLING METHOD: D&M, 300# hammer, 30" drop SAMPLE TYPE KEY: DRY DENSITY (pcf) MOISTURE CONTENT (%) ELEVATION(ft.) BLOWS PER FOOT Relatively undisturbed sample DEPTH (ft.) GRAPHIC SYMBOL nscs Disturbed sample Sample attempt with no recovery Bag or grab sample DESCRIPTION **REMARKS** -19.0 0-SP Brown gravelly medium to coarse sand. (medium dense) (wet) (fill)



NOTES:



DAMES & MOORE

LOG OF BORING B-2-97

Plate A-4

M	19	99	7	248 Seat	59-0 ttle, \	Maintei 16-01 WA	6			FIELD ENGINEER: 1. S. PREPARED BY: T. S.	Parkington Parkington
		DRY DENSITY (pcf)	MOISTURE CONTENT (%)	BLOWS PER FOOT		ELEVATION(ft.)	DEPTH (ft.)	nscs	GRAPHIC SYMBOL	SAMPLE TYPE KEY: Relatively undisturbed sample Disturbed sample Sample attempt with no recovery Bag or grab sample DESCRIPTION	REMARK
		:				-11.0	30-				
	8	99	25.1	15		-	-				7 feet of hea
						-16.0 -	35-				
				25		-21.0	40-				
			-	16		- -	-				
						~26.0 -	45 -				
	21	79	37.8	9		-31.0	50-			Grades to loose.	
				4				ML		Gray fine sandy silt.	
						-36.0 -	55 - -			(soft) (saturated)	
	83	84	35.7	12		-	-			Grades to stiff.	,
				12		-41.0 -	60-	SP		Gray fine to medium sand. (medium dense) (saturated)	
						46.0	65-		17117		
						-	-	SM ML		Gray fine sandy silt / silty fine sand. (medium stiff to stiff / loose to medium dense) (saturated)	

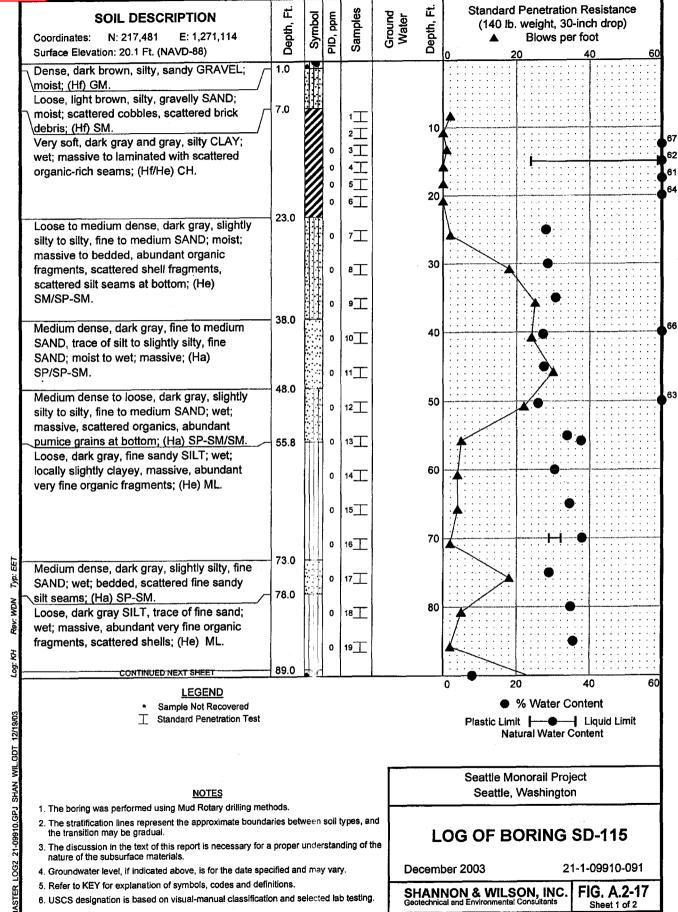
M	19	99		Amt 248! Seat	59-0	/laintei 16-010 WA	nanc 6	e n		PREPARED BY: T. S. Pa	rkington rkington
(DRY DENSITY (pcf)		BLOWS PER FOOT	SAMPLE TYPE	ELEVATION(ft.)	DEPTH (ft.)	nscs	GRAPHIC SYMBOL	SAMPLE TYPE KEY: Relatively undisturbed sample Disturbed sample Sample attempt with no recovery Bag or grab sample	REMARK
									-	DESCRIPTION	NEWIANI
	64	83	37.4	7		_					
				_			_				
						-51.0	70-				
		-				_	-				
			,	111		<u>-</u>	-				
						-56.0	75-				
						_	-				
	39	86	32.3	6		_	-				
						-61.0	80-				
							-				
	-		· '	16		-	-				
			_				-	SM		Dark gray silty fine sand. (medium dense) (saturated)	
						-66.0	85 -				
			ì			_	-	ML		Gray fine sandy silt.	
	51	81	32.9	6		_	-			(medium stiff) (saturated)	
						~71.0	90-				
						-	-				
				7		_	-				
						_76.0	95-				
						-	-				
				19		-	-				
							-	ML		Gray gravelly sandy silt with shells. (very stiff) (saturated)	
						~81.0 _	00-				
		,				-	-				
				40 50/6		-	-			Grades to hard.	
										Boring completed at a depth of 103.5 feet below the	

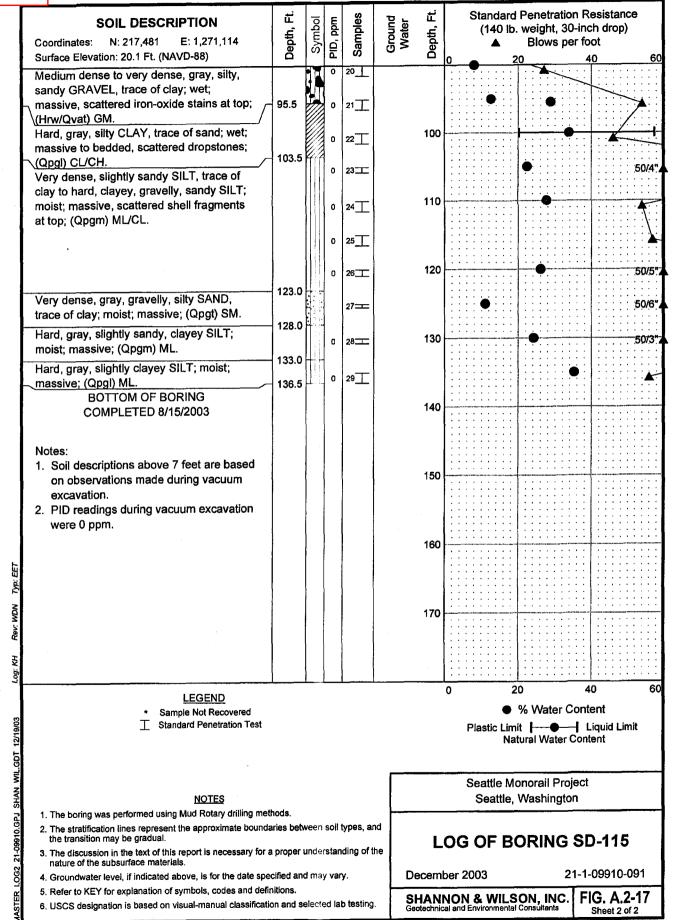
D&I	M	19	99			59-0	/lainter 16-016 WA		e Re	eloca	rition FIELD ENGINEER: T. S. I PREPARED BY: T. S. I	Parkington Parkington					
		PERCENT FINES	DRY NSITY (pcf)	DRY DENSITY (pcf)	MOISTURE CONTENT (%)	BLOWS PER FOOT	SAMPLE TYPE	ELEVATION(ft.)	DEPTH (ft.)	nscs	GRAPHIC SYMBOL	Relatively undisturbed sample Disturbed sample Sample attempt with no recovery Bag or grab sample					
				0			<u> </u>				DESCRIPTION	REMARKS					
											ground surface. Groundwater encountered at a depth of 10.5 feet below the ground surface.						
												,					
				-			· ,										
• -																	
	-																

NOTES:



LOG OF BORING B-2-97





JIB 1990

EXPLORATION BORING LOG EB-1 Page 1 of 3

		EXI LONATION					<u> </u>	50-1 Pa	ge 1 of	-3
GRAPH	uscs	SEDIMENT DESCRIPTION	DEPTH	SAMPLE	GROUND	STANK		ERATION pws/Foot	RESISTANC	ε
5			٥	એ	5 ≥	10	20	30	40	
		Moist, grey and brown, woody silt and sand. (Fill)	·	I		A				
		Water $^{\circ}$ $6\frac{1}{2}$ ' (1' on rod)	5 		_					
		Saturated, grey silt and sand with occasional gravel. (Fill)	- - - 10	I	w.D.	•				
		Saturated, dark grey, fine to medium sand with trace of silt. Small grass organic. (Fill)	-	I						
		Saturated, grey, finely laminated, silty clay with a trace of organics.	- - - - 20	I			·			
		Wet, grey silt and clay with occasional black organics and vague laminations.	_ _ _ 25	I		•				
		Saturated, dark grey to black, fine to medium sand.								
		Saturated, black, fine to medium sand with occasional shell fragments. V.D. = While Drilling	-30 - - - 35	I			•			

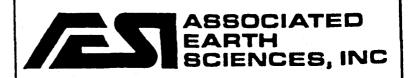
Subsurface conditions depicted represent our observations at the time and location of this exploratory hole, modified by geologic interpretation, engineering analysis, and judgment. They are not necessarily representative of other times and locations. We will not accept responsibility for the use or interpretation by others of information presented on this log.

9010-166

November 1990

SRS

Jack In The Box #8467 Seattle, Washington



LAT LORATION BORING LOGEB-1 Page 2 of 3

GRAPH	uscs	SEDIMENT DESCRIPTION	DEPTH	SAMPLE	GROUND	STANE		NERATION Hows/Foo		NCE
æ	5		2	SAI	₽₽	. 10	2	0 3	0 40	,
		Saturated, black, fine to medium sand. Approximately 5' of heaving sands.		I			-	A		
		Saturated, black, organic, fine to medium sand with some peaty silt.	- 40 45	I	·			A		
		Saturated, black, fine to medium sand with some silt, organics and shell fragments. 1" silt interbedded at tip of sample. Approximately 1' of heaving sands.	43 	I			4			
		Wet to saturated, black/grey, interbedded, fine to medium sand and silt with occasional organics.		I		A				
		Saturated, black, sandy silt grading to a fine sand.	-	I		A				
		Saturated, black, fine to medium sand overlying black silt with some sand.	- - - - 65	I		•				
		Saturated, grey/black silt with occasional small pocket of fine to medium sand.	70	I						

Subsurface conditions depicted represent our observations at the time and location of this exploratory hole, modified by geologic interpretation, engineering analysis, and judgment. They are not necessarily representative of other times and locations. We will not accept responsibility for the use or interpretation by others of information presented on this log.

> Jack In The Box #8467 Seattle, Washington

9010-16G November 1990 5K4



JIB 1990

LAPLORATION BORING LOG EB-1 Page 3 of 3

GRAPH	uscs	SEDIMENT DESCRIPTION	DEPTH	SAMPLE	GROUND		DARO PE	NERATIO Hows/For	N RESIST	ANCE
		Saturated, black, sandy silt to silty, fine sand. Small shell fragment. Easy drilling.	- - - - 75	I	0	1	0 2	0 ;	90	0
		Wet, black, fine sand with some silt. Easy drilling.	- - - - 80	Ι				A		
		Wet, black, sandy silt with occasional approx. 1 cm. long vertical pockets of fine to medium sand.		Ι		•				
		BOH @ 84' Note: Water added into auger during drilling.	— 85 - - - -							
		, , , , , , , , , , , , , , , , , , ,								
			- - - -							

Subsurface conditions depicted represent our observations at the time and location of this exploratory hole, modified by geologic interpretation, engineering analysis, and judgment. They are not necessarily representative of other times and locations. We will not accept responsibility for the use or interpretation by others of information presented on this log.

9010-16G

November 1990

SKH

Jack In The Box #8467 Seattle, Washington







MEMORANDUM

To: Wintana Miller, PE, PTOE

DKS Associates

From: Lauren Jumanan, PE

Kimley-Horn and Associates, Inc.

Date: 08/21/2025

Subject: South Holgate Street Rail Crossing Study – Diagnostics Technical Memorandum

Diagnostic Meeting Overview

CROSSING INFORMATION AND MEETING ATTENDANCE

The four crossings evaluated during the field diagnostic reviews are located along the BNSF Railway Company ("BNSF") Seattle Subdivision. The crossings, identified by roadway name, DOT #, and BNSF milepost, are as follows:

Roadway Name	DOT#	BNSF Milepost
S Holgate Street	927461X	0.795X
S Horton Street	085585M	1.591X
S Spokane Street (Westbound)	085586U	1.750X
S Spokane Street (Eastbound)	085587B	1.776X

BNSF is the primary operating railroad for all four crossings with Amtrak and Sound Transit as additional operating railroads.

The field diagnostic meetings were conducted on Tuesday, June 24, 2025 and attended by the following agencies/organizations, referred to as the Diagnostic Team hereafter:

- Roadway Authority
 - Seattle Department of Transportation ("SDOT")
 - Kimley-Horn (SDOT's consultant)
- Federal Railroad Administration ("FRA")
- Railroad Operators
 - BNSF
 - Amtrak



Data Sources

The Diagnostic Team utilized multiple data sources to inform their evaluations and recommendations, including FRA-reported crossing inventory and incident data, field observations, input from BNSF and Amtrak, and SDOT-provided roadway and traffic data. Updated AADT data from SDOT is expected to supplement the FRA data as part of this study, however, the data is not yet available for use in this technical memorandum.

Existing Crossing Operations

At S Holgate Street, the FRA-reported AADT was 6,700 in 2015, with a posted speed limit of 25 mph. The estimated percent of trucks is not provided on the FRA inventory form. FRA reported 42 daily train movements in 2023, though BNSF estimates the actual number is closer to 150-200 trains per day. The crossing is reported as part of a planned emergency response route but is not a school bus route.

At S Horton Street, the AADT was 3,530 in 2006, with 6% truck traffic and a 25 mph speed limit. FRA data reported 40 daily trains in 2023, though BNSF again noted the actual number is closer to 150. This crossing is not reported as part of an emergency or school bus route.

At S Spokane Street, the FRA reports the westbound crossing (DOT# 085586U) AADT of 3,408 from 2014, and the eastbound crossing (DOT# 085587B) has an AADT of 9,817. Both directions 12% truck traffic and a 25-mph speed limit. FRA-reported train counts of 40 per day were confirmed as accurate. These crossings are not part of an emergency or school bus route.

Incident History

The Diagnostic Team reviewed the FRA-reported incidents at the crossings for the past five years, since 2019. S Holgate Street has experienced three incidents: two gate violations resulting in injuries (June 2024 and April 2023), and one fatality involving a pedestrian in August 2019. S Horton Street has had no reported incidents. S Spokane Street has had three incidents: a gate violation in July 2022, a vehicle stopped on the tracks in August 2023, and another gate violation in December 2019. All incidents at S Spokane Street reported no injuries or fatalities.

DIAGNOSTIC MEETING DISCUSSIONS

S Holgate Street

The team noted discrepancies in the FRA-reported train counts, and future plans to increase the number of tracks across S Holgate Street. The team discussed the preemption time at the crossing, which is the length of time the warning devices are active prior to a train arriving at the crossing. The current configuration requires a preemption time of sixty-one seconds, as reported by BNSF during the field meeting. The team discussed concerns with this length of time leading to potential unsafe motorist and pedestrian behavior, as it may appear safe to enter the crossing area without the train immediately present at the crossing. BNSF expressed the preemption time will increase as additional tracks are introduced across Holgate Street.



The team also noted other concerns at the crossing such as high volumes of pedestrians using the crossing, as well as the intersection at 3rd Avenue causing frequent queuing back to the tracks. The team also discussed the increased potential for pedestrians using the crossing to be under the influence and/or impaired.

BNSF and Amtrak expressed support for potential closure of the crossing due to operational complexity and safety considerations.

S Horton Street

The team noted discrepancies in FRA-reported train counts and estimated percent trucks. A commercial driveway near the crossing poses risks during train events. Visibility issues with warning devices and missing signage were identified. The team discussed options for improving visibility and delineation, including additional flashing light pairs over the roadway on cantilevers and curb installations.

S Spokane Avenue (Eastbound and Westbound)

The team confirmed FRA train counts were accurate but noted truck percentages may be underreported. The crossing serves as an emergency route, is located immediately adjacent to a fire station, and has a history of minor incidents. Traffic backups from 4th Avenue S contribute to vehicles queueing up to and across the tracks for the eastbound direction. The team discussed signage, pavement markings, and pedestrian safety enhancements.

NEAR-TERM RECOMMENDATIONS BY LOCATION

S Holgate Street

At the Holgate Street crossing and adjacent areas, several immediate improvements were recommended for SDOT's consideration. Review and adjust the placement and size of the W10-1 advanced warning signs, particularly those mounted on utility poles, to align with the current MUTCD guidance. The R8-8 ("DO NOT STOP ON TRACKS") and R8-10 ("STOP HERE WHEN FLASHING") signs located in the median may obstruct visibility of the warning flashers and should be evaluated for repositioning. A tree obstructing the westbound warning device near the crossing immediately west (DOT #085583Y) should be reviewed for removal. Additional RXR pavement markings and W10-4 signs should be installed on southbound and northbound 3rd Avenue to improve driver awareness. The R3-5 "RIGHT TURN ONLY" signs on both approaches to 3rd Avenue should be upsized and mounted at appropriate heights. It is also recommended SDOT assess the need for trimming or removing trees that impair visibility of the W10-1 signs for westbound traffic.

Summary of Near-Term Recommendations for S Holgate Street:

- Review and adjust placement and size of W10-1, R8-8, and R8-10 signs for MUTCD compliance
- Remove tree obstructing visibility of westbound warning device
- Install W10-4 signs and RXR pavement markings on 3rd Avenue
- Replace undersized R3-5 signs and increase post height



S Horton Street

Immediate improvement recommendations at S Horton Street include the installation of a missing W10-1 sign on the westbound approach and an R8-8 sign to discourage vehicles from stopping on the tracks, particularly due to queuing from the nearby commercial driveway. Edgeline pavement markings should be considered to improve channelization of both vehicles and pedestrians through the crossing. The RXR pavement markings and crossing limit lines are faded or missing and should be refreshed. Visibility of the warning device in the northeast quadrant is obstructed by a utility pole; SDOT should explore two options: installing a curb to allow the device to be relocated closer to the roadway or installing a cantilever to provide overhead flashers. Additionally, the W10-1 sign in the southwest quadrant is undersized and should be replaced to meet current MUTCD guidance.

Summary of Near-Term Recommendations for S Horton Street:

- Install missing W10-1 sign for westbound approach
- Install R8-8 sign at crossing
- Install edgeline pavement markings
- Refresh RXR and limit line pavement markings
- Evaluate visibility improvements for warning devices

S Spokane Avenue (Eastbound and Westbound)

At S Spokane Street, it is recommended SDOT replace the undersized W10-1 signs in the southwest and northeast quadrants and install additional signs in the medians. In the southeast quadrant, it is recommended R8-8 signs be installed to deter vehicles from stopping on the tracks due to backups from the 4th Avenue S intersection. R5-1 ("DO NOT ENTER") and R6-1 ("ONE WAY") signs are recommended to deter illegal turns from the U-turn area. In the southwest quadrant, it is recommended "KEEP CLEAR" pavement markings be added between the stop bar and the warning devices, and R8-10 signs be installed both curbside and in the median. Pedestrian barricades are also recommended in the medians to prevent unsafe crossings outside of designated areas.

Summary of Near-Term Recommendations for S Spokane Street:

- Replace undersized W10-1 signs in SW and NE quadrants
- Install R8-8, R5-1, and R6-1 signs in SE quadrant
- Add "KEEP CLEAR" markings and R8-10 signs in SW quadrant
- Install pedestrian barricades in medians



LONG-TERM RECOMMENDATIONS BY LOCATION

S Holgate Street

Given the planned addition of tracks and the resulting increase in gate-down time, BNSF and Amtrak have expressed support for the potential closure of the Holgate Street crossing. The diagnostic team recommends SDOT evaluate this option in coordination with stakeholders. If the crossing remains open, long-term improvements may include the installation of train-activated pedestrian gates to address the high volume of pedestrians, particularly during stadium events, including nighttime pedestrian activity. Additional pedestrian channelization and delineation measures should also be considered, such as a raised median on either side of the crossing, including through the intersection with S 3rd Street.

Summary of Long-Term Recommendations for S Holgate Street:

- Consider crossing closure or grade separation
- Consider pedestrian gates and channelization
- Assess the feasibility of raised medians to deter illegal movements

S Horton Street

Due to the proximity of a commercial driveway with frequent truck movements, BNSF request SDOT consider of a four-quadrant gate system to prevent vehicles from circumventing the gates during train events. The diagnostic team supports this recommendation and suggests SDOT evaluate the feasibility of quad gates as a long-term safety enhancement.

Summary of Long-Term Recommendations for S Horton Street:

Consider four-quadrant gates due to driveway proximity

S Spokane Avenue (Eastbound and Westbound)

Long-term improvements at Spokane Street should focus on maintaining clear sightlines and safe traffic operations in coordination with emergency services and utility providers. The diagnostic team recommends continued monitoring of traffic patterns and pedestrian behavior, particularly during peak periods. If queuing or illegal movements persist, additional physical barriers or signal timing adjustments at the intersection with 4th Street S may be warranted.

Summary of Long-Term Recommendations for S Spokane Street:

Monitor traffic patterns and adjust signage and/or traffic signal timing as needed

Conclusion

The diagnostic team's field reviews of the S Holgate Street, S Horton Street, and S Spokane Street rail crossings provided a comprehensive assessment of current conditions and operational challenges. Each location presents unique safety concerns, ranging from visibility issues and pedestrian volumes to traffic queuing and infrastructure constraints. Implementation of any of the recommended improvements identified in this memo should be coordinated with all diagnostic team parties and reported to FRA to maintain accuracy of their railroad crossing inventory.



List of Attachments

- Attachment A Diagnostic Meeting Notes
- Attachment B FRA Inventory Reports
- Attachment C FRA Incident Data



ATTACHMENT A DIAGNOSTIC MEETING NOTES

Field Diagnostic Meeting SDOT South Holgate Street Rail Crossing Study

South Holgate Street Crossing (DOT# 927461X) BNSF Seattle Subdivision | MP 0.795X June 25th, 2025 | 9:00 AM

Attendees: See attached sign-in sheet

Meeting Notes:

1. Existing Conditions and Operations

a. Review FRA-Reported Data:

AADT (year)	6,700 (2015)
Estimated % Trucks	-
Speed Limit (mph)	25 mph
Train Counts (year)	42 (2023)
Train Speed (mph, max)	50 mph
School Bus Route	No
Emergency Services Route	Yes (planned response – snow, ice, SFD)
Incident History	06/2024 – Highway user went around the gate – 1 injury
(since 2019)	04/2023 – Highway user went around the gate – 1 injury
	08/2019 – Train reported striking trespasser – 1 fatality

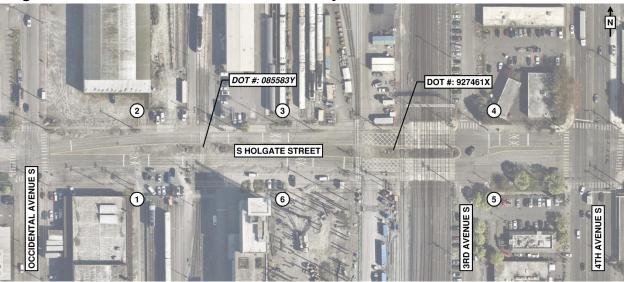
- b. BNSF and Amtrak noted the number of train activations per day reported to FRA is inaccurate and is closer to 150 according to recent data collected by BNSF. During the busier season for the railroad, this could be closer to 200 trains per day.
- c. SDOT will be providing an update on the roadway AADTs as part of this project, however, that data is not yet available.

2. General Crossing Comments:

- a. The Diagnostic Team ("Team") discussed the planned final configuration of the crossing, which will include additional tracks. BNSF and Amtrak expressed concern regarding the proposed preemption/gate-down time once the additional tracks are introduced.
 - BNSF relayed to the Team the current preemption timing from the signal cabin.
 The preemption timing is 61 seconds before the train arrives at the crossing.
 This is the time needed to clear all modes (vehicles, pedestrians, and bicycles) from the crossing before a train passes through.
 - ii. BNSF noted this time will increase significantly when additional tracks are introduced, and the crossing covers more length of roadway.
 - iii. The Team discussed concern with preemption time greater than 50 seconds since roadway users may not immediately see the train approaching as the devices are activated and may choose to enter the crossing area as a train approaches.
- The Team discussed nearby encampment areas generating high volumes of unhoused pedestrians, particularly at night, as well as large pedestrian volumes generated by nearby stadiums.

- c. The Team discussed frequent queuing on the tracks caused by the intersection of 3rd Avenue and South Holgate Street.
 - i. SDOT confirmed the signalized intersection is interconnected with the railroad and utilizes simultaneous preemption.
- d. The Team noted the purpose of today's meeting is to evaluate current conditions, document safety concerns, and identify near-term improvements for the crossing.
 - i. BNSF and AMTRAK expressed support for the closure of this crossing due to the existing and planned track configurations across S Holgate Street.
- e. The Team agreed to begin the diagnostic meeting with an evaluation of the crossing located immediately west of the subject crossing (DOT #085583Y).

Diagnostic Team Review and Recommendations by Location:



3. Location 1, SW Quadrant (DOT #085583Y)

- a. Amtrak noted this crossing was recently improved and included updating the signing and pavement markings, as well as replacement of the asphalt crossing surface.
- b. The Team noted the W10-1 sign mounted high on an existing utility pole.
 - i. BNSF noted this is likely due to the theft of the properly-installed advanced warning signs.
 - ii. SDOT will review relocating the W10-1 advanced warning sign for better compliance with the MUTCD.
- c. The Team noted the existing R8-8 and R8-10 signs in the median may impair visibility to the flashers.
 - i. Kimley-Horn noted the R8-8 ("DO NOT STOP ON TRACKS") sign is typically placed immediately downstream of the crossing.
 - ii. SDOT will review placement of these signs and will modify the configuration to accommodate visibility and compliance with the current MUTCD.
- d. Immediate Action Items:
 - SDOT to review placement and size of the W10-1 advanced warning sign per MUTCD, modify appropriately.

ii. SDOT to review placement of the R8-8 and R8-10 signs for visibility of the median flashers and compliance with the MUTCD, modify appropriately.

4. Location 2, NW Quadrant (DOT #085583Y)

- a. The Team discussed the recently installed dynamic envelope markings.
 - i. Kimley-Horn noted additional cross-hatching up to the dynamic envelope markings is allowed per MUTCD, if desired.
- b. Immediate Action Items: N/A

5. Location 3, NW Quadrant (DOT #927461X)

- a. The Team observed a westbound vehicle U-turn between the two crossing areas.
- b. The Team discussed the possibility of a raised median between the two railroad crossings.
 - i. The Team noted a raised median would conflict with current Amtrak vehicle movements across Holgate Street.
- c. The Team discussed the "LOOK" warning signs for pedestrians on the sidewalk approach to the crossing.
 - i. Amtrak noted the signs were installed after a pedestrian fatality on this side of the road.
- d. The Team discussed an existing tree blocking visibility to the curbside warning device for the crossing located west of the subject crossing (DOT #085583Y).
 - i. SDOT will review the removal of the tree as an immediate action item.
- e. Immediate Action items:
 - i. SDOT to review removal of the tree blocking visibility to the westbound warning device for crossing DOT #085583Y.

6. Location 4, NE Quadrant (DOT #927461X)

- a. The Team discussed the current left-turn and through-movement restrictions from southbound 3rd Avenue.
 - i. The Team noted there are many traffic violations despite the regulatory signage and pavement markings.
 - ii. The Team discussed the potential for a raised median or a physical barrier preventing the left and through movements.
 - 1. SDOT noted this has been previously discussed but would need to be reviewed against mobility for pedestrians and bicyclists.
- b. The Team noted the curb return radius from southbound 3rd Avenue is too small and results in frequent broken gates.
- c. The Team witnessed two violations of the warning devices while performing field observations in this quadrant:
 - i. An eastbound vehicle entered the crossing area well after the gate arms were activated from an Amtrak driveway located within the track area. The vehicle was able to clear the crossing prior to the train entering the crossing area.
 - ii. Two individuals on a motorized bicycle heading westbound entered the crossing area well after the gate arms were activated due to the perceived distance of the train from the crossing area. The individuals were able to clear the crossing prior to the train entering the crossing area.

- d. The Team recommended SDOT install a W10-4 advanced warning sign and RXR pavement markings for southbound 3rd Avenue as an immediate action item.
- e. The Team discussed the need for additional pedestrian channelization and delineation through the crossing due to the high volumes of pedestrians during game days, as well as high volumes of unhoused pedestrians.
 - i. The Team noted train-activated pedestrian gates may be warranted.
- f. The Team recommended SDOT review the size and placement of the W10-1 sign and pavement markings for the westbound approach as an immediate action item.
 - The Team noted existing trees located east of the W10-1 sign impair visibility of the flashers. SDOT to consider trimming or removing the trees to improve visibility of the warning signs.
- g. Immediate Action Items:
 - i. SDOT to place a W10-4 advanced warning sign and RXR pavement markings for southbound 3rd Avenue.
 - ii. SDOT to review placement and size of the W10-1 advanced warning sign per MUTCD, modify appropriately.
 - iii. SDOT to review trimming or removing the trees impairing visibility of the W10-1 sign for westbound S Holgate Street.

7. Location 5, SE Quadrant (DOT #927461X)

- a. The Team discussed the current left-turn and through-movement restrictions from northbound 3rd Avenue.
 - i. The Team noted there are many traffic violations despite the regulatory signage and pavement markings.
- b. The Team recommended SDOT install a W10-4 advanced warning sign and RXR pavement markings for northbound 3rd Avenue as an immediate action item.
- c. The Team noted the right-turn only (R3-5) sign is too small. SDOT noted this is because of the minimum height requirements for post-mounted signs. SDOT will increase the post height and upsize the R3-5 sign as an immediate action item.
 - i. This immediate action item also applies to the right-turn only sign and sign post for southbound 3rd Avenue.
- d. Immediate Action Items:
 - i. SDOT to place a W10-4 advanced warning sign and RXR pavement markings for southbound 3rd Avenue per the MUTCD.
 - ii. SDOT to replace the R3-5 sign to be MUTCD compliant and increase the height of the sign post as needed for northbound 3rd Avenue and southbound 3rd Avenue (northeast quadrant).

8. Location 6, SW Quadrant (DOT #927461X)

- a. The Team noted the W10-1 sign mounted high on an existing utility pole.
 - i. SDOT will review relocating the W10-1 advanced warning sign for better compliance with the MUTCD.
- b. Immediate Action Items:
 - i. SDOT to review placement and size of the W10-1 advanced warning sign per MUTCD, modify appropriately.

Field Diagnostic Meeting SDOT South Holgate Street Rail Crossing Study

South Horton Street Crossing (DOT #085585M) BNSF Seattle Subdivision | MP 1.591X June 24, 2025 | 11:00 AM

Attendees: See attached sign-in sheet

Meeting Notes:

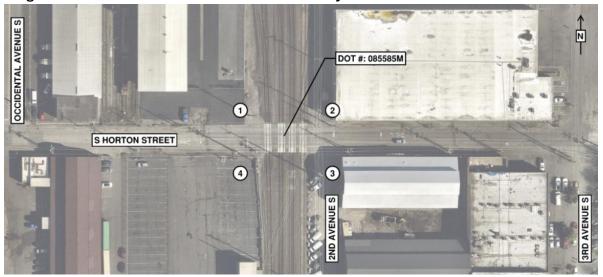
1. Existing Conditions and Operations

a. Review FRA-Reported Data:

AADT (year)	3,530 (2006)
Estimated % Trucks	6%
Speed Limit (mph)	25 mph
Train Counts (year)	40 (2023)
Train Speed (mph, max)	50 mph
School Bus Route	No
Emergency Services Route	No
Incident History (since 2019)	None

- b. BNSF and Amtrak noted the number of trains per day reported to FRA are inaccurate and likely closer to 150 trains per day. BNSF noted there is a "garbage train" that operates frequently through the crossing.
- c. Amtrak noted the Horton Street corridor at the crossing experiences high volumes of trucks as a main thoroughfare.
 - i. BNSF noted a fueling facility located immediately northeast of the crossing.
- d. Amtrak reported high vehicle and pedestrian volumes during events at the stadium located about 1 mile north of the crossing.
 - i. S Horton Street becomes a passageway for roadway users looking to avoid other congested roadways and/or attempt free street parking.
- e. SDOT will provide updated roadway AADTs as part of this project.

Diagnostic Team Review and Recommendations by Location:



2. Location 1, NW Quadrant

- a. There is a commercial driveway located in this driveway that experiences frequent truck turning movements immediately downstream of the crossing.
- b. BNSF recommended exit gates (quad gates) be considered due to the proximity of the driveway and the likelihood of vehicles evading the gates during a train event.
- c. The Diagnostic Team ("Team") recommended additional pavement markings such as roadway edgelines, and centerline striping through the crossing area.
 - i. Roadway edgelines will also better delineate the pedestrian path of travel through the crossing.
 - ii. BNSF noted the crossing panels may not be painted, but the asphalt between tracks can be delineated.
- d. Immediate Action Items: N/A

3. Location 2, NE Quadrant

- a. The Team noted the W10-1 advanced warning sign is missing for the westbound approach to the crossing. SDOT to install this sign as an immediate action item.
- b. The Team recommended an R8-8 ("DO NOT STOP ON TRACKS") sign be installed at the crossing due to the potential for queueing on the tracks caused by the driveway in the northwest quadrant.
- c. Kimley-Horn noted the crossing limit line is not installed per MUTCD and may be updated with other pavement marking improvements at the crossing. Additionally, the RXR pavement markings were faded and may be refreshed with other pavement marking improvements.
- d. The Team discussed visibility of the warning device in this quadrant. The warning device flashers are blocked by an existing utility pole that likely must remain in place. The Team discussed two options to enhance visibility of the flashers.
 - i. Install a raised curb and relocate the warning device closer to the roadway. The warning device is currently placed appropriately given there is no curb at the crossing. Installing a curb would allow the device to be moved in closer and still meet BNSF standards.
- e. Install a cantilever, allowing an additional pair of flashing lights to be located over the roadway.
- f. Immediate Action Items:
 - i. SDOT to install W10-1 sign for the westbound travel lane.

4. Location 3, SE Quadrant

- a. The Team discussed the construction activity on the property located in this quadrant. SDOT will verify the proposed use for the development and if its use may generate additional roadway volumes.
- b. The Team recommended installing an R8-8 sign in this quadrant for eastbound traffic.
- c. Immediate Action Items: N/A

5. Location 4, SW Quadrant

- a. The Team noted the W10-1 advance warning sign is too small per the MUTCD. SDOT to upsize the sign as an immediate action item.
- b. Immediate Action Items:
 - i. SDOT to replace W10-1 sign per MUTCD.

Field Diagnostic Meeting SDOT South Holgate Street Rail Crossing Study

South Spokane Street Crossings (DOT #085586U, 085587B) BNSF Seattle Subdivision | MP 1.750X, 1.776X June 24, 2025 | 11:00 AM

Attendees: See attached sign-in sheet

Meeting Notes:

1. Existing Conditions and Operations

a. Review FRA-Reported Data:

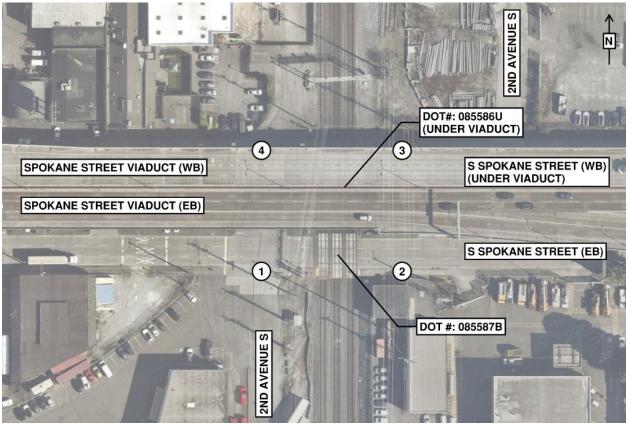
DOT # / Direction of Travel	085586U / Westbound	085587B / Eastbound
AADT (year)	3,408 (2014)	9,817 (2014)
Estimated % Trucks	12%	12%
Speed Limit (mph)	25 mph	25 mph
Train Counts (year)	40 (2023)	40 (2023)
Train Speed (mph, max)	50 mph	50 mph
School Bus Route	No	No
Emergency Services Route	Yes (planned response – snow, ice, SFD)	Yes (planned response – snow, ice, SFD)
Incident History (since 2019)	07/2022 – highway user preceded gates, no injuries	08/2023 – highway user stopped on crossing (traffic backup), no injuries 12/2019– highway user preceded gate, no injuries

- b. BNSF and Amtrak noted the number of trains per day reported to FRA is accurate at these locations.
- c. SDOT will provide updated roadway AADTs as part of this project.
 - i. BNSF noted the percentage of trucks may be low given field observations.

2. General Crossing Comments

- a. The crossings have had recent signing/striping improvements installed by SDOT.
- b. The Diagnostic Team ("Team") noted the Fire Department facility located in the southwest quadrant of the crossings. The driveway is located between the stop bar for the crossing and the warning device.
- c. The crossings are divided between eastbound and westbound traffic, with parking in the medians on either side of the crossing, and has U-Turn facilities on both sides of the tracks.
- d. BNSF noted the Seattle City Light station is located nearby, and there are many high-voltage electrical lines that must be maintained.
- e. The Team recommended SDOT refresh all pavement markings within the crossing area.

Diagnostic Team Review and Recommendations by Location:



3. Location 1, SW Quadrant

- a. The Team recommended "Stop Here When Flashing" (R8-10) signs be installed (curbside and median-mounted) at the stop bar, since it is offset from the warning devices.
- b. The Team recommended "KEEP CLEAR" pavement markings be installed between the stop bar and the warning devices.
- c. The Team recommended pedestrian barricades be added to the median areas to prevent pedestrians from crossing the tracks outside of the designated sidewalk crossing areas.
- d. SDOT noted the W10-1 advance warning sign appears to be too small and will replace the sign to be MUTCD-compliant as an immediate action item.
 - i. The Team recommended SDOT also consider adding an additional W10-1 advance warning sign in the median.
- e. Immediate Action Items:
 - i. SDOT to replace W10-1 sign per MUTCD.

4. Location 2, SE Quadrant

- a. The Team noted eastbound traffic tends to back up from the traffic signal at 4th Avenue S, located approximately 650' east of the crossing.
 - i. Amtrak noted the backup is largely due to right-turning vehicles onto 4th Avenue South.

- ii. The Team recommended "DO NOT STOP ON TRACKS" (R8-8) signs be installed as an immediate action item to mitigate roadway users from backing up onto the tracks.
- b. The Team recommended "DO NOT ENTER" (R5-1) signs be installed facing east to prevent roadway users from turning westbound from the U-turn area located immediately east of the crossing.
 - i. The Team also recommended a "ONEWAY" (R6-1) sign be installed on the south side of the road facing the U-turn area.
- c. Immediate Action Items:
 - i. SDOT to install R8-8 signs immediately downstream from the crossing.

5. Location 3, NE Quadrant

- a. The Team noted the W10-1 advance warning signs are missing from the approach to the crossing. SDOT to install W10-1 signs (curbside and median-mounted) as an immediate action item.
- b. The Team recommended a "ONEWAY" (R6-1) sign be installed on the north side of the road facing the U-turn area.
- c. Immediate Action Items:
 - i. SDOT to install curbside and median-mounted W10-1 signs.

6. Location 4, NW Quadrant

- a. No comments or discussions for this quadrant.
- b. Immediate Action Items: N/A



ATTACHMENT B FRA INVENTORY REPORTS

DEPARTMENT OF TRANSPORTATION

FEDERAL RAILROAD ADMINISTRATION OMB No. 2130-0017

A. Revision Date Month/GO/DYTY Size C. Reason for Update (Select only one) Not Cosed Not Train Coulet Control (Month/GO/DYTY) C. Cassing Control Cossing Control Cossing Control Control (Month/GO/DYTY) C. Cassing Control C. Cassing	Instructions for the Form. For private his pedestrian station grarts I and II, and the I, and the Submission updated data fields.	ghway-ra rade cros Submiss on Inform	il grade crossi sings), comple sion Informatic ation section.	ings, comp te the Hea on section. For chang	lete the F ader, Parts For grade es to exis	Header, s I and -separa sting da	Parts I and II, and the Steel ted highway ta, complete	II, an Submi: -rail o	nd the Su ssion Info or pathwa Header,	bmission information formation section. Fo by crossings (includin Part I Items 1-3, an	n section. For rerivate pathw g pedestrian stadd the Submission	public pathw ray grade cro ation crossing on Informatio	ay grade crossings, compos), complete on section, ir	ssings (including lete the Header, the Header, Part
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24. Is there an Adjacent Crossing with a Separate Number? 25. Quiet Zone (FRA provided) Yes No If Yes, Provide Crossing Number 27. Latitude in decimal degrees 28. Longitude in decimal degrees 29. Lat/Long Source	• •		□ Pos	idontial	□ Cor	mmorci	al 🗆 I	nduct	rial		□ Pocroatio	nal [DP Vard	
27. Latitude in decimal degrees 28. Longitude in decimal degrees 29. Lat/Long Source 28. Longitude in decimal degrees 29. Lat/Long Source 29. Lat/Long Lat/Long Source 29. Lat/Long Source 29. Lat/Long Lat/Lo						mmerci					□ Recreatio	Jildi L	I KK Yalu	
27. Latitude in decimal degrees 28. Longitude in decimal degrees 29. Lat/Long Source 28. Longitude in decimal degrees 29. Lat/Long Source 29. Lat/Long Lat/Long Source 29. Lat/Long Source 29. Lat/Long Lat/Lo								_	·					
Radit Radi		Yes, Prov			imal degr	PPS	L No							urce
30.B. Railroad Use * 31.B. State Use * 31.B. State Use * 31.C. State Use * 31.D. State Use * 31.D. State Use * 31.D. State Use * 32.A. Narrative (Railroad Use) * (IV.6 I.23 I.6 I.18 I.27 I.28 I.29) Value Provided by 32.B. Narrative (State Use) * 33. Emergency Notification Telephone No. (posted) 817-352-1549 35. State Contact (Telephone No.) 360-664-1262 State Use * State Use * State Use * State Use * State Use St	20. 1151. Com doi 15				J		31700		·	J				
30.C. Railroad Use * 31.C. State Use * 31.D. State Use * 32.A. Narrative (Railroad Use) * (IV.6 1.23 1.6 1.18 1.27 1.28 1.29) Value Provided by 32.B. Narrative (State Use) * 33. Emergency Notification Telephone No. (posted) 817-352-1549 360-664-1262 **Testimated Number of Daily Train Movements 1.A. Total Day Thru Trains (6 MN to 6 PM) 21 1	30.A. Railroad Use	_ <u> </u>	(WGS84	std: nn.n.	nnnnnn)	47.000	71700	(We			2.000024	LX.	Actual L	Estimated
32.A. Narrative (Railroad Use) * (IV.6 I.23 I.6 I.18 I.27 I.28 I.29) Value Provided by 32.B. Narrative (State Use) * 33. Emergency Notification Telephone No. (posted) 817-352-1549 35. State Contact (Telephone No.) 817-352-1549 360-664-1262 Part II: Railroad Information	30.B. Railroad Use	*							31.B. S	tate Use *				
32.A. Narrative (Railroad Use) * (IV.6 I.23 I.6 I.18 I.27 I.28 I.29) Value Provided by 32.B. Narrative (State Use) * 33. Emergency Notification Telephone No. (posted) 817-352-1549 35. State Contact (Telephone No.) 817-352-1549 360-664-1262 Part II: Railroad Information	30.C. Railroad Use	*							31.C. St	atelise *				
32.A. Narrative (Railroad Use) * (IV.6 I.23 I.6 I.18 I.27 I.28 I.29) Value Provided by 33. Emergency Notification Telephone No. (posted) 800-832-5452 Sature Contact (Telephone No.) 800-832-5452 Part II: Railroad Information 1. Estimated Number of Daily Train Movements 1.A. Total Day Thru Trains (6 AM to 6 PM) 21 2. Year of Train Count Data (YYYY) 3. Speed of Train at Crossing 3.A. Maximum Timetable Speed (mph) 2023 4. Type and Count of Tracks Main 3 Siding 7 Yard 3 Transit 1 Industry 1 Indu		*												
33. Emergency Notification Telephone No. (posted) 800-832-5452 817-352-1549 918 Train Detection (Main Track only) 800-832-5452 34. Railroad Contact (Telephone No.) 817-352-1549 35. State Contact (Telephone No.) 360-664-1262 Part II: Railroad Information 1. Estimated Number of Daily Train Movements 1. A. Total Day Thru Trains (6 PM to 6 AM) 21 2. Year of Train Count Data (YYYY) 3. Speed of Train at Crossing 3. A. Maximum Timetable Speed (mph) 50 3. Speed Range Over Crossing (mph) From 1 to 50 4. Type and Count of Tracks Main 3 Siding 0 Yard 3 Transit 0 Industry 0 5. Train Detection (Main Track only) © Constant Warning Time Motion Detection AFO PTC DC Other None														
817-352-1549 Set of Train Count Data (YYYY) 2023 4. Type and Count of Tracks Main 3 Siding 0 Yard 3 Transit 0 Industry 0 817-352-1549 Siding 0 Yard 3 Transit 0 Industry 0 Set of Train Count Data (Main Track only) Motion Detection (Main Track only)	32.A. Narrative (Rai	ilroad Us	e) * (IV.6 I.23	I.6 I.18 I.	27 1.28 1.2	29)Valu	ue Provided	by	32.B. N	arrative (State Use)	*			
Part II: Railroad Information 1. Estimated Number of Daily Train Movements 1.A. Total Day Thru Trains (6 PM to 6 AM) 21 0 0 1.E. Check if Less Than One Movement Per Day How many trains per week? 2. Year of Train Count Data (YYYYY) 3. Speed of Train at Crossing 3.A. Maximum Timetable Speed (mph) 50 3.B. Typical Speed Range Over Crossing (mph) From 1 to 50 4. Type and Count of Tracks Main 3 Siding 0 Yard 3 Transit 0 Industry 0 5. Train Detection (Main Track only) © Constant Warning Time Motion Detection AFO PTC DC Other None	· ·	ication T	elephone No.	(posted)			,	Teleph	one No.)			, ,	one No.)	
1. Estimated Number of Daily Train Movements 1. A. Total Day Thru Trains 1. B. Total Night Thru Trains 1. B. Total Night Thru Trains 1. C. Total Switching Trains 1. D. Total Transit Trains 1. E. Check if Less Than One Movement Per Day How many trains per week? 2. Year of Train Count Data (YYYY) 3. Speed of Train at Crossing 3. A. Maximum Timetable Speed (mph) 50 3. B. Typical Speed Range Over Crossing (mph) From 1 to 50 4. Type and Count of Tracks Main 3 Siding 0 Yard 3 Transit 0 Industry 0 5. Train Detection (Main Track only) © Other None	800-832-5452				817				1. (360-664-126	52 		
1.A. Total Day Thru Trains (6 AM to 6 PM) 21 2. Year of Train Count Data (YYYY) 2023 4. Type and Count of Tracks Main 3 Siding 0 Yard 3 Transit 0 Industry 0 5. Train Detection (Main Track only) Constant Warning Time	1 Estimated Number	r of Daily	Train Mayama	nte		Pa	irt II: Rail	roac	d Intor	mation				
Constant Warning Time Motion Detection Motion					Thru Train	s 1.0	C. Total Swit	ching	Trains	1.D. Total Transit	Trains	1.E. Check	if Less Than	
3.A. Maximum Timetable Speed (mph) 50 3.B. Typical Speed Range Over Crossing (mph) From 1 to 50 4. Type and Count of Tracks Main 3 Siding 0 Yard 3 Transit 0 Industry 0 5. Train Detection (Main Track only) Constant Warning Time	(6 AM to 6 PM) One Movement Per Day													
3.B. Typical Speed Range Over Crossing (mph) From 1 to 50 4. Type and Count of Tracks Main 3 Siding 0 Yard 3 Transit 0 Industry 0 5. Train Detection (Main Track only) Constant Warning Time	2. Year of Train Coun	t Data (Y	YYY)		•		-	-	mn41 50	<u> </u>				
4. Type and Count of Tracks Main 3 Siding 0 Yard 3 Transit 0 Industry 0 5. Train Detection (Main Track only) © Constant Warning Time	2023									 .	to 50			
5. Train Detection (Main Track only) © Constant Warning Time Motion Detection PTC DC Other None	4. Type and Count of	Tracks			,,	- r -	<u> </u>		01	·				
☑ Constant Warning Time ☐ Motion Detection ☐ AFO ☐ PTC ☐ DC ☐ Other ☐ None				ard 3	Tr	ansit 0	<u> </u>	Indu	stry 0					
· ·	,		,,	Detection	□AFO	□ PTC		□ Ot	her \square	None				
™ Yes □ No	6. Is Track Signaled?					7.A	. Event Reco							onitoring

A. Revision Date (NOT) 01/16/2025	MM/DD/YYYY)					P.	AGE 2			D. 927	Crossing Inve 7461X	ntory Nun	n ber (7 c	har.)	
			Part II	I: Highway	or Pat	hway	Traffic	Control Do	evice	Infor	mation				
1. Are there	2. Types of Pa	assive Tra	affic Con	trol Devices ass	ociated	with the	Crossing								
Signs or Signals?	2.A. Crossbuc	k	2.B. ST	OP Signs (R1-1)	2.C.	YIELD Sig	ns <i>(R1-2)</i>			arning S	igns <i>(Check al</i>	l that apply	y; includ	e cou	nt) 🗆 None
¥ Yes □ No	Assemblies (a	ount)	(count)	1	(cour	nt)		■ W10-1 □ W10-2			□ W10-3 □ W10-4	}	_		.1
2.E. Low Ground Cl	earance Sign	2.F. Pa	avement	Markings			2.G. Cha	nnelization			2.H. EXEMP		2.I. EN		
(W10-5)	1						-	'Medians			(R15-3)		Display	ed	
☐ Yes (count ■ No)		p Lines Xing Syn	,	namic En ne	velope		proaches Approach	☐ Me		□ Yes ጃ No		☐ Yes ☐ No		
2.J. Other MUTCD S	Signs		es 🗆 l		116			ate Crossing			hanced Signs	(List types			
Specify Type R15-	-8	Cou	_{int} 3				Signs (if	private)			_				
Specify Type R15-2	2P	Cou	_{int} 7				☐ Yes	□No							
Specify Type R8-10		Cou	ınt 2				□ 1e3	□ NO							
3. Types of Train A	ctivated Warni	ng Device	es at the												
3.A. Gate Arms	3.B. Gate Con	figuratio	n				<i>ged)</i> Flashi	ng Light			Mounted Flasi	hing Lights			. Total Count of
(count)	■ 2 Quad	☐ Full	(Barrier)	Structure Over Traf		•		ncandescent		unt oj n Incande	nasts) <u>4</u> scent	 ■ LED		Fld	shing Light Pairs
Roadway 4	☐ 3 Quad	Resista	. ,				_				hts Included	☐ Side	Lights	10	
Pedestrian 0	☐ 4 Quad	☐ Med	lian Gate	es Not Over	Traffic L	ane <u>0</u>	_ 🗆 L	ED				Include	ed		
3.F. Installation Dat	e of Current			3.G. Wayside	Horn				ı.	3.H. F	lighway Traffi	c Signals C	ontrollin	g	3.I. Bells
Active Warning Dev	, ,	,		☐ Yes Ins	stalled or	n <i>(MM/Y</i>	YYY)	/		Cross	U				(count)
	_	Not Req	uirea	IX No		. (s I No				2
3.J. Non-Train Active Warning □ Flagging/Flagman □ Manually Operated Signals □ Watchman □ Floodlighting □ None 3.K. Other Flashing Lights or Warning Devices Count 0 Specify type															
4.A. Does nearby H	, i	Traffic S	ignal	4.C. Hwy Traff	fic Signal	Preemp	tion	5. Highway T		Pre-Sigr	nals	•	•		g Devices
Intersection have	Intercon		astad					□ Yes □	No			(Check al			Recording
Traffic Signals?		nterconn raffic Sigi		☐ Simultane	ous			Storage Dista	ance *				-		ence Detection
☐ Yes ☐ No	☐ For V	_		☐ Advance				Stop Line Dis				☐ None			
				P	art IV:	: Physi	cal Cha	racteristic	cs						
1. Traffic Lanes Cros	ssing Railroad	☐ One- ☐ Two			2. Is Roa Paved?	adway/P	athway	3. Does T	rack Ru	un Dow	n a Street?		_		ated? (Street 50 feet from
Number of Lanes		☐ Divid		_	X '		□ No		□ Yes		No	nearest i			□ No
5. Crossing Surface☐ 1 Timber☐										_	dth * <u>174</u> er □ 7 Me		Length *	* <u>10</u>	7
☐ 8 Unconsolidate					Concrete	: 🗆 5	Concrete	aliu Kubbei	□ 0	Rubbe	:i 🗆 / ivie	Lai			
6. Intersecting Roa							7. Small	est Crossing A	ngle			8. Is Co	mmercia	ıl Pov	ver Available? *
¥ Yes □ No	If Yes, Approxi	nata Dict	anco (fa	at)			□ 0° - 2	.9° □ 30°	_ 50°	T-	60° - 90°		□ Yes		□ No
163 🗆 100	п тез, дррголп	nate Dist	ance ye		t V: Pı	ublic H		/ Informat			00 - 30			,	
1. Highway System			2	Functional Clas						Is Cross	sing on State H	Highway	ΙΔΙ	High	vay Speed Limit
1. Highway System			-				1) Urban	116		stem?	on State i	iigiiway	30		MPH
_ ` `	tate Highway Sy			(1) Interstate				r Collector		Yes					ed 🗆 Statutory
	Nat Hwy Syster al AID, Not NHS] (2) Other Free] (3) Other Princ	,		,	r Collector	5.	Linear	Referencing Sy	ystem (LRS	Route I	D) *	
☐ (08) Non-F	•			(4) Minor Arte	•		(7) Local		6.	LRS Mi	lepost *				
7. Annual Average Year 2015 AA	Daily Traffic <i>(A</i> DT <u>6700</u>	ADT)	8. Esti	mated Percent T	rucks _ %	9. Reg □ Yes		ed by School B Average Nu		per Day		10. _ □ Y	_	ncy S No	ervices Route
Submi	ssion Infor	matio	n - This	information	is used	d for ac	lministro	ative purpo	ses ai	nd is n	ot availabl	e on the	public	wel	osite.
Submitted by				Organiz	ation						Dhono)ata	
Submitted by Public reporting but	rden for this inf	ormation	n collecti	Organiz		ge 30 mi	nutes ner	resnonse inc	luding	the tim	Phone e for reviewin	g instructi		Oate rchin	g existing data
sources, gathering a															
agency may not cor		-		•		-			-						
displays a currently other aspect of this												_	-		
Washington, DC 20			. caucill	Saracii to		00		, i cuciai		/ WIII		-50 11010 30		JL,	= 5

