City and County of Denver

Draft

Freight Railroad Safety Study



March 2023

Prepared for:



201 West Colfax Avenue Denver, CO 80202

Prepared by:



1700 Lincoln Street, Suite 2450 Denver, CO, 80203



EXECUTIVE SUMMARY

In 2016 Denver Mayor, Michael B. Hancock, commissioned a study to review the City and County of Denver's (CCD or Denver) policies and practices for safety and hazard mitigation in areas near railroad rights-of-way (ROW) (CCD, 2016). This study expands on the mayor's study and reports on hazardous material shipments by rail throughout Denver. The purpose of this study's is to communicate current and future risks associated with freight rail throughout Denver in relation to population growth, land use, rail traffic patterns, and critical/sensitive facilities and resources. In addition to the mayor's 2016 study, the following documents were also reviewed and are incorporated throughout this study as appropriate:

- City of Calgary Baseline Risk Assessment of Land Development within Proximity of Freight Rail Corridors (2018): The City of Calgary commissioned this study to review rail safety hazards and risk assessment for the city following a large-scale disaster resulting from the derailment of a train carrying hazardous materials. The study assessed Canadian rail traffic volumes and trends, land use adjacent to railroad ROW, and rail operations and served as a model for the study being conducted by Denver.
- Colorado State Highway-Rail Grade Crossing Safety Action Plan (2022a): The State of Colorado, through the Colorado Department of Transportation (CDOT), generated this plan in compliance with the Federal Railroad Association (FRA) and Section 11401(b) of the Fixing America's Surface Transportation Act, which divided the nation's states into two groups: those with higher numbers of grade-crossing collision incidents and those with lower numbers. Under this Act, as part of the latter group, Colorado is required to develop a Safety Action Plan (SAP) to address high-risk crossings and at-grade crossing incidents.

This study analyzes spatial and statistical data obtained from the Association of American Railroads (AAR), the National Transportation Safety Board (NTSB), FRA, and the City of Denver to summarize existing rail conditions, road crossings, and trespassing incidents within the city and to identify the locations, causes, types, and frequencies of rail-related accidents compared to the national, state, and local levels. As risk factors such as overall rail traffic volume, hazardous materials shipments, and high-density residential development near railroad ROW continue to increase, HNTB recommends a wide range of short-, medium-, and long-term mitigation measures. These measures can be addressed by Denver and by the railroads to decrease the likelihood of overall rail-related accidents in the city and to reduce the magnitude of impacts on surrounding communities and sensitive environmental resources. Mitigation measures detailed in this study include the following:

Short-term (<1 Year)

- Denver might develop and implement hazard management and evacuation plans.
- Denver might consider conducting a more comprehensive "parcel by parcel" study of emergency access and identify areas for improvement.
- Denver could develop an outreach and education program for emergency service responders, residents, and property owners near railroad ROW.
- Denver can request that the railroads manage vegetation near the railroad ROW.
- Denver Fire, in collaboration with the railroads, can monitor shipments of hazardous materials.

Medium-term (1-5 Years)

- Denver, with the help of state and federal funds, might consider grade crossing improvements, pedestrian overpasses at areas identified as high-risk for pedestrians, as well as construction of fencing along railroad ROW in high-trespassing areas.
- Denver can request that the railroads improve track conditions and install guard rails along ROW, which are to be identified though later studies.
- Denver planners could consider guidelines and requirements for future development adjacent to railroad ROW.

Long-term (>5 Years)

- Denver and the railroads might also consider a larger construction project to include gradeseparation of high-risk vehicle crossings and long-term improvement/and or relocation plans for the freight railroad main lines.
- Denver could incentivize property owners on structural reinforcement of existing buildings along railroad ROW.

With Denver ranking fourth in the nation (for similar sized cities) for most grade-crossing rail accidents, HNTB identified 13 at-grade rail crossings in the city with a high frequency of accidents and the greatest need for safety improvements. Site-specific mitigation measures to improve traffic control and preliminary cost estimates are provided for each of the 13 crossings. Safety models predict more than a 50 percent decrease in risk at some of these locations if the recommended improvements are implemented. The site-specific mitigation measures identified for the at-grade crossings include the addition of pavement markings, warning lights, bells, signing, fencing, and gate systems; construction or relocation of roadway features such as medians, curbs, and traffic lights; asphalt repairs; and measures to improve visibility. Building off the risk assessment, HNTB proposes a list of potential funding sources and grants to aid in the implementation of the recommended safety improvements.



TABLE OF CONTENTS

EXECUTI	VE SUMMARY ES-1
CHAPTER	R 1 – INTRODUCTION1-1
СНАРТЕР	2 – DENVER HAZARD MITIGATION FRAMEWORK2-1
2.1	Hazard of Accidental Deaths in Context
СНАРТЕР	R 3 – FREIGHT VOLUMES
3.1	Hazardous Materials Shipments3-2
3.2	Grade Crossing Accidents within Denver Limits
3.3	Derailments and Accident Reporting3-5
	3.3.1 Non-grade Crossing Equipment-Related Accidents
CHAPTER	R 4 – RIGHT-OF-WAY4-1
4.1	Current Residential Development along Right-of-Way4-1
4.2	Current Tier II Facilities Along Right-of-Way4-2
4.3	Environmental Considerations4-3
CHAPTER	R 5 – FUTURE INDUSTRIAL DEVELOPMENT IN DENVER5-1
CHAPTER	R 6 – HAZARDOUS RAIL TRAFFIC: PRESENT AND FUTURE6-1
6.1	Uinta Basin Railway6-1
6.2	National Context for Oil Derailments6-2
CHAPTER	R 7 – MITGATION OPTIONS FOR TRAIN-RELATED ACCIDENTS AND DERAILMENTS
7.1	Freight Railroads7-1
7.2	Land Use Options7-1
7.3	Rail Crossings7-3
СНАРТЕР	8 8 – SUGGESTED GUIDELINES AND CONSIDERATIONS8-1
8.1	Potential Funding Sources
СНАРТЕ	8 9 – REFERENCES

APPENDICES

Appendix A – Risk and Methodologies Appendix B – National Derailment and Accident Reporting Appendix C – GradeDec.Net Results Appendix D – FRA Accident Reports Appendix E – Rail Crossing Risk Register Appendix F – Denver Trespassing Records Appendix G – Rail Equipment Accidents Appendix H – Tier II Facilities

TABLES

Table 2-1. Denver Hazard Assessment Rankings	2-1
Table 2-2. Accidental Deaths List in Denver County	2-2
Table 3-1. Hazardous Materials Shipments List Within Denver Limits	3-3
Table 3-2. Number and Type of Hazardous Cargo Passing through Denver Limits (2021)	3-3
Table 3-3. Train Accident Causes in Colorado (2017-2021)	3-3
Table 3-4. Train Accident Types in Colorado (2017-2021)	3-4
Table 3-5. Grade Crossing Accidents within Denver Limits (2017-2021)	3-4
Table 3-6. Colorado's Ranking in Grade Crossing Accidents Nationwide (2017-2021)	3-4
Table 3-7. Top 10 US Cities (Under 1 million population) with Most Grade Crossing Accidents	3-5
Table 6-1. Freight Railroad Traffic - Hazardous Materials	6-1
Table 7-1. Safety Treatments for 13 Specific Locations in Denver	7-4
Table 8-1. Overall Suggested Guidelines	8-1

FIGURES

Figure 3-1. Traffic Volume Changes between January 2020 and February 2022	3-1
Figure 3-2. Class 1 and Class III Railroads Within Denver Limits	3-2
Figure 3-3. Non-grade Crossing Train Accident by County (2017-2021)	3-6
Figure 3-4. Locations of Rail Equipment Accidents within Denver from 2017-2021	3-6
Figure 4-1. Current Locations of Multifamily Developments Along Railroad ROW	4-1
Figure 4-2. Current Locations of Tier II Facilities Along Railroad ROW	4-3
Figure 5-1. High-Density Industrial Development Adjacent to ROW	5-1
Figure 5-2. Growth Strategy Map from Blueprint Denver (2019)	5-1
Figure 6-1. Map of Uinta Railway Route	6-2
Figure 7-1. Example of Train Containment: Railroad Guard Rail	7-1
Figure 7-2. Locations of Denver Grade Crossings with the Highest Incident Rates according to FRA 3	Data 7-

PHOTOS

Photo 4-1. Encore Evans Station Apartment Complex	4-2
Photo 4-2. Glass House Condominiums at Union Station	4-2
Photo 4-3. Railroad Track Crossing over South Platte River	4-4
Photo 7-1. Deflection Wall	7-2
Photo 7-2. Example of Anti-Climb Fencing	7-2



ACRONYMS AND ABBREVIATIONS

Acronym/Abbrev	iation Definition
AADT	annual average daily traffic
AAR	Association of American Railroads
ALARP	as low as reasonably practicable
APS	accident prediction and severity
BNSF	Burlington Northern Santa Fe
CCD	City and County of Denver
CDBG	Community Development Block Grants
CDOT	Colorado Department of Transportation
CFR	Code of Federal Regulations
СО	Colorado
CPD	Community Planning & Development
CRISI	Consolidated Rail Infrastructure and Safety Improvements
CY	calendar year
DHS	Department of Homeland Security
DOT	Department of Transportation
DOTI	Department of Transportation and Infrastructure
DPHE	Department of Public Health & Environment
EO	Emergency Order
FRA	Federal Railroad Administration
HMEP	Hazardous Materials Emergency Preparedness
HMR	hazardous materials release
IIFR	Involuntary Individual Fatality Risk
mph	miles per hour
NTSB	National Transportation Safety Board
OEM	Office of Emergency Management
ROW	right-of-way
RTDC	Regional Transportation District C-Line
SAP	Highway Rail Safety Action Plan
UPRR	Union Pacific Railroad
US	United States
WUI	Wildland Urban Interface



CHAPTER 1 – INTRODUCTION

In 2022, the City and County of Denver (CCD or Denver) authorized a study of freight rail safety hazards, vulnerabilities, and risk mitigations. The outcome of the Freight Railroad Safety Study identifies risks, therefore, HNTB proposes a wide range of mitigation options to improve safety. Knowing the risks and mitigating them will help Denver become a safer community, while continuing to grow alongside the railroads. Many risks commonly addressed by local governments have been quantified, measured, and mitigated by means of regulations, codes, and standards. This study offers a framework for quantifying and identifying potential risks and mitigation measures. It adds clarity to current conditions along the railroad right-of-way (ROW) that are unknown or not well quantified but are susceptible to derailments and hazardous material releases that could potentially impact nearby land users.

In 2013, a unit train carrying 73 cars of crude oil, operated by a one-man crew, expired on the hours of service outside of Lac Mégantic, Quebec. The locomotive engineer, by railroad rules, must secure the brakes on the locomotive before leaving the train unattended. If the engineer has time, he secures the rest of the train, tying a varying number of brakes according to the tonnage and grade at the location. This day on July 6, 2013, the engineer did not tie the train brakes. As air bled off the train line (a common occurrence in trains), the three locomotive brakes could not hold the train, and it began to roll down a 1.2 percent grade into town. When the train rolled into the city it derailed, resulting in fires and explosions of multiple tank cars. The result of this disaster was that 47 people were killed, twice that number were injured, and more than 30 buildings were destroyed. More than half the town was contaminated by the oil. The blast radius of this accident was more than half a mile. Damages to this city were over \$200 million, and the loss of life – immeasurable.

Since this disaster, a few studies have been created to assess potential risk mitigation measures around rail operations. Previous studies have identified issues surrounding cities that have been developed along the railroad ROW (CCD, 2016; CDOT, 2022a). In 2016, Denver Mayor, Michael B. Hancock, commissioned a study to look at and review the city's policies and practices around safety and hazard mitigation in areas near the railroad ROW (CCD, 2016). The conclusions of the 2016 study made recommendations on what needed to be considered to improve safety within the communities that surround the ROW. In 2018, the City of Calgary commissioned a study that reviewed the rail baseline and risk assessment for the city. The report looked at Canadian rail traffic volumes and trends, land adjacent to the ROW in Calgary, and railroad operations within this city. Based on their findings, this study completed a risk assessment of the area that is near the railroad ROW.

The National Transportation Safety Board (NTSB) and the Federal Railroad Administration (FRA) compile reports about train incidents and accidents from around the country (USDOT, 2021). These reports contain data significant to any rail study and highlight the potential for rail incidents and damage within the community where the accident occurs.

This study documents the existing freight rail conditions in Denver (e.g., rail volumes and commodity type) and the surrounding land uses, grade crossings, and facilities that run adjacent to the rail lines. It is the first step in identifying potential risks to life, property, and the environment and in recommending mitigation measures.



CHAPTER 2 – DENVER HAZARD MITIGATION FRAMEWORK

In 2022, Denver updated its overall assessment of hazards that pose risks to the city including, but not limited to, natural disasters, hazardous materials incidents, and transportation incidents. Individual city departments take responsibilities for preventing, reducing, or mitigating the risks these hazards pose. Table 2-1 identifies areas of risk in the hazards assessment conducted by the city (CCD, 2022).

Hazard	Location/Spatial Extent	Magnitude/Severity	Likelihood of Future Occurrence	Significance
Communicable Disease	Extensive	Severe	Likely	High
Cyber Attack	Significant	Critical	Likely	High
Drought	Extensive	Moderate	Likely	High
Flooding	Significant	Moderate	Likely	High
Severe Thunderstorm	Extensive	Moderate	Highly Likely	High
Severe Winter Storm	Extensive	Moderate	Highly Likely	High
Extreme Temperatures	Extensive	Moderate	Likely	Medium
Dam Inundation	Significant	Critical	Unlikely	Medium
Earthquake	Extensive	Severe	Unlikely	Medium
Hazmat Incident	Limited	Moderate	Highly Likely	Medium
Critical Infrastructure Failure	Significant	Moderate	Occasional	Medium
Social Unrest	Limited	Moderate	Likely	Medium
Space Weather	Extensive	Critical	Unlikely	Medium
Terrorism and Mass Violence	Limited	Critical	Occasional	Medium
Tornado	Limited	Critical	Likely	Medium
Expansive Soils/Subsidence	Significant	Minor	Occasional	Low
Transportation Incident	Limited	Moderate	Occasional	Low
Mass Influx of Evacuees	Limited	Minor	Occasional	Low
Urban Conflagration	Limited	Moderate	Unlikely	Low
Volcanic Ash	Extensive	Moderate	Unlikely	Low
Wildland Fire	Limited	Moderate	Likely	Low

Table 2-1. Denver Hazard Assessment Rankings

Source: CCD, 2022

2.1 Hazard of Accidental Deaths in Context

Table 2-2 lists the common causes of accidental deaths and is intended to provide an understanding of accidental deaths and the citywide planning efforts to prevent them. City planning is intended to protect life, safety, and general welfare. With information and awareness, city-wide resources can then be directed, according to each category of accidental deaths, to implement prevention measures.

While accidental deaths may seem unavoidable, a core tenet of Denver's Vision Zero Action Plan (CCD, 2017) is that people should not be killed or seriously injured because of mobility. Humans make mistakes, and physical/mechanical failures occur to cars, trains, and the underlying infrastructure; therefore, the transportation system should be designed and maintained to minimize the consequences of those errors.

Cause	2020	2021
Drug Overdoses	323	411
Suicides	152	156
Homicides	87	96
Roadway Vehicle Accidents	57	84
Work-Related Accidents	5	12
Freight Railroad Accidents	4	3

Table 2-2. Accidental Deaths List in Denver County

Sources: CDOT, 2022b, 2022c; FRA, 2021.



CHAPTER 3 – FREIGHT VOLUMES

Currently, there are two major railroads (Class I) and ten local railroads (Class III) that deliver freight in the city. A Class I railroad is a railroad that has revenues of more than \$504 million; a Class II railroad has revenues between \$40 million and \$504 million; and a Class III railroad has revenues less than \$40 million. The major Class I railroads are the Burlington Northern Santa Fe (BNSF) and Union Pacific Railroad (UPRR). These major carriers account for 95 percent of the freight that passes through Denver.

The American Association of Railroads indicates that during the COVID-19 pandemic, traffic volumes decreased, as seen on Figure 3-1 (Statista, 2022). These conditions occurred due to manufacturing and product demand decreases during the pandemic and are slowly increasing as consumer product demands increase.

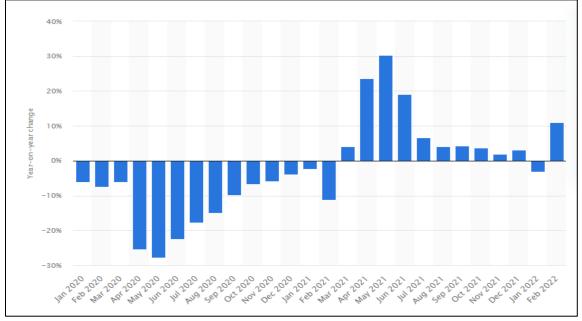


Figure 3-1. Traffic Volume Changes between January 2020 and February 2022

Source: Statista, 2022

The State of Colorado has 2,640 miles of active rail line, with 41 miles within Denver limits, and approximately 80 miles of industrial spur tracks, which are serviced by short line or Class III railroads (see the freight rail lines route paths through Denver as shown on Figure 3-2Error! Reference source not found.).

Overall statistics for Colorado compared to the rest of the United States (US) show the following:

- Colorado ranks 25th in the nation for train volume with 16.8 million tons of freight originating in the state.
- Colorado ranks 19th in tons of lading (freight or cargo that makes up a shipment) terminating within the state with 30 million tons.
- Colorado ranks 32nd with 204,200 railcars originating in the state.
- Colorado ranks 22nd with 427,866 railcars that are destined for Colorado consumers.

The freight rail lines routes paths through Denver are shown on Figure 3-2.

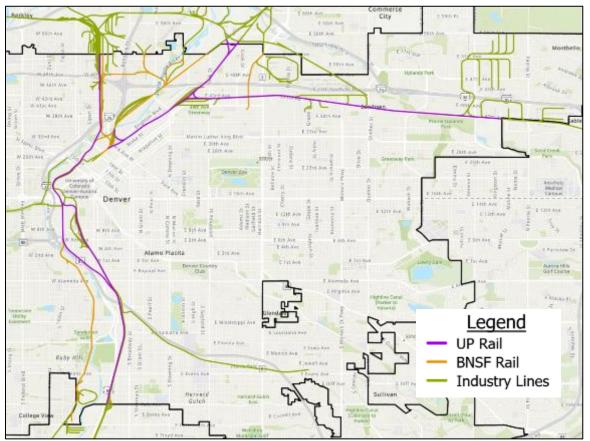


Figure 3-2. Class 1 and Class III Railroads Within Denver Limits

Source: HNTB, 2022

3.1 Hazardous Materials Shipments

The U.S. Department of Transportation (USDOT) defines hazardous materials as substances that can pose an unreasonable risk to health, safety and property when transported in commerce. Class I carriers indicate that the 2021 hazard shipments through the Denver area totaled 102,280 cars (see Table 3-1). Although this is a decrease from previous years, the effects of the COVID-19 pandemic should be factored into this decrease. There has been a steady increase in car loadings over last year's numbers, indicating that Denver could see over 200,000 car loadings within the next few years. The most carried hazardous materials shipments are fuel/gasoline, petroleum crude oil, sulfuric acid, sodium hydroxide, and nonspecified elevated temperature liquids. Denver has averaged 3.6 rail-related accidents per year from 2017 to 2021 (not necessarily hazardous-material related). Also, a recently approved train network addition means a petroleum producer from Utah (Uinta Basin Railway) could add 10 more crude oil unit trains through Denver, which will add to these estimates.

Interval	Hazardous Cars	Non-Haz Mat	Total			
Daily	280	6,720	7,000			
Monthly	8,524	204,576	213,100			
Yearly	102,280	2,454,720	2,557,000			
	Uinta Basin Railway (projected)					
Daily	781	Data Not Available	Data Not Available			
Monthly	23,430	Data Not Available	Data Not Available			
Yearly	Yearly 281,160		Data Not Available			
Combined Estimate 2025 (+14%)						
Daily	1,061	7,760	8,821			
Monthly	31,954	233,217	265,171			
Yearly	383,440	2,798,381	3,181,821			

Source: HNTB, 2022

Additional data provided by the Class I freight railroads for context is provided in Table 3-2 and describes the transportation of hazardous cargo moving through Denver by intermodal (rail and truck) transportation, as opposed to tank cars that move cargo from its origination destination to its end location.

Table 3-2. Number and	Type of Hazardous	Cargo Passing throu	ugh Denver Limits (2021)
	,		

Trains Cars/Day	Trains Cars/Month	Train Cars/Year	Type of Cargo
177	5,373	64,473	Hazardous Material
66	2,000	23,997	Loaded Intermodal
37	1,145	13,740	Hazardous Material
0.2	6	70	Loaded Intermodal

Source: HNTB, 2022

Table 3-3 and Table 3-4 show train accident data between 2017 and 2021 that was obtained from FRA for Colorado. Table 3-3 shows accident causes while Table 3-4 shows the types of accidents.

Table 3-3. Train	n Accident Causes	in Colorado	(2017-2021)
------------------	-------------------	-------------	-------------

Major Cause	Killed	Injured	Reportable Damage	Distinct Incident Count
Equipment	0	1	\$469,267	6
Human	0	0	\$2,356,783	32
Miscellaneous	1	3	3 \$1,521,200	
Track	0	0	\$3,501,516	18
Total	1	4	\$7,848,766	64

Source: HNTB, 2022

Accident Type	Killed	Injured	Reportable Damage	Distinct Incident Count
Collision	0	1	\$571,998	4
Derailment	0	0	\$6,198,622	53
Highway-rail crossing	1	3	\$987,102	4
Other Impacts	0	0	\$91,044	3
Total	1	4	\$7,848,766	64

Table 3-4. Train Accident Types in Colorado (2017-2021)

Source: HNTB, 2022

3.2 Grade Crossing Accidents within Denver Limits

Table 3-5 shows the grade crossing accidents for the last 5 years along the railroad lines within Denver, as reported by the FRA.

Table 3-5. Grade Crossing Accidents within Denver Limits (2017-2021)

Year	Number of Accidents		
2021	4		
2020	4		
2019	4		
2018	3		
2017	3		

Source: HNTB, 2022

The following tables show where Colorado and Denver stand among other states and cities, respectively, in grade crossing accidents. Table 3-6 shows that Colorado ranks about in the middle of all states for accidents within the nation.

Table 3-6. Colorado's Ranking in Grade Crossing Accidents Nationwide (2017-2021)

State	Total Number of Accidents
Texas	641
Georgia	339
Indiana	313
California	268
Alabama	220
Ohio	210
Louisiana	201
Illinois	195
Pennsylvania	173
Tennessee	140
Colorado	70
	Texas Georgia Indiana California Alabama Ohio Louisiana Illinois Pennsylvania Tennessee

Source: HNTB, 2022

Table 3-7 shows that Denver stands higher than average among the cities under 1 million in population, in regard to grade crossing accidents.

Rank	City	State	Total Number of Accidents 2017-2021	Total Number of Grade Crossings	Accidents per Grade Crossing 2017-2021
1	Memphis	TN	26	302	.086
2	Seattle	WA	17	248	.068
3	Nashville	TN	14	200	.070
4	Denver	со	12	212	.057
5	Detroit	MI	10	190	.053
6	Portland	OR	8	229	.035
7	El Paso	тх	8	89	.090
8	Oklahoma City	ОК	5	138	.036
9	Las Vegas	NV	1	22	.045
10	Washingt	on D.C.	1	7	.143

Table 3-7. Top 10 US Cities (Under 1 million population) with Most Grade Crossing Accidents

Source: HNTB, 2022

3.3 Derailments and Accident Reporting

Derailments occur whenever track or railcars are outside of recommended tolerances or whenever defective conditions exist. Title 49 *Code of Federal Regulations (CFR) Part 213¹* sets standards on the procedures required for upkeep of track and switches to be followed by all railroads. Despite these regulations, metal fatigue, weather, and other conditions can influence the condition and state of these items. In addition to this, human factor also plays a role in derailments. Hard coupling (when excessive force is used to couple railcars together during switching operations), excessive speed (when going over posted or prescribed speeds), Loads-empty or long-short car configuration (when excessively long cars are coupled to short cars, which leads to train derailments; mostly occurs during switching operations) also can contribute to potential derailments. Figure 3-3 shows locations of rail incidents in Denver from 2017-2021 including derailments and classification yards.

3.3.1 Non-grade Crossing Equipment-Related Accidents

Figure 3-3 shows the quantity of non-grade crossing incidents in all counties (excluding derailments in classification yards) causing damage greater than the FRA 2021 monetary threshold notice of \$11,200. Figure 3-4 shows locations of all rail incidents in Denver from 2017-2021, including derailments and classification yards causing damage greater than the FRA monetary threshold notice.

¹ Title 49 CFR Part 213: Available online at: https://www.govinfo.gov/app/details/CFR-2011-title49-vol4/CFR-2011-title49-vol4-part213.

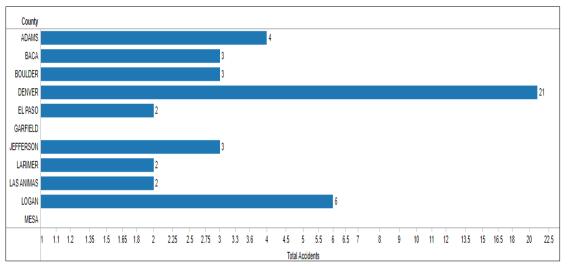


Figure 3-3. Non-grade Crossing Train Accident by County (2017-2021)

Source: FRA, 2022. <u>https://railroads.dot.gov/accident-and-incident-reporting/highwayrail-grade-crossing-incidents/incidents-summary</u>

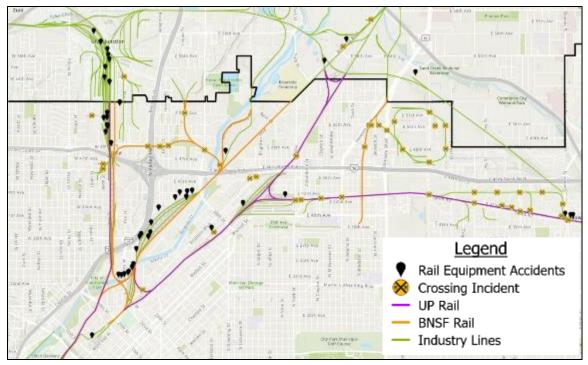


Figure 3-4. Locations of Rail Equipment Accidents within Denver from 2017-2021

Source: FRA, 2022. <u>https://railroads.dot.gov/accident-and-incident-reporting/highwayrail-grade-crossing-incidents/incidents-summary</u>



CHAPTER 4 – RIGHT-OF-WAY

4.1 Current Residential Development along Right-of-Way

Blueprint Denver (CCD, 2019a) is a citywide land use and transportation plan that was first adopted in 2002 and updated in 2019. The plan covers a 20-year period, and according to *Blueprint Denver* the city population has grown by 150,000 between 2002 and 2019. *Blueprint Denver* goes on to state that Denver could approach 900,000 residents by 2040. Thus far, Denver has seen significant development, including high-density housing, near freight ROW over the last 20 years (see Figure 4-1). This is due to strategic and intentional direction of growth to areas near passenger rail stations (light-rail and commuter-rail) intended to reduce automobile trips and create a more livable city of complete neighborhoods connected by complete transportation networks.



Figure 4-1. Current Locations of Multifamily Developments Along Railroad ROW

HNTB, 2022

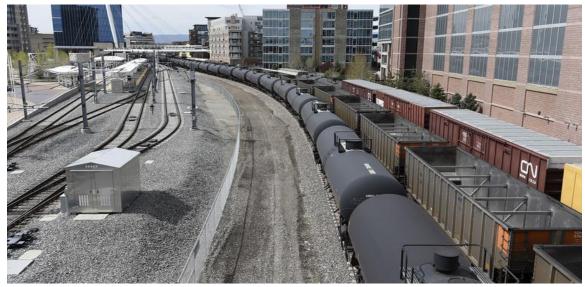
For example, Photo 4-1 shows the Encore Evans Station apartment complex, which is 18 feet from the edge of the railroad ROW, and Photo 4-2 shows the Glass House Condominiums, which is 26 feet away from the ROW. The freight railroad ROW is generally 100 feet wide.



Photo 4-1. Encore Evans Station Apartment Complex

Source: DOTI, 2022

Photo 4-2. Glass House Condominiums at Union Station



Source: DOTI, 2022

4.2 Current Tier II Facilities Along Right-of-Way

According to Denver's *Hazard Mitigation Plan* (CCD, 2022), there are two ways for potential hazardous materials incidents to occur along railroad ROW – those that are being transported through Denver and those that originate or are destined to locations that use and store chemicals daily within Denver limits (known as Tier II facilities). Tier II facilities are those facilities that store 10,000 pounds or more of any hazardous materials according to the Occupational Safety and Health Administration. These facilities are vital to the industrial and manufacturing economy, are tightly regulated, and often produce common household products. See Figure 4-2 for locations of Tier II facilities near railroad lines.

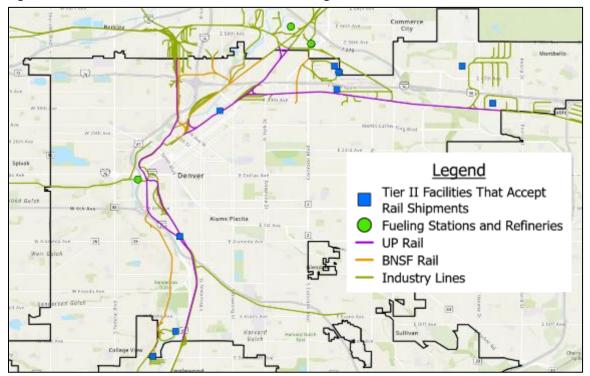


Figure 4-2. Current Locations of Tier II Facilities Along Railroad ROW

As of October 2021, there were 300 Tier II facilities in Denver with mandatory reporting requirements to the Denver Local Emergency Planning Committee; 15 of those facilities also have mandatory reporting requirements to the U.S. Environmental Protection Agency. While almost half of the Tier II facilities do not hold chemicals other than those used in batteries, there are several companies that use ammonia and chlorine daily, and these are considered toxic inhalation hazards.

There is always the potential for a release from either the fixed sites or from a train going through Denver. Based on National Railroad Construction and Maintenance Association data, Denver averages around 19 hazardous materials incidents per year, including an average of one incident per year that results in injuries or property damage. (CCD, 2022).

4.3 Environmental Considerations

Wildlife within the Denver area is monitored by the wildlife specialist. It appears that several species of wildlife within the areas of Denver, Adams, and Arapahoe counties could be severely compromised if there were to be a hazardous material release in the rivers or riparian areas located in Denver.

Photo 4-3 is an example, showing tracks crossing over the South Platte River in Denver. If a train derails in this location, it could affect the wildlife that are present in or along the river or their habitat. In addition, if a derailment occurs and hazardous materials are introduced into the river, river clean-up will be necessary, and downstream safety measures will need to be implemented **.**

Source: HNTB, 2022



Photo 4-3. Railroad Track Crossing over South Platte River

Source: Google Maps, 2022. <u>https://www.google.com/maps/@39.7221982,-</u> 105.0111599,338m/data=!3m1!1e3

Another major concern are tank cars containing hazardous chemicals or flammable liquids, such as crude oil, falling into rivers or streams. A derailment like this occurred in Denver in February 2022; fortunately, there were no hazardous cars on the train at the time. To protect the environment, FRA issued an Emergency Order (EO or Order) in 2015 (USDOT, 2015a) to require that trains transporting large amounts of Class 3 flammable liquid through certain highly populated areas, such as Denver, adhere to a maximum authorized operating speed limit (FRA, 2015). The following is taken from the Emergency Order:

"This EO is necessary due to the recent occurrence of railroad accidents involving trains transporting petroleum crude oil and ethanol... Under the EO, an affected train is one that contains: 1) 20 or more loaded tank cars in a continuous block, or 35 or more loaded tank cars, of Class 3 flammable liquid; and 2) at least one DOT Specification 111 (DOT-111) tank car (including those built in accordance with AAR) Affected trains must not exceed 40 miles per hour (mph) in high-threat urban areas as defined in 49 CFR 1580.3. (USDOT, 2015.)"



CHAPTER 5 – FUTURE INDUSTRIAL DEVELOPMENT IN DENVER

Blueprint Denver (CCD, 2019a) provides a plan for land use growth, including zones for greater density. Along the rail corridor there are many types of industries. The production and manufacturing districts are classified as heavy production, value manufacturing, and innovative/flex manufacturing. Many of these facilities produce common household products and are vital to the industrial and manufacturing economy of Denver.

Figure 5-1 correlates the locations of crossing incidents and industrial zoning. *Blueprint Denver* identifies certain manufacturing areas to maintain their industrial character in the future. It's expected that some businesses in these locations that have existing industrial zoning will continue to use the existing railroad lines for shipping and receiving of materials; therefore, Denver should continue to expect a higher degree of risk, based on rail-related incidents along these corridors and zones.