DEPARTMENT OF TRANSPORTATION

FEDERAL RAILROAD ADMINISTRATION OMB No. 2130-0017

Instructions for the inform. For private his pedestrian station grants I and II, and the I, and the Submission updated data fields. I	ghway-ra ade cross Submiss n Informa	il grade crossi sings), comple ion Informatio ation section.	ngs, comp te the Hea n section. For chang	lete the Hader, Parts For grades es to exist	eader, I and I separat ing dat	Parts I and II, and the Steel ted highway ta, complete	II, an Submi: -rail o	nd the Su ssion Info or pathwa Header,	bmission Information formation section. Fo by crossings (includin Part I Items 1-3, an	on section. For pure Private pathwigh pedestrian standth the Submission	oublic pathway ay grade cross ition crossings) on Information	y grade crostings, compl , complete to section, in	ssings (including ete the Header, the Header, Part
A. Revision Date (MM/DD/YYYY)		B. Reporting A	· ·	_		n for Update	- 1	, , ,		□ Na Train	□ 0:at		Crossing
12 / 20 / 2024		I Railroad	□ Tra		Chang ata	•	ssing	L	Closed	☐ No Train Traffic	☐ Quiet Zone Updat		ory Number
		☐ State	□ Ot	her 🗆	Re-Op		ate nge O		Change in Primary perating RR	☐ Admin. Correction		08558	5M
				Part I:	Loca				ion Informatio				
1. Primary Operating BNSF Railway Cor	Railroad npany [E	I BNSF]				2. State WASHI	NGT	ON		3. County KING			
4. City / Municipality	′			eet/Road N		& Block Num	nber	ı		6. Highway Ty	pe & No.		
□ Near SEATTL				et/Road No					k Number)		orted by State		
7. Do Other Railroad If Yes, Specify RR	s Operate	e a Separate T	rack at Cro	ossing?	Yes [X No		o Other I	Railroads Operate O	ver Your Track a	at Crossing?	Yes 🗆 N	0
——————————————————————————————————————		<i></i>		,				103, 3pc	ATK_	, SCR			
9. Railroad Division of	or Region		10. Railro	ad Subdivi	sion or	District		11. Brai	nch or Line Name		12. RR Milepe	ost 01.591	
□ None NORTH	HWEST		☐ None	SEATT	ΓLE			□ None	SEATTLE-VA	NC WA	(prefix) (nr		 (suffix)
13. Line Segment *		14. Near	rest RR Tin *	netable		15. Parent F	RR (if	applicab	le)	16. Crossin	g Owner (if ap	plicable)	
51			SEATTLE	YD WA		■ N/A				□ N/A	BNSF		
17. Crossing Type 18. Crossing Purpose 19. Crossing Position 20. Public Access (if Private Crossing) 19. Freight 21. Type of Train 22. Average Passenger 19. Train Count Per Day													
■ Public	_	way way, Ped.	□ RR U			☐ Yes	Cross	siriy)	Intercity Passeng		Use Transit		an One Per Day
☐ Private		on, Ped.	□ RR C	Over		□ No			☐ Commuter	☐ Tourist	:/Other	■ Numbe	r Per Day 36
23. Type of Land Use ☐ Open Space	! □ Farm	☐ Resi	dential	☐ Com	nmercia	al 🗷 I	ndust	rial	☐ Institutional	☐ Recreation	nal 🗆 F	RR Yard	
24. Is there an Adjac	ent Cross	ing with a Sep	arate Nun	nber?		25. Q	uiet Z	one (FR	A provided)				
☐ Yes ■ No If	Yes. Prov	ide Crossing N	umber			ĭ ≅ No	П	24 Hr	☐ Partial ☐ Chica	go Excused	Date Establi	shed	
26. HSR Corridor ID				imal degre	es				e in decimal degrees	•		at/Long So	ırce
	■ N/A	(WGS84	std: nn.n	nnnnnn) ^Z	17.574	4600	(WG	SS84 std:	-nnn.nnnnnnn) -122	2.3316700	IX Ad	rtual 🗆	Estimated
30.A. Railroad Use	*	(tate Use *		= : ::		
30.B. Railroad Use	*							31.B. S	ate Use *				
30.C. Railroad Use	*							31.C. S	ate Use *				
30.D. Railroad Use	*							31.D. S	tate Use *				
32.A. Narrative (Rai	ilroad Use	e) * (l.27 l.28	I.29)Valu	ıe Provide	d by R	Railroad, No	ot Ye	32.B. N	arrative (State Use)	*			
33. Emergency Notif	ication Te	elephone No. ((posted)	34. R	ailroad	Contact (7	eleph	one No.)		35. State Con	tact (Telephor	ne No.)	
800-832-5452				817-	-352-1	549				360-664-126	52		
					Pa	rt II: Rail	roac	d Infor	mation				
1. Estimated Number					1 4 4				1.0		4.5.01 1:61	-	
1.A. Total Day Thru T (6 AM to 6 PM) 20	rains		to 6 AM)	Thru Trains	0	C. Total Swit	cning	Trains	1.D. Total Transit	rrains	1.E. Check if I One Moveme How many tr	ent Per Day	□ ek?
2. Year of Train Coun	t Data (Y)	YYY)		•		n at Crossing	•					per 170	
2023						imetable Sp			ph) From 1	to_50			
4. Type and Count of	Tracks		<u> </u>	3.5. Typic	Jai Spec	- Harige OV	- C1 C1 C	555111B (111	,,, 110m				
Main 3	Siding 0	Ya	ard 1	Tra	ansit 0		Indu	stry 0					
5. Train Detection (M		,,	Dotostic-		□ pTC				None				
Constant Warr 6. Is Track Signaled?		□ Motion	perection	□AFO [_	☐ ☐ DC . Event Reco	□ Ot order		None		7.B. Remot	e Health Mo	nitoring
¥ Yes □ No						¥ Yes □					☐ Yes		ŏ

A. Revision Date (A 12/20/2024	MM/DD/YYYY)					P	AGE 2			D. 085	Crossing Inve	ntory Nun	nber (7 c	har.)	
		P	art III:	Highway o	r Patl	hway	Traffic	Control D	evice						
1. Are there	2. Types of Pa	assive Tra	ffic Conti	ol Devices asso	ociated v	with the	Crossing								
Signs or Signals?	2.A. Crossbuc	k	2.B. STO	P Signs (R1-1)	2.C. Y	/IELD Sig	ns <i>(R1-2)</i>	2.D. Adva	nce W	arning S	igns <i>(Check all</i>	l that apply	y; include	e cou	nt) 🗆 None
¥ Yes □ No	Assemblies (a		<i>(count)</i>)		(coun	nt)		■ W10-1			□ W10-3 □ W10-4		_ □ w □ w		
2.E. Low Ground Cl	earance Sign	2.F. Pa	vement N	/larkings			2.G. Cha	nnelization			2.H. EXEMP		2.I. ENS		
(W10-5)	1							'Medians			(R15-3)		Display	ed	
☐ Yes (count ■ No	/	I Stop	i Lines ling Symb	,	amic Env ie	/elope		proaches Approach	☐ Me		□ Yes ጃ No		☐ Yes ☐ No		
2.J. Other MUTCD S	Signs		es 🗆 No					ate Crossing		_	hanced Signs	(List types			
Specify Type R15-	.2P	Cour	nt 2				Signs (if	private)							
Specify Type R8-1	0	Cour	nt 1				☐ Yes	□No							
Specify Type			nt				□ 1e3								
3. Types of Train A	ctivated Warni	ng Device:	s at the G												
3.A. Gate Arms	3.B. Gate Con	figuration		3.C. Cantil			<i>ied)</i> Flashi	ng Light			Mounted Flash	hing Lights			. Total Count of
(count)	■ 2 Quad	☐ Full (I	Barrier)	Structures Over Traff	. ,	0	□ Ir	ncandescent	١,	Incande	nasts) 2 scent	 ■ LED		Fia	shing Light Pairs
Roadway 2	☐ 3 Quad	Resistan	,								hts Included	☐ Side	Lights	6	
Pedestrian 0	☐ 4 Quad	☐ Medi	an Gates	Not Over	Traffic La	ane <u>0</u>	_ □L	ED				Include	ed		
3.F. Installation Dat	e of Current			3.G. Wayside F	lorn					3.H. F	lighway Traffi	c Signals C	ontrollin	g	3.I. Bells
Active Warning Dev		•		☐ Yes Inst	alled on	(1/1/1//	VVV)			Cross					(count)
/	_	Not Requ	ired	■ No	aneu on	1 (17/17/1	''')	/		☐ Ye	s I No				2
3.J. Non-Train Active Warning □ Flagging/Flagman □ Manually Operated Signals □ Watchman □ Floodlighting □ None 3.K. Other Flashing Lights or Warning Devices Count 0 Specify type															
4.A. Does nearby H	wy 4.B. Hwy	Traffic Si	gnal	4.C. Hwy Traffi	c Signal	Preemp	tion	5. Highway	Traffic	Pre-Sign	nals	6. Highw	ay Monit	torin	g Devices
Intersection have	Intercon							□ Yes □	No			(Check al			Daniella a
Traffic Signals?		nterconne raffic Sign		☐ Simultaneo	IIS			Storage Dist	ance *	k			-		Recording ence Detection
☐ Yes ☐ No		Varning Si		☐ Advance	us			Storage Disc				☐ None			
				Pa	art IV:	Physi	cal Cha	racteristi	cs						
1. Traffic Lanes Cros	ssing Railroad	☐ One-v			. Is Roa	dway/Pa	athway	3. Does T	rack R	lun Dow	n a Street?		•		ated? (Street
Number of Lanes	2	☐ Divide	•		raveur ⊠ Y	'es [□ No		□ Yes	X	No	nearest i			50 feet from □ No
5. Crossing Surface	(on Main Track			,		•	. , .				dth * <u>60</u>		Length *	41	
☐ 1 Timber ☐ ☐ 8 Unconsolidate					oncrete	□ 5	Concrete	and Rubber	□ 6	6 Rubbe	er 🗌 7 Me	tal			
6. Intersecting Roa				., ,,, =			7. Small	est Crossing A	Angle			8. Is Co	mmercia	l Pov	ver Available? *
¥ Yes □ No	If Yes, Approxi	mata Dista	nca (feet	·)			□ 0° – 2	.9° □ 30°	° _ 50°	F¥	60° - 90°		■ Yes	,	□ No
<u> </u>	п тез, дрргохп	nate Dista	ince geet		: V: Pu	ıblic H		/ Informat			00 30	L	L= 103		
1. Highway System			2. F	unctional Class						. Is Cross	sing on State H	Highway	4.1	Highy	vay Speed Limit
21							1) Urban	6		ystem?			25		MPH
	tate Highway S			(1) Interstate				r Collector		Yes					ed 🗆 Statutory
, ,	Nat Hwy Syster al AID, Not NHS			(2) Other Freew (3) Other Princi	,		,	r Collector	5.	. Linear	Referencing Sy	ystem (LRS	Route II	D) *	
■ (08) Non-F	•			(4) Minor Arter	-		(7) Local		6.	. LRS Mi	lepost *				
7. Annual Average Year 2006 AA	Daily Traffic <i>(A</i> DT <u>003530</u>	ADT)	8. Estim	ated Percent Tr	9. Reg □ Yes		ed by School E Average No				_ 10. _ □ Y	_	ncy S No	ervices Route	
Submi	ssion Infor	mation	- This i	nformation	is used	for ad	lministro	ative purpo	ses a	and is n	ot availabl	e on the	public	wek	osite.
Cultura integral laur				0	4:						Dhara		-		
Submitted by Public reporting but	rden for this inf	ormation	collection	Organiza		30 mi	nutes nor	response in	ludina	the tim	Phone	a instructi		ate	g evicting data
sources, gathering a															
agency may not cor	nduct or sponso	r, and a p	erson is r	ot required to,	nor sha	ll a pers	on be sub	ject to a pena	alty for	failure	to comply witl	h, a collect	ion of in	form	ation unless it
displays a currently other aspect of this												_	-		
Washington, DC 20		uunig 10f l	educing	uns puruen to:	morma	ation CO	nection O	incer, redera	i ivaili C	Jau AUII	minstration, 12	TOO INEM JE	asey AVE	. JE,	IVI3-23

DEPARTMENT OF TRANSPORTATION

FEDERAL RAILROAD ADMINISTRATION OMB No. 2130-0017

Form. For private hig pedestrian station gra Parts I and II, and the	thway-rail g ade crossin Submission Informati	grade crossi gs), comple Information on section.	ings, complete the Healon section. I	ete the Header, Parts I For grade-sees to existing	ader, Pa and II, eparated ng data,	arts I and and the S d highway , complet	II, a Subm /-rail e the	nd the Suission Info or pathwa Header,	ubmission Information section. By crossings (included) Part I Items 1-3,	etion For F ding p and t	section. For perivate pathwoedestrian stather	oublic pat ay grade tion cross on Inform	thway good crossing sings), contact ation se	lete the entire inventory rade crossings (including gs, complete the Header, part ection, in addition to the enotes an optional field.
A. Revision Date	В.	Reporting A	Agency	C. R	Reason	for Updat	e (Se	lect only c	one)					D. DOT Crossing
(<i>MM/DD/YYYY</i>) 12 / 20 / 2024	X	Railroad	☐ Tra		Change				Closed		☐ No Train	☐ Quie		Inventory Number
12 / 20 / 2024	_ _	State	□ Oth	Data ner	a Re-Oper	n 🗆 🗈	ssing Date Inge (Change in Prima	ry	Traffic ☐ Admin. Correction	Zone U	раате	085586U
				Part I: L	ocati				ion Informat	ion	Correction			
1. Primary Operating BNSF Railway Com		SF]				2. State WASHI				3	3. County KING			
4. City / Municipality				et/Road Na SPOKANE		Block Nun	nber			6	6. Highway Ty	pe & No.		
In □ Near SEATTL	E			et/Road Nar				_ * (Bloc	k Number)		Not Yet Rep	orted by	State	
7. Do Other Railroads	Operate a	Separate T		•		No	8. [Railroads Operate	Ove	r Your Track a	t Crossin	g? 🗷 Y	es 🗆 No
If Yes, Specify RR							I1	f Yes, Spe	cify RR ATh	,	SCR			
9. Railroad Division o	r Region			ad Subdivisi	ion or D	nistrict		11 Bra	nch or Line Name			12. RR N	/lilenost	
	Ū		10. 11.			, istrict		II. Dia					0001	
□ None NORTH	IWEST		□ None	SEATTL				☐ None		VAN((prefix)		, , , ,
13. Line Segment *		14. Near	rest RR Tim *	etable	15	5. Parent I	RR (i)	f applicab	le)		16. Crossin	g Owner	(if appli	cable)
0051		YARDL	_EY		_	N/A					□ N/A	BNSF		
17. Crossing Type 18. Crossing Purpose 19. Crossing Position 20. Public Access ☑ Highway ☑ At Grade (if Private Crossing) ☑ Freight ☐ Transit														
■ Public	ssing)		ongor	☐ Transit ☐ Shared			rain Count Per Day ☐ Less Than One Per Day							
☐ Private	☐ Pathwa☐ Station	•	☐ RR U			☐ Yes ☐ No			☐ Commuter	enger	☐ Tourist			Number Per Day 36
23. Type of Land Use		_	•					•						
☐ Open Space24. Is there an Adjace	☐ Farm		idential	IX Comn	nercial		Indus		☐ Institutional		☐ Recreatio	nal	□ RR `	Yard
24. Is there an Adjace	ent Crossin	g with a Sep	arate Num	berr		25. Q	uiet i	zone (FR	A provided)					
■ Yes □ No If Y	es, Provide	Crossing N	umber 08	5587B		ĭ No	<u> </u>	24 Hr	☐ Partial ☐ Chi	icago	Excused	Date E	stablishe	ed
26. HSR Corridor ID		27. Latit	ude in deci	mal degree	!S		28.	Longitud	e in decimal degr	ees			29. Lat/	/Long Source
	■ N/A	(WGS84	std: nn.nr	nnnnn) 47	7.57159	939	(W	GS84 std:	-nnn.nnnnnnn) -	122.3	3317173		X Actu	al □ Estimated
30.A. Railroad Use *	*			,				31.A. S	tate Use *					
30.B. Railroad Use *	k							31.B. S	tate Use *					
30.C. Railroad Use *	k							31.C. S	tate Use *					
30.D. Railroad Use *									tate Use *					
32.A. Narrative (Rail	,								l arrative (State Us					
33. Emergency Notific 800-832-5452	cation Tele	phone No. ((posted)		ilroad (352-154	Contact (7 49	ГеІері	hone No.)			35. State Con 360-664-126	·	phone I	No.)
							lroo	d Infor	mation					
1. Estimated Number	of Daily Tra	in Moveme	ents		Part	ı II. Nalı	II Ua	u IIIIOI	illation					
1.A. Total Day Thru T			otal Night T	hru Trains	1.C.	Total Swit	tching	g Trains	1.D. Total Tran	sit Tr	ains	1.E. Che	ck if Les	ss Than
(6 AM to 6 PM) 20		(6 PM 20	to 6 AM)		0				0					Per Day sper week?
2. Year of Train Count	Data (YYY)	<i></i>		3. Speed of				(E	<u> </u>					
2023				3.A. Maxim 3.B. Typica					ph) From 1		to 50			
4. Type and Count of	Tracks		!	J.D. Typica	Jpccu	ungc Ot		555111B (III	p, 110III					
5. Train Detection (Mo			Datasti		l DTC			-	Nama					
Constant Warn 6. Is Track Signaled?	ing rime	⊔ iviotion	Detection	□AFO □		□ DC Event Rec			none			7.B R4	emote H	lealth Monitoring
Yes \(\square\) No						Yes \square							Yes \square	

A. Revision Date (Nation 12/20/2024	ЛМ/DD/YYYY)					P	AGE 2			D. 08	Crossing Inve	ntory Nun	nber (7 c	har.,)
		ı	Part III	: Highway	or Pat	hway	Traffic (Control De	vice	Info	rmation				
1. Are there	2. Types of Pa	ssive Tra	ffic Cont	rol Devices as	sociated	with the	Crossing								
Signs or Signals?	2.A. Crossbuck			P Signs (R1-1,		_	ns <i>(R1-2)</i>			rning S	igns (Check al				
¥ Yes □ No	Assemblies (co		(count) 0		(cou	nt)		☐ W10-1 _ ☐ W10-2			□ W10-3		_		
2.E. Low Ground Cl (W10-5)	earance Sign	2.F. Pa	vement	Markings				nnelization Medians			2.H. EXEMP ¹ (R15-3)		2.I. ENS	Sig	
☐ Yes (count 0)		o Lines		namic En	velope	☐ All Ap	proaches	□ Med		☐ Yes ´		■ Yes	cu	
■ No 2.J. Other MUTCD S	lanc		King Symes		one			pproach ate Crossing	■ Non		■ No hanced Signs	/list types	□ No		
	J						Signs (if	U	Z.L.	בבט בו	manceu signs	(List types)		
Specify Type Specify Type			nt nt				☐ Yes	□No							
Specify Type			nt												
3. Types of Train A															
3.A. Gate Arms (count)	3.B. Gate Conf	iguration	1		tilevered es <i>(count</i>		<i>ged)</i> Flashi	ng Light			Mounted Flasi nasts) 1	hing Lights	5		E. Total Count of shing Light Pairs
,	■ 2 Quad	□ Full (Barrier)		affic Lane	•	🗆 Ir	candescent		ncande		 ■ LED		1 10	ishing Light Falls
Roadway 2 Pedestrian 0	☐ 3 Quad ☐ 4 Quad	Resistar	nce ian Gates	Not Ove	r Traffic L	ano 0	⊠ LI	ΞD.		Back Lig	hts Included	☐ Side Include	_	7	
	-	□ IVIEU	ian Gates			-ane					60				
3.F. Installation Dat Active Warning Dev		′)		3.G. Wayside						3.H. F	lighway Traffi ing	c Signals C	ontrollin	g	3.I. Bells (count)
		, Not Requ	uired		istalled oi	n <i>(MM/Y</i>	YYY)	_/	_	☐ Ye	s ☑ No				2
3.J. Non-Train Active Warning Flagging/Flagman Manually Operated Signals Watchman Floodlighting None 3.K. Other Flashing Lights or Warning Devices Count 0 Specify type															
4.A. Does nearby H	, ,		ignal	4.C. Hwy Tra	ffic Signa	l Preemp	tion	5. Highway T		re-Sigr	nals	•	•		g Devices
Intersection have Traffic Signals?	Interconr Not In		ected					□ Yes □	No			•	<i>ll that ap</i> Photo/Vi		Recording
J	☐ For Tr	affic Sigr	nals	☐ Simultane	eous			Storage Dista				☐ Yes –	Vehicle F		ence Detection
☐ Yes ☐ No	☐ For W	arning S	igns	☐ Advance) - ut 11/	. Db	in all Chris	Stop Line Dis		<u> </u>		☐ None	!		
1. Traffic Lanes Cro	ssing Pailroad	V One i	way Traff			<u> </u>	athway	3. Does Tr		ın Dow	n a Stroot?	1 Is Cro	sccing Illu	min	ated? (Street
Number of Lanes		□ Two-	way Trafi way Trafi led Traffi	fic	Paved?	•	□ No		ack Nu ∃Yes		No	lights wi	•	ox.	50 feet from
5. Crossing Surface										_	dth * 41		Length *	48	
☐ 1 Timber ☐ ☐ 8 Unconsolidate					Concrete		Concrete	and Rubber	□ 6	Kubbe	er 🗆 / Me	tai -			
6. Intersecting Roa	dway within 500	feet?					7. Smalle	est Crossing A	ngle			8. Is Co	mmercia	l Po	wer Available? *
Yes □ No	If Yes, Approxim	nate Dista	ance <i>(fee</i>	t)			□ 0° – 2	9° □ 30°	– 59°	×	60° - 90°		I ¥ Yes		□ No
	• • • • • • • • • • • • • • • • • • • •			Pa	rt V: P	ublic H	lighway	Informat	ion			ı			
1. Highway System			2.	Functional Cla				ng	3.	Is Cros	sing on State I	Highway			way Speed Limit
□ (01) Inters	tate Highway Sy	stem		(1) Interstate	. ,		1) Urban 1 (5) Maio	r Collector		stem?	™ No		$\frac{30}{\Box}$		MPH ed □ Statutory
☐ (02) Other	Nat Hwy Systen			(2) Other Fre	eways an	d Expres	sways				Referencing S	ystem <i>(LRS</i>			Ed Statutory
	al AID, Not NHS			(3) Other Prir (4) Minor Art] (6) Mino] (7) Local	r Collector	6.	LRS Mi	lepost *				
7. Annual Average	Daily Traffic (AA	ADT)	8. Estin	ated Percent			gularly Use	d by School B			<u> </u>		_	-	Services Route
	DT 003408		12		_ %	☐ Yes		Average Nu				_ [_] Y		■ No	
Submi	ission Inforr	natior	ı - This	informatio	ı is used	d for ac	lministro	itive purpos	ses ar	nd is r	ot availabl	e on the	public	wei	bsite.
Submitted by				Organi	zation						Phone		n	ate	
Public reporting bu	rden for this info	rmation	collectio			ige 30 mi	inutes per	response, incl	uding 1	the tim		g instructi			g existing data
sources, gathering	and maintaining	the data	needed	and completion	ng and re	viewing t	the collecti	on of informa	tion. A	Accordi	ng to the Pap	erwork Re	duction A	Act o	f 1995, a federal
agency may not cor displays a currently	•			•			-	•	-						
other aspect of this	collection, inclu											-	-		•
Washington, DC 20	JYU.														

DEPARTMENT OF TRANSPORTATION

FEDERAL RAILROAD ADMINISTRATION OMB No. 2130-0017

Instructions for the i Form. For private hig pedestrian station gr Parts I and II, and the I, and the Submissio updated data fields. N	ghway-rai ade cross Submissi n Informa	il grade crossi sings), comple ion Informatic ation section.	ings, compete the Headon section. For chang	olete the Header, Parts I For grade-se ges to existin	ader, Pa and II, a eparated ng data,	rts I and and the S I highway complete	l II, ai Submi y-rail o e the	nd the Sunission Info or pathwa Header,	abmission Information formation section. Fo ay crossings (includin Part I Items 1-3, an	on section. For por Private pathway pedestrian stand the Submission	oublic pathwa ay grade cross ition crossings on Information	y grade cro sings, comp), complete n section, in	essings (including elete the Header, the Header, Part
A. Revision Date		B. Reporting /				•	•	lect only o	,				T Crossing
(<i>MM/DD/YYYY</i>) 12 / 20 / 2024		■ Railroad	☐ Tra	ansit ⊠ C	Change ii a		New ssing		Closed	☐ No Train Traffic	☐ Quiet Zone Updat		tory Number
<u> </u>	[□ State	□ Ot		a Re-Open		ssirig Date inge C		Change in Primary	☐ Admin. Correction	ZUNE Opuu.	08558	7B
				Part I: L	.ocatio				ion Informatio				
1. Primary Operating BNSF Railway Cor						2. State WASHI	INGT	ON		3. County KING			
4. City / Municipality	1			eet/Road Na pokane St E		lock Num	ıber			6. Highway Ty	pe & No.		
□ Near SEATTL	.E			et/Road Nan				* (Bloci	k Number)	Not Yet Rep	orted by State	e	
7. Do Other Railroad	s Operate	a Separate T	rack at Cro	ossing? 🗆 Y	es 🗷 N	10			Railroads Operate O	ver Your Track a	it Crossing?	¥ Yes □ N	lo
If Yes, Specify RR							1	f Yes, Spec	ATK	SCR			
9. Railroad Division o	r Region	- 	10. Railro	ad Subdivisi	on or Di	strict		11. Braı	nch or Line Name		12. RR Milep		
□ None NORTH	4\\/EST			SEATTL	_				s SEATTLE-VA	NC WA		01.776	
□ None NORTE 13. Line Segment	IVVLOT	14. Nea	☐ None rest RR Tin			. Parent	 RR (i:	\Box None of applicable			(prefix) (ni g Owner (if ap	nnn.nnn) oplicable)	(suffix)
*		Station	*	icua			15	прр	c)		,,,,	piicaz.c,	
51 YARDLEY ☑ N/A ☐ N/A BNSF 17. Crossing Type 18. Crossing Purpose 19. Crossing Position 20. Public Access 21. Type of Train 22. Average Passenger													
17. Crossing Type 18. Crossing Purpose 19. Crossing Position 20. Public Access (if Private Crossing) 19. Freight □ Transit 22. Average Passenger Train Count Per Day													-
■ Public	☐ Pathv	way, Ped.	☐ RR U	Jnder]	Yes	-	J. 3,	Intercity Passeng	ger 🗆 Shared	Use Transit	☐ Less Th	nan One Per Day
☐ Private	☐ Statio	on, Ped.	☐ RR C	Over		□ No		l	☐ Commuter	☐ Tourist	/Other	■ Numbe	er Per Day 36
23. Type of Land Use ☐ Open Space	! □ Farm	☐ Res	idential	I Comn	nercial		Indus	trial	☐ Institutional	☐ Recreation	ınal 🗆	RR Yard	
24. Is there an Adjace					10. 5				A provided)		Tie.		
□V □No If	V Dravi	'-l's Casssing N	bar 08	25586U		[38] N.J.		72411 [☐ Chico	- Fusional	Data Establ	· h - d	
¥ Yes □ No If 26. HSR Corridor ID	Yes, Provi	ide Crossing N		imal degree:		I ■ No		24 Hr [Longitud	⊒ Partiai □ Cnica; e in decimal degrees	go Excused	Date Establ	lisned Lat/Long So	urce
				47	7.57140	4 9		Ū	ū				
30.A. Railroad Use	_ X N/A *	(WGS84	std: nn.n	nnnnnn)	.011.0	40	(W		-nnn.nnnnnnn) -122 tate Use *	2.0017170	L X A	ctual 🗆	Estimated
30.B. Railroad Use									tate Use *				
30.C. Railroad Use									tate Use *				
30.D. Railroad Use									tate Use *				
32.A. Narrative (Rai	Iroad Use	·) * (1.27 1.28	3 I.29)Valu	ue Provided	by Rail	road, No	ot Y€	32.B. N	arrative (State Use)				
33. Emergency Notifi	cation Te	lephone No.	(posted)			•	releph	hone No.)		35. State Con		ne No.)	
800-832-5452				817-3	352-154 					360-664-126			
					Part	II: Rail	roa	d Infor	mation				
1. Estimated Number				The Trains	T 1 C 1	Curit	-laine	Trains	T 1 D Total Transit	T:	1 Chack if	' Than	_
1.A. Total Day Thru T (6 AM to 6 PM) 20	rains		to 6 AM)	Thru Trains	0	Total Swit	CHIHE	3 II dii is	1.D. Total Transit	Ifailis	1.E. Check if One Movem How many to	ent Per Day	
2. Year of Train Coun	t Data (YY	(YY)		3. Speed of							11011	unis pe	.ск.
2023				3.A. Maxim) ph) From 1	to _50			
4. Type and Count of	Tracks		1	3.B. Typicai	Зреси	Kange Ov	/er Ci	055111g (111	pnj From <u>·</u>	10	_		
	Siding 0	Ya	ard 0	Tran	ısit 0		Indi	ustry 0					
5. Train Detection (M	lain Track	only)											
Constant Warr 6. Is Track Signaled?		□ Motion	Detection	□AFO □		☐ DC vent Rec			None		7.B. Remot	to Health M	onitoring
Yes \(\square\) No						Yes \square					7.B. Keillot		Jintornig

A. Revision Date (A 12/20/2024	MM/DD/YYYY)					P	AGE 2			D. 085	Crossing Inve	ntory Num	nber (7 c	har.)	
		F	Part III:	Highway o	r Path	way '	Traffic	Control D	evice						
1. Are there	2. Types of P	assive Tra	ffic Contr	ol Devices asso	ciated w	vith the	Crossing								
Signs or Signals?	2.A. Crossbuc			Signs (R1-1)		_	ns (R1-2)			arning S	igns <i>(Check all</i>				
▼ Yes □ No	Assemblies (a	,	<i>(count)</i> 0		(count	t)		■ W10-1			□ W10-3 □ W10-4		-	/10-1 /10-1	
2.E. Low Ground Cl	earance Sign	2.F. Pa	vement N	1arkings			2.G. Cha	nnelization			2.H. EXEMP		2.I. ENS		
(W10-5)	1	- C.						Medians			(R15-3)		Display	ed	
☐ Yes <i>(count</i> ■ No	/	■ Stop	Lines (ing Symb	,	imic Enve e	elope		proaches Approach	☐ Me		□ Yes ■ No		☐ Yes ☐ No		
2.J. Other MUTCD S	Signs		es 🗆 No					ate Crossing			hanced Signs	(List types,)		
Specify Type R15-	-2P	Cou	nt _4				Signs (if	private)							
Specify Type R8-1	0	Cou	nt 1				☐ Yes	□ No							
Specify Type			nt												
3. Types of Train A											Manusta d Flaci			2.5	Tatal Causa of
3.A. Gate Arms (count)	3.B. Gate Cor	ifiguration	1	3.C. Cantil Structures		_	<i>lea)</i> Flashi	ng Light			Mounted Flash nasts) 2	ning Lights			Total Count of shing Light Pairs
, ,	■ 2 Quad	☐ Full (Over Traff		1	_	ncandescent		Incande		 ■ LED			0 0
Roadway 2 Pedestrian 0	☐ 3 Quad ☐ 4 Quad	Resistar	nce an Gates	Not Over 1	Fraffic La	no 0	I L	ED		Back Lig	hts Included	☐ Side Include	_	10	
		Ivicui								1					
3.F. Installation Dat Active Warning Dev		V)		3.G. Wayside H	lorn					3.H. F	lighway Traffio	c Signals Co	ontrollin	g	3.I. Bells (count)
/	, ,	Not Requ	iirea		alled on	(MM/Y	YYY)	_/			iiig s I No				2
3.J. Non-Train Activ	e Warning			IX No					3.K	C Other	Flashing Light	s or Warni	ng Devic	es	_
☐ Flagging/Flagma		Operated :	Signals 🗆	Watchman 🗆] Floodlig	ghting	□ None			unt 0	0 0	pecify type	U		
4.A. Does nearby H Intersection have	wy 4.B. Hwy Intercon	Traffic Si	gnal	4.C. Hwy Traffi	c Signal F	Preemp	tion	5. Highway 1 ☐ Yes ☐		Pre-Sigr	nals	6. Highwa	•	-	g Devices
Traffic Signals?		nterconne	ected					⊔ res ⊔	INO			(Check al ☐ Yes - I			Recording
		raffic Sign		Simultaneo	us			Storage Dist						Prese	nce Detection
☐ Yes ☐ No	☐ For V	Varning Si	gns	Advance		51 •	1.01	Stop Line Dis		*		☐ None			
1 Traffic Laura Cua	-sia - Dailas a	F 0	T ff:			<u> </u>	cal Cna athway	racteristic		Da	n a Street?	4 la Caa	: III.		ted? (Street
1. Traffic Lanes Cros		☐ Two-	way Traffi	ic P	aved?	•	•					lights wit	thin appi	rox. 5	0 feet from
Number of Lanes _ 5. Crossing Surface			ed Traffic		Ye ztion Dat		No No		□ Yes		No dth * 41	nearest r	<i>ail)</i> L ± Y Length *		□ No
☐ 1 Timber ☐ ☐ 8 Unconsolidate	2 Asphalt □	3 Aspha	ılt and Tin	nber 🗵 4 Co							r 🗆 7 Mei		Length		
6. Intersecting Roa							7. Smalle	est Crossing A	ngle			8. Is Coi	mmercia	l Pow	ver Available? *
¥ Yes □ No	If Yes, Approxii	mata Dista	nco (foot	1			□ 0° – 2	9° □ 30°	. EU₀	T-	60° - 90°		■ Yes		□ No
La Tes LINO	ii res, Approxii	nate Dista	ince (Jeer,		V: Pu	blic H		Informat			00 - 90		LE I C	•	NO
1. Highway System			2 F	unctional Classi						Is Cross	sing on State H	lighway	141	lighw	vay Speed Limit
1. Highway System							1) Urban	'6		ystem?	ing on state i	g.ivu	30		MPH
	tate Highway S			1) Interstate 2) Other Freew				r Collector		Yes					d Statutory
, ,	Nat Hwy Syste al AID, Not NHS			3) Other Freew	,		,	r Collector	5.	. Linear I	Referencing Sy	stem (LRS	Route II	D) *	
☐ (08) Non-F	•			4) Minor Arter			(7) Local		6.	. LRS Mil	epost *				
7. Annual Average Year 2014 AA	Daily Traffic <i>(A</i> DT <u>009817</u>	ADT)	8. Estima	ated Percent Tr	ucks %	9. Reg □ Yes		d by School B Average Nu		per Day		_ 10. □ Y	_	ncy So	ervices Route
Submi	ssion Infor	mation	- This i	nformation i	is used	for aa	lministro	ative purpo	ses a	nd is n	ot availabl	e on the	public	web	site.
Submitted by				Organiza	tion						Phone		Г	ate	
Public reporting bu	rden for this inf	ormation	collection			e 30 mi	nutes per	response, inc	luding	the tim		g instruction		_	g existing data
sources, gathering a	and maintaining	g the data	needed a	nd completing	and revi	ewing t	he collect	ion of informa	ation.	Accordi	ng to the Pape	erwork Red	duction A	Act of	1995, a federal
agency may not cor displays a currently	•					•	-	•	•			-			
other aspect of this												_	-		•
Washington, DC 20	590.														



ATTACHMENT C FRA INCIDENT DATA

FEDERAL RAILROAD ADMINISTRA	TION (FRA	.)		ACC	IDENT/I	NCIDENT	REPO	RT			OM	В Ар	proval No. 2130	-0500
1.Name of Reporting Railroad							1a. Alp	habetic Co	de		1b. F	Railroa	d Accident/Incident	No.
BNSF Railway Company [BNS	SF]						BN	ISF			N	W062	24203	
2.Name of Other Railroad or Other E	Entity Filling	for Equipn	nent Involv	ved in Train	Accident/	Incident	2a. Alp	habetic Co	ode		2b. F	Railroa	d Accident/Incident	No.
3. Name of Railroad or Other Entity	=	e for Track	Maintena	nce (single	entry)		3a. Alı	ohabetic C	ode				d Accident/Incident	No.
BNSF Railway Company [BNS							BN					W062		
4. U.S. DOT Grade Crossing ID No.							5. Dat	e of Accide	ent/Inci day	dent year	6. Ti	me of	Accident/Incident	
				92746	1X		0			2024	9:23		AM 🗸	РМ
7. Nearest Railroad Station			8. 8	Subdivision			9. Co			1 2021	_	State		Code
SEATTLE PIER 30			S	EATTLE			K	ING				Ab	obr. WA	53
11. City (if in a city) SEATTLE	1		l	12. Highw	vay Name	or No.	OT CA	TE STRE	TT		1		Public Priv	rate 🗆
	hway Use	r Involve	d			п	ULGA	IE SIKE		Equipme	nt Invol	vod	T ublic 🗸 T IIV	ate
13. Type	iway 030	i ilivolve	<u> </u>			17. Equipr	ment			ar(s) (mov			rain pulling- RCL	
C. Truck-trailer F. Bus		J. Other Mo	tor Vehicle	2		17. Equipi		nits pulling)		ar(s) (stan			rain pushing- RCL	
A. Auto D. Pick-up truck G. Sch		K. Pedestri		7	Codo	2. Tr		nits pushing,) 6. Li	ight loco(s)	(moving)		rain standing- RCL	Code
· ·		M. Other			Code	3. Tr	ain (st	anding)		ight loco(s)	(standing	3)	EMU Locomotive(s) OMU Locomotive(s)	1
		geographic			Code	18 Positio	n of Car	Unit in Tra		Other (spe	сіту)		DIVIO LOCOMOTIVE(S)	<u> </u>
	lorth 2. Soi		,	st	4	10.1 00.110	,,, o, oa,	Onic iii iii		54				
16. Position 1. Stalled or stuck on					-1 -	19. Circun	nstance							
Stopped on Crossi				g by gates	Code	1 Rail e	eauipme	nt struck h	iahway	user 2 Ra	il equipm	ent str	ruck by highway use	Code
3. Moving over crossi	ng				3		o quipio		.ga)	400. 2	oquipi		uon oy mg.may uon	er 2
20a. Was the highway user and/or	rail equipme	ent involve	b		0 1	20b. Was	there a	hazardous	materi	als release	by			Code
in the impact transporting haz					Code		I li alanna		0 D-:1		0 D-4b		i I - lale	4
1. Highway User 2. Rail Ed			I. Neither	laaaad if an	2	1.	. Highwa	y User 1	z. Kali	Equipment	3. Both	4. N	veitner	<u> </u>
20c. State here the name and quan	ulty of the ha	azardous n	iateriai rei	ieaseu, ii ari	ıy									
21. Temperature 22. \	/isibility (s	inale entry	1		Code	23 West	thar (si	ngle entry)						Code
	Dawn 2. D				2		•	•		Eog E Clo	ot 6 Cn	.014		2
(Specify II IIIIIIas)		·				1	1	oudy 3. K	aiii 4.	Fog 5. Slee	0. 311	- T		
24. Type of Equipment 1. Freight T Consist 2 Passend			gle Car	9. Maint./i	•		125	5. Track Ty	pe Use	ed by Rail	C	Code	26. Track Number	or Name
2.1 0000119		-		A. Spec. I		•		Equipme	ent Invo	olved				
(single entry) 3. Commute 4. Work Tra			a/Switchin it loco(s)	gB. Passen C. Comm			Code 1	Main 2. Y	ard 3	. Siding 4. I	ndustry	1	MAIN 2 TRAC	K
27. FRA Track 28. Number of		1	ber of Ca			Speed (Re							able Direction	0-4-
Class (1-9,X) Locomoti		29. Nun	iber of Ca	iis o	R. Rec		,coraca	opeca n av	anabic,	, .		1. Nort		Code
4 Units	3		9	1	E. Estir	mated			25 r	mph E		2. Sou	th 4. West	2
32. Type of	Mia waa	7	Crossbu	oko 10 Ele	agod by	orow.	33	3. Signaled	Cross	ing Warning			ay Conditions	
Crossing	Wig wags			cks 10. Fla	,			(See reve	rse sid	e for	A. D B. V			
2. Cantilever FLS 5. Warning	-	-				спу)		instruction		codes)	ח ח	now/Slu	ush	0 1
3. Standard FLS 6.			1	an 12. No	ne					Co			ud,Dirt,Oil,Gravel	Code
Code(s) 01 03	3 0	6	07										standing, Moving)	A
35. Location of Warning1. Both Sides			36	. Crossing V	•		ed				sing Illumi s or Speci		by Street	
2. Side of Vehicle Approach			ode	with Highw	vay Signa	is		0	Code	•	•	•		Code
Opposite Side of Vehicle App		1				. Unknown			2		s 2. No			1
38.Hignway 39.Highway User's Ge				Behind or in			Highwa	y User around the	e gate		•	<i>pecify</i> , nd/thru	⁾ u temporary barrica	de
User's Age 1. Male . (anu Struck	or was St	truck by Sec		Codo	2. Stopp	oed and the	•	ceeded	if yes, se	e instru	uctions)	, Code
	Code 1	I. Yes 2.	No. 3. U	nknown		Code 2	3. Did n				Nent thru	-		1
42. Driver Passed Standing	1	Code		v of Track C	hecured b			oed on crost	ssing	8. 3	Suicide/At	tempte	ed suicide	
Highway Vehicle		Joue	→J. VIEV	1. Perma		- ,	•	sing Train	5 \/0	netation	7 (Other (specify)	Code
1. Yes 2. No 3. Unknown		2				d equipmen		•		getation ghway Vehic		,	structed	8
	Killed	Injured	44. Drive					1	1	Vas Driver i		icle?		Code
Casualties to:	Tunou	ju.ou		illed 2. Inju				2		. Yes 2. N				1
46. Highway-Rail Crossing Users	0	1		way Vehicle		Damage		\$2,000		otal Numbe		ole Occ	cupants	
49. Railroad Employees			•	dollar dama I Number of	· /	n Train		\$2,000	-	<i>including dri</i> s a Rail Equ		cciden	ıt /	Code
. ,	0	0		ude passen	•			2	Ir	ncident Rep	ort Being		•	2
52. Passengers on Train	0	0	,			<u> </u>			<u> </u>	1. Yes 2. N	lo			
53a. Special Study Block	Video Tal Video Use	_	Yes Yes	No No		53b. Spec	cial Stud	y Block						
54. Narrative Description (Be s				e sheet if ne	ecessarv)	I								
Z-CHCTAC8-25A ON MAIN 2 TRACK	WAS UNKNO	OWINGLY S	TRUCK B	Y AN AUTO	THAT WE	NT AROUNI	THE GA	ATES AT A	HGX, T	HEN WAS S	TRUCK BY	A NO	RTHBOUND Q TAC	CHC6 28A
NO DERAILMENT. NO HAZMAT REL	EASE.													
55. Typed Name and Title					6. Signatu							Date		
NOTE: This report is part of the rep in any suit or action for damages gr											iitted as e	vidend	ce or used for any p	urpose
,		. ,						,	0.,	1.1.				

HIGHWAY-RAIL GRADE CROSSING

FEDERAL RAILROAD ADMINISTRA	ATION (FRA	4)		ACCIDEN I/I	INCIDENT	REPOR	I			OIVID A	Approvai iv	10. 2130-	,0000
1.Name of Reporting Railroad						1a. Alpha		de			road Accider	nt/Incident	No.
BNSF Railway Company [BN						BNS					0624204		
2.Name of Other Railroad or Other	Entity Filling	for Equipm	nent Involved ir	n Train Accident/	/Incident	2a. Alpha	abetic Co	ode		2b. Raili	road Accider	nt/Incident	No.
3. Name of Railroad or Other Entity	Responsib	le for Track	Maintenance	(single entry)		3a. Alph	abetic Co	ode		3b. Raili	road Accider	nt/Incident	No.
BNSF Railway Company [BN	SF]					BNSF	7			NW0	0624204		
4. U.S. DOT Grade Crossing ID No						1	of Accide	ent/Inciday	dent year	6. Time	of Accident/I	Incident	
			92	7461X		0	6 2		2024	9:30		AM 🗸	PM 🗌
7. Nearest Railroad Station SEATTLE PIER 30			8. Subdi			9. Coun	•			10. Stat	te Abbr. WA		Code
11 City (if in a city)				. Highway Name	e or No.	KIN							53
SEATILI	E Ihway Use	r Involve			Н	OLGATI	E STRE		Equipment	Involved	Public	C ✓ Priva	ate
13. Type	ilway Use	HIVOIVE	u .		17. Equipr	ment			ar(s) (moving		ار A. Train pulling	g- RCL	
C. Truck-trailer F. Bu A. Auto D. Pick-up truck G. Sc		J. Other Mo K. Pedestria M. Other	an	Code	1. Tr. 2. Tr. 3. Tr	rain (units rain (units	s pulling) s pushing) ading)	6. Li 7. Li	ar(s) (standin ght loco(s) (r ight loco(s) (s other (specif	noving) C standing) [[]	B. Train pushii C. Train stand D. EMU Locon E. DMU Locon	ling- RCL motive(s)	Code
	Direction	(geographic	al)	Code	18. Positio	on of Car L	Jnit in Tra		(0)0001	·/			
	North 2. So			4	40.0				1				
16. Position1. Stalled or stuck or2. Stopped on Cross			on crossing by on crossing by	Cada	19. Circun		struck bi	iahway	user 2. Rail	eguinment	struck by big	ahwav แระ	Code
3. Moving over cross	sing			1							. ou don by III(1
20a. Was the highway user and/or in the impact transporting has			d	Code	20b. Was	there a ha	azardous	materia	als release by				Code
Highway User 2. Rail E			. Neither	2	1.	. Highway	User 2	2. Rail I	Equipment	3. Both	4. Neither		4
20c. State here the name and quar	ntity of the h	azardous m	naterial release	ed, if any									
21. Temperature 22.	Visibility (s	inale entry)		Code	23 Wood	ther (sing	ylo ontru)						Code
	Dawn 2. D			2			• • • • • • • • • • • • • • • • • • • •	ain 4 I	Fog 5. Sleet	6 Snow			2
24. Type of Equipment 1. Freight		5. Sinc		Maint./inspect. c	1	1U							1
	ger Train-Pu		•	Spec. MoW Equ		125.	Track Tyl Equipme	•	ed by Rail	Code	e 26. Track	Number o	or Name
				Passenger Train	-Pushing	Code					MAIN	3 TRACI	V
4. Work Tr. 27. FRA Track 28. Number		1		Commuter Train	•				Siding 4. Ind		e Table Direc		
Class (1-9,X) Locomo		29. Num	ber of Cars	R. Rec	t Speed (Re corded	ecoraea sp	ееа іт ау	allable,) Code		lorth 3. Ea		Code
4 Units	3	1	73	E. Estir	mated	1		25 r	<u> </u>		South 4. We		1
	. Wig wags	7	. Crossbucks	10. Flagged by	crew	33.	Signaled	Crossi	ing Warning	A. Dry	dway Condit	ions	
Crossing 2. Cantilever FLS 5	. Hwy. traffi	c signals 8	. Stop signs	11. Other (spec	cify)	,	See rever			B. Wet C.Snow	/Slush		
Warning 3. Standard FLS 6	Audible	9	. Watchman	12. None					Code	D.Ice	I,Mud,Dirt,Oil,	Gravel	Code
Code(s) 01 0	3 ()6	07						1		r (Standing, M		A
35. Location of Warning 1. Both Sides				ssing Warning Ir		ed				g Illuminate r Special L	ed by Street		_
2. Side of Vehicle Approach			oue	n Highway Signa				ode	ū	•	. Unknown		Code
3. Opposite Side of Vehicle Ap 38.Hignwayl 39.Highway User's G		1 Highway Us		es 2. No 3 nd or in Front of	3. Unknown Train 41.	Highway l		2		2. No 3. er <i>(spec</i>			1
User's	70.			by Second Trair		1. Went a	round the	•	6. We	nt around/t	thru tempora	ry barricad	de
	Code	4 V	0 !! !		Code	 Stoppe Did not 		en proc		es, see in Int thru the	structions) gate		Code
2. Female 42. Driver Passed Standing	1		No 3. Unknov		2	4. Stoppe		ssing	8. Su	icide/Attem	npted suicide)	5
42. Driver Passed Standing Highway Vehicle		Code		Frack Obscured Permanent Strue	., .,	•	ng Train	5 \/00	retation	7. Othe	er (specify)		Code
1. Yes 2. No 3. Unknown		2	2.	Standing railroa			•	6. Hig	hway Vehicle	s 8. Not	Obstructed		8
Casualties to:	Killed	Injured	44. Driver wa 1. Killed	is 2. Injured 3. U	 Ininiured		,		Vas Driver in t . Yes 2. No	he Vehicle	?		Code 2
46. Highway-Rail Crossing Users	0	0		Vehicle Property		i	3		otal Number	of Vehicle (Occupants		
49. Railroad Employees	1		-	r damage)	Tr-:-		\$2,000		ncluding drive		Hont /	0	Code
	0	0		mber of People of passengers and		1.	2	Ir	s a Rail Equip ncident Report				2
52. Passengers on Train 53a. Special Study Block	Video Ta	0		No		cial Study I		1	. Yes 2. No				
Ooa. Openial Olddy Block	Video Ta			No No	Job. Spec		DIOCK						
Z-CHCTAC8-25A ON MAIN 2 TRACK	specific, and WAS UNKN	continue or	n separate she TRUCK BY AN		ENT AROUNE	O THE GAT	ES AT A I	HGX, T	HEN WAS STR	UCK BY A	NORTHBOUN	ND Q TACC	CHC6 28A
NO DERAILMENT. NO HAZMAT REI	LEASE. NO I	NJURIES RE	PORTED USER	'S AGE UNKNOW	VN								
55. Typed Name and Title				56. Signatu						57. Dat			
NOTE: This report is part of the rer	orting railro	ad's accide	nt report pursu	ant to the accide	ent renorts s	statute and	i as such	ı shallı	not "he admitt	ed as evida	ence or used	t for any ne	urnose

HIGHWAY-RAIL GRADE CROSSING

FEDERAL RAILROAD ADMINISTRA	TION (FRA)		ACC	IDEN I/I	NCIDENT	KEPO	₹ I			OND A	pprovai No. 213	0-0300
1.Name of Reporting Railroad	1873						1a. Alph BN	nabetic Co	de		1	oad Accident/Incide	nt No.
BNSF Railway Company [BNS 2.Name of Other Railroad or Other E	ame of Other Railroad or Other Entity Filling for Equipment Involved in Train Ac										NW04 2b. Railro	pad Accident/Incide	nt No.
3. Name of Railroad or Other Entity	Responsible	e for Track	Maintena	ance (single	entry)		3a. Alp	habetic Co	ode		3b. Railro	oad Accident/Incide	nt No.
BNSF Railway Company [BNS	F]						BNS	F			NW04	123201	
4. U.S. DOT Grade Crossing ID No.							1	of Accide	ent/Incide	ent year	6. Time o	f Accident/Incident	
				92746	1X		0	4 1	4	2023	10:20	AM _	PM ✓
7. Nearest Railroad Station SEATTLE PIER 30				Subdivision EATTLE			9. Cou	inty NG			10. State	e Abbr. WA	Code 53
11. City (if in a city) SEATTLE				12. Highw	ay Name	or No.	OLGAT						rivate
	way Use	r Involve	ed .				OLGAI	IL SI	Rail E	quipment	Involved	T dono	Ivato
13. Type	-					17. Equipi	ment		4. Car		,	Train pulling- RCL	
C. Truck-trailer F. Bus		J. Other Mo		е		1. Tr		its pulling)	5. Car 6. Ligh	(s) (standin nt loco(s) (i		Train pushing- RCL Train standing- RCL	_
A. Auto D. Pick-up truck G. Sch B. Truck E. Van H. Mot		K. Pedestr			Code	2. Tr 3. Tr		its pushing) anding)	-		standing) D.	EMU Locomotive(s)	
		M. Other			K	18. Positio			8. Oth	er (specif	y) E.	DMU Locomotive(s)	1
	irection (orth 2. Sou	<i>geographi</i> uth 3.Eas	-	st	Code 3	TO. FOSILIC	iii oi Cai	Official 11a	1111	1			
16. Position 1. Stalled or stuck on	ū	• • •			Code	19. Circur	nstance						Code
Stopped on Crossii Moving over crossii	- 0	. Blocked	on crossin	ng by gates	3	1. Rail e	equipmer	nt struck h	ghway u	ser 2. Rail	equipment s	struck by highway u	
20a. Was the highway user and/or		ent involve	d			20b. Was	there a h	nazardous	material	s release by			Code
in the impact transporting haz			4 Neither		Code 4	1	Highway	vUser 2	Rail Fo	quipment	3. Both 4.	Neither	4
20c. State here the name and quant							ga	, 000.		14.15	0.20		
24 Town grature 22 V	isibility (si	inglo ontry	1		Codo	22 Wes	than /air	alo ontal					Codo
	awn 2. D	-		•	Code 4		•	ngle entry)	ain 4 Fo	ng 5. Sleet	6 Snow		Code 2
24. Type of Equipment 1. Freight T			gle Car	9. Maint./ii		I	ıu l						
Consist 2. Passenge	er Train-Pul	ling 6. Cut	of cars	A. Spec. N	ИоW Equi	ip. E. DM	125	. Track Ty Equipme	•		Code	26. Track Numbe	r or Name
				gB. Passen	-	- 1	Code			Siding 4. Ind	uetn/ 1	MAIN 3 TRA	CK
4. Work Tra 27. FRA Track 28. Number o		1	nt loco(s) nber of Ca	C. Commu		-Pushing Speed (Re				Code	, ' '	Table Direction	
Class (1-9,X) Locomotiv		29. Nur	nber of Ca	ars o	R. Rec		corueu s	pecu II av	,	1	1. No		Code
4 Units	1		2	<u> </u>	E. Estin	nated	20	0:	25 mp		+	outh 4. West	2
	Wig wags	7	7. Crossbu	ıcks 10. Fla	gged by o	crew	33	. Signaled	Crossin	g Warning	A. Dry	way Conditions	
Crossing 2. Cantilever FLS 5. Warning	Hwy. traffic	signals 8	3. Stop sig	ıns 11. Oth	ner (spec	cify)		(See reve instruction			B. Wet C.Snow/S	Slush	
3. Standard FLS 6.	Audible		. Watchm	an 12. No	ne					Code	D.Ice E. Sand.N	Mud,Dirt,Oil,Gravel	Code
Code(s) 01 03	0	6	07							1		Standing, Moving)	A
35. Location of Warning1. Both Sides			36	 Crossing V with Highw 	•		ed				g Illuminated r Special Lig		
2. Side of Vehicle Approach			ode	_					ode	ū			Code
3. Opposite Side of Vehicle App 38.Hignway 39.Highway User's Ge		-liabway I I		1. Yes 2 Behind or in		Unknown	Highway	llser 2	2	5. Oth	2. No 3. l er (specif		1
User's		.,		truck by Sec				around the	e gate	6. We	nt around/th	ru temporary barrio	ade
Age 1. Male (Code				1	Code	2. Stopp 3. Did no	ed and the	en proce	cucu ·	yes, see inst ent thru the g	,	Code
50 2. Female	1	. Yes 2.	No 3. U	nknown		2	4. Stopp	ed on cros	ssing		icide/Attemp	•	1
42. Driver Passed Standing		Code	43. Viev	w of Track O		•	nary obsi				- 0::	, , ,	Code
Highway Vehicle 1. Yes 2. No 3. Unknown				Permar Standir		ture d equipmen		sing Train	•	tation way Vehicle		(specify) Obstructed	8
	Killed	Injured	44. Drive	er was			ор.	υ g. αρ, Ι	45. Wa	as Ďriver in t	he Vehicle?		Code
Casualties to: 46. Highway-Rail Crossing Users			.	Killed 2. Injur						Yes 2. No	of Vehicle O	ccupants	
	0	1		dollar dama				\$0	(inc	cluding drive	r)	•	0
49. Railroad Employees	0	0		al Number of Jude passeng	•			1 =			ment Accide t Being Filed		Code
52. Passengers on Train	0	0	<u> </u>		gers and t			2		Yes 2. No			2
53a. Special Study Block	Video Tal Video Use		Yes Yes	No No		53b. Spec	ciai Study	/ Block					
54. Narrative Description (Be sp. UNTWVAW512 ON MAIN 3 TRACK ST	ecific, and	continue c	n separat	e sheet if ne		OUND THE (GATES AT	A HGX. N	O HAZM	AT RELEASI	ED.		
55 Typod Name and Title				le/	2 Cianat	Iro.					57. Date		
55. Typed Name and Title NOTE: This report is part of the report	orting railroa	ad's accide	ent report i		6. Signatu the accide		statute an	ıd, as such	shall no	ot "be admitt			purpose
in any suit or action for damages gro												 ,	