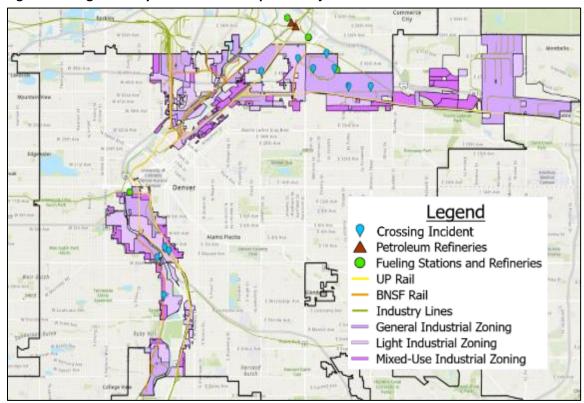


Figure 5-1. High-Density Industrial Development Adjacent to ROW

Source: HNTB, 2022

Blueprint Denver's, growth strategy map (Figure 5-2) shows the aspiration for distributing future growth in Denver. The map reflects community input on various growth scenarios received during the "Growing a Better Denver Game" workshop and online survey. City staff worked with the State Demographer's Office and the Denver Regional Council of Governments to develop projections for population, households, and employment by 2040. This included an analysis of vacant and underutilized land available through 2040 and the estimated development capacity of land based on these future places.

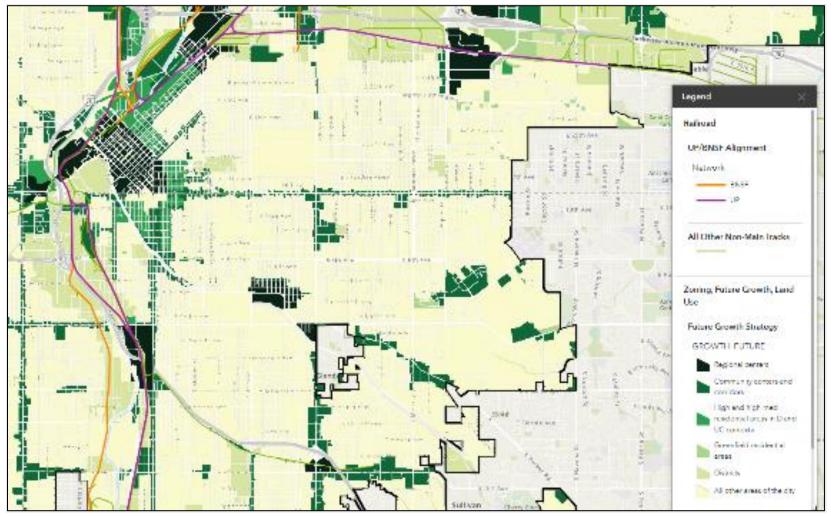


Figure 5-2. Growth Strategy Map from Blueprint Denver (2019)

Source: HNTB, 2022

As Figure 5-2 shows, a portion of this new growth strategy lays along the rail corridor. Four "regional centers" (the highest intensity of development) are located along railroad main lines because of the location of transit stations and transit-oriented development.



CHAPTER 6 – HAZARDOUS RAIL TRAFFIC: PRESENT AND FUTURE

The state of hazardous freight rail traffic in and through Denver depends primarily on economic conditions. In 2021 there were 102,280 hazardous carloadings or train cars that passed through Denver that were carrying hazardous materials (See Table 6-1). Overall, Denver should expect to see growth in rail traffic, including trains passing through the city carrying hazardous materials and trains originating from or destined to industrial and manufacturing facilities within the city (CCD, 2019a). An example driver of this growth is the Uinta Basin Railway Project currently under construction.

Table 6-1. Freight Railroad Traffic - Hazardous Materials

Hazardous Material	2021	2025 Estimated with Uinta Basin Railway	
Daily Cars	280	1,061	
Monthly Cars	8,524	31,954	
Yearly Cars	102,280	383,440	
Daily Freight Trains Through Denver	38	45	
Freight Cars with Hazardous Materials	4%	14%	

Source: HNTB, 2022

6.1 Uinta Basin Railway

In 2022, the Surface Transportation Board approved the Uinta Basin Railway construction. The \$1.5 billion Uinta Basin Railway will be the largest new railroad project in the US in nearly 50 years. The project will connect the Uinta Basin region to the national rail network, allowing crude oil to be transported over the Rocky Mountains to refineries along the Gulf Coast (Woodruff, 2022).

Much of the additional crude oil produced because of the Uinta Basin Railway would be hauled through Colorado on a route that passes through Glenwood Canyon along the Colorado River, then through the Moffat Tunnel and central Denver (Figure 6-1). Up to ten 2-mile-long trains would travel the route daily, and because the Uinta Basin produces a type of oil known as "waxy" crude, the tank cars used to transport it need to be heated, which creates additional safety and environmental risks (Woodruff, 2022).

The Uinta Basin Railway Environmental Impact Statement projects an accident rate of two accidents per million train miles on its new track. Once connected to UPRR, the rate drops to 0.5 to 2 per million train miles. Dozens of cities, counties, and water districts along the route have voiced opposition to the project, including Glenwood Springs, where city officials worry about potential impacts to the Colorado River Basin, and Eagle County, which has joined environmental groups in suing the Surface Transportation Board in a federal appeals court over its 4 to 1 vote to approve the project as a whole in December (Surface Transportation Board, 2021).

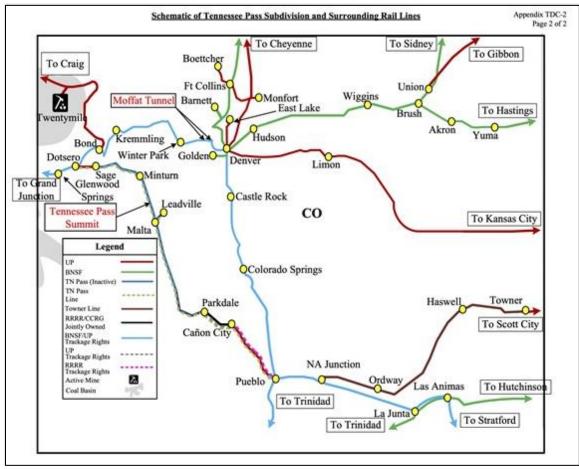


Figure 6-1. Map of Uinta Railway Route

Source: Jason Blevins, The Colorado Sun, 2022

6.2 National Context for Oil Derailments

For context, at least 21 oil train derailments have occurred in the US and Canada since 2013, according to a 2021 report from the nonprofit Sightline Institute. Such incidents frequently result in fires and spills, such as was the case with the 2016 derailment of an oil train in Oregon's Columbia River Gorge, in which an estimated 42,000 gallons of crude oil were spilled. (Sightline Institute, 2021).

USDOT projects that nationwide, 278 mainline derailments of crude oil or ethanol-carrying trains could statistically occur between 2015 and 2034 (not including derailments of other hazmat, other derailments, or other rail hazmat incidents). These include 93 incidents in densely populated areas (33 percent); 85 incidents with at least one carload of released flammable liquid igniting and causing fire (30 percent); 12 incidents with at least 230,000 gallons of released flammable liquid (7 to 8 tank carloads) and large fires (13 percent); and 2 derailments projected to be high consequence events or major disasters (less than 1percent). (USDOT, 2015b).



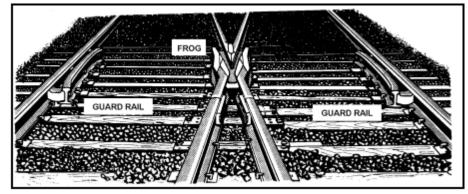
CHAPTER 7 – MITGATION OPTIONS FOR TRAIN-RELATED ACCIDENTS AND DERAILMENTS

There are multiple types of mitigation to help prevent large impacts associated with hazardous materials spills and/or train derailments. This section discusses some of the more common ones that could be implemented in Denver. The placemaking implications of these options is beyond the scope of this study and would need to be addressed in the planning process.

7.1 Freight Railroads

Train containment (Figure 7-1) is a mitigation method that is designed to prevent conventional trains from overturning or deviating away from its track. Typical containment includes guard rails, parapets, and undercar guards. Specific locations that have relatively higher derailment risks such as bridges, switches, and interlockings are chosen to install railcar containment. Installing train containment is technically feasible for both existing and newly built shared operation settings. The containment methods are installed by the railroads on conventional tracks. A guard rail, for example, is installed to contain the rolling stock and prevent it from intruding the adjacent track when it derails. The cost of containment depends on the type and length of containment (USDOT, 2019, p.40).

Figure 7-1. Example of Train Containment: Railroad Guard Rail



Source: Railway Structure, Reconnaissance, Construction, and Rehabilitation. https://www.globalsecurity.org/military/library/policy/army/fm/55-20/ch7.htm

7.2 Land Use Options

Along multi-family areas close to the ROW, supplementary barriers may be considered to prevent derailment incursion. Buildings within 100 feet of the edge of the ROW would benefit the most from an installation.

Mitigation options such as ROW defection walls (Photo 7-1) or similar would help mitigate potential risks in case of a derailment. Structural barrier protection can help reduce or eliminate potential impacts into structures from trains that derail.

Photo 7-1. Deflection Wall



Source: Reinforced Earth Company Risk Mitigation & Protective Structures. https://reinforcedearth.com/markets/risk-mitigation-protective-structures/

Anti-climb fencing (see Photo 7-2) can help mitigate risks of trespassers in areas identified by Denver's Office of Emergency Management and along high-density and areas along the railroad ROW, which are prone to trespassing.



Photo 7-2. Example of Anti-Climb Fencing

Source: Ameristar – ASSA ABLOY. 2022. <u>https://www.ameristarperimeter.com/us/en/products/high-security-fence/wireworks-anti-climb</u>

7.3 Rail Crossings

Figure 7-2 shows the locations with the highest incident rates according to the available FRA data (2017-2021).

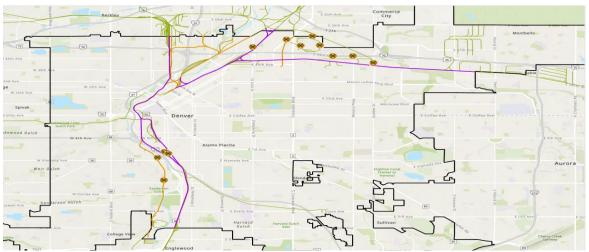


Figure 7-2. Locations of Denver Grade Crossings with the Highest Incident Rates according to FRA Data

FRA rates road risks by analyzing only past accidents that have actually occurred. FRA also provides a statistical software called GradeDec.NET that allows the user to add alternative safety appliances that subsequently change annual predicated accidents that are measured in percentage (FRA, 2020). Each grade crossing can be improved upon. Whether a full grade-separation is added, or a simple bell to notify pedestrians, grade crossing safety is improved upon exponentially depending on the safety appliance added. More details about the GradeDec.NET results and incidents are available in Appendices C and D, respectively. Appendix E contains the risk register for this project that supports the minimum recommendations. Appendix E also contains a menu of costs for a variety of safety devices and items that can be applied to grade crossings.

CDOT rates road risks by the potential for future accidents to occur. This is done by analyzing train traffic vs. vehicle traffic over a particular crossing, then assigning a risk factor (the higher the traffic volumes, the greater the risk.) Conversely, FRA measures only the number of incidents at a particular road crossing, and the number of safety appliances at that location. The greater the number of safety appliances at a location the lesser the probability of an incident occurring due to increased warning measures. According to the Colorado Department of Transportation (CDOT) analysis methods for future potential risk, there is one crossing at 13th Avenue and Umatilla that requires risk mitigation appliances, in addition to the 12 identified through FRA's accident data.

The 13 crossings shown in Table 7-1 are being recommended for safety treatments, ranging from highway markings to crossing gates. The greater the traffic and potential incident rate, the stronger the urgency for grade crossing improvements to be considered; however, there is no zero-effect here, even if the crossing is closed, unless the railroad tracks are removed. For instance, if the crossing was closed, the alternate predicted accident rate would be zero, due to no traffic flow, but incidents will continue to take place due to human error and trespassing.

Source: HNTB, 2022

Crossing Location	Possible Safety Treatments	Base Annual Accidents (Fatalities + Injuries+ Property Damage Only)	Alternate Annual Accidents (Fatalities + Injuries+ Property Damage Only)	Preliminary Estimated Costs
BNSF - South Kalamath Street	Extend median, add pavement markings on all quadrants, add warning lights, blank-out signs, relocate signs, raise curb, and repair asphalt.	0.0398	0.02211	~\$230,000
RTDC - Quebec Street Southbound Frontage Road	Add pavement markings, move traffic signal to the north side of the rail crossing, add fencing, and add preemption to traffic signal at crossing.	0.04649	0.02583	~\$260,000
BNSF - South Santa Fe Drive	Extend median, add pavement markings on all quadrants, add warning lights, blank-out signs, no- right turn signs, relocate signs, raise curb, and repair asphalt.	0.04118	0.02258	~\$560,000
UP - Holly Street	Add pavement markings on main street as well as on the industry road, add warning lights, blank-out signs, relocate signs, raise curb, repair asphalt, and a two-quadrant gate system.	0.20451	0.09087	~\$360,000
BNSF - Dahlia Street North Of 51 st Street	Add pavement markings, add warning lights, and add two-quadrant gate system.	0.10207	0.04535	~\$220,000
BNSF - Alameda Avenue	Add four quadrant gates, add median, add pavement markings, add warning lights and bells, add pedestrian gates, and ROW fencing.	0.10397	0.00464	~\$550,000
UP - Monaco Street	Add pavement markings, add warning lights, add two-quadrant gate system.	0.10286	0.04571	~220,000
BNSF – West Mississippi Avenue	Add median, add pavement markings on all quadrants, add warning lights, blank-out signs, no-right turn signs, relocate signs, raise curb, repair asphalt, and a two-quadrant gate system.	0.10337	0.04593	~560,000

Table 7-1. Safety T	reatments for 13 Specific	Locations in Denver

Crossing Location	Possible Safety Treatments	Base Annual Accidents (Fatalities + Injuries+ Property Damage Only)	Alternate Annual Accidents (Fatalities + Injuries+ Property Damage Only)	Preliminary Estimated Costs
BNSF – East 48 th Avenue at Ash Street	Add median, add pavement markings on all quadrants, add warning lights, blank-out signs, no-right turn signs, relocate signs, raise curb, repair asphalt, and a two-quadrant gate system.	0.1022	0.04541	~560,000
BNSF - 48 th Avenue, West of Forest Street	Add two quadrant gates, pavement markings, warning lights, and signage.	0.10239	0.0455	~370,000
BNSF – East 50th Avenue	Add two quadrant gates, pavement markings, warning lights, and signage.	0.10173	0.0452	~370,000
UP – East 47 th Avenue and York Street	Add four quadrant gates, fencing along ROW, Wrong-Way sign on York Ln., extend median, add pavement markings, add warning lights, add pedestrian gate, and relocate signs.	0.10563	0.00845	~500,000
13 th Avenue and Umatilla	Add four-quadrant gates, pavement markings, warning lights, and signage. Add pedestrian crossing gates and sidewalks	0.00663	0.00119	~500,000
Combination of all Crossings in this Table		Base Annual Average is 0.08945	Alternate Annual Average is 0.03452	Prelim Estimated Total Cost is \$5,260,000

~ = approximately

RTDC = Regional Transportation District C-Line



CHAPTER 8 – SUGGESTED GUIDELINES AND CONSIDERATIONS

Table 8-1 presents overall suggested considerations based on the analysis from the study, along with some potential sources of funding for capital project improvements discussed in Section 8.1.

Table 8-1.	Overall	Suggested	Guidelines
------------	---------	-----------	------------

Guideline Considerations	Lead City Agency	Responsible Parties	Time Horizon
Develop and implement hazard-management plans for railroad corridors	OEM	OEM	Short Term
Conduct a detailed study "parcel by parcel" of emergency access along the railroad ROW and identify areas / projects to enhance access	CPD	CPD	Short Term
Develop and implement evacuation plans in the event of a hazardous materials release in high-risk areas	OEM	OEM	Short Term
Support DFD staffing, training, and equipment for response to rail incidents.	DFD	DFD	Short Term
Provide education and outreach to emergency service responders and adjacent property owners/residents about railroad hazards and response – information should be updated at least annually, but more frequently if significant changes occur. Consider large-scale training exercises to simulate a train derailment with a large hazardous material on-board on a regular basis. Include railroad personnel on regular walkthroughs so that first responders are familiar with the infrastructure/areas prior to an event.	DFD	DFD, DPD	Short Term
Provide education to CCD staff about CCD's recently adopted Hazard Mitigation Plan (2022) and ensure that the plan is considered when working in areas adjacent to railroad corridors	OEM	OEM	Short Term
Review current vegetation management requirements and enforcement in areas adjacent to railroad corridors and explore enhancements, such as xeriscaping that is fire- resistant.	CPD	City for Public Property, Private Property Owners	Short Term
Ensure that city and emergency response personnel have real- time alerts on the Rail Crossing Locator app where first responders can request to be notified in advance of a train that is going to go through Denver carrying certain petroleum products in a quantity of 1 million gallons or more. This will allow for proactive preparations in case of a derailment/spill.	DFD	DFD, OEM	Short Term
Ensure that existing fire hydrants near railroads are accessible to the railroad ROW	DFD	DFD, CPD, DOTI	Short Term
Consider designating projects as pilot projects to test mitigation measure effectiveness.	DOTI	DOTI	Short Term

Guideline Considerations	Lead City Agency	Responsible Parties	Time Horizon
 Consider guidelines or requirements for new development along railroad ROW to reduce the effect of derailments, especially in areas with a higher risk of derailment. Development of requirements or guidelines for development should be informed by peer city research, an analysis of impacts and costs on development, and stakeholder outreach. Potential guidelines could include: Locating surface parking, access aisles, landscape buffers, or other non-structural features adjacent to railroad ROW to reduce the effect of derailments Requiring reinforced columns in specific locations on structures constructed adjacent to railroad ROW when other mitigation is not feasible Elevating air intakes and adding chemical sensors to HVAC equipment adjacent to railroad ROW Using berms or walls to reduce the effect of derailments in high-risk locations Elevating the first occupied floor above the railroad ROW grade 	CPD	CPD	Medium Term
Identify areas with sensitive environmental resources adjacent to railroad corridors and work with railroad owners to add protection strategies, such as guard rails	DPHE	DPHE	Medium Term
Add fencing along the railroad ROW, beginning with areas where higher concentrations of pedestrians and encampments occur	Railroads, DOTI	DOTI	Medium Term
Implement grade crossing improvements as described in this report	DOTI	DOTI	Medium Term
Consider adding pedestrian overpasses at areas identified a high risk for pedestrians	DOTI	DOTI, CPD	Medium Term
Work with railroads to repair/upgrade switches, tracks, and other track-related infrastructure causing derailments	DOTI	Railroads, DOTI	Medium Term
Grade-separate high-risk crossings – underpasses or overpasses	DOTI	DOTI	Long Term
Place freight rail lines in below-ground (open-air) trenches with access control, fire hydrants, fencing, and intrusion detection alarms	DOTI	Railroads, DOTI	Long Term
Work with railroads to eliminate higher-risk switches, wye tracks, and other higher-risk track conditions	DOTI	Railroads, DOTI	Long Term
Consider incentivizing structural reinforcement of existing buildings along railroad ROW at high-risk locations	CPD	CPD	Long Term
Consider new freight rail lines or routes that direct trains with hazardous cargo away from densely populated areas	DOTI	Railroads, CDOT, DOTI	Long Term

DPH&E = Department of Public Health & Environment CPD = Community Planning & Development

DFD = Denver Fire Department

DOTI = Department of Transportation and Infrastructure

DPD = Denver Police Department

OEM = Office of Emergency Management

8.1 Potential Funding Sources

There are several grant programs available for things such as wildfire, flooding, training, etc. Some of the grants wouldn't work for a large corridor, but could work for high-risk, spot-specific areas where fire reduction strategies need to be employed, for example. The sources of these grants include:

- Federal Emergency Management Agency (FEMA) Hazard Mitigation Assistance grant programs:
 - The Hazard Mitigation Grant Program provides funding to state, local, tribal, and territorial governments so they can develop hazard mitigation plans and rebuild in a way that reduces, or mitigates, future disaster losses in their communities.
 - Building Resilient Infrastructure and Communities supports states, local communities, tribes, and territories as they undertake hazard mitigation projects, reducing the risks they face from disasters and natural hazards.
 - Flood Mitigation Assistance is a competitive grant program that provides funding to states, local communities, federally recognized tribes, and territories. Funds can be used for projects that reduce or eliminate the risk of repetitive flood damage to buildings insured by the National Flood Insurance Program. This isn't the most applicable but may be applicable in certain areas/instances.
 - Non-Disaster Grants preparedness program funding to improve the capacity of state and local emergency responders to prevent, respond to, and recover from a weapons of mass destruction terrorism incident involving chemical, biological, radiological, nuclear, and explosive devices and cyberattacks.
- Hazardous Materials Emergency Preparedness (HMEP) Grants:
 - In 1993, the Pipeline and Hazardous Materials Safety Administration began issuing grants to assist States, Territories, and Native American Tribes to "develop, improve, and carry out emergency plans" within the National Response System and the Emergency Planning and Community Right-To-Know Act of 1986. The HMEP grant program is designed to allow grantees the flexibility to implement training and planning programs that address differing needs for each location based on demographics, emergency response capabilities, commodity flow studies, and hazard analysis.
- U.S. Department of Homeland Security (DHS) Transportation Security Administration Surface Transportation Security Grants:
 - DHS provides security grants to mass transit and passenger rail systems, intercity bus companies, freight railroad carriers, ferries, and the trucking industry to help protect the public and nation's critical transportation infrastructure against acts of terrorism and other large-scale events.
- Community Development Block Grants (CDBG):
 - The CDBG Program supports community development activities to build stronger and more resilient communities.
- Federal Railroad Administration
 - Consolidated Rail Infrastructure and Safety Improvements (CRISI):
 - The CRISI grant program supports communities in improving at-grade crossings. Some of the atgrade crossings in this report are already mentioned in ongoing CRISI grant applications for road crossing improvements.

- Railroad Crossing Elimination Grant Program: This program provides funding for highway-rail or pathway-rail grade crossing improvement projects that focus on improving the safety and mobility of people and goods.
- Federal Highway Administration The Railway-Highway Crossings (Section 130) Program:
 - This program provides funds for the elimination of hazards at railway-highway crossings. The Infrastructure Investment and Jobs Act (Pub. L. 117-58, also known as the "Bipartisan Infrastructure Law"), and Part 924 of title 23 of the Code of Federal Regulations (23 CFR Part 924), continues the annual set-aside for railway-highway crossing improvements under 23 USC 130(e).



CHAPTER 9 – REFERENCES

Ameristar – ASSA ABLOY. 2022. https://www.ameristarperimeter.com/us/en/products/high-security-fence/wireworks-anti-climb.

City of Calgary, 2018. Baseline Risk Assessment of Land Development Within Proximity of Freight Rail Corridors - Calgary, AB. Available online at: chromeextension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.canadianconsultingengineer.com/awa rds/pdfs/2019/F-04_DillonCalgaryBRAFreightRailCorridors_new.pdf.

City and County of Denver (CCD). 2016. Report to Mayor Michael B. Hancock. 2016.

City and County of Denver (CCD). 2017. *Denver Vision Zero Action Plan*. October. https://www.denvergov.org/files/assets/public/vision-zero/documents/denver-vision-zero-action-plan.pdf.

City and County of Denver (CCD). 2019a. *Blueprint Denver*. Available online at: https://denvergov.org/files/assets/public/community-planning-anddevelopment/documents/planning-general/blueprint-denver/blueprint_denver.pdf.

City and County of Denver (CCD). 2019b. Interactive Blueprint Denver Map. Available online at: https://geospatialdenver.maps.arcgis.com/apps/webappviewer/index.html?id=3993b545b2c4468a b005b35b6d6ebf8c.

City and County of Denver (CCD). 2022. City and County of Denver Hazard Mitigation Plan: Section 4 – Risk Assessment: pg. 4-180. Available online at: https://www.denvergov.org/files/assets/public/executive-orders/documents/85b-adoption-andpromulgation-of-the-city-and-county-of-denver-hazard-mitigation-plan.pdf.

- Colorado Department of Transportation (CDOT). 2022a. Colorado State Highway-Rail Grade Crossing Safety Action Plan (SAP) February 14, 2022. CDOT Project No. 18-HAA-XB-00076-ZD0028 SA 24385.
- Colorado Department of Transportation (CDOT). 2022b. Department of Public Health & Environment 2022. Vital Statistics Program. https://cdphe.colorado.gov/center-for-health-and-environmental-data/registries-and-vital-statistics/vital-statistics-program.
- Colorado Department of Transportation (CDOT). 2022c. Department of Public Health & Environment 2022. State Unintentional Drug Overdose Reporting System. https://cdphe.colorado.gov/center-for-health-and-environmental-data/registries-and-vital-statistics/state-unintentional-drug.
- Google Maps. (n.d.). [South Platte River]. Retrieved September 21, 2022, from https://www.google.com/maps/@39.7221982,-105.0111599,338m/data=!3m1!1e3
- Jason Blevins, Colorado Sun. 2022. Utah Crude Trains Could Be Rolling Through Colorado After Forest Service Denies Objections to New Rail Line. https://coloradosun.com/2022/07/11/uinta-basin-oiltrains-colorado-forest-service/. July 11.
- Sightline Institute, 2021. A Timeline of Oil Train Derailments in Pictures. Available online at: https://www.sightline.org/2021/02/26/a-timeline-of-oil-train-derailments-in-pictures/.
- Statista, 2022. AAR Monthly U.S. Rail Traffic; Year-On-Year Change In Monthly Rail Freight Traffic in the United States from January 2020 to February 2022 (compared to previous year). Available online at: https://www.statista.com/statistics/1110623/year-on-year-change-monthly-carloads-transportedus-class-i-railroads/

- Surface Transportation Board, 2021. Unita Basin Railway Final Environmental Impact Statement. Available online at: http://uintabasinrailwayeis.com/DocumentsAndLinks.aspx.
- U.S. Department of Transportation (USDOT). 2015a. Federal Railroad Administration [FRA Emergency Order No. 30, Notice No. 1] *Emergency Order Establishing a Maximum Operating Speed of 40 mph in High-Threat Urban Areas for Certain Trains Transporting Large Quantities of Class 3 Flammable Liquids.*
- U.S. Department of Transportation (USDOT). 2015b. Office of Hazardous Material Safety. *Final Regulatory Impact Analysis* [Docket No. PHMSA-2012-0082] (HM-251) High-Hazard Flammable Trains Rule, pg.119.
- U.S. Department of Transportation (USDOT). 2019. *Hazards Associated with High-Speed Rail Operations Adjacent to Conventional Tracks – Enhanced Literature Review Part II: Best Practices*, pg. 40 and Appendix C: pg.38.
- U.S. Department of Transportation (USDOT). 2020. Federal Railroad Administration (FRA), GradeDec.NET Crossing Evaluation Tool. Retrieved online at: https://gradedec.fra.dot.gov/
- U.S. Department of Transportation (USDOT). 2021. Federal Railroad Administration (FRA), Highway/Rail Grade Crossing Incidents. Available online at: https://railroads.dot.gov/accident-and-incident-reporting/highwayrail-grade-crossing-incidents/highwayrail-grade-crossing.
- U. S Department of Transportation (USDOT). 2022. Accident/Incident Dashboards and Data Downloads. https://railroads.dot.gov/safety-data/accident-and-incident-reporting/accidentincident-dashboardsdata-downloads.
- Woodruff, Chase, 2022. News from the States, "Plan for up to 10 oil trains a day through Colorado on Track for Administration's Approval", July 08, 2022. Available online at: https://www.newsfromthestates.com/article/plan-10-oil-trains-day-through-colorado-trackadministrations-approval.



APPENDIX A. RISK AND METHODOLOGIES



APPENDIX A – RISK AND METHODOLOGIES

Risk

Risk is a measure of the effect of probabilities of occurrence of detrimental events and the consequence of such events. For involuntary individual fatality risk (IIFR), also known as IR, arising from shipments on rail of hazardous materials, including compressed natural gas and liquid natural gas, it is recommended that the "acceptance" criteria shown on Figure A-1 and Figure A-2 be used to evaluate the IIFRs.

o	U U
Individual risk (per year)	Comments
Zone 1: IR > 5 x 10^{-5}	Unacceptable
Zone 2: 3 x $10^{-7} \le IR \le 5 x 10^{-5}$	ALARP; applies for non-sensitive/non-vulnerable populations only
Zone 3: IR < 3 x 10^{-7}	Acceptable

Figure A-1. Acceptance Criteria for Evaluating IIFR

Source: FRA

Notes: < = less than \leq = less than or equal to ALARP = as low as reasonably practicable IR = Individual Risk 5 x 10⁻⁵ = 0.00005, or 5 in 100,000 3 x 10⁻⁷ = 0.00003, or 3 in 10,000,000

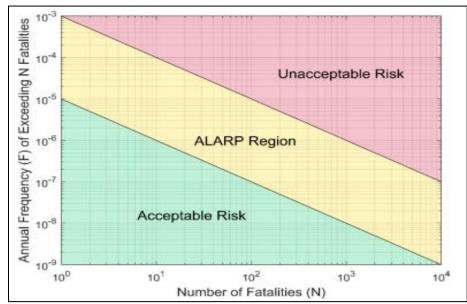


Figure A-2. Risks

The following bullets explain how to interpret Figure A-1 and Figure A-2:

- If the IIFR is less than three in ten million (3 x 10⁻⁷) per year, this falls into Zone 3 and the green "Acceptable Risk" category.
- If the IIFR is above three in ten million per year (3 x 10⁻⁷), this is unacceptable risk for sensitive populations and places of public assembly (e.g., hospitals, schools, prison, houses of worship, major event venues).
- If the IIFR is greater than five in one hundred thousand (5 x 10⁻⁵) per year, this falls into Zone 1 and the red "Unacceptable Risk" category, which is for all populations.
- Conditionally acceptable If the IFFR value is between three in ten million (3 x 10⁻⁷) per year and five in one hundred thousand (5 x 10⁻⁵) per year for non-sensitive populations that will reduce the risk to ALARP. This falls into Zone 2 and the yellow "ALARP" category. (Ref. FRA, 2020a)

Methodology

This section describes the methodology behind the two tools that were used in this report, FRA's GradeDec.Net and CDOT's Hazard Rating formula procedure.

FRA GradeDec.Net

The GradeDec.Net is a web-based support tool that helps evaluate grade crossing improvements and gives the user an idea of the current safety/risk factor at the crossing. The modeling framework was designed by the FRA, Volpe National Transportation Systems Center, and the National Cooperative Highway Research Program to effectively support grade crossing projects. This simulation tool determines risk and generates the results, which includes user quantified variables with 80 percent confidence rate. This process aids in determining risk (i.e., accidents, injuries) at the road crossing before and after safety devices have been implemented. Risk is reflected in the probability distribution of the results. An example of the risk summary for the Holly Street crossing is included as Figure A-3.

GradeDec.Net addresses two types of risk. First, accident risk is the probability of an accident occurring at a crossing. The principal metric of accident risk is measured in GradeDec.Net using the U.S. Department of Transportation's Accident Prediction and Severity (APS) model (FRA, 2020b). The second type of risk determines aggravated risk occurrence and risk severity and allows for the assigning of probability distributions to input variables of the analysis and determining the effects of uncertainty on the outcomes. GradeDec.Net also has capabilities for risk analysis, distinct from accident risk, which is concerned with quantifying uncertainty associated with forecasts.

The type of sampling used is repeated Monte Carlo sampling on several random variables that are inputs to a model and repeatedly solving the model to arrive at probability distributions for the resultant variables. Random sample variables take a random number on the 0-1 interval. The result is determined by finding the variable whose cumulative probability equals "x" risk, accidents, and occurrence based on the data. The methodology used to determine the values provided are consistent with Executive Order 12866 (Regulatory Planning and Review-1993). The criteria used is based on average annual daily traffic, number of trains per day, and number of accidents in the previous 5 years.

The APS formulas used are based upon regression analyses of accidents and grade crossing characteristics. The APS model delivers risk values, and the lower the values the safer the crossing. In the DOT APS, the incident metrics are "fatal accidents" (accidents with at least one fatality), "injury accidents" (accidents with no fatalities and at least one injury), and "property damage only" accidents. This model uses the

same accident prediction methodology as the DOT model but has distinct accident severity formulas. The model is based on an analysis of grade crossing accidents while focusing on the accident types (train strikes vehicle, vehicle strikes train), the impact of severe derailment, and fatalities among train as well as highway vehicle occupants.

The values required to calculate risk are as follows. Two elements (General & Devices) require data from the road crossing such as location and current devices. Highway and Rail data provide location, traffic, and speeds of both train and vehicle traffic. Once this data has been introduced, a score is produced in the aggravated risk page (Base & Alternate) using the Resource Allocation Method. The Base model includes the current road crossing safety configuration and measures the road crossing safety values. The Alternate model takes into consideration the additional safety devices and measures added to the crossing. The aggravating factors result in a calculated score for occurrence between 0 and 60, and a score for severity between 0 and 60. The occurrence score will scale the predicted accidents down by 30 percent for a score of 0 and up by 30 percent for a score of 60. The more safety devices added to a location will decrease occurrences and will reduce potential incidents (FRA, 2020).

STAR OF ST	vithout phased improveme	1							
	Region Name Technology Factor Percent Benefit from C	Denver 0.50 losure 0.00	0.50	0.50					
SUMMARY O	F PREDICTED ANNUAL	ACCIDENTS		Calculated:	11/22/2022 9	:53:51PM			
	Base Alternate	Fatal 0.01027 0.00375	Inju 0.030 0.01	948	PDO 0.16375 0.07555	Tet 0.20 0.09	451		
CROSSING DA	TA FOR THE DENVER	REGION		ang 199424 m					
Crossing ID 80461		Train Speeds in	and the second s	Highwa	y Traffic Charas	· · · · · · · · · · · · · · · · · · ·	Cost	s in '000 !	5
Description UP - H	OLLY STREET	Thru	10.0		Base 2	Alternete		Base	Alterna
Paved? TRUE	Urban? TRUE	Switch Max TT Speed	10.0	Lanes AADT	250	2 250	Contract	Provisiong L	
Paved 2 TRUE	Urban? TRUE	Max IT Speed	0.0	Auto TOD	Linform	Uniform	O&M	rossing L (0.2	Vervices 0.3
ЗСХ Вазе Туре	Crossbucks	Daily Trains		Auto % dir	Balanced	Balanced	Other	0.0	0.
Supp. Safety	None	Day Through	0.0	Para le de		19902000	Capital	1000	1.6
GCX Alt Type	Gates	Night Through	0.0	% Trucks	10.0	10.0	Assess		
Supp. Safety	Nona	Day Switch	8.0	Truck TOD	Uniform	Uniform		voentary 1	
No. Main Tracks	0	Night Switch	0.0	Truck % dir	Balanced	Balanced	OSM	0.0	0.0
No. Other Tracks Traffic Managemen		Accidents Past Y	e de la composition d	% Bus	0.0	0.0	Other Capital	0,0	0.0
and the second second second second	T-O-D	Yri 0 Yr		Bus TOD	Uniform	Uniform	Capital		
Passenger	Uniform	Yr3 0 Yr		Bus % dr	Balanced	Balanced	Higway	httprove	
Switch	Uniform	Yr5 0	S - 1				Lanes		0.0
		0.0000 92		Predit	ded Annual App	and the second	-		
				12.55	10000000	Alternate			
				Fatal Injury	0.01027				

Figure A-3. Example Risk Summary – Holly Street Crossing

CDOT Hazard Rating Formula Procedure (CDOT H.R.)

CDOT's Railroad Coordination Unit is responsible for inventorying public highway-rail crossings within the State of Colorado (CO SAP, 2022). The collected inventory data is used to identify those crossings that are below minimum standards for crossing warning devices and to calculate a hazard rating for each crossing. Numerous elements exist at a rail/highway crossing, and each can impact the calculation of a hazard rating and yet to consider each of these elements in a single formula would make the formula far too complex to be of practical use.

The Hazard Rating is affected by whether a highway-rail crossing has active warning devices or passive warning signs. Therefore, the Railroad Coordination Unit has revised previous versions of the procedure to identify more applicable procedures, specifically for active warning crossings and passive warning crossings. Crossing warning devices are categorized as being either passive or active. Passive type devices (e.g., signs) are seen as informing the driver of the existence of a crossing, but it is still the driver's responsibility to determine independently whether a train is approaching and whether it is safe to cross. On the other hand, active type devices (e.g., flashing lights and gates) are seen as offering a driver a positive indication of an approaching train. If a driver can see the crossing while still having stopping sight distance and the crossing has active crossing warning devices, then the procedure views the crossing as being safer than if the crossing had only passive traffic warning devices. For this reason, sight distance to the crossing for crossings treated with active warning, is not a relevant calculation, because the active warning devices provide clear indication to approaching drivers, by means of their operation, that a train is approaching.

Passive warning crossings, those with static signs, require additional evaluation which includes visibility by approaching crossing users, in the absence of active warning. As such, the formula that the Railroad Coordination Unit uses to determine hazard ratings for passive crossings, is unique to Colorado, because there is no nationally recognized formula. The formula uses the following elements, which have been selected as having the largest impact on safety at a passive highway-rail crossing.

CDOT's Railroad Coordination Unit evaluates the following elements finishing with a numerical value that indicates the crossing's hazard rating.

- The crossing's existing crossing warning devices.
- A vehicle's stopping sight distance
- Ability of the driver to see approaching trains
- The highway's annual average daily traffic (AADT)
- The railroad's AADT
- The number and type of railroad tracks existing at the crossing

Active warning crossings, those with active devices such as flashing lights and/or gates, utilize the same factors for calculating the hazard index, except for the vehicle's stopping sight distance, and the ability of the driver to see approaching trains. These two factors are not utilized at crossings having active warning, as those devices at the crossing clearly indicate a train is approaching, eliminating the need for approaching drivers to make this determination on their own.

One important element, grade crossing accidents, is not directly used in the Railroad Coordination Unit's hazard rating formula. This non-usage is not an oversight; instead, it is due to Colorado having very few grade crossing accidents each year. As such, it has not been possible to determine a relationship between accidents and physical crossing characteristics for use in a hazard rating formula. However, high accident

numbers at any given crossing should be considered subjectively by the Railroad Unit in coordination with Public Utilities Commission Staff.

Active/Passive Crossing Hazard Rating Procedure Factor – Highway Traffic (AADT) and Railroad Train Traffic (AADT)

Many of Colorado's public rail/highway crossings have low volumes in both vehicles and trains. While an individual crossing might have poor sight distances and inadequate crossing warning devices, if the crossing has very little train or vehicle traffic, its accident potential is seen as being lower. The Railroad Coordination Unit uses the following relationship as the amount of exposure due to the number of vehicles and trains at both active warning and passive warning crossings:

[AADTvehicles x AADTtrains] 100000

Where: *AADTvehicles* = annual average daily traffic volume of vehicles using crossing (estimated). *AADTtrains* = annual average daily traffic volume of trains using crossing (from railroad).

One important assumption regarding AADT is that the arrival of both vehicles and trains is uniform throughout the day — no attempt is made to determine the peak hours of vehicle and train usage. This assumption is due to the Railroad Coordination Unit not having enough resources to measure each crossing's traffic volume characteristics and both the railroad's and highway's ever changing usage characteristics. The factor of 100,000 normalizes the overall rating to a reasonable level.

Active/Passive Crossing Hazard Rating Procedure Factor – Number and Type of Tracks

The final element in the hazard rating formula is a factor for the number and type of railroad tracks that must be traversed at each active and passive crossing. This factor [T] is found as follows:

- Take the number of non-mainline tracks and multiply by 0.3.
- The first mainline track equals 1.0
- Take the number of remaining mainline tracks and multiply by 2.

The sum of these numbers gives the [T] factor. As an example: if the number of tracks counted consisted of 2 mainline and 1 non-mainline track, the [T] factor would be as follows: $[T] = (1 \times 0.3) + (1) + (1 \times 2) = 3.3$.

Hazard Rating Index Formula – Active Crossings

Combining the last element with the first element produces the formula below for active crossings for which the Railroad Coordination Unit calls a crossing's hazard rating.

Hazard Rating =
$$\frac{[AADTvehicles \ x \ AADTtrains]}{100000} x \ [T]$$

The Railroad Coordination Unit gives extra consideration to public crossings along school bus routes. Also, since Colorado has several tourist-based railroad companies that employ steam locomotives, extra consideration should be given to those public crossings as well. An added factor of 10 percent is given to each condition. Predicting when and where the next rail/highway accident will occur is impossible. Understanding this, CDOT's Railroad Coordination Unit considers each crossing in terms of exposure, drawing the conclusion that accident potential is more likely to occur at those crossings having a higher exposure, that is, a higher hazard rating.

Public crossings that experience higher usage of hazardous cargo trucks are looked at during the diagnostic reviews, but not given a separate added factor. The hazard rating formula is completely objective in nature. (CO SAP, 2022).

References for Appendix A

- Colorado Department of Transportation (CDOT). Colorado State Highway-Rail Grade Crossing Safety Action Plan (SAP) February 14, 2022. CDOT Project No. 18-HAA-XB-00076-ZD0028 SA 24385
- Federal Railroad Administration (FRA). 2020a. GradeDec.NET Crossing Evaluation Tool. Retrieved online at: <u>https://gradedec.fra.dot.gov/</u>
- Federal Railroad Administration (FRA). 2020b. New Model for Highway-Rail Grade Crossing Accident Prediction and Severity. Available online at: https://railroads.dot.gov/elibrary/new-modelhighway-rail-grade-crossing-accident-prediction-and-severity



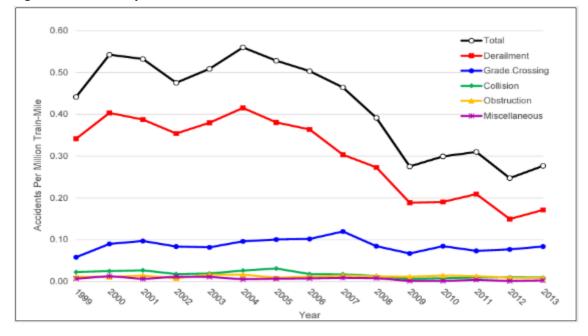
APPENDIX B. NATIONAL DERAILMENT AND ACCIDENT REPORTING



APPENDIX B – NATIONAL DERAILMENT AND ACCIDENT REPORTING

Title 49 CFR 213²: Track Switches prescribes minimum safety requirements for railroad track that is part of the general railroad system of transportation. In general, the requirements prescribed in this part apply to specific track conditions existing in isolation. Therefore, a combination of track conditions, none of which individually amounts to a deviation from the requirements in this part, may require remedial action to provide for safe operations over that track. This part does not restrict a railroad from adopting and enforcing additional or more stringent requirements not inconsistent with this part. (Title 49 CFR 213) Figure B-1 shows the summary statistics of national accident trends. As seen in the chart, there is a high occurrence of derailments when compared to other accident types.

For freight train accidents, derailments are both frequent and severe and thus fall in the upper-right quadrant on Figure B-2. Collisions and derailments are still the most severe accidents among all accident types. Although grade-crossing accidents are the most common type of accident, they are among the least severe in their consequences. Collisions and derailments are caused by the interaction of two or more trains in shared-use corridors regarding passenger train collisions with a derailed freight train, or vice versa (USDOT, 2019, p.29).





² Title 49 CFR Part 213: Available online at: https://www.govinfo.gov/app/details/CFR-2011-title49-vol4/CFR-2011-title49-vol4-part213.

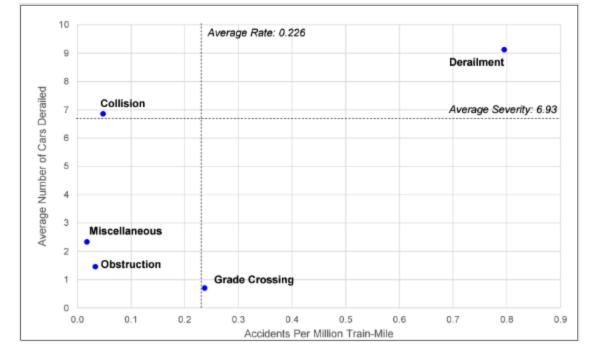


Figure B-2. Frequency and Severity Graph of Mainline Freight Train Accidents by type of Accident

FRA Accident Investigations (General Criteria)

Whenever there is some negative occurrence on track, and/or with railcars, derailments can occur. Railroads report accidents under the conditions listed below and jointly investigates accidents and incidents with FRA as determined by the Accident Analysis Branch or regional management:

- Any collision (main or yard track), derailment, or passenger train incident resulting in at least one fatality or serious injury to railroad passengers or crewmembers
- Any railroad-related accident resulting in death to an on-duty railroad employee, including an employee of a contractor to a railroad, regardless of craft
- Any highway-rail grade crossing accident resulting in any of the following:
 - Death to one or more people being transported in a commercial vehicle or school bus
 - Serious injury to several persons being transported in a commercial vehicle or school bus
 - Death to three or more persons in a private highway vehicle
 - Accidents involving grade crossing signal failure or allegations of grade crossing signal failure
- Any non-casualty train accident resulting in derailment of a locomotive, 15 cars or more, and extensive property damage
- Any train accident/incident resulting in a fire, explosion, evacuation, or release of regulated hazardous materials, especially if it exposed a community to these hazards or the threat of such exposure
- Any accident/incident involving a train transporting nuclear materials
- Any train incident involving runaway or rollaway equipment, with or without locomotives

- Any collision involving maintenance-of-way or hi-rail equipment
- Any accident caused by failure of a locomotive or any part of a locomotive, or a person contacting an electrically energized part that resulted in severe injury or death of one or more persons
- Accidents resulting from signal failure including Positive Train Control-related failures and malfunctions
- Any other train accident/incident likely to generate considerable public interest
- Most Amtrak accidents/incidents.

The FRA recently amended their accident/incident reporting regulation. This regulation was amended December 9, 2020 (85 FR 79130) and requires railroads to report to the agency all rail equipment accidents/incidents above the monetary reporting threshold (reporting threshold) for that calendar year (CY). For 2021, the monetary threshold was \$11,200, and for 2022 it was raised to \$11,300.

References for Appendix B

Code of Federal Regulations (CFR). Title 49, Part 213.

Code of Federal Regulations (CFR). Title 49, Part 225.

Code of Federal Regulations (CFR). Title 85, Federal Register (FR) 79130

U.S. Department of Transportation (USDOT). 2019. Hazards Associated with HSR Operations Adjacent to Conventional Tracks – Enhanced Literature Review Part II: Best Practices, pg. 29



APPENDIX C. GRADEDEC.NET RESULTS



APPENDIX C – GRADEDEC.NET RESULTS

South Kalamath Street Crossing – MP 3.466, CDOT Hazard Rating 5

South Kalamath Street is a one-way street in the central part of Denver, and in the BNSF Pikes Peak subdivision (See Photo C-1³). This crossing has seen three (3) at-grade incidents. More details are available in Appendix D. The primary operating railroad at the South Kalamath Street grade crossing is BNSF, but the UP also operates less frequently at this crossing. This road crossing has no markings designating direction.





Possible Safety Treatments

Traffic Control Systems

Extend median, add pavement markings on all quadrants, add warning lights, blank-out signs (automated warning signage that display specific instructions, such as road closures, no turn allowed, etc.), relocate signs, raise curb, and repair asphalt. Reduces risk from 4 percent to 2 percent.

• Estimated cost, ~\$230,000

Viewing Considerations

• Relocate telephone poles. Sometimes telephone poles obstruct the field of view and can create a hazard to vehicular traffic. Removing or relocating them helps the driver's field of view.

Estimated cost, ~\$10,000

Results

Figure C-1 shows the Base (current) predicted accidents at the studied road crossing, and the Alternate (post-construction) predicted accidents. See Appendix C for the details behind the summary table. When this number in traffic volume increases, the percentages also increase of potential accidents will also increase. The greater number of safety appliances added the safer the crossing overall.

³ The source for all the photos in Appendix C is HNTB, 2022.

Figure C-1. South Kalamath Street Crossing



\mathbf{S}	FEDERAL RAILROAD ADMINIST GRADEDEC.NET - REGIONAL MODEL (without phased improvements)	RATION				er: taset: gion ID:	Jolee Mohr CODOT 9	
	Region Name	Deriver						
	Technology Factor	0.50	0.50	0.50				
	Percent Benefit from Closure	0.00						
SUMMARY	OF PREDICTED ANNUAL ACCIDENT	s		Calculated:	11/29/2022	6:36:47PM		

Injury

0.01160

0.00644

PDO

0.02272

0.01262

Total

0.03980

0.02211

Fatal

0.00548

0.00305

CROSSING DATA FOR THE DENVER REGION

Base

Alternate

Crossing ID 245394V Milepost:0003.466	Trair	1 Sper	edis (mpl	<u>1)</u>	Highwa	y Traffic Charad	teristics	Co	sts in '000	<u>s</u>
Description BNSF - S KALAMATH ST	Thru Switch			30.0 1.0	Lanes	Base 3	Alternate 3		Base	Alternate
Paved? TRUE Urban? TRUE	Max TT S	peed		30.0	AADT	14,000	14,000	Grade	Crossing L	Devices
GCX Base Type Gates			-		Auto TOD	Uniform	Uniform	O8M	2.5	5.0
GCX Base Type Gates Supp. Safety One-way street	Day Throu	-	Trains	12.0	Auto % dir	Balanced	Balanced	Other	0.0	1.0
	Night Thro	-		12.0				Capital		280.0
	-	-		0.0	% Trucks	10.0	10.0			-
Supp. Safety Barrier curbs No. Main Tracks 2	Day Switc Night Swit			0.0	Truck TOD	Uniform	Uniform	O8M	lementary 0.0	Salety 5.0
No. Other Tracks 0	Ngni Swi	an .		0.0	Truck % dir	Balanced	Balanced	Other	0.0	1.0
Traffic Management False	Accid	inete I	Past Yea	-	% Bus	0.0	0.0	Capital	0.0	10.0
Measures? Rail T-O-D	Yr 1	0	Yr 2	1	Bus TOD	Uniform	Uniform	Capital		
Passenger Uniform	Yr 3	ō	Yr4		Bus % dir	Balanced	Balanced	Higwa	ay Improve	ments
Switch Uniform	Yr5	ō	114		DUB 76 UII	Data Neu	Data locu	Lanes		240.0
Sindi Chiefi		-			Predic	ded Annual Acci	dents			
						Base	Alternate			
					Fatal	0.00548	0.00305			
					Injury	0.01160	0.00644			
					PDO	0.02272	0.01262			

GRADEDEC.NET - SYSTEM FOR HIGHWAY RAIL GRADE CROSSING INVESTMENT ANALYSIS Printed: 6:36:59PM 11/29/2022

Quebec Street Southbound Frontage Road Crossing - MP 5.81, CDOT Hazard Rating 10

The Quebec Street Southbound Frontage Road crossing is in the north part of Denver, and in the Regional Transportation District (RTD) C Limon subdivision (see Photo C-2). This crossing has seen two (2) at-grade incidents. More details are available in Appendix D. The primary operating railroad at the Quebec Street Southbound Frontage Road grade crossing is the RTD A-Line. UPRR and BNSF also operate at this crossing. There have been three (3) trespassing incidents at this location.



Photo C-2. Quebec Street Southbound Frontage Road Crossing

Possible Safety Treatments

Traffic Control Systems

- Add pavement markings, move traffic signal to the north side of the rail crossing, add fencing, and add preemption to traffic signal at crossing. Reduces risk from 5 percent to 3 percent.
 - Estimated cost, ~ \$260,000

Viewing Considerations

• N/A

Results

Figure C-2 shows the Base (current) predicted accidents at the studied road crossing, and the Alternate (post-construction) predicted accidents. See Appendix C for the details behind the summary table. The prediction is based on a statical percentage, which is founded upon current traffic flows. When this number in traffic volume increases, the percentages also increase of potential accidents will also increase. The greater number of safety appliances added the safer the crossing overall.

Figure C-2. Quebec Street Southbound Frontage Road Crossing

		FEDERAL RAILROAD ADMINIS GRADEDEC.NET - REGIONAL MODEL (without phased improvements)				D	ser: ataset: egion ID:	Jolee Mo CODOT 9	hr
		Region Name	Denver						
		Technology Factor	0.50	0.50	0.50				
		Percent Benefit from Closure	0.00						
su	IMMARY	OF PREDICTED ANNUAL ACCIDE	NTS		Calculated:	12/2/2022	1:38:38PM		
		Fat	al	Injur	v	PDO		Total	

	Fala	mpury	FDO	rotar	
Base	0.01122	0.01665	0.01862	0.04649	
Alternate	0.00623	0.00925	0.01034	0.02583	

CROSSING DATA FOR THE DENVER REGION

Crossing ID 804635B Milepost:0005.810	Train Speeds (r		Highwa	y Traffic Charac		Cos	ts in '000 \$	<u>E</u>
Description RTDC - QUEBEC STREET SBFR	Thru Switch	79.0 65.0	Lanes	Base 4	Alternate 4		Base	Alternate
Paved? TRUE Urban? TRUE	Max TT Speed	79.0	AADT	19,313	19,313	Grade	Crossing E	Devices
GCX Base Type Gates	Dally Tales		Auto TOD	Uniform	Uniform	O8M	2.5	5.0
GCX Base Type Gates Supp. Safety One-way street	Daily Trains Day Through	92.0	Auto % dir	Balanced	Balanced	Other	0.0	0.0
GCX Alt Type New technology 1 Supp. Safety Barrier curbs	Night Through Day Switch	50.0 0.0	% Trucks	15.0	15.0	Capital	ementary (280.0
No. Main Tracks 2	Night Switch	0.0	Truck TOD	Uniform	Uniform	O8M	ementary : 0.0	0.0
No. Other Tracks 0	Night Switch		Truck % dir	Balanced	Balanced	Other	0.0	0.0
Traffic Management False	Accidents Past Y	<u>rears</u>	% Bus	0.0	0.0	Capital		0.0
Measures? <u>Rail T-O-D</u> Passenger Uniform	Yr1 O Yr Yr3 1 Yr	_	Bus TOD Bus % dir	Uniform Balanced	Uniform Balanced	-	y Improve	ments 0.0
Switch Uniform	Yr5 0		Deadle	ded Annual Acc	dante	Lanes		0.0
			FIEUR		Alternate			
			Fatal	0.01122				
			Injury	0.01665	0.00925			
			PDO	0.01862	0.01034			

GRADEDEC.NET - SYSTEM FOR HIGHWAY RAIL GRADE CROSSING INVESTMENT ANALYSIS Printed: 1:38:43PM 12/2/2022

South Santa Fe Drive Crossing – MP 3.653, CDOT Hazard Rating 16

South Santa Fe Drive is in the central part of Denver, and in the BNSF Pikes Peak subdivision (see Photo C-3). This crossing has seen two (2) at-grade incidents. More details are available in Appendix D. The primary operating railroad at the South Santa Fe Drive grade crossing is BNSF, but UPRR also operates at the crossing. This crossing is intersected by access roads that lead into local industries. This crossing is closest to South Kalamath Street and is the crossing within the CCD that has the second highest incident rates. Road crossing safety measures are very minimal at this location, which include two gates and no other signage.

Photo C-3. South Santa Fe Drive Crossing



Possible Safety Treatments

Traffic Control Systems

- Extend median, add pavement markings on all quadrants, add warning lights, blank-out signs, noright turn signs, relocate signs, raise curb, and repair asphalt. Reduces risk from 4 percent to 2 percent.
 - Estimated cost, ~\$ 560,000

Viewing Considerations

- Relocate power poles
 - Estimated cost, ~\$10,000

Results

Figure C-3 shows the Base (current) predicted accidents at the studied road crossing, and the Alternate (post-construction) predicted accidents. See Appendix C for the details behind the summary table. The prediction is based on a statical percentage, which is founded upon current traffic flows. When this number in traffic volume increases, the percentages also increase of potential accidents will also increase. The greater number of safety appliances added the safer the crossing overall.

Figure C-3 South Santa Fe Drive Crossing



\bigcirc	FEDERAL RAILROAD ADMINIST GRADEDEC.NET - REGIONAL MODEL (without phased improvements)	RATION			Da	er: taset: gion ID:	Jolee Mohr CODOT 9	
	Region Name	Denver						
	Technology Factor	0.50	0.50	0.50				
	Percent Benefit from Closure	0.00						
SUMMARY	OF PREDICTED ANNUAL ACCIDEN	rs		Calculated:	11/29/2022	10:42:33PM		

Injury

0.01219

0.00677

PDO

0.02313

0.01285

Total

0.04118

0.02288

Fatal

0.00586

0.00325

CROSSING DATA FOR THE DENVER REGION

Base

Alternate

Crossing ID 245392G Milepost:0003.653	Train Speeds		Highwa	iy Traffic Charad	teristics	Cos	sts in 1000 s	5
Description BNSF - S SANTA FE DR	Thru Switch	30.0 1.0	Lanes	Base 3	Alternate 3		Base	Alternate
Paved? TRUE Urban? TRUE	Max TT Speed	30.0	AADT	43,000	43,000	Grade	Crossing E	Devices
GCX Base Type Gales	Dally Tesl		Auto TOD	Uniform	Uniform	O8M	2.5	5.0
GCX Base Type Gates Supp. Safety One-way street	<u>Daily Trair</u> Day Through	12.0	Auto % dir	Balanced	Balanced	Other	0.0	1.0
GCX Alt Type New technology 1	Night Through	12.0				Capital		280.0
Supp. Safety Barrier curbs	Day Switch	0.0	% Trucks	10.0	10.0	Cump	ementary (Catholic
No. Main Tracks 2	Night Switch	0.0	Truck TOD	Uniform	Uniform	O8M	0.0	5.0
No. Other Tracks 0	regit onitar		Truck % dir	Balanced	Balanced	Other	0.0	1.0
Traffic Management False	Accidents Pas	t Years	% Bus	0.0	0.0	Capital		10.0
Measures? Rail T-O-D		Yr2 1	Bus TOD	Uniform	Uniform			
Passenger Uniform	Yr3 0 1	Yr4 1	Bus % dir	Balanced	Balanced	~	ay Improve	
Switch Uniform	Yr5 0					Lanes		300.0
			Predic	ded Annual Acci				
					Alternate			
			Fatal	0.00586				
			Injury	0.01219				
			PDO	0.02313	0.01285			

Report 2.1 Version 1.0

GRADEDEC.NET - SYSTEM FOR HIGHWAY RAIL GRADE CROSSING INVESTMENT ANALYSIS Printed: 10:42:45PM 11/29/2022

Holly Street Crossing – MP 635.63, CDOT Hazard Rating 0.05

Holly Street is in the north part of Denver, and in the UP Limon subdivision (see Photo C-4). The primary operating railroad at the Holly Street grade crossing is UP. The hazard rating for this location is low (0.05) because of low highway and train traffic volumes. However, this crossing has seen two (2) at-grade incidents over the last 5 years. More details are available in Appendix D. There are industry access roads without any signage in this area.



Photo C-4. Holly Street Crossing

Possible Safety Treatments

Traffic Control Systems

- Add pavement markings on Holly Street as well as on the industry road, add warning lights, blankout signs, relocate signs, raise curb, repair asphalt, and a two-quadrant gate system. Reduces risk from 20 percent to 9 percent.
 - Estimated cost, ~\$ 360,000

Viewing Considerations

- Relocate electric pole (if gate is installed)
 - Estimated cost, ~\$10,000

Results

Figure C-4 shows the Base (current) predicted accidents at the studied road crossing, and the Alternate (post-construction) predicted accidents. See Appendix C for the details behind the summary table. The prediction is based on a statical percentage, which is founded upon current traffic flows. When this number in traffic volume increases, the percentages also increase of potential accidents will also increase. The greater number of safety appliances added the safer the crossing overall.

Figure C-4. Holly Street Crossing

é 5

Const	FEDERAL RAILROAD ADMI GRADEDEC.NET - REGIONAL MG (without phased improvements)					er: taset: gion ID:	Jolee Moh CODOT 9	r
	Region Name Technology Factor Percent Benefit from Closure	Denver 0.50 0.00	0.50	0.50				
SUMM	ARY OF PREDICTED ANNUAL ACC	IDENTS	(Calculated:	11/22/2022	9:53:51PM		
	Baso	Fatal 0.01027	Injury 0.03048	3	PDO 0.16375	(Total 0.20451	

0.01157

0.07555

0.09087

0.00375

CROSSING DATA FOR THE DENVER REGION

Alternate

Crossing ID 804614H Milepost:0635.634	Train Speeds (mph)		Highwa	y Traffic Charact	eristics	Cos	ts in '000 :	5
Description UP - HOLLY STREET	Thru Switch	10.0 5.0	Lanes	Base 2	Alternate 2		Base	Alternate
Paved? TRUE Urban? TRUE	Max TT Speed	10.0	AADT	250	250	Grade (Crossing E	Devices
GCX Base Type Crossbucks	Daily Trains		Auto TOD	Uniform	Uniform	M8O	0.2	0.2
Supp. Safety None	Day Through	0.0	Auto % dir	Balanced	Balanced	Other	0.0	0.0
GCX Alt Type Gates	Night Through	0.0				Capital		1.6
Supp. Safety None No. Main Tracks 0	Day Switch Night Switch	8.0 0.0	% Trucks Truck TOD Truck % dir	10.0 Uniform Balanced	10.0 Uniform Balanced	Supple O&M	ementary : 0.0	0.0
No. Other Tracks 1			The second second			Other	0.0	0.0
Traffic Management False	Accidents Past Years		% Bus	0.0	0.0	Capital		0.0
Measures? <u>Rail T-O-D</u> Passenger Uniform Switch Uniform	Yr1 0 Yr2 Yr3 0 Yr4 Yr5 0	2	Bus TOD Bus % dir	Uniform Balanced	Uniform Balanced	Higwaj Lanes	y Improve	ments 0.0
Switch Children	100		Predic	ded Annual Acck	dents			
				Base	Alternate			
			Fatal	0.01027	0.00375			
			injury	0.03048	0.01157			
			PDO	0.16375	0.07555			

GRADEDEC.NET - SYSTEM FOR HIGHWAY RAIL GRADE CROSSING INVESTMENT ANALYSIS Printed: 9:54:00PM 11/22/2022

Dahlia Street North of 51st Street Crossing – MP 3.18, CDOT Hazard Rating 0.01

Dahlia Street is in the north part of Denver, and in the BNSF Denver Rock Island subdivision (see Photo C-5). The primary operating railroad at the Dahlia Street grade crossing is BNSF. This crossing is located within the industry area of North CCD and has seen one (1) at grade incident without fatalities. More details are available in Appendix D. This crossing only has crossbucks (signage at highway-rail intersections that indicate trains have the legal ROW) and a yield sign.





Possible Safety Treatments

Traffic Control Systems

- Add pavement markings, add warning lights, add two-quadrant gate system. Reduces risk from 10 percent to 5 percent.
 - Estimated cost, ~\$220,000

Viewing Considerations

• N/A

Results

Figure C-5 shows the Base (current) predicted accidents at the studied road crossing, and the Alternate (post-construction) predicted accidents. See Appendix C for the details behind the summary table. The prediction is based on a statical percentage, which is founded upon current traffic flows. When this number in traffic volume increases, the percentages also increase of potential accidents will also increase. The greater number of safety appliances added the safer the crossing overall.

Figure C-5. Dahlia Street North of 51st Street Crossing



FEDERAL RAILROAD ADMINISTRATION GRADEDEC.NET - REGIONAL MODEL (without phased improvements)

User	JO
Dataset:	00
Region ID:	9

Jolee Mohr CODOT 9

Region Name	Denver		
Technology Factor	0.50	0.50	0.50
Percent Benefit from Closure	0.00		

SUMMARY OF PREDICTED ANNUAL	ACCIDENTS	Calculated:	11/22/2022	9:55:41PM	
	Fatal	Injury	PDO	Total	
Base	0.00663	0.01853	0.07691	0.10207	
Alternate	0.00243	0.00711	0.03581	0.04535	

CROSSING DATA FOR THE DENVER REGION

Crossing ID 057066K Milepost:0003.183	Train Speeds (mph)		Highwa	y Traffic Charad	eristics	Cos	ts in '000 :	5
Description BNSF - DAHLIA NO 51ST	Thru Switch	10.0 1.0	Lanes	Base 2	Alternate 2		Base	Alternate
Paved? TRUE Urban? TRUE	Max TT Speed	10.0	AADT	1,500	1,500	Grade (Crossing E	Devices
GCX Base Type Crossbucks	Daily Trains		Auto TOD	Uniform	Uniform	O8M	0.2	0.2
Supp. Safety None	Day Through	0.1	Auto % dir	Balanced	Balanced	Other	0.0	0.0
GCX Alt Type Gates	Night Through	0.0				Capital		1.6
Supp. Safety None No. Main Tracks 0	Day Switch Night Switch	0.0	% Trucks Truck TOD	9.0 Uniform	9.0 Uniform	Supple O&M	ementary : 0.0	Safety 0.0
No. Other Tracks 1			Truck % dir	Balanced	Balanced	Other	0.0	0.0
Traffic Management False	Accidents Past Years		% Bus	0.0	0.0	Capital		0.0
Meäsures? <u>Rail T-O-D</u> Passenger Uniform Switch Uniform	Yr1 1 Yr2 Yr3 0 Yr4 Yr5 0	0	Bus TOD Bus % dir	Uniform Balanced	Uniform Balanced	Higwa Lanes	y Improve	ments 0.0
Switch	110 0		Predic	ded Annual Acci	<u>dents</u>			
				Base	Alternate			
			Fatal	0.00663	0.00243			
			Injury	0.01853	0.00711			
			PDO	0.07691	0.03581			

GRADEDEC.NET - SYSTEM FOR HIGHWAY RAIL GRADE CROSSING INVESTMENT ANALYSIS Printed: 9:55:48PM 11/22/2022

Monaco Street Crossing – MP 635.136, CDOT Hazard Rating 0.04

Monaco Street is in the north part of Denver, and in the UPRR Limon subdivision (see Photo C-6). The primary operating railroad at the Monaco Street grade crossing is UPRR. This road crossing is located within the CCD industrial area and has seen one (1) at grade incident without fatalities. More details are available in Appendix D. There is limited signage and crossing safety devices located at this crossing.