FEDERAL RAILROAD ADMINISTRA	TION (FRA)		ACC	IDENT/I	NCIDENT	REPO	RT			OMB A	pproval No. 2130	-0500
1.Name of Reporting Railroad						1a. Alpl	nabetic Co	de		1b. Railro	ad Accident/Inciden	t No.
BNSF Railway Company [BN	SF]					BN	SF			NW08	319202	
2.Name of Other Railroad or Other E	Entity Filling for Equ	ipment Inv	olved in Train	Accident/	Incident	2a. Alp	habetic Co	ode		2b. Railro	oad Accident/Inciden	t No.
3. Name of Railroad or Other Entity BNSF Railway Company [BNS	•	ack Mainte	nance (single	entry)		3a. Alp	habetic Co	ode		3b. Railro	ead Accident/Inciden	t No.
4. U.S. DOT Grade Crossing ID No.							e of Accide	ent/Incid		6. Time o	f Accident/Incident	
			92746	1 Y		1	month	day	year 2010	10.00	AM 🗸	РМ
7. Nearest Railroad Station			3. Subdivision	17		9. Cou	8 1	1	2019	10:00 10. State		Code
SEATTLE			SEATTLE				NG				Abbr. WA	53
11 City (if in a city)			12. Highw	ay Name	or No	1						
SEATTLE		luca al			Н	OLGAT	TE ST	Dail I		lanca le ca al	Public / Priv	/ate
13. Type	hway User Invo	ivea			17 Equip	mont		4. Ca	Equipment r(s) (moving		Train pulling- RCL	
C. Truck-trailer F. Bus A. Auto D. Pick-up truck G. Sch B. Truck E. Van H. Mo	nool Bus K. Pede torcycle M. Othe	r (specify		Code K	17. Equipr 1. Tr 2. Tr 3. Tr	rain (uni rain (uni rain (sta	its pulling) its pushing) anding)	5. Ca 6. Lig 7. Lig 8. Ot	r(s) (standing tht loco(s) (r tht loco(s) (s	g) B. noving) C. standing)	Train pushing- RCL Train standing- RCL EMU Locomotive(s) DMU Locomotive(s)	Code
	irection <i>(geogra</i> lorth 2. South 3. E	-	loot	Code 4	18. Positio	n of Car	Unit in Tra	ain	44			
16. Position 1. Stalled or stuck on				1 -	19. Circun	nstance			44			
Stopped on Crossi Moving over crossi	ng 5. Block		sing by gates	Code 3			nt struck hi	ighway	user 2. Rail e	equipment s	truck by highway us	Code er 2
20a. Was the highway user and/or		lved			20b. Was	there a h	nazardous	materia	ls release by			Code
in the impact transporting haz				Code					,			
1. Highway User 2. Rail Ed				2	1.	. Highwa	y User 2	2. Rail E	quipment	3. Both 4.	Neither	4
20c. State here the name and quan	tity of the hazardou	ıs material	released, if any	У								
24 Temperature 22 \	/isibility (single er	ntra ()		Codo	1 22 1//201	than /air	nalo onta ()					Code
·	,		a wile	Code 2		•	ngle entry)	ain 1 F	on E Clost	C Cnaw		1
24. Type of Equipment 1. Freight T	Dawn 2. Day 3.	Single Car	9. Maint./ir	_	1		budy 3. Ra	ain 4. F	og 5. Sleet	b. Snow		*
Consist 2. Passeng	er Train-Pulling 6. 0 er Train-Pulling 7. \ in 8. I	Cut of cars Yard/Switcl Light loco(s	A. Spec. M	IoW Equi ger Train- iter Train-	ip. E. DM -Pushing ⁽ -Pushing	1U 25 Code 1 1.		ent Invol	•	. '	26. Track Number MAIN 3 TRAC Table Direction	K
Class (1-9,X) Locomoti	29.1	Number of	Cars 30	R. Rec	: Speed <i>(Re</i> orded	coraea s	speed II av	апарте)	L	1. No		Code
4 Units	2		75	E. Estir				19 m	iph E		uth 4. West	1
32. Type of	Audible	8. Stop	bucks 10. Flag signs 11. Oth nman 12. Nor	er (spec			. Signaled (See revel instruction	rse side		A. Dry B. Wet C.Snow/S D.Ice E. Sand,N	way Conditions Slush Mud,Dirt,Oil,Gravel Standing, Moving)	Code
35. Location of Warning	, , , ,		36. Crossing W	l /arning In	ıterconnecte	ed			37. Crossing			7.1
Both Sides Side of Vehicle Approach Opposite Side of Vehicle Approach	oroach	Code 1	with Highwa	ay Signal		.~		Code 2	Lights of	Special Lig	ghts	Code 1
38.Hignway 39.Highway User's Ge		y User We	nt Behind or in	Front of 7		Highway			5. Oth			
User's	and Str	uck or was	Struck by Sec	ond Train	.		around the ed and the	•		nt around/th /es, see inst	ru temporary barrica	
	Code	2. No 3.	Unknown		Code	3. Did no	ot stop	-	7. We	nt thru the o	gate	Code
65 2. Female 42. Driver Passed Standing	1 1. Yes Code			ا ممسما ا		4. Stopp	ed on cros	ssing	8. Sui	cide/Attemp	eted suicide	5
Highway Vehicle	Code	43. V	iew of Track Ol 1. Permar		, ,,	•	sing Train	E \/00	otation	7 Other	(specify)	Code
1. Yes 2. No 3. Unknown					d equipmen		•	_	etation nway Vehicle:		Obstructed	8
Casualties to:	Killed Injure	'd	river was . Killed 2. Injur	red 3 III	niniurod				as Driver in to Yes 2. No	ne Vehicle?		Code
46. Highway-Rail Crossing Users	1 0	47. H	ighway Vehicle	Property			<u> </u> 	48. To	otal Number o		•	<u> </u>
49. Railroad Employees			s <i>t. dollar dama</i> otal Number of	· .	n Train			,	<i>cluding drive</i> a Rail Equipr	<u> </u>	ent /	Code
. ,	0 0		nclude passeng	•			2	Ind	cident Report			2
52. Passengers on Train	Video Tokon?					aial Oʻ		1.	Yes 2. No			
53a. Special Study Block	Video Taken? Video Used?	Yes Yes	✓ No ✓ No		53b. Spec	iai Study	RIOCK					
54. Narrative Description (Be sign PASVBT809A TRAIN REPORTED FA	pecific, and continu	e on sepa	ate sheet if ned	cessary)	1							
ES Toward Name (177)			I=-) Oi-						F7 5 :		
55. Typed Name and Title NOTE: This report is part of the rep	orting railroad's acc	rident reno		6. Signatu		tatute or	nd as such	n shall n	ot "he admitt	57. Date		nurnosa
in any suit or action for damages gr										o as eviuel	ice of used for ally p	ourpose

HIGHWAY-RAIL GRADE CROSSING

OMB Approval No. 2130-0500

FEDERAL RAILROAD ADMINISTRAT	ION (FRA	ι)	ACCI	DEN I/I	NCIDENT	KEP	ORI					OWID A	pprovai No. 2 130-	0300
1.Name of Reporting Railroad										1a. Alphabetic Code 1b. Rail BNSF NW				No.
BNSF Railway Company [BNS]								_					118203	
2.Name of Other Railroad or Other En	tity Filling	, for Equipm	ent Involved in Train A	Accident/	Incident	2a. A	Alphabeti	ic Cod	de			2b. Railro	oad Accident/Incident	No.
3. Name of Railroad or Other Entity R	esponsibl	e for Track	Maintenance (single e	entry)		3a. <i>A</i>	Alphabet	ic Coc	de			3b. Railro	oad Accident/Incident	No.
BNSF Railway Company [BNSF	<u>'] </u>					B	NSF					NW04	118203	
4. U.S. DOT Grade Crossing ID No.					I	5. D	ate of Ac		nt/Incid	dent year		6. Time o	of Accident/Incident	
			927461	1X			0 4	2	7	201	8	11:45	AM 🗌	PM 🗸
7. Nearest Railroad Station			8. Subdivision			9. C	County	,	'	1		10. State	e	Code
SEATTLE			SEATTLE]	KING					P	Abbr. WA	53
11. City (if in a city) SEATTLE			12. Highwa	ay Name	or No.	OLG/	ATE ST	Γ <u></u>					Public / Priv	ate
High	way Use	er Involve	d							<u> </u>	ment	Involved		
13. Type C. Truck-trailer F. Bus A. Auto D. Pick-up truck G. Scho B. Truck E. Van H. Moto	ool Bus orcycle	J. Other Mo K. Pedestria M. Other (an (specify)	Code K	17. Equipm 1. Tra 2. Tra 3. Tra	ain (i ain (i ain (units pulli units pusi (standing)	hing)	7. Liç 8. Ot	ar(s) (s ght loco(ght loco		n) B. noving) C. tanding) D.	Train pulling- RCL Train pushing- RCL Train standing- RCL EMU Locomotive(s) DMU Locomotive(s)	Code 1
		(geographic	*	Code 3	18. Positio	n of C	ar Unit ir	n Trair	n	1				
16. Position 1. Stalled or stuck on c		outh 3. East 4. Trapped o			19. Circum	nstanc	:e			1				
2. Stopped on Crossing			on crossing by gates	Code				ck hig	hway	user 2	. Rail e	auipment s	struck by highway use	Code
3. Moving over crossing				2										
20a. Was the highway user and/or ra			i	Code	20b. Was	there	a hazard	lous m	nateria	als relea	ase by			Code
in the impact transporting haza 1. Highway User 2. Rail Equ	4	1.	Highv	way User	r 2.	Rail E	Equipme	ent 3	8. Both 4.	. Neither	4			
20c. State here the name and quantit			-	-			• •							
40 %	,	single entry)		Code	23. Weat	ther (single er	ntry)						Code
(specify if minus) 40 °F 1. Da	awn 2. D	Day 3. Dus	k 4. Dark	4	1. Cle	ar 2.	Cloudy 3	3. Raiı	n 4. F	og 5.	Sleet	6. Snow		2
24. Type of Equipment 1. Freight Tra Consist 2. Passenger (single entry) 3. Commuter	r Train-Pu	-		IoW Equi	ip. E. DM		25. Trac Equ		e Used nt Invol	-	iil	Code	26. Track Number of	or Name
4. Work Train			t loco(s) C. Commut	-	-		1. Main	2. Ya	ırd 3.	Siding	4. Indu	ıstry 1	MAIN 2 TRAC	K
27. FRA Track 28. Number of		29. Num		. Consist	t Speed (Re	corde	d speed	if avai	ilable)	(Code		Table Direction	Code
Class (1-9,X) Locomotive	e 3	2	115	R. Rec					21 m	nnh	R	1. No	orth 3. East outh 4. West	3
32. Type of			115	E. Loui	Ilaieu		33. Sign						way Conditions	-
	Nig wags	7	. Crossbucks 10. Flag	gged by o	crew		_			_		A. Dry	ma, 55	
2. Cantilever FLS 5. F	•	Ü			cify)				se side and c	odes)		B. Wet C.Snow/S	Slush	
3. Standard FLS 6. A			. Watchman 12. Non	ne						1	Code	D.Ice E. Sand,N	Mud,Dirt,Oil,Gravel	Code
Code(s) 01 03	0	06	07	L							1	F.Water ((Standing, Moving)	В
35. Location of Warning 1. Both Sides			36. Crossing Wa	•		ed					_	Illuminated Special Lig	d by Street	2 1
2. Side of Vehicle Approach			ode					Co	ode		_			Code
3. Opposite Side of Vehicle Appro		Highway He			Train 41	⊔iahw.	vay User	2				2. No 3. l er <i>(specit</i>		1
38.Hignway 39.Highway User's Gen User's	1		ser Went Behind or in F or was Struck by Seco				ent aroun		gate		6. Wen	t around/th	ru temporary barricad	de
	ode		•		Code		pped and		proce	eeded		es, see inst nt thru the g	,	Code
2. Female 1	^	1. Yes 2.	No 3. Unknown		2	4. Sto	pped on	cross	sing				oted suicide	5
42. Driver Passed Standing		Code	43. View of Track Ob		-, "	•	bstructio	,						Code
Highway Vehicle 1. Yes 2. No 3. Unknown					nt Structure 3. Passing Train 5. Vegetation 7. Other (specify) railroad equipment 4. Topography 6. Highway Vehicles 8. Not Obstructed					8				
			44. Driver was	g rainoad	a equipmen	[4. 10	opograpi					e Vehicle?		Code
Casualties to:	Killed	Injured	1. Killed 2. Injure							Yes 2				
46. Highway-Rail Crossing Users	ge)													
49. Railroad Employees	0	0	50. Total Number of F	•								nent Accide Being Filed		Code
•	0	0	(include passenge	ers and t	train crew)		2			Yes		Dellig i noc		2
53a. Special Study Block	Video Tal		Yes No		53b. Spec	ial Stu	udy Block	k						
54. Narrative Description (Be spe DRIVER AGE UNKNOWN, TRESPASSED DRUG/ALCOHOL TESTED.		l continue oi	Yes No n separate sheet if nec ROSSING AND WAS ST		 Y EASTBOUN	ND XIN	BOTV27	H. RES	SULTIN	NG IN F	ATALI	ΓΥ. NO CRE	WMEMBERS WERE	
55. Typed Name and Title	-ti "		56. nt report pursuant to th	S. Signatu						-4 "!	1	57. Date		

NOTE: This report is part of the reporting railroad's accident report pursuant to the accident reports statute and, as such snail not "be in any suit or action for damages growing out of any matter mentioned in said report...." 49 U.S.C. 20903. See 49 C.F.R. 225.7 (b).

FORM FRA F 6180.57 (Rev. 08/10)

* NOTE THAT ALL CASUALTIES MUST BE REPORTED ON FORM FRA F 6180.55A

OMB Approval expires 6/30/2021

FEDERAL RAILROAD ADMINISTRATION (FRA)	ACCIDE	NT/INCIDENT	REPORT		OMB Approval No	o. 2130-0500				
1.Name of Reporting Railroad 1a. Alphabetic Code 1b. Railroad Accident/Incident No.											
BNSF Railway Company [BNSF]				BNSF		NW0617200					
2.Name of Other Railroad or Other Entity Filling	for Equipment	Involved in Train Accid	dent/Incident	2a. Alphabetic C	ode	2b. Railroad Accident	t/Incident No.				
Name of Railroad or Other Entity Responsible	e for Track Ma	intenance (single entry	·)	3a. Alphabetic C	ode	3b. Railroad Accident	t/Incident No.				
BNSF Railway Company [BNSF]		(single chiry,	,	BNSF		NW0617200					
4. U.S. DOT Grade Crossing ID No.				5. Date of Accid	ent/Incident	6. Time of Accident/Ir	ncident				
		927461X		0 6 (day year 2017	9:08	AM ✓ PM				
7. Nearest Railroad Station		8. Subdivision	1	9. County	7 4 2017	10. State	Code				
SEATTLE		SEATTLE		KING		Abbr. WA	53				
11. City (if in a city) SEATTLE		12. Highway N	lame or No.	OLGATE ST		Public	✓ Private				
Highway Use	r Involved	·			Rail Equipm	ent Involved					
13. Type			17. Equip	ment		oving) A. Train pulling					
C. Truck-trailer F. Bus	J. Other Motor	/ehicle	1. Ti		5. Car(s) (sta 6. Light loco(s)		-				
	K. Pedestrian	Co	ode 2. To		7. Light loco(s)	D EMILLocom					
B. Truck E. Van H. Motorcycle	M. Other (spe	cify)	K 3. T		8. Other (sp	pecify) E. DMU Locom	notive(s) 1				
14. Vehicle Speed 15. Direction (speed (est. mph at impact) 1. North 2. Sou	geographical) uth 3.East 4		ode 18. Position	on of Car Unit in Tr	ain 5						
16. Position 1. Stalled or stuck on crossing 4	. Trapped on o		19. Circui	mstance			Code				
	. Blocked on c	lossing by gates	ode 1. Rail	equipment struck h	nighway user 2. F	Rail equipment struck by hig					
3. Moving over crossing 20a. Was the highway user and/or rail equipme	ant involved		-	there a hazardous	materials release	a by					
in the impact transporting hazardous mate		Co	ode 200. Was	illere a riazardous	materials releasi	с Бу	Code				
Highway User 2. Rail Equipment	3. Both 4. N	either	4 1	. Highway User	2. Rail Equipmen	t 3. Both 4. Neither	4				
20c. State here the name and quantity of the ha	azardous mate	rial released, if any									
21. Temperature 22. Visibility (single entry) Code 23. Weather (single entry) Code											
(specify if minus) 55 °F 1. Dawn 2. Dawn	av 3. Dusk 4	1		ear 2. Cloudy 3. R		eet 6. Snow	2				
24. Type of Equipment 1. Freight Train	5. Single (ΛU			I				
Consist 2. Passenger Train-Pul	•	•		/III 25. Track Ty	pe Used by Rail ent Involved	Code 26. Track i	Number or Name				
(single entry) 3. Commuter Train-Pull	ling 7. Yard/Sv	vitchingB. Passenger	Train-Pushing	Code		MARYA	TD A CIZ				
4. Work Train	8. Light lo				Yard 3. Siding 4.		2 TRACK				
27. FRA Track 28. Number of	29. Number	0. 00.0	onsist Speed <i>(R</i> o . Recorded	ecorded speed if a	<i>vailable)</i> Co	ode 31. Time Table Direct 1. North 3. Eas	Code				
Class (1-9,X) Locomotive 4 Units 4			Estimated		15 mph E						
32. Type of	7.0	40 Flance	d b	33. Signaled	d Crossing Warnir		ons				
1. Gates 4. Wig wags Crossing 2. C. T. C. S. H. W. W.		ossbucks 10. Flagged	•	(See reve	erse side for	A. Dry B. Wet					
2. Cantilever FLS 5. Hwy. traffic			(ѕресіту)		ns and codes)	C.Snow/Slush	0-4-				
3. Standard FLS 6. Audible	9. W	atchman 12. None			ا	ode E. Sand,Mud,Dirt,Oil,G					
Code(s) 01 03		26 Crassing Warni	ing Interconnect	la d	27 000	1 F.Water (Standing, Mo	oving) A				
35. Location of Warning 1. Both Sides		36. Crossing Warni with Highway S	•		Ligh	ssing Illuminated by Street ts or Special Lights	_I Code				
2. Side of Vehicle Approach	Code 1	1. Yes 2. No	3. Unknown		Code 1 Y	es 2. No 3. Unknown	1				
3. Opposite Side of Vehicle Approach 38.Hignway 39.Highway User's Gender 40. H		Went Behind or in Fror		. Highway User		Other (specify)					
		vas Struck by Second		1. Went around th	o .	Went around/thru temporar	y barricade				
Age 1. Male Code			Code	 Stopped and th Did not stop 		(if yes, see instructions) Went thru the gate	Code				
2.1 omale 1	. Yes 2. No		2	4. Stopped on cro	ssing 8	Suicide/Attempted suicide	5				
42. Driver Passed Standing	Code 43	3. View of Track Obscu		mary obstruction)		7.04 ('')	Code				
Highway Vehicle 1. Permanent Structure 3. Passing Train 5. Vegetation 7. Other (specify) 1. Yes 2. No 3. Unknown 2. Standing railroad equipment 4. Topography 6. Highway Vehicles 8. Not Obstructed 8											
44. Driver was 45. Was Driver in the Vehicle?											
Casualties to:	•	1. Killed 2. Injured			1. Yes 2.						
46. Highway-Rail Crossing Users	0	Highway Vehicle Pro (est. dollar damage)	perty Damage		48. Total Numb	per of Vehicle Occupants Iriver)	0				
49. Railroad Employees 0	0 50	. Total Number of Peo	ple on Train	•		quipment Accident /	Code				
52. Passengers on Train 0	0	(include passengers	and train crew)	2	Incident Re 1. Yes 2.	port Being Filed No	2				
53a. Special Study Block Video Tal			53b. Spe	cial Study Block							
Video Use 54. Narrative Description (Be specific, and		No Poparate sheet if necess	arv)								
41: PRECEDED GATES		, 2.1000 ii 1100000	37								
55. Typed Name and Title		EG 01/	gnature			57. Date					
NOTE: This report is part of the reporting reilres	adla aggidast s			atatuta and as aus	h ahall not "ha ad		for any nurness				

FEDERAL RAILROAD ADMINISTRATION (FRA)	ACCIDENT/	INCIDENT RE	EPORT		OMB Appro	oval No. 2130-0)500
1.Name of Reporting Railroad		1a	a. Alphabetic Co	de	1b. Railroad A	Accident/Incident N	No.
Sounder Commuter Rail [SCR]			SCR		20160920		
2.Name of Other Railroad or Other Entity Filling for Equipment I	nvolved in Train Accident	/Incident 2a	a. Alphabetic Co	de	2b. Railroad A	Accident/Incident N	No.
3. Name of Railroad or Other Entity Responsible for Track Main	tenance (single entry)	38	a. Alphabetic Co	ode	3b. Railroad A	Accident/Incident N	No.
BNSF Railway Company [BNSF]			BNSF		XXX		
4. U.S. DOT Grade Crossing ID No.		5.	5. Date of Accide		6. Time of Ac	cident/Incident	
	927461X		0 9 2	day year 2016	4:14	AM F	PM 🗸
7. Nearest Railroad Station	8. Subdivision	9	9. County	, ,	10. State		Code
SEATTLE	SEATTLE		KING		Abbr	. WA	53
11. City (if in a city) SEATTLE	12. Highway Name	e or No.	GATE			Public / Priva	ate 🗌
Highway User Involved		1101		Rail Equipmen	t Involved		
13. Type		17. Equipmen	nt	4. Car(s) (movin		n pulling- RCL	
C. Truck-trailer F. Bus J. Other Motor Ve	ehicle	1. Train	(units pulling)	5. Car(s) (standi		n pushing- RCL n standing- RCL	
A. Auto D. Pick-up truck G. School Bus K. Pedestrian	Code	2. Train		• ,,,		U Locomotive(s)	Code
B. Truck E. Van H. Motorcycle M. Other (spec	ify) A	3. Train	(standing)	8. Other (speci		U Locomotive(s)	1
14. Vehicle Speed 15. Direction (geographical)	Code	18. Position of	of Car Unit in Tra				
(est. mph at impact) 0 1. North 2. South 3. East 4.		19. Circumsta		1			
16. Position 1. Stalled or stuck on crossing 4. Trapped on crossing 5. Blocked 5. Blocke	Codo			-h 0 D-ii		la haa hiimbaaaaaaa	Code
3. Moving over crossing	1	1. Kall equi	iipment struck ni	ghway user 2. Rail	equipment struc	k by nighway user	1
20a. Was the highway user and/or rail equipment involved	·	20b. Was the	ere a hazardous	materials release by	у		Code
in the impact transporting hazardous materials?	Code	4 15		Dell Environment	0 D-45 4 N-5	41	4
1. Highway User 2. Rail Equipment 3. Both 4. Nei 20c. State here the name and quantity of the hazardous materi		1. Hiç	gnway User 2	. Rail Equipment	3. Both 4. Ner	tner	<u> </u>
200. State here the name and quantity of the nazardous matern	ai reieaseu, ii ariy						
21. Temperature 22. Visibility (single entry)	Code	23. Weather	r (single entry)				Code
(specify if minus) 65 °F 1. Dawn 2. Day 3. Dusk 4.	Dark 2	1. Clear	2. Cloudy 3. Ra	ain 4. Fog 5. Sleet	6. Snow		1
24. Type of Equipment 1. Freight Train 5. Single Ca							
Consist 2. Passenger Train-Pulling 6. Cut of ca	•			be Used by Rail	Code 26	. Track Number or	Name
(single entry) 3. Commuter Train-Pulling 7. Yard/Swi	tchingB. Passenger Train	n-Pushing Cod	de	nt Involved	1.		
4. Work Train 8. Light loco	o(s) C. Commuter Train	n-Pushing 3	1. Main 2. Y	ard 3. Siding 4. Inc		IAIN-3	
27. FRA Track 28. Number of 29. Number of	J. Ou. 0	st Speed (Record corded	rded speed if av	ailable) Code			Code
Class (1-9,X) Locomotive 4 Units 1	7 E. Esti	1. North 2. South	3. East 4. West	2			
32. Type of	33. Signaled Crossing Warning 34					Conditions	,
Crossing	ossbucks 10. Flagged by crew				A. Dry B. Wet		
2. Cantilever FLS 5. Hwy. traffic signals 8. Stop Warning	p signs 11. Other (spe	ecify)		s and codes)	C.Snow/Slush	ı	
	tchman 12. None		_	Code	E. Sand,Mud,	Dirt,Oil,Gravel	Code
Code(s) 01 02 04 07				1		nding, Moving)	A
35. Location of Warning 1. Both Sides	36. Crossing Warning In with Highway Signa				ng Illuminated by or Special Lights	Street	
2. Side of Vehicle Approach				ode	2. No 3. Unkr		Code
3. Opposite Side of Vehicle Approach 1		3. Unknown	hway User	5. Otl		IOWII	1
	/ent Behind or in Front of as Struck by Second Trai		Went around the			emporary barricade	е
Age 1. Male Code		Code 2. S	Stopped and the Did not stop	ni pioocoaca	yes, see instruct ent thru the gate	,	Code
76 2. Female 1 1. Yes 2. No	3. Unknown		Stopped on cros		uicide/Attempted		4
42. Driver Passed Standing Code 43.	View of Track Obscured	by (primary	y obstruction)		-		Code
Highway Vehicle	1. Permanent Stru	0.	. Passing Train	•	7. Other (sp	• /	۱ ۵
1. Yes 2. No 3. Unknown 2	Standing railroa Driver was	ad equipment 4.	. Topography	Highway VehicleWas Driver in		ucted	8 Code
Casualties to: Killed Injured	1. Killed 2. Injured 3. U	Jninjured	2	1. Yes 2. No			1
	Highway Vehicle Property	y Damage	h = 000	48. Total Number		ants	
40 Pailrand Employees	(est. dollar damage)	on Troin	\$5,000	(including drive	· · · · · · · · · · · · · · · · · · ·	1	Code
0 0	Total Number of People of (include passengers and		250	Incident Repo			2
52. Passengers on Train 0		· ·		1. Yes 2. No			
53a. Special Study Block Video Taken? ✓ Yes Video Used? ✓ Yes	No No	53b. Special	Prinah Rlock				
54. Narrative Description (Be specific, and continue on sep							
55. Typed Name and Title	56. Signati	ure			57. Date		
NOTE: This report is part of the reporting railroad's accident re			ute and as such	shall not "he admit		or used for any nu	irnose

FEDERAL RAILROAD ADMINISTRA	TION (FRA	A)		ACC	IDENT/I	NCIDENT	REPO	RT				OMB A	proval No. 2130-	0500
1.Name of Reporting Railroad							1a. Alp	habetic Co	ode			1b. Railro	ad Accident/Incident	No.
BNSF Railway Company [BN	SF]						BN	ISF				NW05	16201	
2.Name of Other Railroad or Other B	Entity Filling	for Equipr	ment Ir	nvolved in Train	Accident/I	Incident	2a. Alp	ohabetic Co	ode			2b. Railro	ad Accident/Incident	No.
3. Name of Railroad or Other Entity BNSF Railway Company [BNS		le for Track	(Maint	tenance (single	entry)		3a. Alı	ohabetic Co	ode			3b. Railro	ad Accident/Incident	No.
4. U.S. DOT Grade Crossing ID No.								e of Accide	ent/Inc	ident		6. Time o	f Accident/Incident	
				08558	E N./I			month	day	year			A N A	DM 🗖
7. Nearest Railroad Station				8. Subdivision	JIVI		9. Co		4	201	.6	9:57 10. State		PM ✓ Code
SEATTLE				SEATTLE				ING					lbbr. WA	53
11 City (if in a city)				12. Highw	ay Name	or No	1							
SEATTLE						Н	ORTO	N ST	D - 11	. =	4 1		Public 🗸 Priva	ate
	hway Use	er invoive	ea			17 Faulia	t			<u> </u>	ment moving)	Involved	Train pulling- RCL	
13. Type C. Truck-trailer F. Bus A. Auto D. Pick-up truck G. Sch B. Truck E. Van H. Mo		J. Other Mo K. Pedestr M. Other	ian		Code	17. Equipi 1. Tr 2. Tr 3. Tr	ain <i>(ur</i> ain <i>(ur</i>	nits pulling) nits pushing, anding)	5. C 6. L 7. L	Car(s) (s Light loco(Light loco	standing (s) (m	n) B. noving) C. tanding) D.	Train pushing- RCL Train standing- RCL EMU Locomotive(s) DMU Locomotive(s)	Code
14. Vehicle Speed 15. D	irection	(geographi	ical)		Code	18. Positio	n of Car	Unit in Tra		outer (зрсспу,	,	2 2.000(0)	
I	lorth 2. So		,	West	3					1				
16. Position 1. Stalled or stuck on		4. Trapped	on cro	ssing by traffic		19. Circur	nstance							Code
2. Stopped on Crossi	- ,	5. Blocked	on cro	ssing by gates	Code 1	1. Rail	equipme	nt struck h	ighwa	y user 2	. Rail e	quipment s	truck by highway use	
3. Moving over crossi 20a. Was the highway user and/or		ont involve	vd.		1	20h Mas	thoro a	hazardous	mator	iale rolos	aco by			
in the impact transporting haz			;u		Code	200. Was	lilele a	nazaruous	mater	iais ieiea	ase by			Code
1. Highway User 2. Rail Ed			4. Neit	her	4	1	. Highwa	y User 2	2. Rail	Equipme	ent 3	3. Both 4.	Neither	4
20c. State here the name and quan	tity of the h	azardous r	materia	al released, if any	у									
1						I								
	/isibility (s				Code		•	ngle entry)		_				Code 1
(specify if fillings)	Dawn 2. D				4		1	oudy 3. R	ain 4.	Fog 5.	Sleet	6. Snow	T	1
24. Type of Equipment 1. Freight T Consist 2. Passeng (single entry) 3. Commut 4. Work Tra	er Train-Pu er Train-Pu	ılling 6. Cut ılling 7. Yar		rs A. Spec. M ching B. Passenç	ЛоW Equi ger Train-	p. E. DM Pushing	IU 25	5. Track Ty Equipme . Main 2. Y	ent Inv	rolved		Code	26. Track Number o MAIN 3 TRACI	
27. FRA Track 28. Number of	of	29. Nur	mber o			Speed (Re	ecorded	speed if av	ailable	e) (Code	31. Time	Table Direction	Code
Class (1-9,X) Locomoti					R. Rec				10		10	1. No		3
4 Units	3	•		110	E. Estin	nated		0.0:		mph	<u>E</u>		uth 4. West	3
32. Type of 1. Gates 4.	Wig wags	7	7. Cros	ssbucks 10. Flag	gged by c	crew	3.	3. Signaled	CIUSS	sing wan	ning	A. Dry	way Conditions	
Crossing 2. Cantilever FLS 5.	Hwy. traffic	c signals 8	B. Stop	signs 11. Oth	er (spec	eify)		(See reve instruction				B. Wet C.Snow/S	llush	
Warning 3. Standard FLS 6.	Audible	9	9. Wate	chman 12. Nor	ne			ii loti dotioi	io aria	100000)	Code	D.Ice	/lud,Dirt,Oil,Gravel	Code
Code(s) 01 03	3										1		Standing, Moving)	A
35. Location of Warning		•		36. Crossing W	/arning In	terconnect	ed			1	U	Illuminated	,	
Both Sides Side of Vehicle Approach		, 0	Code	with Highwa	ay Signal	S		0	Code	Li	ghts or	Special Lig	hts	Code
Opposite Side of Vehicle Approach	roach		2	1. Yes 2.	. No 3.	Unknown				1.	. Yes	2. No 3. l	Jnknown	1
38.Hignway 39.Highway User's Ge				ent Behind or in			Highwa	y User around the	o gato			er (specif	y) ru temporary barricac	40
User's Age 1. Male		and Struck	c or wa	as Struck by Seco				ed and the	•			es, see inst		Code
	Code 1	1. Yes 2	. No 3	3. Unknown		Code 2	3. Did n					nt thru the g	,	5
42. Driver Passed Standing	•	Code		View of Track Ol	bscured b			oed on crost struction)	ssing		o. Suic	ide/Altemp	ted suicide	Code
Highway Vehicle		1		1. Permar		•	3. Pas	sing Train	5. Ve	egetation		7. Other	(specify)	,
1. Yes 2. No 3. Unknown		2	ļ		ng railroad	d equipmen		•	6. Hi	ghway V	ehicles		bstructed	3
Casualties to: Killed Injured 44. Driver was 1. Killed 2. Injured 3. Uninjured 3.								Code 2						
46 Highway-Rail Crossing Users 47 Highway Vehicle Property Damag								3				f Vehicle O	ccupants	
.o.r.i.gay rtaii ereeenig eeere	0	0		est. dollar dama				\$2,000		including			0	
49. Railroad Employees	0	0	50.	Total Number of	People o	n Train			1			nent Accide		Code
52. Passengers on Train	0	0	((include passeng	gers and t	rain crew)		2		incident i 1. Yes		Being Filed		2
53a. Special Study Block	Video Ta	iken?	Yes	✓ No		53b. Spec	cial Stud	y Block						
Ed Nameth D. 199	Video Us		Yes	✓ No										
54. Narrative Description (Be signal 41. UNOCCUPIED VEHICLE	pecific, and	continue d	on sepa	arate sheet if ned	cessary)									
55. Typed Name and Title				56	3. Signatu	re						57. Date		
NOTE: This report is part of the rep				ort pursuant to the	he accide	nt reports s					admitte			urpose
in any suit or action for damages gr	owing out o	of any matte	er men	ntioned in said re	port" 4	9 U.S.C. 20	903. Se	e 49 C.F.R	R. 225.	7 (b).				

HIGHWAY-RAIL GRADE CROSSING

FEDERAL RAILROAD ADMINISTRATION (FRA)	ACCIDEN I/INCIDEN I	REPORT	Olvid Approval No. 2130-030	50		
1.Name of Reporting Railroad		1a. Alphabetic Code	1b. Railroad Accident/Incident No.			
Sounder Commuter Rail [SCR]		SCR	140910			
2.Name of Other Railroad or Other Entity Filling for Equipment I	nvolved in Train Accident/Incident	2a. Alphabetic Code	2b. Railroad Accident/Incident No.			
3. Name of Railroad or Other Entity Responsible for Track Main	tenance (single entry)	3a. Alphabetic Code	3b. Railroad Accident/Incident No.			
BNSF Railway Company [BNSF]	V 8	BNSF	XXX			
4. U.S. DOT Grade Crossing ID No.		5. Date of Accident/Incident	6. Time of Accident/Incident			
	085585M	$\begin{bmatrix} & & & & & & & & & & & & & & & & & & &$		1 🗸		
7. Nearest Railroad Station	8. Subdivision	9. County		Code		
SEATTLE	SEATTLE	KING	Abbr. WA	53		
11. City (if in a city) SEATTLE	12. Highway Name or No.	ORTON ST	Public / Private			
Highway User Involved	<u>'</u>		pment Involved			
13. Type	17. Equipi		(moving) A. Train pulling- RCL			
C. Truck-trailer F. Bus J. Other Motor Ve	ehicle 1. Tr	all (units pulling)	(standing) B. Train pushing- RCL co(s) (moving) C. Train standing- RCL			
A. Auto D. Pick-up truck G. School Bus K. Pedestrian	Code 2. Tr	am (units pushing)	D FMILL ocomotive(s)	Code		
B. Truck E. Van H. Motorcycle M. Other (speci	, , , ,	8. Other	(specify) E. DMU Locomotive(s)	2		
14. Vehicle Speed 15. Direction (geographical) (est. mph at impact) 30 1. North 2. South 3. East 4.	0000	on of Car Unit in Train	1			
16. Position 1. Stalled or stuck on crossing 4. Trapped on cro	ossing by traffic 19. Circun	nstance	_	Code		
2. Stopped on Crossing 5. Blocked on cro		equipment struck highway user	2. Pail aguinment struck by highway usor.	1		
3. Moving over crossing	3					
20a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials?	Code 20b. Was	there a hazardous materials re	ease by C	Code		
Highway User 2. Rail Equipment 3. Both 4. Nei	ment 3. Both 4. Neither	4				
20c. State here the name and quantity of the hazardous materia	al released, if any		<u>.</u>			
21. Temperature 22. Visibility (single entry)	Code 23. Wea	ther (single entry)		Code		
o_	I		l	1		
(Specify II IIIIIIII) 1. Dawii 2. Day 3. Dusk 4. I		ar 2. Cloudy 3. Rain 4. Fog 5	s. Sieet 6. Snow			
24. Type of Equipment 1. Freight Train 5. Single Ca Consist 2. Passenger Train-Pulling 6. Cut of cal	'	25. Track Type Used by	Rail Code 26. Track Number or Na	ame		
(single entry) 3. Commuter Train-Pulling 7. Yard/Swit		Code Equipment Involved				
4. Work Train 8. Light loco		C 1. Main 2. Yard 3. Sidir	g 4. Industry 1 #1 MAIN			
27. FRA Track 28. Number of 29. Number of		ecorded speed if available)		Code		
Class (1-9,X) Locomotive	R. Recorded 7 E. Estimated	30 mph	E 1. North 3. East 2. South 4. West	1		
32. Type of Units 1	, L. Estimated	33. Signaled Crossing W	2.000			
1. Gates 4. Wig wags 7. Cros	ssbucks 10. Flagged by crew		A. Dry			
2. Cantilever FLS 5. Hwy. traffic signals 8. Stop Warning	o signs 11. Other (specify)	(See reverse side for instructions and codes				
3. Standard FLS 6. Audible 9. Wat	chman 12. None		Code D.Ice Code E. Sand,Mud,Dirt,Oil,Gravel	Code		
Code(s) 01 02 06 07			1 F.Water (Standing, Moving)	A		
35. Location of Warning 1. Both Sides	36. Crossing Warning Interconnecte with Highway Signals		Crossing Illuminated by Street Lights or Special Lights			
2. Side of Vehicle Approach		Code	- · · · · · · · · · · · · · · · · · · ·	Code		
3. Opposite Side of Vehicle Approach 1	1. Yes 2. No 3. Unknown	Highway User	1. Yes 2. No 3. Unknown 5. Other (specify)	1		
	/ent Behind or in Front of Train as Struck by Second Train 41.	Went around the gate	6. Went around/thru temporary barricade			
Age 1. Male _I Code	Code	 Stopped and then proceeded Did not stop 	y (if yes, see instructions) 7. Went thru the gate	Code		
	3. Unknown 2	4. Stopped on crossing	8. Suicide/Attempted suicide	1		
		nary obstruction)		Code		
Highway Vehicle 1. Yes 2. No 3. Unknown 2	Permanent Structure Standing railroad aguingen	3. Passing Train 5. Vegetation		8		
44.	Standing railroad equipmen Driver was			Code		
Casualties to: Killed Injured	1. Killed 2. Injured 3. Uninjured	3. Uninjured 1. Yes 2. No				
	Highway Vehicle Property Damage (est. dollar damage)					
	Total Number of People on Train					
V V	(include passengers and train crew)		t Report Being Filed	2		
53a. Special Study Block Video Taken? Ves	—	ial Study Block	2. No			
Video Used? ✓ Yes 54. Narrative Description (Be specific, and continue on sep	No No narate sheet if necessary)					
(De apecino, and continue on sep	a.a.c onoc ii nooodary)					
			T -			
55. Typed Name and Title NOTE: This report is part of the reporting railroad's accident res	56. Signature	tatute and as such shall not "h	57. Date			

FEDERAL RAILROAD ADMINISTRA	TION (FRA)		ACC	IDENT/I	NCIDENT	REPO	RT			OMB A	pproval No. 2130	-0500
1.Name of Reporting Railroad							1a. Alp	habetic Co	ode		1b. Railr	oad Accident/Inciden	t No.
BNSF Railway Company [BNS	SF]						BN	ISF			NW0	722202	
2.Name of Other Railroad or Other E	Entity Filling	for Equipn	nent Invol	lved in Train	Accident/	Incident (2a. Alp	habetic Co	ode		2b. Railr	oad Accident/Inciden	t No.
3. Name of Railroad or Other Entity	-	e for Track	Maintena	ance (single	e entry)			ohabetic C	ode			oad Accident/Inciden	t No.
BNSF Railway Company [BNS 4. U.S. DOT Grade Crossing ID No.							BNS 5 Dot	e of Accide	ont/Inci	dont		722202 of Accident/Incident	
4. 0.3. DOT Grade Clossing ID No.			1				J. Dai	month	day	l year	o. Time	or Accident/Incident	
				08558	6U		0	7 2	7	2022	11:50	AM 🗌	PM 🗸
7. Nearest Railroad Station				Subdivision			9. Co	•			10. Stat		Code
SEATTLE PIER 25			8	SEATTLE			K	ING				Abbr. WA	53
11. City (if in a city) SEATTLE	;			12. Highv	vay Name	or No.	B SPO	KANE S'	Т			Public 🗸 Priv	vate
Higl	hway Use	r Involve	d						Rail	Equipmen	t Involved		
13. Type						17. Equipi	ment			ar(s) (movin		. Train pulling- RCL	
C. Truck-trailer F. Bus		J. Other Mo	otor Vehicl	le		1. Tr		nits pulling)	6 Li	ar(s) (standi ight loco(s) (. Train pushing- RCL . Train standing- RCL	
A. Auto D. Pick-up truck G. Sch		K. Pedestri			Code	2. Tr 3. Tr		nits pushing, anding)	,			. EMU Locomotive(s)	Code
B. Truck E. Van H. Mot		M. Other			A		,	•	8. C	other (speci		. DMU Locomotive(s)	1
		geographi	,		Code	18. Positio	n of Car	Unit in Tra	ain				
16. Position 1. Stalled or stuck on	orossing 4				4	19. Circur	netanco			1			
2. Stopped on Crossi				ng by gates	Code			nt atruak h	iahway	unor 2 Poil	aquinment	struck by highway us	Code
3. Moving over crossi		. Dioonou	0.000	g 2) gatee	1	I. Kali e	equipme	nt struck n	igriway	user 2. Kan	equipment	Struck by highway us	ei 1
20a. Was the highway user and/or	rail equipme	ent involve	d			20b. Was	there a	hazardous	materi	als release b	/		Code
in the impact transporting haz					Code				0 0 11		0.0.11.4	NI 20	4
1. Highway User 2. Rail Eq 20c. State here the name and quan					2	1.	. Highwa	y User 2	z. Kali	Equipment	3. Both 4	. Neither	
20c. State here the hame and quan	uty or the m	azaruous r	nateriai re	eleaseu, ii ai	ıy								
21. Temperature 22. V	/isibility (si	ngle entry)		Code	23. Wea	ther (si	ngle entry)					Code
	Dawn 2. D			k	4		,	•		Fog 5. Sleet	6 Snow		1
24. Type of Equipment 1. Freight T			gle Car	9. Maint./i		1				. og 0. 0 .00.	0.0		
Consist 2. Passeng			_	A. Spec. I	•		125	5. Track Ty	•	•	Code	26. Track Number	or Name
_		-		ngB. Passer			Code	Equipme	ent Invo	olved	1		
4. Work Tra			nt loco(s)	C. Comm			1 1	. Main 2. Y	ard 3	. Siding 4. Inc	dustry 1	MAIN 2 TRAC	K
27. FRA Track 28. Number of	of	29. Nun	nber of Ca	ars 3	0. Consist	t Speed (Re	ecorded	speed if av	ailable,) Code	31. Time	Table Direction	Code
Class (1-9,X) Locomoti	ve 3				R. Rec				45 r	mph E	1. No		1
32. Type of	3			58	E. Estir	nated	22	2 Signalad		ing Warning		outh 4. West dway Conditions	
1. Gates 4.	Wig wags	7	'. Crossbı	ucks 10. Fla	agged by o	crew		· ·			A. Dry	away Conditions	
Crossing 2. Cantilever FLS 5.	Hwy. traffic	signals 8	. Stop sig	gns 11. Ot	her (spec	cify)		(See reve instruction			B. Wet C.Snow/	Slush	
Warning 3. Standard FLS 6.	Audible	g	. Watchm	nan 12. No	ne					Code	D.Ice	Mud,Dirt,Oil,Gravel	Code
Code(s) 01 02	2 0	3	06	07						1	1	(Standing, Moving)	A
35. Location of Warning			36	6. Crossing V	Warning In	nterconnecte	ed				•	ed by Street	
Both Sides Side of Vehicle Approach		, C	ode	with Highw	vay Signal	ls		0	Code	Lights of	or Special Li	ghts	Code
Opposite Side of Vehicle Approach	roach	1	l	1. Yes 2	2. No 3	. Unknown		1	2	1. Yes	2. No 3.	Unknown	1
38.Hignway 39.Highway User's Ge				Behind or in			Highway	y User around the	e doto	5. Otl		<i>ify)</i> hru temporary barrica	nde -
User's		and Struck	or was S	Struck by Sec				around the	•		yes, see ins		
	Code 2 1	. Yes 2.	No 3 L	Inknown		Code 2	3. Did n	ot stop	-	7. W	ent thru the	•	Code 5
42. Driver Passed Standing	<u> </u>	Code		w of Track C)hscured F			oed on crost	ssing	8. St	ııcıae/Attem	pted suicide	Code
Highway Vehicle	i	Code	-5. VIC		nent Struc	., .,	•	sing Train	5 \/64	netation	7. Othe	r (specify)	Code
1. Yes 2. No 3. Unknown		2		2. Standi	ing railroa	d equipmen		•		ghway Vehicle		Obstructed	8
	Killed	Injured	44. Driv					1		Vas Driver in	the Vehicle	?	Code
Casualties to:		,		Killed 2. Inju				3		. Yes 2. No	of Vahiala C) acumonto	2
46. Highway-Rail Crossing Users	0	0		hway Vehicle . <i>dollar dama</i>		/ Damage		\$2,000		otal Number Including drive		occupants 0	
49. Railroad Employees	0	0	,	al Number of	· /	n Train		φ 2, 000		s a Rail Equip		*	Code
52. Passengers on Train	0	0		lude passen	•			3		ncident Repo		d	2
53a. Special Study Block	Video Tal	<u> </u>	Yes	No		53b. Spec	rial Stud		1 1	1. Yes 2. No			
	Video Tar	_	Yes	✓ No		Job. Spec	Jiai Sluu	y DIOCK					
54. Narrative Description (Be sp	pecific, and	continue o	n separa	te sheet if ne	ecessary)								
HLVJEVE126A ON MAIN 2 TRACK ST RELEASED.	RUCK AN A	UTO THAT	HAD PRE	ECEDED THE	GATES A	ND GOT STU	JCK ON T	THE HGX V	VHEN T	THEY DROVE	OFF THE CR	OSSING PLANKS. NO	HAZMAT
				le.	6 Signatu	ıro					57. Date		
55. Typed Name and Title NOTE: This report is part of the report	orting railro	ad's accide	ent report		Signatuthe accide		statute a	nd, as such	h shall	not "be admit			ourpose
in any suit or action for damages gro											.sa as evide		p000

FEDERAL RAILROAD ADMINISTRA	ATION (FRA	١)	ACC	IDENT/I	INCIDENT	REPO	RT			OMB Ap	proval No. 2130-	0500
1.Name of Reporting Railroad						1a. Alpl	habetic Co	de		1b. Railro	ad Accident/Incident	No.
BNSF Railway Company [BNSF] BNSF NW1116205										16205		
2.Name of Other Railroad or Other I	Entity Filling	for Equipme	ent Involved in Train	Accident	/Incident	2a. Alp	habetic Co	ode		2b. Railro	ad Accident/Incident	No.
3. Name of Railroad or Other Entity	Responsible	e for Track N	Maintenance (single	antru)		3a. Alp	habetic Co	ode		3b. Railro	ad Accident/Incident	No.
BNSF Railway Company [BNS	•		(surgie	entry)		BNS				NW11		
4. U.S. DOT Grade Crossing ID No.								nt/Incident			f Accident/Incident	
S			00550			1	month		year			_
			08558	6U		1	1 2	0 2	2016	11:30	<u> </u>	PM 🗸
7. Nearest Railroad Station			8. Subdivision			9. Cou	•			10. State		Code
SEATTLE			SEATTLE			K	ING			A	bbr. WA	53
11. City (if in a city) SEATTLE	2		12. Highw	ay Name	or No. W	B SPO	KANE ST	Γ			Public 🗸 Priva	ate
		r Involved	i i						uipment	Involved		
13. Type					17. Equipr	ment		4. Car(s)	(moving,) A.	Train pulling- RCL	
C. Truck-trailer F. Bus	5	J. Other Moto	or Vehicle		1. Tr		its pulling)	, ,	(standing		Train pushing- RCL	
A. Auto D. Pick-up truck G. Sch	nool Bus	K. Pedestria	n	Code	2. Tr	ain <i>(uni</i>	its pushing)				Train standing- RCL EMU Locomotive(s)	Code
		M. Other (s	specify)	A	3. Tr	ain <i>(st</i> a	anding)	7. Light le 8. Other		tariuirig)	DMU Locomotive(s)	1
14. Vehicle Speed 15. D	Direction ((geographica	a/)	Code	18. Positio	n of Car	Unit in Tra		(зреспу	,	2 2.000(0)	
		uth 3. East		1					1			
16. Position 1. Stalled or stuck on	crossing 4	1. Trapped o	n crossing by traffic	!	19. Circun	nstance						Codo
Stopped on Cross	ing 5	5. Blocked or	n crossing by gates	Code	1. Rail e	eauipmer	nt struck hi	ahwav use	r 2. Rail e	equipment s	truck by highway use	Code
3. Moving over cross	ing			2						1.1		1 1
20a. Was the highway user and/or	rail equipme	ent involved		0 1	20b. Was	there a h	nazardous	materials re	elease by			Code
in the impact transporting hazardous materials? 1. Highway User 2. Rail Equipment 3. Both 4. Neither 4 1. Highway User 2. Rail Equipment 3. Both 4. Neither												
1. Highway User 2. Rail Equipment 3. Both 4. Neither 4. Indinay User 2. Rail Equipment 3. Both 4. Neither									•			
20c. State here the name and quantity of the hazardous material released, if any												
	/-	:			1 00 111							
· '	/isibility (s			Code		•	ngle entry)					Code
(specify if minus) 48 °F 1.1	Dawn 2. D	ay 3. Dusk	4. Dark	4	1. Cle	ar 2. Clo	oudy 3. Ra	ain 4. Fog	5. Sleet	6. Snow		2
24. Type of Equipment 1. Freight T		Singl		nspect. c	ar D. EM	IU 25	Track Tv	pe Used by	Rail	Code	26. Track Number of	r Name
-		lling 6. Cut o	'		•	IU L		ent Involved		Oodo	20. Track Hamber of	i i tailio
			/Switching B. Passen	ger Train	-Pushing	Code				.	MAIN 1 TRACE	7
4. Work Tra		8. Light			•			ard 3. Sid				,
27. FRA Track 28. Number of		29. Numb	per of Cars 30		t Speed (Re	ecorded s	speed if av	ailable)	Code		Table Direction	Code
Class (1-9,X) Locomoti	ive 3		76	R. Red E. Estir				5 mph	E	1. No		2
32. Type of			70	L. Loui	mateu	33	Signaled	Crossing V			way Conditions	1
1. Gates 4.	Wig wags	7.	Crossbucks 10. Flag	gged by	crew		. Oigilaloa	Orocomig v	ranning	A. Dry	way contamono	
Crossing 2. Cantilever FLS 5.	Hwy. traffic	signals 8.	Stop signs 11. Oth	ner (spec	cify)			rse side for is and code		B. Wet C.Snow/S	lush	
Warning 3. Standard FLS 6.	Audible	9.	Watchman 12. Nor	ne			ii isti uctioi	is and code	Code	D.Ice		Code
Code(s) 01 0 3	3								1	1	Mud,Dirt,Oil,Gravel Standing, Moving)	A
35. Location of Warning	<u> </u>		36. Crossing W	⊥ /arning Ir	nterconnecte	ed		37	. Crossino	Illuminated		1
1. Both Sides		Co	with Highw			-			_	Special Lig	•	Code
2. Side of Vehicle Approach		1	de Will Flight 1. Yes 2.	. No 3	3. Unknown		'	ode	1 Yes	2. No 3. L	Jnknown	
 Opposite Side of Vehicle App 38.Hignway 39.Highway User's Ge 	-		er Went Behind or in			Highway	/ Liser		5. Othe			1
User's			or was Struck by Sec				around the	e gate			ru temporary barricad	le
	Code				Code			en proceede		es, see inst	,	Code
		1. Yes 2. N	No 3. Unknown		2	Did noStopp	ot stop ed on cros	ssina		nt thru the g cide/Attemp		5
42. Driver Passed Standing		Code	43. View of Track O	bscured l		nary obsi		551119	0. 001	oldo// titorrip	ica saiciae	Code
Highway Vehicle			1. Permar		•	3 Pass	sing Train	5. Vegetat	ion	7. Other	(specify)	
1. Yes 2. No 3. Unknown		2	2. Standir	ng railroa	d equipmen		•	6. Highwa	y Vehicles		bstructed	8
0 111	Killed	Injured	44. Driver was							ne Vehicle?		Code
Casualties to:			1. Killed 2. Injur				3		s 2. No			2
46. Highway-Rail Crossing Users	0	0	47. Highway Vehicle		/ Damage		\$2,000			f Vehicle O	•	
49. Railroad Employees		0	(est. dollar dama) 50. Total Number of	· /	n Train		Ψ2,000	•	<i>ding driver</i> ail Equipr	nent Accide	0	Code
. ,	0		(include passeng	•			3			Being Filed		2
52. Passengers on Train	0	0		,				1. Ye	s 2. No			
53a. Special Study Block	Video Lla		Yes No No No		53b. Spec	cial Study	y Block					
54. Narrative Description (Be s	Video Us		Yes ✓ No separate sheet if ne	Cessanil	1							
DRIVER AGE UNKNOWN. 41. UNOCO			Sopurate Sheet ii Het	oooary)								
55. Typed Name and Title			56	S. Signatu	ıre					57. Date		
NOTE: This report is part of the rep	orting railro	ad's acciden	t report pursuant to t	he accide	ent reports s	tatute ar	nd, as such	shall not "	be admitte	ed as evider	nce or used for any pu	ırpose

FEDERAL RAILROAD ADMINISTRA	TION (FRA	.)	ACC	IDENT/I	NCIDENT	REPOR	RT			OMB A	pproval No. 2130-	0500
1.Name of Reporting Railroad						1a. Alph	nabetic Co	ode		1b. Railro	oad Accident/Incident	No.
BNSF Railway Company [BNS	SF]					BNS	SF			NW05	502203	
2.Name of Other Railroad or Other E	ntity Filling	for Equipn	nent Involved in Train	Accident/	Incident	2a. Alpl	habetic Co	ode		2b. Railro	oad Accident/Incident	No.
										XXX		
3. Name of Railroad or Other Entity	Responsibl	e for Track	Maintenance (single	entry)		3a. Alp	habetic C	ode		3b. Railro	pad Accident/Incident	No.
KITSAP LEAD [KLQ]			1,500	,,		KLC)			XXX		
4. U.S. DOT Grade Crossing ID No.						<u> </u>	of Accide	ent/Incid	dent	6. Time o	of Accident/Incident	
			00550	ei i			nonth	day	year			D14 -
			08558	6U		0	5 1	6	2002	6:20		PM 🗸
7. Nearest Railroad Station			8. Subdivision			9. Cou	•			10. State		Code
SEATTLE			140 15 1			KI	NG				Abbr. WA	53
11. City (if in a city) SEATTLE	ļ		12. Highw	ay Name	or No.	ITSAP I	LEAD				Public 🗸 Priva	ate
Higl	hway Use	r Involve	d					Rail	Equipmen	t Involved		
13. Type					17. Equipi	ment			ar(s) <i>(movin</i>		Train pulling- RCL	
C. Truck-trailer F. Bus	;	J. Other Mo	tor Vehicle		1. Tr	•	ts pulling)	e Li	ar(s) (standi		Train pushing- RCL Train standing- RCL	
A. Auto D. Pick-up truck G. Sch	ool Bus	K. Pedestri	an	Code	2. Tr		ts pushing,	,	• • • •		EMU Locomotive(s)	Code
B. Truck E. Van H. Mo	torcycle	M. Other	(specify)	Α	3. Tr	ain (sta	nding)	7. LI 8. O			DMU Locomotive(s)	2
14. Vehicle Speed 15. D	irection (geographic	cal)	Code	18. Positio	n of Car	Unit in Tra	ain	.,			-1
(est. mph at impact) 2 1. N	orth 2. So	uth 3. Eas	4. West	4					2			
16. Position 1. Stalled or stuck on		I. Trapped	on crossing by traffic	0-4-	19. Circun	nstance						Code
2. Stopped on Crossi		. Blocked	on crossing by gates	Code 3	1. Rail e	equipmer	nt struck h	ighway	user 2. Rail	equipment s	struck by highway use	
3. Moving over crossi				<u> </u>	001 111							
20a. Was the highway user and/or			d	Code	20b. Was	there a h	azardous	materia	als release b	<i>y</i>		Code
in the impact transporting haz 1. Highway User 2. Rail Ed			l Neither	4	1.	Highway	User 2	2. Rail E	Equipment	3. Both 4.	Neither	4
20c. State here the name and quan									- 1			I
	. ,			,								
21. Temperature 22. \	/isibility (s	ingle entry		Code	23. Wea	ther (sin	gle entry)					Code
50 0 5	Dawn 2. D			2		•	• • • • • • • • • • • • • • • • • • • •		Fog 5. Sleet	6 Snow		1
24. Type of Equipment 1. Freight T		-			1		day o. re	u	- og - o. o.o.			
Consist 2. Passeng				•		125	. Track Ty	pe Use	d by Rail	Code	26. Track Number o	r Name
2.1 0000119		_	of cars A. Spec. Nd/Switching B. Passen	•		Code	Equipme	ent Invo	olved			
4. Work Tra			it loco(s) C. Commu			- 1	Main 2. Y	ard 3.	Siding 4. In	dustry 4	1805	
27. FRA Track 28. Number of		1			Speed (Re	ecorded s	peed if av	ailable)) Code	31. Time	Table Direction	Codo
Class (1-9,X) Locomoti		29. INUII	ibei di Cais	R. Rec		.00.404 0	pood " at	ua.b.10)	1	1. No		Code
1 Units	1		1	E. Estir	nated			4 n	nph E	2. Sc	outh 4. West	2
32. Type of 1. Gates 4.	Wig wags	7	. Crossbucks 10. Fla	agod by	arou.	33	. Signaled	l Crossi	ng Warning		way Conditions	
Crossing							(See reve	rse side	e for	A. Dry B. Wet		
Warning	-	-	. Stop signs 11. Oth		иу)		instruction	ns and o	,	C.Snow/S D.Ice	Slush	0 1
3. Standard FLS 6.	Audible	9	. Watchman 12. Noi	ne					Code		Mud,Dirt,Oil,Gravel	Code
Code(s) 05									1		(Standing, Moving)	
35. Location of Warning			36. Crossing W	•		ed				ng Illuminated	,	
Both Sides Side of Vehicle Approach		₁ C	ode with Highw	ay Signal	S		0	Code	· ·	or Special Lig		Code
Opposite Side of Vehicle App	roach	1	1. Yes 2	. No 3	. Unknown			1		2. No 3. l		3
38.Hignway 39.Highway User's Ge			ser Went Behind or in			Highway		o goto		ner (specit	<i>fy)</i> nru temporary barricac	40
User's		and Struck	or was Struck by Sec				around the	•		ves, see inst		
	Code	1 Van 0	N. O. Halmania	1	Code	3. Did no		en proc	· ·	ent thru the o	,	Code
	1 '		No 3. Unknown		2		ed on cros	ssing	8. Sı	uicide/Attemp	oted suicide	3
42. Driver Passed Standing		Code	43. View of Track O		., .,	nary obst	•			7 045	· (if.)	Code
Highway Vehicle 1. Yes 2. No 3. Unknown		2	1. Permar		cture d equipmen		sing Train	_	getation Ihway Vehick		r (specify)	8
1. 165 2. NO 3. OHKHOWH			44. Driver was	ig railioad	u equipmen	т 4. горс	ograpity			the Vehicle?	Obstructed	Code
Casualties to:	Killed	Injured	1. Killed 2. Injur	red 3. U	ninjured		3	1.	. Yes 2. No			1
46. Highway-Rail Crossing Users	0	0	47. Highway Vehicle	Property	Damage			48. T	otal Number	of Vehicle O	ccupants	
	U	U	(est. dollar dama				\$500	<u> </u>	ncluding driv		1	
49. Railroad Employees	0	0	50. Total Number of	•				1		ment Accide rt Being Filed		Code
52. Passengers on Train	0	0	(include passeng	gers and t	raın crew)		3		. Yes 2. No			2
53a. Special Study Block	Video Tal	ken?	Yes No		53b. Spec	cial Study	Block					•
	Video Us		Yes No									
54. Narrative Description (Be space of DRIVER UNKNOWN.	pecific, and	continue o	n separate sheet if ne	cessary)								
102 OF DRIVER OFFICEROWN,												
55. Typed Name and Title			56	6. Signatu	ıre					57. Date)	
NOTE: This report is part of the rep			nt report pursuant to t	he accide	ent reports s							urpose
in any suit or action for damages gr												