Photo C-6. Monaco Street Crossing

Possible Safety Treatments

Traffic Control Systems

- Add pavement markings, add warning lights, add two-quadrant gate system. Reduces risk from 10 percent to 5 percent.
 - Estimated cost, ~\$220,000

Viewing Considerations

- Relocate telephone poles
 - Estimated cost, ~\$10,000

Results

Figure C-6 shows the Base (current) predicted accidents at the studied road crossing, and the Alternate (post-construction) predicted accidents. See Appendix C for the details behind the summary table. The prediction is based on a statical percentage, which is founded upon current traffic flows. When this number in traffic volume increases, the percentages also increase of potential accidents will also increase. The greater number of safety appliances added the safer the crossing overall.

Figure C-6. Monaco Street Crossing

GRADEDI CORRIDO		SSING DAT	NISTRATION	User: Dataset: Comidor ID	Joiee Mohr Initiai dataset 5	
Corridor Name	Denver			,	Avg. No. Trains Per Day	Train Time-of-Day Distribution
				Passenger	0.0	Uniform
Technology Factors	0.50	0.50	0.50	Freight	8.0	Uniform
	False			Switch	0.0	Uniform

	Fatal	Injury	PDO	Total
Base	0.007661	0.020564	0.074132	0.102357
Alternate	0.004762	0.013469	0.058760	0.076991

CROSSING DATA FOR THE DENVER CORRIDOR

Milepost 635.14	Crossing ID 804609L	Accidents In 5 Years		1	Predicted	d Annual Acc	idents
Description UP - MO	NACO STREET	Highway Tr	affic Characteristic Base	s. Alternate	Fatai Injury	Base 0.00081 0.00889	Alternate 0.00028 0.00311
Paved? True	Urban? True	H'way Lanes	4	4.0	PDO	0.03339	0.01169
GCX Base Type Safety Sup. Type	Passive None	Dist from hway AADT	0.10	0.1	Total	0.04308	0.01508
GCX Alt Type	Lights None	Auto TOD Dist	Uniform Balanced	Uniform		Costs In 1000 Base	<u>S</u> Alternate
Safety Sup. type No. RR Tracks	2	Auto % direction Percent Trucks	10.0	10.0	Grade Crossi O&M	0.2	1.8
<u>11</u>	ain Speeds (mph)	Of this, % trailers Truck TOD Dist	0.0 Uniform	0.0 Uniform	Oth. Loycle Capital	0.0	0.0 74.8
Max Timeta Passenger		Truck % direct	Balanced	Balanced	Supplemental O&M	<u>ry Safety</u> 0.0	0.0
Freight	8.0	Percent Bus	0.0	0.0	Oth. Loyde	0.0	0.0
Switch	3.0	Bus TOD Dist Bus % direction	Uniform Balanced	Uniform Balanced	Capital		0.0
		Costs In 1000 \$ of Hwa	y Improvement	0.0			

Report 1.1 Version 1.0

GRADEDEC.NET - SYSTEM FOR HIGHWAY RAIL GRADE CROSSING INVESTMENT ANALYSIS Printed: 3:05:16PM 6/21/2022

East 48th Avenue at Ash Street Crossing – MP 2.12, CDOT Hazard Rating 0.03

East 48th Avenue is in the north part of Denver, and in the BNSF Brush subdivision (see Photo C-7). The primary operating railroad at the East 48th Avenue grade crossing is BNSF. This road crossing is located within the CCD industrial area and has seen one (1) at grade incident without fatalities. More details are available in Appendix D. There is limited signage and crossing safety devices at this crossing.





Possible Safety Treatments

Traffic Control Systems

- Add median, add pavement markings on all quadrants, add warning lights, blank-out signs, no-right turn signs, relocate signs, raise curb, repair asphalt, and a two-quadrant gate system. Reduces risk from 10 percent to 5 percent.
 - Estimated cost, ~\$560,000

Viewing Considerations

- Relocate telephone poles
 - Estimated cost, ~\$10,000

Results

Figure C-7 shows the Base (current) predicted accidents at the studied road crossing, and the Alternate (post-construction) predicted accidents. See Appendix C for the details behind the summary table. The prediction is based on a statical percentage, which is founded upon current traffic flows. When this number in traffic volume increases, the percentages also increase of potential accidents will also increase. The greater number of safety appliances added the safer the crossing overall.

Figure C-7. East 48th Avenue at Ash Street Crossing

and the	FEDERAL RAILROAD ADMINISTR GRADEDEC.NET - REGIONAL MODEL (without phased improvements)	RATION				er: taset: gion ID:	Jolee Mohr CODOT 9	
Γ	Region Name	Denver						
	Technology Factor	0.50	0.50	0.50				
	Percent Benefit from Closure	0.00						
	SUMMARY OF PREDICTED ANNUAL ACCIDENT	s		Calculated:	11/22/2022	9:57:06PM		
ſ	Fatal		Injury	,	PDO		Total	

	Fatal	Injury	PDO	Total	
Base	0.00679	0.01884	0.07657	0.10220	
Alternate	0.00249	0.00724	0.03568	0.04541	

CROSSING DATA FOR THE DENVER REGION

Crossing ID 057059A Milepost:0002.118	Train Speeds (mp	_	Highwa	y Traffic Charad	teristics	Cos	ts in 1000 :	<u>5</u>
Description BNSF - 48TH AT ASH	Thru Switch	10.0 1.0	Lanes	Base 2	Alternate 2		Base	Alternate
Paved? TRUE Urban? TRUE	Max TT Speed	10.0	AADT	3,000	3,000	Grade	Crossing L	Devices
GCX Base Type Crossbucks	Dally Tales		Auto TOD	Uniform	Uniform	O8M	0.2	0.2
GCX Base Type Crossbucks Supp. Safety None	<u>Daily Trains</u> Day Through	0.1	Auto % dir	Balanced	Balanced	Other	0.0	0.0
cupp. curry		0.0				Capital		1.6
	Night Through	0.0	% Trucks	6.0	6.0	0		
Supp. Safety None No. Main Tracks 0	Day Switch	0.0	Truck TOD	Uniform	Uniform	O8M	ementary 0.0	0.0
No. Main make	Night Switch	0.0	Truck % dir	Balanced	Balanced		0.0	0.0
				0.0	0.0	Other	0.0	0.0
Trail of the logarithm.	Accidents Past Yea	15	% Bus	Uniform	Uniform	Capital		0.0
Measures? Rall T-O-D	Yr1 0 Yr2		Bus TOD			Higwa	y Improve	ments
Passenger Uniform Switch Uniform	Yr3 1 Yr4	0	Bus % dir	Balanced	Balanced	Lanes		0.0
Switch Uniform	Yr5 0		Predk	ded Annual Acci	dents			
				Base	Alternate			
			Fatal	0.00679	0.00249			
			Injury	0.01884	0.00724			
			PDO	0.07657	0.03568			

GRADEDEC.NET - SYSTEM FOR HIGHWAY RAIL GRADE CROSSING INVESTMENT ANALYSIS Printed: 9:57:12PM 11/22/2022

West Mississippi Avenue Crossing – MP 4.62, CDOT Hazard Rating 0.03

West Mississippi Avenue is in the south part of Denver, and on the BNSF Pikes Peak subdivision (see Photo C-8). The primary operating railroad at the West Mississippi Avenue grade crossing is BNSF. This road crossing is located within the CCD industrial area and has seen one (1) at grade incident without fatalities. More details are available in Appendix D. There is limited lighting and signage at this crossing.



Photo C-8. West Mississippi Avenue Crossing

Possible Safety Treatments

Traffic Control Systems

- Add median, add pavement markings on all quadrants, add warning lights, blank-out signs, no-right turn signs, relocate signs, raise curb, repair asphalt, and a two-quadrant gate system. Reduces risk from 10 percent to 5 percent.
 - Estimated cost, ~\$560,000

Viewing Considerations

• Relocate power poles

Estimated cost, ~\$50,000

Results

Figure C-8 shows the Base (current) predicted accidents at the studied road crossing, and the Alternate (post-construction) predicted accidents. See Appendix C for the details behind the summary table. The prediction is based on a statical percentage, which is founded upon current traffic flows. When this number in traffic volume increases, the percentages also increase of potential accidents will also increase. The greater number of safety appliances added the safer the crossing overall.

Figure C-8. West Mississippi Avenue Crossing



\bigcirc	FEDERAL RAILROAD ADMINIST GRADEDEC.NET - REGIONAL MODEL (without phased improvements)	RATION				er: taset: kgion ID:	Jolee Mohr CODOT 9	
	Region Name	Denver						
	Technology Factor	0.50	0.50	0.50				
	Percent Benefit from Closure	0.00						
SUMMARY	OF PREDICTED ANNUAL ACCIDENT	s		Calculated:	11/22/2022	9:58:21PM		
1								

Injury

0.01710

0.00760

PDO

0.08033

0.03570

Total

0.10337

0.04593

Fatal

0.00594

0.00264

CROSSING DATA FOR THE DENVER REGION

Base

Alternate

Crossing ID 245353R Milepost:0004.620	Train Speeds (mph)		Highwa	y Traffic Charad	eristics	Cos	ts in 1000	<u>s</u>
Description BNSF - MISSISSIPPI AVE	Thru Switch	10.0 1.0	Lanes	Base 4	Alternate 4		Base	Alternate
Paved? TRUE Urban? TRUE	Max TT Speed	10.0	AADT	13,500	13,500	Grade	Crossing L	Devices
GCX Base Type Wigwags	Dally Tesler		Auto TOD	Uniform	Uniform	O8M	1.8	0.5
GCX Base Type Wigwags Supp. Safety None	<u>Daily Trains</u> Day Through	0.1	Auto % dir	Balanced	Balanced	Other	0.0	0.0
GCX Alt Type Gates	Night Through	0.0				Capital		1500.0
		0.0	% Trucks	8.0	8.0	C		
Supp. Safety None No. Main Tracks 0	Day Switch Night Switch	0.0	Truck TOD	Uniform	Uniform	O8M	ementary 0.0	0.0
	Night Switch	0.0	Truck % dir	Balanced	Balanced	Other	0.0	0.0
No. Other Tracks 1 Traffic Management Eals:	Analyticals Devil Marco		% Bus	0.0	0.0		0.0	0.0
Traffic Management False Measures? Rall T-O-D	Accidents Past Years Yr 1 0 Yr 2	. 0	% DUS BUS TOD	Uniform	Uniform	Capital		0.0
		ō	Bus % dir	Balanced	Balanced	Higwa	y Improve	ments
Passenger Uniform Switch Uniform	Yr3 1 Yr4 Yr5 0		BUS % OIF	Datariceu	Datariceu	Lanes		0.0
Switch	110 0		Predic	ded Annual Acci	dents			
				Base	Alternate			
			Fatal	0.00594	0.00264			
			Injury	0.01710	0.00760			
			PDO	0.08033	0.03570			

GRADEDEC.NET - SYSTEM FOR HIGHWAY RAIL GRADE CROSSING INVESTMENT ANALYSIS Printed: 9:58:27PM 11/22/2022

East 47th Avenue and York Street Crossing – MP 2.98, CDOT Hazard Rating 0.68

York Street is in the north part of Denver, and in the UP Greeley subdivision (see Photo C-9). The primary operating railroad at the York Street grade crossing is UP. This road crossing is located within the CCD between a residential and industrial use area and has seen one (1) at grade incident without fatalities. More details are available in Appendix D. There is limited signage and crossing safety devices at this location. However, CCD recently finished construction of a pedestrian crossing at this location.



Photo C-9. East 47th Avenue and York Street Crossing

Possible Safety Treatments

Traffic Control Systems

- Add four quadrant gates, fencing along ROW, wrong-way sign on York Street, extend median, add pavement markings, add warning lights, add pedestrian gate, and relocate signs. Reduces risk from 10 percent to 0.8 percent.
 - Estimated cost, ~ \$500,000

Viewing Considerations

• Remove old telephone pole on southeast corner on island (York Street and 47th Avenue)

Estimated cost, ~\$10,000

Results

Figure C-9 shows the Base (current) predicted accidents at the studied road crossing, and the Alternate (post-construction) predicted accidents. See Appendix C for the details behind the summary table. The prediction is based on a statical percentage, which is founded upon current traffic flows. When this number in traffic volume increases, the percentages also increase of potential accidents will also increase. The greater number of safety appliances added the safer the crossing overall.

Figure C-9. East 47th Avenue and York Street Crossing



FEDERAL RAILROAD ADMINISTRATION GRADEDEC.NET - REGIONAL MODEL (without phased improvements)

User:	Jole
Dataset:	000
Region ID:	9

ee Mohr DOT

Sault Ch.	(malout phased improvements)					
	Region Name Technology Factor Percent Benefit from Closure	Denver 0.50 0.00	0.50	0.50		
SUMMAR	OF PREDICTED ANNUAL ACCIDE	NTS		Calculated:	11/29/2022 10:54:48PM	

	Fatal	Injury	PDO	Total	
Base	0.01056	0.02570	0.06936	0.10563	
Alternate	0.00084	0.00206	0.00555	0.00845	

CROSSING DATA FOR THE DENVER REGION

Crossing ID 804422R Milepost:0002.980	Train Speeds (mph	-	Highwa	y Traffic Charac	erístics	Cos	sts in 1000 :	<u>s</u>
Description UP - YORK STREET	Thru Switch	20.0 10.0	Lanes	Base 3	Alternate 3		Base	Alternate
Paved? TRUE Urban? TRUE	Max TT Speed	20.0	AADT	4,100	4,100	Grade	Crossing L	Devices
GCX Base Type Gales	Dally Tasks		Auto TOD	Uniform	Uniform	O8M	2.5	5.0
GCX Base Type Gates Supp. Safety None	<u>Daily Trains</u> Day Through	5.0	Auto % dir	Balanced	Balanced	Other	0.0	0.0
	Night Through	5.0				Capital		280.0
		0.0	% Trucks	5.0	5.0	0.000		
Supp. Safety 4 quad - 60' medians No. Main Tracks 2	Day Switch Night Switch	0.0	Truck TOD	Uniform	Uniform	O8M	ementary 0.0	0.0
No. Other Tracks 1	regni overian	0.0	Truck % dir	Balanced	Balanced	Other	0.0	0.0
Traffic Management False	Accidents Past Year		% Bus	0.0	0.0	Capital	0.0	0.0
Measures? Rail T-O-D	Yr1 0 Yr2	° 0	Bus TOD	Uniform	Uniform	Capital		
Passenger Uniform	Yr3 1 Yr4	0	Bus % dir	Balanced	Balanced	Higwa	ay Improve	
Switch Uniform	Yr5 0	-	Dub /e uli			Lanes		0.0
			Predi	cted Annual Acci	<u>tents</u>			
					Alternate			
			Fatal	0.01056	0.00084			
			Injury	0.02570				
			PDO	0.06936	0.00555			

Report 2.1 Version 1.0

GRADEDEC.NET - SYSTEM FOR HIGHWAY RAIL GRADE CROSSING INVESTMENT ANALYSIS Printed: 10:55:17PM 11/29/2022

Alameda Avenue Crossing – MP 3.69, CDOT Hazard Rating 0.0716

Alameda Avenue is in the central part of Denver, and in the BNSF Pikes Peak subdivision (see Photo C-10). The primary operating railroad at the Alameda Avenue grade crossing is BNSF, but UPRR also operates at the crossing. This road crossing is located within the CCD mixed use area and has seen one (1) at grade incident without fatalities. More details are available in Appendix D. There is limited signage and crossing safety devices at this location.





Possible Safety Treatments

Traffic Control Systems

- Add four quadrant gates, add median, add pavement markings, add warning lights and bells, add pedestrian gates, and ROW fencing. Reduces risk from 10 percent to 0.5 percent.
 - Estimated cost, ~\$550,000

Viewing Considerations

- Install cantilever for traffic semaphores (arms, flags, or poles that are held in certain positions to signal drivers) and railroad warning lights and bells.
 - Estimated cost, ~\$100,000

Results

Figure C-10 shows the Base (current) predicted accidents at the studied road crossing, and the Alternate (post-construction) predicted accidents. See Appendix C for the details behind the summary table. The prediction is based on a statical percentage, which is founded upon current traffic flows. When this number in traffic volume increases, the percentages also increase of potential accidents will also increase. The greater number of safety appliances added the safer the crossing overall.

Figure C-10. Alameda Avenue Crossing



FEDERAL RAILROAD ADMINISTRATION Jolee Mohr User: GRADEDEC.NET - REGIONAL MODEL CODOT Dataset: Region ID: 9 (without phased improvements) Denver Region Name 0.50 0.50 0.50 Technology Factor Percent Benefit from Closure 0.00 SUMMARY OF PREDICTED ANNUAL ACCIDENTS Calculated: 11/29/2022 10:59:47PM

SUMMARY OF PREDICTED ANNUAL	ACCIDENTS	Caldulated.	11/23/2022 10.	39.47 PM	
	Fatal	Injury	PDO	Total	
Base	0.00614	0.01757	0.08025	0.10397	
Alternate	0.00027	0.00078	0.00358	0.00464	

CROSSING DATA FOR THE DENVER REGION

Crossing ID 245460F Milepost:0003.694	Train Speeds (mph)	•	Highwa	y Traffic Charad	eristics	Cos	ts in 1000	<u>s</u>
Description BNSF - ALAMEDA AVE	Thru Switch	10.0 1.0	Lanes	Base 5	Alternate 5		Base	Alternate
Paved? TRUE Urban? TRUE	Max TT Speed	10.0	AADT	33,400	33,400	Grade	Crossing L	Devices
GCX Base Type Flashing lights	Daily Trains		Auto TOD	Uniform	Uniform	O8M	1.8	0.5
Supp. Safety None	Day Through	0.1	Auto % dir	Balanced	Balanced	Other	0.0	0.0
GCX Alt Type Gates	Night Through	0.0				Capital		1500.0
Supp. Safety 4 quad - 60' medians	Day Switch	0.0	% Trucks	2.0	2.0	Suppl	ementary	Safahr
No. Main Tracks 0	Night Switch	0.0	Truck TOD	Uniform	Uniform	O8M	0.0	0.0
No. Other Tracks 1	rugh childr		Truck % dir	Balanced	Balanced	Other	0.0	0.0
Traffic Management Fals	Accidents Past Year	;	% Bus	0.0	0.0	Capital		0.0
Measures? Rall T-O-D	Yr1 0 Yr2	0	Bus TOD	Uniform	Uniform			
Passenger Uniform	Yr3 1 Yr4	0	Bus % dir	Balanced	Balanced	~	y Improve	
Switch Uniform	Yr5 0					Lanes		0.0
			Predic	ted Annual Acci				
				0.00614	Alternate 0.00027			
			Fatal	0.00014	0.00027			
			Injury PDO	0.08025	0.00358			
			PUO	0.06025	0.00300			

GRADEDEC.NET - SYSTEM FOR HIGHWAY RAIL GRADE CROSSING INVESTMENT ANALYSIS Printed: 11:00:16PM 11/29/2022

East 50th Avenue Crossing – MP 1.843, CDOT Hazard Rating 0.0086

East 50th Avenue is in the north part of Denver, and in the BNSF Brush subdivision (see Photo C-11). The primary operating railroad at the East 50th Avenue grade crossing is BNSF. This road crossing is located within the CCD industrial use area and has seen one (1) at grade incident without fatalities. More details are available in Appendix D. There is limited signage and crossing safety devices at this location.



Photo C-11. East 50th Avenue Crossing

Possible Safety Treatments

Traffic Control Systems

- Add two quadrant gates, pavement markings, warning lights, and signage. Reduces risk from 10 percent to 5 percent.
 - Estimated cost, ~\$370,000

Viewing Considerations

N/A •

Results

Figure C-11 shows the Base (current) predicted accidents at the studied road crossing, and the Alternate (post-construction) predicted accidents. See Appendix C for the details behind the summary table. The prediction is based on a statical percentage, which is founded upon current traffic flows. When this number in traffic volume increases, the percentages also increase of potential accidents will also increase. The greater number of safety appliances added the safer the crossing overall.

Figure C-11. East 50th Avenue Crossing

	GRADEDE	C.NET	SSING DAT	NISTRATION A	User: Dataset: Corridor ID	CARLOS GAL Initiai dataset 8	LEGOS
Corridor Name		Denver C	ounty			Avg. No. Trains Per Day	Train Time-of-Day Distribution
					Passenger	0.0	Uniform
Technology Fa	ctors	0.50	0.50	0.50	Freight	0.3	Uniform
Signal Synchro	nization?	False			Switch	0.0	Uniform
CORRIDOR SUM	MARY OF	PREDICTED	ANNUAL A	OCIDENTS		Calculated	t 21-Jun-2022 12:00 pm

	Fatal	Injury	PDO	Total
Base	0.006603	0.018429	0.076349	0.101380
Alternate	0.000416	0.001216	0.006108	0.007740

CROSSING DATA FOR THE DERVER COUNTY CORRIDOR

Milepost 1.84	Crossing ID 245288M	Accidents In 5 Years		1	Predicter	d Annual Acc	idents
Description BNSF - 9	50TH AVE	<u>Highway Tr</u>	affic Characteristic Base	<u>s</u> Atternate	Fatai Injury	Base 0.00045 0.00588	Alternate 0.00001 0.00015
Paved? True GCX Base Type	Urban? True Passive	H'way Lanes Dist from hway	2 0.10	2.0 0.1	PDO Total	0.02178 0.02810	0.00055 0.00071
Safety Sup. Type GCX Alt Type Safety Sup. type	None Gates 4 quad - no detection	AADT Auto TOD Dist Auto % direction	1,000 Uniform Balanced	1,000 Uniform Balanced	Grade Crossi	Costs in 1000 : Base	<u>S</u> Alternate
No. RR Tracks	2	Percent Trucks Of this, % trailers	5.0	5.0	O&M Oth. Loyde	0.2	1.8 0.0
<u>Tr</u> Max Timetz Passenger		Truck TOD Dist Truck % direct	Uniform Balanced	Uniform Balanced	Capital Supplemental O&M	r <u>y Safety</u> 0.0	74.8
Freight Switch	8.0 3.0	Percent Bus Bus TOD Dist	0.0 Uniform	0.0 Uniform	Oth. Loyde Capital	0.0	0.0
		Bus % direction Costs in 1000 \$ of Hwa	Balanced ay Improvement	Balanced 0.0	-		

Report 1.1 Version 1.0

GRADEDEC.NET - SYSTEM FOR HIGHWAY RAIL GRADE CROSSING INVESTMENT ANALYSIS Printed: 1:14:42PM 6/23/2022

48th Avenue, West of Forest Street Crossing – MP 2.69, CDOT Hazard Rating 0.021

48th Avenue is in the north part of Denver in the BNSF Brush subdivision (see Photo C-12). The primary operating railroad at the 48th Avenue grade crossing is BNSF. This road crossing is located within the CCD industrial use area and has seen one (1) at grade incident without fatalities. More details are available in Appendix D. There is limited signage and crossing safety devices at this location.





Possible Safety Treatments

Traffic Control Systems

- Add two quadrant gates, pavement markings, warning lights, and signage. Reduces risk from 10 percent to 5 percent.
 - Estimated cost, ~ \$370,000

Viewing Considerations

• N/A

Results

Figure C-12 shows the Base (current) predicted accidents at the studied road crossing, and the Alternate (post-construction) predicted accidents. See Appendix C for the details behind the summary table. The prediction is based on a statical percentage, which is founded upon current traffic flows. When this number in traffic volume increases, the percentages also increase of potential accidents will also increase. The greater number of safety appliances added the safer the crossing overall.

Figure C-12. 48th Avenue, West of Forest Street Crossing



2	FEDERAL RAILROAD ADMINIST GRADEDEC.NET - REGIONAL MODEL (without phased improvements)	RATION			Da	er: taset: kgion ID:	Jolee Mohr CODOT 9	
	Region Name Technology Factor Percent Benefit from Closure	Denver 0.50 0.00	0.50	0.50				
SUMMARY	OF PREDICTED ANNUAL ACCIDENT	s		Calculated:	11/29/2022	11:03:52PM		

SUMMANT OF FREDICIED ANNOAL	ACCIDENTS				
	Fatal	Injury	PDO	Total	
Base	0.00676	0.01880	0.07683	0.10239	
Alternate	0.00248	0.00723	0.03579	0.04550	

CROSSING DATA FOR THE DENVER REGION

Crossing ID	Milepost:0002.		Train	1 Spei	eds (mphi	-	Highwa	y Traffic Charad	teristics	Co	sts in 1000	<u>s</u>
BEGER HINN BINSF -	E48TH-W OF FORES	т	Thru Switch			10.0 1.0	Lanes	Base 2	Alternate 2		Base	Alternate
Paved? TRUE	Urban? TRUE		Max TT S	peed		10.0	AADT	2,500	2,500	Grade	Crossing L	Devices
GCX Base Type	Crossbucks			hally 7	irains		Auto TOD	Uniform	Uniform	M8O	0.2	0.2
Supp. Safety	None		Lay Throu	-		0.1	Auto % dir	Balanced	Balanced	Other	0.0	0.0
GCX Alt Type	Gates		Night Thro	-		0.0				Capital		1.6
Supp. Safety	None		Day Swite	-		0.0	% Trucks	6.0	6.0	Supp	lementary	Contrac
No. Main Tracks	0		Night Swit			0.0	Truck TOD	Uniform	Uniform	O8M	0.0	0.0
No. Other Tracks	2		ingit own			0.0	Truck % dir	Balanced	Balanced	Other	0.0	0.0
Traffic Managemen		s	Accir	ents i	Past Yean		% Bus	0.0	0.0	Capital	0.0	0.0
Measures? Rall			Yr 1	0	Yr 2	• o	Bus TOD	Uniform	Uniform			
Passenger	Uniform		Yr 3	0	Yr 4	1	Bus % dir	Balanced	Balanced	~	ay Improve	
Switch	Uniform		Yr 5	0						Lanes		0.0
							Predk	ded Annual Acci				
									Alternate			
							Fatal	0.00676				
							Injury	0.01880				
							PDO	0.07683	0.03579			

GRADEDEC.NET - SYSTEM FOR HIGHWAY RAIL GRADE CROSSING INVESTMENT ANALYSIS Printed: 11:04:16PM 11/29/2022

13th Avenue and Umatilla- MP 2.69, CDOT Hazard Rating 28

13th Avenue and Umatilla is in the La Alma-Lincoln Park neighborhood of Denver in the BNSF Brush subdivision (see Photo C-13). The primary operating railroad at the 13th Avenue grade crossing is BNSF. This road crossing is located within the CCD industrial use area and has seen zero at grade incidents, but it is a high traffic area. More details are available in Appendix D. There is limited signage and crossing safety devices at this location.





Possible Safety Treatments

Traffic Control Systems

- Add four-quadrant gates, pavement markings, warning lights, and signage. Add pedestrian crossing gates and sidewalks. Reduces risk from xx percent to x percent.
 - Estimated cost, ~\$500,000

Viewing Considerations

• Remove or reduce vegetation to improve road traffic visibility.

Results

Figure C-13 shows the Base (current) predicted accidents at the studied road crossing, and the Alternate (post-construction) predicted accidents. See Appendix C for the details behind the summary table. The prediction is based on a statical percentage, which is founded upon current traffic flows. When this number in traffic volume increases, the percentages also increase of potential accidents will also increase. The greater number of safety appliances added the safer the crossing overall.

Figure C-13. 13th Avenue and Umatilla

SUMMARY	OF PREDICTED ANNUAL ACCIDE	2017-000 10-00	Injun	Calculated:	3.6/2023 PD0	0.0001350.000	Total	5
	Percent Benefit from Closure	0.00						8
	Region Name Technology Factor	Denver 0.50	0.50	0.50				
\mathcal{L}	GRADEDEC.NET - REGIONAL MODEL (without phased improvements)	6.8.367637.65			1	user: Dataset: Region ID:	CODOT 7	43
Ment OF TRANSPORT	FEDERAL RAILROAD ADMINIS	TRATION			i	Jser:	Jolee Mohr	

	i arai	n gen y	100	Total	
Base	0.00089	0.00191	0.00383	0.00663	
 Alternate	0.00016	0.00034	0.00069	0.00119	

CROSSING DATA FOR THE DENVER REGION

Crossing ID 246254T Milepost0001.864	<u> </u>	Train Speeds (mph)				Highway Traffic Characteristics			Costs in '000 \$		
Description BNSF - W 13 TH AVE	Thru Switch			30.0 1.0	Lanes	Base 2	Atternate 2		<i>Ba</i> se	Atternate	
Paved? TRUE Urban? TRUE	Max TT Speed			30.0	AADT Auto TOD Auto % dir	6,400 Uniform Balanced	6,400 Uniform Balanced	Grade Crossing Devices			
GCX Base Type Gates Supp. Safety None	Day Throu	<u>Trains</u>	12.0	O&M Other Capital				2.5 0.0	5.0 0.0 280.0		
GCX Alt Type Gates Supp. Safety 4 quad - no detection No. Main Tracks 2 No. Other Tracks 2	Day Switc	Night Through 12,0 Day Switch 0,0 Night Switch 0,0 Accidents Past Years			% Trucks Truck TOD Truck % dir % Bus	11.0 Uniform Balanced 0.0	11.0 Uniform Balanced 0.0	Sugal O&M	le <i>m enta</i> ry 0.0 0.0	Satety 0.0 0.0	
No. Other Tracks 2 Traffic Management False	Accir							Other Capital	0.0	0.0	
Measures? <u>Rail T-O-D</u> Passenger Uniform	Yr 1 Yr 3	Yr1 0 Yr2 0 Yr3 0 Yr4 0		Bus TOD Bus % dir	Uniform Balanced	Uniform Balanced	10.00	iy <i>kii pr</i> ove	orovem ents 0.0		
Switch Uniform	Yr5	Yr5 0		Predicted Annual Accidents							
					F <i>a</i> tal Injury PDO	<i>Ba</i> se 0.00089 0.00191 0.00383	Atternate				

Report 2.1 Version 1.0

GRADEDEC.NET - SYSTEM FOR HIGHWAY RAIL GRADE CROSSING INVESTMENT ANALYSIS Printed: 1:41:19PM 3/6/2023



APPENDIX D. FRA ACCIDENT REPORTS



APPENDIX D – FRA ACCIDENT REPORTS

Figure D-1. South Kalamath Street Crossing (1 of 3)

EDERAL RAILROAD ADMINISTRATIK	ON IFRA	0		CIDENT/I	NCIDEN	E CROS				OMB A	oproval No. 213	0-0500
Name of Reporting Railroad	201510-25						habelic C	ode			ad Accident/Inciden	nt No.
Union Pacific Railroad Company						UP		-	3	1121G		
Name of Other Railroad or Other Enti	ty Filing	for Equipm	ont Involved in Tra	tin Accident/	Incident	Za. Alp	habetic C	lodic		2b. Rairo	ed Accident/Incide	nt No.
3 Name of Railroad or Other Entity Re	sponsible	e for Track	Maintenance ow	gle awayi		Sa: Alp	habetic (Code		3b. Rairo	ad Accident/Inciden	nt No.
Union Pacific Railroad Company	[UP]		100	0.000		UP				1121G		
LU.S. DOT Grade Crossing ID No.							e of Applic		ent year	6. Time of	Accident/Incident	
			9210	20E		1	11	1 3	2021	1:40	AM	PMV
7. Nearest Railroad Station			8. Subdivisio	m	248-028.0	9. Co.	inty			10. State	Manager and	Code
SOUTH DENVER			COLOR	ADO SPRI	NGS	DI	ENVER			A	bhr. CO	08
11. City (finacity) DENVER			12. Hig	itway Name	or No.	KALAM	ATH ST	REET	1		Public 🔽 Pri	ivate
	ay Use	r involved	1						Equipment	Involved		
13. Type	-				17. Equ	pment			r(s) (moving		Train pulling- RCL	
C Truck-trailer F Bus		J. Other Mol	tor Vehicle		1		its publicg	0.1 %	n(s) (standing ht loca(s) (n		Train pushing- RCL Train standing- RCL	
A Auto D. Pick-up truck G. School	Dus	K. Pedestria	#1	Code	1.		its pushing	11	int loco(s) (s		EMU Locomotive(s)	
B. Truck E. Van H. Motore	zycie	M.Ober #	specify	K			eraing)	B CI	her (apacity) E.	DMU Locomotive(s)	1
14. Vehicle Speed 15. Dire (est. mph at impact) 1. Nort		geographic uth 3. East	125 - A.	Code	18. Posi	ition of Car	Unit in T	nain	4			
16. Position 1. Stalled or sluck on on					19. Circ	umstance						297
2. Stopped on Crossing			in crossing by gate	tk Code	1850.85		nt struck	highway	user 2 Raile	quipment s	truck by highway ur	Cock
3. Moving over crossing		201002211011	NGC 1730 C 5874531.)	3	1.1.42000		00012012812	000000				ser 1
20a. Was the highway user and/or rail				Code	20b Wa	as there a l	azardou	s materia	is release by			Code
In the Impact transporting hazard 1. Highway User 2. Rail Equip			Neither	4		1. Hohea	v User	2. Rall E	quipment 3	Both 4.	Neither	4
20c. State here the name and quantity											83803	-
A TRANSPORTATION		ingle entry)		Code	0.0263	sather (sir	S-82 - 35					Code
(specify of minus) 64 "F 1. Day 24. Type of Equipment 1. Preight Trai		ay 3. Dus	k 4. Dark	2	1.0	Slear 2. Ck	oudy 3. F	Rain 4. F	og 5. Sleet	6. Snow		2
4. Work Train 27. FRA Track 28. Number of Class (1-9,X) Locomotive		28. Num	t loco(s) <u>C. Com</u> ber of Cars	30. Consist R. Rec	Speed () orded	_		vailable)	Siding 4. Indi Code	31. Time 1. No	MAIN LINE 1 Table Direction rth 3. East	Cod
4 Units	2		76	E. Estin	nated	- te		13 m	Concession of the local data		uth 4. West	1
Crossing	ig wags		Crossbucks 10.1	11. 12. 12. 11 P		33	(See rev)		ng Warning	A. Drv B. Wet	way Conditions	
2. Cantilever FLS 5. He Warning				Other (spec	193	1	instructio		odes)	C.SnowtS D.loe	Aush	
3. Standard FLS 6. AL	1	- I	Watchman 12.1	None	-	_			Code		Aud.Dirt,Oil,Gravel	Cod
Code(s) 01 03	0	7	1.00.0		1				1		Standing, Moving)	A
35. Location of Warning 1. Both Sides		~	36. Crossing with Hig	g Warning In hway Signal		cled	20	Cade	37. Crossing Lights or	Special Lig		Cod
2. Side of Vehicle Approach 2. Consolite Side of Vehicle America	and a	1	21052	2.No 3	Unknow	0		Cope	1. Yes	2. No 3.L	Inknown	1
 Opposite Side of Vehicle Approx Highway User's Gend 			in the second seco	and the second se		1. Highway	User			ir (space)		-
User's			or was Struck by S				around th				ru temporary barric	ade
Age 1. Male Col				1	Code	 Stopp Did n 	ed and th of stop	ten proce		es, see inst nt thru the g		1 Cod
38 2. Female 1	1		No. 3. Unknown		2	4. Stopp	ed on cra	ise ng		cide/Altemp		5
42. Oriver Passed Standing		Code	43. View of Track			nmary obs	22224	-			Sector S	Code
Highway Vehicle 1. Yes 2. No 3. Unknown	- 1			nanent Stru sding railrea			sing Train consider		station way Vehicler		(specify) Itsto.cleci	8
	llad	Informed	44. Driver was	and arrest	a officiants		- troughty	45. W	as Driver in th	ne Vehicle?	a shares	Code
Casuaroes to	alled	Injured	1. Killed 2. k	And the second		<u> </u>		-	Yes 2. No		28012-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	
46. Highway-Rail Crossing Users 0		1	47. Highway Vehi (est. dollar day		Damage		1		stal Number o cluding driver			0
49. Railroad Employees 0		0	50. Total Number	of People c		5 B		51. ls	a Rail Equips	nent Accide	nt /	Code
52. Passengers on Train 0		0	(include passe	engers and i	rain crew	?	2		dent Report Yes 2 No	being Paed	50 	2
	/ideo Tak /ideo Us/		Yes No Yes No		53b. Sp	ecial Study	Block					100
	affic, avid	continue or	separate sheet if	necessary)								
										90		
NO. THE REAL PROPERTY AND A MARKED				0.0								
55. Typed Name and Tide NOTE: This report is part of the report	no naite-	ad'a arrêde		56. Signatu to the accide		e statute or	td, as see	th shall e	of the acteriate	57. Date d as evider		Damase

Figure D-1. South Kalamath Street Crossing (2 of 3)

EDERAL RAILROAD ADMINISTRATION (FRA)		ACCI	DENT/I	NCIDENT F	REPORT		OMB Approval No	. 2130-050	00
Name of Reporting Railroad					a. Alphabetic Co	ie	1b. Railroad Accident	Incident No.	_
BNSF Railway Company [BNSF]					BNSF	22	PR0421201		
Name of Other Railroad or Other Entity Filling for Equ	aipment involved	in Train A	locident/	Incident	2a. Alphabelic Co	de	2b. Railroad Accident	Incident No.	
						22			_
 Name of Railroad or Other Entity Responsible for Tr BNICE D. Railroad Communication (RNICE) 	ack Maintenance	 Multiple a 	artsi	8	3a, Alphabetic Co	de	3b. Railroad Accident	Incident No.	
BNSF Railway Company [BNSF] I. U.S. DOT Grade Crossing ID No.					5 Date of Accide		PR0421201 6. Time of Accidentilin	1000	_
CD.S. OCT Childle Crossing (D140.	11			1		day 1 mea	6, Time of Accidences	osen;	
	2	45394	ŧV		0 4 2	3 2021	1:30	AM PM	E
7. Nearest Railroad Station	1 4 5 1 2 2 2	division	- C		9. County		10. State		ade
SOUTH DENVER		ES PEAL			DENVER		Abbr. CO		08
11. City (Vine city) DENVER		2. Highwa	ry Name	or No. KAI	LAMATH AVI	50	Public	Private	
Highway User Invo	lved				0.215	Rail Equipment	Involved		_
13. Type				17, Equipme		4 Car(s) (moving			
C. Truck-Inster F. Bus J. Othe	ar Motor Vehicle			10191014	n (Linits pulling)	5. Car(s) (standing 5. Light loco(s) (in			
A Auto D. Pick-up track G. School Bus K. Ped			Code	2. Train		7. Light locota) (#	St. Wild Lit server	sive(s) C	Cod
	er (specify)		A		n (ataselisg)	8. Other (specify		diace(s)	1
14. Vehicle Speed 15. Direction (geogra		00	Code	18. Position	of Car Unit in Tra	in i			
(est. moh at impact) 25 1, North 2, South 3, 1 16. Position 1, Statled or stuck on crossing 4. Trace		the local film	1	19. Circums	hinan .	1			_
	led on crossing b	C	Code						lod
3. Moving over crossing	ing on proseing o	A Bride	3	1. Hallog	jupment struck hi	privay user 2. Rail e	quipment struck by high	May user	1
20a. Was the highway user and/or rail equipment invo	alved			205. Was th	ere a hazardous	materials release by		C	00
in the impact transporting hazardous materials?	0.		Code				2.2.2.2.2.0.2.2.2.2.2.2.2.2.2.2.2.2.2.2	1233	4
1. Highway User 2. Rail Equipment 3. Both			4	1.1	lighway User 2	Rall Equipment	3. Both 4. Neither		*
20c. State here the name and quantity of the hazardor	the mathemal refeat	sect, if any							
21. Temperature 22. Visibility (slogie or	otoù		Code	at door	er (single ontry)			24	od
[6] S.				0.0416.007		St. 740200	12.2		1
toburshis usual a stand of	Constraints Market Area	. Maint An	4		Contraction of the second	in 4 Fog 5 Sleet	6 Snow		1
			er Train-	Pushing Da	Equipme	e Used by Rall nt Involved and -3. Siding 4, Indi		TRACK	atte
	Number of Cars	30.			orded speca if aw	wate) Code	31. Time Table Direct		ode
Class (1-9.X) Locomotive 4 Drite 4	124		R. Rec. E. Estin			22 moh R	1 North 3 East 2 South 4 West		2
32. Type of	- 25.33 J. (1975)	Caller 1	1997		33. Signaled	Crossing Warning	34. Roadway Conditio		-
1. Gates 4. Wig wage Crossing	7. Grossbucks	122207	200603		10	se side for	A. Dry B. Vest		
2, Candlever FLS 5. Hwy, traffic signal Woming	s B Stop signs	11. Othe	er (spec	sity)		s and codes)	C.Snow/Slush		
3. Standard FLS 6. Audible	B. Watchman	12. Non	e			Code	D.ice E. Sand Mud(Ort/OR)G	owil	lod
Code(s) 01 03 06	67					1	F. Water (Standing, Mo		A
Code(s) 01 03 06	36 C	rossing W.				37. Crossing	Illuminated by Street		
35. Location of Warning	CONT 0	100 C 100 C 100 C 100 C							Cod
35. Location of Warning 1. Both Sides	CONT 0	ith Highwa				ode Lights of	Special Lights	10	
35. Location of Warning	Code W	ith Highwa	y Signal	la Unknown		ode Lights of 1. Yes	2 No 3. Unknown	C	1
35. Location of Warning 1. Both Sides 2. Side of Vehicle Accroach 3. Opposite Side of Vehicle Acproach 38. Highway 30. Highway User's Cender 40. Highwa	Code W 1 1 ry User Wert Bet	ith Highwa Yes 2 hind or in P	y Signal No 3. Front of 1	la Unknown Tosin 41.11	C 2 Ighway Usar	ode Lights or 1. Yes 5. Other 8. Was	2. No 3. Unknown er (specify)		1
35. Location of Warning 1. Both Sides 2. Side of Vehicle Accrosoft 3. Opposite Side of Vehicle Approach 36. Highway 30. Highway User's Cender User's ends: User's ends: 40. Highway end Site 40. Highway end Site 4	Code W	ith Highwa Yes 2 hind or in P	y Signal No 3 Front of 1 and Train	la Unknown Tosin 41.11	C 2 Ighway User . Went around the Stopped and the	ode Lights or 1. Yes 5. Other gale 6. Wer n proceeded 0/19	2 No 3, Unknown er (specify) if around/thru temporary es, see instructions)	/ barricade	1
35. Location of Warning 1. Both Sides 2. Side of Vehicle Accrosoft 3. Opposite Side of Vehicle Accrosoft 38. Highway 30 Highway User's Cender User's Age 1. Maie Code	Code W 1 t. In User Wert Bet ruck of wite Shoe	th Highwa Yes Z hind or in P A by Succ	y Signal No 3 Front of 1 and Train	N Unknown Train 41, H 1 Code 3	Ighway User Went around the Stopped and the Did not stop	ade Lights or 1 Yea 5 Oth 9 B Wen n proceeded 0f y 7, We	2 No 3, Unknown er (specify) el around/thru temporary es, see instructions) et thru the gate	/ barricade	God
35. Location of Warning 1. Both Sides 2. Side of Vehicle Accrosoft 3. Opposite Side of Vehicle Accrosoft 38. Highway 30. Highway User's Cender User's Acc. 40. Highwa end Sic Acc. 24. 2. Female 2. 1. Yes	Code W 1 t. ry User Wert Bet ruck or wie Shuc 2. No 3. Unio	ith Highwa Yes 2 hind or in P sk by Succ Kenn	y Signal No 3 From of 1 nd Train	8 Unknown Train 41.11 Code 3 2 4	Ighway User Went around the Stopped and the Did not stop Stopped on cros	ade Lights or 1 Yea 5 Oth 9 B Wen n proceeded 0f y 7, We	2 No 3, Unknown er (specify) if around/thru temporary es, see instructions)	/ barricade	Cod 1
35. Location of Warning 1. Both Sides 2. Side of Vehicle Accroach 3. Opposite Side of Vehicle Approach 38. Highway 30. Highway User's Center User's Age 1. Main Code 24 2. Female 2 1. Yes 42. Driver Fassed Standing Code	Code W 1 1. ry User Wart Bat tock or wire Struc 2. No 3. Units # 43. View of	ith Highwa Yes 2 hind or in P sk by Succ Kenn	y Signal No 3 From of 1 and Train scured b	b Unknown Insin 41. H 1 Code 3 2 4 2 4 sy (prime	C Ighway User Warn around the Stopped on cros Stopped on cros ry obstruction)	ode Lights or 1. Yes 5. Other gale 6. Wer n proceeded 1/f y 7. We sing 6. Sub	2 No 3, Unknown er (specify) es, see instructions) et thru the gate cide/Altempted suic de	/ barricade	Cod 1
35. Location of Warning 1. Both Sides 2. Side of Vehicle Accrosoft 3. Opposite Side of Vehicle Accrosoft 38. Highway 30. Highway User's Cender User's Acc. 40. Highwa end Sic Acc. 24. 2. Female 2. 1. Yes	Code W 1 t. w User Wort Bat 2. No 3. Units 43. View of	Ith Highwa Yes 2 hind or in F & by Succ kewn I Triack Ob I. Perman 2. Standm	y Signal No 3 Front of 1 and Town secured 5 ent Struc	8 Unknown Tosin 41, H Code 3 2 4 sy (prime dure	Ighway User Went around the Stopped and the Did not stop Stopped on cros	de Lights or 1. Yea gale 5. Oth 8. Wer proceeded (M y 7. We sing 8. Suit 5. Vegetation 8. Highway Vehicles	2 No 3. Unknown ar (specify) it anound/thru temporary es, see instructions) in thru the gate cide/Attempted suid de 7. Other (specify) 6. Not Obstructed	/ barricade	Cod 1 ode
35. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 36. Highway 30. Highway User's Center 40. Highway 41. Highway 42. Female 2 1. Yes 2. No 3. Unknown 2	Code W 1 1 1 ry User Wart Bet cuck or wise Shac 2, No 3, Units 43, View of 1 2, 100 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Ith Highwa Yes 2 hind or in F ik by Succ Kenn I Track Ob I. Permany 2. Standry vas	y Signal No 3 From of 1 not Town Sourced b ent Struc ginalroad	la Unknown Tosin 41, H1 Code 2 2 2 4 ay (prima dure dequipment	Ighway User Went around the Stopped and the Did not stop Stopped on cross ry obstruction 3. Possing Train 4. Toppgaphy	de Lights of 1. Yea 5. Oth pale 6. Wer n proceeded (M y 7. Vie sing 6. Sui 5. Vogstallion 8. Highway Vehicles 65. Was Driver in 8	2 No 3. Unknown ar (specify) it anound/thru temporary es, see instructions) in thru the gate cide/Attempted suid de 7. Other (specify) 6. Not Obstructed	barricade	Code 1 code 8
St. Location of Warning Solution of Warning Solution	Code W 1 1 1 ry Usar Work Bat 2. No 3. Unian 43. View of 44. Driver of 1. Killer	th Highwa Yes 2 Ind or in F ik by Sacc Rean I Triack Ob I. Permane 2. Standm Vas d. 2. Injun	y Signal No 3. From of 1 and Train Secured 5 ent Struc ginalroad ent 3: Un	B Unknown Toxin 41, Hi Code 2 2 2 4 ay (prime dequipment ninjured	2 Ighway User Went around the Stopped on cross bid not stop Stopped on cross by obstruction/ 3. Possing Train	below Lights of 1. Yea 5. Oth agale 8. Wer n proceeded 18 y 7. Yea 8. Suit 5. Vegetation 8. Hightosy Vertecher 45. Was Direr in th 1. Yea 2. No	2 No 3, Unknown ar (specify) in anundhhu lengorany es, see instructions) int thru the gate cide/Attempted suicide 7. Other (specify) a. 8, Not Obstructual te Vehicle?	barricade	Cod 1 odd
35. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 35. Big Wash 2 Approach 36. Approx 1 Marke Vehicle Approach 38. Highway Sol. Highway User's Gender Age 1. Mark Code 24. Driver Passed Standing Code 1. Yes 2. No 3. Unknown 2 Censel Set C. Killed Injure	Code W 1 1 1 iy User Work Bat user or wire Shore 2. No 3. Uniter 43. View of 1. Kile 44. Driver of 1. Kile	In Highwa Yes 2 and or in F & by Succession f Track Of I. Perman 2 Standin Vas d. 2 injun y Vahicle	y Signal No. 3. Nom of 1 not Town sourced b ent Struc graitroar ed 3. Ur Property	B Unknown Toxin 41, Hi Code 2 2 2 4 ay (prime dequipment ninjured	C 2 Ighway Ueer Wart around the Stopped on crosery Stopped on crosery obstruction 2. Poscing Train 4. Tepognaphy 2	de Lights of 1. Yea 5. Oth n proceeded (IV) sing 6. Suit 5. Vogetation 6. Highway Variecias 63. Was Driver in IV 1. Yea 63. Was Driver in IV 1. Yea 64. Total Number of	2. No. 3. Unknown ar (specify) it around/the temporan es, see instructions) at thru the gate cide/Attempted suicide 7. Other (specify) a. 5. Not Obstructed te Vehicle? (Vehicle Occupants	c bornicade	Code 1 code 8
35. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 36. Highway User's Gender 40. Highway 40. Highway 40. Highway 40. Locat 40. Highway 40. Highway 40. Highway 40. Highway 40. Highway 40. Highway 40. Locat 40. Highway 40. Locat 40. Highway 40. Locat 40. Highway	Code W 1 1 1 iy User Work Bat user or wire Shore 2. No 3. Uniter 43. View of 1. Kile 44. Driver of 1. Kile	In Highwa Yes 2 and ar in F ik by Sacc kwn I Track Ob I Perman Standn Vas d 2 injun y Vahicle Ker dwneg	y Signal No 3 From of 1 and Train sourced b ent Struc ginalitose of 3 Lie Property a)	B Unknown Troin 41, H Code 2 2 4 ay (prima durn dequipment ninjured Demoge	Ighway User Went around the Stopped and the Did not stop Stopped on cross ry obstruction 3. Possing Train 4. Toppgaphy	below Lights of 1. Yea 5. Oth agale 8. Wer n proceeded 18 y 7. Yea 8. Suit 5. Vegetation 8. Hightosy Vertecher 45. Was Direr in th 1. Yea 2. No	2. No. 3. Unknown ar (apeoly) it around/theu temporary es, see instructions) at thru the gate cide/Attempted suicide 7. Other (specify) e. Not Observated to Vehicle? // Vehicle Occupents)	/barricade	Cod I odd 8
35. Location of Warning 1. Both Sides 1. Both Sides 2. Side of Vehicle Accrosoft 3. Opposite Side of Vehicle Accrosoft 40. Highway 38. Highway 30. Highway User's Center 40. Highway User's 40. Highway and Side Age 1. Main Code 24 2. Female 2 42. Driver Passed Standing Code Highway Vehicle 2 1. Yes 2 CanuelSee to: Killed 46. Highway-Rail Crossing Users 0 46. Rairood Employees 0	Code W 1 1 1. In User Work Bat User Wark Bat 2. No 3. Union 44. Driver v 44. Driver v 1. Kite 44. Driver v 50. Total N	In Highwa Yes 2 and ar in F a by Sacco kwn I Triade Ob I Triade Ob I Triade Ob I Triade Ob I Triade Ob Vanica Vani	y Signal No 3. Front of Train sourced b ent Struc giraitroar ed 3. Li Property rej People of	B Unknown Troin 41, H Code 2 2 4 ay (prima durn dequipment ninjured Demoge	C 2 Ighway Ueer Wart around the Stopped on crosery Stopped on crosery obstruction 2. Poscing Train 4. Tepognaphy 2	ode Lights of 1. Yes 5. Oth agale 6. Wer n proceeded 197 7. Yes 6. Suit 5. Vegetation 6. Highway Variacias 65. Was Driver in 1 1. Yos 2. No 48. Total Number of (inclusing driver 51. Is a Reil Equipp Incident Report	2 No 3, Unknown ar (specify) it around/the temporary es, see instructions) in thru the gate cide/Attempted suicide 7 Other (specify) a 8, Not Obstructed b Vehicle? (Vehicle Occupents) met Accident (/ barricade	Cod I code 8 code 1
35. Location of Warning 1. Both Sides 1. Both Sides 2. Side of Vehicle Accroact: 2. Side of Vehicle Accroact: 30. Highway User's Center 36. Highway 30. Highway User's Center 40. 1. Main Usar's 40. Age 1. Main 24 2. Female 2 1. Yes 42. Driver Passed Standing Code Highway Vehicle 1. 1. Yes 2 Catualities to: Killed 46. Highway-Rail Crossing Users 0 47. Rairoad Employees 0 52. Psssengers on Train 0	Code W 1 1, I User Wert Bat Lock or ware Share 2, No 3, Union 44, Driver of 44, Driver of 44, Driver of 1, Kille 47, Highwe (exc. dol 50, Total No (include	ith Highwai Yes 2, and or in F & by Sacci kwm I Track Ob I Parata Sacci Sacci Vas d 2, Injun y Vahicle I War dwnag umber of F a	y Signal No 3. Front of Train sourced b ent Struc giraitroar ed 3. Li Property rej People of	k Usknown Train 41, H Code 3 2 4 4 y (prima June d equipment Damage n Train hain crain	C 2 2 sighway User Wern encound the Stopped on cross Stopped on cross Stop	de Lights of 1. Yea 5. Oth gale 8. Wer n proceeded 16 y 7. Yea 8. Wagelation 8. Highway Vehicles 6. Vegelation 8. Highway Vehicles 6. Vegelation 4. Highway Vehicles 6. Was Directin th 1. Yos 2. No 48. Total Number o (inclusing drives 5.1. Is a Real Equip	2 No 3, Unknown ar (specify) it around/the temporary es, see instructions) in thru the gate cide/Attempted suicide 7 Other (specify) a 8, Not Obstructed b Vehicle? (Vehicle Occupents) met Accident (/ barricade	Code 1 code 1 code
35. Location of Warning 1. Both Sides 1. Both Sides Accroact 2. Side of Vehicle Accroact 2. Side of Vehicle Accroact 36. Deposite Side of Vehicle Accroact 40. Halwar 38. Highway 30. Highway User's Conter 40. Halwar More 1. Main Code 24 2. Premale 2 1. Yes 42. Driver Passed Standing Code 1. Yes Highway Vehicle 2 2 1. Yes 1. Yes 2. No. 3. Unknown 2 2 Catualities to: Killed Injure 46. Highway-Rail Crossing User's 0 4 49. Rairoad Employees 0 0	Code W 1 1 1 y User Work Bar rock or was Shoc 2. No. 3. Unian 43. View of 44. Driver v 1. Kile 47. Highwe (est. del 50. Total N (include) 2. Yos	In Highwa Yes 2 and ar in F a by Sacco kwn I Triade Ob I Triade Ob I Triade Ob I Triade Ob I Triade Ob Vanica Vani	y Signal No 3. Front of Train sourced b ent Struc giraitroar ed 3. Li Property rej People of	k Usknown Train 41, H Code 3 2 4 4 y (prima June d equipment Damage n Train hain crain	C 2 sighway User Wern encound the Stopped on cross Stopped on	ode Lights of 1. Yes 5. Oth agale 6. Wer n proceeded 197 7. Yes 6. Suit 5. Vegetation 6. Highway Variacias 65. Was Driver in 1 1. Yos 2. No 48. Total Number of (inclusing driver 51. Is a Reil Equipp Incident Report	2 No 3, Unknown ar (specify) in anound thru temporary es, see instructions) in thru the gate cide/Attempted suicide 7 Other (specify) a 8, Not Obstructud te Vehicle? (Vehicle Occupents) met Accident (/ barricade	Code 1 code 1 code
35. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 36. Highway Dearls Cander 30. Highway Dearls Cander 30. Highway Dearls 40. Highway 41. Anno 42. Driver Fassed Standing 42. Driver Fassed Standing 42. Driver Fassed 30. Highway Vehicle 1. Yes 2. No 3. Unknown 2 CasuelSea to: Killed Injuri 46. Highway-Real Crossing Users 0 4 45. Rainoad Employees 0 0 52. Passegran on Train 0 0 53a. Special Study Block Video Talent?	Code W 1 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	Ith Highwai Yes 2 and or in F & by Sass seen I Track Ob I Parran 2 Standin Vas 4 2 Injun y Vahicle War during umber of F p passage Na Sas	y Signal No 3 Teom of 1 and Teom sourced 1 sourced 1 and Teom and 1 and	M Unknown Train 41, H Code 2 2 4 ay (prima dequipment minjured Damage n Train Train Train Site: Specia	C 2 2 Righway User Wern eround the Stopped on cross Stopped on cross Stopped on cross Stopped on cross Very Ostimucion 3. Possing Train 4. Topography 2 \$2,500 2 4. Stopped Stopped Stopped Stopped 2 4. Stopped Stopp	ode Lights of 1. Yes 5. Oth agale 6. Wer n proceeded 197 7. Yes 6. Suit 5. Vegetation 6. Highway Variacias 65. Was Driver in 1 1. Yos 2. No 48. Total Number of (inclusing driver 51. Is a Reil Equipp Incident Report	2 No 3, Unknown ar (specify) in anound thru temporary es, see instructions) in thru the gate cide/Attempted suicide 7 Other (specify) a 8, Not Obstructud te Vehicle? (Vehicle Occupents) met Accident (/ barricade	Code 8 200k 1
35. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 36. Approach 30. Approach 31. Approach 32. Approach 32. Approach 32. Approach 33. Approach 34. Approach 34. Approach 35. Appr	Code W 1 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	Ith Highwai Yes 2 and or in R & by Succ Kenn I Track Ob I. Perman- 2. Standni Vas d. 2. Injun y Vahicle Nar duwag umber of 7 a passeogr Na So Nac (Kossi Nac (Kossi	y Signal No 3 Teom of 1 and Teom sourced 1 sourced 1 and Teom and 1 and	M Unknown Tain 41, H Code 2, 2 4, y (prime aure degapment minjured Damage n Train Train 538: Specia HAZMAT BEL	C 2 2 Righway User Wern eround the Stopped on cross Stopped on cross Stopped on cross Stopped on cross Very Ostimucion 3. Possing Train 4. Topography 2 \$2,500 2 4. Stopped Stopped Stopped Stopped 2 4. Stopped Stopp	ode Lights of 1. Yes 5. Oth agale 6. Wer n proceeded 197 7. Yes 6. Suit 5. Vegetation 6. Highway Variacias 65. Was Driver in 1 1. Yos 2. No 48. Total Number of (inclusing driver 51. Is a Reil Equipp Incident Report	2 No 3, Unknown ar (specify) in anound thru temporary es, see instructions) in thru the gate cide/Attempted suicide 7 Other (specify) a 8, Not Obstructud te Vehicle? (Vehicle Occupents) met Accident (/ barricade	Col 1 00 8 00 1

OMB Approval expires 6/30/2021

Figure D-1. South Kalamath Street Crossing (3 of 3)

EPARTMENT OF TRANSPOR EDERAL RAILROAD ADMINISTRAT		41				L GRAD			0)	OMB Approval No. 2130	0-0600
Name of Reporting Railroad							1a Al	phabetic Co	de	1b. Railroad Accident/Inciden	rt No.
BNSF Railway Company [BNS	F						B	NSF		PR0519202	
Name of Other Railroad or Other Er	ntity Filling	tor Equip	ment invo	lived in Train	Accident	Incident	Za A	Iphabetic Co	de	2b. Railroad Accident/Inciden	nt Na.
3. Name of Railroad or Other Entity P	hexponsip	la for Trac	k Meinter	ance			3s. A	phatetic Co	de	3b. Rainoad Accident/Inciden	nt No.
BNSF Railway Company (BNS)					1.44		100000	SF	S21	PR0519202	
U.S. DOT Grade Crossing ID No.								te of Accide	m/incident	6. Time of Accident/Incident	8
			1	24539	W				day reat	10-25 AM	PM
7 Nearest Raircoc Station			P	24JJJ Subdivision	4.4		_	ounty	3 2019	10:25 AM	Cod
SOUTH DENVER			1112	PIKES PAI	RK			DENVER		Abbr. CO	08
T. Dity (If or a cally) DENVER				and the second second second	vey Name	or No.		IATH AV		Public 🔽 Pr	1011111
	way Use	er Involv	ed			-		in a m	Rail Equipment	and the second se	-010
13. Type						17. Equ	pment		4. Garta) (moking)	A. Train pulling- RCL	-
C. Truck-troller F. Bus-		J Other N	lotor Vehic	de				Ignilian, star	S. Car(s) (standing	Ø B. Train pushing- RO.	
A Auto D. Pick-up truck G. Scho	o Bus	H. Pedeet	nan		Code			neto positeing)		Dr. Bis and a second second second	Cod
B. Truck E. Van H. Molk	rcycle	M. Other	(specify)		A	3.	Train (a	alanaling)	7. Light loco(s) (5 8. Other: (specely	an in the second se	1
		geograph		1997 - Ř	Code	18. Pos	tion of Ca	er Unit in Tre	ir .		1
		with 3, Ea			1	10.0		_	1		
 Position 1. Stalled or stuck on in 2. Stopped on Crossin 				ing by staffic ing by gates	Code	100.000	umstance				Cod
3. Moving over prossin		e. Discreto	un unuss	of all games	3	1. Ra	cquipm	ent struck hi	griway user 2. Rail e	equipment struck by highway us	1
20a. Was the highway user and/or n			ed .			205. W	5 2'ere a	hezardous	materials release by		Cod
in the impact transporting haza	indous ma	teriais?			Code			SACLESS 1	and a second second	1212 1212000	14
1. Highway User 2. Rall Equ					4		1. Highw	ny User 2	Rail Equipment 2	8, Both 4, Neither	
20c. State here the name and quarti	ly of the t	BARCHIN	maternal c	elessed, r an	9						
21. Temperature 22. Vi	ability fo	ungle entry	à		Cote	23.99	ather in	ingte entry)			Cod
	11.11	bay 3 Du		*	4	1.			in 4 Fog 5 Sleet	C. Securi	1 1
24. Type of Equipment 1. Freight Tr		and the second	iola Dar	9. Maint/i	1		the second s	along alm	an a rog or o ope		1.5
P. FRA Track 25. Number of Clease (1-9.X) 4 Locomotiv		29. Nu	mber of C		R. Rec E. Esti	orced	Recorded	l speed if aw	A mph E	31. Time Table Direction 1. North 3. East 2. South 4. West	Cos
4 Units 32. Type of		-		124	E. 6519	naleo		13 Sinnalad	Crossing Warning	34. Roadway Conditions	
1. Gates 4.1 Crossing	Wig wage		7. Crosst	ucks 10. Fia	gged by	27 9 94		- 1. S.	10.11.12.12.10.12.10.12.10.12.10.12.10.12.10.12.10.12.10.12.10.12.10.12.10.12.10.12.10.12.10.12.10.12.10.12.10	A Drs	
2. Cantilever FLS 5. I Warning	Hwy. traffi	ic signals	8. Stop si	gns 11.08	her (spe	sky/		See rever	se side for s and codes)	B. Wet C.Snow/Sluch	
3. Standard FLS 6.	Auciiole		9. Watche	man 12. No	10				Code	D. Ioe E. Sand Mud Dirt Oil Oravel	Cod
Code(s) 01 0.3		07				19			- 19 1 0	F. Weter (Standing, Moving.)	A
35. Location of Warning			3	6. Crossing V			ted	1600		Illuminated by Street	
1. Both Sides 2. Side of Vehicle Approach			Code	with High a	kay Signa	bø .		0	0.00	Special Lights	Co
3. Opposite Side of Vehicle Appr	oach		3	1, Yes 2				2	K 11 205153C3	2. No 3. Unknown	1
36.Highway 39.Highway User's Ger	nder 40.						1. Highwa 1. Www	ay User nt around the		 (space)) t around/thru temporary barries 	ada
Apr 1 Male . C	36	and Sauc	k or was :	Struck by Sec	cond Train	Code			n proceeded 18 y	es, see instructions)	, Co
2. Female 1	othi	1. Yes 2	No 3.1	Unknown		2	3. Did	cols ton	7. Wes	nt thru the gate	5
42. Driver Passed Standing		Code		w of Track O	bscured			oped on cros sintchion)	e. au:	cide/Attempted suicide	Cod
Highway Vehicle		and a	1	1. Perma		1990 and 1990			5. Vegetation	7. Other (specify)	
1. Yes 2. No 3. Unknown		2		2. Standa				pography	6. Highway Vehicles	8 Not Obstructed	8
Cesualities to:	Killed	Injured		verwas Killed 2. Inju		nink me		1.	45. Was Driver in th 1. Yes 2. No	w Vehicle?	Cos
		-		itway Vehicle			65	13		(Vehicle Occupants	1
	0	0		t. doiler dens		- Minella	S)	\$2,500	(including driver) 1	2 - 2
46. Highway Rail Crossing Users				al Number of					51. Is a Reil Equips	rient Azsident J Robert Willed	Code
46. Highway Rail Crossing Users	0		And And	ciude passenț	gers and	raw crew	5	2	Incident Report 1 Yes 2 No.	need stee	2
46. Highway Rail Crossing Users 49. Railroad Employees	0 0	0					ecial Stu	d. Thenk			
46. Highway Rail Crossing Users 49. Railroad Employees 52. Passengers on Train	n Video Ta	iken7	Z Ya	No.		530.80	COM STO	dy Block			
48. Highway Rail Crossing Users 49. Railroad Employees 52. Passengers on Train 51a. Special Staty Binck 54. Nervative Description (Be vp 1965 x ADE DESCRIPTION	0 Video Ta Video Us wolfe, and AS TRAVE	aken7 sed7 s	/ Yos	No de street if me	CHARMY/I IN THE V				FRUCK BY THE TRAF	N, THE VEHICLE PLED THE SC	FNE. 41
46. Highway Rail Crossing Users 49. Railroad Employees 52. Passengers on Train 53a. Special Starty Binck 54. Nervative Description (Se op Desce S AGE UNIXION, VERICLE IN GATIS ON OPPOSITE SUBLICE APPRO	0 Video Ta Video Us wolfe, and AS TRAVE	aken7 sed7 s	/ Yos	HNp de stwei' i∕ ne way street	IN THE V	rkong bi			FRUCK BY THE TRAF	an a	ENE. 41
46. Highway Rail Crossing Users 49. Railroad Employees 52. Passengers on Train 53a. Special Starty Breck 54. Nervative Description (Be vp INSER's AGE UNIXION VEHICLE IN	0 Video Ta Video La Video La Video La Video La Video Ta Video Ta	ken7 ed7 / continue LING BOW	Z Yo on sepan N A ONE	HN0 WAV STREET 5	6. Signat	vikong bi	RECTION	(AND WASS		57. Date	