HIGHWAY-RAIL GRADE CROSSING

FEDERAL RAILROAD ADMINISTRA	TION (FRA	4)		ACC	IDEN I/I	NCIDENT	REPO	RI				OWID A	pprovai No. 2 130	-0300
1.Name of Reporting Railroad	DERAL RAILROAD ADMINISTRATION (FRA) ACCIDENT/IN Jame of Reporting Railroad NSF Railway Company [BNSF]										1a. Alphabetic Code 1b. F BNSF P			
		. for = '	nant la '	adic T	A a c ! - !	/In aid 1			`~a'-			PA109	pad Accident/Inciden	t No
2.Name of Other Railroad or Other B	entity Filling	g tor Equipr	nent Involv	ed in Train	Accident/	Incident	2a. Alp	habetic C	ode			20. Kaliit	oad Accident/inciden	I NO.
3. Name of Railroad or Other Entity	•	le for Track	Maintenar	nce (single	entry)		3a. Alp	ohabetic C	Code				oad Accident/Inciden	t No.
Union Pacific Railroad Compa							UP					XXX		
4. U.S. DOT Grade Crossing ID No.			ı				5. Dat	e of Accid	lent/Inc	cident I ^{yea}	ır	6. Time o	of Accident/Incident	
				08558	<u>6U</u>		1	0 1	1 3	19	97	12:40	AM 🗌	PM 🗸
7. Nearest Railroad Station			8. S	Subdivision			9. Co	,				10. State		Code
SEATTLE 11. City (if in a city)				12. Highw	ov Nomo	or No	K	ING				<i></i>	Abbr. WA	53
			_	12. Tilgriw	ay Name	SI	POKAN	IE & 117					Public 🗸 Priv	/ate
	hway Use	er Involve	ed .			1.7 5 .						Involved	Train pulling DCI	
13. Type C. Truck-trailer F. Bus		I Other Me	otor Vehicle			17. Equipi 1. Tr		nits pulling)		٠,,	(moving, (standing		Train pulling- RCL Train pushing- RCL	
A. Auto D. Pick-up truck G. Sch		K. Pedestri		•	Code	2. Tr	٠.	nits pushing	_{g)} 6. l	Light loc	o(s) (n	0,	Train standing- RCL	Code
•	torcycle	M. Other			J	3. Tr	ain (st	anding)		Light loc Other	o(s) (s (specify	lanuing) _	EMU Locomotive(s) DMU Locomotive(s)	2
14. Vehicle Speed 15. D	irection	(geographi	cal)		Code	18. Positio	n of Car	Unit in Tr		011101	(opcony	,		
		outh 3. Eas			4						1			
16. Position 1. Stalled or stuck on 2. Stopped on Crossi				0 ,	Code	19. Circun								Code
3. Moving over crossi	- '	5. Blocked	on crossin	g by gates	3	1. Rail e	equipme	nt struck h	nighwa	y user	2. Rail e	equipment s	struck by highway us	^{er} 2
20a. Was the highway user and/or	rail equipm	ent involve	d		-1	20b. Was	there a	hazardous	s mate	rials rele	ease by			Code
in the impact transporting hazardous materials? 1. Highway User 2. Rail Equipment 3. Both 4. Neither 4 1. Highway User 2. Rail Equipment 3. Both 4. Neither										1				
1. Highway User 2. Rail Equipment 3. Both 4. Neither 4 1. Highway User 2. Rail Equipment 3. Both 4. Neither 20c. State here the name and quantity of the hazardous material released, if any										. Neitner				
20c. State here the name and quantity of the nazardous material released, if any														
21. Temperature 22. \	/isibility (s	single entry)		Code	23. Wea	ther (si	ngle entry)					Code
(specify if minus) 65 °F 1. [Dawn 2. D	Day 3. Dus	sk 4. Dark		2	1. Cle	ar 2. Cl	oudy 3. F	Rain 4.	Fog 5	. Sleet	6. Snow		1
24. Type of Equipment 1. Freight T	rain	5. Sin	gle Car	9. Maint./i	nspect. ca	ar D. EM	IU 2	5. Track T	vno He	od by E	Pail	Codo	26. Track Number	or Namo
Consist 2. Passeng		-		A. Spec. N		•	IU	Equipm			vali	Code	20. Hack Number	Ji INAIIIE
(single entry) 3. Commut 4. Work Tra			d/Switching nt loco(s)	9B. Passen		- 1	Code 1	. Main 2.	Yard :	3 Sidin	a 4 Indi	ıstry 2	1	
27. FRA Track 28. Number of		1	nber of Ca	C. Commu		-Pusning t Speed <i>(Re</i>					Code		Table Direction	0-4-
Class (1-9,X) Locomoti	ve		libel of Cal		R. Rec			opeou u		,	ı	1. No		Code
X Units	1		3		E. Estir	mated	100	. 0: 1		mph	<u>E</u>		outh 4. West	1
	Wig wags	7	7. Crossbu	cks 10. Fla	gged by	crew	33	3. Signaled	d Cros	sing vva	arning	A. Dry	way Conditions	
Crossing 2. Cantilever FLS 5.	Hwy. traffic	c signals 8	3. Stop sigr	ns 11. Oth	ner <i>(spec</i>	cify)		(See reve instruction			,	B. Wet C.Snow/S	Slush	
Warning 3. Standard FLS 6.	Audible	9	. Watchma	an 12. No	ne			inotraotio	no and	. 00000,	Code	D.Ice	Mud,Dirt,Oil,Gravel	Code
Code(s) 07													(Standing, Moving)	
35. Location of Warning			36.	Crossing V			ed					Illuminated		
Both Sides Side of Vehicle Approach		١	ode	with Highw	ay Signal	ls		1 '	Code			Special Lig		Code
3. Opposite Side of Vehicle App						. Unknown	Highwa		2			2. No 3. l er (specii		3
38.Hignway 39.Highway User's Ge User's	ender 40.			Behind or in ruck by Sec				y User : around th	ne gate	:		(-)	nru temporary barrica	de
	Code			,		Code	2. Stopp 3. Did n	oed and th	en pro	ceeded		es, see insont thru	,	Code
2. Female		1. Yes 2.	No 3. Ur	nknown		2		oed on cro	ssing			•	oted suicide	3
42. Driver Passed Standing		Code	43. View	of Track O		., .,	nary obs	truction)						Code
Highway Vehicle 1. Yes 2. No 3. Unknown		2			 Permanent Structure Passing Train Vegetation Other (specify) Standing railroad equipment Topography Highway Vehicles Not Obstructed 							8		
1. 103 2. 110 0. OHIMIOWII	Killed	Injured	44. Drive		ng rainoa	a equipmen	т тор	ı	45.	Was Dr	iver in th	ne Vehicle?		Code
Casualities to: 1. Killed 2. Injured 3							, 13					1		
46. Highway-Rail Crossing Users	0	0		way Vehicle <i>dollar dama</i>		/ Damage		\$500			umber o ng <i>drivei</i>	f Vehicle O	ccupants	
49. Railroad Employees	0	0	1	Number of		n Train		φυσσ	_		_	nent Accide	ent /	Code
52. Passengers on Train	0	0	(inclu	ıde passeng	gers and t	train crew)		3				Being Filed	d	2
53a. Special Study Block	Video Ta	<u> </u>	Yes	No		53b. Spec	cial Stud	y Block	1	1. Yes	Z. INU			
54 N	Video Us		Yes	No		·								
54. Narrative Description (Be s	becitic, and	r continue c	n separate	sheet if ne	cessary)									
55. Typed Name and Title					6. Signatu							57. Date		
NOTE: This report is part of the rep	orting railro	ad's accide	ent renort n	nurguant to t	the accide	ant renorts s	tatute a	nd as suc	n chall	I not "he	admitte	ad as evide	nce or used for any r	UITOOSA

FEDERAL RAILROAD ADMINISTRATION (FRA)		ACCID	ENT/INCID	ENT REPO	RT		OMB Approval No. 2130-	-0500
1.Name of Reporting Railroad				1a. Alp	habetic Co	ode	1b. Railroad Accident/Incident	No.
BNSF Railway Company [BNSF]				BN	NSF		PA0497202	
2.Name of Other Railroad or Other Entity Filling fo	r Equipmen	Involved in Train Ac	cident/Incider	nt 2a. Al	phabetic Co	ode	2b. Railroad Accident/Incident	No.
Name of Railroad or Other Entity Responsible f BNSF Railway Company [BNSF]	or Track Ma	intenance (single ent	ry)	3a. Al	phabetic C	ode	3b. Railroad Accident/Incident PA0497202	No.
4. U.S. DOT Grade Crossing ID No.						ent/Incident	6. Time of Accident/Incident	
		0855861	ı	0	month 2	day year 1997	5:00 AM	РМ
7. Nearest Railroad Station		8. Subdivision	<u> </u>	9. Co		9 1997	5:00 AM ✓ 10. State	Code
SEATTLE		o. Subdivision		I	ING		Abbr. WA	53
11 City (if in a city)		12. Highway	Name or No.	ı				
SEATTLE Highway User I	nyolyod			SPOKA	NE ST.	Rail Equipment	Public V Priv	ate
13. Type	iivoiveu		17 F	quipment		4. Car(s) (moving		
C. Truck-trailer F. Bus J. A. Auto D. Pick-up truck G. School Bus K. B. Truck E. Van H. Motorcycle M.	Other Motor Pedestrian Other (spe	ecify)	Code A	1. Train (ui 2. Train (ui	nits pulling) nits pushing tanding)	5. Car(s) (standing) 6. Light loco(s) (n 7. Light loco(s) (s 8. Other (specify	g) B. Train pushing- RCL c. Train standing- RCL D. EMU Locomotive(s)	Code
14. Vehicle Speed 15. Direction (ge (est. mph at impact) 25 1. North 2. South	• ,		4	00111011 01 04		1		
16. Position 1. Stalled or stuck on crossing 4. T 2. Stopped on Crossing 5. E 3. Moving over crossing	• •		Code	Circumstance Rail equipme		ighway user 2. Rail e	equipment struck by highway use	Code
20a. Was the highway user and/or rail equipment	involved	I	20b.	Was there a	hazardous	materials release by		Code
in the impact transporting hazardous materi			Code					
1. Highway User 2. Rail Equipment 3.			4	1. Highwa	ay User :	2. Rail Equipment	3. Both 4. Neither	
20c. State here the name and quantity of the haza	ardous mate	mai released, il any						
21. Temperature 22. Visibility (sing	ıle entry)	(Code 23.	Weather (si	inale entry)			Code
(specify if minus) 48 °F 1. Dawn 2. Day		1		•	• • • • • • • • • • • • • • • • • • • •	ain 4. Fog 5. Sleet	6. Snow	2
24. Type of Equipment 1. Freight Train	5. Single		-	D. EMU	,		1	
Consist 2. Passenger Train-Pullin (single entry) 3. Commuter Train-Pullin 4. Work Train	-	ars A. Spec. Molvitching B. Passenger	W Equip. E r Train-Pushir	E. DMU ng Code	Equipme	pe Used by Rail ent Involved ′ard 3. Siding 4. Indi	Code 26. Track Number of ustry 1 MAIN	or Name
27. FRA Track 28. Number of	29. Numbe	of Cars 30. C	Consist Speed	d (Recorded	speed if av	railable) Code	31. Time Table Direction	Code
Class (1-9,X) Locomotive 2 Units 1			R. Recorded			20 mph E	1. North 3. East	4
2 Units 1 32. Type of		2 E	E. Estimated	3	3 Signaled	Crossing Warning	2. South 4. West 34. Roadway Conditions	
1. Gates 4. Wig wags	7. C	ossbucks 10. Flagg	ed by crew		Ü	0 0	A. Dry	
Crossing 2. Cantilever FLS 5. Hwy. traffic si	gnals 8. St	op signs 11. Other	(specify)		`	rse side for ns and codes)	B. Wet C.Snow/Slush	
Warning 3. Standard FLS 6. Audible	9. W	atchman 12. None				Code	D.Ice E. Sand,Mud,Dirt,Oil,Gravel	Code
Code(s) 01 02 03						1	F.Water (Standing, Moving)	
35. Location of Warning		36. Crossing War	ning Intercon	nected		1	Illuminated by Street	
Both Sides Side of Vehicle Approach	Code	with Highway	Signals		(Code Lights or	r Special Lights	Code
Opposite Side of Vehicle Approach	1	1. Yes 2. N	o 3. Unkno	own		1. Yes	2. No 3. Unknown	1
		Went Behind or in Fro		41. Highwa	y User t around th	5. Othe	er (specify) nt around/thru temporary barricad	do
	d Struck or	was Struck by Secon				0	es, see instructions)	
Age 1. Male Code 2. Female 1. \	res 2 No	3. Unknown	Code 2	3. Did r	not stop	7. We	nt thru the gate	Code 3
211 011610		3. View of Track Obse	I	(primary obs	ped on cros	ssing 8. Sui	cide/Attempted suicide	Code
Highway Vehicle		1. Permaner	•		•	5. Vegetation	7. Other (specify)	·
1. Yes 2. No 3. Unknown	2		railroad equip		•	6. Highway Vehicles		8
Casualties to: Killed I	njured 44	I. Driver was 1. Killed 2. Injured	l O Uninium	ام.	1_	45. Was Driver in the 1. Yes 2. No	he Vehicle?	Code 1
46 Highway-Rail Crossing Users	47	. Highway Vehicle Pi			2		of Vehicle Occupants	1
	'	(est. dollar damage		.90	\$1,000	(including drive	•	
49. Railroad Employees 0 0	50	. Total Number of Pe	ople on Train	า		51. Is a Rail Equipr		Code
52. Passengers on Train 0 0		(include passenger	s and train cr	rew)	3	Incident Report 1. Yes 2. No	Being Filed	2
53a. Special Study Block Video Taker	n? Ye	s No	53b.	Special Stud	y Block			
Video Used								
54. Narrative Description (Be specific, and co	ntinue on s	eparate sheet if neces	ssary)					
55. Typed Name and Title			Signature				57. Date	
NOTE: This report is part of the reporting railroad in any suit or action for damages growing out of a							ed as evidence or used for any p	urpose

FEDERAL RAILROAD ADMINISTRA	TION (FRA	A)	AC	CCIDENT/I	INCIDENT	REPO	RT			OMB A	proval No. 2130-	0500
1.Name of Reporting Railroad						1a. Alp	ohabetic Co	ode		1b. Railro	ad Accident/Incident	No.
Burlington Northern Railroad					BN			PA1962				
2.Name of Other Railroad or Other E	ain Accident/	/Incident	2a. Al	phabetic Co	ode		2b. Railroad Accident/Incident No.		No.			
3. Name of Railroad or Other Entity Responsible for Track Maintenance (single entry)						3a. Al	phabetic C	ode		3b. Railro	ad Accident/Incident	No.
Burlington Northern Railroad Company [BN]						BN	•			PA196	52	
4. U.S. DOT Grade Crossing ID No.						5. Da	te of Accide			6. Time of	f Accident/Incident	
			0855	86U		1	month 2 0	day 7	1992	1:40 AM PM		РМ□
7. Nearest Railroad Station			8. Subdivisio			9. Co	-		1772	10. State		Code
SEATTLE							ING				abbr. WA	53
11. City (if in a city)			12. Hig	hway Name	or No.	DOTZ A I	NIE CE				Public Priva	
SEATTLE		r Involve	1		51	POKA	NE SI	Pail	Equipment	Involved	Public 7 Filva	ale
13. Type	iway osc	i ilivolve.	4		17. Equip	ment			ar(s) (moving)		Train pulling- RCL	
C. Truck-trailer F. Bus		J. Other Mo	or Vehicle		1. Tr		nits pulling)		Car(s) (standing		Train pushing- RCL	
A. Auto D. Pick-up truck G. Sch		K. Pedestria		2. Train (units pushing) 6. Light loco(s) (moving) C. Train stand						Train standing- RCL	Code	
· ·		M. Other (Code 7. Light loco(s) (standing) D. EMU Locomo							6	
		(geographic		, Code	8. Other (specify) E. DMU Locomotive(s) 18. Position of Car Unit in Train							
		uth 3. East	,	3	10.1 00.11	511 OI OU	Οιπι πι	a	1			
16. Position 1. Stalled or stuck on				fic	19. Circur	nstance	!		-			Cada
Stopped on Crossi	ng g	5. Blocked o	n crossing by gate		1. Rail	equipme	ent struck h	ighway	user 2. Rail e	quipment s	truck by highway use	Code
3. Moving over crossi	ng			3		- 1- 1				1.1		2
20a. Was the highway user and/or			l	Codo	20b. Was	there a	hazardous	mater	ials release by			Code
in the impact transporting haz			N1 - 24	Code		Himbuu	ov Hoor - 1	o Dail	Faulinment (Doth 1	Maithar	
1. Highway User 2. Rail Ed 20c. State here the name and quan			. Neither	4	'	. migriwa	ay USEI .	Z. Kali	Equipment 3	5. DUIII 4.	Neither	
20c. State here the hame and quan	uty or the n	azaruous III	aleriai reieaseu, ii	ally								
21. Temperature 22. \	/isibility (S	ingle entry)		Code	23 Wea	ther (s	ingle entry)					Code
, 40 °E	•	ay 3. Dus	4 Dork	4		•	• • • • • • • • • • • • • • • • • • • •		Fog 5. Sleet	6 Cnow		2
(apoony ii minas)							loudy 3. K	aiii 4.	Tog 3. Sieet	U. SHOW	1	
24. Type of Equipment 1. Freight Train 5. Single Car 9. Maint./inspect. car D. EMU 25. Track Type Used by Rail Code 26. Track Number or Name 25. Special Research Involved 25. Track Type Used by Rail Code 26. Track Number or Name 25. Special Research Involved 26. Track Number or Name 25. Special Research Involved 26. Track Number or Name 25. Special Research Involved 26. Track Number or Name 25. Special Research Involved 26. Track Number or Name 25. Special Research Involved 26. Track Number or Name 25. Special Research Involved 26. Track Number or Name 25. Special Research Involved 26. Track Number or Name 25. Special Research Involved 26. Track Number or Name 25. Special Research Involved 26. Track Number or Name 25. Special Research Involved 26. Track Number or Name 25. Special Research Involved 26. Track Number or Name 25. Special Research Involved 26. Track Number or Name 25. Special Research Involved 26. Track Number or Name 25. Special Research Involved 26. Track Number or Name 25. Special Research Involved 26. Special Research Involv									r Name			
2.1 0000119		_	/Switching B. Pass	•		Code	Equipme	ent Inv	olved			
4. Work Tra				senger Train imuter Train			I. Main 2. \	ard 3	3. Siding 4. Indu	ustry 2	WEST SEA	
27. FRA Track 28. Number of		1			•					. ' '	Table Direction	Code
Class (1-9,X) Locomotive R. Recorded 1. North 3. East							1					
1 Units	1		0	E. Estir	mated			4	mph E	2. So	uth 4. West	2
32. Type of 1. Gates 4.	Wig wags	7	Crossbucks 10.	Flagged by	crew	3	Signaled	l Cross	sing Warning	34. Roads A. Dry	way Conditions	
Crossing				op signs 11. Other (specify)			(See reverse side for			B. Wet		
Warning	•	•			ciry)		instruction	ns and	,	C.Snow/S D.Ice	llush	Codo
3. Standard FLS 6.			Watchman 12. I	None		Code E. Sand,Mud,Dirt,Oil,Gravel					Code	
Code(s) 01 06) (08							1		Standing, Moving)	
35. Location of Warning1. Both Sides			36. Crossing	0 0		ed			37. Crossing	Illuminated Special Lig	•	
2. Side of Vehicle Approach			ode -	hway Signa	Code							Code
Opposite Side of Vehicle App	1	1			B. Unknown			2				1
38.Hignway 39.Highway User's Ge			er Went Behind or or was Struck by S			Highwa	iy User It around th	e gate	5. Othe 6. Wer		<i>y)</i> ru temporary barricad	le
User's Age 1. Male 10		and Shuck	of was Struck by S	becond ITali	Code		ped and the	•		es, see inst	' '	Code
2. Female	Code	1. Yes 2.	No 3. Unknown		2		not stop			nt thru the g	,	1
42. Driver Passed Standing		Code	43. View of Track	Chscured I			ped on crost	ssing	6. Suit	cide/Altemp	ted suicide	Code
Highway Vehicle		,		nanent Stru	- , "	•	ssing Train	5 Ve	getation	7. Other	(specify)	Oodc
1. Yes 2. No 3. Unknown	_	2	2. Star	nding railroa	d equipmen		•		ghway Vehicles		bstructed	8
Killed Injured 44. Driver wa								ne Vehicle?		Code		
Casualties to:		,	1. Killed 2. Ir				3		I. Yes 2. No			1
46. Highway-Rail Crossing Users	0	0	47. Highway Vehi (est. dollar da		/ Damage		\$1,000		Fotal Number o including driver		ccupants 2	
49. Railroad Employees	0	0	50. Total Number		on Train		Ψ1,000		s a Rail Equipn			Code
(include passengers and tr					Insident Depart Deine Filed						2	
52. Passengers on Train 53a. Special Study Block				-		oiol Ct	hu Dlast:	<u> </u>	1. Yes 2. No			
Joa. Opediai Study DIUCK	Video Ta Video Us		Yes No		53b. Spec	uai Siuc	AY DIOCK					
54. Narrative Description (Be s			separate sheet if	necessary)	1							
				I=0 =:						lee e		
55. Typed Name and Title	ortina roll	adla gasist-	at roport pursua = 1 1	56. Signatu		atatiita -	and on acco	h okali	not "ho admitt	57. Date		Irnoss
NOTE: This report is part of the rep	orung ranto	au s accidei	it report pursuant	to the accide	ent reports s	siaiute a	ınu, as suci	ı snall	not be admitte	u as evider	ice or used for any pl	upose

FEDERAL RAILROAD ADMINISTRA	ATION (FRA	۸)	ACC	IDENT/I	INCIDENT	REPOR	RT			OMB A	pproval No. 2130-	-0500	
1.Name of Reporting Railroad						1a. Alph	nabetic Co	de		1b. Railro	oad Accident/Incident	No.	
Burlington Northern Railroad Company [BN]					BN				PA2285				
2.Name of Other Railroad or Other Entity Filling for Equipment Involved in Train Accide					/Incident	2a. Alpl	habetic Co	ode		2b. Railroad Accident/Incident No.		No.	
3. Name of Railroad or Other Entity	Responsibl	e for Track	Maintenance (single	entry)		3a. Alp	habetic C	ode		3b. Railro	pad Accident/Incident	No.	
Burlington Northern Railroad Company [BN]						BN				PA228			
4. U.S. DOT Grade Crossing ID No.							of Accide	ent/Inci	ident		of Accident/Incident		
G			00550		month day year								
ı			085580	6U		1	1 0	5	1990	7:20		PM	
7. Nearest Railroad Station			8. Subdivision			9. Cou	•			10. State		Code	
SEATTLE						KI	NG			ļ ,	Abbr. WA	53	
11. City (if in a city) SEATTLE	₹		12. Highwa	ay Name	or No.	POKAN	E ST				Public 🗸 Priv	rate 🗌	
	hway Use	r Involve	 d					Rail	Equipment	Involved			
13. Type	,				17. Equip	ment			ar(s) (moving		Train pulling- RCL		
C. Truck-trailer F. Bu	s	J. Other Mo	tor Vehicle		1. Tr		ts pulling)		car(s) (standin	g) B.	Train pushing- RCL		
A. Auto D. Pick-up truck G. Scl		K. Pedestria		Code 2. Train (units pushing) 2. Train (units pushing) 3. Train (standing) 7. Light loco(s) (standing)						Train standing- RCL	Code		
		M. Other (EMU Locomotive(s)	1		
		(geographic		, Code	18 Positio	8. Other (specify) E. DMU Locomotive 18. Position of Car Unit in Train						<u>'</u>	
	North 2. So		,	4	10.1 03110	18. Position of Car Unit in Train							
16. Position 1. Stalled or stuck or				-	19 Circur	nstance			1				
2. Stopped on Cross	·	• •	on crossing by gates	Code		 Circumstance Rail equipment struck highway user 2. Rail equipment struck by highw 						Code	
Moving over cross		J. 2.00.104 0	crocomig by galoc	3	I. Raii (equipmer	it Struck fi	igriway	y user 2. Raii (equipments	struck by nighway use	1	
20a. Was the highway user and/or	rail equipm	ent involved	1		20b. Was	there a h	azardous	mater	ials release by		Cod		
in the impact transporting haz	zardous mat	terials?		Code					·			ı	
1. Highway User 2. Rail Ed	quipment	3. Both 4	. Neither	4	1	. Highway	User 2	2. Rail	Equipment	3. Both 4.	Neither		
20c. State here the name and quar	ntity of the h	azardous m	aterial released, if any	y									
· '	Visibility (s	ingle entry)		Code	23. Wea	ther (sin	gle entry)					Code	
(specify if minus) 45 °F 1.	Dawn 2. D	ay 3. Dus	k 4. Dark	2	1. Cle	ear 2. Clo	oudy 3. R	ain 4.	Fog 5. Sleet	6. Snow		2	
24. Type of Equipment 1. Freight 7	Γrain	5. Sing	le Car 9. Maint./ir	nspect. c	ar D. EM	1U			5				
	ger Train-Pu	lling 6. Cut	of cars A. Spec. M	IoW Equ	iip. E. DN	1U 25		•	ed by Rail	Code	26. Track Number of	or Name	
(single entry) 3. Commut	ter Train-Pu	lling 7. Yard	/SwitchingB. Passeng	er Train	- -Pushina	Code	Equipme			1			
4. Work Tra			t loco(s) C. Commu			1 1.	Main 2. Y	ard 3	3. Siding 4. Ind	ustry 1	EASTWARD		
27. FRA Track 28. Number of	of	29. Num	ber of Cars 30	. Consis	t Speed (Re	ecorded s	peed if av	ailable	e) Code	31. Time	Table Direction	Code	
Class (1-9,X) Locomotive R. Recorded 1. North 3. East							1						
2 Units	1		13	E. Estir	mated			20	· -	+	outh 4. West	2	
32. Type of 1. Gates 4	. Wig wags	7.	. Crossbucks 10. Flag	aged by	crew	33.	. Signaled	Cross	sing Warning	A. Dry	way Conditions		
Crossing				op signs 11. Other (specify)			(See reverse side for			B. Wet			
Warning	•	ū			uny)		instruction	ns and	,	C.Snow/S D.Ice	Slush	Code	
3. Standard FLS 6	. Audible	9.	. Watchman 12. Nor	ne I					Code		Mud,Dirt,Oil,Gravel	Code	
Code(s) 05									1	•	(Standing, Moving)		
35. Location of Warning 1. Both Sides			36. Crossing W			ted 37. Crossing Illuminated by Street Lights or Special Lights							
2. Side of Vehicle Approach		_l Co	ode with Highwa	ay Signa	Code						•	Code	
Opposite Side of Vehicle Appropriate	proach	1	1. Yes 2.	. No 3	3. Unknown 3 1. Yes 2. No 3. Unknown							1	
38.Hignway 39.Highway User's G			ser Went Behind or in			Highway			5. Oth		<i>fy)</i> Iru temporary barrica	do	
User's		and Struck	or was Struck by Seco	ond Trair			around the	•		es, see ins			
Age 1. Male	N. 0 Halmanna	Code			Z. Otopped and then proceeded			ent thru the gate		Code			
2. Female			No 3. Unknown		2		ed on cros	ssing	8. Sui	cide/Attemp	oted suicide	3	
42. Driver Passed Standing		Code	43. View of Track Of		- , "	nary obst	ruction)					Code	
Highway Vehicle		,	1. Perman				sing Train		•		(specify)	p	
1. Yes 2. No 3. Unknown	1	2	2. Standin 44. Driver was	ng railroa	d equipmen	it 4. Topo	ography		ghway Vehicle Was Driver in t		Obstructed	8 Code	
Casualties to:		Nilled 2. Injured 3. Uninjured			3		45. Was Driver in the Vehicle? 1. Yes 2. No			1			
46. Highway-Rail Crossing Users			47. Highway Vehicle				3	48. 7	Total Number of	of Vehicle O	ccupants		
40. Flighway-Italii Clossing Osers 0			• •	(est. dollar damage)			\$2,500		(including driver) 1				
49. Railroad Employees 0 50. Total Number of People				People o	1 1 2 7					ent /	Code		
52. Passengers on Train 0 (include passengers a					train crew)	I		1	ncident Report	Being Filed	d	2	
53a. Special Study Block	Video Ta		Yes No		53b. Spec	cial Study	, Block	<u> </u>	1. Yes 2. No				
Tan Openial Olday Blook	Video Ta Video Us		Yes No		Joob. Spec	orar orady	DIOUR						
54. Narrative Description (Be s			n separate sheet if ned	cessary)	•								
			,										
55. Typed Name and Title				S. Signatu						57. Date			
NOTE: This report is part of the rep	orting railro	ad's accide	nt report pursuant to th	ne accide	ent reports s	statute an	ια, as such	n shall	not "be admitte	ed as evidei	nce or used for any p	urpose	

OMB Approval No. 2130-0500

FEDERAL RAILROAD ADMINISTRATION (FRA)	ACCIDENT/	INCIDENT F	REPORT				OMB A	pproval No. 2130	-0500
1.Name of Reporting Railroad		1	1a. Alphabe	etic Co	de		1b. Railro	ad Accident/Incident	t No.
Burlington Northern Railroad Company [BN]			BN				PA672		
2.Name of Other Railroad or Other Entity Filling for Equipmer	nt Involved in Train Accident	/Incident	2a. Alphabetic Code				2b. Railroad Accident/Incident No.		t No.
3. Name of Railroad or Other Entity Responsible for Track Ma	aintenance (single entry)		3a. Alphab	oetic Co	ode			oad Accident/Incident	t No.
Burlington Northern Railroad Company [BN]			BN				PA672		
4. U.S. DOT Grade Crossing ID No.	1		 Date of mont 		ent/Incide day l	nt year	6. Time o	f Accident/Incident	
	085586U		0 4	4 2		1989	6:15	AM 🗸	PM _
7. Nearest Railroad Station	8. Subdivision		9. County				10. State		Code
SEATTLE	40 Highway Name	N-	KING	<u>जे</u>			F	Abbr. WA	53
11. City (if in a city) SEATTLE	12. Highway Name	e or No. SP(OKANE S	ST.				Public 🗸 Priv	vate
Highway User Involved						quipment			
13. Type		17. Equipme				s) (moving, s) (standing		Train pulling- RCL Train pushing- RCL	
C. Truck-trailer F. Bus J. Other Motor A. Auto D. Pick-up truck G. School Bus K. Pedestrian		2 Train (units pushing) 6. Light loco(s) (moving) C. Train standing- RO						Train standing- RCL	Code
A. Auto D. Pick-up truck G. School Bus K. Pedestrian B. Truck E. Van H. Motorcycle M. Other (sp	ecify) Code	3. Train (standing) 7. Light loco(s) (standing) D. EMU Locomotive(s)						6	
14. Vehicle Speed 15. Direction (geographical)	<i>"</i>	18. Position	of Car Uni	it in Tra	8. Othe	er (specify	<u>/)</u>	DIVIO LOCOMOTIVE(S)	
(est. mph at impact) 0 1. North 2. South 3. East						1			
16. Position 1. Stalled or stuck on crossing 4. Trapped on		19. Circums	stance						Code
	crossing by gates Code	1. Rail ed	quipment st	truck hi	ghway us	ser 2. Rail e	equipment s	struck by highway us	
3. Moving over crossing 20a. Was the highway user and/or rail equipment involved		20b. Was th	horo a haza	ordous	matorials	rologeo by			
in the impact transporting hazardous materials?	Code	200. Was II	nere a naza	aruous	materiais	release by			Code
1. Highway User 2. Rail Equipment 3. Both 4. N	Neither 4	1. H	Highway Us	ser 2	2. Rail Eq	uipment 3	3. Both 4.	Neither	
20c. State here the name and quantity of the hazardous mat	erial released, if any								
OA Tarranatura OO Visibility (oingle optin)	0-4-	00 14141-	/-!!-						0-4-
21. Temperature 22. Visibility (single entry) (specify if minus) 45 °F 1 Dawn 2 Day 3 Dusk	Code		er (single	• •	.:. 4 F.	-	0. 0		Code 2
(Specify II Thinas)				y 3. Ka	ain 4. Fo	g 5. Sleet	6. Snow		
24. Type of Equipment 1. Freight Train 5. Single Consist 2. Passenger Train-Pulling 6. Cut of	•		25. Tra		pe Used	•	Code	26. Track Number	or Name
(single entry) 3. Commuter Train-Pulling 7. Yard/S	-1 1		ode E	quipme	ent Involv	ed	1		
4. Work Train 8. Light lo			8 1. Ma	ain 2. Y	ard 3. S	iding 4. Indu	ustry 1	EASTWARD	
27. FRA Track 28. Number of 29. Number	. 0. 04.0	st Speed (Rec	orded spee	ed if av	ailable)	Code		Table Direction	Code
Class (1-9,X) Locomotive Units 1	R. Red	corded			18 mp	h E	1. No 2. So		1
32. Type of	•		33. Si	gnaled		Warning		way Conditions	
1. Gates 4. Wig wags 7. C	rossbucks 10. Flagged by			_	rse side f	_	A. Dry B. Wet	•	
2. Cantilever FLS 5. Hwy. traffic signals 8. S	top signs 11. Other (spe	cify)			is and co		C.Snow/S	Slush	
	Vatchman 12. None					Code	D.Ice E. Sand,	Mud,Dirt,Oil,Gravel	Code
Code(s) 03					Ι.	1		Standing, Moving)	
35. Location of Warning 1. Both Sides	36. Crossing Warning I with Highway Signa		d			37. Crossing Lights or	g Illuminated Special Lig	•	Code
2. Side of Vehicle Approach	e	Code						Code	
3. Opposite Side of Vehicle Approach 1 38.Hignway 39.Highway User's Gender 40. Highway User	1. Yes 2. No 3 Went Behind or in Front of	3. Unknown Train 41. H	lighway Us		2	5. Othe			1
	was Struck by Second Trai	n 1	. Went aro	und the	•	6. Wer	nt around/th	ru temporary barrica	ide
Age 1. Male Code			2. Stopped a 3. Did not st		en procee	ucu , ,	res, see ins nt thru the g	,	Code
2.1 0.116.10	3. Unknown	2 4	. Stopped	on cros	ssing		•	oted suicide	5
	3. View of Track Obscured	.,	ary obstruc	•			7.04		Code
Highway Vehicle 1. Yes 2. No 3. Unknown 3	Permanent Stru Standing railroa		PassingTopogra	•	_	ation vay Vehicles		(specify) Obstructed	1
Killed Injured 4	4. Driver was		ı. ropogra	дриј	45. Wa	s Driver in th			Code
Casualties to:	1. Killed 2. Injured 3. L		3			es 2. No			1
46. Highway-Rail Crossing Users 0 0	 Highway Vehicle Property (est. dollar damage) 					·			
49. Railroad Employees 0 0 5							Code		
52. Passengers on Train 0 0	(include passengers and		1			dent Report	Being Filed	i	2
53a. Special Study Block Video Taken?	es No	53b. Specia	al Studv Blo	ock	1. \	es 2. No			
Video Used?	es No	·							
54. Narrative Description (Be specific, and continue on s	eparate sheet if necessary)								
55. Typed Name and Title	56. Signat						57. Date		
NOTE: This report is part of the reporting reilroad's assident	ranart murauant to the assid	ant ranarta ata	atuta and a	oo ouch	s aball sa	"ho admitta	مط مم میرنظم		NUTPOOC.

NOTE: This report is part of the reporting railroad's accident report pursuant to the accident reports statute and, as such shall not "be admitted as evidence or used for any purpose in any suit or action for damages growing out of any matter mentioned in said report...." 49 U.S.C. 20903. See 49 C.F.R. 225.7 (b).

FEDERAL RAILROAD ADMINISTRATION (FRA)	ACCIDENT/	INCIDENT R	EPORT		OMB Approval No. 2	130-0500			
1.Name of Reporting Railroad		18	a. Alphabetic Co	1b. Railroad Accident/Incident No.					
Amtrak (National Railroad Passenger Corporation) [ATK]] ATK			121488A				
2.Name of Other Railroad or Other Entity Filling for Equipment	Involved in Train Accident	t/Incident 2	2a. Alphabetic Co	ode	2b. Railroad Accident/Inci	2b. Railroad Accident/Incident No.			
3. Name of Railroad or Other Entity Responsible for Track Mair	ntenance (single entry)	3	Ba. Alphabetic Co	ode	3b. Railroad Accident/Inci	dent No.			
Burlington Northern Railroad Company [BN]	(4.1.0.1.1.7)		BN		XXX	_			
4. U.S. DOT Grade Crossing ID No.		5	5. Date of Accide		6. Time of Accident/Incide	ent			
	085586U		1 2 1	day year 1988	10:45 AM	✓ PM			
7. Nearest Railroad Station	8. Subdivision	(9. County		10. State	Code			
SEATTLE			KING		Abbr. WA	53			
11. City (if in a city) SEATTLE	12. Highway Name	e or No. SPO	KANE ST. (1.	8)	Public 🗸	Private			
Highway User Involved				Rail Equipme	nt Involved				
13. Type		17. Equipme		4. Car(s) (movii 5. Car(s) (stand					
C. Truck-trailer F. Bus J. Other Motor V		1. Train 2. Train		6 Light loca(c)	(moving) C. Train standing- R	CL			
A. Auto D. Pick-up truck G. School Bus K. Pedestrian B. Truck E. Van H. Motorcycle M. Other (spec	Code	3. Train (standing) 7. Light loco(s) (standing) D. EMU Locomotive(s)							
14. Vehicle Speed 15. Direction (geographical)	Cify) A . Code	18 Position o	of Car Unit in Tra	8. Other (spec	cify) E. DMU Locomotive	(s) 1			
(est. mph at impact) 10 1. North 2. South 3. East 4.		1011 0011011	o. oa. o	1					
16. Position 1. Stalled or stuck on crossing 4. Trapped on cr	Codo	19. Circumsta	tance			Code			
Stopped on Crossing S. Blocked on cr S. Moving over crossing	ossing by gates Code	1. Rail equ	uipment struck hi	ghway user 2. Ra	il equipment struck by highway				
20a. Was the highway user and/or rail equipment involved		20b. Was the	ere a hazardous	materials release l	by	Code			
in the impact transporting hazardous materials?	Code				-,	l			
1. Highway User 2. Rail Equipment 3. Both 4. Ne		1. Hi	ighway User 2	2. Rail Equipment	3. Both 4. Neither				
20c. State here the name and quantity of the hazardous mater	ial released, if any								
21. Temperature 22. Visibility (single entry)	Code	23. Weathe	er (single entry)			Code			
(specify if minus) 60 °F 1. Dawn 2. Day 3. Dusk 4.	Dark 2	1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow							
24. Type of Equipment 1, Freight Train 5, Single Car 9, Maint,/inspect, car D, EMU									
Consist 2. Passenger Train-Pulling 6. Cut of ca		•	Equipme	pe Used by Rail ent Involved	Code 26. Track Num				
(single entry) 3. Commuter Train-Pulling 7. Yard/Sw 4. Work Train 8. Light loc				ard 3. Siding 4. Ir	ndustry 1 SINGLE M.	AIN			
27. FRA Track 28. Number of 29. Number	00.0	i-i usiling -	orded speed if av			Cada			
Class (1-9,X) Locomotive	1. North 3. East	Code							
2 Units 2	12 E. Esti	imated	00.00	20 mph R	2. South 4. West	3			
	ssbucks 10. Flagged by	crew	33. Signaled	Crossing Warning	34. Roadway Conditions A. Dry				
Crossing 2. Cantilever FLS 5. Hwy. traffic signals 8. Sto	p signs 11. Other (spe	ecify)		rse side for is and codes)	B. Wet C.Snow/Slush				
Warning 3. Standard FLS 6. Audible 9. Wa	tchman 12. None		ii isti uotioi	Coc	Dilos	Code			
Code(s) 03 07					F.Water (Standing, Moving)				
35. Location of Warning	36. Crossing Warning I				ing Illuminated by Street				
1. Both Sides 2. Side of Vehicle Approach	with Highway Signa	Code							
3. Opposite Side of Vehicle Approach 1		3. Unknown	1	L	s 2. No 3. Unknown	3			
	Vent Behind or in Front of as Struck by Second Trai		ghway User Went around the		ther (specify) /ent around/thru temporary ba	rricade			
Age 1. Male Code	ao o a ao	Code 2.	Stopped and the	ni piooodada	if yes, see instructions)	Code			
	3. Unknown		Did not stop Stopped on cros		Vent thru the gate Suicide/Attempted suicide	4			
	. View of Track Obscured	-) "	ry obstruction)			Code			
Highway Vehicle 1. Yes 2. No 3. Unknown 2	Permanent Stru Standing railres	· ·	3. Passing Train	5. Vegetation6. Highway Vehic	7. Other (specify) les 8. Not Obstructed	8			
44.	Standing railroa Driver was	ad equipment 4	4. ropograpny	45. Was Driver in		Code			
Casualties to: Killed Injured	1. Killed 2. Injured 3. L		3	1. Yes 2. No		1			
46. Highway-Rail Crossing Users 0 0	Highway Vehicle Propert (est. dollar damage)	y Damage	\$1,000	48. Total Numbe (including drive	r of Vehicle Occupants ver)	1			
49. Railroad Employees 0 50.	Total Number of People	1.5.7			51. Is a Rail Equipment Accident /				
52. Passengers on Train 0 0	(include passengers and	train crew)		Incident Repo	ort Being Filed	2			
53a. Special Study Block Video Taken? Yes		53b. Special	I Study Block	1. 103 2.14					
Video Used? Yes 54. Narrative Description (Be specific, and continue on set		1							
07. Harrauve Description (De specific, and continue on Se	oarate sneet ii netessaly)	•							
55. Typed Name and Title	56. Signat	ure			57. Date				

FORM FRA F 6180.57 (Rev. 08/10)

* NOTE THAT ALL CASUALTIES MUST BE REPORTED ON FORM FRA F 6180.55A

OMB Approval expires 6/30/2021

FEDERAL RAILROAD ADMINISTRA	TION (FRA)		ACC	IDENT/II	NCIDENT	REPOR	RT			OMB A	oproval No. 2130-	0500
1.Name of Reporting Railroad						1a. Alph	nabetic Co	de		1b. Railro	ad Accident/Incident	No.
Amtrak (National Railroad Pa	ssenger Corpo	ration)	[ATK]			AT	K			71025	WSD01	
2.Name of Other Railroad or Other B	Entity Filling for Ed	uipment	Involved in Train	Accident/I	ncident	2a. Alp	habetic Co	ode		2b. Railro	ad Accident/Incident	No.
3. Name of Railroad or Other Entity Burlington Northern Railroad			ntenance (single	entry)		3a. Alp	habetic Co	ode		3b. Railro	ad Accident/Incident	No.
4. U.S. DOT Grade Crossing ID No.	1 0 .						e of Accide	ent/Incide	ent	6. Time o	f Accident/Incident	
			08558	ell			month	day	year		A N A	DM 🗖
7. Nearest Railroad Station			8. Subdivision	80		9. Cou	0 2	5	1987	7:42 10. State		PM ✓ Code
SEATTLE			6. Subdivision				NG				Abbr. WA	53
11 City (if in a city)			12. Highw	ay Name	or No. ~-	1						
SEATTLE	hway User Inve	also al			SI	POKAN	E ST	Dail E	quipment	Invelved	Public / Priva	ate
13. Type	iway User ilive	nveu			17. Equipi	mont		4. Car	<u> </u>		Train pulling- RCL	
C. Truck-trailer F. Bus A. Auto D. Pick-up truck G. Sch	ool Bus K. Ped	er Motor \ destrian er <i>(spe</i>		Code A	1. Tr 2. Tr 3. Tr	ain <i>(uni</i> ain <i>(uni</i> ain <i>(sta</i>	its pulling) its pushing) anding)	5. Car 6. Ligh 7. Ligh 8. Oth	ht loco(s) (standing tht loco(s) (standing)	g) B. noving) C. standing) D.	Train pushing- RCL Train standing- RCL EMU Locomotive(s) DMU Locomotive(s)	Code 1
		aphical)		Code	18. Positio	n of Car	Unit in Tra	ain				
	lorth 2. South 3.			4	40. 0:				1			
16. Position 1. Stalled or stuck on 2. Stopped on Crossi 3. Moving over crossi	ng 5. Bloc	•	rossing by traffic	Code 3	19. Circur 1. Rail e		nt struck hi	ighway u	ıser 2. Rail e	equipment s	truck by highway use	Code
20a. Was the highway user and/or		olved		-	20b. Was	there a h	nazardous	material	s release by			Code
in the impact transporting haz				Code								
1. Highway User 2. Rail Ed	•			4	1.	. Highwa	y User 2	2. Rail Ed	quipment	3. Both 4.	Neither	
20c. State here the name and quan	illy of the hazardo	us mater	nai reieaseo, ii ang	у								
21. Temperature 22. \	/isibility (single e	ntry)		Code	23. Wea	ther (sir	ngle entry)					Code
50 0F	Dawn 2. Day 3		Dark	4		•	• • • • • • • • • • • • • • • • • • • •	ain 4. Fo	og 5. Sleet	6. Snow		1
24. Type of Equipment 1. Freight T		Single C			I	1	,		9			
Consist 2. Passeng	er Train-Pulling 6. er Train-Pulling 7.	Cut of ca	ars A. Spec. M vitching B. Passen	ЛоW Equi ger Train-	p. E. DM Pushing	IU 25 Code	. Track Tyl Equipme Main 2. Y	ent Involv	•	Code ustry 2	26. Track Number o MAIN	or Name
27. FRA Track 28. Number of		Number	1 00		Speed (Re	ecorded s	peed if av	ailable)	Code	31. Time	Table Direction	Code
Class (1-9,X) Locomoti	ve		J. 54.5	R. Reco						1. No		1
1 Units	1		14	E. Estin	nated	100	0: 1 1	6 mp		2. So		3
32. Type of 1. Gates 4.	,	ls 8. Sto	opssbucks 10. Flac op signs 11. Oth atchman 12. Nor	ner (spec			. Signaled (See rever instruction	rse side		A. Dry B. Wet C.Snow/S D.Ice E. Sand,N	way Conditions Slush Mud,Dirt,Oil,Gravel Standing, Moving)	Code
35. Location of Warning			36. Crossing W	/arning In	terconnecte	ed			37. Crossing	Illuminated	by Street	
Both Sides Side of Vehicle Approach		Code	with Highw	ay Signal	S		0	Code	Lights or	r Special Lig	phts	Code
Opposite Side of Vehicle Approach	oroach	1	1. Yes 2.	. No 3.	Unknown		2	2	1. Yes	2. No 3. l	Jnknown	3
38.Hignway 39.Highway User's Ge	_	-	Went Behind or in		-	Highway		4-		er (specif		40
User's		ruck or v	vas Struck by Sec				around the	•		/es, see inst	ru temporary barricad ructions)	
Age 1. Male 2. Female	Code 1 Yes	2 No	3. Unknown		Code 1	3. Did no	ot stop		7. We	nt thru the g	,	Code 3
42. Driver Passed Standing	Cod		S. View of Track O	l l		4. Stopp nary obsi	ed on cros	ssing	8. Sui	cide/Attemp	ited suicide	Code
Highway Vehicle	1	-	1. Permar		, .,	•	sing Train	5 Vene	etation	7. Other	(specify)	Code
1. Yes 2. No 3. Unknown	. 2			ng railroad	d equipmen		•	6. High	way Vehicles		bstructed	3
Casualties to:	Killed Inju	ed 44	. Driver was 1. Killed 2. Injur	red 2 Hr	niniurod				as Driver in t Yes 2. No	he Vehicle?		Code 1
46. Highway-Rail Crossing Users		47	. Highway Vehicle				2		tal Number of	of Vehicle O	ccupants	1 1
l is riighway rail crossing seers	0 1		(est. dollar dama		Zamago		\$10,000		cluding drive		2	
49. Railroad Employees	0 0	50	. Total Number of	People or	n Train			l	a Rail Equipr			Code
52. Passengers on Train	0 0		(include passeng	gers and t	rain crew)				ident Report Yes 2. No	Being Filed		2
53a. Special Study Block	Video Taken?	Yes	—		53b. Spec	cial Study	/ Block					•
54 N - 0 - 5 - 1 - 0 - 0	Video Used?	Yes										
54. Narrative Description (Be s	oecitic, and contin	ue on se	parate sheet if ne	cessary)								
55. Typed Name and Title			56	6. Signatu	re					57. Date		
NOTE: This report is part of the rep			port pursuant to t	he accide	nt reports s							urpose
in any suit or action for damages gr	owing out of any r	natter me	entioned in said re	port" 4	9 U.S.C. 20)903. See	e 49 C.F.R	. 225.7 ((b).			