Figure D-2. Quebec Street Southbound Frontage Road Crossing (1 of 2)

EDERAL RAILROAD ADMINISTRA	TION (FR/	43	ACC	IDENT/IN	CIDENT P	REPORT			ОМВ Арр	oroval No. 213	0-0500
I.Name of Reporting Railroad						1a. Alphabelic C	ode		11002-00000-000	t Accident/Inciden	nt No.
Regional Transit District- Con		Concernance Processor				RTDC			145636		
2.Name of Other Railroad or Other E	Entity Filling	1 for Equipm	ont Involved in Train /	Accident/Ini	cident	2a. Alphabetic C	lodio		20. Rairoad	Accident/Incident	nt Nio,
3. Name of Railroad or Other Entity	Responsib	le for Track I	Maintenance _{Daugle} ,	awsi	-	Sa Alphabetic C	Code		3b. Rairoad	Acciden@Inciden	nt No.
Regional Transit District- Com	muter [F	TDC1	10.02	3212		RTDC			145636		
4. U.S. DOT Grade Crossing ID No.					1	5. Date of Apold		t year	6. Time of A	coldent/Incident	
			80463	5B		0 6	2 6	2020	2:27	AM	PM
7. Nearest Railroad Station			8. Subdivision		-	9. County		1929	10. State		Code
CENTRAL PARK			A LINE		- 4	DENVER		-	Ab	hr. CO	08
11. City (fin a city) DENVER			12 Highw	ay Name o	No. OL	EBEC STREE	CT.			Public 🔽 Pr	Vate
	hway Use	ar Involved	1		40	000000100	The second s	ulpment	Involved		
13. Type				1	17. Equipme	ent	4. Caris		-	ain pulling- RCL	-
C Truck-trailer F Bus		J. Other Mol	or Vehicle			in funits publicg		(strocky		ain pushing- RCI.	
A Auto D. Pick-up huck G. Sch	col Bus	K. Pedestria		Code	2. Trai		<i>p</i>	loco(s) (n		air standine- RCL MU Locamolive(s)	Cod
B. Truck E. Van H. Mot	larayale	M. Other #	specify!	K	3 Trai	in (starolog)	8 Othe	loco(s) (5 (apecily	states (1)	MU Locomotive(s)	D
		(geographic	25 M. Let 19 M. L.	10000	8. Position	of Car Unit in T	nain	163			
16. Position 1. Stalled or sluck on		uth 3. East		1	19. Circums	staane		1			934.7
2. Stopped on Crossi	ng		n crossing by gates	Code			highway us	er 2. Rail e	quipment str	uck by highway ur	Cod
3. Moving over crossi				3	U #100/98000		3200525-50	vancourees)	en e	ant construction (Construction)	1
20a. Was the highway user and/or in the impact transporting haz				Code	ZOD, Was If	hère a hazardou	s materials	release by			Code
1. Highway User 2. Rail Eq			Neither	4	1.8	Highway User	2. Rall Equ	ipment 3	Both 4. N	either	4
20c. State here the name and quart				ť		- Freedoment				903	
		ingle entry)	1	e							
The second se				Code		er (single ontry	St				Cod
(specify if minus) 86 F 1.0 24. Type of Equipment 1, Preight T		Say 3. Dusi 5. Sing		2	D. EMU	r 2. Cloudy 3. F	cain 4.1-og	5. Sieet	6. Show		#
(single entry) 3. Commun 4. Work Tra 27. FRA Track 28. Number o	in	8, Light	(Switching)B, Passeng (loco(s) C, Commu ber of Cars 30	ter Train-P	ushing	ode D 1. Main 2. orded speed // a		ding 4. Indu Code	127617	TRACK 1 ble Direction	Cod
Class (1-9,X) Locomotin	ve	0.00000		R. Recor	ded		and a	1m		n 3. East	1
4 Units		-	4 1	E. Estima	sted	las areas	48 mpt			h 4. West	
Crossing 2. Cantilever FLS 5. Warning		c signals 8.	1.1214-125-141 - 2.21245	er (specif)			erse side fo ans and cod	r 88)	A. Drv B. Wet C.SnowSlu D.los	vy Conditions	
" 3. Standard FLS 6. Code(s) 01 03			Watchman 12 Nor	na I	1	_		Code	E. Sand, Mu	d.Dirt,Oil,Gravel	Cod
		05	06	incale a fato	1	1	1.4	1		anding, Moving)	A
35. Location of Warning 1. Both Sides		0	36. Crossing W with Highwa	1	roonmected		Code		Boscial Light		Cod
 Side of Vehicle Approach Opposite Side of Vehicle App 	enach	Ĩ	100	No 3.U	inknown		1	1. Yes	2. No 3. Un	known	1
38.Highway 39.Highway User's Ge		Highway Us	ar Went Behind or in	Front of Tra		lighway User	in sector		ir (spacily)		
User's Age 1. Male 10	Code		or was Struck by Sec		2	 Went around the Stopped and the Did not stop. 		iod (fy	nt around/thru ves, see instru nt thru the gal		ede Cod
	1		No 3 Unknown	3	4	. Stopped on cra	iseing		cide/Altempte		1
42. Oriver Passed Standing		Code	43. View of Track Ol			ary obstruction)				1104 KV	Code
Highway Vehicle 1. Yes 2. No 3. Unknown		r I		ent Structu		3. Passing Train 4. Toronomius		ition ay Vehicles	7. Other (s 8. Not Ob		8
1.109 2.NO 0. UNMOWN	-		44. Driver was	d isneed i	a for thuse a	4. Topography			e Vehicle?	arcisec	Cod
Casualties to	Killed	Injured	1. Killed 2. Injur				1. Ye	is 2. No	8763200.02		1200
40 Link on Dall Constant in them.	1	0	 Highway Vehicle (est. dollar dama) 		amage	50		I Number o wing arriver	f Vehicle Occ		
46. Highway-roat Grossing Users	0	0	50. Total Number of	People on			51. ls a	Rail Equipe	nent Accident		Code
			(include passeng	ters and tra	(a cuew)	38		ent Report es 2. No	Being Filed		2
46. Highway-Rail Crossing Users 49. Railroad Employees 52. Passengers on Train	0	0	and the second								-
49. Railroad Employees	0 Video Ta	iken? 🗸	Yes No		53b. Specia	al Study Block					
49. Railroad Employees 52. Passengers on Trein 53s. Special Study Block 54. Namative Description (Be sp 54. Namative Lacoux	0 Video Ta Video Ua iecific, avid	iken? V xed? V	Yes No Yes No separate sheet if nee	cessary)			BY NORTH	BOUND TR	AIN 485637;403	30.19, TRIP 165. At	JE 00'
49. Railroad Employees 52. Passengers on Train 53a. Special Study Block 54. Narrative Description (Be sp INDIVIDEAL RODE BICYCLE AROLIN INDIVIDEAL IS UNKNOWN.	0 Video Ta Video Ua iecific, avid	iken? V xed? V	Yes No Yes No separate sheet if ner s DKVICES INTO THE	cessary) ACTIVE CR	ONSENG AN		BY NORTH	BOUND TR	<i>w</i> .	2019, TRIP 165, AG	æ.of
49. Railroad Employees 52. Passengers on Train 53a. Special Study Block	0 Video Ta Video Ua becific, and becific, an	iken? V sed? V l continue or NG WARNING sed's acciden	Yes No separate sheet if nee a DRVICTS ENTRO THE [56 if report pursuant, to B	cessery) ACTIVE CR 3. Signature he accident	OSSING AN	AD WAS STRUCK	th shall not	'be admitte	57. Date		

Figure D-2. Quebec Street Southbound Frontage Road Crossing (2 of 2)

EDERAL RAILROAD ADMINISTRATION (FRA)	ACC	IDENT/INCI	ENT REPORT	Т		OMB A	oproval No. 2130	0-0500
Name of Reporting Railroad			1a. Alpha	abelic Code	63 U U	1b. Rairo	ad Accident/Incider	it No.
Regional Transit District- Commuter [RTD	1		RTD	C		11249	,	
Name of Other Rairoad or Other Entity Filing for	upment Involved in Train	Appident/Incid	ant 2a Alpha	abetic Code	0	2b. Rairo	ed Accident/Inciden	nt Na.
3. Name of Railroad or Other Entity Responsible for	rack Maintenance (skejkr		3a Aloh	abetic Code		3h Raim	ad Accident/Inciden	at No
Regional Transit District- Commuter [RTD	CONTRACTOR AND ADDRESS OF A DESCRIPTION OF	CARGO	RTD		S.	112499		s rus.
U.S. DOT Grade Crossing ID No.				of Acceleration	Incident		f Accident/Incident	-
	00400		18	ant da	y year	376.298		1233
	80463	5B	0		4 2019	9:43	AM	-
7. Nearest Rairced Station CENTRAL PARK	6 Subdivision	RIDOR LIN	9. Coun	NVER		10. State	obr. CO	Cod
11 City Office a city		ay Name or N						08
DENVER		ay name of N	OUEBEC S		the second s		Public 🖌 Pri	vate
Highway User In 13. Type	HVED	17	Equipment		A Carla) (moving)		Train pulking- RCL	
	r Motor Vehicle	(44.)		pulling	5. Can(s) (stending	<i>i</i>) B	Train pusting-ROL	
	lestrian	Coca		pushingi	6. Light looc(s) (w		Train standing- RCL. EMU Locomotive(s)	
승규는 것 같은 것은 것을 가지 않는 것을 것을 것을 것을 했다. 것 같은 것은 것을 것 같아요.	er (spect(y)	K	3. Train (stan	alingi	7 Light loco(s) (A 8 Other (apecity	Carolanda .	DMU Locomotive(s)	D
	aphical)	the second se	Position of Car U	hit in Tran	a Gree (Apecily		onto cocontrativo,s,	
(est mph of impercit 0 1. North 2. South		1			1			
16. Position 1. Stalled or stuck on crossing 4. Tr	ped on crossing by traffic		Circumstance					Cod
	ked on croasing by gales	Code 1	Rail equipment	struck high	way user 2. Rail e	quipment s	buck by highway us	
3. Moving over prossing		2				menter secolo s		1.1
20a. Was the highway user and/or rail equipment i in the impact transporting hazardous material		Code 20t	. Was there a ha	szarcious me	sterials release by			Cod
1. Highway User 2. Rei: Equipment 3. B		4	1. Highway	User 2.1	Rall Equipment 3	Both 4.	Neither	4
20c. State here the name and quantity of the hazar					1000			
1		×						
21. Temperature 22. Visibility (single	ntry)	Code 23	Weather (sing	to entry)				Cod
(speckly it minus) 71 °F 1. Dawn 2. Day	Dusk 4. Dark	4	1. Clear 2. Clou	idy 3 Rain	4. Fog 5. Sleet	6. Snow		1
2 10 10 10 10 10 10 10 10 10 10 10 10 10	Light loco(s) C. Commi	uter Train-Pust D. Consist Spa	ing D 1.1 id (Recorded sp		d 3. Siding 4. indu rála) Code	31. Time	MAIN TRACE Table Direction	6 1 Coc
Class (1-9,X) Locomotivo 4 Units 0	4	R. Recorded E. Estimator			7 mph R	2.0007	rth 3. East uth 4. West	11
32. Type of	and the second second second		33.	Signaled Ci	ossing Warning		way Conditions	
1. Gates 4. Wig wags Crossing	7. Crossbucks 10. Fla			See reverse	sida be	A, Drv B, Wet		
 Cantilever FLS 6. Hwy. traffic sig Warning 		ter (specify)		tstructions a	and codes)	C.Snow/S	flush	~ ~
3. Standard FLS 6. Audible	9. Watchman 12. No	00			Code	D.ker E. Sand:N	lud.Dirt.Oil.Gravel	Cod
Code(s) 01 03 05	06						Standing, Moving)	A
35. Location of Warning	36. Crossing V		nnected		37. Crossing			
1. Both Sides 2. Side of Vehicle Approach	Code with Highw	ay Signals		Cod	e (*	Special Lig		Cod
3. Opposite Side of Vehicle Approach	1 1. Yes 2			1	13571725	2 No 3.1	18 NICONNI	1
38.Highway 39.Highway User's Gender 40. High			41. Highway I	Liser round the g		er (apecil) it ern andets	y) ru temporary barrici	arla
10 0.0 F	nuck or was Struck by Sec		9 Planne	d and then	proceeded (ify	es, see inst	ructions)	, Cot
	2. No. 3. Unknown	2 Code	3. Did not	stop	7. Wei	nt thru the g	iate	4
42 Driver Passed Standing Co			4. Stopper (primary obstra	d on crossil action	ng a Suk	cide/Attemp	teo suicide	Code
Highway Vehicle		nent Structure	1000-000 (Sec. 1990)	7307S	Vegetation	7. Other	(specify)	000
1 Yes 2 No 3 Unknown	2. Standi		pment 4. Topog	praphy 6	Highway Vehicles	E. Not O	betructed	8
Casualities to Killed Inj	44. Driver was	S	0		5. Was Driver in E 1. Yes 2. No	le Vehicle?	8	Cod
C455U010105 10.	47. Highway Vehicle				8, Total Number o	Vehide O	coupanis	-
46. Highway-Rail Crossing Users	(ast. dollar dome		1000	50	(including driver		0	0
46. Highway-Rail Crossing Users 1 0	the second s	People on Tra		4	1. Is a Rail Equips			Code
46. Highway-Rail Crossing Users 1 0 49. Railroad Employees 0 0	50. Total Number of		auge la	70	Incident Report	deing Filed	62	1
10 Entered Engleway	50. Total Number of 9ms/ude peaking	jera and hain d	1000	. I	1 Yes 2 No			
48. Rairoad Employees 0 0 52. Passengers on Train 0 0 53a. Special Study Block Video Taken?	Sectude peasing	2.000000000	Special Study (12 I.	1 Yes 2 No			
49. Rairoad Employaes 0 0 52. Passangers on Train 0 0 53a. Special Study Block Video Taken Video Used?	Sinclude personny	531	3230	12 I.	1.Yes 2.No			and and
49. Rairoad Employees 9 9 62. Passengers on Train 53. Special Study Block Video Taken' Video Used? 54. Narrative Description (Be specific, and con NOVIDEAL WALKER'S BA KAINST ONE-WAY TRA	Victude pesseng Victude pesseng Victude Pesseng No Victude Pesseng No Victude Pesseng No No Victude Pesseng No No Victude Pesseng No Victude Pesseng Victude Pesseng	53t	Special Study (Block		K J. TRAIN	4046145, 4022/20, TRJ	P 231,
49. Rairoad Employees 0 0 52. Passangers on Train 0 0 0 53a. Special Study Block Video Taken Video Video	forclude pesseng Yes No Yes No	53t	Special Study (Block		K J. TRAIN	2046/45, 4922/31, TR)	P 231.

OMB Approval expires 6/30/2021

Figure D-3. South Santa Fe Drive Crossing (1 of 2)

	ATION (FR)	AU:	ACC	IDENT/	INCIDENT	REPORT		OMB Approval No. 213	0-0500
1.Name of Reporting Railroad		~~	,100	10 LI I I	interio Litti	1a. Aphabetic Co	de	1b. Railroad Accident/Incider	
BNSF Railway Company [BN	SFJ					BNSF		PR1120201	
2 Name of Other Railroad or Other	Entity Filling	; for Equipme	nt Involved in Train	Accident	lincident	2a. Alphabetic Co	de	2b, Railroad Accident/Inciden	nt No.
3. Name of Railmad or Other Entity	Responsib	le for Track M	aintenance (wigh	(889)		Sa. Alphabetic C	ode	3b. Railroad Accident/Inciden	nt No.
BNSF Railway Company [BN	200		Terfe	reas.		BNSF		PR1120201	
4. U.S. DOT Grade Crossing ID No						5 Date of Acoids	anb/incident	6. Time of Accident/Incident	
			24539	20		reade	day 900		-
7. Nearest Railroad Station			8 Subdivision	26	_	I I 0 9. County	3 2020	12:53 AM	
SOUTH DENVER			PIKES PEA	N.		DENVER		Abbr. CO	Coc
11 City Of is a sidul			12. Highw		e or No.			and the second se	
DENVER Hig		er involved			8/	NTA FE AVE	Rail Equipment		tvate
13. Туре					17. Equipr	ment	4. Car(s) /moverg) A, Train pulling- RCL	
C. Truck-Insiler F. Bu	5	J. Other Mole	r Vahidia		1 Tn	1911 - 1917 - 1917 - 1917 - 1 917	 Car(s) (Alumént Light loce(s) (Alumént 		
A Auto D. Pick-up truck G. Sc	hool Bus	K. Pecestrian		Code	2. Tr		7. Light loco(s) (an annual contraction of the second	
B, Truck E Von H. Me	storoycle	M. Other (s	oesi(k)	A	3. Tri	ain (standing)	8. Other (specify		1
		(geographica	5 C C	Code	18. Posto	e of Car Unit in Tri			
		with 3. East		2	19. Circun	10000	7		
 Position 1. Stalled or stuck or 2. Stopped on Cross 			crossing by tranc	Code	10000000		dense meren	and the set of the set of the set of the	Co
3. Moving over cross		a storened of	drawing of Seres	3	1. Male	equipment struck h	grway user 2. Rail	aquipment struck by highway u	ser 2
20a. Was the highway user and/or	reil equipm	ent involved			20b. Was	there a hazerdous	materials release by		Co
in the impact transporting ha				Code	500	1000 1000 1000 1000 1000 1000 1000 100	and the second second	y Branch (116) March (116)	4
1. Highway User 2. Rall E		and the second	a second s	4	1	Highway User	2. Rall Equipment	3. Both 4, Neither	
20c. State here the name and quar	nity of the r	iazardous ma	terial released, if an	W.					
21. Temperature 22.	Visibility (3	ungle entry)		Code	23 Woat	her (single antry)			Co
(specify it minus) 53 °F 1.	Dawn 2.0	ay 3. Dusk	4 Dark	2	1228-99922		ain 4. Fog 5. Sleet	6 Stow	13
(single anby) 3. Commu 4. Work Tr 27. FRA Track 28. Number	ter Train-Pv ain of	B. Light	Switching B. Passion 600(5) C. Comm.	ger Train ater Train). Consis	Pushing Pushing t Speed (Re	Code Equipme	pe Used by Rail ent Involved and 3. Siding 4. Ind altable/ Code	31. Time Table Direction	
Class (1-9,X) Locomol 4 Units	ivo 5		124	R. Rec E. Esti			25 mph E	1. North 3. East 2. South 4. West	3
32. Type of 1. Gates 4	. Wig waga		Crossbucks 10. Fla	count have	-	33. Signaled	Crossing Warning	34. Roadway Conditions A. Dri	- 669
	. will walle			A		(See reve	se side for	B. Wet	
Crossing	binas Ireali	r officies and	service the service	ter Tanta	en97	instruction	is and codes)	C.Snow/Slush	
Crossing 2. Cartilever FLS 5 Warning		og 30000 301	distances and black					D.ice	100
Crossing Warning 2. Caritilever FLS 5 3. Standard FLS 6	Audible	9.	Watchman 12. No				Code	E. Sand,Mud.Dirt,Oll,Gravel	122
Crossing 2 Cartilever FLS 5 3 Standard FLS 6 Code(s) 01 0	Audible	9	17	ne			1	E. Sand,Mud.Dirt,Oll,Gravel F.Water (Standing, Moving)	1.12
Crossing 2 Cantilever FLS 5 Warning 3 Standard FLS 6 Code(s) 01 0 35 Location of Warning	Audible	9, 96 0	17 36. Crossing V	ne Varning Ir			37. Crossin	E. Sand,Mud.Dirt,Oll,Gravel F.Water (Standing, Moving) g Illuminated by Street	A
Crossing Warning 2. Cantilever FLS 5 3. Standard FLS 6 Code(s) 01 0 35. Location of Warning 1. Both Sides 2. Side of Vehi de Aboroach	Audible	9.1 16 0	17 36. Crossing V He with Highs	ne Varning Ir niy Signa	ils		37. Crossin Lights o	II. Sand,Mud.Dirt,Oli,Gravel F.Water (Standing, Moving) g Illumineted by Street r Special Lights	10
Crossing Warning 2. Cantilever FLS 5 3. Standard FLS 6 Codies) 01 0 35. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle App	Audible 3 0	9,1 06 0 Col 3	17 36. Crossing V with Highw 1. Yes 2	ne Varning h ny Signa No 3	ils 8 Unknown		37. Crossin Lights o 1. Yes	II. Sand Mud Dirt, Ol, Gravel F Water (Standing, Moving) g Illumineted by Street r Special Lights 2. No. 3. Unknown	10
Crossing Warning 2. Cantilever FLS 5 3. Standard FLS 6 Codets) 01 0 35. Locaton of Warning 1. Both Sides 2. Side of Vehi de Aboroach	Audible 3 0	B. Col Go Bio Highway Uso	17 36. Crossing V He with Highs	ne Verning Ir ny Signa No 3 Front of	ils <u>Unknown</u> Train 41.		37. Crossin Lights o 1. Yes 3. Oth a gate 8. We	E Sand Muld Dri Ok Gravel F Water (Standing, Moving) g Illuminated by Street r Special Lights 2. No. 3. Unknown er (Specify) nt eround/thru temporary benic	A
Crossing Warning 2. Cantilever FLS 5 3. Standard FLS 6 Codets) 01 0 35. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Ap 30. Highway 39.Highway User's G	Audible 3 0	B. Col Go Bio Highway Uso	17 36. Crossing V with Highw 1. Yos 2 r Went Behind or In	ne Verning Ir ny Signa No 3 Front of	its <u>Unknown</u> Train 41. n	C Highway User 1. Went around the 2. Stopped and the	agate 5 Web 1	E Sand Mult Dri OLGswel F Water (Standing, Moving) g Burniseed by Street r Special Lights 2. No. 3. Unknown er (Specify) nit aroundthru lemporary berrio yes, sie Indructions)	A Co ade
Crossing Warning 2. Cantilever FLS 5 3. Standard FLS 6 Codets) 01 0 35. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Ap 30. Highway 39.Highway User's G	Audible 3 0 prosch ender 40. Code	9 / 16 / 6 3 Hichway Use and Struct o	17 36. Crossing V with Highw 1. Yos 2 r Went Behind or In	ne Verning Ir ny Signa No 3 Front of	its 3 Unknowm Train 41. n Code	Fighway User 1. Went around the	adde 37. Crossin Lights o 1. Yes s gate 8. We in proceeded 11.7 7. We	E Sand Mud Drit OLGravel F Water (Standarg, Moring) g Burmineed by Street (Special Lights 2. No 3. Unknown er (Specify) nt around/thru temporary terricy jes, see instructions) int thru the gets	Co ade
Crossing Warning 2. Cantilever FLS 5 3. Standard FLS 6 Cockets) 01 0 35. Location of Warning 1. Both Sides 2. Side of Vehicle Aportant 3. Opposite Side of Vehicle Ap 30. Highway 33-Highway 33-Highwa	Audible 3 0 prosch ander 40. Code	9.1 16 1 Col 3 Highway Use and Struck o 1. Yes 2. M	17 36. Crossing V with Higha 1. Yes 2 r Went Behind or in r was Shock by Sec	ne Verning In No 3 Front of cond Trian	ats 3. Unknown Train 1. Code 2.	Highway User 1. Went around the 2. Stopped and the 3. Did not stop	adde 37. Crossin Lights o 1. Yes s gate 8. We in proceeded 11.7 7. We	E Sand Mult Dri OLGswel F Water (Standing, Moving) g Burniseed by Street r Special Lights 2. No. 3. Unknown er (Specify) nit aroundthru lemporary berrio yes, sie Indructions)	Co A ade Co Co
Crossing Warning 2. Cantilever FLS 5 3. Stendard FLS 6 Codets) 01 0 35. Location of Warning 1. Both Sides 2. Side of Vehicle Appatent 3. Opposite Side of Vehicle Ap 38. Highway 139Highway User's G User's Age 1. Maile 55 - Femste 42. Driver Passed Standing Highway Vehicle	Audible 3 0 prosch ander 40. Code	0.6 0.1 Col 3 Highway Use and Sinuck o 1. Yes 2. h Code	17 36. Crossing V with Higha 1. Yes 2 r Went Behind or in was Struck by Sec 1. Unknown	Ne Varning In Ny Signa No 3 Front of cond Tran	its <u>s Unknown</u> Train 41. n Code 2 by (orw	Highway User 1. Went around the 2. Stopped and the 3. Did not stop 4. Stopped on creation	37. Crossin Lights o Lights o Lights o 1. Yes a gate 8. We en proceeded (If 1 ising 8. Su 5. Vegetation	E. Sand Mut Dint, OLG stavel F. Water (Starding, Moring) Bumineed by Street Special Uptils 2. No. 3. Unknown er (specify) nt around/thro temporary beinto ps, sise individiance) ent thro the gate kide/Attempted suicide 7. Other (specify)	ade Co
Crossing Warning 2. Cantilever FLS 5 3. Standard FLS 6 Codeca) 01 0 35. Locaton of Warning 1. Both Sides 2. Side of Vehicle Aportania 3. Opposite Side of Vehicle Apo 30. Highway User's G User's Age 1. Male 55 2. Female 42. Driver Passed Standing	Audible 3 0 prosch ander 40. Code		17 36. Crossing V with Highs 1. Yes 2 r Went Behind or in was Struck by Sac a. 3. Unknown 43. View of Track O 1. Permai 2. Standi	No 3 Front of Control Train	its <u>S Unknown</u> Train 41. n Code 2 by (onin cture	Highway User 1. Went around th 2. Stopped and th 3. Did not stop 4. Stopped on one any obstruction)	37. Crossin Lights o Lights o 1. Yes a gale 8. We en proceeded 117. 2. We sing 8. Su 5. Vegatation 6. Highway Vehicle	E. Sand Mult Dirt, OLGsweit F. Water (Standing, Mining) g. Biumneked vy Street r Special Lights 2. No: 3. Unknown er (specify) int around/thru temporary benic yes, sae indiructions) int thru the gate 7. Other (specify) s. Not Obstructed	ade Co Co
Crossing Warning 2. Cantilever FLS 5 3. Stendard FLS 6 Codets) 01 0 35. Location of Warning 1. Both Sides 2. Side of Vehicle Appatent 3. Opposite Side of Vehicle Ap 38. Highway 139Highway User's G User's Age 1. Maile 55 - Femste 42. Driver Passed Standing Highway Vehicle	Audible 3 0 prosch ander 40. Code		17 36. Crossing V with Highs 1. Yes 2 r Went Behind or in was Struck by Sec a. 3. Unknown 43. View of Track O 1. Permai	No 3 Front of cond Train	itis 3. Unknown Train 41. 0 2 by (one cture ad equipment	Highway User 1. Went around th 2. Stopped and th 3. Did not stop 4. Stopped on one any obstruction) 3. Passing Train	37. Crossin Lights o Lights o Lights o 1. Yes a gate 8. We en proceeded (If 1 ising 8. Su 5. Vegetation	E. Sand Mult Dirt, OLGsweit F. Water (Standing, Mining) g. Biumneked vy Street r Special Lights 2. No: 3. Unknown er (specify) int around/thru temporary benic yes, sae indiructions) int thru the gate 7. Other (specify) s. Not Obstructed	ade Co Co Co
Crossing Warning 2. Cantilever FLS 5 3. Standard FLS 6 Codeta) 01 0 35. Location of Warming 1. Both Sides 2. Side of Vehicle App 36. Joposete Side of Vehicle App 36. Joposete Side of Vehicle App 36. Julyaway 133-Highway User's G User's Aga 1. Male 42. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown Casuaties to:	Audible 3 proach ender 40. Code 2 Killed	0.6 0.6 Image: Constraint of the second se	36 Crossing V with Highs 1 Yes 2 ves Struck by Sec was Struck by Sec o 3. Unknown 43. View of Track O 1. Permai 2. Standil d. Delvior was 1. Killed 2. Inju f7. Highway Vubicle	No 2 Front of cond Train bacured nent Stru- ng railroa red 3 U	itis <u>S Unknown</u> Train Code <u>Code</u> <u>Code</u> <u>S</u> wight the second the se	Fighway User 1. Went accurd the 2. Stopped and the 3. Did not stop 4. Stopped on orea may obstruction 3. Pissing Train t 4. Topography 2.	37. Crossin Lights o 1. Yes a gate 8 We en proceeded 117. 7. We sing 8. Su 5. Vegetation 6. Highway Vehicle 45. Was Driver in 1 1. Yos 2. No 48. Total Number o	E. Sand Mult Dirt, OLGsweit F. Water (Stansley, Mexing) g Burnneked vy Street r Special Lights 2. No. 3. Unknown er (specify) in ersound/thru temporary bento- yas, sale indiructions) in thru the geter icide/Attempted suicide 7. Other (specify) 8. Not Obstructed In Vehicker? of Vehicke Occupants	ade Co Co Co
Crossing Warning 2. Cantilever FLS 5 3. Standard FLS 6 Code(s) 1. Both Sides 2. Side of Vehicle Approximation 3. Doposite Side of Vehicle Ap 38. Highway 230-Highway User's G User's Age 1. Male 55 2. Femsio 42. Drive: Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown Casuaties to: 46. Highway-Rail Crossing Users	Audible 3 proach ender 40. Code 2 Killed 0	8 0 16 1 Cord 3 Hichway Use and Sinuck o and Sinuck o 1 Code 2 Injured 1	17 36. Crossing V with Highs 1. Yos 2 r Went Behind or in was Struck by Sac a. 3. Unknown 43. View of Track O 1. Perman 2. Standi 44. Derver was 2. Standi 44. Derver was 1. Killed 2. Inju 17. Killed 2. Inju	Ne Varning In wy Signa No 3 Front of cond Tran Escured nent Stru ng raihoa red 3. U Property go)	its S Unknown Train 41. Code 2 by (onv coure ad equipment Aninjuned y Damage	Highway User 1. Went around the 2. Stopped and the 3. Did not stop 4. Stopped on ones any obstruction) 3. Passing Train t 4. Topography	37. Crossin Lights o Lights o 1. Yes a gate 8. We en proceeded 117. Was been of 100 100 100 100 100 100 100 100 100 100	E. Sand Mult Dirt, OLGsweit F. Water (Standing, Moving) g. Biumineded sy Street r Special Lights 2. No. 3. Unknown er (specify) int exounditrue temporary berrici yes, size instructions) int thru the gate ickel/Attempted suicide 7. Other (specify) s. 8. Not Clostructed the Vehicle Occupants d.	A ade Co Co Co Co
Crossing Warning 2. Cantilever FLS 5 3. Standard FLS 6 Codets) 1. Both Sides 2. Side of Vehicle Appoint 3. Doposite Side of Vehicle Ap 30. Highway 39Highway User's G User's Age 1. Male 55 2. Fernse 42. Driver: Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown Casuaties to: 48. Highemy-Rail Crossing Users 48. Kalkroad Employees	Audible a proach ender 40. Code 2 Killed 0	B 16 16 16 1 0	36 Crossing V with Highs 1 Yes 2 ves Struck by Sec was Struck by Sec o 3. Unknown 43. View of Track O 1. Permai 2. Standil d. Delvior was 1. Killed 2. Inju f7. Highway Vubicle	No 3 Front of her Signe cond Train bacured hent Stru- ng railroa red 3 U Property ge)	Its Unknown Train 41. n Code 2 by (one cture ad equipment Aninjunud y Dismage on Train	Highwany User Highwany User 1. Went accurd th 2. Stopped and the 3. Did not show 4. Stoppad on orce may obstruction) 3. Piessing Train 1. 4. Topography 2 \$2,500 2	37. Crossin Lights o 1. Yes a gate 8 We en proceeded 01. 7. We sing 8. Su 5. Vegetation 6. Highway Vehicle 45. Was Driver in 1. Yos 2. No 48. Total Number o (Including drive 51. Is a Rail Equip Incident Report	E. Sand Mut Din, OLG swall F. Water (Standing, Mexing.) g. Burninead by Street r Special Lights 2. No. 3, Unknown er (specify) nt around thru temporary beinic cis, sisk indiructions) mit thru the gate ciste/Alfempted suicide 7. Other (specify) 8. B. Not Obstructed Ine Vehicle? J' Whicke Occupants d J' Annotation (J	ade Co Co Co Co
Crossing Warning 2. Cantilever FLS 5 3. Standard FLS 6 Codets) 01 0 35. Location of Warning 1. Both Sides 2. Side of Vehi de Aboroach 3. Opposite Side of Vehicle Ap 30. Highway USH'S G Usar's Age 1. Male 55 2. Femste 42. Driver: Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown Casualties to: 48. Highway-Rel Crossing Users 49. Railroad Employees 52. Passengers on Train	Audible a franch praech code 40. Code 2 Killed 0 0 0	8, 16 16 17 16 16 17 16 17 16 17 16 17 17 16 17 17 17 17 17 17 17 17 17 17 17 17 17	Alter Stress and	No 3 Front of her Signe cond Train bacured hent Stru- ng railroa red 3 U Property ge)	Ib) S Unknown Train 41. Code 2 Dy (one clure Id equipmen Ininjunud y Dismage on Train frak cow)	Highwany User Highwany User 1. Went accurd th 2. Stopped and the 3. Did not show 4. Stoppad on orce many obstruction) 3. Pieseng Train 1.4. Topography 2 52,500 2	37. Crossin Lights or 1. Yes 3. Oth a gate 8. We in proceeded (If') 7. We sping 8. Su 5. Vegetation 6. Highway Vehicle 45. Was Driver in 1. Yos 2. No 48. Total Number 5. Is a Rail Equip	E. Sand Mut Din, OLG swall F. Water (Standing, Mexing.) g. Burninead by Street r Special Lights 2. No. 3, Unknown er (specify) nt around thru temporary beinic cis, sisk indiructions) mit thru the gate ciste/Alfempted suicide 7. Other (specify) 8. B. Not Obstructed Ine Vehicle? J' Whicke Occupants d J' Annotation (J	ade Co Co Co
Crossing Warning 2. Cantilever FLS 5 3. Standard FLS 6 Codets) 01 0 35. Location of Warning 1. Both Sides 2. Side of Vehicle Approximation 30. Diposeter Side of Vehicle Ap 30. Highway 39Highway User's G User's Age 1. Male 55 2. Fernste 42. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown Casualties to: 48. Highway-Rel Crossing Users 49. Raitroad Employees 52. Passengers on Train 53a. Special Study Block	Austible Image: 1 3 1 proach ender 40. 40. Code 2 Killed 0 0 0 Video Ut Video Ut	B B 16 10 2 B Injured 1 1 2 Injured 1 0 B 0 1 0 1	Alter Stressen (Constant) See Crossen (No 3 Pront of cond Train Escured nent Stru- ng rainca red 3 U Property got Property got and	IB) S Unknown Trein 41. Code 2 Dy (own clure Ind equipment Aninjunud y Damage on Train frake crew) 53b Spec	Highwany User Highwany User 1. Went accurd th 2. Stopped and the 3. Did not show 4. Stoppad on orce may obstruction) 3. Piessing Train 1. 4. Topography 2 \$2,500 2	37. Crossin Lights o 1. Yes a gate 8 We en proceeded 01. 7. We sing 8. Su 5. Vegetation 6. Highway Vehicle 45. Was Driver in 1. Yos 2. No 48. Total Number o (Including drive 51. Is a Rail Equip Incident Report	E. Sand Mut Din, OLG swall F. Water (Standing, Mexing.) g. Burninead by Street r Special Lights 2. No. 3, Unknown er (specify) nt around thru temporary beinic cis, sisk indiructions) mit thru the gate ciste/Alfempted suicide 7. Other (specify) 8. B. Not Obstructed Ine Vehicle? J' Whicke Occupants d J' Annotation (J	ade Co Co Co Co
Crossing Warning 2. Cantilever FLS 5 3. Standard FLS 6 Codets) 01 0 35. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 30. Diposete Side of Vehicle App 30. Highway User's G User's Age 1. Male 55 2. Femsion 42. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown Casualties to: 46. Highway-Rail Crossing Users 48. Railmood Employees 52. Passengers on Train 53a. Special Study Block 54. Narrative Description (Be s	Audible 3 1 proach ender 40. Code 2 Killed 0 0 Video 12 V	B, 106 Color Color	36. Crossing V with Highs 4. Yas 2 r Wert Behind or in was Struck by Sac 3. Unknown 43. View of Track O 1. Permai 2. Standi 41. Derivar was 1. Killed 2. Inju 7. Hightway Vehicle (est. doffar dama 50. Tratial Number of (include passeng fas No researche sched 1 / ore	Ne Varning In Ny Signa No 3 Front of cond Train Escured nent Stru- ng railroa red 3 U Property go) Property go) Costary	It is a second s	In Went around the Scoped and the Scop	37. Crossin Lights or 1. Yes 3. Oth a gate 8. We fin socceded III 7. We sing 8. Su 5. Vegetation 6. Highway Vehicle 46. Was Driver in 1 1. Yos 2. No 48. Total Numbero (Including drive 51. Is a Rail Equip Incident Repor 1. Yes 2. No	E. Sand Mult Dirt, OLGsweit F. Water (Standing, Moving) F. Water (Standing, Moving) r Special Lights 2. No. 3. Unknown er (specify) int exound thrus (emporary teenic yes, see instructions) nit thru thrus geter ickiel/Attempted suicide 7. Other (specify) 8. Not Obstructed her Valicia? of Valiside Occupants d ment Accident J Being Filed	Cov Cov Cov Cov Cov Cov Cov Cov Cov Cov
Crossing Warning 2. Cantilever FLS 5 3. Standard FLS 6 Code(s) 01 0 35. Location of Warning 1. Both Sides 2. Side of Veri de Aboroach 3. Diposete Side of Veri de Aboroach 42. Driver Passed Standing Highway Verificle 1. Yes 2. No 3. Unknown Casualties to: 48. Highway-Rei Crossing Users 49. Raitmad Employees 52. Passengers on Train 53a. Special Study Block	Audible 3 1 proach ender 40. Code 2 Killed 0 0 Video 12 V	B, 106 Color Color	36 Crossing V with Highs 1 Yas 2 with Highs 1 Yas 2 r Went Behind or in was Struck by Sec s. 3. Unknown 43. View of Track O 1. Kiled 2. Stands 43. View of Track O 1. Kiled 2. Stands 44. Delvar was 1. Kiled 2. Inju 7. Highway Vehicle (est. delfar dama 50. Total Number of (include passeng (see No	Ne Varning In Ny Signa No 3 Front of cond Train Escured nent Stru- ng railroa red 3 U Property go) Property go) Costary	Ib) 3. Unknown Train 1. Code 2. by (own chure the equipment heighned y Demege on Train prain crew) 53b. Spec mat sabe or mat sabe or	In Went around the Scoped and the Scop	37. Crossin Lights or 1. Yes 3. Oth a gate 8. We fin socceded III 7. We sing 8. Su 5. Vegetation 6. Highway Vehicle 46. Was Driver in 1 1. Yos 2. No 48. Total Numbero (Including drive 51. Is a Rail Equip Incident Repor 1. Yes 2. No	E. Sand Mult Dirt, OLGsweit F. Water (Standing, Moving) F. Water (Standing, Moving) r Special Lights 2. No. 3. Unknown er (specify) int exound thrus (emporary teenic yes, see instructions) nit thru thrus geter ickiel/Attempted suicide 7. Other (specify) 8. Not Obstructed her Valicia? of Valiside Occupants d ment Accident J Being Filed	Cov Cov Cov Cov Cov Cov Cov Cov Cov Cov