FEDERAL RAILROAD ADMINISTRA	TION (FRA	١)		ACC	IDENT/	INCIDENT	REPO	RT				OMB A	pproval No. 2130	-0500
1.Name of Reporting Railroad							1a. Alp	habetic Co	ode			1b. Railro	oad Accident/Inciden	it No.
Burlington Northern Railroad	Compan	y [BN]					BN					PA184	4	
2.Name of Other Railroad or Other E	Intity Filling	for Equipn	nent Involve	ed in Train	Accident	/Incident	2a. Alp	habetic C	ode			2b. Railro	oad Accident/Inciden	t No.
Amtrak (National Railroad Pa	ssenger C	orporatio	n) [ATK]				ATK					03058	2A	
3. Name of Railroad or Other Entity			Maintenan	ce (single	entry)		3a. Alp	habetic C	ode			3b. Railro	oad Accident/Inciden	t No.
Burlington Northern Railroad		/ [BN]					BN					PA184		
4. U.S. DOT Grade Crossing ID No.							1	e of Accide	ent/Inci	ident , year	.	6. Time o	of Accident/Incident	
				08558	6U		0) 5	198		1:09	AM	PM 🗸
7. Nearest Railroad Station			8. St	ubdivision			9. Cou				-	10. State	 e	Code
ARGO							K	ING				A	Abbr. WA	53
11. City (if in a city) ARGO				12. Highw	ay Name	e or No.	POKAN	E ST					Public 🗸 Pri	vate
	hway Use	r Involve	d						Rail	Equip	ment	Involved		
13. Type						17. Equip	ment		4. C	ar(s) ((moving)	A.	Train pulling- RCL	
C. Truck-trailer F. Bus	;	J. Other Mo	tor Vehicle			1. Tr	ain <i>(un</i>	its pulling)		car(s) (Train pushing- RCL	
A. Auto D. Pick-up truck G. Sch	ool Bus	K. Pedestri	an		Code	2. Tr		its pushing	"	ight locc			. Train standing- RCL . EMU Locomotive(s)	Code
B. Truck E. Van H. Mo	torcycle	M. Other	(specify)		Α	3. Tr	ain (sta	anding)		ight loco Other	(specify		DMU Locomotive(s)	1
		(geographic	•		Code	18. Positio	on of Car	Unit in Tr	ain					
· · · · · · · · · · · · · · · · · · ·	lorth 2. So			u bu traffia	4	40 Cirour				-	1			
16. Position 1. Stalled or stuck on 2. Stopped on Crossi	•	i. Trapped 5. Blocked (-		Code	19. Circur								Code
3. Moving over crossi	•). Diocked (on crossing	by gates	2	1. Rail (equipme	nt struck h	nighway	user 2	2. Rail e	quipment s	struck by highway us	ser 1
20a. Was the highway user and/or	rail equipm	ent involve	d			20b. Was	there a l	nazardous	mater	ials rele	ase by			Code
in the impact transporting haz					Code									
1. Highway User 2. Rail Ed			1. Neither	1.16	4	1	. Highwa	y User	2. Rail	Equipm	ent 3	8. Both 4.	. Neither	
20c. State here the name and quan	tity of the h	azardous n	naterial rele	eased, if an	У									
21. Temperature 22. \	/isibility (s	inale entry)		Code	23 Wea	ther (si	ngle entry))					Code
	Dawn 2. D				2		•	oudy 3. R		Fog 5	Sleet	6 Snow		2
24. Type of Equipment 1. Freight T			gle Car	9. Maint./ii				oudy 0.10		1 0g 0.	0.000	o. Onow	1	
Consist 2. Passeng		•		A. Spec. N	•		125	. Track Ty	•	•	ail	Code	26. Track Number	or Name
(single entry) 3. Commute		-			•		Code	Equipm	ent Inv	olved		1		
4. Work Tra			nt loco(s)	C. Commi			2 1.	Main 2.	Yard 3	3. Siding	4. Indu	ıstry 1	EASTWARD	
27. FRA Track 28. Number of	of	29. Nun	ber of Car	s 30		t Speed (Re	ecorded s	speed if av	vailable	e)	Code	31. Time	Table Direction	Code
Class (1-9,X) Locomoti	ve 1		2		R. Red E. Esti				18	mnh	E	1. No 2. So		3
32. Type of			3	ı	L. Loui	mateu	33	3. Signaled		•			Iway Conditions	
1. Gates 4.	Wig wags	7	. Crossbuc	ks 10. Fla	gged by	crew		· ·		•	9	A. Dry	way conditions	
Crossing 2. Cantilever FLS 5. Warning	Hwy. traffic	signals 8	. Stop sign	s 11. Oth	ner (spe	cify)		(See reve				B. Wet C.Snow/S	Slush	
3. Standard FLS 6.	Audible	9	. Watchma	n 12. No	ne					,	Code	D.Ice E. Sand I	Mud,Dirt,Oil,Gravel	Code
Code(s) 03											1		(Standing, Moving)	
35. Location of Warning			36.	Crossing V	Varning Ir	nterconnect	ed				_		d by Street	
Both Sides Side of Vehicle Approach		_I C	ode	with Highw	ay Signa	als		(Code	L	ights or	Special Lig	ghts	Code
Opposite Side of Vehicle App	roach	1	1	1. Yes 2	. No 3	B. Unknown			3	1		2. No 3. I		3
38.Hignway 39.Highway User's Ge		Highway U					Highway	/ User around th	aten a		5. Othe	(- /	<i>fy)</i> hru temporary barrica	ade
User's Age 1. Male . (and Struck	or was Str	uck by Sec	ond Irair			ed and th	•			es, see ins		Code
Age 1. Male 2. Female	Code	1. Yes 2.	No 3. Uni	known		Code 2	3. Did n	ot stop	•			nt thru the	•	4
42. Driver Passed Standing		Code		of Track O	bscured		4. Stopp	ed on cro truction)	ssing		8. Suic	cide/Attemp	pted suicide	Code
Highway Vehicle		1		1. Permar		., .,	•	sing Train	5 Ve	netation	1	7. Other	r (specify)	Oode
1. Yes 2. No 3. Unknown		2			ng railroa	ad equipmen		•	6. Hi	ghway \	/ehicles		Obstructed	8
Convolting to	Killed	Injured	44. Drive					I		Nas Dri L. Yes		e Vehicle?	a.	Code
Casualties to: 46. Highway-Rail Crossing Users		-		led 2. Inju vay Vehicle				3				f Vehicle O)ccupante	1
40. Highway-Rail Clossing Osers	0	0	Ū	dollar dama		y Damage		\$700		includin			1 n	
49. Railroad Employees	0	0	-	Number of		on Train			1			nent Accide		Code
52. Passengers on Train	0	0	(inclu	de passeng	gers and	train crew)				ncident 1. Yes		Being Filed	t	2
53a. Special Study Block	Video Ta		Yes	No		53b. Spec	cial Stud	y Block	1	1. 165	£. 14U			
	Video Us		Yes	No		·								
54. Narrative Description (Be s	pecific, and	continue o	n separate	sheet if ne	cessary)									
55. Typed Name and Title				56	6. Signatu	ure						57. Date		
NOTE: This report is part of the rep	orting railro	ad's accide	nt report p	irsuant to t	he accide	ent reports s	statute ar	nd as suc	h shall	not "he	admitte	d as evide	nce or used for any	nurnose

HIGHWAY-RAIL GRADE CROSSING

FEDERAL RAILROAD ADMINISTRA	TION (FRA	4)		ACC	IDEN I/I	INCIDENT	KEPO	RI				OWID A	pprovai No. 2 130-	0300
I.Name of Reporting Railroad Amtrak (National Railroad Passenger Corporation) [ATK] 1a. Alphabetic Code ATK 1b. Railroad Accident/Incident No. 030582A														
`							1							NI-
2.Name of Other Railroad or Other B	Entity Filling	g for Equipn	nent Involv	ved in Train	Accident/	/Incident	2a. Alp	habetic C	ode			2b. Railro	pad Accident/Incident	No.
Burlington Northern Railroad							BN					PA184	1	
3. Name of Railroad or Other Entity	Responsib	le for Track	Maintena	nce (single	entry)		3a. Alp	habetic C	ode			3b. Railro	oad Accident/Incident	No.
Burlington Northern Railroad	Company	y [BN]					BN					PA184	4	
4. U.S. DOT Grade Crossing ID No.							1	e of Accide				6. Time o	of Accident/Incident	
				08558	6U		0	month 0	day 5	19		1:09	АМ	PM 🗸
7. Nearest Railroad Station			8. 5	Subdivision			9. Cou			1 2/		10. State		Code
ARGO								ING				A	Abbr. WA	53
11. City (if in a city)				12. Highw	ay Name	or No.	POKAN	IE ST					Public Priva	
	hway Use	er Involve	ed				OILI	LDI	Rail	Equip	ment	Involved		
13. Type						17. Equip	ment			<u> </u>	(moving		Train pulling- RCL	
C. Truck-trailer F. Bus		J. Other Mo	ntor Vehicle	2		1. Tr		its pulling)	5. C	ar(s)	standin	g) B.	Train pushing- RCL	
A. Auto D. Pick-up truck G. Sch		K. Pedestri		•	Code	2. Tr	٠.	its pushing	6. Li	ight loco	o(s) (n	0,	Train standing- RCL	Code
•	torcycle	M. Other			A	3. Tr	ain (st	anding)		ight loc	- (-) .	itanunny) _	EMU Locomotive(s)	1
	-	(geographi			ı	18 Positio	on of Car	Unit in Tra		Other	(specify	<i>')</i>	DMU Locomotive(s)	'
I		uth 3. Eas	-	st	Code 4	10.1 03110	on ou	Official Tri	am		1			
16. Position 1. Stalled or stuck on		4. Trapped	on crossin	ng by traffic		19. Circur	nstance							Code
Stopped on Crossi	- ,	5. Blocked	on crossin	g by gates	Code	1. Rail	equipme	nt struck h	nighway	user 2	2. Rail e	equipment s	struck by highway use	
3. Moving over crossi					2									1
20a. Was the highway user and/or			d		Code	20b. Was	there a l	hazardous	materi	als rele	ase by			Code
in the impact transporting haz 1. Highway User 2. Rail Ed			4 Neither		4	1	Highwa	v User	2 Rail	Fauipm	nent :	3. Both 4.	Neither	
20c. State here the name and quan				leased, if an			g	., 000.		_qu.p				1
2001 Otato Horo the Hamb and quan	, 00	.aza.aoao .			,									
21. Temperature 22. \	/isibility (s	single entry,)		Code	23. Wea	ther (sin	ngle entry))					Code
(specify if minus) 50 °F 1. [Dawn 2. D	Day 3. Dus	sk 4. Dark		2	1. Cle	ear 2. Cl	oudy 3. R	ain 4.	Fog 5.	Sleet	6. Snow		2
24 Type of Equipment 1 Eroight Train 5 Single Car 0 Maint (increase on DEMIL														
Consist 2. Passeng			•	A. Spec. N			125	5. Track Ty			ail	Code	26. Track Number o	r Name
_		-		gB. Passen			Code	Equipme	ent Invo	olved		1		
4. Work Tra			nt loco(s)	C. Commu		- 1	2 1	. Main 2. \	Yard 3	. Siding	g 4. Indi	ustry 1	EASTWARD	
27. FRA Track 28. Number of	of	29. Nun	nber of Ca	irs 30	0. Consist	t Speed (Re	ecorded :	speed if av	vailable)	Code	31. Time	Table Direction	Code
Class (1-9,X) Locomoti					R. Rec				10		l	1. No		1
4 Units	1		3		E. Estir	mated	1		18 1	<u> </u>	E		outh 4. West	3
32. Type of 1. Gates 4.	Wig wags	7	7. Crossbu	cks 10. Fla	aged by	crew	33	3. Signaled	d Cross	ing wa	rning	A. Dry	way Conditions	
Crossing 2. Cantilever FLS 5.	0 0				,			(See reve				B. Wet		
Warning 3. Standard FLS 6.	•	•		an 12. No		311 y /		instruction	ns and	codes)	0-4-	C.Snow/S D.Ice	Slush	Code
	Audible	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	a. vvatenni	an 12. Noi	ne I						Code	E. Sand,	Mud,Dirt,Oil,Gravel	
Code(s) 03									1		1		(Standing, Moving)	
35. Location of Warning 1. Both Sides			36.	. Crossing W	•		ed				-	g Illuminated Special Lig	•	
Side of Vehicle Approach		l C	ode	with Highw	ay Signa	IS		(Code		_	-		Code
Opposite Side of Vehicle App	roach	1	1	1. Yes 2	. No 3	. Unknown			3			2. No 3. l		3
38.Hignway 39.Highway User's Ge	ender 40.			Behind or in			Highway	y User around th	aten a			er (specit	<i>fy)</i> Iru temporary barricad	10
User's		and Struck	or was St	truck by Sec	ond I rair			ed and th	•	ceeded		es, see inst		
	Code	1. Yes 2.	. No 3. Ui	nknown		Code	3. Did n	ot stop				nt thru the o	•	Code 4
2. Female 42. Driver Passed Standing					booured	2	4. Stopp nary obs	ed on cro	ssing		8. Sui	cide/Attemp	oted suicide	1
Highway Vehicle		Code	43. VIEV	v of Track O 1. Permar		.,	•	,	E) (ant-"	_	7 Othor	(specify)	Code
1. Yes 2. No 3. Unknown		2				d equipmer		sing Train ography			า √ehicles		Obstructed	8
44. Driver was							гор	- g. 	45. V	Vas Dri	ver in th	ne Vehicle?		Code
Casualties to:	Killed	Injured	1. K	illed 2. Injui	red 3. U	Ininjured		3	1	. Yes	2. No			1
46. Highway-Rail Crossing Users	0	0		way Vehicle		/ Damage		6700				f Vehicle O	•	
49. Railroad Employees			i	dollar dama		T		\$700	-		g drive	<i>r)</i> nent Accide	<u>0</u>	Code
. ,	0	0		l Number of ude passeng	•			1				Being Filed		2
52. Passengers on Train	0	0	<u> </u>		yoro ariu					1. Yes				
53a. Special Study Block	Video Ta Video Us		Yes Yes	No No		53b. Spe	cial Stud	y Block						
54. Narrative Description (Be s				e sheet if ne	cessarv)	1								
(200)			sparati											
55. Typed Name and Title					6. Signatu							57. Date		
NOTE: This report is part of the rep	orting railro	ad's accide	ent report r	oursuant to t	he accide	ent renorts o	statute a	nd as such	h shall	not "he	admitte	ad as evider	nce or used for any ni	irnose

OMB Approval No. 2130-0500

FEDERAL RAILROAD ADMINISTRATION (FRA)		ACC	CIDENT/I	INCIDENT	REPOR	RT			OMB Ap	proval No. 2130	-0500
1. Name of Reporting Railroad 1a. Alphabetic Code 1b. Railroad Accident/Incident No. Physical Communication (RN) Physical Commun											
Burlington Northern Railroad Company [BN]				BN				PA202	1	
2.Name of Other Railroad or Other Entity Filling for	r Equipment I	Involved in Train	Accident	/Incident	2a. Alp	habetic Co	ode		2b. Railro	ad Accident/Incident	t No.
Name of Railroad or Other Entity Responsible for	or Track Mair	ntenance (single	e entry)		3a. Alp	habetic C	ode		3b. Railro	ad Accident/Incident	t No.
Burlington Northern Railroad Company [1		(single	e entry)		BN				PA202		
4. U.S. DOT Grade Crossing ID No.						e of Accide	ent/Incident		6. Time of	Accident/Incident	
_		08558	e i i		l .	month		/ear			D14 4
7 N			10U		1		5 1	1978	8:20	AM	PM 🗸
7. Nearest Railroad Station SEATTLE - KING ST ST		8. Subdivision			9. Cou	inty I NG			10. State	bbr. WA	Code 53
11 City (if in a city)		12 High	way Name	or No	1						
SEATTLE - KING ST		1.2		SI	OKAN	E STRE				Public 🗸 Priv	/ate
Highway User I	nvolved			147 F :					Involved	Train pulling- RCL	
13. Type	Oth M-t \	ah:ala		17. Equipr		its pulling)	 Car(s) Car(s) 	(moving) (standing		Train pulling- RCL Train pushing- RCL	
	Other Motor V Pedestrian	enicie		2. Tr	·	its pulling) its pushing,	6 Light l		noving) C.	Train standing- RCL	Code
,	Other (spec	rifu)	Code	3. Tr		anding)	7. Light le		lanuing)	EMU Locomotive(s)	1
	eographical)	····y/	, Code	18. Positio	n of Car	Unit in Tra	8. Other	(specify	') E.	DMU Locomotive(s)	ļ ·
(est. mph at impact) 5 1. North 2. South	• ,	West	4	10.1 00.110				1			
16. Position 1. Stalled or stuck on crossing 4. T 2. Stopped on Crossing 5 p			Code	19. Circun	nstance						Code
3. Moving over crossing	Blocked on cr	ossing by gates	3	1. Rail e	equipmer	nt struck h	ighway use	r 2. Rail e	equipment s	ruck by highway us	^{er} 1
20a. Was the highway user and/or rail equipment	t involved			20h Was	there a h	nazardous	materials re	elease by			
in the impact transporting hazardous materia			Code	200. 1143	uicic a i	iazaiaoas	materials	cicase by			Code
1. Highway User 2. Rail Equipment 3.	Both 4. Ne	ither	4	1.	Highwa	y User 2	2. Rail Equi	pment 3	3. Both 4.	Neither	
20c. State here the name and quantity of the haza	ardous mater	ial released, if ar	ny								
21. Temperature 22. Visibility (sing	ale entry)		Code	23 West	har (sir	nale entry)					Code
l ' ' ' '	21. Temperature 22. Visibility (single entry) Code 23. Weather (single entry) Code (specify if minus) 35 °F 1. Dawn 2. Day 3. Dusk 4. Dark 4 1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow 1										
1. See 2. State 4. Set 5. Set 6. Set											
24. Type of Equipment 1. Freight Train Consist 2. Passenger Train-Pullin	5. Single C		inspect. c		125	. Track Ty	pe Used by	Rail	Code	26. Track Number	or Name
(single entry) 3. Commuter Train-Pulling	_	•	MoW Equ		Code	Equipme	ent Involved		1		
4. Work Train	8. Light loce					Main 2. Y	ard 3. Sid	ing 4. Indu	ustry 1	WESTWARD	
27. FRA Track 28. Number of	29. Number			t Speed (Re	corded s	speed if av	ailable)	Code	31. Time	Table Direction	Code
Class (1-9,X) Locomotive			R. Rec				10	1 122	1. Noi		4
4 Units 5		50	E. Estir	mated	100	0: 1 1	18 mph	<u>E</u>	2. So		
32. Type of 1. Gates 4. Wig wags	7. Cro	ssbucks 10. Fla	agged by	crew	33	. Signaled	Crossing V	varning	A. Dry	vay Conditions	
Crossing 2. Cantilever FLS 5. Hwy. traffic si	gnals 8. Sto	p signs 11. Ot	ther (spec	cify)			rse side for		B. Wet C.Snow/S	luch	
Warning 3. Standard FLS 6. Audible		tchman 12. No				Instruction	ns and code	Code	D.Ice		Code
Code(s) 03								1	1	lud,Dirt,Oil,Gravel Standing, Moving)	
35. Location of Warning	l	36. Crossing \	 Warning Ir	nterconnecte	ed		37	. Crossing	Illuminated		ı
1. Both Sides	, Code	with High	way Signa	ls		1 (Code	Lights or	Special Lig	hts	_I Code
Side of Vehicle Approach Opposite Side of Vehicle Approach	1	1. Yes 2	2. No 3	. Unknown			2	1. Yes	2. No 3. L	Inknown	1
	hway User V	-≀ Vent Behind or in		Train 41.	Highway	User		5. Othe	(-/		
User's and	d Struck or w	as Struck by Sec	cond Trair	n		around the	ū		nt around/thi es, see inst	ru temporary barrica	de
Age 1. Male Code		0.11.1	ĺ	Code	StoppDid no		en proceede	, , ,	nt thru the g	,	Code
2.1 0.110.0	Yes 2. No			1	<u> </u>	ed on cros	ssing	8. Suid	cide/Attemp	ted suicide	2
	Code 43.	View of Track C		-, .,	nary obsi	,			7.00	,	Code
Highway Vehicle	Highway Vehicle 1. Permanent Structure 3. Passing Train 5. Vegetation 7. Other (specify) 1. Yes 2. No 3. Unknown 2 2. Standing railroad equipment 4. Topography 6. Highway Vehicles 8. Not Obstructed 8										8
	44.	Driver was	iiig raiii0a	a equipinen	. τ. τυρι	ugrapity I			ne Vehicle?	DOLINGIEU	Code
Casualties to: Killed II	njured	1. Killed 2. Inju	ured 3. U	Ininjured		3	1. Yes	s 2. No			1
46. Highway-Rail Crossing Users 0	47.	Highway Vehicle (est. dollar dama		/ Damage		\$1,500		Number of ding driver	f Vehicle Od	ccupants 1	
49. Railroad Employees 0 0	50.	Total Number of		n Train		Ψ1,000	,		nent Accide		Code
52. Passengers on Train 0 0		(include passen	•				Incide	nt Report	Being Filed		2
53a. Special Study Block Video Taker		No		53b. Spec	ial Study	L / Block	ı 1. Ye	s 2. No			
Video Used'	? Yes	No		332. Opci		, 2.001					
54. Narrative Description (Be specific, and co	ntinue on seț	parate sheet if ne	ecessary)								
55. Typed Name and Title		5	6. Signatu	ıre					57. Date		
NOTE: This report is part of the reporting reilroad	'a agaidant ta				totuto on	امريم م	a aball nat "	ho odmitto		as ar used for any	urnoco

NOTE: This report is part of the reporting railroad's accident report pursuant to the accident reports statute and, as such shall not "be admitted as evidence or used for any purpor in any suit or action for damages growing out of any matter mentioned in said report...." 49 U.S.C. 20903. See 49 C.F.R. 225.7 (b).

B. Truck E. Van	FEDERAL RAILROAD ADMINISTRA	TION (FRA)		ACCI	IDENT/II	NCIDENT	REPOR	Т			OMB A	oproval No. 2130-	-0500
2. Apparhetis Color Raileand or Other Entity Filting for Equipment Incolored in Train Academic Incolor 1	1.Name of Reporting Railroad						1a. Alpha	abetic Co	ode		1b. Railro	ad Accident/Incident	No.
Name of Rational of Other Entity Responsible for Task Marinerlands (page, car) NSY BABIETY Company (IBNSF)	Sounder Commuter Rail [SCI	R]					SCR	1			SCR2	30815	
SANS	2.Name of Other Railroad or Other E	Entity Filling for E	quipment	Involved in Train A	Accident/I	Incident	2a. Alph	abetic Co	ode		2b. Railro	ad Accident/Incident	No.
Substitution Subs	·		Track Mai	ntenance (single	entry)		· ·		ode			ad Accident/Incident	No.
New Second Seco	4. U.S. DOT Grade Crossing ID No.								ent/Incide	ent	6. Time o	f Accident/Incident	
No. State Station Station Station Station State				095597	7 D						4.40	A N A .	DM 🗾
1. City	7 Negreet Railroad Station				<i>,</i> D				5	2023			
1.							1	•					1
State	11. City (if in a city)	<u> </u>		12. Highwa	ay Name	or No.	OK ANI	CTDE	ГТ			Public . / Priv	
18. Type			olved			31	UKANI	SIKE		auipment	Involved	1 dbile 🗸 1 11v	ate
A value D. Product value E. Page J. Order Monte value S. Page S.			0.104			17. Equipr	ment					Train pulling- RCL	
14. Venicle Speed	C. Truck-trailer F. Bus A. Auto D. Pick-up truck G. Sch	ool Bus K. Pe	destrian		1	1. Tr 2. Tr	ain <i>(unit</i> : ain <i>(unit</i> :	s pushing,	6. Lig 7. Lig	ht loco(s) (n	noving) C. tanding) D.	Train standing- RCL EMU Locomotive(s)	Code
16. Position 1. Substant or stuck or processing 4. Trapped or crossing by part 2. Subpred or Crossing 2. Subpred or Crossing 5. Blocked on crossing by part 2. Substant or stuck or processing 4. Trapped or crossing by part 2. Substant or stuck or processing 4. Trapped or crossing by part 2. Substant or processing 4. Trapped or crossing by part 2. Substant processing 4. Trapped or crossing by part 2. Substant processing 4. Trapped or crossing by part 2. Substant processing 4. Trapped or crossing by part 2. Substant processing 4. Substant proce				y/		18 Positio	n of Car l	Jnit in Tra		ner (specify	') E.	DIVIO Locomotive(s)	<u>'</u>
2. Shopped on Crossing Shopped on Crossin				. West			0. 00. 0			1			
1. Rail			oped on c	rossing by traffic		19. Circun	nstance						Code
20a	• •	- 0. Dioc	cked on cr	ossing by gates	1 1	1. Rail e	equipment	struck h	ighway ι	ıser 2. Rail e	quipment s	truck by highway use	or.
Code 1. Highway Use 2. Rall Equipment 3. Both 4. Neither 4 1. Highway Use 2. Rall Equipment 3. Both 4. Neither 4 20c. State here the name and quantity of the hazardous material released, if any			volved		7	20h Was	there a ha	azardous	material	ls release by			0-4-
22. Temperature (specify if minus) 90 "F 1. Dawn 2. Day 3. Dusk 4. Dark 2. Naminary 2. N	• ,				Code	200. Wdo	11010 4 110			•			
21.1 Temperature						1.	. Highway	User 2	2. Rail E	quipment 3	3. Both 4.	Neither	4
2	20c. State here the name and quan	tity of the hazard	ous mater	rial released, if any	/								
2 1 1 2 2 1 2 2 2 2	21 Temperature 22 \	/isihility (sinale	entrv)		Code	23 Weat	ther (sinc	ale entry)					Code
24. Type of Equipment 1. Freight Train 5. Single Car 9. Maint./inspect. car 0. EMU Cores Cores 2. Passenger Train-Pulling 6. Cut of cars A. Spec. MoW Equip. 25. Track Type Used by Rail Equipment Involved 24. Work Train 3. Commuter Train-Pulling 7. Yard/Switching 8. Passenger Train-Pushing Code 3. Light loo(s) C. Commuter Train-Pushing Code 1. Main 2. Yard 3. Siding 4. Industry 1	'			Dark	1					oa 5. Sleet	6. Snow		
2. Passenger Train-Pulling 6. Cut of cars	I	•				1	III I						
27. FRA Track 28. Number of Cars 29. Number of Cars 30. Consist Speed (Recorded speed if available) Code 31. Time Table Direction Code 1. North 3. East 2. South 4. West 2. South 2. South 4. West 2. South 2. South 4. West 2. South 2. Sout	Consist 2. Passeng (single entry) 3. Commute	er Train-Pulling 6 er Train-Pulling 7	. Yard/Sw	ars A. Spec. M	IoW Equi ger Train-	ip. E. DM -Pushing	IU Code	Equipme	ent Involv	ved	ı		or Name
Class (1-9, X) Signature Code	27. FRA Track 28. Number of	,				-	ecorded sp	eed if av	ailable)	Code	31. Time	Table Direction	Code
32. Type of Crossing 4. Wig wags 7. Crossbucks 10. Flagged by crew Cassing Varning 2. Cantilever FLS 5. Hwy. traffic signals 8. Stop signs 11. Other (specify) 3. Standard FLS 6. Audible 9. Watchman 12. None Code 1. Ves 2. No 3. Unknown 2. Standard FLS 6. Audible 9. Watchman 12. None Code 1. Ves 2. No 3. Unknown 1. Sohn Stores 2. Side of Vehicle Approach 1 1. Ves 2. No 3. Unknown 1. West 3. Stopped and then proceeded 40. Highway User Went Behind or in Front of Train and Struck or was Struck by Second Train 41. Highway User 1. Went around the gate 5. Other (specify) 6. Went around/thru temporary barricade 42. Diriver Passed Standing Code 43. View of Track Obscured by (est dollar damage) 44. Diriver was 44. Diriver was 44. Diriver was 45. Was Diriver in the Vehicle Code 44. Diriver was 44. Diriver was 45. Was Diriver in the Vehicle Code 45. No 3. Unknown 2 45. Was Diriver in the Vehicle Code 46. Highway Vehicle 1. Ves 2. No 3. Unknown 2 46. Highway Vehicle 1. Permanent Structure 3. Passing Train 5. Vegetation 7. Other (specify) 46. Highway Vehicle 1. Killed 2. Injured 3. Uninjured 46. Highway Vehicle 3. No Obstructed 48. Total Number of Vehicle Occupants (including driver) 0. Video Used?		ve							27	. D			1
1. Cates	Offito	1		7	E. Estin	nated	22	Signalad		·			
Code S O	1. Gates 4.	Wig wags	7. Cro	ossbucks 10. Flaç	gged by c	crew		Ü		0	A. Dry	way conditions	
Code	2. Cantilever FLS 5.	Hwy. traffic signa	als 8. Sto	p signs 11. Oth	er (spec	cify)						llush	
Score Code	3. Standard FLS 6.	Audible	9. Wa	tchman 12. Nor	ne					,		/lud.Dirt.Oil.Gravel	Code
1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 40. Highway User Went Behind or in Front of Train and Struck or was Struck by Second Train Age 1. Male 2. Female 1. Male 2. Female 1. Yes 2. No 3. Unknown 41. Highway User 42. Driver Passed Standing 42. Driver Passed Standing 43. View of Track Obscured by (primary obstruction) 44. Driver was 44. Driver was 44. Driver was 45. Was Driver in the Vehicle? 46. Highway Vehicle 1. Yes 2. No 3. Unknown 47. Highway Vehicle 49. Railroad Employees 49. Railroad Employees 40. O	Code(s) 01 02	2 06	07							1			A
2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 4. Highway User's Gender User's Age 1. Male Code 2. Female 1 1. Yes 2. No 3. Unknown 4. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown 4. Stopped on crossing User's 2. Stopped and then proceeded 3. Did not stop 4. Stopped on crossing 4	S S				•		ed				•	,	
38. Highway User's Gender User's Gender User's Gender User's Age			Code		, ,			0	Code	_	-		Code
User's Age 1. Male 2. Female 1 2. Video Taken? Video User's Quarter of Passengers on Train 0 0 0 0 47. Highway Vehicle Passengers on Train 0 0 0 0 55. Typed Name and Title 2. Storyed and then proceeded 3. Did not stop 3. Did not stop 3. Did not stop 3. Did not stop 4. Stopped and then proceeded 4. Stopped on crossing 4. Stopped and then proceeded 4. Stopped on crossing 4. Stopped on crossing 4. Stopped and then proceeded 4. Stopped on crossing 4. Stopped and then proceeded 4. Stopped on crossing 4. Stopped and then proceeded 4. Stopped on crossing 6. Stopped and then proceeded 4. Stopped and then proceeded 4									2				1
Age 1. Male 2. Female 1 1. Yes 2. No 3. Unknown 2 2 2. Stopped and then proceeded 3. Did not stop 3. Did not stop 4. Stopped on crossing 5. Vegetation 7. Other (specify) 8. Suicide/Attempted suicide 4. Stopped on crossing 5. Vegetation 7. Other (specify) 6. Highway Vehicle 8. Not Obstructed 8. Not Obstructed 4. Stopped on crossing 4. Stopped and then proceeded 4. Stopped on crossing 4. Stopped on crossing 4. Stopped and then proceeded 4. Stopped on crossing 4. Stopped and then proceeded 4. Stopped and then proceeded 4. Stopped and then stopped 5. Vegetation 4. Stopped and then proceeded 4. Stopped and then proceeded 4. Stopped and then stopped 5. Vegetation 4. Stopped and then proceeded 5. Not begin the vehicle 2. Stopped and then pr		_	-			-			e gate		1-1		de
2. Female 1 1. Yes 2. No 3. Unknown 2 4. Stopped on crossing 8. Suicide/Attempted suicide 4 42. Driver Passed Standing Highway Vehicle 1. Permanent Structure 3. Passing Train 5. Vegetation 7. Other (specify) 1. Yes 2. No 3. Unknown 2 2 Standing railroad equipment 4. Topography 6. Highway Vehicles 8. Not Obstructed 8 Casualties to: Killed Injured 1. Killed 2. Injured 3. Uninjured 3. Uninjured 3. Uninjured 4. Topography 6. Highway Vehicles 8. Not Obstructed 8. Toda Name of Vehicle 9. No 2. No 3. Unknown 2. Standing railroad equipment 4. Topography 6. Highway Vehicles 8. Not Obstructed 8. Not Obstructed 8. Not Obstructed 9. No 2. No 2			track or v	ras official by occa		Code			en proce				Code
42. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown Casualties to: Killed Injured Killed Injured Killed Injured A4. Driver was Casualties to: Killed Injured A5. Highway-Rail Crossing Users O O A7. Highway Vehicle Property Damage (est. dollar damage) 49. Railroad Employees O O O So. Total Number of People on Train O O O So. Total Number of People on Train Finclude passengers and train crew) Video Taken? Video Used? Video Taken? Video Used? Video Used? Video Used? Video Used? Video Taken? Video Used? Video Used? Video Used? Video Used? Video Used? Video Taken? Video Used? Video			2. No	3. Unknown		•			ssing			,	4
1. Yes 2. No 3. Unknown Casualties to: Killed Injured Casualties to: Casualties to: Killed Injured Casualties to: Killed Injured Casualties to: Killed Injured Casualties to: Casualties to: Killed Injured Casualties to: Killed Injured Casualties to: Casualties to: Casualties to: Killed Injured Casualties to: Casualties to: Casualties to: Casualties to: Killed Injured Casualties to: Casua	42. Driver Passed Standing	Cod	de 43	. View of Track Ob	oscured b								Code
Casualties to: Killed Injured 44. Driver was 1. Killed 2. Injured 3. Uninjured 3 45. Was Driver in the Vehicle? 1. Yes 2. No 2 46. Highway-Rail Crossing Users 0 0 0 47. Highway Vehicle Property Damage (est. dollar damage) \$500 (including driver) 49. Railroad Employees 0 50. Total Number of People on Train (include passengers and train crew) 52. Passengers on Train 0 51. Is a Rail Equipment Accident / Incident Report Being Filed 1. Yes 2. No 53a. Special Study Block Video Taken? Video Used? Ves No 54. Narrative Description (Be specific, and continue on separate sheet if necessary) SEMI TRAILER STOPPED ON CROSSING DUE TO HEAVY TRAFFIC BACKUP. TRAIN STRUCK UNOCUPIED TRAILER END AND PUSHED IT. MINIMAL DAMAGE. 45. Was Driver in the Vehicle? 1. Yes 2. No 2 48. Total Number of Vehicle Occupants (including driver) 61. Is a Rail Equipment Accident / Incident Report Being Filed 1. Yes 2. No 61. Is a Rail Equipment Accident / Incident Report Being Filed 1. Yes 2. No 62. Passengers on Train (include passengers and train crew) 53b. Special Study Block 7 7 Yes No 65b. Signature 57b. Date	• ,	1 2						U	U				ا م
Casualties to: Killed Injured 1. Killed 2. Injured 3. Uninjured 4. S. Notal Number of Vehicle Occupants (including driver) 6. 48. Total Number of Vehicle Occupants (including driver) 6. Unicluding driver) 6. Unicl	1. Yes 2. No 3. Unknown		44.		ig railroad	d equipmen	t 4. Topo	graphy				bstructed	Code
49. Railroad Employees 0 0 0 50. Total Number of People on Train 51. Is a Rail Equipment Accident / Incident Report Being Filed 1. Yes 2. No 52. Passengers on Train 53a. Special Study Block Video Taken? Video Used? Video Used? Video Used? Video Taken? Video Used? Video Used? Video Taken? Video Used? Video Taken? Video Used? Video Taken? Video Used? Video Taken? Video Taken? Video Used? Video Taken? Video Taken? Video Used? Video Taken? Video Used? Video Taken? Video Used? Video Taken? Video Taken? Video Taken? Video Taken? Video Used? Video Taken? Video Tak	Casualties to:	Killed Inju	red		ed 3. Ur	ninjured		3					- 1
49. Railroad Employees 0 0 50. Total Number of People on Train 51. Is a Rail Equipment Accident / Incident Report Being Filed 1. Yes 2. No 2 52. Passengers on Train 0 0 0 0 (include passengers and train crew) 400 Incident Report Being Filed 1. Yes 2. No 2 53a. Special Study Block Video Taken? Video Used? Ves No 53b. Special Study Block 54. Narrative Description (Be specific, and continue on separate sheet if necessary) SEMI TRAILER STOPPED ON CROSSING DUE TO HEAVY TRAFFIC BACKUP. TRAIN STRUCK UNOCUPIED TRAILER END AND PUSHED IT. MINIMAL DAMAGE. 55. Typed Name and Title 56. Signature 57. Date	46. Highway-Rail Crossing Users	0 0	47.			Damage	1	¢500				=	
52. Passengers on Train 0 0 (include passengers and train crew) 400 Incident Report Being Filed 1. Yes 2. No 1. Yes 2. No 53a. Special Study Block Video Taken? Video Used? Video Used? Video Used? Video Used? Video Taken? Video Taken? Video Used? Video Taken? Video Taken. Video Taken. Video Taken. Video Taken. Video Taken. Video	49. Railroad Employees		50		-	n Train		かついし					Code
53a. Special Study Block Video Taken? Ves No No S3b. Special Study Block Video Used? Ves No S4. Narrative Description (Be specific, and continue on separate sheet if necessary) SEMI TRAILER STOPPED ON CROSSING DUE TO HEAVY TRAFFIC BACKUP. TRAIN STRUCK UNOCUPIED TRAILER END AND PUSHED IT. MINIMAL DAMAGE. 55. Typed Name and Title 56. Signature 57. Date							1	400	Inc	ident Report			
Video Used? ✓ Yes No 54. Narrative Description SEMI TRAILER STOPPED ON CROSSING DUE TO HEAVY TRAFFIC BACKUP. TRAIN STRUCK UNOCUPIED TRAILER END AND PUSHED IT. MINIMAL DAMAGE. 55. Typed Name and Title 56. Signature 57. Date		" "	. ✓ Van	· · · ·					1.	Yes 2. No			
SEMI TRAILER STOPPED ON CROSSING DUE TO HEAVY TRAFFIC BACKUP. TRAIN STRUCK UNOCUPIED TRAILER END AND PUSHED IT. MINIMAL DAMAGE. 55. Typed Name and Title 56. Signature 57. Date	SSS. Oposiai Stady Blook					Job. Spec		DIOCK					
						K UNOCUPI	ED TRAIL	ER END A	ND PUSI	HED IT. MININ	MAL DAMA(GE.	
	55. Typed Name and Title			56	i. Signatu	re					57 Date		
		orting railroad's a	ccident re				statute and	l, as such	n shall no	ot "be admitte			urpose

FEDERAL RAILROAD ADMINISTRA	ATION (FRA	۸)		ACC	IDENT/I	NCIDENT	REPO	RT				OMB A	oproval No. 2130	-0500
1.Name of Reporting Railroad							1a. Alp	habetic Co	ode			1b. Railro	ad Accident/Incident	t No.
BNSF Railway Company [BN	SF]						BN	NSF				NW12	19205	
2.Name of Other Railroad or Other B	Entity Filling	for Equipi	ment Inv	volved in Train	Accident/	Incident	2a. Al	phabetic Co	ode			2b. Railro	ad Accident/Incident	t No.
3. Name of Railroad or Other Entity BNSF Railway Company [BNS	•	e for Track	Mainte	enance (single	entry)		3a. Al	phabetic Co	ode			3b. Railro	ad Accident/Incident	t No.
4. U.S. DOT Grade Crossing ID No.								te of Accide	ent/Inci			6. Time o	f Accident/Incident	
			1	08558	7 P			month	day	year			AM	PM 🗸
7. Nearest Railroad Station			9	8. Subdivision	<i>,</i> D		9. Co		2	2019	' 	7:31 10. State		Code
INTERBAY			'	SEATTLE				ING					Abbr. WA	53
11 City (if in a city)				12. Highw	ay Name	or No.								
SEATTLE		n lavabra				E	3 SPO	KANE ST		Faurina		امديماييما	Public 🗸 Priv	ate
13. Type	hway Use	er involve	eu .			17. Equipi	mont				nent i noving)	Involved _A	Train pulling- RCL	
C. Truck-trailer F. Bus A. Auto D. Pick-up truck G. Sch		J. Other M K. Pedestr M. Other	ian		Code D	1. Tr 2. Tr 3. Tr	ain <i>(ui</i> ain <i>(ui</i>	nits pulling) nits pushing, tanding)	5. C 6. L 7. L	car(s) (sta ight loco(s ight loco(s	anding (m	oving) B. tanding) D.	Train pushing- RCL Train standing- RCL EMU Locomotive(s) DMU Locomotive(s)	Code 1
		(geograph	,		Code	18. Positio	n of Ca	r Unit in Tra	ain					'
· ' '	lorth 2. So				3					1				
16. Position 1. Stalled or stuck on 2. Stopped on Crossi 3. Moving over crossi	ing į			ssing by traffic	Code 2	19. Circur			ighway	user 2.	Rail e	quipment s	truck by highway use	Code er 1
20a. Was the highway user and/or	rail equipm	ent involve	ed			20b. Was	there a	hazardous	materi	ials releas	se by			Code
in the impact transporting haz					Code									4
1. Highway User 2. Rail Ed	• •				2	1.	Highwa	ay User 2	2. Rail	Equipme	nt 3	Both 4.	Neither	
20c. State here the name and quan	itity of the h	azardous	materiai	released, if any	У									
21. Temperature 22. \	/isibility (s	inale entry	·)		Code	23 Wea	ther (s	ingle entry)						Code
40 05	Dawn 2. D	-	-	ark	3		•	loudy 3. R		Fog 5 S	leet	6 Snow		3
24. Type of Equipment 1. Freight T			gle Car			1			<u> </u>	. 09 0. 0		0.0		
Consist 2. Passeng	er Train-Pu er Train-Pu	Illing 6. Cut Iling 7. Yaı	of cars	A. Spec. Moching B. Passen	MoW Equi ger Train-	ip. E. DM -Pushing	U 2	5. Track Ty Equipme . Main 2. Y	ent Invo	olved		Code	26. Track Number of MAIN 3 TRAC	
27. FRA Track 28. Number of		T	mber of	1		Speed (Re	corded	speed if av	ailable) C	ode	31. Time	Table Direction	Code
Class (1-9,X) Locomoti				ou.o	R. Rec			•	20	. I.	_	1. No		1
3 Units	2			35	E. Estin	nated	1.		30 1	•	E		uth 4. West	2
32. Type of 1. Gates 4.	Wig wags		7. Cross	sbucks 10. Fla	gged by o	crew	3	Signaled	Cross	ing warn	ing	A. Dry	way Conditions	
Crossing 2. Cantilever FLS 5.	Hwy. traffic	c signals	8. Stop	signs 11. Oth	ner (spec	cify)		(See reve				B. Wet C.Snow/S	Sluch	
Warning 3. Standard FLS 6.	Audible		9. Watcl	chman 12. Nor	ne			instruction	is and		Code	D.Ice		Code
Code(s) 01 02	2 ()3	05	06	07						1		Mud,Dirt,Oil,Gravel Standing, Moving)	В
35. Location of Warning				36. Crossing W	Varning In	terconnecte	ed			37. Cro	ossing	Illuminated		
1. Both Sides		. (Code	with Highw	ay Signal	ls		1 (Code	Ligi	hts or	Special Lig	phts	Code
 Side of Vehicle Approach Opposite Side of Vehicle Approach 	oroach		1	1. Yes 2.	. No 3.	. Unknown			1	1. `	Yes 2	2. No 3. l	Jnknown	1
38.Hignway 39.Highway User's Ge		Highway L	Jser We	ent Behind or in	Front of 7	Train 41.	Highwa					r (specif		
User's		and Struck	c or was	s Struck by Sec	ond Train	1		t around the ped and the	U			t around/tn es, see inst	ru temporary barrica ructions)	
	Code	1 Voc. 2	No 2	s. Unknown	1	Code	3. Did r	not stop	-	7	7. Wen	nt thru the g	gate	Code
2. Female 42. Driver Passed Standing	1	Code		/iew of Track O	hagurad h	2		ped on cros struction)	ssing	8	3. Suic	ide/Attemp	ted suicide	0 - 1 -
Highway Vehicle		Code	43. V	1. Permar		-, .,	•	ssing Train	E Vo	actation		7 Other	(specify)	Code
1. Yes 2. No 3. Unknown		2				d equipmen		•		getation ghway Ve	hicles		bstructed	8
	Killed	Injured		Oriver was				1				e Vehicle?		Code
Casualties to:		,		1. Killed 2. Injur		•		3		. Yes 2.		i Vahiala O		1
46. Highway-Rail Crossing Users	0	0		lighway Vehicle est. dollar dama		Damage		\$2,000		including		Vehicle O	2 ccupants	
49. Railroad Employees	0	0		otal Number of		n Train		1 +-,				nent Accide		Code
52. Passengers on Train	0	0	(ii	include passeng	gers and t	train crew)		2				Being Filed		2
53a. Special Study Block	Video Ta		Yes	No		53b. Spec	ial Stud	dy Block	1	1. Yes 2	. INO			
	Video Us		Yes	No				,						
54. Narrative Description (Be s, USER'S AGE UNKNOWN. H VBTVAW				arate sheet if ned HICLE ON GRAI		SING. 41: PR	ECEDEI	D GATES						
55. Typed Name and Title				56	6. Signatu	ıre						57. Date		
NOTE: This report is part of the rep				ort pursuant to t	the accide	ent reports s					dmitte			urpose
in any suit or action for damages gr													, ,	

HIGHWAY-RAIL GRADE CROSSING

OMB Approval No. 2130-0500

FEDERAL RAILROAD ADMINISTRATION (FRA)	ACCIDENT	INCIDENT	REPORT		OWID A	pprovar No. 2 130	-0500
1.Name of Reporting Railroad				1a. Alphabetic Co	ode		oad Accident/Incident	t No.
BNSF Railway Company [BNSF]	=			BNSF			018201	4 NI=
2.Name of Other Railroad or Other Entity Fi	lling for Equipment	Involved in Train Acciden	nt/Incident	2a. Alphabetic Co	ode	2b. Railro	oad Accident/Incident	t No.
Name of Railroad or Other Entity Respor	nsible for Track Mai	ntenance (single entry)		3a. Alphabetic C	ode	3b. Railro	oad Accident/Incident	t No.
BNSF Railway Company [BNSF]		(suigic chury)		BNSF			018201	
4. U.S. DOT Grade Crossing ID No.				5. Date of Accide		6. Time o	of Accident/Incident	
		085587B		0 9 1	day year 2018	3:07	AM	PM 🗸
7. Nearest Railroad Station		8. Subdivision		9. County	- 0	10. State	<u> </u>	Code
SEATTLE		SEATTLE		KING		/	Abbr. WA	53
11. City (if in a city) SEATTLE		12. Highway Nam	ne or No. El	B SPOKANE ST	Γ		Public 🗸 Priv	vate
Highway U	Jser Involved					ent Involved		
13. Type C. Truck-trailer F. Bus A. Auto D. Pick-up truck G. School Bus B. Truck E. Van H. Motorcycle	M. Other (spe	Code K	17. Equip 1. Tr 2. Tr 3. Tr	ain (units pulling) ain (units pushing	5. Car(s) (state) 6. Light loco(s 7. Light loco(s 8. Other (s)	anding) B.) (moving) C.) (standing) D.	Train pulling- RCL Train pushing- RCL Train standing- RCL EMU Locomotive(s) DMU Locomotive(s)	Code 1
14. Vehicle Speed 15. Direction (est. mph at impact) 1. North 2	<i>(geographical)</i> . South 3. East 4	. West Code	10.1 031110	on or car official th	1			
16. Position 1. Stalled or stuck on crossing 2. Stopped on Crossing 3. Moving over crossing	ng 4. Trapped on c		19. Circur		-	Rail equipment s	struck by highway use	Code
20a. Was the highway user and/or rail equ	•	Code		there a hazardous	materials releas	e by		Code
in the impact transporting hazardous 1. Highway User 2. Rail Equipmer				. Highway User	2. Rail Equipmer	nt 3. Both 4	Neither	4
20c. State here the name and quantity of the	ne hazardous mate	rial released, if any	<u> </u>					
1	/ · / · / ·		1					
	(single entry)	Code		ther (single entry)				Code 1
(specify if fillings) • 1. Dawii	2. Day 3. Dusk 4. 5. Single 0			ear 2. Cloudy 3. R	ain 4. Fog 5. 5	leet 6. Snow		
24. Type of Equipment 1. Freight Train Consist 2. Passenger Train	-Pulling 6. Cut of c	ars A. Spec. MoW Eq	quip. E. DM	IU 25. Track Ty	/pe Used by Rail ent Involved	Code	26. Track Number of	or Name
(single entry) 3. Commuter Train 4. Work Train	-Pulling 7. Yard/Sw8. Light loc	vitching B. Passenger Trai	- 1	Code 1. Main 2.	Yard 3. Siding 4	. Industry 1	MAIN 1 TRAC	'K
27. FRA Track 28. Number of	29. Number		-	ecorded speed if av			Table Direction	Code
Class (1-9,X) Locomotive		R. Re	ecorded		,	1. No		1
2 Units	5	68 E. Es	timated	22 Signalog	15 mph I		way Conditions	2
1. Gates 4. Wig wa	ags 7. Cr	ossbucks 10. Flagged by	y crew		· ·	A. Dry	way Conditions	
2. Cantilever FLS 5. Hwy. to	affic signals 8. Sto	op signs 11. Other (spe	ecify)		erse side for ns and codes)	B. Wet C.Snow/S	Slush	
3. Standard FLS 6. Audible	9. Wa	atchman 12. None			ı	ode D.Ice E. Sand,I	Mud,Dirt,Oil,Gravel	Code
Code(s) 01 02	03 06						(Standing, Moving)	A
35. Location of Warning 1. Both Sides		36. Crossing Warning with Highway Sign			Liat	ssing Illuminate nts or Special Lig	,	ı Code
2. Side of Vehicle Approach	Code		3. Unknown		Code	res 2. No 3.		1
3. Opposite Side of Vehicle Approach 38. Highway 39. Highway User's Gender		Went Behind or in Front of		Highway User	2	Other (speci		1
User's		vas Struck by Second Tra	ain	 Went around th Stopped and the 	o .	Went around/th	ru temporary barrica tructions)	
Age 1. Male Code 63 2. Female 1	1. Yes 2. No	3. Unknown	Code 2	Did not stop	7	. Went thru the	gate	Code
42. Driver Passed Standing		B. View of Track Obscured		4. Stopped on cromary obstruction)	ssing 8	. Suicide/Attemp	oted suicide	Code
Highway Vehicle		1. Permanent Str	, .,	3. Passing Train	5. Vegetation	7. Other	(specify)	
1. Yes 2. No 3. Unknown	144	2. Standing railro	ad equipmen	t 4. Topography	6. Highway Ve		Obstructed	8 Code
Casualties to: Killed	I Injured 44	Driver was 1. Killed 2. Injured 3.	Uniniured		1. Yes 2.	r in the Vehicle? No		Code
46. Highway-Rail Crossing Users 1	0 47	. Highway Vehicle Proper (est. dollar damage)				ber of Vehicle O	ccupants	
49. Railroad Employees 0	0 50	. Total Number of People	on Train		(including of 51. Is a Rail E	quipment Accide		Code
52. Passengers on Train 0	0	(include passengers and		2		eport Being Filed	d	2
<u> </u>	Taken? Yes	s V No	53b. Spec	ial Study Block	1. Yes 2	. 110		
	Used? Yes	No No		-				
54. Narrative Description (Be specific, Z-CHCSSE7-08 WAS MOVING ON MAIN 1 WH THE 19TH POSITION. CREW WAS NOT DRU	EN IT WAS REPORT			AWLING THROUG	H THE TRAIN AS	IT WENT BY, AN	ID WAS STRUCK BY T	ΓRAIN AT
55. Typed Name and Title		56. Signa	iture			57. Date	<u> </u>	
NOTE: This report is part of the reporting ra	ailroad's accident re			statute and as such	h shall not "he a			ournose

NOTE: This report is part of the reporting railroad's accident report pursuant to the accident reports statute and, as such shall not "be in any suit or action for damages growing out of any matter mentioned in said report...." 49 U.S.C. 20903. See 49 C.F.R. 225.7 (b).

FORM FRA F 6180.57 (Rev. 08/10)

* NOTE THAT ALL CASUALTIES MUST BE REPORTED ON FORM FRA F 6180.55A

OMB Approval expires 6/30/2021

HIGHWAY-RAIL GRADE CROSSING

OMB Approval No. 2130-0500

FEDERAL RAILROAD ADMINISTRA	ATION (FRA	١)		ACC	IDEN I/I	NCIDENT	REPO	RI				OWID A	pprovar No. 213	0-0500
1.Name of Reporting Railroad		~ .						habetic Co	de				oad Accident/Incide	ent No.
Amtrak (National Railroad P					A		A					15214		nat Na
2.Name of Other Railroad or Other	Entity Filling	for Equipr	nent li	nvolved in Train A	Accident/	Incident	2a. Al	phabetic Co	ode			2b. Raiir	oad Accident/Incide	ent No.
Name of Railroad or Other Entity	Responsibl	e for Track	Main	tenance (single	entry)		3a. Al	phabetic C	ode			3b. Railr	oad Accident/Incide	ent No.
BNSF Railway Company [BN	SF]			(smgre	<i>c y y</i>		BN	SF				NW0	218203	
4. U.S. DOT Grade Crossing ID No							5. Da	te of Accide			_	6. Time	of Accident/Incident	t
				085587	7B		0	$\begin{vmatrix} \text{month} \\ 2 \end{vmatrix}$	day 7	20		9:38	AM	PM 🗸
7. Nearest Railroad Station				8. Subdivision			9. Co				10	10. State	e	Code
SEATTLE				SEATTLE			K	ING					Abbr. WA	53
11. City (if in a city) SEATTLI	E			12. Highwa	ay Name	or No.	B SPO	KANE ST					Public 🗸 P	rivate
Hig	hway Use	r Involve	d						Rail	Equip	ment	Involved		
14. Vehicle Speed 15. I	hool Bus otorcycle	J. Other Mo K. Pedestri M. Other	ian <i>(speci</i>		Code J Code	17. Equipo 1. Tr 2. Tr 3. Tr	ain <i>(ui</i> ain <i>(ui</i> ain <i>(</i> si	nits pulling) nits pushing, tanding) r Unit in Tra	5. Ca 6. Li 7. Li 8. O	. ,		g) B noving) C tanding) _	. Train pulling- RCL . Train pushing- RCL . Train standina- RCl . EMU Locomotive(s) . DMU Locomotive(s)	L) Code
	North 2. So				4						1			
16. Position 1. Stalled or stuck or 2. Stopped on Cross 3. Moving over cross	ing į			ossing by traffic	Code 2	19. Circur 1. Rail			ighway	user 2	2. Rail e	quipment	struck by highway u	Code user 1
20a. Was the highway user and/or		ent involve	d			20b. Was	there a	hazardous	materia	als rele	ase by			Code
in the impact transporting ha					Code				o D "II				N1 91	4
1. Highway User 2. Rail E 20c. State here the name and quar	• •				4	1	. Hignwa	ay User 2	z. Raii i	Equipm	nent 3	3. Both 4	. Neitner	
200. State here the hame and qual	inty of the fi	azaruous r	naten	ai reieaseu, ii airj	у									
21. Temperature 22.	Visibility (s	ingle entry)		Code	23. Wea	ther (s	ingle entry)						Code
(specify if minus) 40 °F 1.	Dawn 2. D	ay 3. Dus	sk 4. [Dark	4	1. Cle	ar 2. C	loudy 3. R	ain 4. l	Fog 5.	Sleet	6. Snow		3
	ger Train-Pu ter Train-Pu	-	of car d/Swit	rs A. Spec. M tching B. Passenç	ИоW Equi ger Train-	ip. E. DM -Pushing	IU 2	5. Track Ty Equipme . Main 2. Y	ent Invo	olved		1	26. Track Numbe	er or Name
27. FRA Track 28. Number		29. Nur	nber o	of Cars 30		Speed (Re	ecorded	speed if av	ailable,)	Code		Table Direction	Code
Class (1-9,X) Locomol	ive 1			13	R. Rec E. Estir				32 r	nph	R	1. No 2. So	orth 3. East outh 4. West	2
32. Type of	. Audible	c signals 8	3. Stop	ssbucks 10. Flaç	er (spec		3	3. Signaled (See reve instruction	rse side	e for	· ·	A. Dry B. Wet C.Snow/ D.Ice E. Sand,	dway Conditions Slush Mud,Dirt,Oil,Gravel (Standing, Moving)	Code
35. Location of Warning				36. Crossing W	/arning In	nterconnect	ed			37. C	crossing		ed by Street	<u> </u>
 Both Sides Side of Vehicle Approach 		, C	ode	with Highwa	ay Signal	ls		0	Code	L	ights or	Special Li	ghts	Code
Opposite Side of Vehicle Approach	proach		1	1. Yes 2.	. No 3	. Unknown			1			2. No 3.		2
38.Hignway 39.Highway User's G User's Age 1. Male	Code	and Struck	or wa	ent Behind or in as Struck by Secons. 3. Unknown	ond Train	Code	2. Stop 3. Did r	t around the ped and the not stop	en proc	eeded	6. Wer (if y 7. We	es, see ins	hru temporary barrio structions) gate	Code
2. Female 42. Driver Passed Standing		Code		View of Track Of	hscured b	2 OV (prir		ped on cros struction)	ssing		8. Suid	cide/Attem	pted suicide	Code
Highway Vehicle		1	.5.	1. Perman		- , .,	•	ssing Train	5. Ved	getation	า	7. Othe	r (specify)	,
1. Yes 2. No 3. Unknown		2			ng railroa	d equipmen		•	6. Hig	hway \	/ehicles		Obstructed	8
Casualties to:	Killed	Injured		Driver was 1. Killed 2. Injur	red 3 III	niniured			1	Vas Dri . Yes		ne Vehicle?	?	Code 2
46. Highway-Rail Crossing Users	0	0	47.	Highway Vehicle (est. dollar dama	Property			3 \$7,500	48. T	otal Nu		f Vehicle C	•	0
49. Railroad Employees	0	0		Total Number of	•				1			nent Accid		Code
52. Passengers on Train	0	0		(include passeng	gers and t	train crew)		79	1	ncident . Yes		Being File	a 	2
53a. Special Study Block	Video Ta		Yes	No		53b. Spec	cial Stud	ly Block						•
TRAIN 507 OPERATING WITH CAB (55. Typed Name and Title	CAR 7911 IN	CONTINUE C	12 CA	56	OTIVE E/4	ıre						57. Date	е	
NOTE: This report is part of the ren	orting railro	ad's accide	ent ren	ort nursuant to th	he accide	ent reports s	tatute a	nd as such	n shall i	not "he	admitte	d as evide	ence or used for any	/ nurnose

NOTE: This report is part of the reporting railroad's accident report pursuant to the accident reports statute and, as such shall not "be in any suit or action for damages growing out of any matter mentioned in said report...." 49 U.S.C. 20903. See 49 C.F.R. 225.7 (b).

FORM FRA F 6180.57 (Rev. 08/10)

* NOTE THAT ALL CASUALTIES MUST BE REPORTED ON FORM FRA F 6180.55A

OMB Approval expires 6/30/2021

FEDERAL RAILROAD ADMINISTRATION (FRA)	ACCIDEN I/INCIDEN I	REPORT		OWIB Approval No. 2130-0	1300									
.Name of Reporting Railroad Amtrak (National Railroad Passenger Corporation) [ATK] 1a. Alphabetic Code ATK 1b. Railroad Accident/Incident No. 101190														
	-		+	2b. Railroad Accident/Incident N	VI _O									
2.Name of Other Railroad or Other Entity Filling for Equipment Inv	volved in Train Accidentificident	2a. Alphabetic Code		20. Kalifuau Accidentifinduent i	NO.									
3. Name of Railroad or Other Entity Responsible for Track Mainte	tenance (single entry)	3a. Alphabetic Code		3b. Railroad Accident/Incident N	No.									
BNSF Railway Company [BNSF]		BNSF		XXX										
4. U.S. DOT Grade Crossing ID No.		5. Date of Accident/li	ncident	6. Time of Accident/Incident										
	085587B	month day	year		-N4 -Z									
		 	5 2006	<u>. </u>	PM 🗸									
7. Nearest Railroad Station SEATTLE	8. Subdivision	9. County KING		10. State Abbr. WA	Code 53									
11. City (if in a city) SEATTLE	12. Highway Name or No.	ITY ST; SPOKANE	ST	Public ✓ Priva	te									
Highway User Involved		R	ail Equipment I	involved										
13. Type	17. Equipi		. Car(s) (moving)	· -										
C. Truck-trailer F. Bus J. Other Motor Veh	ehicle 1. Tr	alli (urito pulling)	Car(s) (standing	•										
A. Auto D. Pick-up truck G. School Bus K. Pedestrian	Code 2. Tr	am (units pushing)	6. Light loco(s) (m	D 51011	Code									
B. Truck E. Van H. Motorcycle M. Other (specify	1 2 Ти	rain <i>(standing)</i> 7	7. Light loco(s) (st 3. Other (specify)	lanuing)	2									
14. Vehicle Speed 15. Direction (geographical)		on of Car Unit in Train	3. Other (specify)	L. DIVIO LOCOMOTIVO(0)	_									
(est. mph at impact) 1. North 2. South 3. East 4. W	0000	71 01 0a1 0	1											
16. Position 1. Stalled or stuck on crossing 4. Trapped on cros		mstance												
2. Stopped on Crossing 5. Blocked on cros	i Code		Pail a	and a struct by highway user	Code									
3. Moving over crossing	3 1. Rall 6	equipment struck nighw	/ay user ∠. ran e	quipment struck by highway user	1									
20a. Was the highway user and/or rail equipment involved	20b. Was	there a hazardous mat	erials release by		Code									
in the impact transporting hazardous materials?	Code	110.0 4 11022	0110.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.											
Highway User 2. Rail Equipment 3. Both 4. Neith	ther 4 1.	. Highway User 2. Ra	ail Equipment 3	. Both 4. Neither	4									
20c. State here the name and quantity of the hazardous material			·											
	· · · ·													
21. Temperature 22. Visibility (single entry)	Code 23. Wea	ther (single entry)			Code									
0-	1	, ,	4 Ecc 5 Sleet	e enou	1									
(Specify if Hillias) 1. Dawn 2. Day 3. Dask 4. Da	poorly in minutes 1. David 2. David 4. David 2. David 4. David 4. Tog 0. Order 6. Order													
24. Type of Equipment 1. Freight Train 5. Single Car	'	125. Track Type U	Jsed by Rail	Code 26. Track Number or	Name									
Consist 2. Passenger Train-Pulling 6. Cut of cars		Equipment I												
(single entry) 3. Commuter Train-Pulling 7. Yard/Switch		Code		MAIN NO #2										
4. Work Train 8. Light loco(s			3. Siding 4. Indu											
27. FRA Track 28. Number of 29. Number of	. • • • • • • • • • • • • • • • • • • •	ecorded speed if availal	ble) Code	31. Time Table Direction	Code									
Class (1-9,X) Locomotive	R. Recorded	10	n mah	1. North 3. East	1									
3 Units 2	E. Estimated		9 mph R	2. South 4. West	1									
32. Type of 1. Gates 4. Wig wags 7. Cross	ssbucks 10. Flagged by crew	33. Signaled Cro	ssing Warning	34. Roadway Conditions A. Dry										
Crossing 2. Cantilever FLS 5. Hwy. traffic signals 8. Stop	55 7	(See reverse s	side for	B. Wet										
Warning	• • • • • • • • • • • • • • • • • • • •	instructions ar	nd codes)	C.Snow/Slush D.Ice	2 4-									
	chman 12. None		Code	E. Sand,Mud,Dirt,Oil,Gravel	Code									
Code(s) 01 02 05 06			2	F.Water (Standing, Moving)										
3	36. Crossing Warning Interconnecte	ed		Illuminated by Street										
1. Both Sides 2. Side of Vehicle Approach	with Highway Signals	Code	Lights or	Special Lights	Code									
2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach	1. Yes 2. No 3. Unknown	2		2. No 3. Unknown	3									
o. Opposite dide di Verilore Approdori		Highway User	5. Othe	r (specify)										
					е									
User's and Struck or was Struck by Second Train 1. Went around the gate 6. Went around/thru temporary barricade														
	•	2. Stopped and then p	10000000	7. Male Code 3. Did not stop 7. Went thru the gate										
Age 1. Male Code	•	Did not stop	7. Wer	•										
Age 1. Male Code 40 2. Female 2 1. Yes 2. No 3.	3. Unknown	Did not stop Stopped on crossing	7. Wer	nt thru the gate cide/Attempted suicide	Code									
Age 1. Male Code 40 2. Female 2 1. Yes 2. No 3. 42. Driver Passed Standing Code 43. V	3. Unknown Code View of Track Obscured by (prin	Did not stop Stopped on crossing mary obstruction)	7. Wer g 8. Suid	cide/Attempted suicide	Code									
Age 1. Male Code 40 2. Female 2 42. Driver Passed Standing Highway Vehicle Code 43. V	3. Unknown View of Track Obscured by (print) 1. Permanent Structure	Did not stop Stopped on crossing mary obstruction) Passing Train 5.	7. Wer 8. Suic	cide/Attempted suicide 7. Other (specify)	1									
Age 1. Male Code 40 2. Female 2 1. Yes 2. No 3 42. Driver Passed Standing Highway Vehicle Code 43. V 1. Yes 2. No 3. Unknown 44. D	3. Unknown Code View of Track Obscured by (prin	3. Did not stop 4. Stopped on crossing mary obstruction) 3. Passing Train 5. Not 4. Topography 6.	7. Wer g 8. Suid	7. Other (specify) 8. Not Obstructed	Code 3 Code									
Age	3. Unknown View of Track Obscured by (prin 1. Permanent Structure 2. Standing railroad equipmen	3. Did not stop 4. Stopped on crossing mary obstruction) 3. Passing Train 5. Not 4. Topography 6.	7. Wer g 8. Suice Vegetation Highway Vehicles	7. Other (specify) 8. Not Obstructed	3									
Age 1. Male Code 40 2. Female 2 1. Yes 2. No 3 42. Driver Passed Standing Code 43. V Highway Vehicle Thighway Veh	3. Unknown View of Track Obscured by (print) 1. Permanent Structure 2. Standing railroad equipment Driver was	3. Did not stop 4. Stopped on crossing mary obstruction) 3. Passing Train 1. 4. Topography 6. 45	7. Wer g 8. Suid Vegetation Highway Vehicles 5. Was Driver in th 1. Yes 2. No	7. Other (specify) 8. Not Obstructed	3									
Age 1. Male Code 40 2. Female 2 42. Driver Passed Standing Code 43. V Highway Vehicle 1. Yes 2. No 3. Unknown Casualties to: Killed Injured 44. D 46. Highway-Rail Crossing Users 0 1 47. H	3. Unknown View of Track Obscured by (print) 1. Permanent Structure 2. Standing railroad equipment Driver was 1. Killed 2. Injured 3. Uninjured	3. Did not stop 4. Stopped on crossing mary obstruction) 3. Passing Train 1. 4. Topography 6. 45	7. Wer g 8. Suid Vegetation Highway Vehicles 5. Was Driver in th 1. Yes 2. No	7. Other (specify) 8. Not Obstructed be Vehicle? Tother (specify) 1. Solution (specify)	3									
Age 1. Male Code 40 2. Female 2 42. Driver Passed Standing Code 43. V Highway Vehicle Casualties to: Killed Injured 44. D 46. Highway-Rail Crossing Users 0 1 47. H 40. Beitrand Employees 6. Employees 6. Employees	Code 3. Unknown View of Track Obscured by (print) 1. Permanent Structure 2. Standing railroad equipment Driver was 1. Killed 2. Injured 3. Uninjured Highway Vehicle Property Damage	3. Did not stop 4. Stopped on crossing mary obstruction) 3. Passing Train 1. 4. Topography 6. 45	7. Wer g 8. Suice Vegetation Highway Vehicles 5. Was Driver in th 1. Yes 2. No 3. Total Number of	7. Other (specify) 8. Not Obstructed be Vehicle? f Vehicle Occupants 1	3									
Age 1. Male Code 40 2. Female 2 42. Driver Passed Standing Code 43. V Highway Vehicle 1. Yes 2. No 3. Unknown Casualties to: Killed Injured 44. D 46. Highway-Rail Crossing Users 0 1 47. H 49. Railroad Employees 0 0 50. Ti	Code 3. Unknown View of Track Obscured by (print) 1. Permanent Structure 2. Standing railroad equipment Driver was 1. Killed 2. Injured 3. Uninjured Highway Vehicle Property Damage (est. dollar damage)	3. Did not stop 4. Stopped on crossing mary obstruction) 3. Passing Train 14. Topography 6. 45 \$0 \$1 \$1 \$2 \$4 \$5 \$5 \$5 \$5 \$5 \$5 \$5 \$5 \$5	7. Werg 8. Suice Vegetation Highway Vehicles 5. Was Driver in th 1. Yes 2. No 8. Total Number of (including driver) I. Is a Rail Equipm Incident Report I	7. Other (specify) 8. Not Obstructed be Vehicle? f Vehicle Occupants bent Accident /	Code									
Age 1. Male Code 40 2. Female 2 42. Driver Passed Standing Code 43. V Highway Vehicle 1. Yes 2. No 3. Unknown Casualties to: Killed Injured 44. D 46. Highway-Rail Crossing Users 0 1 47. H 49. Railroad Employees 0 0 50. T 52. Passengers on Train 0 0 60. T	Code 3. Unknown View of Track Obscured by (prin. 1. Permanent Structure 2. Standing railroad equipment Driver was 1. Killed 2. Injured 3. Uninjured Highway Vehicle Property Damage est. dollar damage) Total Number of People on Train (include passengers and train crew)	3. Did not stop 4. Stopped on crossing mary obstruction) 3. Passing Train 5. \(\) 4. Topography 6. \(\) 45 \[\] \[\	7. Werg 8. Suice Vegetation Highway Vehicles Was Driver in the 1. Yes 2. No Total Number of fincluding driver in the grant of the g	7. Other (specify) 8. Not Obstructed be Vehicle? f Vehicle Occupants bent Accident /	Code									
Age 1. Male Code 40 2. Female 2 1. Yes 2. No 3 42. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown 43. V 1. Yes 2. No 3. Unknown 44. D 1 Casualties to: Killed Injured 44. D 1 46. Highway-Rail Crossing Users 0 1 47. H (e 49. Railroad Employees 0 0 50. T (ii) 52. Passengers on Train 0 0 (iii) 53a. Special Study Block Video Taken? Yes	Code 3. Unknown View of Track Obscured by (prin. 1. Permanent Structure 2. Standing railroad equipment Driver was 1. Killed 2. Injured 3. Uninjured Highway Vehicle Property Damage (est. dollar damage) Total Number of People on Train (include passengers and train crew) No 53b. Spec	3. Did not stop 4. Stopped on crossing mary obstruction) 3. Passing Train 14. Topography 6. 45 \$0 \$1 \$1 \$2 \$4 \$5 \$5 \$5 \$5 \$5 \$5 \$5 \$5 \$5	7. Werg 8. Suice Vegetation Highway Vehicles 5. Was Driver in th 1. Yes 2. No 8. Total Number of (including driver) I. Is a Rail Equipm Incident Report I	7. Other (specify) 8. Not Obstructed be Vehicle? f Vehicle Occupants bent Accident /	Code									
Age 1. Male Code 1. Yes 2. No 3 42. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown Code 43. V 1. Yes 2. No 3. Unknown Killed Injured 44. D 46. Highway-Rail Crossing Users 0 1 47. H 49. Railroad Employees 0 0 50. T 52. Passengers on Train 0 0 50. T 53a. Special Study Block Video Taken? Video Used? Yes Yes	Code 3. Unknown View of Track Obscured by (prin. 1. Permanent Structure 2. Standing railroad equipment Driver was 1. Killed 2. Injured 3. Uninjured Highway Vehicle Property Damage (est. dollar damage) Total Number of People on Train (include passengers and train crew) No 53b. Spec	3. Did not stop 4. Stopped on crossing mary obstruction) 3. Passing Train 5. \(\) 4. Topography 6. \(\) 45 \[\] \[\	7. Werg 8. Suice Vegetation Highway Vehicles 5. Was Driver in th 1. Yes 2. No 8. Total Number of (including driver) I. Is a Rail Equipm Incident Report I	7. Other (specify) 8. Not Obstructed be Vehicle? f Vehicle Occupants bent Accident /	Code									
Age 1. Male Code 40 2. Female 2 1. Yes 2. No 3 42. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown 43. V 1. Yes 2. No 3. Unknown 44. D 1 Casualties to: Killed Injured 44. D 1 46. Highway-Rail Crossing Users 0 1 47. H (e 49. Railroad Employees 0 0 50. T (ii) 52. Passengers on Train 0 0 (iii) 53a. Special Study Block Video Taken? Yes	Code 3. Unknown View of Track Obscured by (prin. 1. Permanent Structure 2. Standing railroad equipmen Driver was 1. Killed 2. Injured 3. Uninjured Highway Vehicle Property Damage (est. dollar damage) Total Number of People on Train (include passengers and train crew) No 53b. Specarate sheet if necessary)	3. Did not stop 4. Stopped on crossing mary obstruction) 3. Passing Train 5. \(\) 4. Topography 6. \(\) 45 \[\] \[\	7. Werg 8. Suice Vegetation Highway Vehicles 5. Was Driver in th 1. Yes 2. No 8. Total Number of (including driver) I. Is a Rail Equipm Incident Report I	7. Other (specify) 8. Not Obstructed be Vehicle? f Vehicle Occupants bent Accident /	Code									
Age 1. Male Code 40 2. Female 2 1. Yes 2. No 3 42. Driver Passed Standing Highway Vehicle Code 43. V 1. Yes 2. No 3. Unknown Injured 44. D 46. Highway-Rail Crossing Users 0 1 47. H 49. Railroad Employees 0 0 50. T 52. Passengers on Train 0 0 50. T 53a. Special Study Block Video Taken?	Code 3. Unknown View of Track Obscured by (prin. 1. Permanent Structure 2. Standing railroad equipmen Driver was 1. Killed 2. Injured 3. Uninjured Highway Vehicle Property Damage (est. dollar damage) Total Number of People on Train (include passengers and train crew) No 53b. Specarate sheet if necessary)	3. Did not stop 4. Stopped on crossing mary obstruction) 3. Passing Train 5. \(\) 4. Topography 6. \(\) 45 \[\] \[\	7. Werg 8. Suice Vegetation Highway Vehicles 5. Was Driver in th 1. Yes 2. No 8. Total Number of (including driver) I. Is a Rail Equipm Incident Report I	7. Other (specify) 8. Not Obstructed be Vehicle? f Vehicle Occupants bent Accident /	Code									
Age 1. Male Code 40 2. Female 2 1. Yes 2. No 3 42. Driver Passed Standing Highway Vehicle Code 43. V 1. Yes 2. No 3. Unknown Injured 44. D 46. Highway-Rail Crossing Users 0 1 47. H 49. Railroad Employees 0 0 50. T 52. Passengers on Train 0 0 50. T 53a. Special Study Block Video Taken?	Code 3. Unknown View of Track Obscured by (prin. 1. Permanent Structure 2. Standing railroad equipmen Driver was 1. Killed 2. Injured 3. Uninjured Highway Vehicle Property Damage (est. dollar damage) Total Number of People on Train (include passengers and train crew) No 53b. Specarate sheet if necessary)	3. Did not stop 4. Stopped on crossing mary obstruction) 3. Passing Train 5. \(\) 4. Topography 6. \(\) 45 \[\] \[\	7. Werg 8. Suice Vegetation Highway Vehicles 5. Was Driver in th 1. Yes 2. No 8. Total Number of (including driver) I. Is a Rail Equipm Incident Report I	7. Other (specify) 8. Not Obstructed be Vehicle? f Vehicle Occupants bent Accident /	Code									

HIGHWAY-RAIL GRADE CROSSING

OMB Approval No. 2130-0500

FEDERAL RAILROAD ADMINISTRA	TION (FRA	١)	ACC	IDEN I/	INCIDENT	REPO	RI				OND AL	provai No. 2 130-1	0500
1.Name of Reporting Railroad		1a. Alphabetic Code 1b. Railroad Accident/Incid				No.							
Burlington Northern Railroad											PA233		Na
2.Name of Other Railroad or Other E	ntity Filling	for Equipm	ent Involved in Train	Accident	/Incident	2a. Alp	habetic Co	ode			zb. Raiiro	ad Accident/Incident	NO.
3. Name of Railroad or Other Entity	•		Maintenance (single	entry)		3a. Alp	ohabetic C	ode				ad Accident/Incident	No.
Burlington Northern Railroad	Company	[BN]				BN					PA233		
4. U.S. DOT Grade Crossing ID No.			1			1	e of Accide	ent/Inci day	dent ı ^{yeai}		6. Time of	Accident/Incident	
			08558	7B		1	2 0	1	198	89	4:59	AM 📗 I	PM 🗸
7. Nearest Railroad Station SEATTLE			8. Subdivision			9. Coo	unty ING				10. State A	bbr. WA	Code 53
11. City (if in a city) SEATTLE			12. Highw	vay Name	or No.	SPOR	KANE ST	,				Public Priva	ate 🗆
		r Involved	1			7 51 01	MILDI		Equip	ment	Involved		
13. Type	.,				17. Equipr	ment			<u> </u>	(moving)		Train pulling- RCL	
C. Truck-trailer F. Bus		J. Other Mot	or Vehicle		1. Tr	ain <i>(un</i>	its pulling)		. , .	standing	•	Train pushing- RCL Train standing- RCL	
A. Auto D. Pick-up truck G. Sch	ool Bus	K. Pedestria	ın	Code	2. Tr		its pushing,	,	-	o(s) <i>(m</i> o(s) <i>(</i> s	٠,	EMU Locomotive(s)	Code
B. Truck E. Van H. Mot	orcycle	M. Other (specify)	A	3. Tr		anding)	8. C	ther	(specify) E. I	DMU Locomotive(s)	6
l		<i>geographic</i> uth 3. East	•	Code 2	18. Positio	n of Car	Unit in Tra	ain		1			
16. Position 1. Stalled or stuck on		1. Trapped o	on crossing by traffic	<u> </u>	19. Circun	nstance							Code
Stopped on Crossi Maring a super crossi		5. Blocked o	n crossing by gates	Code 3	1. Rail e	equipme	nt struck h	ighway	user 2	2. Rail e	quipment st	truck by highway use	
3. Moving over crossii 20a. Was the highway user and/or		ont involved		3	20h Was	thoro a l	hazardous	matori	ale rolo	aca by			
in the impact transporting haz				Code	200. Was	lilele a i	nazaruous	materi	ais ieie	ase by			Code
1. Highway User 2. Rail Eq			. Neither	4	1.	Highwa	y User 2	2. Rail	Equipm	ent 3	Both 4.	Neither	
20c. State here the name and quant	tity of the h	azardous m	aterial released, if an	ıy									
21. Temperature 22. V	isibility (s.	ingle entry)		Code	23. Weat	ther (si	ngle entry)						Code
(specify if minus) 58 °F 1. [Dawn 2. D	ay 3. Dusl	k 4. Dark	2	1. Cle	ar 2. Cl	oudy 3. R	ain 4.	Fog 5.	Sleet	6. Snow		3
24. Type of Equipment 1. Freight T	rain	5. Sing	le Car 9. Maint./i	inspect. c	ar D. EM	U 2F	5. Track Ty	no Heo	d by P	ail	Code	26. Track Number of	r Namo
Consist 2. Passenge		_	•		•	U	Equipme	-	-	all	Code	26. Hack Number of	IName
			/Switching B. Passen			Code	. Main 2. Y	/ard 3	Siding	ı 4. Indu	etry 1	EASTWARD	
4. Work Tra 27. FRA Track 28. Number o		1	loco(s) C. Comm		-Pushing t Speed <i>(Re</i>					Code		Table Direction	
Class (1-9,X) Locomotiv		29. Num	ber of Cars 3	R. Rec		coraea	sреей II av	allable,	,	Code	1. Nor		Code
1 Units	2		0	E. Esti	mated			5 r	nph	E	2. Soi	uth 4. West	1
32. Type of 1. Gates 4.	Wig wags	7	Crossbucks 10. Fla	agged by	crew	33	3. Signaled	Crossi	ing Wa	rning	34. Roadv A. Dry	vay Conditions	
Crossing 2. Cantilever FLS 5.				,			(See reve				B. Wet		
Warning 3. Standard FLS 6.	•	•	Watchman 12. No		J., y/		instruction	ns and	codes)	Code	C.Snow/S D.Ice	lush	Code
Code(s) 03	7 tadibio											fud,Dirt,Oil,Gravel	
35. Location of Warning	l		36. Crossing V	⊥ Varning Ir	nterconnecte	ed			37. C	rossing	Illuminated	Standing, Moving) I by Street	1
1. Both Sides		. Cc	ode with Highw	vay Signa	ls		1 (Code	L	ights or	Special Lig	hts	Code
 Side of Vehicle Approach Opposite Side of Vehicle App 	roach	2		2. No 3	. Unknown			3	1	. Yes	2. No 3. U	Jnknown	1
38.Hignway 39.Highway User's Ge	nder 40. I		er Went Behind or in			Highway	y User around the	o goto			r (specify	y) ru temporary barricad	- Io
User's		and Struck	or was Struck by Sec	cond Trair			ed and the	•	eeded		es, see inst		Code
Age 1. Male 2. Female	Code	1. Yes 2.	No 3. Unknown		Code 2	3. Did n	ot stop				nt thru the g		3
42. Driver Passed Standing		Code	43. View of Track C	bscured		<u>. </u>	ed on crost etruction)	ssing		o. Suic	cide/Attemp	tea suiciae	Code
Highway Vehicle		1	1. Perma		•	3. Pas	sing Train	5. Ved	getation	1	7. Other	(specify)	-
1. Yes 2. No 3. Unknown		1		ng railroa	d equipmen		•	6. Hig	hway \	/ehicles		bstructed	3
Casualties to:	Killed	Injured	44. Driver was1. Killed 2. Inju	red 3. U	Ininiured		3	l .	vas Dri . Yes		e Vehicle?		Code 1
46. Highway-Rail Crossing Users	0	0	47. Highway Vehicle	e Property			1				Vehicle Oc	•	
49. Railroad Employees	0	0	(est. dollar dama 50. Total Number of	• /	n Train		\$1,000			<i>g driver</i> Equipm) nent Accidei		Code
52. Passengers on Train	0	0	(include passen	•				Ir	ncident	Report	Being Filed		2
53a. Special Study Block	Video Tal		Yes No		53b. Spec	cial Stud	v Block	1	. Yes	2. No			
-1 ·· - · - · - · - · · - · · · · ·	Video Us		Yes No		332. Opco	5.00	, 2.001						
54. Narrative Description (Be sp	ecific, and	continue or	separate sheet if ne	ecessary)									
55. Typed Name and Title			50	6. Signatu	ıre						57. Date		
NOTE: This report is part of the repo	orting railro	ad's accider				tatute a	nd as such	n shall i	not "be	admitte	d as eviden	ice or used for any ni	irnose

NOTE: This report is part of the reporting railroad's accident report pursuant to the accident reports statute and, as such snail not "be in any suit or action for damages growing out of any matter mentioned in said report...." 49 U.S.C. 20903. See 49 C.F.R. 225.7 (b).

FORM FRA F 6180.57 (Rev. 08/10)

* NOTE THAT ALL CASUALTIES MUST BE REPORTED ON FORM FRA F 6180.55A

OMB Approval expires 6/30/2021

1.Name of Reporting Railroad Burlington Northern Railroad Company [BN] 2.Name of Other Railroad or Other Entity Filling for Equipment Inv 3. Name of Railroad or Other Entity Responsible for Track Mainter Burlington Northern Railroad Company [BN] 4. U.S. DOT Grade Crossing ID No. 7. Nearest Railroad Station SEATTLE KING ST 11. City (if in a city) SEATTLE Highway User Involved 13. Type C. Truck-trailer F. Bus J. Other Motor Vehi A. Auto D. Pick-up truck G. School Bus K. Pedestrian B. Truck E. Van H. Motorcycle M. Other (specify) 14. Vehicle Speed (est. mph at impact) 15. Direction (geographical) (est. mph at impact) 16. Position 1. Stalled or stuck on crossing 4. Trapped on cross 2. Stopped on Crossing 5. Blocked on cross 3. Moving over crossing 20a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? 1. Highway User 2. Rail Equipment 3. Both 4. Neither 20c. State here the name and quantity of the hazardous material 21. Temperature (specify if minus) 45 °F 1. Dawn 2. Day 3. Dusk 4. Day	O85587B B. Subdivision 12. Highway N icle Co /est sing by traffic sing by gates Co er released, if any Co ark	Name or No 17. E ode K ode 18. F 4 19. C ode 3 20b. ode 4	BN 3a. Alp BN 5. Date 9. Cou KI O. SPOKAN Equipment 1. Train (un) 2. Train (un) 3. Train (sta Position of Car Circumstance 1. Rail equipment 1. Rail equipment	habetic Co chabetic Co chabeti	Rail Equipment 4. Car(s) (moving 5. Car(s) (standing 6. Light loco(s) (s 8. Other (specify) in 1 ghway user 2. Rail 6 materials release by 2. Rail Equipment 3	Involved I) A. Train pulling- RCL B. Train pushing- RCL B. Train pushing- RCL C. Train standing- RCL D. EMU Locomotive(s) E. DMU Locomotive(s) E. DMU Locomotive(s)	PM Code 53 Code 1 Code 1 Code 1 Code Code Code
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20a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? 1. Highway User 2. Rail Equipment 3. Both 4. Neither 20c. State here the name and quantity of the hazardous material	er released, if any Co	ode 4 23.	Highwa Weather (sin	y User 2	. Rail Equipment (Code
1. Highway User	er released, if any Co	23. 1	3. Weather (sin	ngle entry)		3. Both 4. Neither	Code
20c. State here the name and quantity of the hazardous material 21. Temperature 22. Visibility (single entry)	released, if any Co	ode 23.	3. Weather (sin	ngle entry)		3. Both 4. Neither	
21. Temperature 22. Visibility (single entry)	Co	1	,	• • • • • • • • • • • • • • • • • • • •			
	ark	1	,	• • • • • • • • • • • • • • • • • • • •			
	ark	1	,	• • • • • • • • • • • • • • • • • • • •			
(-)				oudv 3. Ra	ain 4. Fog 5. Sleet	6. Snow	3
24. Type of Equipment 1. Freight Train 5. Single Car		ect car	D. EMU	,	g		
Consist 2. Passenger Train-Pulling 6. Cut of cars (single entry) 3. Commuter Train-Pulling 7. Yard/Switch 4. Work Train 8. Light loco(s	hing B. Passenger 1	Train-Pushi	E. DMU	Equipme	oe Used by Rail int Involved ard 3. Siding 4. Indi	Code 26. Track Number ustry 1 EASTWARD	or Name
27. FRA Track 28. Number of 29. Number of 0	Juio		ed (Recorded s	speed if ava	ailable) Code	31. Time Table Direction	Code
Class (1-9,X) Locomotive		. Recorded Estimated			18 mph E	1. North 3. East 2. South 4. West	1
2 Units 2 32. Type of	41	Loumatoa		. Signaled	Crossing Warning	34. Roadway Conditions	
Crossing 2. Cantilever FLS 5. Hwy. traffic signals 8. Stop s Warning	sbucks 10. Flagged signs 11. Other (nman 12. None	•		`	rse side for s and codes) Code	A. Dry B. Wet C.Snow/Slush D.Ice	Code
Code(s) 03						E. Sand, Mud, Dirt, Oil, Gravel	
., 00	36. Crossing Warni	ina Intercor	onnected		37. Crossino	F.Water (Standing, Moving) g Illuminated by Street	
1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach	with Highway S 1. Yes 2. No	Signals		C	Lights or	r Special Lights 2. No 3. Unknown	Code 1
38.Hignway 39.Highway User's Gender 40. Highway User Wer	nt Behind or in Fron	nt of Train			5. Othe		
User's and Struck or was	Struck by Second	Train		around the		nt around/thru temporary barrica /es, see instructions)	ıde
Age 1. Male Code 1. Yes 2. No 3.	Linksaum	Code	e 2. Stopp 3. Did no		ni piooodada	ent thru the gate	Code
211 0111010		3	4. Stopp	ed on cros	sing 8. Sui	icide/Attempted suicide	3
42. Driver Passed Standing Code 43. Vi Highway Vehicle	iew of Track Obscu 1. Permanent	,		,	F. Vocatation	7. Other (specify)	Code
1. Yes 2. No 3. Unknown 3			3. Pasi uipment 4. Top	•	5. Vegetation6. Highway Vehicles	· · · · · · · · · · · · · · · · · · ·	8
Killed Injured	river was			1	45. Was Driver in the		Code
Casualties to:	. Killed 2. Injured				1. Yes 2. No	of Vahiala Ossumanta	
	ighway Vehicle Pro st. dollar damage)	рену Банк	nage	\$0	(including drive	of Vehicle Occupants r) 0	ı
	otal Number of Peo	ple on Trai	ain	, ,	51. Is a Rail Equipr	,	Code
ů ·	nclude passengers	and train c	crew)		Incident Report	Being Filed	2
53a. Special Study Block Video Taken? Yes	No	53h.	b. Special Study	<u> </u>	1. Yes 2. No		
Video Used? Yes	No		,	· · · · · ·			
54. Narrative Description (Be specific, and continue on separ	rate sheet if necess	sary)					
55. Typed Name and Title	56 Sic	gnature				57. Date	
NOTE: This report is part of the reporting railroad's accident report			ports statute ar	nd, as such	shall not "be admitte		purpose

FEDERAL RAILROAD ADMINISTRATIO	N (FRA)	ACCIDENT	INCIDENT	REPORT		OMB Approval No. 2130-	0500
1.Name of Reporting Railroad				1a. Alphabetic Co	de	1b. Railroad Accident/Incident	No.
Burlington Northern Railroad Co	mpany [BN]			BN		PA162	
2.Name of Other Railroad or Other Entity	Filling for Equipme	nt Involved in Train Acciden	t/Incident	2a. Alphabetic Co	ode	2b. Railroad Accident/Incident	No.
3. Name of Railroad or Other Entity Res Burlington Northern Railroad Con	•	faintenance (single entry)		3a. Alphabetic Co	ode	3b. Railroad Accident/Incident PA162	No.
4. U.S. DOT Grade Crossing ID No.	1 0 1 3			5. Date of Accide	ent/Incident	6. Time of Accident/Incident	
		085587B		month	day year		DM 🗾
7. Nearest Railroad Station		8. Subdivision		9. County	5 1985	12:35 AM	PM ✓ Code
SEATTLE		o. Subdivision		KING		Abbr. WA	53
11 City (if in a city)		12. Highway Nam	e or No.				
SEATTLE	y User Involved		SI	POKANE	Rail Equipment	Public / Priva	ate
13. Type	y Oser Involved		17. Equip	ment	4. Car(s) (moving)		
C. Truck-trailer F. Bus A. Auto D. Pick-up truck G. School I		Code	1. Tr 2. Tr 3. Tr	rain (units pulling) rain (units pushing)	5. Car(s) (standing 6. Light loco(s) (m		Code
B. Truck E. Van H. Motorcy	•	1 7			8. Other (specify	E. DMU Locomotive(s)	1
14. Vehicle Speed 15. Direct (est. mph at impact) 2 1. North	tion (geographica 2. South 3. East	,	18. Positio	on of Car Unit in Tra	ain 1		
16. Position 1. Stalled or stuck on cros			19. Circur	nstance			0-1-
Stopped on Crossing Moving over crossing	•	crossing by gates Code	1. Rail	equipment struck h	ighway user 2. Rail e	equipment struck by highway use	Code 1
20a. Was the highway user and/or rail e	equipment involved		20b. Was	there a hazardous	materials release by		Code
in the impact transporting hazardo		Code		Highway Hoor	Poil Equipment 3	P Poth 4 Noither	
1. Highway User 2. Rail Equipm 20c. State here the name and quantity of		<u> </u>	'	. nigriway Oser 2	2. Rail Equipment 3	5. Both 4. Neither	
256. State here the hame and quantity of	n the nazardous me	nonar released, ir arry					
21. Temperature 22. Visib	ility (single entry)	Code	23. Wea	ther (single entry)			Code
(specify if minus) 50 °F 1. Dawn	n 2. Day 3. Dusk	4. Dark 2	1. Cle	ear 2. Cloudy 3. Ra	ain 4. Fog 5. Sleet	6. Snow	1
24. Type of Equipment 1. Freight Train	5. Single	e Car 9. Maint./inspect.	car D. EM	1U 05 T 1. T-	a a Uaa dha Dail	Cada OC Tarah Niverbara	- NI
_	rain-Pulling 6. Cut o rain-Pulling 7. Yard/ 8. Light	SwitchingB. Passenger Train	n-Pushing	Code Equipme	pe Used by Rail ent Involved ′ard 3. Siding 4. Indu	Code 26. Track Number of SINGLE MAIN TRACK	
27. FRA Track 28. Number of	1	1	•	ecorded speed if av	ailable) Code	31. Time Table Direction	Code
Class (1-9,X) Locomotive			corded		15 mph E	1. North 3. East	2
3 Units	1	17 E. Est	imated	22 Signalad	Crossing Warning	2. South 4. West 34. Roadway Conditions	
1. Gates 4. Wig	wags 7.	Crossbucks 10. Flagged by	crew		0 0	A. Dry	
Crossing 2. Cantilever FLS 5. Hwy Warning	y. traffic signals 8.	Stop signs 11. Other (spe	ecify)		rse side for ns and codes)	B. Wet C.Snow/Slush	
3. Standard FLS 6. Aug	lible 9.	Watchman 12. None			Code	D.Ice E. Sand,Mud,Dirt,Oil,Gravel	Code
Code(s) 05					1	F.Water (Standing, Moving)	
35. Location of Warning		36. Crossing Warning		ed		Illuminated by Street	
Both Sides Side of Vehicle Approach	Cod	de with Highway Signa	als	0	Code	Special Lights	Code
Opposite Side of Vehicle Approach			3. Unknown		,	2. No 3. Unknown	1
38.Hignway 39.Highway User's Gende		er Went Behind or in Front of r was Struck by Second Tra		Highway User 1. Went around the		er (specify) nt around/thru temporary barricad	de
User's Age 1. Male Code		I was Struck by Second Tra	Code	2. Stopped and the	en proceeded (if y	res, see instructions)	Code
2. Female		lo 3. Unknown	2	 Did not stop Stopped on cros 		nt thru the gate cide/Attempted suicide	4
42. Driver Passed Standing	Code	43. View of Track Obscured	by (prir	mary obstruction)	<u> </u>	>	Code
Highway Vehicle		1. Permanent Stru		3. Passing Train	•	7. Other (specify)	1 .
1. Yes 2. No 3. Unknown	2	Standing railro 44. Driver was	ad equipmen	t 4. Topography	6. Highway Vehicles 45. Was Driver in th		Code
Casualties to:	lled Injured	1. Killed 2. Injured 3. I	Jninjured	3	1. Yes 2. No		1
46. Highway-Rail Crossing Users 0	0	47. Highway Vehicle Propert	y Damage	1		f Vehicle Occupants	
49. Railroad Employees		(est. dollar damage) 50. Total Number of People	on Train	\$1,000	(including driver		Code
52. Passengers on Train 0	0	(include passengers and		I	Incident Report		2
u l u		Yes No		cial Study Block	1. Yes 2. No		
1	_	Yes No	Job. Spec	—————			
54. Narrative Description (Be special	ic, and continue on	separate sheet if necessary,)				
55. Typed Name and Title		56. Signat	ure			57. Date	
NOTE: This report is part of the reportin		report pursuant to the accid	lent reports s				urpose
in any suit or action for damages growin						71	-

OMB Approval No. 2130-0500

FEDERAL RAILROAD ADMINISTRA	ATION (FRA	A)		ACCI	DENT/I	NCIDENT	REPO	RT				OMB A	Approval No. 2130	-0500
1.Name of Reporting Railroad							1a. Alp	habetic Co	ode			1b. Railı	road Accident/Inciden	t No.
Burlington Northern Railroad	l Compan	y [BN]					BN					PA85	59	
2.Name of Other Railroad or Other	Entity Filling	g for Equipm	nent Involved	I in Train A	Accident/	Incident (2a. Alp	habetic Co	ode			2b. Raili	road Accident/Inciden	t No.
Name of Railroad or Other Entity	Responsib	le for Track	Maintenance	e (single	entry)		3a. Alp	habetic C	ode			3b. Raili	road Accident/Inciden	t No.
Burlington Northern Railroad				(surgic t	ciui y)		BN					PA85	59	
4. U.S. DOT Grade Crossing ID No		-					1	e of Accide	ent/Inci			6. Time	of Accident/Incident	
			0	85587	7R		1	month 1	day 2	year 198		11:15	AM 🗸	РМ
7. Nearest Railroad Station				division			9. Cou			190	55	10. Stat		Code
SEATTLE							1	ING					Abbr. WA	53
11. City (if in a city) SEATTLE	r.		1	12. Highwa	ay Name	or No.	POKAN	IE ST					Public Pri	vate 🗍
		er Involve	d			52	0 22. 2.		Rail	Equip	ment	Involved	<u> </u>	
13. Type						17. Equipr	ment				(moving)		A. Train pulling- RCL	
C. Truck-trailer F. Bu	5	J. Other Mo	otor Vehicle			1. Tr	•	its pulling)	6 1	ar(s) (3. Train pushing- RCL C. Train standing- RCL	
A. Auto D. Pick-up truck G. Scl		K. Pedestri			Code	2. Tr		its pushing,	,	ight locc			D. EMU Locomotive(s)	Code
	torcycle	M. Other	• • • • • • • • • • • • • • • • • • • •		М	3. Tr		anding)	8. C		(specify		E. DMU Locomotive(s)	1
		<i>(geographic</i> outh 3.East	*		Code 3 18. Position of Car Unit in Train 1									
 Position 1. Stalled or stuck or Stopped on Cross 			•	•	Code	19. Circun	nstance							Code
Stopped on Cross Moving over cross	- ,	5. Blocked of	on crossing b	y gates	3	1. Rail e	equipme	nt struck h	ighway	user 2	2. Rail e	quipment	struck by highway us	er 2
20a. Was the highway user and/or		ent involved	d			20b. Was	there a l	hazardous	materi	als rele	ase by			Code
in the impact transporting haz					Code									I
1. Highway User 2. Rail Ed	· · · · · · · · · · · · · · · · · · ·		4. Neither		4	1.	Highwa	y User 2	2. Rail	Equipm	ent 3	B. Both 4	4. Neither	
20c. State here the name and quar	itity of the h	nazardous m	naterial relea:	sed, if any	/									
21. Temperature 22.	/isibility (s	single entry))		Code	23 Weat	ther (sir	ngle entry)						Code
	•	Day 3. Dus			2		•	oudy 3. R		Fog 5	Sleet	6 Snow		3
24. Type of Equipment 1. Freight 7). Maint./in		1	1		<u> </u>	. 09 0.	0.001	0. 0		
		ılling 6. Cut		A. Spec. M	•		125	5. Track Ty	•	•	ail	Code	e 26. Track Number	or Name
(single entry) 3. Commut	er Train-Pu	ılling 7. Yard	d/Switching B	•		•	Code	Equipme						
4. Work Tra		8. Ligh	nt loco(s) C	C. Commu	ter Train	-Pushing	1 1.	. Main 2. Y	ard 3	. Siding	4. Indu		SINGLE MAIN	N
27. FRA Track 28. Number of		29. Num	nber of Cars	30	. Consist R. Rec	t Speed <i>(Re</i>	corded s	speed if av	ailable _.)	Code		e Table Direction lorth 3. East	Code
Class (1-9,X) Locomot 1 Units	ive 3	,	87		E. Estir				10 r	mph	E		South 4. West	2
32. Type of							33	3. Signaled	Cross	ing War	rning		dway Conditions	•
Crossing	. Wig wags		'. Crossbucks					(See reve	rse sid	e for		A. Dry B. Wet		
2. Cantilever FLS 5 Warning						city)		instruction				C.Snow	/Slush	0-4-
3. Standard FLS 6 Code(s) 04	. Audible	9). Watchman	12. Non	ne						Code	E. Sand	I,Mud,Dirt,Oil,Gravel	Code
Code(s) 04 35. Location of Warning			36 C	rossing W	arning Ir	nterconnecte			1	37 C	rossing	-	r (Standing, Moving) ed by Street	
1. Both Sides		0	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	ith Highwa	•		zu .		SI-		_	Special L	•	ı Code
 Side of Vehicle Approach Opposite Side of Vehicle Approach 	aroooh		ode W	Yes 2.	No 3	. Unknown			Code 2	1	. Yes	2. No 3.	. Unknown	1
38.Hignway 39.Highway User's G			ser Went Beh				Highway				5. Othe			
User's		and Struck	or was Struc	ck by Seco	ond Trair	1		around the	•				thru temporary barrica structions)	ade
	Code	1 Vos. 0	N. O Halea		I	Code	 Stopp Did n 	oed and the ot stop	en prod	eeaea	, ,	nt thru the	,	Code
2. Female 42. Driver Passed Standing		Code	No 3. Unkn			2 prin		ed on crost	ssing		8. Suid	cide/Attem	npted suicide	3
Highway Vehicle		Code		1. Perman		-, "	•	sing Train	E \/o	actation		7 Othe	er (specify)	Code
1. Yes 2. No 3. Unknown		2				d equipmen		•		getation ghway \			Obstructed	3
	Killed	Injured	44. Driver v					l				ne Vehicle	?	Code
Casualties to: 46. Highway-Rail Crossing Users	-	,	1. Kille 47. Highwa	d 2. Injur				3		. Yes		f Vahiala (Occupants	1
40. Highway-Kaii Clossing Osers	0	0		llar damag		Damage		\$2,000	1	ncluding			оссирант з 1	
49. Railroad Employees	0	0	50. Total N	umber of	People o	n Train		•	1			nent Accid		Code
52. Passengers on Train	0	0	(include	e passeng	ers and	train crew)				ncident I. Yes		Being File	ed	2
53a. Special Study Block	Video Ta	ken?	Yes	No		53b. Spec	cial Stud	y Block						1
E4 November Description (D	Video Us		Yes	No										
54. Narrative Description (Be s	pecific, and	i continue o	n separate si	neet It ned	cessary)									
55. Typed Name and Title					. Signatu							57. Dat		
NOTE: This report is part of the rep	orting railro	ad's accide	ent report pur	suant to th	ne accide	ent reports s	tatute ar	nd, as such	h shall	not "be	admitte	ed as evide	ence or used for any i	ourpose

in any suit or action for damages growing out of any matter mentioned in said report...." 49 U.S.C. 20903. See 49 C.F.R. 225.7 (b).

HIGHWAY-RAIL GRADE CROSSING

OMB Approval No. 2130-0500

FEDERAL RAILROAD ADMINISTRA	ATION (FRA	١)		ACC	IDEN I/I	NCIDENT	KEPO	RI				OIVID A	pprovar No. 213	0-0500
1.Name of Reporting Railroad	. ~							habetic Co	ode				oad Accident/Incide	nt No.
Burlington Northern Railroad			1		A: -I + /	//	BN					PA937		nt No
2.Name of Other Railroad or Other	Entity Filling	for Equipr	nent I	nvolved in Train i	Accident/	Incident	2a. Alp	habetic C	ode			2b. Raiiro	oad Accident/Incide	nt No.
3. Name of Railroad or Other Entity	Responsib	e for Track	Mair	tenance (single	entry)		3a. Alp	ohabetic C	ode			3b. Railro	oad Accident/Incide	nt No.
Burlington Northern Railroad	Company	y [BN]					BN					PA937	7	
4. U.S. DOT Grade Crossing ID No							1	e of Accide	ent/Incid	dent , yea	r	6. Time o	of Accident/Incident	
				08558	7B		0			19		12:30	АМ	PM 🗸
7. Nearest Railroad Station				8. Subdivision			9. Co	•				10. State		Code
SEATLLE (1)				140 111 1	N.		K	ING				ļ A	Abbr. WA	53
11. City (if in a city) SEATTLI				12. Highw	ay Name	SI	POKAN	E ST E	В				Public 🗸 Pr	ivate
	hway Use	r Involve	d			T				<u> </u>		Involved	Taria and Baran DOI	
	hool Bus otorcycle	J. Other Mo K. Pedestri M. Other	ian (spec		Code	17. Equipi 1. Tr 2. Tr 3. Tr	ain <i>(un</i> ain <i>(un</i> ain <i>(st</i>	nits pulling) nits pushing anding)	7. Li 8. O	ar(s) (ght loco ght loco		g) B. noving) C. tanding) D.	Train pulling- RCL Train pushing- RCL Train standing- RCL EMU Locomotive(s) DMU Locomotive(s)	Code
	Direction North 2. So	(geographi uth 3 Fas	,	West	Code	18. Positio	on or Car	Unit in Tra	ain		1			
16. Position 1. Stalled or stuck or 2. Stopped on Cross 3. Moving over cross	r crossing ding	4. Trapped	on cr		Code 3	19. Circur		nt struck h	ighway			equipment s	struck by highway u	Code
20a. Was the highway user and/or in the impact transporting has			d		Code			hazardous			•			Code
1. Highway User 2. Rail E	• •				4	1.	. Highwa	y User	2. Rail E	Equipm	nent 3	3. Both 4.	. Neither	
20c. State here the name and quar	ility of the fi	azaruous r	naten	ai reieaseu, ii air	у									
21. Temperature 22.	Visibility (s	ingle entry)		Code	23. Wea	ther (si	ngle entry)						Code
(specify if minus) 60 °F 1.	Dawn 2. D	ay 3. Dus	sk 4.	Dark	2	1. Cle	ar 2. Cl	oudy 3. R	ain 4. F	og 5.	Sleet	6. Snow		2
	ger Train-Pu	-	of ca	rs A. Spec. N	ЛоW Equ	ip. E. DM	IU 25	5. Track Ty Equipme	•	-	ail	Code	26. Track Number	or Name
				tching B. Passen		- 1	Code 1	. Main 2.			ı 4 İndi	ıstry 2	W SEAT RUN	INING
4. Work Tra 27. FRA Track 28. Number		8. Ligh				-Pushing t Speed <i>(Re</i>					Code	, 	Table Direction	
Class (1-9,X) Locomot	ive		nber	or Cars 50	R. Rec		,coraca .	specu II av			I	1. No		Code
1 Units	1			32	E. Estir	mated	0.0	0.0:	4 m	•	E		outh 4. West	4
	. Wig wags	7	7. Cro	ssbucks 10. Fla	gged by	crew	33	3. Signaled		•	rning	A. Dry	way Conditions	
Crossing 2. Cantilever FLS 5 Warning	. Hwy. traffi	c signals 8	3. Sto	p signs 11. Oth	ner (spec	cify)		(See reve instruction				B. Wet C.Snow/S	Slush	
3. Standard FLS 6	. Audible		9. Wa	tchman 12. Nor	ne					,	Code	D.Ice E. Sand.I	Mud,Dirt,Oil,Gravel	Code
Code(s) 03											1	1	(Standing, Moving)	
35. Location of Warning1. Both Sides				36. Crossing W			ed					Illuminated Special Lig	d by Street	
Side of Vehicle Approach			ode	with Highw					Code		•		-	Code
 Opposite Side of Vehicle Ap 38.Hignway 39.Highway User's G 			l Sor M	1. Yes 2. Vent Behind or in		. Unknown	Highwa		3			2. No 3. l er (specii		3
User's		. ,		as Struck by Sec	ond Train	1	1. Went	around th	•	eeded	6. Wer	(-)	ru temporary barric	
Age 1. Male 2. Female	Code	1. Yes 2.	. No	3. Unknown		Code 2	3. Did n	ot stop			7. We	nt thru the o	gate	Code 3
42. Driver Passed Standing	<u> </u>	Code		View of Track O	bscured b			ed on cro	ssing		o. Sul	ude/Attemp	oted suicide	Code
Highway Vehicle		ſ		1. Permar		., .,	•	sing Train	5. Ved	etation	า	7. Other	r (specify)	
1. Yes 2. No 3. Unknown		2	44		ng railroa	d equipmen		•	6. Hig	hway \	/ehicles		Obstructed	8
Casualties to:	Killed	Injured	44.	Driver was 1. Killed 2. Injur	red 3. U	niniured		3	1	Yes		ne Vehicle?		Code 1
46. Highway-Rail Crossing Users	0	0	47.	Highway Vehicle (est. dollar dama	Property			\$300			umber o	f Vehicle O	ccupants	1
49. Railroad Employees	0	0	50.	Total Number of		n Train		1 '	51. ls	a Rail	Equipn	nent Accide		Code
52. Passengers on Train	0	0		(include passeng	gers and t	train crew)			1		Report 2. No	Being Filed	d	2
53a. Special Study Block	Video Ta		Yes	No		53b. Spec	cial Stud	y Block		. 165	2.110			1
Ed Namethy D. 111 (2)	Video Us		Yes	No No										
54. Narrative Description (Be s	specific, and	continue c	on sep	parate sheet if ne	cessary)									
55. Typed Name and Title					6. Signatu							57. Date		
NOTE: This report is part of the ren	orting railro	ad's accide	nt re	nort nursuant to t	he accide	ent renorts s	tatute a	nd as such	h shall r	not "he	admitte	d as evide	nce or used for any	nurnose

NOTE: This report is part of the reporting railroad's accident report pursuant to the accident reports statute and, as such shall not "be in any suit or action for damages growing out of any matter mentioned in said report...." 49 U.S.C. 20903. See 49 C.F.R. 225.7 (b).

FORM FRA F 6180.57 (Rev. 08/10)

* NOTE THAT ALL CASUALTIES MUST BE REPORTED ON FORM FRA F 6180.55A

OMB Approval expires 6/30/2021

FEDERAL RAILROAD ADMINISTRATION (FRA)		ACCI	IDENT/I	NCIDENT	REPOR	RT			OMB Ap	oproval No. 2130	-0500
1.Name of Reporting Railroad					1a. Alph	nabetic Co	ode		1b. Railro	ad Accident/Incident	No.
Burlington Northern Railroad Company	[BN]				BN				PA460		
2.Name of Other Railroad or Other Entity Filling for	or Equipment	Involved in Train A	Accident/	Incident	2a. Alp	habetic Co	ode		2b. Railro	ad Accident/Incident	No.
3. Name of Railroad or Other Entity Responsible f	for Track Mair	ntenance (single	antru)		3a. Alp	habetic C	ode		3b. Railro	ad Accident/Incident	No.
Burlington Northern Railroad Company		(single	eniry)		BN				PA460		
4. U.S. DOT Grade Crossing ID No.	-					of Accide	ent/Incide	nt	6. Time of	f Accident/Incident	
_		085587	7D			month	day	year		A.B.A.	DN4
7.N. (B.1) 10(.6)			<i>/</i> D		0		0	1978	7:40	AM	PM 🗸
7. Nearest Railroad Station SEATTLE		8. Subdivision			9. Cou	nty NG			10. State	lbbr. WA	Code 53
11 City (if in a city)		12. Highwa	ay Name	or No.	1		E				
SEATTLE Highway User	Involved			Si	OKAN	E STRE		quipment	Involved	Public 🗸 Priv	ale
13. Type				17. Equipr	nent		4. Car(<u> </u>		Train pulling- RCL	
	Other Motor V	ehicle		1. Tra		ts pulling)	5. Car((s) (standing	g) B.	Train pushing- RCL	
A. Auto D. Pick-up truck G. School Bus K.	. Pedestrian		Code	2. Tr	ain <i>(uni</i>	ts pushing	, -	.,,		Train standing- RCL EMU Locomotive(s)	Code
B. Truck E. Van H. Motorcycle M.	. Other (spec	cify)	В	3. Tra	ain <i>(sta</i>	inding)	7. Ligh 8. Oth		lanuing) _	DMU Locomotive(s)	1
	eographical)		Code	18. Positio	n of Car	Unit in Tra		(/		
(est. mph at impact) 3 1. North 2. South			3	40.0				1			
16. Position 1. Stalled or stuck on crossing 4. 2. Stopped on Crossing 5.		ossing by traffic	Code	19. Circun							Code
3. Moving over crossing	DIOCKEU OII CI	ossing by gates	3	1. Rail e	equipmer	nt struck h	ighway us	ser 2. Rail e	quipment s	truck by highway use	^{er} 1
20a. Was the highway user and/or rail equipmen	t involved			20b. Was	there a h	azardous	materials	s release by			Code
in the impact transporting hazardous mater	ials?		Code								1
1. Highway User 2. Rail Equipment 3.			4	1.	Highway	User :	2. Rail Eq	uipment 3	3. Both 4.	Neither	
20c. State here the name and quantity of the haz	ardous mater	ial released, if any	/								
21. Temperature 22. Visibility (sing	ale entrv)		Code	23 Weat	her <i>(sin</i>	gle entry)					Code
(specify if minus) 50 °F 1. Dawn 2. Day		Dark	4		•	•		g 5. Sleet	6 Snow		1
24. Type of Equipment 1. Freight Train	5. Single C			1	1	oudy 0.10	4111 1.10	9 0.0000	0. 0.1011		
Consist 2. Passenger Train-Pullir	ŭ		•		125	. Track Ty	•	•	Code	26. Track Number of	or Name
(single entry) 3. Commuter Train-Pullin	-	•			Code		ent Involv		1		
4. Work Train	8. Light loc				7 1.	Main 2. \	ard 3. S	Siding 4. Indu	ıstry 1	WESTWARD	
27. FRA Track 28. Number of	29. Number	of Cars 30		Speed (Re	corded s	peed if av	railable)	Code	31. Time	Table Direction	Code
Class (1-9,X) Locomotive 4 Linits 1		11	R. Red E. Estir				10 mp	h E	1. No		4
32. Type of		11	E. ESIII	nateu	33	Signaled		g Warning		way Conditions	<u> </u>
1. Gates 4. Wig wags	7. Cro	ossbucks 10. Flaç	gged by	crew		Ū			A. Dry	way conditions	
Crossing 2. Cantilever FLS 5. Hwy. traffic s	ignals 8. Sto	p signs 11. Oth	er (spec	cify)		(See reve instruction			B. Wet C.Snow/S	slush	
Warning 3. Standard FLS 6. Audible	9. Wa	tchman 12. Nor	ne					Code	D.Ice	/lud,Dirt,Oil,Gravel	Code
Code(s) 03								1	· ·	Standing, Moving)	
35. Location of Warning		36. Crossing W	arning Ir	nterconnecte	ed		;	37. Crossing		•	
Both Sides Side of Vehicle Approach	Code	with Highwa	ay Signa	ls		(Code	Lights or	Special Lig	hts	Code
Opposite Side of Vehicle Approach	1	1. Yes 2.	No 3	. Unknown			2	1. Yes	2. No 3. L	Jnknown	1
		Vent Behind or in			Highway	User around the	o goto	5. Othe	(- /	y) ru temporary barrica	do
1	nd Struck or w	as Struck by Seco	ond Trair			ed and the	•		es, see inst		
Age 1. Male Code 2. Female 1.	Yes 2. No	3 Unknown		Code 2	3. Did no	ot stop		7. Wer	nt thru the g		Code 3
211 0111010		. View of Track Ob	hecured l		4. Stopp าary obst	ed on cros	ssing	8. Suid	cide/Attemp	ted suicide	
Highway Vehicle	Code 43	1. Perman		- , "	,	sing Train	E \/000	tation	7 Other	(specify)	Code
,	2			d equipmen		U		vay Vehicles		bstructed	8
Convolting to: Killed I	Injured 44.	Driver was					45. Wa	s Driver in th			Code
A6 Highway-Pail Crossing Users	Δ7	1. Killed 2. Injur Highway Vehicle				3		al Number of	f Vehicle Or	ccupants	1
40. Flighway-Ivali Crossing Osers 0)	(est. dollar damag		Zamago		\$1,000		luding driver		1	
49. Railroad Employees 0	50.	Total Number of	People o	n Train			1	Rail Equipm			Code
52. Passengers on Train () ())	(include passeng	ers and	train crew)				dent Report Yes 2. No	being Filed		2
53a. Special Study Block Video Take				53b. Spec	ial Study	Block					<u>'</u>
Video Used			200000001								
54. Narrative Description (Be specific, and co	oritinue on sej	varate sneet it ned	essary)								
55. Typed Name and Title			. Signatu						57. Date		
NOTE: This report is part of the reporting reilroad	l'a agaidant -a		000014		*****	امنیم می ام	مم الممام م	4 "ha a alaaista	ممامان ممام	saa ar waad far aaw a	urnooo

FEDERAL RAILROAD ADMINISTRA	ATION (FRA	۸)	ACC	IDENT/I	INCIDENT	REPOR	RT			OMB A	pproval No. 2130-	-0500
1.Name of Reporting Railroad						1a. Alph	abetic Co	de		1b. Railro	ad Accident/Incident	No.
Burlington Northern Railroad	l Compan	y [BN]				BN				PA082	24	
2.Name of Other Railroad or Other I	Entity Filling	for Equipm	ent Involved in Train	Accident	/Incident	2a. Alpl	habetic Co	ode		2b. Railro	ad Accident/Incident	No.
3. Name of Railroad or Other Entity	Responsibl	le for Track	Maintenance (single	entrv)		3a. Alp	habetic C	ode		3b. Railro	ad Accident/Incident	No.
Burlington Northern Railroad	Company	y [BN]	(*****			BN				PA082	24	
4. U.S. DOT Grade Crossing ID No.						5. Date	of Accide	ent/Inci	dent	6. Time o	f Accident/Incident	
			OOEEO.	7D			nonth	day	year		A B 4	DN4
			085587	<u>/ D</u>		0	6 2	3	1977	11:25		PM
7. Nearest Railroad Station			8. Subdivision			9. Cou	•			10. State	Abbr. WA	Code
SEATTLE			42 Highw	av Nama	or No	KI	NG				NDDI. VVA	53
11. City (if in a city) SEATTLE	E		12. Highw	ay ivame	e or No. 21	ND AVE	AND SI	POKA	NE		Public 🗸 Priv	ate
Hig	hway Use	er Involve	d					Rail	Equipment	Involved		
13. Type					17. Equip	ment			ar(s) (moving		Train pulling- RCL	
C. Truck-trailer F. Bus	3	J. Other Mo	tor Vehicle		1. Tr	•	ts pulling)	6 1	ar(s) (standing ght loco(s) (n		Train pushing- RCL Train standing- RCL	
A. Auto D. Pick-up truck G. Sch	nool Bus	K. Pedestria	an	Code	2. Tr		ts pushing,	,			EMU Locomotive(s)	Code
B. Truck E. Van H. Mo	torcycle	M. Other	(specify)	Α	3. Tr	ain (sta	nding)		ight loco(s) (s other (specify	٠, _	DMU Locomotive(s)	2
14. Vehicle Speed 15. [Direction	(geographic	eal)	Code	18. Positio	on of Car	Unit in Tra	ain				
(est. mph at impact) 10 1. N	lorth 2. So	uth 3. East	4. West	3					3			
16. Position 1. Stalled or stuck or	·		• •	Codo	19. Circur	nstance						Code
2. Stopped on Cross	- (5. Blocked o	on crossing by gates	Code 3	1. Rail	equipmen	nt struck h	ighway	user 2. Rail e	quipment s	truck by highway use	
3. Moving over cross				3	001 141							
20a. Was the highway user and/or in the impact transporting haz			1	Code	20b. Was	there a h	azardous	materi	als release by			Code
Highway User 2. Rail Ed			. Neither	4	1	. Highway	/User 2	2. Rail	Equipment 3	3. Both 4.	Neither	
20c. State here the name and quar						J - 7			1.1			l
· ·	,			,								
21. Temperature 22. V	Visibility (s	single entry)		Code	23. Wea	ther (sin	gle entry)					Code
(specify if minus) 70 °F 1.1	Dawn 2. D	ay 3. Dus	k 4. Dark	2	1. Cle	ear 2. Clo	udv 3. R	ain 4.	Fog 5. Sleet	6. Snow		1
24. Type of Equipment 1. Freight 1		5. Sing					,					I
		Illing 6. Cut		•		125	. Track Ty	•	•	Code	26. Track Number of	or Name
_		-	d/Switching B. Passen			Code	Equipme	ent Invo	olved	1	WESTWARD N	MAIN
4. Work Tra			t loco(s) C. Commu				Main 2. Y	ard 3	. Siding 4. Indi	ustry 1	TRACK	
27. FRA Track 28. Number of	of	29. Num			t Speed (Re	ecorded s	peed if av	ailable) Code	31. Time	Table Direction	Code
Class (1-9,X) Locomot				R. Rec	corded	•		_	. 1_	1. No		1
4 Units	1		2	E. Estir	mated			3 r	mph E	2. So	uth 4. West	3
32. Type of 1. Gates 4.	. Wig wags	7	. Crossbucks 10. Flag	aged by	crew	33.	. Signaled	Cross	ing Warning	34. Road	way Conditions	
Crossing			. Stop signs 11. Oth				(See reve	rse sid	e for	B. Wet		
Warning	•	Ū			uny)		instructior	ns and	,	C.Snow/S D.Ice	Slush	Code
3. Standard FLS 6. Code(s) 03 09			. Watchman 12. Nor	le l					Code	E. Sand,N	Mud,Dirt,Oil,Gravel	
)]	10	100 0 1 11					1	1		Standing, Moving)	
35. Location of Warning 1. Both Sides			36. Crossing W			ea			37. Crossing	Special Lic	•	
Side of Vehicle Approach			ode with Highwa	-				Code	Ü		,	Code
Opposite Side of Vehicle App		2			B. Unknown			2		2. No 3. l		1
38.Hignway 39.Highway User's Go			ser Went Behind or in			Highway	User around the	e nate	5. Othe		<i>'y)</i> ru temporary barrica	de
User's Age 1. Male		and Struck	or was Struck by Sec	ond Iraii			ed and the	•		es, see inst		Code
Age 1. Male 2. Female	Code	1. Yes 2	No 3. Unknown		Code 2	3. Did no	ot stop		7. We	nt thru the g	,	3
42. Driver Passed Standing		Code	43. View of Track Ol	hecured		4. Stoppe nary obst	ed on cros	ssing	8. Sul	cide/Attemp	eted suicide	Code
Highway Vehicle		J	1. Permar		- , "	•	sing Train	E \/o	notation	7 Other	(specify)	Code
1. Yes 2. No 3. Unknown		1			d equipmen		•		getation ghway Vehicles)bstructed	8
	Killed	Injured	44. Driver was	· g · · · · · · ·		1	3·p·	45. V	Vas Driver in th			Code
Casualties to:	Killeu	mjureu	1. Killed 2. Injur				3		. Yes 2. No			1
46. Highway-Rail Crossing Users	0	0	47. Highway Vehicle		/ Damage	ĺ	#2.000	l	otal Number o		ccupants	
49. Railroad Employees		_	(est. dollar dama		T		\$2,000		<i>ncluding driver</i> s a Rail Equipr		1 1	Code
	0	0	50. Total Number of (include passeng	•		1			ncident Report			
52. Passengers on Train	0	0		ora ariu					. Yes 2. No			2
53a. Special Study Block	Video Ta	_	Yes No		53b. Spec	cial Study	Block					
54. Narrative Description (Be s	Video Us		Yes No n separate sheet if ned	neccon/l								
O Harrative Description (DE S	poonio, anu	Johnnac OI	, soparate sneet ii Net	aiy)								
55. Typed Name and Title			56	S. Signatu	ıre					57. Date		
NOTE: This report is part of the rep	orting railro	ad's accide	nt report pursuant to the	he accide	ent reports s	statute an	d, as such	shall	not "be admitte	ed as evider	nce or used for any p	urpose

OMB Approval No. 2130-0500

FEDERAL RAILROAD ADMINISTRA	TION (FRA))		ACCI	DENT/I	INCIDENT	REP	ORT				OMB Ap	oproval No. 2130-0)500
1.Name of Reporting Railroad							1a. Al	Iphabetic Co	ode				ad Accident/Incident N	No.
Burlington Northern Railroad	Company	/ [BN]					B	N				PA002	7	
2.Name of Other Railroad or Other E	Entity Filling	for Equipme	nt Involved	in Train A	Accident/	/Incident	2a. A	Alphabetic Co	ode			2b. Railro	ad Accident/Incident N	No.
3. Name of Railroad or Other Entity	Responsible	e for Track N	/laintenance	e (single e	entry)		3a. A	Alphabetic Co	ode		-	3b. Railro	ad Accident/Incident N	No.
Burlington Northern Railroad	_ · ·	[BN]					BN	N .				PA002	7	
4. U.S. DOT Grade Crossing ID No.							5. Da	ate of Accide	ent/Incid	lent , year		6. Time of	f Accident/Incident	
			_	85587	<u>7B</u>			0 1 0	1 7	197	7	11:00		PM 🗸
7. Nearest Railroad Station SEATTLE			8. Sub	odivision				ounty KING				10. State A	lbbr. WA	Code 53
11. City (if in a city) SEATTLE	,		1	12. Highwa	ay Name	or No.	1	NE ST					Public Priva	
	hway User	r Involved					011	111111	Rail I	 Equipr	ment I	Involved		
13. Type						17. Equipr	nent		4. Cai	r(s) (n	noving)	Α.	Train pulling- RCL	
C. Truck-trailer F. Bus		J. Other Moto				1. Tra		units pulling)	6 Lia	ır(s) <i>(sı</i> ght loco(s			Train pushing- RCL Train standing- RCL	
A. Auto D. Pick-up truck G. Sch		K. Pedestrian			Code	2. Tra		units pushing) (standing)	, -	ght loco(tanding) D. I	EMU Locomotive(s)	Code
		M. Other (s _t			A				8. Otl		specify)	E. I	DMU Locomotive(s)	1
		<i>geographical</i> uth 3.East	,		Code 3	18. Positio	n or Ca	ar Unit in Tra	ain	1				
16. Position 1. Stalled or stuck on	·		•	•	Code	19. Circum	nstance	e						Code
Stopped on Crossi Moving over crossi	- 0.	. Blocked on	crossing b	y gates	2	1. Rail e	∍quipm	nent struck hi	ighway ı	user 2.	. Rail e	quipment st	truck by highway user	
20a. Was the highway user and/or		ant involved			<u> </u>	20h Was	there a	a hazardous	materia	ls relea				20040
in the impact transporting haz					Code	200	liioi -	2 110201000	IIIaicc.	10 10100	30 0,			Code
1. Highway User 2. Rail Ed	• •		Neither		4	1.	Highw	vay User 2	2. Rail E	quipme	ent 3	. Both 4.	Neither	
20c. State here the name and quan	tity of the ha	zardous ma	terial releas	sed, if any	1									
21. Temperature 22. \	Visibility (sir	ngle entry)			Code	23. Weat	ther (single entry)						Code
(specify if minus) 32 °F 1. [Jawn 2. Da	ay 3. Dusk	4. Dark		4	1. Cle	ar 2. (Cloudy 3. Ra	ain 4. F	og 5. S	Sleet	6. Snow		1
24. Type of Equipment 1. Freight T		5. Single		9. Maint./in	•		- 12	25. Track Ty	pe Used	d by Ra	il	Code	26. Track Number or	r Name
_		lling 6. Cut of ling 7. Yard/§		A. Spec. M	•	•	IU Code	Equipme	•	•			WESTWARD M	
4. Work Tra		8. Light I		s. Passeng C. Commut				1. Main 2. Y	ard 3.	Siding	4. Indu	stry 1	TRACK	
27. FRA Track 28. Number of	of	1	per of Cars				cordec	d speed if av	ailable)	C	Code	31. Time 7	Table Direction	Code
Class (1-9,X) Locomoti	ive 3				R. Rec				18 m	nh	E	1. Nor	rth 3. East uth 4. West	4
32. Type of			48		E. Estir	nateu	<u></u>	33. Signaled					way Conditions	
	. Wig wags	7. (Crossbucks	s 10. Flaç	gged by (crew		•		•	""'9	A. Dry	ray conductions	
2. Cantilever FLS 5. Warning	Hwy. traffic	signals 8.5	Stop signs	11. Oth	er (spec	cify)		(See reveinstruction				B. Wet C.Snow/S	lush	
3. Standard FLS 6.	Audible	9. \	Watchman	12. Non	ie .					,	Code	D.Ice E. Sand,M	/lud,Dirt,Oil,Gravel	Code
Code(s) 03							$\perp \perp$			\perp	1	F.Water (S	Standing, Moving)	
35. Location of Warning			I	•	•	nterconnecte	∌d				_	Illuminated Special Lig	•	
 Both Sides Side of Vehicle Approach 		Cod	ue	ith Highwa					Code		-			Code
3. Opposite Side of Vehicle App	1	lighway Has		Yes 2.		3. Unknown	Highw	/ay User	1		Yes 2 5. Othe	2. No 3. U		1
38.Hignway 39.Highway User's Ge User's		Highway Use and Struck o						ray User int around the	e gate				y) ru temporary barricade	e
	Code					Code		pped and the	en proce			es, see insti nt thru the g		Code
2. Female	_ _ 1	I. Yes 2. N	1o 3. Unkn	nown				pped on cros	ssing			ide/Attempt		4
42. Driver Passed Standing		Code	43. View of			- , .,	nary ob	bstruction)						Code
Highway Vehicle	1	2		1. Perman				assing Train	_		11-100	7. Other		8
1. Yes 2. No 3. Unknown	—	4	44. Driver w		g raiiroa	d equipmen	t 4. 10	pograpny		hway Ve 'as Drive		e Vehicle?	bstructed	Code
Casualties to:	Killed	Injured		ed 2. Injure				3		Yes 2				1
46. Highway-Rail Crossing Users	0	0	47. Highway (est. dol	ay Vehicle ollar damag		/ Damage		\$50		otal Nun Including		Vehicle Oc	cupants 1	
49. Railroad Employees	0	0 5	50. Total Nu			n Train		•	1			nent Accider		Code
52. Passengers on Train	0	0	(include) passeng	ers and t	train crew)				cident R . Yes 2		Being Filed		2
53a. Special Study Block	Video Tak		_	No		53b. Spec	ial Stu	ıdy Block		100				
54 Norretive Description (Poss	Video Use		Yes sonarate sh	No										
54. Narrative Description (Be s	Decilic, and c	continue on	Separate Si	neet II rieu	;essary ₎									
55. Typed Name and Title					S. Signatu						1 10	57. Date		
NOTE: This report is part of the rep	orting railros	adis accident	report pur	cuant to th	ve accide	ant renorts s	tatute	and as such	n chall n	ot "he s	admitte	d as eviden	CE OF LISED FOR ANY DIV	Irnose

NOTE: This report is part of the reporting railroad's accident report pursuant to the accident reports statute and, as such shall not "be in any suit or action for damages growing out of any matter mentioned in said report...." 49 U.S.C. 20903. See 49 C.F.R. 225.7 (b).