Figure D-3. South Santa Fe Drive Crossing (2 of 2)

Contraction of the second s	TION (FR	A)	ACC	CIDENT/	INCIDENT	T REPORT		OMB Approval No. 213	0-0500
Name of Reporting Railroad	105201					1a. Alphabetic Co	de	1b. Railroad Accident/Incide	nt No.
BNSF Railway Company [BN					-	BNSF	2000 - Contra Co	PR1018202	270-52
2 Name of Other Railroad or Other E	Entity Fillin	g for Equipme	ant Involved in Train	Accident	Incident	2a. Alphabetic C	ode	2b. Railroad Accident/Incide	nt No.
3. Name of Railroad or Other Entity	Responsit	tie for Track &	daintenanne	12225-1		3a. Alphabetic C	ode	3b. Rairoad Accidentincide	of No.
BNSF Railway Company [BNS		as de Conse o	Charles of the Charles	P CRAYS-		BNSF		PR1018202	
4. U.S. DOT Grade Drossing ID No.						5. Date of Accid	mincident	6. Time of Accident/Incident	-
			24539	20		rest j	day year	100000000000000000000000000000000000000	PM
7. Neurest Railroad Station			8. Subdivision	20	_	1 0 2 9 County	5 2018	SU30 AM	Cod
SOUTH DENVER			PIKES PE.	AK		DENVER		Abbr. CO	05
11. City (f in a city) DENVER				way Name	or No.	Concert Starting		Public P	
	haven the	er involved				ANTA FE AVE	Rail Equipmen	and the second se	wate
13. Type		er strattes			17. Equip	amont	4. Carla) (ttown	AND DELTROPPED	
C. Truck-trader F. But		J. Other Mole	or Wehide			(pollarq check) mer	5. Car(s) (shard		
A Auto D. Pick-up truck G. Sch	Not Bus	K. Pecestra	n	Code	2.7	and deconstruction a		in the second seco	
B Truck E. Van H Me	tarayale	M. Other (a	pecify)	A	3.7	roin (standing)	7. Light lood(s) 8. Other (aped	Development	1.1.2.2
	inction	Seconsplace	đ	Code	18. Positi	on of Car Unit in Tr		8	-
the second s		outh 3. East		4			50		
16. Position 1. Stalled or stuck on 2. Stopped on Cross	10.0			Code	19. Circu				Cod
 Stopped or crossi Moving over crossi 	10	 Blocked or 	t crossing by gates	3	1. Rall	equipment struck h	ighway user 2. Rai	I equipment struck by highway u	ser 2
20a. Was the highway user and/or		nent involved	5	1	20b. Was	s there a hazardous	materials release b	NY S	Cod
in the impact transporting haz	ardous ma	vteriais?		Gode					4
1. Highway User 2. Rail Ec	and the second se	Construction of the American Street Street Street	and the second se	2	1	I. Highway User	2. Rail Equipment	3. Both 4. Neither	
20c State here the name and quan	tty of the t	nezardous me	itenal released, if ar	ny.					
21 Temperature 22 V	Asibility 6	single entry)		Code	23 Wee	ather (single entry)			Cod
The second se	1.	Dey 3 Dusk	4 Dock	3	10000		ain 4 Fog 5 Sleet	6 9000	1 2
24. Type of Equipment 1. Freight T		5. Singl		inspect. o			and without a contract		1
4. Work Tra			Switching B. Passear loco(s) C. Comm			Code	ent Involved (and 3. Siding 4. In	dasiry I MAIN I TRA	ск
27. FRA Track 28. Number of Class (1-9.X) Locomoti	ir if Ne	8. Light 29. Numb	loco(s) C. Comm wer of Cars 3	uter Train 10. Consis R. Rec	Pushing I Spood (R contect	Code	(and 3. Siding 4. In aelable) Code	31. Time Table Direction 1 North 3 East	Const Cl
27. FRA Track 28. Number of Class (1-9,X) Locomoti 4 Units	ir if Ne	8. Light	loco(s) C. Comm	uter Train 10. Consis	Pushing I Spood (R contect	Code Equipm 1 1. Main 2. 1 excined speed if as	fant 3. Siding 4 in aelable) Code 24 mph R	31. Time Table Direction 1. North 3 East 2. South 4. West	Cot
27. FRA Track 28. Number of Class (1-9,X) 4 Locomoti 32. Type of 1. Galass 4.	ir if Ne	8. Light 29. Numb 2	loco(s) C. Comm wer of Cars 3	uter Train 10. Consis R. Ris E. Esti	Pushing I Spood (R coded mated	Code I 1. Main 2.1 excided speed if av 33. Signalse	Vand 3. Siding 4. In asiable) Code 24 mph R I Crossing Werning	31. Time Table Direction 1 North: 3 East 2. South: 4. West 34. Roadway Conditions A. Div	Cot
27. FRA Track 28. Number of Crass (1.9.X) 4 Locantol 28. Typer of Crossing 2. Cantilever FLS 5.	ir V Wg waga	8. Light 29. Norm 2	loco(s) C. Comm we of Cars 3 84 Crossibucitis 10: Fi	euber Train 10. Consis R. Rec E. Estin agged by	Pushing t Spood (R corded mated crew	Code I 1. Main 2.1 excided speed if av 33. Sigmilia (See mve	(and 3. Siding 4. in aviable) Code 24 mph R I Crossing Werning rese side for	31. Time Table Direction 1 North 3 East 2. South 4. West 34. Readway Conditions	Cot
27. FRA Track Cass (1-9.X) 4 Locomoti Units 32. Type of 1. Galas 4.	ir Me Wig waga Hwy. traff	8. Light 29. Norrd 2 1 7. 1c signals 8.	loco(s) C. Comm we of Cars 3 84 Crossibucitis 10: Fi	uber Train 80. Donsis R. Rix E. Esti aggied by ther (spec	Pushing t Spood (R corded mated crew	Code I 1. Main 2.1 excided speed if av 33. Sigmilia (See mve	Vand 3. Siding 4. In asiable) Code 24 mph R I Crossing Werning	 31. Time Table Direction 1. North: 3 East 2. South: 4. West 34. Roadway Conditions A. Div B. Wet C. SnowStuth D.los 	Cod
27. FRA Track 28. Number of Class (19.X) 4 Locottoli 32. Type of Crossing 2. Cantilever FLS 5. Warming 4.	ir Ne Wig wags Hwy. traff Audible	8. Light 29. Norrd 2 1 7. 1c signals 8.	loco(s) C. Comm wer of Cans 3 84 Crossibucies 10: FL Stop signs 11: Of	uber Train 80. Donsis R. Rix E. Esti aggied by ther (spec	Pushing t Spood (R corded mated crew	Code I 1. Main 2.1 excided speed if av 33. Sigmilia (See mve	(and 3. Siding 4. In asiable) Code 24 mph R (Crossing Wisming messate for rs and codes)	31. Time Table Direction 1. North: 3 East 2. South: 4. West 34. Roadway Dondhiona A. Dir B. Wet C. SnowStaah D.loe E. Sane Mus(Dirt,Cl.Orave1)	Cod 1 Cod
27. FRA Track 28. Number of Locotroll Class (1.9.X) 4 32. Type of Crossing 1. Galkes 4. Warning 2. Cant lever FLS 5. Warning 3. Standard FLS 6. Code(s) 01 02 35. Location of Warning 02	ir Ne Wig wags Hwy. traff Audible	8. Light 29. Numb 2 1 7. 1c signals 8. 9.	loco(k) C. Comm er of Care 3 84 Crossbucks 10: Fb Stop signs 11: Of Watchman 12: No 35: Crossing 1	uber Train R. Roc E. Esti aggiet by ther (spec ona Warning In	Pashing I Speed (R sorded mated onew et/))	Code 1 1. Main 2. 1 eccreded speed if av 33. Signifier (See reve instructio	(and 3. Siding 4. in avaale) Code 24 mph R (Crossing Wieming me side for is and codes) Cod 37. Crossi	31. Time Table Direction 1. North 3 Evel 2. South 4 West 3. South 4 West 3. South 4 West 4. South 4 W	Cod 1 Cod
27. FRA Track 28. Number of Class (1.9.X) 4 27. Type of 1. Galae Crossing 2. Cantilever FLS 5. Warning 3. Standard FLS 6. Code(s) 01	ir Ne Wig wags Hwy. traff Audible	8. Light 29. Nami 2 7. In 5. In 5. In 5. In 5. In 6. In 7. In 7. I	loco(k) C, Comminer of Cars 3 84 Crossbucks: 10. Fb Stop signs 11. Ot Watchman 12. No 35. Crossing 1 with Hight	suber Train R. Consis: R. Rec. E. Esth agged by ther (spec- ona Warning In way Signa	Pushing I Spood (K zorded mated onew eW)1 intersonneol its	Code Equipm 1 1. Main 2. 1 excerded speed 4 av 33. Signific (See reve instruction ted 1 1	fand 3, Siding 4 in asiable) Code 24 mph R (Crossing Werning me side for rs and codes) Case 37, Drossi Lights	31. Time Table Direction 1. North 3 Evel 2. South 4. West 2. South 4. West 3. Foodbacky Dondlikore 4. Poodbacky Dondlikore 5. Yes 5. Yes E. Sanc Must, Dirt, 0. Onevel E. Water (Banding, Moving) Filtum nated by Street or Special Lights	Cod 1 Cod A Do
27. FRA Track 28. Number of Class (19.X) 4 32. Type of 1. Galas Crossing 2. Cantilever FLS 5. Warning 3. Standard FLS 6. Code(s) 01 035. Location of Warning 0.3 2. Size of Vehicle Aconsech 3. Opposite Side of Vehicle Aconsech	in if Wig wegs Hwy traff Audible I	8. Light 29. Nami 2 29. Nami 2 7. 1c signals 8. 9. 07 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Ibec(k) C. Commer of Cars 3 84 Crineabucks 10: FL Stop signa 11: Of Watchman 12: No 35: Crossing 1 36: Crossing 1 48 1. Yes 2	suber Train 80 Consis 8, Rec E. Esti aggint by ther (spec- ona Warning Ir way Signa 2, No 3	Pushing 1 1 Spaced (Fi context entry eff()) Interconnect Its 1. Unknown	Code Equipm 1 1. Main 2. 1 excided speed 4 av 33. Signific (See met instruction led	And 3. Saling 4 in aseable) Code 24 mph R I Crossing Whening me sale for s and obles) Cast 47. Dross 2 1. Yes 2 1. Yes	31. Time Table Direction 1. North: 3 Erect 2. South: 4 West 2. South: 4 West 2. South: 4 West 3. Rootenews Donatilions 4. Dry 8. West C Shows Shash E. See: Away, Ont O'L One-of F. Woor (Banding, Moving) rg Ifturn nated by Street or Saedal Lights 1. 2. No. 3. Unknoen	Cor 1 Cor 3 Cor 3
27. FRA Track 28. Number of Class (19.X) 4 Locomoti 32. Type of 1. Galws 4. Crossing 2. Cantilever FLS 5. 3. Standard FLS 6. Code(s) 01 03 35. Location of Warning 1. Both Sides 2. Standard FLS 6. 35. Location of Warning 1. Both Sides 3. Standard FLS 4. 36. Highway (30. Highway Usar's Gallow (30. Highway Usa	in if Wig wegs Hwy traff Audible I	8. Light 29. Norm 2 29. Norm 30. Co 30. Co 2 2 Highway Usa	Ibec(8) C, Commer of Cares 3 84 Crimeabuckis 10: FL Stop signs 11: Cf Watchman 12: No 95: Crossing 1 96: Crossing 1 96: Crossing 1 1. Yes 2 pr Went Bekind or in	suber Train 80 Consis 8, Risc E. Esti aggint by ther (spec- ona Warning In way Signa 2, No 3 1 Front of	Pashing I Spaad (K socked mated crew city) nterconneol is I Unknown Train 41	Code Equipm 1 1. Main 2. 1 Percented speed 4 av ISee meter Instruction Ind Ind Interpretations Interpretation Interpr	And 3. Saling 4 in aseable/ Code 24 mph R ICrossing Warning ms said obtes/ Code 37. Drossi Lights 2 1. Yes 5. Ot	31. Time Table Direction 1. North 3 Evel 2. South 4. West 2. South 4. West 3. Foodbacky Dondlikore 4. Poodbacky Dondlikore 5. Yes 5. Yes E. Sanc Must, Dirt, 0. Onevel E. Water (Banding, Moving) Filtum nated by Street or Special Lights	Cos 1 Cos A Do 1
27. FRA Track 28. Number of Class (19.X) 4 Locomoti 32. Type of 1. Gales 4. Crossing 2. Cantilever FLS 5. 9. Warning 3. Standard FLS 6. 0.0 Code(s) 0.1 0.3 35. Location of Warning 1. Both Sides 2. She of Vehicle Accroach 36. She of Vehicle Accroach 30. Highway 30. Highway 38. Highway 30. Highway 30. Highway	in Vig wege Wig wege Hwy traff Audible I stoach Inder 40	8. Light 29. Norm 2 29. Norm 30. Co 30. Co 2 2 Highway Usa	Ibec(k) C. Commer of Cars 3 84 Crineabucks 10: FL Stop signa 11: Of Watchman 12: No 35: Crossing 1 36: Crossing 1 48 1. Yes 2	suber Train 80 Consis 8, Risc E. Esti aggint by ther (spec- ona Warning In way Signa 2, No 3 1 Front of	Pushing I Spaad (K socked mated crew city) nterconnect its I Unknown Train 41 n	Code Equipm 1 1. Main 2. 1 23. Signific ISee met instruction Ind - Highway User 1. Van acoud hi - Highway User 1. 2. Stopped and hi	And 3. Saling 4 in aseable) Code 24 mph R I Crossing Warning ms sate for rss and outles) Code 2 1. Yes b gate 6. Yes 6 gate 6. Yes	31. Time Table Direction 1. North: 3 East 2. South: 4. West 2. South: 4. West 34. Rownessy Dorothions 4. Div 8. Wet C. SnowtStash E. See, Must, Dirt, O'L, Oneset F. Web: (Blancking, Moving) rg Ifum nated by Street or Staedal Lights 12. No. 3. Unknown ther (specify) ent anound/thruitemporary barrie fyres, see mithanators)	Cos 1 Cos A Do 1 ade
27. FRA Track 28. Number of Closes (1.9,X) 4 32. Type of 1. Galos Crossing 2. Cantilever FLS Warning 3. Standard FLS Code(s) 01 0.5. Location of Warning 1. Both Sides 2. Size of Vehicle Accorach 3. Opposite Side of Vehicle Accorach 3. Opposite Side of Vehicle Accorach 30. Highway User's Gr User's 1. Male	in if We : Wig wags Hwy traff Audible I	8. Light 29. Nami 29. Nami 29. Nami 20.	Ibec(8) C, Commer of Cares 3 84 Crimeabuckis 10: FL Stop signs 11: Cf Watchman 12: No 95: Crossing 1 96: Crossing 1 96: Crossing 1 1. Yes 2 pr Went Bekind or in	suber Train 80 Consis 8, Risc E. Esti aggint by ther (spec- ona Warning In way Signa 2, No 3 1 Front of	Pashing I Spaad (K socked mated crew city) nterconneol is I Unknown Train 41	Code Equipm 1 1. Main 2. 1 encircled speed 4 av 133. Sigmatec 156e mere Instruction Instru	And 3. Siding 4 in aeaaled Code 24 mph R ICrossing Warning ms sale for rss and oades) Code 37. Drossi Lights 2 5. Or e gate 8. W en proceeded (1) 7. W	31. Time Table Direction 1. North 3 Evel 2. South 4 West 2. South 4 West 3.4 Rootekey Donatilians A. Div B. Vest C. Snow-Stute Dioe E. Sence Musil, Dirit, O Lönevel F. Water (Standing, Moving.) rig Illum nated by Street or Saedal Lights is 2, No. 3 Unknown her (specify) ent anound/thru temporary barrier /yres, see instructions) Avent thru the gale	Cos 1 Cos A Do 1 Do 1 ade
27. FRA Track 28. Number of Closes (1.9,X) 4 32. Type of 1. Galos Crossing 2. Cantilever FLS Warning 3. Standard FLS Code(s) 01 0.5. Location of Warning 1. Both Sides 2. Size of Vehicle Accorach 3. Opposite Side of Vehicle Accorach 3. Opposite Side of Vehicle Accorach 30. Highway User's Gr User's 1. Male	in Vig wage Hwy traff Audible I stoach Inder 40. Code	8. Light 20. Norm 2 1 7. 1c signals 8. 9. 07 2 Highway Usi and Struck c	Ibec(k) C. Commer of Cars 3 84 Crineabucks 10: FL Stop signs 11: Of Watchman 12: No 35: Crossing 1 with High 1: Yes 3 or Want Behind or in r was Struck by Se	suber Train ID Consis R. Rec E. Esti agged by ther (spee- ona Warning Ir way Signa 2. No 3 h Front of Front Train	Pashing I Spood (R xorded mated Crew cY) J Interconnect Its I Unknown Train Code 2	Code Equipm 1 1. Main 2. 1 23. Signific ISee met instruction Ind - Highway User 1. Van acoud hi - Highway User 1. 2. Stopped and hi	And 3. Siding 4 in aeaaled Code 24 mph R ICrossing Warning ms sale for rss and oades) Code 37. Drossi Lights 2 5. Or e gate 8. W en proceeded (1) 7. W	31. Time Table Direction 1. North: 3 East 2. South: 4. West 2. South: 4. West 34. Rownessy Dorothions 4. Div 8. Wet C. SnowtStash E. See, Must, Dirt, O'L, Oneset F. Web: (Blancking, Moving) rg Ifum nated by Street or Staedal Lights 12. No. 3. Unknown ther (specify) ent anound/thruitemporary barrie fyres, see mithanators)	Coo 1 Coo A Coo A Coo 1 Coo Coo
27. FRA Track 28. Number of Locomotil Class (1.9.X) 4 32. Type of Crossing 1. Gales 34. Crossing 2. Cantilever FLS 6. Warning 3. Standard FLS 6. Code(s) 61 35. Location of Warning 1. Both Sides 2. Side of Vehicle Aconsach 3. Opposite Side of Vehicle Aconsach 36. Highway 32. Fiernale 42. Driver Passed Standing Highway Vehicle	in Vig wage Hwy traff Audible I stoach Inder 40. Code	8. Light 29. Numl 2 1 7. In signals 8. 9. 07 2 Highway Using 3 and Struck of 1. Yes 2. H	Ibec(8) C, Commer of Cares 3 84 Crossabucks 10: FL Stop signs 11: Cl Watchman 12: No Watchman 12: No Watchman 12: No Stop signs 11: Cl Watchman 12: No Stop signs 11: Cl Watchman 12: No Watchman 12: No Watch	suber Train ID Consis R. Rec E. Esti agged by ther (spee- ona Warning Ir way Signa 2. No 3 h Front of Front Train	Paching I Spood (R contect mated Crew cY) I Interconnect Its I Unknown Train Code 2 Upy (pre-	Code Equipm 1 1. Main 2. 1 acceled speed 4 av Isee met instruction Isee met instruction Isee met instruction Isee met instruction Isee met instruction Isee met instruction Isee met instruction Isee met instruction Isee met instruction Isee met Isee met	And 3. Saling 4 in aseable) Code 24 mph R Crossing Warning ms said optics) Code 2 . Code 2 . Cross Lights 2 . Cross 2 . Cross Lights 2 . Cross 2 . Cross S. Cross 5 . Vegetation	31. Time Table Direction 1. North 3 Evel 2. South 4. West 2. South 4. West 34. Roadway Dondhione A. Div 8. Wet C. SnowStash E. See Mus(Dirt/CLOnevel F.Water (Standing, Moving) rg Itum nated by Street or Staed al Lights 4. 2. No. 3. Unknown her (specify) ent anundifinu temporary barrier (rgs. see misturctorie) Annu the gate uic devictempted suicide 7. Other (specify)	Cod 1 0 1 1 1 1 1 1 1 1 1 1
27. FRA Track 28. Number of Class (19,X) 4 Locomoti 32. Type of 1. Galos 4 Crossing 2. Cantilever FLS 5. 3. Standard FLS 6. Code(s) 01 03 35. Location of Warning 1. Both Sides 2. Scientific Aconsech 3. Opposite Side of Vehicle Aconsech 3. Standard FLS 6. 3. Standard FLS 6. 2. Scient of Vehicle Aconsech 3. Opposite Side of Vehicle Aconsech 3. Opposite Side of Vehicle Aconsech 3. Opposite Side of Vehicle Aconsech 3. Standard FLS 6. 3. Opposite Side of Vehicle Aconsech 3. Opposite Side of Vehicle Aconsech 3. Opposite Side of Vehicle Aconsech 3. Opposite Side of Tvehicle Aconsech 3. Standard FLS 6. User's 1. Male 3. Standard FLS 6. 3. Opposite Side of Tvehicle Aconsech 3. Opposite Side of Tvehicle Aconsech 3. Opposite Side of Tvehicle Aconsech 3. Opposite Side of Tvehicle Aconsech 3. Opposite Side of Tvehicle Aconsech 3. Opposite Side of Tvehicle Aconsech 3. Opposite Side of Tvehicle Aconsech 3. Opposite Side of Tvehicle Aconsech 3. Opposite Side of Tvehicle Aconsech 3. Opposite Side of Tvehicle Aconsech 3. Opposite Side of Tvehicle Aconsech 3. Opposite Side of Tvehicle Aconsech	in Vig wage Hwy traff Audible I stoach Inder 40. Code	B. Light B. Light 20. Norm 20. Norm 20. Norm 7. to signals 8. 9. 07 Co 2 Highway Uss and Struck to 1. Yes 2.9 Code 2	Ibec(k) C. Commer of Cars 3 84 Crineabucks 10: FL Stop signs 11: Of Watchman 12: No 35: Crossing 1 with High 1: Yes 3 or Went Behind or in r wins Struck by Se Vent Behind or in r wins Struck by Se 3. Unknown 43: View of Track C 1: Perma 2: Struck	Autor Train 80 Consis R. Rec E. Esth aggint By ther (apex one Warning In way Signer 2 No 3 h Front of cond Train Obscured anent Sizu	Pashing 1 Spood (R sorded mated cnew eff)1 nterconnect its 1 Unknown Train 1 Code 2 2 by (privide charter 2	Code Equipm 1 1. Main 2. 1 accorded speed 4 av 33. Signific ISee met instruction Ied 4 . Highway User 1. Vien accord 4 . Stopped and 1 3. Signific accord 4 . Highway User 1. Vien accord 10 . Stopped and 10 . Stopped and second 10 . Stopped and 10	And 3. Saling 4 in aseable) Code 24 mph R Crossing Warning ms said optics) Code 2 . Code 2 . Cross Lights 2 . Cross 2 . Cross Lights 2 . Cross 2 . Cross S. Cross 5 . Vegetation	31. Time Table Direction 1. North 3 Evel 2. South 4. West 2. South 4. West 34. Roadway Dondhione A. Div 8. Wet C. SnowStash E. See Mus(Dirt/CLOnevel F.Water (Standing, Moving) rg Itum nated by Street or Staed al Lights 4. 2. No. 3. Unknown her (specify) ent anundifinu temporary barrier (rgs. see misturctorie) Annu the gate uic devictempted suicide 7. Other (specify)	Coc 1 Coc A Coc 1 ade Coc Coc 1 S Coc 1 S Coc A Coc S Coc A Coc S Coc Coc S Coc S Coc Coc S Coc Coc S Coc Coc Coc Coc Coc Coc Coc Coc
27. FRA Track 28. Number of Locomotil Class (1.9.X) 4 32. Type of Crossing 1. Gales 3. Crossing 2. Cantilever FLS 6. Code(s) 61 0.3. Standard FLS 0.1 3.5. Location of Warning 1. Both Sides 2. Standard Vehicle Aconsach 3. Opposite Side of Vehicle Aconsach 3.6. Highway 32. Fighway User's: Ce User's 2. Femsle 42. Driver Fassed Standing Highway Vehicle	in Vig wage Hwy traff Audible I stoach Inder 40. Code	B. Light B. Light 20. Norm 20. Norm 20. Norm 7. to signals 8. 9. 07 Co 2 Highway Uss and Struck to 1. Yes 2.9 Code 2	Ibec(k) C, Commer of Cares 3 84 Crossabucks 10: FL Stop signs 11: Of Watchman 12: N/ 35: Crossing 1 36: Crossing 1 36: Crossing 1 43: Crossing 1 44: Crossing 1 45: Crossin	Autor Train 80 Donsis R. Rec E. East aggind By ther (spec- ona Warning Ir way Signal 2. No 3 1. Fion 3 1. Fion of cond Train Discured anent Situ ling railina	Pashing 1 Spood (R sorted mated crew city) nterconnect is 1. Unknown Train 1 5. Unknown Train 1 6. Code 2 by (pre- clure kd equipment	Code Equipm 1 1. Main 2. 1 accided speed 4 av Issee met instruction Issee met instruction Ind - Highway User 1. Vient account (1) 2. Stopped and fin 3. Did not size - Highway oberouthor) 3. Paseing Train 14. Stopped and so	And 3. Saling 4 in aseable) Code 24 mph R Crossing Warning ms said optics) Code 2 . Code 2 . Cross Lights 2 . Cross 2 . Cross Lights 2 . Cross 2 . Cross S. Cross 5 . Vegetation	31. Time Table Direction 1. North: 3 East 2. South: 4. West 2. South: 4. West 2. South: 4. West 2. South: 4. West 34. Roundburg Dorothions 4. Div 8. Wet C. Show Shash E. Sene, Must, Dirt, O'L, Onwell F. Water (Blanching, Moving) rg Iffurn natio by Street or Stackal Lights 1. 2. No. 3. Unkingen ther (specify) tent around thru temporary barrie fyres, see mitimations) Aver. Street ide Alternities duicide 7. Other (specify) tes: 8. Not Obstructed The Variate	
27. FRA Track Cross (1.9.X) 4 Cross (1.9.X) 4 Crossing Crossing Crossing Crossing Code(s) 01 02 Crossing Code(s) 01 02 Size added FLS Code(s) 02 Code(s) Code(s Code(s) Code(s Code(s) Code(s) Code(s) Code(s) Code(s) Code(s) Code(s) Code(s) Code(s Code(s Code(s) Code(s	in d Wig wags Hwy, tail Audible t stoach nider 40. Code Killed	B. Light B. Light 20. Name 2 20. Name 2 7. 1c signals 8. 9. 07 2 10 Code 2 10 10 10	Ibec(k) C, Commer of Cares 3 84 Crimeabucks 10: FL Stap signs 11: Cf Watchman 12: N/ 35: Crossing 1 49 49 49 57: Crossing 1 49 49 40: Hight nd or in 43: View of Track 0 1, Person 43: View of Track 0 1, Person 2, Stand 44. Direct/was	subor Train 80. Consist R. Rise E. Estit agged by their (spee- ona Wanning Ir way Signal 2. No 3 1. Front of cond Train Checkand Train Checkand Stru- ing railroa	Pasting 1 Spead (R sorted mated crew cY)1 merconnect is 1. Unknown Train Code 2 by (pre- chree d equipment in nuned	Code Equipm 1 1. Main 2. 1 accided speed 4 av 33. Signific Isee met instruction Ind 4 - Highway User 1. View account in 3. Signific and 4. Stopped and the 3. Dispensed and the 3. Passeng Train 14. Topography 2	And 3. Saling 4 in aseable) Code 24 mph R I Crossing Warning ms sale for rss and ootdes) Code 2 1. Yes 2 1. Yes 3 Cross 4 Cros	31. Time Table Direction 1. North: 3 East 2. South: 4. West 2. South: 4. West 2. South: 4. West 2. South: 4. West 34. Roundburg Dorothions 4. Div 8. Wet C. Show Shash E. Sene, Must, Dirt, O'L, Onwell F. Water (Blanching, Moving) rg Iffurn natio by Street or Stackal Lights 1. 2. No. 3. Unkingen ther (specify) tent around thru temporary barrie fyres, see mitimations) Aver. Street ide Alternities duicide 7. Other (specify) tes: 8. Not Obstructed The Variate	Cod 1 Coc A Coc 1 Coc 1 0 0 0 0 0 0 0 0 0 0 0 0 0
27. FRA Track Closes (1.9.X) Closes (1	er 2 Wig wege Hwy traff Audible stoach inder 40. Code 1	8. Light 29. Nami 22. Nami 23. Nami 23. Nami 23. Nami 23. Nami 20.	Ibec(k) C, Commer of Cares 3 84 Crosobucks 10: FL Stop signa 11: Of Watchman 12: Ni Watchman 12: Ni Ni Watchman 12: Ni Ni Watchman 12: Ni Ni Ni Ni Ni Ni Ni Ni Ni Ni Ni Ni Ni N	subor Train 80 Consist 8, Rev. E. Eeth agged by ther (aper one Warning Ir way Signa 2, No. 3 h Front of cond Train Obscured anent Stu- ling railroa ured 3, Li e Property appi	Pasting Ispacial (Resolution astrong to the second (Resolution mated astrong to the second (Resolution astrong to the sec	Code Equipm 1 1. Main 2. 1 accided speed 4 av Issee met instruction Issee met instruction Ind - Highway User 1. Vient account (1) 2. Stopped and fin 3. Did not size - Highway oberouthor) 3. Paseing Train 14. Stopped and so	And 3. Saling 4 in aseable) Code 24 mph R I Crossing Whening reseate for s and codes) Code 37. Drossi 37. Dros	31. Time Table Direction 1. North: 3 Erect 2. South: 4 West 3. South: 4 West	Cod 1 Cod A Do 1 Do 1 Do 1 Cod 8 Cod 1 L
27. FRA Track Closes (1.9.X) Closes (1	in diama di anti anti anti anti anti anti anti ant	8. Light 29. Nami 22. Nami 23. Nami 23. Nami 23. Nami 23. Nami 20.	Ibec(k) C, Commer of Cares 3 84 Crineabucks 10: FL Stap signs 11: Cf Watchman 12: N/ Watchman 12: N/ 36: Crossing 1 with High 49 49 With High 1. Yes 2 ar Went Behrind or in 7 was Struck by Se 43: Ukinown 43: View of Track C 1. Perma 2: Stand 44: Detwor was 1. Killes 2: Inju 47: Hight docker Ardian 30: Total Number o	subor Train 80 Consist 8. Rev. E. Esti- aggind by ther (spec- ona Warning II way Signa 2. No 3 2. No 3 2. No 3 2. No 3 2. No 3 2. No 3 2. No 3 3 4. Front of cond Treer Discurred anent Stou ling rolitoa ured 3. L is Projet of Projet of Projet of	Pushing Ispacial (R sortleid mated mated crew city) interconnect is . Unknown Train Code 2 // // Code // // clure di eguipmed iniqued y Damage an Train	Code Equipm 1 1. Main 2. 1 eccided speed 4 av 33. Signific Isee met instruction Ind 4 . Highway User 1. Van acoud in 1. Stepped and fin 3. Did not stee 4. Stopped on oro- may obstruction 3. Paseing Train 1. 4. Topography 2 . 2500	And 3. Saling 4 in aseable) Code 24 mph R I Crossale for ris and ootids) Code 2 1. Yes 2 1. Yes 2 1. Yes 3 5. Vegetation 6. Highesy Vehicl 43. Was Driver in 44. Was Driver in 43. Was Driver in 43. Total Number Grabeling 5. Is a Rail Equi-	31. Time Table Direction 1. North: 3. Exet 2. South: 4. West 2. South: 4. West 2. South: 4. West 34. Rownessy Dorothione 4. Div 8. Wet 5. South: 4. West 5. South: 4. West 5. South: 4. West 5. South: 5. South	Cool 1 Cool A Cool Cool S Cool Col
27. FRA Track Closes (1.9.X) Closes (1	er d Wig wegs Hwy traff Audible t Killed 0 0 0	B. Light B. Light 20. Name 20. Name 2 20. Name 2 1 7. Ic signals 8 9. 07 2 1 Code 2 1 Injured 1 0 0	Ibec(k) C, Commer of Cares 3 84 Crimeabucks 10: FL Stap signs 11: Cf Watchman 12: Ni Watchman 12: Ni With High 1: Yes 2 or Went Behrind or in vr wis Struck try Se vice 3: Unknown 43: View of Track 0 1: Perma 44: Diskurtwis 1: Killes 2: Inji 47: Hight of Watch	subor Train 80 Consist 8. Rev. E. Esti- aggind by ther (spec- ona Warning II way Signa 2. No 3 2. No 3 2. No 3 2. No 3 2. No 3 2. No 3 2. No 3 3 4. Front of cond Treer Discurred anent Stou ling rolitoa ured 3. L is Projet of Projet of Projet of	-Pusting 1 Spead (R screted mated crew city) is 1 Code 2 crew ty creation ty creation	Code Equipm 1 1. Main 2. 1 eccided speed 4 av 33. Signific Isee met instruction 1. Highway User 1. View accord in . Highway User 1. View accord in 2. Stopped on oro- many obstruction 3. Paceing Train- nt 4. Topography 2 S2,500 2	And 3. Saling 4 in aseable) Code 24 mph R I Crossale for ris and ootids) Code 2 1. Yes 2 1. Yes 2 1. Yes 3 5. Vegetation 6. Highesy Vehicl 43. Was Driver in 44. Was Driver in 43. Was Driver in 43. Total Number Grabeling 5. Is a Rail Equi-	31. Time Table Direction 1. North 3 Erect 2. South 4 West 2. South 4 West 2. South 4 West 2. South 4 West 4. Footbackey Donditions 4. Div 8. Vet 5. South 54.88 E Sanc Must, Dirt C L Charlet F. Wast E Sanc Must, Dirt C L Charlet F. Wast E Sanc Must, Dirt C L Charlet F. Wast C. South 54.88 E Sanc Must, Dirt C L Charlet F. Wast C. South 54.88 E Sanc Must, Dirt C L Charlet F. Wast C. South 54.88 E Sanc Must, Dirt C L Charlet F. Wast C. South 54.88 E Sanc Must, Dirt C L Charlet F. Wast C. South 54.88 E Sanc Must, Dirt C L Charlet F. Wast C. South 54.88 F. South 5	Cool Cool A Cool Coo
27. FRA Track Closes (1.9, X) Clo	in de la constant de	8. Light 29. Numi 2 10. 7, 1c signals 8. 9. 07 2 14. Gheav Usa and Struck c 1. Yes 2. F Code 2 1. Yes 2. F Code 2 1. Juned 1 1 0 0	Ibec(k) C, Commer of Cares 3 84 Crimeabucks 10: FL Stap signs 11: Cf Watchman 12: Ni Watchman 12: Ni With High 1: Yes 2 or Went Behrind or in vr wis Struck try Se vice 3: Unknown 43: View of Track 0 1: Perma 44: Diskurtwis 1: Killes 2: Inji 47: Hight of Watch	subor Train 80 Consist 8. Rev. E. Esti- aggind by ther (spec- ona Warning II way Signa 2. No 3 2. No 3 2. No 3 2. No 3 2. No 3 2. No 3 2. No 3 3 4. Front of cond Treer Discurred anent Stou ling rolitoa ured 3. L is Projet of Projet of Projet of	-Pusting 1 Spead (R screted mated crew city) is 1 Code 2 crew ty creation ty creation	Code Equipm 1 1. Main 2. 1 eccided speed 4 av 33. Signific Isee met instruction Ind 4 . Highway User 1. Van acoud in 1. Stepped and fin 3. Did not stee 4. Stopped on oro- may obstruction 3. Paseing Train 1. 4. Topography 2 . 2500	And 3. Saling 4 in selected Code 24 mph R 12 most R	31. Time Table Direction 1. North 3 Erect 2. South 4 West 2. South 4 West 2. South 4 West 2. South 4 West 4. Footbackey Donditions 4. Div 8. Vet 5. South 54.88 E Sanc Must, Dirt C L Charlet F. Wast E Sanc Must, Dirt C L Charlet F. Wast E Sanc Must, Dirt C L Charlet F. Wast C. South 54.88 E Sanc Must, Dirt C L Charlet F. Wast C. South 54.88 E Sanc Must, Dirt C L Charlet F. Wast C. South 54.88 E Sanc Must, Dirt C L Charlet F. Wast C. South 54.88 E Sanc Must, Dirt C L Charlet F. Wast C. South 54.88 E Sanc Must, Dirt C L Charlet F. Wast C. South 54.88 F. South 5	Cool Cool A Cool Coo
27. FRA Track 28. Number of Locomotil Class (19.X) 4 32. Type of Crossing 1. Galkes 33. Type of Crossing 1. Galkes 34. Crossing 2. Carl lever FLS 35. Location of Warning 1. Both Sides 1. Both Sides 2. Size of Vehicle Accroach 3. Opposite Side of Vehicle Accroach 3. Opposite Side of Vehicle Accroach 3. Opposite Side of Vehicle Accroach 1. Male 32 2. Fernale 42. Onver Passed Standing Highway Vehicle 1. Yas 2. No 3. Uninnown Casualities to: 48. Highrway-Rail Crossing Users 49. Raihoad Employees 52. Passengers on Train 53. Special Study Elock	in Mig wags Hwy half Autible I Killed 0 0 Video T Video D	8. Light 29. Numl 2 1 7. Ic signals 8. 9. 07 2 Highway Usk c 1. Yes 2. I Cede 2 Highway Usk c 1. Yes 2. I Cede 2 I njured 1 0 0	Ibec(k) C. Commer of Cars 3 84 Crinealsucks 10: FI Stop signs 11: Of Watzbinnan 12: Ni 35: Crossing 1 36: Crossing 1 36: Crossing 1 36: Crossing 1 41: Yes 3 5: Crossing 1 44: Disk of Track 0 1: Yes 4 43: View of Track 0 1: Perma 2: Stand 44: Disk 2: Inji 47: Highway Vanici (ast defiler dam 50: Total Number 0 pinclude passen Yes 2: No Yes 2: No	uter Train B. Dernis R. Rie E. Eeti Marning In Warning In Provide State In Provide State In Property State In Prop	-Pusting 1 Spead (R screted mated crew city) is 1 Code 2 crew ty creation ty creation	Code Equipm 1 1. Main 2. 1 eccided speed 4 av 33. Signific Isee met instruction 1. Highway User 1. View accord in . Highway User 1. View accord in 2. Stopped on oro- many obstruction 3. Paceing Train- nt 4. Topography 2 S2,500 2	And 3. Saling 4 in selected Code 24 mph R 12 most R	31. Time Table Direction 1. North 3 Erect 2. South 4 West 2. South 4 West 2. South 4 West 2. South 4 West 4. Footbackey Donditions 4. Div 8. Vet 5. South 54.88 E Sanc Must, Dirt C L Charlet F. Wast E Sanc Must, Dirt C L Charlet F. Wast E Sanc Must, Dirt C L Charlet F. Wast C. South 54.88 E Sanc Must, Dirt C L Charlet F. Wast C. South 54.88 E Sanc Must, Dirt C L Charlet F. Wast C. South 54.88 E Sanc Must, Dirt C L Charlet F. Wast C. South 54.88 E Sanc Must, Dirt C L Charlet F. Wast C. South 54.88 E Sanc Must, Dirt C L Charlet F. Wast C. South 54.88 F. South 5	Cool 1 Cool A Cool Cool S Cool Col
27. FRA Track Closes (1.9.X) 4 Cross (1.9.X) 4 Crossing Crossing Crossing Crossing Code(s) 01 0.2 Crostion of Warning Sandard FLS Code(s) 01 0.2 Standard Code(s) 01 0.2 Standard Code(s) 0.2 Code(s) Cod	in Mig wags Hwy taff Audible I Killed 0 0 0 0 0 Video T Video L	B. Light B. Light 20. Name 2 20. Name 2 7. k: signals 8. 9. 07 Co 2 Code 1 0 0 6 codruge code code code	Ibec(k) C, Commer of Cares 3 84 Crossabucks 10: FI Stop signs 11: Cf Watchman 12: N/ 4 35: Crossing 1 44: With High 44: Stop signs 11: Cf 44: Went Betrind or in 43: View of Track C 1 Porma 43: View of Track C 1 Porma 44: Distant Was 1 Killed 2: Inpl 45: Distant Was 20: Track Namber o 9 Onclude pressen 20: Track Namber o 9 No	user Train 8. Densis R. Re. E. Estis that (spec- cont Warning In Warning In Warning In Warning In Warning In Warning In Cont Train Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont	Pasting 1 Spaced (R sortled mated creav clf)) treev clf) 1 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Code Equipm I 1. Main 2. 1 I 1. Main 2. 1 Example a speed of av- Seconded speed of av- Isee metelline and a speed of av- Isee metelline and a speed of av- Isee metelline and a speed of av- Isee metelline and av- I	And 3. Saling 4 in aseable) Code 24 mph R I Crossing Warning ms sate for rs and outles) Code 2 1. Yes 2 1. Yes 3 2 1. Yes 4 gable 6 W 6 Mignesy Vahid 6 Mignesy Vahid 7 J. Is a Rail Equi Incident Repo 1, Yes 2 No	31. Time Table Direction 1. North: 3 Evel 2. South: 4. West 3. Footenesy Dorothione A. Div B. Weit C. Show Shash E. Sene Must, Dirt O'LOnwell F. Woor (Banding, Moving) rig Iffurn nated by Street or Staedal Lights 1. 2. No. 3. Unkinden ther (accent) tent amundithru temporary barrie fyres, see mithructions) tent amundithru temporary barrie fyres, see mithructions tent furn the gale uid der/blempted suicide 7. Other (specify) tes: 8. Not Obstructed The Vehick? in venick Occupants wride priort Accident / rid Bairg Field a	Cool 1 Cool A Cool A Cool 1 Cool 1
27. FRA Track 28. Number of Locomotic Closes (1.9,X) 4 32. Type of Crossing 1. Galos 34. Crossing 2. Cantilever FLS 6. Code(s) 0.1 35. Location of Warning 1. Both Sides 2. Size of Vehicle Accroach 0.2 36. Location of Warning 1. Both Sides 2. Size of Vehicle Accroach 0.2 36. Location of Warning 1. Both Sides 1. Both Sides 1. Male 2. Size of Vehicle Accroach 3. Opposite Side of Vehicle Acp 38. Highmany Sid-Highway User's Gi User's 49. 1. Male 1. Yas 2. She of Vehicle Accroach 1. Yas 2. Passed Standing Highway Vehicle 1. Yas 1. Yas 2. Passed Employeets 52. Passedgers on Trein 53a. Special Study Block 54. Namative Description 54. Namative Description 54. Namative Description 54. Namative Description	in Mig wags Hwy taff Audible I Killed 0 0 0 0 0 Video T Video L	B. Light B. Light 20. Name 2 20. Name 2 7. k: signals 8. 9. 07 Co 2 Code 1 0 0 6 codruge code code code	Ibec(k) C. Commer of Cares 3 84 Crossaleucies 10: Fil Stop signs 11: Of Watchman 12: N4 35: Crossing 1 36: Crossing 1 47: Highway Crossing 1 47: Highway Crossing 1 47: Highway Crossing 1 47: Mighway	uber Trahn B. Dernis R. Rie E. Eeté segret by ther spee- ona Warning In Warning In Warning In Anno 2 Cond Tran Discurred Cond Tran Property Propery	Pushing Lipering Lipering Lipering Lipering mated mated mated merconnect lis Linknown Train Code L Code L Code L Line d equipment innunced Silb, Spe O TRESPAS	Code Equipm I 1. Main 2. 1 I 1. Main 2. 1 Example a speed of av- Seconded speed of av- Isee metelline and a speed of av- Isee metelline and a speed of av- Isee metelline and a speed of av- Isee metelline and av- I	And 3. Saling 4 in aseable) Code 24 mph R I Crossing Warning me sate for rss and outles) Code 2 1. Yes 2 1. Yes 3 2 1. Yes 4 gable 6 W 1 Yes 5. Vegetation 6. Highesy Vehicit 6. Highesy	31. Time Table Direction 1. North 3 Erect 2. South 4. West 2. South 4. West 2. South 4. West 2. South 4. West 3. Fiscateway Donatilians A. Div B. Val C. Snow Skap E. Sanc Must, Dirt, C. Crawdi E. Warr (Standing, Moving) F. Sanc Must, Dirt, C. Crawdi E. Sanc Must, Dirt, C. Crawdi F. Mosr (Standing, Moving) rol Sancial Lights A. Sancial Ligh	Cod 1 Coc A Coc 1 Coc 1 0 0 0 0 0 0 0 0 0 0 0 0 0
27. FRA Track Cross (1 9.X) 4 Cross (1 9.X) 4 Cross (1 9.X) 4 Cross (1 9.X) 5. Galos Cross (1 9.X) 1. Galos Cross (1 9.X) 1. Galos Cross (1 9.X) 2. Cantilever FLS 5. Code(s) 01 0; 35. Location of Warning 1. Both Sides S. Side of Vehicle Aconsach 3. Opposite Side of Vehicle Aconsach 3. Deposite Side of Vehicle Aconsach 42. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown Casualties to: 46. Highway-Real Crossing Users 40. Realtoact Employees 52. Passengers on Train 53a. Special Study Block 54. Namative Description (Ee s,	in August	B. Light B. Light 20. Name 2 20. Name 2 7. 10 signals 8. 9. 07 1	Ibec(%) C. Commer of Cares 3 84 Crineabucks 10: FI Stap signs 11: Ci Watchman 12: Ni Usaburan 12: Ni Ni Usaburan 12: Ni Usaburan 12: Ni Usaburan 12: Ni Ni Ni	stor Train 8. Densis 8. Res. E. Ext egged by ther (spec- ma Warning li- Warning li- Warning li- Warning li- Warning li- Warning li- and State and Train Discared Train Const T	Pasting I Spead (% sorted mated mated mated meteo merconnect is Code 2 Unichown Train Code 2 Unichown train coup to ture d equipmen inipaced soft, Spe 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Code Equipm 1 1. Main 2. 1 accided speed 4 av 33. Signific ISee meetinstruction Instruction 1. View account of 1. View account of 2. Stopped on pro- many oberostrony 3. Paseing Train- nt 4. Topography 2 52,500 2 ctal Study Block SER, CREW WAS No	And 3. Saling 4 in activation of the second	31. Time Table Direction 1. North: 3 Exet 2. South: 4 West 3. South: 4 West	Cox Cox Cox Cox Cox Cox Cox Cox