FORM FRA F 6180.57 (Rev. 08/10)

* NOTE THAT ALL CASUALTIES MUST BE REPORTED ON FORM FRA F 6180.55A

OMB Approval expires 6/30/2021

FEDERAL RAILROAD ADMINISTRA	ATION (FRA	١)	ACC	IDENT/I	NCIDENT	REPORT	-			OMB Ap	oproval No. 2130-0)500
1.Name of Reporting Railroad						1a. Alphal	betic Co	de		1b. Railro	ad Accident/Incident I	No.
Burlington Northern Railroad	l Company	y [BN]				BN				PA157	0	
2.Name of Other Railroad or Other I		-	ent Involved in Train A	Accident/	Incident (2a. Alpha	betic Co	ode		2b. Railro	ad Accident/Incident I	No.
3. Name of Railroad or Other Entity	Responsible	e for Track	Maintenance (single	entry)		3a. Alpha	abetic Co	ode		3b. Railro	ad Accident/Incident I	No.
4. U.S. DOT Grade Crossing ID No.						5. Date o	of Accide	nt/Incid	lent	6. Time of	f Accident/Incident	
-			085587	7R		moi	.	day	year	2.07	AM √ F	РМ
7. Nearest Railroad Station			8. Subdivision	<i>,</i> D		9. Count		8	1976	3:07 10. State		Code
SEATTLE			O. Gubalvision			KIN	•			1	abbr. WA	53
11. City (if in a city) SEATTLE			12. Highwa	ay Name	or No.	OKANE	STRE	ЕТ		1	Public Priva	ite 🗍
	hway Use	r Involve	d		~-				Equipment	Involved		
13. Type					17. Equipr	ment		4. Ca			Train pulling- RCL	
C. Truck-trailer F. Bus	5	J. Other Mo	tor Vehicle		1. Tra		pulling)	6 Lic	ar(s) <i>(standir</i> ght loco(s) <i>(l</i>		Train pushing- RCL Train standing- RCL	
A. Auto D. Pick-up truck G. Sch	nool Bus	K. Pedestria	an	Code	2. Tr		pushing)				EMU Locomotive(s)	Code
B. Truck E. Van H. Mo		M. Other (A	3. Tr			8. Ot			DMU Locomotive(s)	1
	Direction (North 2. Sou	<i>(geographic</i> uth 3.East		Code 3	18. Positio	n of Car Ur	nit in Tra	ain	1			
16. Position 1. Stalled or stuck on		I. Trapped	on crossing by traffic	0-4-	19. Circun	nstance						Code
2. Stopped on Cross		5. Blocked o	on crossing by gates	Code 3	1. Rail e	equipment s	struck hi	ghway	user 2. Rail	equipment s	truck by highway user	
3. Moving over crossi 20a. Was the highway user and/or		ont involves	.	3	20h Waa	thoro a ha	zordouo	motorio	la ralagga hi	,		
in the impact transporting haz			1	Code	200. Was	lilele a liaz	Zaruous	Пасепа	als release by			Code
1. Highway User 2. Rail Ed			. Neither	4	1.	Highway L	Jser 2	2. Rail E	quipment	3. Both 4.	Neither	
20c. State here the name and quan	tity of the ha	azardous m	naterial released, if any	/								
21. Temperature 22. V	/isibility (s	ingle entry)		Code	23. Weat	ther (single	e entry)					Code
. 21 0	Dawn 2. D			4		, ,	• • •	ain 4. F	og 5. Sleet	6. Snow		1
24. Type of Equipment 1. Freight T		5. Sing		nspect. ca	1	u l					26. Track Number or	Name
Consist 2. Passenger Train-Pulling 6. Cut of cars A. Spec. MoW Equip. E. DMU Equipment Involved												
			d/Switching B. Passen			Code	 ain 2 V	ard 2	Siding 4. Inc	luctry 1	EASTWARD MA	AIN
4. Work Tra 27. FRA Track 28. Number of		1	t loco(s) C. Commu		-Pushing t Speed <i>(Re</i>						Table Direction	
Class (1-9,X) Locomoti		29. Num	ber of Cars 30	R. Rec		coraea spe	eeu II av	апарте)	L	1. Noi		Code
4 Units	2		19	E. Estir	mated	<u>, </u>		5 m	nph E	2. So	uth 4. West	3
32. Type of 1. Gates 4.	Wig wags	7	. Crossbucks 10. Flag	naed by a	crew	33. S	Signaled	Crossir	ng Warning	34. Roady A. Dry	way Conditions	
Crossing			. Stop signs 11. Oth			(S	ee revei	rse side	for	B. Wet		
Warning 3. Standard FLS 6.	-	_	. Watchman 12. Nor		ony)	ins	struction	is and c	codes) Code	C.Snow/S D.Ice	ilush	Code
Code(s) 03 06]	. Watchinan 12. Noi							E. Sand,N	Mud,Dirt,Oil,Gravel	
35. Location of Warning	,		36. Crossing W	l /arning Ir	nterconnecte	ed		T	37 Crossin	g Illuminated	Standing, Moving)	
1. Both Sides		C	ode with Highwa	•		-	1 0	ode		r Special Lig	•	Code
 Side of Vehicle Approach Opposite Side of Vehicle Approach 	oroach	1		No 3	. Unknown				1. Yes	2. No 3. L	Jnknown	2
38.Hignway 39.Highway User's Ge	-		ser Went Behind or in			Highway U	ser		5. Oth			
User's		and Struck	or was Struck by Seco	ond Trair	n	1. Went are		•		nt around/thi	ru temporary barricad	е
	Code	1 \/ 0	N. O. Halmanna	I	Code	 Stopped Did not s 		en proce	oodod .	ent thru the g	,	Code
2. Female			No 3. Unknown		2	4. Stopped		ssing	8. Su	icide/Attemp	ted suicide	2
42. Driver Passed Standing Highway Vehicle		Code	43. View of Track Ol 1. Perman		-, "	nary obstru	,			7 Othor	(specify)	Code
1. Yes 2. No 3. Unknown		2			d equipmen	3. Passin t 4. Topogi	_	_	etation hway Vehicle		(specify) bstructed	8
	Killed	Injured	44. Driver was			<u></u>		45. W	as Driver in t			Code
Casualties to:	Tunou	ju.ou	1. Killed 2. Injur			3	}		Yes 2. No	()/ 1:1 0		1
46. Highway-Rail Crossing Users	0	0	47. Highway Vehicle (est. dollar dama		/ Damage	\$	50		otal Number Including drive		ccupants 1	
49. Railroad Employees	0	0	50. Total Number of	People o	n Train				a Rail Equip			Code
52. Passengers on Train	0	0	(include passeng	ers and	train crew)				cident Repor . Yes 2. No	t Being Filed		2
53a. Special Study Block	Video Tal	_	Yes No		53b. Spec	cial Study B	Block					
54. Narrative Description (Be s			n separate sheet if ned	cessary)								
,				• • • • • • • • • • • • • • • • • • • •								
55. Typed Name and Title			56	i. Signatu	ıre					57. Date		-
NOTE: This report is part of the rep	orting railro	ad's accide				tatute and,	as such	shall n	ot "be admitt		nce or used for any pu	rpose

Highway User Involved 13. Type C. Truck-trailer F. Bus D. Other Motor Vehicle A. Auto D. Pick-up truck G. School Bus B. Truck E. Van H. Motorcycle M. Other (specify) A. Auto D. Pick-up truck G. School Bus B. Truck E. Van H. Motorcycle M. Other (specify) A. Train (units pulling) B. Truck G. Van H. Motorcycle M. Other (specify) A. Train (units pulling) B. Truck E. Van H. Motorcycle M. Other (specify) A. Train (units pulling) Code C. Train (units pulling) B. Truck Code Code Code Code Code Code Code Code	ent/Incident No. ent/Incident No. t/Incident AM PM Code AM 53 lic Private ing- RCL inding- RCL omotive(s) Code Code Code Code Code Code
2. Name of New Railroad or Other Entity Responsible for Track Maintenance	ent/Incident No. tt/Incident AM PM Code (A 53 lic Private ting- RCL hing- RCL omotive(s) code omotive(s) 1 Code tinghway user 2 Code Code
3. Name of Railroad or Other Entity Responsible for Track Maintenance (single entry) 3. Name of Railroad or Other Entity Responsible for Track Maintenance (single entry) 3. Name of Railroad or Other Entity Responsible for Track Maintenance (single entry) 3. Sponsor Spon	ent/Incident No. tt/Incident AM PM Code (A 53 lic Private ting- RCL hing- RCL omotive(s) code omotive(s) 1 Code tinghway user 2 Code Code
4. U.S. DOT Grade Crossing ID No. Search Code AM PM Code Code A	
Rail Equipment Rail	AM PM Code AM S3 Ilic Private Ing- RCL Inding- RCL code
1. City 1. C	Code (A
SEATTLE	ing-RCL hing-RCL omotive(s) Code nighway user Code Code
12. Highway Name or No. SPOKANE ST Put	ing- RCL hing- RCL hing- RCL conding- RCL omotive(s) condeinghway user 2 Code Code
Highway User Involved 13. Type C. Truck-trailer F. Bus J. Other Motor Vehicle B. Truck E. Van H. Motorcycle M. Other (specify) B. Truck E. Van H. Motorcycle M. Other (specify) A. At Train (units publing) A. Train (units publing) C. Truck-trailer F. Bus J. Other Motor Vehicle B. Truck E. Van H. Motorcycle M. Other (specify) A. At Train (units publing) A. Train (units publing) A. Train (units publing) C. Train (units publing) A. Train (standing) C. Train (units publing) A. Train publing C. Train (units publing) C. Train (units publing) A. Train (standing) C. Train (units publing) C. Card (1) Venture (1) Venture (2) V	ing- RCL hing- RCL omotive(s) conditive(s) conditive(s) code highway user 2 Code
13. Type C. Truck-trailer F. Bus J. Other Motor Vehicle A. Auto D. Pick-up truck G. School Bus K. Pedestrian Code B. Truck E. Van H. Motorcycle M. Other (specify) A. Auto D. Pick-up truck G. School Bus B. Truck E. Van H. Motorcycle M. Other (specify) A. Auto D. Pick-up truck G. School Bus B. Truck E. Van H. Motorcycle M. Other (specify) A. Auto D. Pick-up truck G. School Bus K. Pedestrian Code B. Train put Code J. Train (units pulling) S. Train (put pulling) S. Other (specify) J. Light loco(s) (standing) J. D. EMU Le J. Light loco(s) (standing) J. Rail equipment struck highway user 2. Rail Equipment struck by J. Rail equipment struck hig	hing- RCL ndina- RCL omotive(s) omotive(s) 1 Code nighway user 2 Code
C. Truck-trailer F. Bus J. Other Motor Vehicle A. Auto D. Pick-up truck G. School Bus B. Truck E. Van H. Motorcycle M. Other (specify) A. Other (specify) A. Other (specify) A. Train (units pushing) B. Truck E. Van H. Motorcycle M. Other (specify) A. Other (specify) B. Train (units pushing) A. Other (specify) B. Train (units pushing) A. Train (units pushing) B. Train (units pushing) A. Train (units pushing) B. Train (units pushing) A. Train (units pushing) B. Island (units pushing) B. Train (units pushing) B. Island (units pushing) B. I	hing- RCL ndina- RCL omotive(s) omotive(s) 1 Code nighway user 2 Code
(est. mph at impact) 1. North 2. South 3. East 4. West 3 2	Code
2. Stopped on Crossing 3. Moving over crossing 5. Blocked on crossing by gates 3. Moving over crossing 5. Blocked on crossing by gates 3. Moving over crossing 5. Blocked on crossing by gates 3. Moving over crossing 5. Blocked on crossing by gates 3. Moving over crossing 5. Blocked on crossing by gates 3. Moving over crossing 5. Blocked on crossing by gates 3. Moving over crossing 5. Blocked on crossing by gates 3. Moving over crossing 5. Blocked on crossing by gates 3. Moving over crossing 5. Blocked on crossing by gates 3. Moving over crossing 5. Blocked on crossing by gates 3. Moving over crossing 5. Blocked on crossing by gates 3. Moving over crossing 5. Blocked on crossing by gates 3. Rail equipment struck highway user 2. Rail equipment struck by 2. Day 3. Dusk 4. Neither 2. Code 2. Moving the hazardous materials release by 2. Code 2. Rail Equipment 3. Both 4. Neither 2. Code 2. Rail Equipment 3. Both 4. Neither 2. Code 2. Rail Equipment 3. Both 4. Neither 2. Code 2. Rail Equipment 3. Both 4. Neither 2. Code 2. Rail Equipment 3. Both 4. Neither 2. Code 2. Rail Equipment 3. Both 4. Neither 2. Code 2. Rail Equipment 3. Both 4. Neither 2. Code 2. Rail Equipment 3. Both 4. Neither 2. Code 2. Rail Equipment 3. Both 4. Neither 2. Code 2. Rail Equipment 3. Both 4. Neither 2. Code 2. Rail Equipment 3. Both 4. Neither 2. Code 2. Rail Equipment 3. Both 4. Neither 2. Code 2. Rail Equipment 3. Both 4. Neither 2. Rail Equipment 3. Both 4.	Code
20a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? 1. Highway User 2. Rail Equipment 3. Both 4. Neither 4 1. Highway User 2. Rail Equipment 3. Both 4. Neither 20c. State here the name and quantity of the hazardous material released, if any 21. Temperature (specify if minus) 46 °F 1. Dawn 2. Day 3. Dusk 4. Dark 4 1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow 24. Type of Equipment 1. Freight Train 5. Single Car 9. Maint./inspect. car D. EMU Consist 2. Passenger Train-Pulling 6. Cut of cars A. Spec. MoW Equip. E. DMU (single entry) 3. Commuter Train-Pulling 7. Yard/Switching 8. Passenger Train-Pushing 1 1. Main 2. Yard 3. Siding 4. Industry 1 TRA 27. FRA Track Class (1-9,X) 4 Units 4 1 Estimated 20 mph E 2. South 4. Wig wags 7. Crossbucks 10. Flagged by crew Crossing 2. Cantilever FLS 5. Hwy. traffic signals 8. Stop signs 11. Other (specify) 20b. Was there a hazardous materials release by 1. Highway User 2. Rail Equipment 3. Both 4. Neither 1. Highway User 2. Rail	Code
1. Highway User 2. Rail Equipment 3. Both 4. Neither 20c. State here the name and quantity of the hazardous material released, if any 21. Temperature (specify if minus) 46 °F 1. Dawn 2. Day 3. Dusk 4. Dark 4 1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow 24. Type of Equipment 1. Freight Train 5. Single Car 9. Maint./inspect. car D. EMU Consist 2. Passenger Train-Pulling 6. Cut of cars A. Spec. MoW Equip. E. DMU (single entry) 3. Commuter Train-Pulling 7. Yard/Switching 8. Passenger Train-Pushing 4. Work Train 8. Light loco(s) C. Commuter Train-Pushing 1 1. Main 2. Yard 3. Siding 4. Industry 1 TRA 27. FRA Track Class (1-9,X) 4 Dints 4 1 E. Estimated 20 mph E 2. South 4. 32. Type of 1. Gates 4. Wig wags 7. Crossbucks 10. Flagged by crew Crossing 2. Cantilever FLS 5. Hwy, traffic signals 8. Stop signs 11. Other (specify) 28. Neither (single entry) 1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow 26. Track Type Used by Rail Equipment Involved 27. Track Type Used by Rail Equipment Involved 28. Track Type Used by Rail Equipment Involved 39. Number of Cars R. Recorded Speed (Recorded speed if available) Code 1. North 3. Signaled Crossing Warning 34. Roadway Condens 1. Gates 4. Wig wags 7. Crossbucks 10. Flagged by crew Crossing 2. Cantilever FLS 5. Hwy, traffic signals 8. Stop signs 11. Other (specify) 11. Other (specify)	
20c. State here the name and quantity of the hazardous material released, if any 21. Temperature (specify if minus) 46 °F 1. Dawn 2. Day 3. Dusk 4. Dark 24. Type of Equipment 1. Freight Train 5. Single Car 9. Maint./inspect. car D. EMU Consist (single entry) 2 Passenger Train-Pulling 6. Cut of cars A. Spec. MoW Equip. E. DMU 3. Commuter Train-Pulling 7. Yard/Switching B. Passenger Train-Pushing Code 4. Work Train 8. Light loco(s) C. Commuter Train-Pushing 1. Main 2. Yard 3. Siding 4. Industry 1. North 3. Commuter Train-Pushing 1. Gates 4. Wig wags 7. Crossbucks 10. Flagged by crew Crossing 2. Cantilever FLS 5. Hwy. traffic signals 8. Stop signs 11. Other (specify) 22. Visibility (single entry) Code 23. Weather (single entry) 1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow 2. Cloudy 3. Rain 4. Fog 5. Sleet 6.	
(specify if minus) 46 °F 1. Dawn 2. Day 3. Dusk 4. Dark 4 1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow 24. Type of Equipment 1. Freight Train 5. Single Car 9. Maint/inspect. car D. EMU 2. Passenger Train-Pulling 6. Cut of cars A. Spec. MoW Equip. E. DMU 3. Commuter Train-Pulling 7. Yard/Switching B. Passenger Train-Pushing Code 4. Work Train 8. Light loco(s) C. Commuter Train-Pushing 1 1. Main 2. Yard 3. Siding 4. Industry 1 TRA 27. FRA Track Class (1-9,X) 4 Units 4 1 E. Estimated 20 mph E 2. South 4. 32. Type of Crossing 1. Gates 4. Wig wags 7. Crossbucks 10. Flagged by crew 2. Cantilever FLS 5. Hwy, traffic signals 8. Stop signs 11. Other (specify) 3. Dusk 4. Dark 4 1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow 26. Snow 26. Snow 26. Snow 27. Code 26. Train-Pushing Code 4. Specify 3. Code 26. Train-Pushing Code 4. WES 25. Track Type Used by Rail Equipment Involved 3. Industry 1 1. Main 2. Yard 3. Siding 4. Industry 1 1. Main 2. Yard 3. Siding 4. Industry 1 1. North 3. E. Estimated 20 mph E 2. South 4. Specify 2. Code 26. Train-Pushing 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25.	
(specify if minus) 46 °F 1. Dawn 2. Day 3. Dusk 4. Dark 4 1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow 24. Type of Equipment 1. Freight Train 5. Single Car 9. Maint/inspect. car D. EMU 2. Passenger Train-Pulling 6. Cut of cars A. Spec. MoW Equip. E. DMU 3. Commuter Train-Pulling 7. Yard/Switching B. Passenger Train-Pushing Code 4. Work Train 8. Light loco(s) C. Commuter Train-Pushing 1 1. Main 2. Yard 3. Siding 4. Industry 1 TRA 27. FRA Track Class (1-9,X) 4 Units 4 1 E. Estimated 20 mph E 2. South 4. 32. Type of Crossing 1. Gates 4. Wig wags 7. Crossbucks 10. Flagged by crew 2. Cantilever FLS 5. Hwy, traffic signals 8. Stop signs 11. Other (specify) 3. Dusk 4. Dark 4 1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow 26. Snow 26. Snow 26. Snow 27. Code 26. Train-Pushing Code 4. Specify 3. Code 26. Train-Pushing Code 4. WES 25. Track Type Used by Rail Equipment Involved 3. Industry 1 1. Main 2. Yard 3. Siding 4. Industry 1 1. Main 2. Yard 3. Siding 4. Industry 1 1. North 3. E. Estimated 20 mph E 2. South 4. Specify 2. Code 26. Train-Pushing 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25. Track Type Used by Rail Equipment Involved 4. Industry 1 25.	
24. Type of Equipment 1. Freight Train 5. Single Car 9. Maint/inspect. car D. EMU Consist (single entry) 2. Passenger Train-Pulling 6. Cut of cars A. Spec. MoW Equip. E. DMU Equipment Involved 3. Commuter Train-Pulling 7. Yard/Switching B. Passenger Train-Pushing Code 4. Work Train 8. Light loco(s) C. Commuter Train-Pushing 1 1. Main 2. Yard 3. Siding 4. Industry 1 TRA Track Class (1-9,X) 4 29. Number of Cars Class (1-9,X) 4 1 1 E. Estimated 20 mph E 2. South 4. 32. Type of Crossing 1. Gates 4. Wig wags 7. Crossbucks 10. Flagged by crew 2. Cantilever FLS 5. Hwy, traffic signals 8. Stop signs 11. Other (specify) 3. Single document Involved 25. Track Type Used by Rail Equipment Involved 4. Industry 1 Track Type Used by Rail Equipment Involved 4. WES TRA 1. Main 2. Yard 3. Siding 4. Industry 1 Track Type Used by Rail Equipment Involved 4. WES TRA 25. Track Type Used by Rail Equipment Involved 4. Industry 1 Track Equipment Involved 4. Main 2. Yard 3. Siding 4. Industry 1 Track Type Used by Rail Equipment Involved 4. Track Equipment Involved 4. Industry 1 Track Type Used by Rail Equipment Involved 4. Industry 25. Track Type Used by Rail Equipment Involved 4. Industry 24. Industry 25. Track Type Used by Rail Equipment Involved 4. Industry 25. Track Type Used by Rail Equipment Involved 4. Industry 25. Track Type Used by Rail Equipment Involved 4. Industry 25. Track Type Used by Rail Equipment Involved 4. Industry 25. Track Type Used by Rail Equipment Involved 4. Industry 25. Track Type Used by Rail Equipment Involved 4. Industry 25. Track Type Used by Rail Equipment Involved 4. Industry 25. Track Type Used by Rail Equipment Involved 4. Industry 25. Track Type Used by Rail Equipment Involved 4. Industry 25. Track Type Used by Rail Equipment Involved 4. Industry 25. Track Type Used by Rail Equipment Involved 4. Industry 25. Track Type Used by Rail Equipment Involved 4. Industry 25. Track Type Used by Rail Equipment Involved 4. Industry 25. Track Type Used Specifical 4. Industry 25. Track Type Used Specifical 4. Industry	
Consist (single entry) 2. Passenger Train-Pulling 6. Cut of cars 3. Commuter Train-Pulling 7. Yard/Switching B. Passenger Train-Pushing 4. Work Train 2. Passenger Train-Pulling 7. Yard/Switching B. Passenger Train-Pushing 4. Work Train 2. Passenger Train-Pulling 7. Yard/Switching B. Passenger Train-Pushing 4. Work Train 2. Passenger Train-Pulling 6. Cut of cars 3. Commuter Train-Pushing 4. Wisk Train 2. Number of Cars 4. Wigwags 7. Crossbucks 1. Gates 4. Wigwags 7. Crossbucks 1. Gates 4. Wigwags 7. Crossbucks 1. Other (specify) 3. Signaled Crossing Warning 4. Dry 4. Dry 4. Dry 4. Dry 5. Dry 6. See reverse side for 6. See reverse side for	
27. FRA Track Class (1-9,X) 4 Units 4 1 29. Number of Cars R. Recorded R. Rec	ck Number or Name FWARD MAIN CK
Class (1-9,X) 4	ection Code
32. Type of 1. Gates 4. Wig wags 7. Crossbucks 10. Flagged by crew Crossing 2. Cantilever FLS 5. Hwy. traffic signals 4. Stop signs 11. Other (specify) (See reverse side for Secret/Study by Control of Secret	East
1. Gates 4. Wig wags 7. Crossbucks 10. Flagged by crew Crossing 2. Cantilever FLS 5. Hwy, traffic signals 8. Stop signs 11. Other (specify) (See reverse side for B. Wet Constitute to the con	7000
2. Cantilever FLS 5. Hwy. traffic signals 8. Stop signs 11. Other (specify)	
Warning Instructions and codes) C.silow/siusri	
3. Standard FLS 6. Audible 9. Watchman 12. None Code E. Sand, Mud, Dirt,	Code oil,Gravel
Code(s) 03 1 F.Water (Standing	<u> </u>
35. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 3. Crossing Warning Interconnected with Highway Signals 1. Yes 2. No 3. Unknown 2. Lights or Special Lights 1. Yes 2. No 3. Unknown 2. Lights or Special Lights 2. No 3. Unknown 3. Opposite Side of Vehicle Approach 3. Opposite Side Opposite	Code
3. Opposite Side of Vehicle Approach I 1. Yes 2. No 3. Unknown 2 1. Tes 2. No 3. Unknown 2 38. Highway User's Gender 40. Highway User Went Behind or in Front of Train 41. Highway User 5. Other (specify)	1
User's and Struck or was Struck by Second Train 1. Went around the gate 6. Went around/thru temp	•
Age 1. Male Code 2. Stopped and then proceeded (if yes, see instructions 3. Did not stop 7. Went thru the gate 2. Female 1. Yes 2. No 3. Unknown 2. 4. Stopped and then proceeded (if yes, see instructions 3. Did not stop 7. Went thru the gate 4. Stopped are grossing 8. Suicide/Uttempted suite	000
2. Female 1. Yes 2. No 3. Unknown 2 4. Stopped on crossing 8. Suicide/Attempted suice 42. Driver Passed Standing Code 43. View of Track Obscured by (primary obstruction)	de 3 Code
Highway Vehicle 1. Permanent Structure 3. Passing Train 5. Vegetation 7. Other (specify	
1. Yes 2. No 3. Unknown 2 2. Standing railroad equipment 4. Topography 6. Highway Vehicles 8. Not Obstructed 44. Driver was 45. Was Driver in the Vehicle?	d 8 Code
Casualties to: Killed Injured 1. Killed 2. Injured 3. Uninjured 2 1. Yes 2. No	1
46. Highway-Rail Crossing Users 0 1 47. Highway Vehicle Property Damage (est. dollar damage) 48. Total Number of Vehicle Occupant (including driver)	
49. Railroad Employees 0 50. Total Number of People on Train 51. Is a Rail Equipment Accident /	0 Code
52. Passengers on Train 0 0 (include passengers and train crew) Incident Report Being Filed 1. Yes 2. No	2
53a. Special Study Block Video Taken? Yes No 53b. Special Study Block	-
Video Used? Yes No 54. Narrative Description (Be specific, and continue on separate sheet if necessary)	
· · · · · · · · · · · · · · · · · · ·	
55. Typed Name and Title 56. Signature 57. Date	
NOTE: This report is part of the reporting railroad's accident report pursuant to the accident reports statute and, as such shall not "be admitted as evidence or u in any suit or action for damages growing out of any matter mentioned in said report" 49 U.S.C. 20903. See 49 C.F.R. 225.7 (b).	

HIGHWAY-RAIL GRADE CROSSING

OMB Approval No. 2130-0500

FEDERAL RAILROAD ADMINISTRA	TION (FRA	ι)	ACC	IDEN I/I	INCIDENT	REPO	<u>RI</u>				OND AL	oprovat No. 2 130-1	0300
1.Name of Reporting Railroad	. ~						habetic Co	ode				ad Accident/Incident	No.
Burlington Northern Railroad						BN	-				PA311		N. 1
2.Name of Other Railroad or Other E	intity Filling	for Equipmer	nt Involved in Train A	Accident/	/Incident	2a. Alp	ohabetic C	ode			2b. Railro	ad Accident/Incident	No.
3. Name of Railroad or Other Entity	Responsible	e for Track Ma	aintenance (single	entry)		3a. Alp	phabetic C	ode			3b. Railro	ad Accident/Incident	No.
4. U.S. DOT Grade Crossing ID No.							te of Accide				6. Time of	f Accident/Incident	
			085587	7B		0	month 4 0	day	19'		9:55	AM ✓ I	РМ□
7. Nearest Railroad Station			8. Subdivision			9. Co			122	,,,	10. State		Code
SEATTLE						K	ING				A	bbr. WA	53
11. City (if in a city) SEATTLE	ı •		12. Highwa	ay Name	or No. 2N	ND SO	AND SP	OKAN	IE S			Public 🗸 Priva	ate
	hway Use	r Involved			_				<u> </u>		Involved		
13. Type C. Truck-trailer F. Bus		I Other Meter	- Vahiala		17. Equipn		nits pulling)		. , .	(moving) standing		Train pulling- RCL Train pushing- RCL	
C. Truck-trailer F. Bus A. Auto D. Pick-up truck G. Sch		J. Other Motor K. Pedestrian		Code	2. Tra		nits puning) nits pushing	g) 6. Li	ight locc	o(s) (m	oving) C.	Train standing- RCL	Code
· ·		M. Other (sp		A	3. Tra	ain (st	tanding)	7. L 8. C	ight loco	o(s) (si (specify	anuing)	EMU Locomotive(s) DMU Locomotive(s)	1
14. Vehicle Speed 15. D	irection ((geographical)	<u>'</u>	Code	18. Positio	n of Car	r Unit in Tr		70101	(Specify)	,	2 2.000(0)	
·		uth 3. East		3					-	1			
 Position 1. Stalled or stuck on Stopped on Crossi 			crossing by traffic crossing by gates	Code	19. Circum								Code
Moving over crossi	- 0). Diocked on	crossing by gates	2	1. Rail e	equipme	nt struck h	iighway	user 2	2. Rail e	quipment st	truck by highway use	^r 1
20a. Was the highway user and/or	rail equipme	ent involved			20b. Was	there a	hazardous	materi	als rele	ase by			Code
in the impact transporting haz			Noithor	Code 4	1	Highwa	av Hser	2 Rail	Fauinm	ent 3	. Both 4.	Neither	
20c. State here the name and quan					1.	Tilgitwa	19 0301		Ечигрії	ioni c		TVOID I	
'	/isibility (si	ingle entry)		Code	23. Weat	ther (si	ingle entry))					Code
(specify if minus) 40 °F 1. [Dawn 2. D	ay 3. Dusk	4. Dark	2	1. Cle	ar 2. Cl	loudy 3. R	ain 4.	Fog 5.	Sleet	6. Snow		1
24. Type of Equipment 1. Freight T Consist 2 Passenge		5. Single		•		125	5. Track Ty	ype Use	ed by R	ail	Code	26. Track Number of	r Name
2.1 0000119		Illing 6. Cut of	cars A. Spec. M Switching B. Passeng		•	IU Code	Equipm	ent Invo	olved				
4. Work Tra		8. Light lo					. Main 2. \	Yard 3	. Siding	4. Indu	stry 4	INDUSTRY TR	ACK
27. FRA Track 28. Number of	of	29. Numbe			t Speed (Re	corded	speed if a	vailable)	Code	31. Time 7	Table Direction	Code
Class (1-9,X) Locomoting Linits	ve 1		2	R. Rec E. Estir				2 1	mph	E	1. Nor	rth 3. East uth 4. West	2
32. Type of				L. LSIII	nated	33	3. Signaled		•			way Conditions	
Crossing	Wig wags		Crossbucks 10. Flag	,			(See reve	area eid	e for	Ū	A. Dry B. Wet	,	
2. Cantilever FLS 5. Warning	•	•			cify)		instruction				C.Snow/S D.Ice	lush	0 1
3. Standard FLS 6. Code(s) 03	Audible	9. V	Vatchman 12. Nor	ne I						Code	E. Sand,N	/lud,Dirt,Oil,Gravel	Code
Code(s) 03 35. Location of Warning			36. Crossing W	/arning Ir	nterconnects				37 C	rossing	F.Water (S	Standing, Moving)	
1. Both Sides		, Cod	with Highw			,u	1 4	Code			Special Lig	•	_I Code
 Side of Vehicle Approach Opposite Side of Vehicle App 	roach	1		. No 3	B. Unknown			2	1	I. Yes	2. No 3. U	Jnknown	1
38.Hignway 39.Highway User's Ge	ender 40. l	. ,	r Went Behind or in			Highway					r (specify		
User's		and Struck or	r was Struck by Seco		''		t around th ped and th	•	ceeded		es, see inst	ru temporary barricad ructions)	ie , Code
Age 1. Male 2. Female	Code 1	1. Yes 2. No	o 3. Unknown		Code	3. Did n					nt thru the g		4
42. Driver Passed Standing		Code 4	43. View of Track Of	bscured I			struction)	SSILIG		o. Suic	ide/Attemp	ted Suicide	Code
Highway Vehicle	I		1. Perman	nent Struc	cture	3. Pas	ssing Train	5. Ve	getatior	า		(specify)	1 .
1. Yes 2. No 3. Unknown		2 4	2. Standin 14. Driver was	ng railroa	id equipment	t 4. Top	ography			/ehicles	8. Not O e Vehicle?	bstructed	8 Code
Casualties to:	Killed	Injured	1. Killed 2. Injur	red 3. U	Ininjured		3		. Yes				1
46. Highway-Rail Crossing Users	0	0 4	17. Highway Vehicle		/ Damage		\$300				Vehicle Oc	•	
49. Railroad Employees		0 5	est. dollar damag	· /	on Train		\$300			g driver Equipm) nent Accidei	nt /	Code
52. Passengers on Train	0	0	(include passeng	•			I	Ir	ncident	Report	Being Filed		2
53a. Special Study Block	Video Tal		Yes No		53b. Spec	cial Stud	⊥ lv Block	1	1. Yes	2. No			
	Video Use	ed? Y	ves No										
54. Narrative Description (Be sp	pecific, and	continue on s	separate sheet if ned	cessary)									
55. Typed Name and Title				6. Signatu							57. Date		
NOTE: This report is part of the report	orting railro	ad's accident	report pursuant to the	he accide	ent reports s	tatute a	nd as suc	h shall	not "he	admitte	d as eviden	ice or used for any ni	irnose

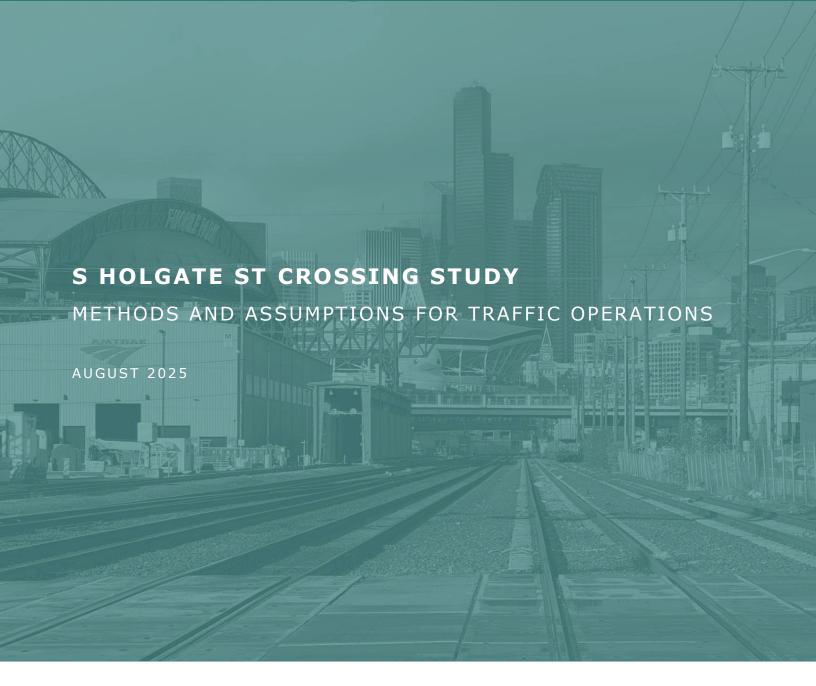
NOTE: This report is part of the reporting railroad's accident report pursuant to the accident reports statute and, as such snail not "be in any suit or action for damages growing out of any matter mentioned in said report...." 49 U.S.C. 20903. See 49 C.F.R. 225.7 (b).

FORM FRA F 6180.57 (Rev. 08/10)

* NOTE THAT ALL CASUALTIES MUST BE REPORTED ON FORM FRA F 6180.55A

OMB Approval expires 6/30/2021

APPENDIX I	D. METHODS	AND ASSUMPT	IONS REPORT	



PREPARED FOR:

SEATTLE DEPARTMENT OF TRANSPORTATION



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INTRODUCTION

The purpose of this document is to compile the methods and assumptions to be used in some of the technical tasks to be conducted for the Seattle Department of Transportation (SDOT) S Holgate St Crossing Study (the Project), and to be used as a guide while conducting these tasks. While the project is multi-disciplinary in scope, including public outreach, structural and geotechnical analyses, and traffic and safety analyses, this document focuses on the methods and assumptions around the traffic operations and modeling, safety, freight access, access for people walking and biking, and equity analysis tasks for the project.

This introduction section provides a project overview, notes the main project stakeholders, and illustrates the study area for the full SODO district and the intersections to be included in the traffic operations analysis. The rest of the document explains the detailed methodology for conducting the traffic operations analysis, the plan for data collection and validation, the assumptions to be used in each modeling tool used, and the methodology for conducting the freight path analysis, bicycle and pedestrian level of stress analysis, safety and near-miss analytics, and equity analysis.

PROJECT OVERVIEW

The S Holgate St Crossing Study is a feasibility study to evaluate options to mitigate a potential closure of S Holgate St, enhance safety, and support vehicle and freight movements in SODO in the context of a future railroad expansion project at S Holgate St. The study will focus on the atgrade rail crossings across S Holgate St between Occidental Ave S and 3rd Ave S (DOT 085583Y and DOT 927461X). The study will also assess impacts on three nearby at-grade rail crossings to the south across S Horton St (DOT 085585M) and S Spokane St (DOT 085586U, DOT 085587B), impacts to the surrounding traffic network, and safety enhancements for rail, freight, and people walking, biking or driving. Based on these impacts, the study will recommend a preferred alternative for the S Holgate St crossings, as well as further mitigation and safety improvements as needed.

An existing conditions assessment will include the following tasks:

- A traffic operations analysis, including simulation of the S Holgate St corridor
- An overview of how large events affect the movement of people walking, biking or driving along S Holgate St
- Determining the main origins, destinations, and routes used by freight trucks on S Holgate St
- An evaluation of existing level of traffic stress (LTS) for people walking and biking in the SODO study area
- An assessment of existing crash data (all modes including rail), FRA-reportable railroad incidents and near-miss analytics (provided by StreetSimplified)
- A review of existing pavement and subsurface conditions
- At-grade railroad crossing diagnostics at DOT#'s 927461X (S Holgate St), 085586U (S Spokane St, westbound), 085587B (S Spokane St, eastbound), and 085585M (S Horton St), including coordination with the FRA, BNSF, Amtrak and SDOT
- An equity analysis, considering demographics of the people using the subject rail crossings of S Holgate St

From the data and insights gained from the existing conditions assessment and future plans for the SODO study area, a set of initial concepts will be developed for mitigating a potential closure of S Holgate St and offer solutions to enhance safety at the at-grade rail crossings on S Holgate St, S Spokane St and S Horton St. The project team, in collaboration with project stakeholders, will develop a set of screening criteria to narrow down this initial set to choose three alternatives for a more detailed evaluation. The more detailed evaluation will include a quantitative assessment of each alternative's impact on traffic operations, freight mobility, safety and access for people walking and biking, and constructability. Based on the detailed assessment of the three alternatives, the project team, in collaboration with project stakeholders, will select a preferred alternative, along with further refinements to mitigate any noted impacts to operations, access, safety or constructability/cost.

During the course of this study, a community outreach and stakeholder engagement task will be conducted to gain input on existing and future conditions and guide the selection of the initial set of alternatives, selection of the preferred alternative, and further refinement of that alternative.

STUDY AREA

The full study area for this project covers most of the SODO neighborhood of Seattle, roughly bounded by S Royal Brougham Way and S Spokane St from north to south, and between East Marginal Way S and I-5 from west to east. This area will be considered for parts of the study that warrant a broader look at SODO in general, including the analysis of affected freight paths, travel patterns respective to the area including Port, rail, supporting industries, and event patterns, public outreach and engagement, and the equity analysis. The study area and the location of the at-grade crossings on S Holgate St that are the focus of this study are shown in Figure 1.

The traffic operations analysis and modeling tasks focus on a smaller subset of the full study area and include intersections and roadway segments that would most likely be impacted by trip diversions due to a S Holgate St closure. The study area to be used in the Synchro traffic analysis and Vissim traffic micro-simulation is shown in Figure 2 and listed in Table 1. The modeling tools Synchro and Vissim are discussed in further detail in the Traffic Operations Analysis Methodology section of this report.

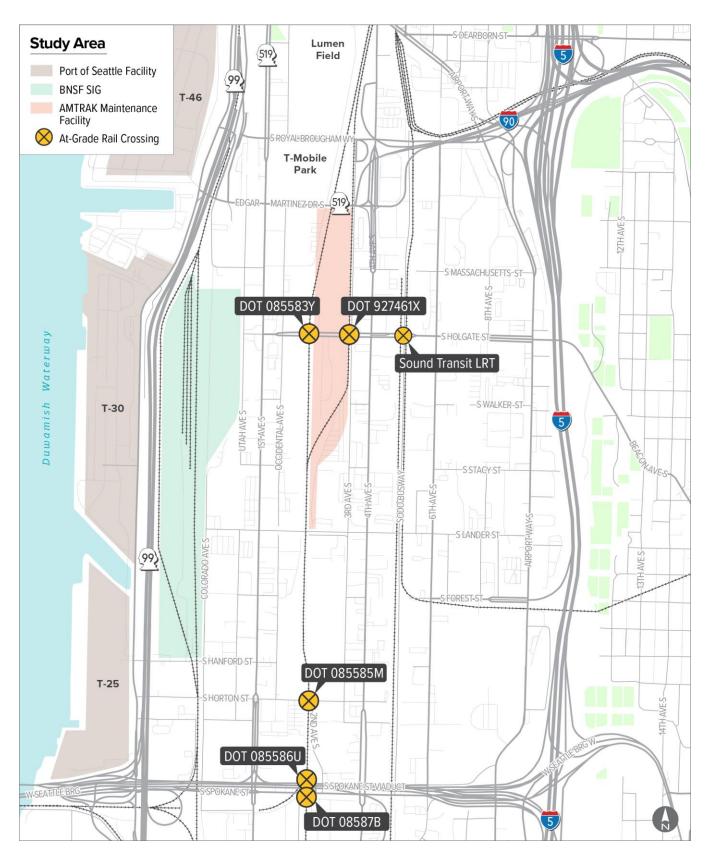


FIGURE 1: STUDY AREA

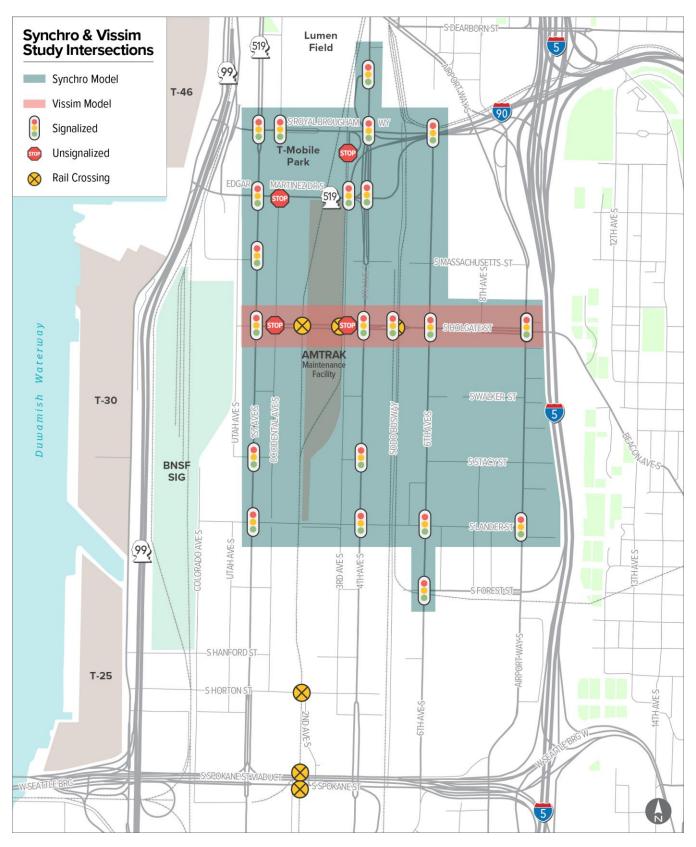


FIGURE 2: INTERSECTIONS FOR TRAFFIC OPERATIONS ANALYSIS (MAP)

TABLE 1: INTERSECTIONS FOR TRAFFIC OPERATIONS ANALYSIS (LIST)

INTERSECTION	TRAFFIC CONTROL	SYNCHRO STUDY AREA	VISSIM STUDY AREA
1ST AVE S & S ROYAL BROUGHAM WAY	Signal	Х	
1ST AVE S & S ATLANTIC ST / EDGAR MARTINEZ DR S	Signal	X	
1ST AVE S & S MASSACHUSETTS ST	Signal	Х	
1ST AVE S & S HOLGATE ST	Signal	Х	Х
1ST AVE S & S STACY ST	Signal	Х	
1ST AVE S & S LANDER ST Signal		X	
OCCIDENTAL AVE S & S ROYAL BROUGHAM WAY Signal		X	
OCCIDENTAL AVE S & EDGAR MARTINEZ DR S Side-Street Stop		x	
OCCIDENTAL AVE S & S HOLGATE ST	Side-Street Stop	X	Х
S HOLGATE ST RAIL CROSSING E/O OCCIDENTAL AVE S (DOT 085583Y)	Rail Crossing		x
S HOLGATE ST RAIL CROSSING W/O 3RD AVE S (DOT 927461X)	Rail Crossing		x
3RD AVE S & S ROYAL BROUGHAM WAY	All-Way Stop	X	
I-5/I-90 OFF-RAMP & EDGAR MARTINEZ DR S	Signal	x	
3RD AVE S & S HOLGATE ST	Side-Street Stop	x	X
4TH AVE S & I-5/I-90 OFF-RAMP	Signal	x	
4TH AVE S & S ROYAL BROUGHAM WAY	Signal	x	
4TH AVE S & EDGAR MARTINEZ DR S / I-5/I-90 ON-RAMP	Signal	X	
4TH AVE S & S HOLGATE ST	Signal	x	X
4TH AVE S & S STACY ST	Signal	x	
4TH AVE S & S LANDER ST	Signal	x	
SODO BUSWAY / LINK LIGHT RAIL CROSSING & S HOLGATE ST	Rail Crossing + Signal	\mathbf{X}^1	x
6TH AVE S & S ROYAL BROUGHAM WAY	Signal	Х	
6TH AVE S & S HOLGATE ST	Signal	Х	x
6TH AVE S & S LANDER ST	Signal	Х	

INTERSECTION	TRAFFIC CONTROL	SYNCHRO STUDY AREA	VISSIM STUDY AREA
6TH AVE S & S FOREST ST	Signal	X	
AIRPORT WAY S & S HOLGATE ST	Signal	Х	Х
AIRPORT WAY S & S LANDER ST	Signal	Х	
TOTAL INTERSECTIONS IN TRAFFIC ANALYSIS STUDY AREA		25	9

¹Synchro does not account for the effects of rail pre-emption. This intersection will include a capacity analysis based on the number of rail crossing arrivals per hour.

GUIDING REGULATIONS AND PLANS

Policy direction included in various plans and policy documents guides this study. These plans and policies include, but are not limited to, the following:

- · City of Seattle's Complete Streets policy
- Seattle Streets Illustrated
- SDOT Transportation Equity Framework
- SDOT Climate Change Response Framework
- · Vision Zero Program
- Seattle Transportation Plan (encompasses all modes: freight, vehicle, bicycles, people walking, etc.)

AGENCY COORDINATION

The traffic operations analysis process involves local jurisdictions, state agencies, federal agencies, and other interested parties. SDOT is seeking broad stakeholder and community engagement to consider all possible solutions for the S Holgate St corridor. As part of this project, a Technical Work Group (TWG) will be engaged to participate in and review technical analysis throughout the project. The TWG members will include but not be limited to:

- Amtrak
- BNSF Railway Company
- Port of Seattle
- Northwest Seaport Alliance (NWSA)
- South of Downtown (SODO) Business Improvement Area (BIA)
- Sound Transit
- Washington Department of Transportation (WSDOT)
- Sports Teams and Ballpark/Stadium organizations
- Tribal Representatives

TRAFFIC OPERATIONS ANALYSIS METHODOLOGY

To assess project-related impacts, the industry standard approach is to apply analytical tools to quantitatively analyze traffic conditions under all future Baseline and Build conditions. The methodology for this traffic operations analysis follows two guiding principles:

- The traffic analysis is intended to inform key decision-making for the project study area by identifying the difference between a future Baseline and Build condition, hereafter referred to as traffic impact.
- The application of analytical tools is based on WSDOT and industry best practices.

The following sections summarize the traffic operations analytical tools and methods used for this analysis.

TRAFFIC OPERATIONS ANALYTICAL TOOLS

The application of analytical tools will be based on WSDOT and industry best practices to conduct the traffic operations analysis efficiently and effectively. For this project, the following modeling tools will be used for a detailed simulation along the S Holgate St corridor and a high-level capacity analysis in the area surrounding S Holgate St:

- **Vissim** will be used to simulate traffic along the S Holgate St corridor. This model will replicate individual traffic, freight, transit, rail crossings, and pedestrian interactions at a detailed level. It will also include pre-emption and transit signal priority (TSP) as applicable.
- **Synchro** will be used to model a wider network area. As a deterministic model, it will be used to calculate delay, capacity, and queue lengths at study-area intersections using Highway Capacity Manual (HCM) methodologies. Synchro will also be used to generate and optimize signal timings to be imported into the Vissim simulation model.

For both tools, the latest software edition and latest HCM methodologies¹ will be used. The application of the analytical tools follows the WSDOT Traffic Analysis Guide.²

ANALYSIS YEARS AND PEAK HOURS

The traffic operations analysis for the project includes two analysis years:

- Existing Year 2025
- Future Year 2045

Existing Condition Year 2025 is primarily intended for model calibration. Year 2045 is the primary analysis year in which project traffic operation effects will be assessed.

The traffic operations analysis focuses on the following peak periods:

• **AM Peak**: one peak hour reflecting a typical morning commute on a workday, chosen between 7:00-9:00 a.m.

² WSDOT, WSDOT Traffic Analysis Guide, February 2019.



¹ Transportation Research Board. Highway Capacity Manual 7th Edition. January 2022.

• **PM Peak**: one peak hour reflecting a typical afternoon commute on a workday, chosen between 4:00-6:00 p.m.

DATA COLLECTION

The following data will be used to build and calibrate the existing year model and help describe existing conditions in the study area:

- Roadway geometry data: number of lanes, roadway length and width, parking, transit facilities, and turn restrictions (access management) per project mapping and field review.
- Traffic control data: posted speed limits, traffic restrictions, signs, traffic signal timing, and detection.
- Traffic volume data: intersection turning movement counts for vehicles, heavy vehicles, and people biking and walking, to support the traffic analysis described below.
- Transit data: routes, headways, stop locations, and dwell times. Existing transit routes and headways are coded into the Vissim models based on information from King County Metro and Sound Transit.
- Rail data: Gate-down information, including frequency of rail crossing events, time-of-day, and duration of gate-down events.
- Field observations: major queuing locations, bottlenecks, saturation flow rate, and lane utilization. Data will be collected by DKS Associates through on-site intersection surveys at individual intersections. Field observation notes are used for model validation to ensure the calibrated existing year models reflect the traffic congestion in the field condition.

DATA VALIDATION

With multiple sources of data and multiple analysis tools used in this Project, several methodologies will be applied to validate and verify data:

- **Cross-checking data sources** When multiple data sources provide similar data, comparisons will be made to identify discrepancies.
- Internal consistency checks Different data sets will be reviewed to ensure logical alignment and to identify any contradictions.
- **Model calibration** Field-observed data (e.g., queues, travel times) will be used to validate traffic operations models and ensure reasonable outputs that reflect real-world conditions. Further details on calibration and validation of the Vissim model are provided in the Vissim modeling assumptions section.
- **Peer review and stakeholder input** Internal quality assurance measures, including independent reviews by technical experts, will be conducted. SDOT and the TWG will provide and review data as appropriate, particularly in cases of conflicting or overlapping data sets.

ANTICIPATED BACKGROUND PROJECTS

Between the existing 2025 and future 2045 analysis years, the following background projects are expected to be completed in the vicinity of the study area and will be included in all of the future baseline and build conditions scenarios (final list will be coordinated/confirmed with the TWG):

- Completion of the E Marginal Way Corridor Improvement Project North Segment, anticipated in 2026.
- Sound Transit's West Seattle and Ballard Link extensions and their preferred alternative configurations, which will assume separated-grade crossings at S Lander St and at S Holgate St, as well as channelization changes to 4th Ave S with curb bulbs at 4th Ave S and S Holgate St. This will also include the closure of the SODO Busway and moving transit routes to 4th Ave S.
- Amtrak's maintenance facility expansion project.
- Safety improvements (through the Safe Streets and Roads for All program) along S Holgate St between 1st Ave S and 8th Ave S, planned for 2026.
- Safety improvements (through the Safe Streets and Roads for All program) along 1st Ave S between S Royal Brougham Way and S Spokane St, planned for 2026.

EXISTING TRAFFIC VOLUME BALANCING AND FUTURE FORECASTED VOLUME

This section explains how traffic volumes will be developed for each modeling scenario.

EXISTING CONDITIONS

Previously-collected traffic counts (provided by SDOT) will be supplemented with counts collected in 2025 at each study intersection (see Table 1 on page 5). Engineering judgement will be used to balance counts, accounting for the current closure of East Marginal Way S which is expected to cause some diversion of traffic in the SODO area. Large changes in traffic volumes between the years 2024 and 2025 are not anticipated.

Table 2 explains how each transportation mode will be coded and balanced in the existing conditions model, in Synchro (deterministic analysis) and in Vissim (micro-simulation).

TABLE 2: EXISTING CONDITIONS TRAFFIC VOLUME METHODOLOGY BY MODE

TRANSPORTATION MODE	SYNCHRO (DETERMINISTIC ANALYSIS)	VISSIM (SIMULATION)
GENERAL-PURPOSE VEHICLES	Exact balanced volumes not required. Balancing to be done as determined by WSDOT protocols.	Volumes to be balanced between intersections along simulated network, according to WSDOT protocols.
HEAVY VEHICLES / FREIGHT TRUCKS	Truck volumes will be included as a percentage of total general-purpose volume, based on historical/new counts.	Truck volumes to be input and balanced separately from other general-purpose vehicles. Volumes will be based on historical/new counts and stakeholder input (as applicable).
TRANSIT	Not directly coded but considered similarly to a heavy vehicle for purposes of capacity analysis.	Transit routes to be coded with actual headways, routes, and stop locations.

TRANSPORTATION MODE	SYNCHRO (DETERMINISTIC ANALYSIS)	VISSIM (SIMULATION)
RAIL TRAFFIC (FREIGHT + PASSENGER)	Not modeled. Along the SODO Busway, Link Light Rail traffic will be considered alongside bus volumes for purposes of developing signal timings.	Passenger and freight rail lines will be modeled as accurately as possible, based on video footage (provided by SDOT) and stakeholder input.
PEDESTRIANS AND BICYCLISTS	Coded (not balanced) based on count data. Considered for crossings and pedestrian signal actuation (where applicable).	Coded (not balanced) at each intersection to model interactions with other vehicles and rail/bus transit. Full pedestrian paths or passengers alighting at transit stops will not be coded.

FUTURE BASELINE

For 2045 Baseline conditions, the following will be assumed:

- General-purpose traffic will be increased by 2% to reflect some additional residential traffic growth anticipated in the Maker's District³ but to limit proposed improvements which would focus on increasing general vehicle capacity.
- Pedestrian and bicyclist volumes will be grown by a nominal 1% per year (grown linearly from 2025) at each intersection
- Freight truck and freight rail traffic growth will be determined based on projections from the Port
 of Seattle and other stakeholders, coordinated through the TWG, and incorporated in both the
 Synchro and Vissim models as applicable. Additional rail traffic will consider Amtrak's plans for
 its maintenance facility improvements and plans for additional Intercity Passenger Rail Service.
- The future horizon scenarios will include the background projects identified above and confirmed with the TWG.

FUTURE BUILD

For future year 2045 Build conditions, three alternatives will be evaluated over the AM and PM peak hours. The three alternatives for which operational analysis will be conducted will be determined through coordination with the TWG. For each scenario, vehicular, freight, pedestrian and bicycle traffic will be re-routed based on the results of analyzing origin-destination routes using Replica⁴, input from stakeholders, and engineering judgement.

³ Reference Alternative 4 land use and growth assumptions in the Seattle Industrial & Maritime Strategy Final Environmental Impact Statement, September 2022.

⁴ Replica is a mobility data platform that models travel behavior using anonymized GPS, mobile device, and other data sources to estimate transportation patterns.

MODELING SCENARIOS

The following scenarios will be analyzed in Synchro and in Vissim for a comparative evaluation of the project's traffic performance:

- **Existing Conditions (2025):** calibrated to represent existing traffic conditions and provide a foundation for building the future baseline and build models.
- **Future Year (2045) Baseline:** representing future projections in general-purpose traffic, freight truck, freight rail and passenger rail growth, and including expected background projects. This scenario would reflect S Holgate St remaining open to all modes and include improvements to traffic operations and safety as applicable.
- **Future Year (2045) Build:** including three scenarios chosen for more detailed evaluation in coordination with the TWG.

EVENT SCENARIO

Turning movement counts will be collected on S Holgate St before, during and after an event and compared to non-event days to identify any traffic pattern and volume differences. This data will be combined with information on the annual events at T-Mobile Park and Lumen Field to provide a qualitative overview of how people walking, biking and driving use S Holgate St after a large event and how each Build alternative could affect mobility on event days at either of the facilities.

MODELING ASSUMPTIONS

Vissim and Synchro software packages will be used in the traffic operations modelling, as shown in **Figure 2**. Traffic analysis for S Holgate St will be completed using Vissim, while other study area intersections will be analyzed in Synchro. This section documents the key coding assumptions for each software program and other relevant geometric and traffic control assumptions for the traffic operations analysis.

VISSIM CODING ASSUMPTIONS

The Vissim model development process follows the WSDOT Vissim Protocol⁵ as a guideline. This section describes the steps and assumptions to be made in coding the Vissim model over each scenario and outlines the model calibration process to be used.

MODEL ELEMENTS

Network Coding

This step involved coding the geometry of the entire network. Network objects and attributes added in this step include the following:

- · Physical roadway (links and connectors)
- Intersection geometry (links and connectors)
- · Pedestrian crosswalk links
- Traffic control (speed distributions and decisions, reduced speed areas, automatic speed limitation in curves, conflict areas, priority rules, stop signs, signal heads, detectors, and signal timing)

Traffic control data will be obtained from SDOT, aerial photos, Google Street View, and field observations. The data will include posted speeds, stop bar and stop sign locations, traffic signal timing data, and detector plans.

Traffic Demand and Routing

The pedestrian counts collected will be used as pedestrian inputs for each crossing location in the model. Bicycles will also be modeled based on collected counts by movement.

The Vissim model demand will be set up by balancing collected traffic counts separately for general-purpose cars and heavy trucks. Demand will be input in 15-minute intervals at each network entry point in the study area. Vehicle routes through the study area will be static (i.e. they will not dynamically update based on traffic conditions) and will be consistent throughout the one-hour peak period.

⁵ WSDOT, Protocol for Vissim Simulation, September 2014.



S HOLGATE ST CROSSING STUDY • METHODS AND ASSUMPTIONS • AUGUST 2025

Simulation and Seeding Period

The FHWA's Traffic Analysis Toolbox⁶ recommends a seeding period equal to or greater than twice the estimated travel time at free-flow conditions to traverse the entire network. To be conservative and allow for the congestion levels and queues to develop to peak conditions, a seeding period of 15 minutes will be used.

The Vissim simulation period will include a 15-minute seeding period (initialization period) followed by the peak one hour.

Traffic Volume Peaking Profile

Peak hour volume inputs in Vissim will include a "peaking profile" with volumes in 15-minute increments. The peaking profiles at all roads in Vissim will be developed and applied individually based on count data.

Vehicle Speed Profiles

Due to the close spacing of intersections and rail crossings along S Holgate St, collecting field data for free flow speed (desired speed) is not achievable. Therefore, the speed distributions will be based on research from the *National Cooperative Highway Research Program (NCHRP) Report 504 – Design Speed, Operating Speed, and Posted Speed practices*, Transportation Research Board (TRB), 2003, based on the posted speeds for the roadways in the Vissim model.

Vehicle Compositions

The volume inputs will include heavy vehicle percentages based on the traffic count data. The heavy vehicle percentages will be rounded to the nearest one percent from the existing count peak hours and the percentages applied to the corresponding vehicle inputs in the model network. The North American fleet default from Vissim will be used for this modeling, as is consistent with the Vissim protocol.

Transit, Rail (heavy and passenger), and LRT

While there are no transit routes specifically along S Holgate St, existing transit routes (including LRT) crossing S Holgate St, stops, and headways will be coded into the Vissim model based on information from the King County Metro and Sound Transit websites. If available from King County Metro, individual bus stop dwell time will be coded. In the absence of dwell time information, an average dwell time distribution will be coded.

Gate-down information will be coded in the Vissim model including frequency of rail crossing events, time-of-day, and duration of gate-down events for the maintenance yard rail crossing (DOT 085583Y), the BNSF mainline crossing (DOT 927461X), and the Sound Transit LRT crossing.

⁶ Traffic Analysis Toolbox Volume III: Guidelines for Applying Traffic Microsimulation Modeling Software. Federal Highway Administration (FHWA). August 2003.

ERROR CHECKING

The error checking portion of the model development will focus on identifying and resolving coding errors before the calibration process begins. Error checking is a process that includes a review of the coded data and a review of the animation. All coded data (geometry, speeds, signal timing data, stop and yield controls, transit data, and traffic volumes) will be reviewed by the model developer and quality control reviewer.

A review of the animation will be conducted to determine locations where conflict areas or priority rules might be missing, where signal timing may not be operating correctly or any other locations where generally coded parameters may have been overlooked.

CALIBRATION / VALIDATION

Simulation results will be based on an average of at least 10 validated simulation runs.

Turning movement counts (TMCs) in Vissim will be validated using the GEH statistic,⁷ a formula used to provide tolerances for a comparison between field data and simulation outputs. These statistics are used as part of the WSDOT's Vissim protocol for calibration.

The simulation model will be used to measure motor vehicle delay relative to desired speed as an indicator of congestion. This will be validated to field observations and Google congestion maps (ideally on the day TMCs are collected, but at a minimum a day that represents typical operation).

FUTURE YEAR MODEL ASSUMPTIONS

The Future Baseline Vissim model will use the Existing calibrated model as a starting point. In addition to the existing roadway and traffic conditions, the Baseline model will include:

- Signal timing optimization (Synchro will be used to optimize timings)
- Adjusting left-turn and side-street movement split to balance their delay with other movements, based on engineering judgment.
- Updating TSP timing based on changes to signal timing while reflecting existing TSP levels.
- Anticipated background projects including Amtrak's maintenance facility expansion project.

SYNCHRO CODING ASSUMPTIONS

The following assumptions will apply to the Synchro models for all modeling scenarios:

- Roadway geometry data will be obtained from aerial photos, Google Street View, and field observations. The data will include roadway segment lengths, number of lanes, lengths of storage bays and tapers, and pedestrian crossing locations and widths.
- Traffic control data will be obtained from SDOT, aerial photos, Google Street View, and field observations. The data will include posted speeds, stop bar and stop sign locations, traffic signal timing data, and detector plans.

⁷ Geoffrey E. Havers Statistic is a formula used in traffic engineering, traffic forecasting, and traffic modeling to compare two sets of traffic volumes.

- The ideal saturation flow rate is set to 1750, following WSDOT's Synchro and SimTraffic Protocol for urban areas.
- Parking interactions are not modeled.
- Heavy vehicle percentages are based on existing TMCs and entered by approach. If future truck volumes are anticipated to significantly increase, heavy vehicle percentages will be adjusted accordingly.
- Anticipated signal and pedestrian crossing timings after the construction of curb and bus bulbouts at 4th Ave S and S Holgate St
- Leading pedestrian intervals (LPIs) will be included in timing plans
- Flashing "Don't Walk" settings for pedestrian crossings are updated based either on existing signal timings or on the designed crossing distance.
- Transit Signal Priority (TSP) is not modeled.

The Future Baseline Synchro model will use the Existing model as a starting point. In addition to the existing roadway and traffic conditions, the Baseline model will include:

- Signal timing split time optimization
 - Cycle lengths will not be changed unless necessary and then will be considered an improvement and noted as such.
- Adjusting left-turn and side-street movement split to balance their delay with other movements, based on engineering judgment.
- Anticipated background projects as identified by SDOT and TWG

MEASURES OF EFFECTIVENESS

Measures of Effectiveness (MOEs) will be output from the Synchro and Vissim models over each scenario as shown in Table 3.

TABLE 3: SYNCHRO AND VISSIM OUTPUT MEASURES OF EFFECTIVENESS

MEASURE OF EFFECTIVENESS	SYNCHRO MODEL	VISSIM MODEL
DELAY AND LEVEL OF SERVICE	Calculated by vehicle movement at each study intersection. The peak 15-minute period will be analyzed in each scenario	Measured by vehicle movement at each study intersection and rail crossing, in 15-minute intervals
QUEUES	50th- and 95th-percentile queues calculated by movement, using the peak 15-minute period	Average and 95th-percentile queues measured by movement or approach, measured in 120-second intervals.
TRAVEL TIME	Travel time will be computed for up to five routes by considering the intersection control delay and the	Measured for selected routes along S Holgate St, in 15-minute intervals

MEASURE OF EFFECTIVENESS	SYNCHRO MODEL	VISSIM MODEL
	travel time at free-flow speed between intersections	
NETWORK-WIDE LATENT DEMAND	n/a	Measured as an overall number of vehicles not able to enter the network over the peak period
INTERSECTION CAPACITY	Calculated volume-to-capacity (v/c) ratio by intersection (an intersection is considered overcapacity with $v/c > 1.0$)	n/a

OTHER TRANSPORTATION SYSTEM CONSIDERATIONS

Beyond the operational analysis methods and assumptions discussed in the preceding sections, the project will also identify project impacts considering freight, pedestrians and bicyclists, and safety performance. The consideration of these impacts will be considered in the evaluation of alternatives for mitigating a potential closure of S Holgate St.

FREIGHT CONSIDERATIONS

Freight truck data for each entry and exit point managed by the Port of Seattle within the SODO study area will be requested from Northwest Seaport Alliance through the TWG. Freight data, including time-of-day ingress and egress volumes, will be collected at Terminal 46, Terminal 30, and Terminal 25 within the Port of Seattle, and (as available) at the BNSF SIG Yard. Additional freight truck operations data will also be requested from local industrial and commercial businesses through the SODO BIA and the TWG, and input will be incorporated from Northwest Seaport Alliance and the Port of Seattle on private sector origin and destination assets and facilities.

StreetLight data⁸ will be used to analyze truck origin-destination data within the SODO study area and into/out of the area. The analysis results from StreetLight will be used to assess general routes for freight trucks and comparative proportions of truck trips traveling to/from various zones within SODO or along corridors in the district. It is understood that freight trucks operate differently than general vehicles and StreetLight's methodology for reporting freight data may have varying levels of accuracy. Where StreetLight data reports low/zero freight volume, stakeholder coordination will be required to fill in data gaps and make reasonable assumptions about freight travel patterns. Overall, regional trip patterns are assumed not to be included in this data. Data to be collected in this way includes freight trips, analyzed over a typical weekday.

The work done in this task is expected to be used in determining alternate freight routes with a potential S Holgate St closure and for use in communicating impacts of a closure with stakeholders.

PEDESTRIAN AND BICYCLE CONSIDERATIONS

An Existing Conditions Pedestrian and Bicycle Level of Traffic Stress (LTS) analysis for the SODO study area will be completed as part of this study, north-south from roughly S Royal Brougham Way to S Lander St and east-west from 1st Ave S to 6th Ave S. Data for this analysis will come from the City of Seattle GeoData portal to map existing pedestrian and bicycle facilities, speed limit data, and obtain existing characteristics of those facilities. Collected traffic count data will also be used in determining LTS along each segment. Project elements that impact pedestrians and bicycles, including specific safety countermeasures, will be identified. These project elements include geometric, channelization, and operational improvements.

The roadways to be studied for pedestrian and bicycle LTS are as follows:

StreetLight Data is a transportation analytics platform that derives mobility insights from GPS and location-based services data.

- 1st Ave S, from S Royal Brougham Way to S Lander St
- Occidental Ave S, from Edgar Martinez Drive S to S Lander St
- 3rd Ave S, from S Royal Brougham Way to S Lander St
- 4th Ave S, from S Royal Brougham Way to S Lander St
- 6th Ave S, from S Royal Brougham Way to S Lander St
- S Royal Brougham Way, from 1st Ave S to 6th Ave S
- Edgar Martinez Drive S, from 1st Ave S to 4th Ave S (incl. staircase to 4th Ave S)
- S Holgate St, from 1st Ave S to 8th Ave S
- S Lander St, from 1st Ave S to 6th Ave S

EQUITY ANALYSIS

Replica analyzes trip origins and destinations and their associated characteristics and the demographics of people taking those trips. Origin and destination zones can be divided according to areas as small as Census Block Groups. Trip patterns will be filtered to only those using S Holgate St at the rail crossings between Occidental Ave S and 3rd Ave S. Demographic information analyzed with Replica will include the following:

- Race & Ethnicity
- Private Auto Availability
- Income levels (poverty data)
- Age
- Employment Status
- Language
- Education
- Tenure (homeowner vs. renter)

SAFETY PERFORMANCE ANALYSIS

The crash analysis for the study area will be conducted to discover crash trends, identify safety priority locations, and propose safety countermeasures for vehicles as well as people walking and rolling.

The previous five years of crash data will be obtained from WSDOT within the SODO study area, as well as crash reports from SDOT as available. Any available, relevant safety, injury and incident data related to the at-grade light rail crossings at S Lander St and S Holgate St will be requested from Sound Transit and/or the Federal Transit Administration (FTA). Additionally, the following FRA Accident/Incident reports will be obtained:

- 927461X: S Holgate St west of 3rd Ave S (6x tracks)
- 085583Y: S Holgate St east of Occidental Ave S (2x tracks)
- 101007C: S Holgate St east of 6th Ave S
- 101004G: S Lander St east of 6th Ave S

- 085585M: S Horton St west of 4th Ave S
- 085886U: S Spokane St (westbound) west of 4th Ave S
- 085587B: S Spokane St (eastbound) west of 4th Ave S

Near-miss video analytics will be used to identify incidents which do not result in a crash but represent a high risk of crash occurrence. Video analytics will be collected over a seven-day period focused on the primary rail crossing on S Holgate St west of 3rd Ave S, including during a large stadium event (dates to be confirmed with SDOT).

At-grade railroad crossing diagnostics at 927461X (S Holgate St), 085586U (S Spokane St, westbound), 085587B (S Spokane St, eastbound), and 085585M (S Horton St) will be completed in coordination with SDOT, FRA, BNSF, and Amtrak. The diagnostics process includes a comprehensive safety evaluation to identify potential hazards and ensure compliance with federal regulations. This assessment examines track conditions, signaling systems, and operational practices ultimately providing recommendations for potential enhancements to improve rail safety.





S HOLGATE ST CROSSING STUDY

DATE: August 15, 2025

TO: Sara Zora | Seattle Department of Transportation

FROM: Wintana Miller, PE, PTOE | DKS Associates

Connor Wolff, AICP | DKS Associates

Joel Rabinovitz | DKS Associates

SUBJECT: Vissim Calibration Project #24798-000

INTRODUCTION

The S Holgate St Crossing Study is a planning effort led by the Seattle Department of Transportation (SDOT) to evaluate transportation conditions along S Holgate St and the broader multimodal network in the South of Downtown (SODO) neighborhood. Supported by a \$2 million Federal Railroad Administration (FRA) grant through the Railroad Crossing Elimination Program, the study aims to address safety, mobility, and access challenges in a dynamic freight and rail corridor. This memo outlines the Vissim model methods, assumptions, and calibration results for the existing conditions on S Holgate St.

PROJECT BACKGROUND

S Holgate St is a key east-west arterial located in the heart of Seattle's SODO neighborhood, within the Duwamish Manufacturing/Industrial Center, the largest freight hub in the Pacific Northwest and a critical link in Washington State's freight, commuter rail, and Amtrak systems. It plays an essential role in connecting freight traffic to I-5, providing event access to major stadiums, and facilitating daily operations for the Port of Seattle, BNSF, and Amtrak. S Holgate St also supports general-purpose travel, connecting the Beacon Hill neighborhood to SODO and downtown Seattle. The corridor currently features multiple at-grade rail crossings, used by BNSF Railway, Amtrak, and Sound Transit, that are among the highest-risk in the state due to the convergence of high rail activity, significant freight truck movement, and vulnerable road users in a constrained urban environment.

Amtrak is planning to expand its maintenance and layover facility in SODO. In anticipation of this project, BNSF and Amtrak have requested that the City explore the potential permanent closure of S Holgate St between Occidental Ave S and 3rd Ave S. Such a closure would facilitate rail yard

operations and improve facility security but would also require evaluation of impacts to the transportation network and adjacent corridors. The analysis supports SDOT's goal of ensuring that future changes to the rail network do not compromise safety, freight mobility, or access for people walking, rolling, biking, or driving. The study supports SDOT's Vision Zero commitment to eliminate traffic fatalities and serious injuries by identifying existing safety issues and evaluating the impacts of potential changes, particularly for vulnerable road users. It will also assess what infrastructure or operational improvements may be needed to maintain east-west connectivity in SODO, especially for freight and goods movement.

DATA COLLECTION

Study Area

The Vissim model extents for this study were along S Holgate St between 1st Ave S and Airport Way S as shown in Figure 1. All intersections are signalized except for S Holgate St and Occidental Ave S and S Holgate St and 3rd Ave S which are stop-controlled. Additionally, three active at-grade railway crossings were modeled which include the Sound Transit LRT tracks east of 4th Ave S (adjacent to the SODO Busway), BNSF mainline tracks west of 3rd Ave S (DOT#927461X), and Amtrak maintenance facility tracks east of Occidental Ave S (DOT#085583Y).



FIGURE 1. VISSIM STUDY AREA

Traffic Counts

Traffic counts were conducted by IDAX on Tuesday, April 22nd, 2025. Counts were collected during the PM peak period from 4-6 PM and during the AM peak period from 7-9 AM at each study intersection.

TABLE 1. STUDY INTERSECTIONS

#	INTERSECTION	TRAFFIC CONTROL
4	1st Ave S & S Holgate St	Signal
7	Occidental Ave S & S Royal Brougham Way	Signal
8	Occidental Ave S & Edgar Martinez Dr S	Side-Street Stop

9	Occidental Ave S & S Holgate St	Side-Street Stop
10	S Holgate St Rail Crossing e/o Occidental Ave S (DOT 085583Y)	Rail Crossing
11	S Holgate St Rail Crossing w/o 3rd Ave S (DOT 927461X)	Rail Crossing
14	3rd Ave S & S Holgate St	Side-Street Stop
18	4th Ave S & S Holgate St	Signal
21	SODO Busway / Link Light Rail Crossing & S Holgate St	Rail Crossing + Signal
23	6th Ave S & S Holgate St	Signal
27	Airport Way S & S Holgate St	Signal

Train Surveys

Train surveys were conducted over 24-hour periods. The following rail crossings were surveyed over the days outlined below:

- East of SODO Busway: Tuesday, April 22nd, 2025
- West of 3rd Ave S: Sunday, April 20th Saturday, April 26th, 2025
- East of Occidental Ave S: Sunday, April 20th Saturday, April 26th, 2025

The train survey summary and a detailed analysis of gate down and train arrival times is provided in the Calibration Summary section (see page 7).

Corridor Travel Time

Travel time data was retrieved from the Google Travel Time API. This method scrapes estimated travel time streamed throughout specified days from Google Maps in 5-minute increments. Travel time data was collected from Monday, June 9th to Thursday, June 12th, 2025, to represent typical weekday peak periods. Two travel time segments shown in Figure 2 were utilized to compare the Google Travel Time data to the Vissim Model:

- Westbound S Holgate St: From the Airport Way S Overpass to west of Occidental Ave S
- Eastbound S Holgate St: From west of Occidental Ave S to Airport Way S Overpass.



FIGURE 2. TRAVEL TIME SEGMENT EXTENT

MODEL DEVELOPMENT METHODOLOGY

Network Coding

Coding of the study area Vissim network included the following roadway attributes:

- Physical roadway (links and connectors)
- Intersection geometry (links and connectors)
- Pedestrian crosswalk links
- Traffic control (speed distributions and decisions, reduced speed areas, priority rules, stop signs, signal heads, detectors, signal timing)

Free flow speed (desired speed) distributions were developed using the WSDOT Vissim Protocol¹ methods for links without measured speed data and based on posted speed limits.

Traffic Demand and Routing

The pedestrian counts were used as pedestrian inputs for crossing locations in the Vissim model.

For vehicular volumes (cars and heavy vehicles), the peak hour volumes for AM and PM were first balanced throughout the study area network based on the collected turning movement counts. With a balanced set of peak hour volumes, Origin-Destination Matrix Estimation (ODME) tools in Visum were used to produce an origin/destination (OD) matrix, which was then assigned to generate route and volume data. These vehicle routes and demand were exported from Visum to Vissim to generate vehicle inputs and routing decisions for cars and heavy vehicles throughout the Vissim network.

Traffic Volume Peaking Profile

A peaking profile describes the variability in traffic flow throughout a defined period. For this study, a peaking profile was developed from the count data for each peak hour at 15-minute increments to show the varying throughput along the S Holgate St corridor. The AM peak hour is from 7:30 – 8:30 AM and the PM peak hour is from 4:00 – 5:00 PM. The volume inputs in Vissim were set as 15-minute increments to reflect the study period's peaking profile. These were based on the April 22nd, 2025 count data. Figure 3 and Figure 4 show the peaking profiles for the AM and PM periods respectively.

¹ WSDOT Protocol for Vissim Simulation



S HOLGATE ST CROSSING STUDY • VISSIM CALIBRATION • AUGUST 2025

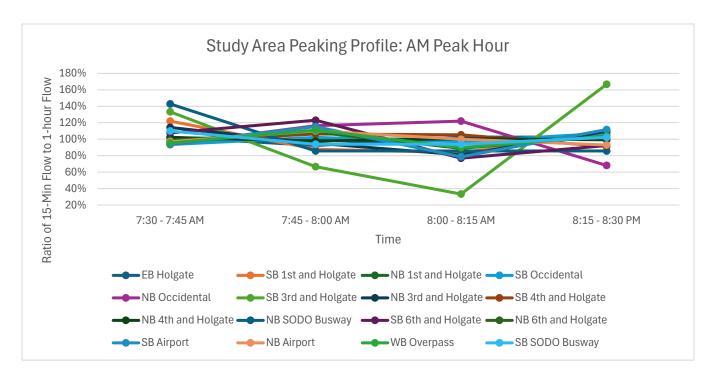


FIGURE 3. AM PEAK HOUR PEAKING PROFILE

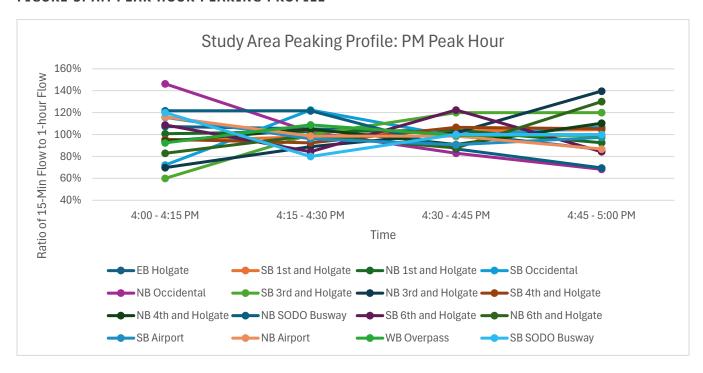


FIGURE 4. PM PEAK HOUR PEAKING PROFILE

Vehicle Speed Profiles

Posted speed limits were used to develop the speed profiles for the roadways in the Vissim model. Desired speed decisions were coded at the entrance to each roadway link to ensure vehicles attempt to travel at posted speed limits in uncongested conditions.

Simulation Period and Seeding Period

The FHWA's Traffic Analysis Toolbox recommends a seeding period equal to or greater than twice the estimated travel time at free-flow conditions to traverse the entire network. Based on the size of the network and to allow for congestion levels and queues to develop to peak conditions, a seeding period of 15 minutes was chosen.

The Vissim simulation period includes a 15-minute seeding period (initialization period) followed by a one-hour simulation period.

Error Checking

The error checking portion of the model development focused on fixing coding errors before the calibration process began. Error checking is a process that includes a review of the coded data and a visual review of the simulation runs. All coded data (geometry, speeds, signal timing data, stop and yield controls, transit data, and traffic volumes) was reviewed by the model developer and quality control reviewer.

A review of the animation was conducted to determine locations where conflict areas or priority rules might be missing, where signal timing may not be operating correctly or any other locations where generally coded parameters may have been overlooked.

Calibration

Upon the completion of the error checking, DKS calibrated the simulation models following the "Traffic Throughput and Queuing Calibration Criteria" in the WSDOT Protocol for Vissim Simulation. The model validation was based on 11 simulation runs to account for variation, based on guidance in the WSDOT Vissim Protocol.

The following calibration targets were used for the existing year Vissim models:

- A quantitative comparison between real-world data and model output results for traffic volumes.
- A qualitative comparison (visual inspection) of queuing and general operations along the entire study area based on comparison of collected data and field observation.
- Vehicle travel time along multiple corridors in some models.

The initial calibration target set was for traffic volume throughput compared to input. Per the WSDOT Vissim Protocol guidelines, individual turn movements at all intersections within the calibration area were calibrated within an acceptable GEH Statistic (<5). The GEH statistic was calculated for all study intersections for each peak hour model period.

The travel time segments used in calibration were as follows:

Westbound S Holgate St: From the Airport Way S Overpass to west of Occidental Ave S

• Eastbound S Holgate St: From west of Occidental Ave S to Airport Way S Overpass.

To best replicate field conditions, the Vissim model calibration process implemented a variety of standard techniques where appropriate to match the congestion and queuing observed. These included:

- Lane change distance on turning movement connectors to capture upstream lane utilization and vehicle positioning.
- Intersection "keep clear" zones through congested intersections.
- Gate down and train arrival times that follow the observed distributions from the train surveys

CALIBRATION SUMMARY

This section summarizes model alignment with measures used to calibrate the model to existing conditions. The variables used in the calibration process include the GEH statistics, Travel Time, and visual queuing assessments.

GEH

The GEH statistic is a formula used to compare two sets of traffic volumes and indicate goodness-of-fit between observed and modeled traffic throughput². A GEH statistic check at all count locations indicates that the initial calibration target of traffic volumes was met per WSDOT Vissim Protocol guidelines. All movements meet the criteria of <5 and most movements have a GEH < 1 in the AM and PM periods. See Attachment 1 for full results.

TRAVEL TIME

The vehicle travel time outputs from the Vissim model were compared to travel time collected from the Google Travel Time API. Table 2 shows the travel time calibration results. In both the AM and PM period, the travel time calibration passes the WSDOT criteria. Due to the highly variable number and length of freight train crossings on the corridor, the minimum and maximum travel times within the model diverge from those estimated with Google data. However, the average travel time for each period meets the calibration criteria and the modeled freight crossings reflect the train surveys conducted.

² See <u>WSDOT's Protocol for Vissim Simulation</u> (section 6.2.4.1 starting on pg. 58) for a definition of and guidance around using a GEH statistic to validate traffic demand

TABLE 2. TRAVEL TIME CALIBRATION RESULTS

TRAVEL TIME PERIOD		TRAVEL TIMES FROM GOOGLE (MINUTES)		MODELED TRAVEL TIMES (MINUTES)		DIFF.	CONFIDENCE ³ INTERVAL	STATUS		
SEGMENT		Avg	Min	Max	Avg	Min	Max		(SEC)	
WESTBOUND	A 14	3:19	2:44	8:03	3:58	1:18	13:48	39	+/-52 s	Pass
EASTBOUND	- AM	2:57	2:30	3:40	2:52	1:12	7:21	-5	+/- 41s	Pass
WESTBOUND		3:03	2:38	3:56	3:23	1:25	8:20	20	+/- 43s	Pass
EASTBOUND	PM	2:54	2:27	3:35	2:38	1:16	5:48	-17	+/- 39s	Pass

TRAIN SURVEYS

To accurately model the existing corridor operations train surveys were conducted at three locations along S Holgate St:

- East of SODO Busway: Tuesday, April 22nd, 2025
- West of 3rd Ave S: Sunday, April 20th Saturday, April 26th, 2025
- East of Occidental Ave S: Sunday, April 20th Saturday, April 26th, 2025

The train surveys were analyzed to determine an average distribution of gate down time and crossing occurrences throughout the AM and PM periods as shown in the following tables. The east of Occidental Ave S crossing had limited crossing events and did not require this level of analysis.

TABLE 3. TRAIN SURVEY SUMMARY FOR HOLGATE W-O 3RD

SUMMARY FOR HOLGATE W-O 3RD	AM	PM
AVERAGE GATE DOWN TIME (S)	117.00	152.00
# OF TIMES	7.67	5.33
MAX GATE DOWN TIME	0:05:39	0:02:37
MIN GATE DOWN TIME	0:00:16	0:00:50
MAX TIME BETWEEN GATE DOWNS	0:15:07	0:19:29
MIN TIME BETWEEN GATE DOWNS	0:00:25	0:00:08

TABLE 4. TRAIN SURVEY SUMMARY FOR SODO BUSWAY

SUMMARY FOR SODO BUSWAY	AM	PM
AVERAGE GATE DOWN TIME (S)	0:00:45	0:00:47
# OF TIMES	9.00	10.00
MAX GATE DOWN TIME	0:00:51	0:01:07
MIN GATE DOWN TIME	0:00:39	0:00:38

³ See <u>WSDOT's Protocol for Vissim Simulation</u> (section 6.2.4.3 starting on pg. 65) for a definition of the confidence interval calculation.

SUMMARY FOR SODO BUSWAY	AM	PM
MAX TIME BETWEEN GATE DOWNS	0:10:45	0:09:36
MIN TIME BETWEEN GATE DOWNS	0:00:42	0:01:01

The summary statistics were used to inform the frequency of crossings and the limits for gate down time and spacing. Histograms were used to analyze the frequency distributions for gate down time and spacing to determine the appropriate number of specific gate down durations and their allocation across the analysis periods. The histograms developed are shown in full in Attachment 2. The resulting gate down durations and time during each simulation period are shown in Table 5 - Table 10.

TABLE 5. SODO BUSWAY CROSSING AM PEAK

DEPARTURE TIME	GATEDOWN TIME
7:45:00 AM	45 seconds
7:47:40 AM	45 seconds
7:55:40 AM	45 seconds
7:58:40 AM	45 seconds
8:06:00 AM	45 seconds
8:16:45 AM	45 seconds
8:21:05 AM	45 seconds
8:21:45 AM	45 seconds
8:26:45 AM	45 seconds

TABLE 6. WEST OF 3RD AVE S CROSSING AM PEAK

DEPARTURE TIME	GATEDOWN TIME
7:45:00 AM	40 seconds
7:56:40 AM	40 seconds
8:00:00 AM	300 seconds
8:05:00 AM	40 seconds
8:06:40 AM	120 seconds
8:10:00 AM	120 seconds
8:23:00 AM	40 seconds

TABLE 7. EAST OF OCCIDENTAL AVE S AM PEAK

DEPARTURE TIME	GATEDOWN TIME
7:45:00 AM	120 seconds

TABLE 8. SODO BUSWAY CROSSING PM PEAK

DEPARTURE TIME	GATEDOWN TIME
4:05:00 PM	45 seconds
4:15:00 PM	60 seconds
4:23:00 PM	45 seconds
4:31:20 PM	45 seconds
4:33:20 PM	45 seconds
4:40:40 PM	60 seconds
4:42:10 PM	60 seconds
4:44:40 PM	45 seconds
4:45:40 PM	45 seconds

TABLE 9. WEST OF 3RD AVE S CROSSING PM PEAK

DEPARTURE TIME	GATEDOWN TIME
4:01:30 PM	60 seconds
4:05:00 PM	60 seconds
4:18:40 PM	60 seconds
4:20:40 PM	60 seconds
4:35:00 PM	150 seconds

TABLE 10. EAST OF OCCIDENTAL AVE S PM PEAK

DEPARTURE TIME	GATEDOWN TIME
4:15:00 PM	60 seconds
4:30:00 PM	150 seconds

QUEUE LENGTHS

Queue lengths were compared to typical traffic data streamed from Google Maps API and a StreetLight Data Congested Segments analysis. The StreetLight Data analysis showed congestion associated with rail crossings in eastbound and westbound directions as shown Figure 5.

AM Peak



PM Peak

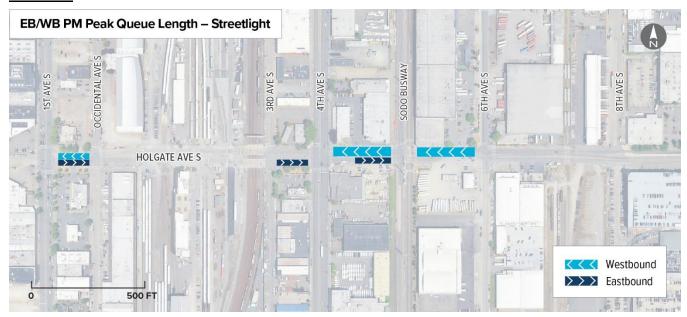
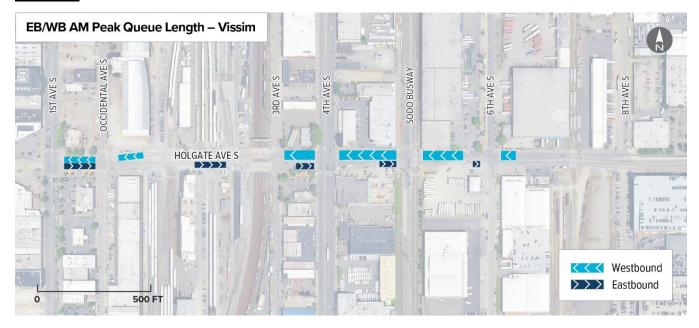


FIGURE 5: STREETLIGHT DATA PEAK PERIOD QUEUE LENGTHS

95th percentile and maximum queue lengths are reported for the AM and PM periods. In both periods, significant queuing occurred in the westbound direction caused by rail crossing events and matched the StreetLight Data analysis. Starting from the Sound Transit LRT rail crossing east of S Holgate St and 4th Ave S and ending at 6th Ave S, 95th percentile queue lengths exceeded storage capacity in the westbound direction, extending through and influencing queueing at the closely spaced upstream intersections. The Vissim queueing results showed longer westbound queues in the AM due to the distribution of gate down time and frequency. Eastbound queue lengths in the

AM and PM periods are also closely related to rail crossing events and show patterns of queuing at rail crossing gates that were found in StreetLight. Figure 6 shows the average maximum queue lengths at each intersection across the simulation.

AM Peak



PM Peak

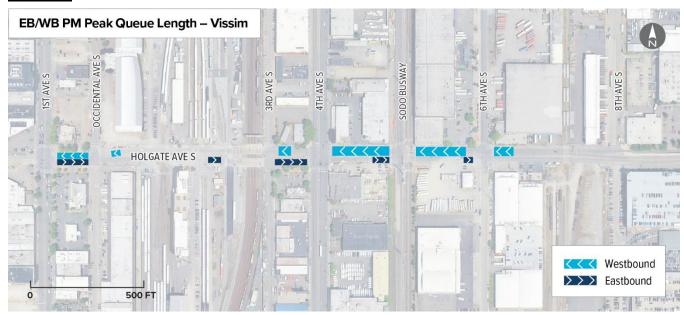


FIGURE 6: SIMULATED PEAK PERIOD MAXIMUM QUEUE LENGTHS

95th percentile queues are reported in Table 11 and Bold = Exceeds Storage Capacity TABLE 12 for the AM and PM periods, respectively.

TABLE 11: 95TH PERCENTILE QUEUE LENGTHS AM PEAK PERIOD

APPROACH	MOVEMENT	HOLGATE AND 1ST	HOLGATE AND OCCIDENTAL	HOLGATE AND 3RD	HOLGATE AND 4TH	SODO BUSWAY AND HOLGATE	HOLGATE AND 6TH	HOLGATE AND AIRPORT
	LEFT	25	-	-	85	-	-	70
NB	THRU	265	85	80	775	130	245	160
	RIGHT	-	-	-	-	-	-	-
SB	LEFT	50	-	-	135	-	-	-
	THRU	135	215	60	260	80	155	120
	RIGHT	-	-	-	-	-	-	-
EB	LEFT	-	-	-	150	-	35	80
	THRU	70	0	180	105	110	85	-
	RIGHT	-	-	-	-	-	-	60
WB	LEFT	-	-	-	285	-	60	-
	THRU	255	130	270	315	250	150	-
	RIGHT	-	-	-	-	-	-	-

Bold = Exceeds Storage Capacity

TABLE 12: 95TH PERCENTILE QUEUE LENGTHS PM PEAK PERIOD

APPROACH	MOVEMENT	HOLGATE AND 1ST	HOLGATE AND OCCIDENTAL	HOLGATE AND 3RD	HOLGATE AND 4TH	SODO BUSWAY AND HOLGATE	HOLGATE AND 6TH	HOLGATE AND AIRPORT
	LEFT	60	-	-	50	-	-	125
NB	THRU	265	65	45	390	120	260	50
	RIGHT	-	-	-	-	-	-	-
SB	LEFT	85	-	-	280	-	-	-
	THRU	305	135	35	470	120	220	255
	RIGHT	-	-	-	-	-	-	-
EB	LEFT	-	-	-	240	-	25	80
	THRU	205	0	105	190	160	140	-
	RIGHT	-	-	-	-	-	-	65
WB	LEFT	-	-	-	365	-	90	-
	THRU	235	35	90	365	330	180	-
	RIGHT	-	-	-	-	-	-	-

Bold = Exceeds Storage Capacity

CONCLUSION

The Vissim Model met all calibrations metrics analyzed including GEH, travel time, and queuing. Consistent with existing conditions in the field, the westbound direction experiences higher delay and longer queues, compared to the eastbound direction, which spillback through upstream intersections from 4th Ave S to 6th Ave S. The eastbound direction experiences delay and queuing associated with the rail crossing gates. The queues do not spill back to upstream intersections. Side street operations were found to be affected by congestion on S Holgate St and rail crossing events with movements crossing and turning on to S Holgate St experiencing high delay and long queues.

ATTACHMENTS

ATTACHMENT 1. GEH RESULTS

ATTACHMENT 2. GATE DOWN DISTRIBUTION



AM PEAK

PM PEAK

TABLE: GEH				
			VISSIM	
Intersection Name	Movement	Input Volume	Output Volume	GEH
Holgate and 1st	NBL	25.026587	23	0.4
Holgate and 1st	NBT	699.98497	695	0.2
Holgate and 1st	NBR	79.554173	80	0.0
Holgate and 1st	SBL	41.766664	45	0.5
Holgate and 1st Holgate and 1st	SBT SBR	297.99599 49.998932	295 48	0.2 0.3
Holgate and 1st	EBL	13.000261	15	0.5
Holgate and 1st	EBT	17.898501	17	0.2
Holgate and 1st	EBR	13.000261	12	0.3
Holgate and 1st Holgate and 1st	WBL WBT	105.52459 116.48144	109 119	0.3 0.2
Holgate and 1st	WBR	79.643444	74	0.6
Holgate and Occidental	NBL	6.075838	6	0.0
Holgate and Occidental	NBT	104.99936	105	0.0
Holgate and Occidental Holgate and Occidental	NBR SBL	29 10.803128	26 10	0.6 0.2
Holgate and Occidental	SBT	69.026917	69	0.0
Holgate and Occidental	SBR	153.67236	151	0.2
Holgate and Occidental	EBL	45.248438	45	0.0
Holgate and Occidental	EBT	84.920027	86	0.1
Holgate and Occidental Holgate and Occidental	EBR WBL	9.050874 28.555476	11 25	0.6 0.7
Holgate and Occidental	WBT	141.90127	145	0.3
Holgate and Occidental	WBR	30.258018	29	0.2
Holgate and 3rd	NBL	6.322562	6	0.1
Holgate and 3rd	NBT NBR	25.026587 50.823778	23 52	0.4 0.2
Holgate and 3rd Holgate and 3rd	SBL	0.819316	1	0.2
Holgate and 3rd	SBT	7.000138	6	0.4
Holgate and 3rd	SBR	8.358529	7	0.5
Holgate and 3rd	EBL	3.090654	2	0.7
Holgate and 3rd Holgate and 3rd	EBT EBR	105.73068 16.286736	106 15	0.0 0.3
Holgate and 3rd	WBL	14.453058	14	0.3
Holgate and 3rd	WBT	186.03367	186	0.0
Holgate and 3rd	WBR	44.388082	44	0.1
Holgate and 4th	NBL	25.87406	25	0.2
Holgate and 4th Holgate and 4th	NBT NBR	1447.9604 73.236924	1445 75	0.1 0.2
Holgate and 4th	SBL	51.691406	48	0.5
Holgate and 4th	SBT	333.99335	331	0.2
Holgate and 4th	SBR	34.121287	38	0.6
Holgate and 4th Holgate and 4th	EBL EBT	56.117165 81.534309	57 86	0.1 0.5
Holgate and 4th	EBR	19.901115	16	0.9
Holgate and 4th	WBL	73.649278	68	0.7
Holgate and 4th	WBT	185.05828	179	0.4
Holgate and 4th	WBR	215.82856	207	0.6
SODO Busway and Holgate SODO Busway and Holgate	NBL NBT	0 23.996526	0 24	0.0
SODO Busway and Holgate	NBR	1.658808	2	0.3
SODO Busway and Holgate	SBL	0.929228	0	1.4
SODO Busway and Holgate	SBT	12.042873	11	0.3
SODO Busway and Holgate	SBR EBL	4.337391 1.593149	3 4	0.7 1.4
SODO Busway and Holgate SODO Busway and Holgate	EBT	204.69067	206	0.1
SODO Busway and Holgate	EBR	0	0	0.1
SODO Busway and Holgate	WBL	0	0	
SODO Busway and Holgate	WBT	470.19873	459	0.5
SODO Busway and Holgate Holgate and 6th	WBR NBL	11.51049 66.321931	11 64	0.2 0.3
Holgate and 6th	NBT	90.999523	89	0.3
Holgate and 6th	NBR	52.190601	53	0.1
Holgate and 6th	SBL	14.349377	14	0.1
Holgate and 6th	SBT	22.999036	24	0.2
Holgate and 6th Holgate and 6th	SBR EBL	43.45537 24.459148	42 25	0.2 0.1
Holgate and 6th	EBT	148.07259	149	0.1
Holgate and 6th	EBR	31.639486	34	0.4
Holgate and 6th	WBL	44.547788	44	0.1
Holgate and 6th	WBT WBR	372.16695	369 44	0.2 0.7
Holgate and 6th Holgate and Aiport	WBR NBL	48.692206 74.84169	44 74	0.7
Holgate and Aiport	NBT	793.98185	790	0.1
Holgate and Aiport	SBT	397.99361	399	0.1
Holgate and Aiport	SBR	90.083882	89	0.1
Holgate and Aiport Holgate and Aiport	EBL EBR	41.905809 94.248193	36 98	0.9 0.4
noigate and Aiport	LDIX	J 112 101JJ	50	0. 1

TABLE: GEH				
		Toward	VISSIM	
Intersection Name	Movement	Input Volume	Output Volume	GEH
Holgate and 1st	NBL	19.998312	19	0.2
Holgate and 1st	NBT NBR	544.99136 80.958699	537 81	0.3 0.0
Holgate and 1st Holgate and 1st	SBL	71.92447	72	0.0
Holgate and 1st	SBT	673.98809	666	0.3
Holgate and 1st	SBR EBL	8.030702 107.0002	8 110	0.0 0.3
Holgate and 1st Holgate and 1st	EBT	55.895204	54	0.3
Holgate and 1st	EBR	8.00005	8	0.0
Holgate and 1st Holgate and 1st	WBL WBT	179.99652 15.977066	184 15	0.3 0.2
Holgate and 1st	WBR	69.040604	69	0.0
Holgate and Occidental	NBL	7.00004	8	0.4
Holgate and Occidental Holgate and Occidental	NBT NBR	44.056631 36	45 34	0.1 0.4
Holgate and Occidental	SBL	35.836315	32	0.7
Holgate and Occidental	SBT	38.000153	36	0.3
Holgate and Occidental Holgate and Occidental	SBR EBL	117.0151 42.931611	119 41	0.2 0.3
Holgate and Occidental	EBT	158.84975	160	0.1
Holgate and Occidental	EBR	6.997008	7	0.0
Holgate and Occidental Holgate and Occidental	WBL WBT	16.999946 140.99906	18 140	0.2 0.1
Holgate and Occidental	WBR	5.999985	5	0.4
Holgate and 3rd	NBL	7.000085	6	0.4
Holgate and 3rd Holgate and 3rd	NBT NBR	9.000055 51.548973	8 51	0.3 0.1
Holgate and 3rd	SBL	22.800532	23	0.0
Holgate and 3rd	SBT	8.00005	7	0.4
Holgate and 3rd Holgate and 3rd	SBR EBL	12.000139 5.873538	10 1	0.6 2.6
Holgate and 3rd	EBT	208.09602	206	0.1
Holgate and 3rd	EBR	18.445771	18	0.1
Holgate and 3rd	WBL WBT	10.999879 145.36211	12 147	0.3 0.1
Holgate and 3rd Holgate and 3rd	WBR	37.999538	40	0.1
Holgate and 4th	NBL	17.000314	16	0.2
Holgate and 4th Holgate and 4th	NBT NBR	1073.9896 152.40582	1073 153	0.0
Holgate and 4th	SBL	131.90128	130	0.2
Holgate and 4th	SBT	860.97983	856	0.2
Holgate and 4th	SBR EBL	44.000753 91.595074	46 88	0.3 0.4
Holgate and 4th Holgate and 4th	EBT	149.57854	150	0.0
Holgate and 4th	EBR	43.167029	43	0.0
Holgate and 4th Holgate and 4th	WBL WBT	105.54209 132.99711	106 137	0.0 0.3
Holgate and 4th	WBR	210.35516	209	0.3
SODO Busway and Holgate	NBL	0	3	2.4
SODO Busway and Holgate	NBT	14.998164	13 1	0.5
SODO Busway and Holgate SODO Busway and Holgate	NBR SBL	3.47972 0	0	1.7
SODO Busway and Holgate	SBT	18.995332	18	0.2
SODO Busway and Holgate	SBR	2.212742 0	2 0	0.1
SODO Busway and Holgate SODO Busway and Holgate	EBL EBT	432.16927	430	0.1
SODO Busway and Holgate	EBR	1.716365	3	0.8
SODO Busway and Holgate	WBL	0 446.68162	0 446	0.0
SODO Busway and Holgate SODO Busway and Holgate	WBT WBR	13.060905	13	0.0
Holgate and 6th	NBL	65.031831	63	0.3
Holgate and 6th	NBT	74.000199	73	0.1
Holgate and 6th Holgate and 6th	NBR SBL	109.14628 56.157813	106 57	0.3 0.1
Holgate and 6th	SBT	65.010731	63	0.3
Holgate and 6th	SBR	27.940179	28	0.0
Holgate and 6th Holgate and 6th	EBL EBT	15.134514 388.17405	15 388	0.0
Holgate and 6th	EBR	25.193544	29	0.7
Holgate and 6th	WBL	98.003651	92	0.6
Holgate and 6th Holgate and 6th	WBT WBR	363.98868 28.36448	367 31	0.2 0.5
Holgate and Aiport	NBL	77.000618	77	0.0
Holgate and Aiport	NBT	377.99796	377	0.1
Holgate and Aiport Holgate and Aiport	SBT SBR	1214.9782 74.998924	1214 74	0.0 0.1
Holgate and Aiport	EBL	30.188616	28	0.4
Holgate and Aiport	EBR	97.893982	100	0.2

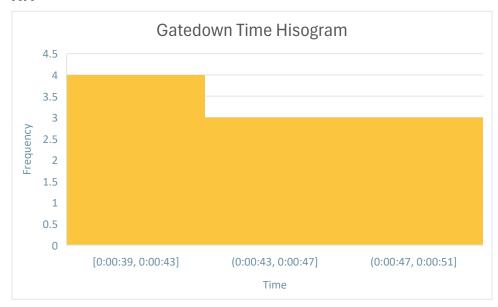
ATTACHMENT 2. GATE DOWN DISTRIBUTION

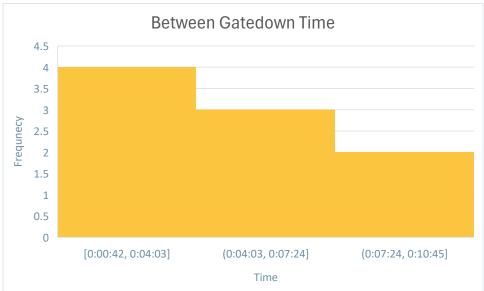
SODO BUSWAY CROSSING WEST OF 3RD AVE S

RAIL CROSSING GATEDOWN DISTRIBUTIONS

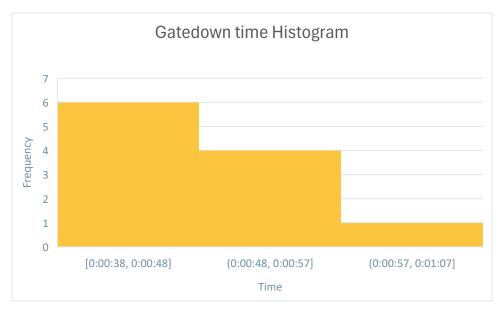
SODO BUSWAY CROSSING

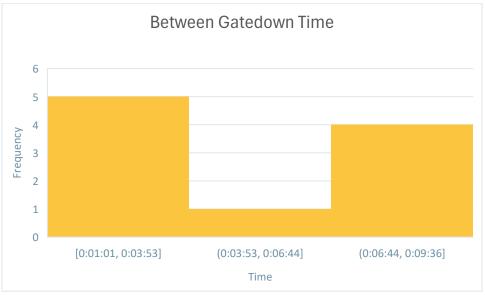
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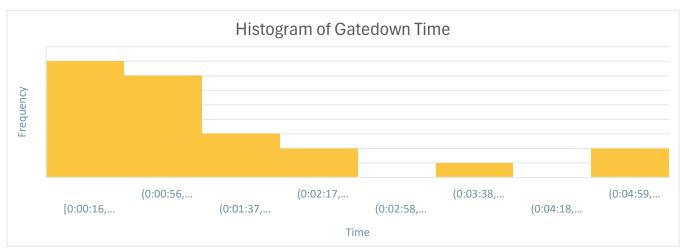
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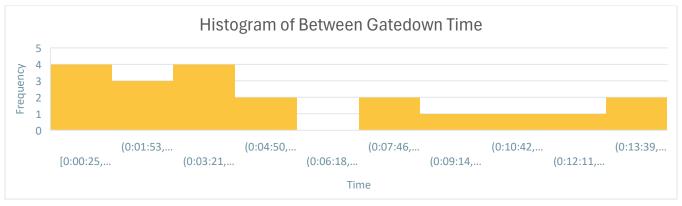




WEST OF HOLGATE & 4TH STREET

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