OMB Approval expires 6/30/2021

Figure D-4. Holly Street Crossing (1 of 2)

	ATION (FR	(A)	ACCID	DENT/INCIDEN	T REPORT			OMB A	pproval No. 213	0-0500
Name of Reporting Railroad		953	200000		1a. Alphabetic Co	de	1	1b. Railr	oed Accident/Incide	int No.
Union Pacific Railroad Comp	any [UP]	É			UP			1118	DV006	
Name of Other Railroad or Other	Entity Fillin	g for Equipme	ent Involved in Train Ac	ccident/Incident	2a, Alphabetic G	ode		2b. Raile	road Accident/Incide	ant No.
3. Name of Railroad or Other Entity	Responsit	ble for Track M	Aintenance		3a, Alphabetic O	ocie		3h Rait	ued Accident/Incide	ent No
nion Pacific Railroad Comp			Condition of the second		UP			312335401	DV006	11111
U.S. DOT Grade Crossing ID No					5. Date of Accide	enbincide	nt		of Accident/Incident	8
			804614	U	month	der 1	HDI	1222/2		
				п		3	2018	7:30	AM[] PM
Nearest Railroad Station DENVER			8. Subdivision LIMON SUB		9. County			10. Stat	e Abbr. CO	Coc
1. City (if in a city)				y Name or No.	DENVER					0
DENVER			3763-056000	y reame or rec.	HOLLY ST	100000			Public 🗸 P	rivate
Hig	ghway Us	er Involved			V6147988949320495	0000000000	quipment	72.022.024		
13. Type				17. Equ		4. Car(s) (moxing s) (seanaling		Train pulling- RCL Train pushing- RCL	
C, Truck-trailer F, Bu	2	J. Other Mola	M 570 5000 .		Train (units putting)	Q (Lake	ilocots) /w		. Train standing- RCI	
A Auto D Pick-up truck G Sc		K. Pedestria	NUMBER OF STREET	10000	Train (units pushing) Train (standing)		t loco(s) (5		EMU Locomotive(s)	, 00
B Truck, E. Van H. M	otorcycle	M. Other (a	(pacity)	A		8. Oth			DMU Locomotive(s	1 3
Charles and a second	Direction	(geographica	CARL COLOMON .		ition of Car Unit in Tri	nie	20			
		d Tracond o	the second s	1 10.0%	umstance					
 Position 1. Stalled or stuck o 2. Stopped on Cross 			n crossing by gates ,	Code					and the second second	Co
3. Moving over cross	2012 - A	5. DIGNES (School of Suns.	3 1. Ra	il equipment struck h	eginway us	ser 2. Rai e	squapment	seluck by highway u	iser 2
20a. Was the highway user and/o	r rail equipri	nent involved			as there a hazardous	materials	release by			Cod
in the impact transporting ha	zardous ma	ateriais?		Code						1 4
1. Highway User 2. Rail E	and the second second second second	Contract of the second s	control of the second state of	2	1. Highway User	2. Rail Eq	uipment 3	3. Both 4	k. Naither	
IDc. State here the name and qua	ntity of the l	hazardous ma	aterial released, if any							
10120 0.100000.000		010182 (2020 N								120
		single entry)	(300/80) I	102 Dette	eather (single entry)					Co
specify (* minus) 36 *F 1.	Dawn 2.1	Day 3. Dusk	4. Dark	3 1.0	Slear 2. Cloudy 3. R	an 4.Fo	g 5. Sleet	6. Snow		1
					Equipme	pe Used I ent Involv				
4. Work Tr	ain	8. Light	Switching B. Passenge loco(s) C. Commute	ar Train-Pushing ar Train-Pushing	Code Equipme 7 1. Main 2. 1	ant Involv (and 3. S	ed iding 4. Inde		INDUSTRY 7	05
4. Work Tr 27. FRA Track 28. Number	ain of tive	8. Light 29. Numb	Switching B. Passenge (cco(s) C. Commute ter of Cars 30.	ar Train-Pushing ar Train-Pushing	Code Equipme	ant Involv (and 3, 5 w/(abin)	ed iding 4. Indu Code	31. Time	INDUSTRY 7	05 Co
4. Work Tr 27. FRA Track 28. Number Cless (1-9.X) Locomo 1 Units	ain of tive	8. Light	Switching B. Passenge loco(s) <u>C. Commute</u> ber of Cars <u>30.</u>	ar Train-Pushing er Train-Pushing Consist Speod (i	Code Equipme Code 7 1. Main 2. 1 Recorded speed If av	ant Involv (ard 3. S w(lab(e) mp	ed iding 4. Indi Code h R	31. Time 1. N 2. S	Table Direction onth 3. East outh 4. West	05 Co
4. Work Tr 27. FRA Track 28. Number Cless (1-9.X) 1 Locomo 32. Type of Crossing 2. Cardiever FLS 5 Warning 2. Cardiever FLS 5	ain of tive I. Wig wags I. Hwy. traff	8. Light 29. Numt 1 5 7. fic signals 8.	Switching B. Passenge loco(s) C. Commute her of Cars 30. 1 4 Crossbucks 10. Flags Stop signs 11. Other	er Train-Pushing er Train-Pushing Consist Spool (i R. Recorded E. Estimated ged by crew r (specify)	Code Code 7 1. Main 2. 1 Recorded speed if av 33. Signaled (See reve	ent Involv (and 3, 5 vallable) mp I Crossing	ed iding 4. Indi Code h R i Warning or ors	31. Time 1. N 2. S	Table Direction onth 3. East outh 4. West tway Conditions	05 Co:
4. Work Tr 7. FRA Track 28. Number Class (1-9.X) 1 Locomo 9.2. Type of 1. Gates 4 Crossing 2. Cardiever FLS 5 9. Standard FLS 6	ain of twe I. Wig wags I. Hwy. traff I. Audible	8. Light 29. Numt 1 5 7. fic signals 8.	Switching B. Passenge loco(s) C. Commute ber of Cars 30. 1 4 Crossbucks 10. Flags	er Train-Pushing er Train-Pushing Consist Spool (i R. Recorded E. Estimated ged by crew r (specify)	Code Code 7 1. Main 2. 1 Recorded speed if av 33. Signaled (See reve	ent Involv Yard 3, 5 vallable) mp I Crossing rae side fi	ed iding 4. Indi Code h R Warning or	31. Time 1. N 2. S 34. Roat A. Dra B. Wet C.Snew D.Ica E. Sand	Table Direction orth 3. East outh 4. West tway Conditions Stush Mud,Dirt,Dil,Gravel	05 Co 4 Co
4. Work Tr 27. FRA Track 28. Number Class (1-9.X) 1 Locomo 32. Type of 1. Gates 4 Crossing 2. Cantilever FLS 5 4 Warning 3. Standard FLS 6 67 1	ain of tive I. Wig wags I. Hwy. traff	8. Light 29. Numt 1 5 7. fic signals 8.	Switching B. Passerga locols) C. Commute ser of Cars 30. 1 4 Crossbucks 10. Flags Stop signs 11. Other Watchman 12. None	ir Train-Pushing er Train-Pushing Consist Spood (i R. Recorded E. Estimated ged by crew r (specify)	2000 Equipme Code 7 Equipme 7 1. Main 2. 1 Recorded speed if av 33. Signaled (See reve instruction	ant Involv (ant 3. S w/lable) mp I Crossing rise side it ris and co	ed iding 4. Indi Code h R (Warning or cles) Code	31. Time 1. N 2. S 34. Ross A. Drs B. Wet C.Snow D.Ice E. Sand, F.Water	Table Direction orth 3. East outh 4. West Sway Conditions Stush Mud, Dirt, Dil , Gravel (Standing, Moving.)	05 Co 4 Co
4. Work Tr 27. FRA Track 28. Number Cless (1-9.X) 1 Locome 32. Type of 1. Gates 4 Crossing 2. Cantilever FLS 5 3. Standard FLS 6 Code(s) 07 1 35. Location of Warning 1. Both Sides	ain of twe I. Wig wags I. Hwy. traff I. Audible	8. Light 29. Numt 1 5 7. fic signals 8.	Switching B. Passerga locols) C. Commute er of Cars 30. 1 4 Crossbucks 10. Flags Stop signs 11. Other Watchman 12. None 38. Crossing We	er Train-Pushing er Train-Pushing Consist Spood (r R. Recorded E. Estimated ged by crew r (specify) ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	2000 Equipme Code 7 1. Main 2. 1 Recorded speed if av 33. Signaled (See reve instruction cted	ant Involv (ant 3. S w/lable) mp I Crossing rise side it ris and co	ed iding 4. Indi Code h R (Warning or codes) Code 37. Crossing	31. Time 1. N 2. S 34. Ross A. Drs B. Wet C.Snow D.Ice E. Sand, F.Water	Table Direction onth 3. East outh 4. Weet dway Conditions Stush Mud.Dirt.Dil.Gravel (Stancting, Moving.) ed by Street	05 Co 4 Co A
4. Work Tr 7. FRA Track 28. Number Class (1-9.X) 1 Locomo 1. Gates 4 Crossing 2. Cardiaver FLS 5 Warning 3. Standard FLS 6 Code(s) 07 1 5. Location of Warning 1. Both Sides 2. Side of Vehicle Approach	ain of tive I. Wig wags I. Hwy. Inaff I. Audible I	8. Light 29. Numt 1 5 7. 5c signels 8. 9	Switching B. Passergs locols) C. Commute ter of Cars 30. 4 4 Crossbucks 10. Flagg Stop signs 11. Other Watchman 12. None 35. Crossing We with Highway	er Train-Pushing er Train-Pushing Consist Spood (r R. Recorded E. Estimated ged by crew r (specify) ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	2000 Equipme Code 7 Equipme 7 1. Main 2. 1 Recorded speed if av 33. Signaled (See reve instruction cted	ant Involv (ard 3, 5 artable) mp I Crossing ree side fi ris and co	ed iding 4. Indi Code h R Warning or code Code 37. Crossing Lights or	31. Time 1. N 2. S 34. Ross A. Drs B. Wet C.Snow D.Ios E. Sand, F. Water Illumineter	Table Direction onth 3. East outh 4. Weet tway Conditions Stush Mud,Dirt,Dil,Gravel (Stancting, Moving.) rd by Street ights	05 Co 4 Co A
4. Work Tr 4. Work Tr Cless (1-9.X) 12. Type of Crossing Warning Warning Varning 1. Gates 2. Cantilever FL5 5 3. Standard FL5 (Codets) 19. Other 19. Standard FL5 (Codets) 19. Standard FL	ain of tive I. Wig wags I. Hwy. Iraff I. Audible I. preach	8. Light 29. Niumt 1 5. 7. 5c signels 8. 9 Co 1	Switching B. Passerge locols) C. Commute ser of Cars 30. 4 4 Crossbucks 10. Flagg Stop signs 11. Other Watchmen 12. None 36. Crossing We with Highway 1. Yos 2. N	er Train-Pushing er Train-Pushing Consist Spood (R. Recorded E. Estimated ged by crew r (specify) 2 ming Intercome y Signals No. 3. Unknow	2000 Equipme Code 17 1. Main 2. 1 Recorded speed if av 33. Signsfed (See reve instructor clad n	ant Involv (ard 3. S attable) mp I Crossing ree side fi rs and co Code 3	ed iding 4. Indi Code h R Varning or class Code 37. Crossing Lights or 1. Yes 5. Othe	31. Time 1. No 2. S 34. Roset A. Dry B. Viet C. Snew D. Los E. Sand, F. Water 1. Ituminate Special Li 2. No 3. c. Special Li 2. No 3. c. Special Li 2. No 3. c. Special Li 3. Special Li 4. Special Li 5. Specia	Table Direction onth 3. East outh 4. West tway Conditions Stush Mud, Diri, Di ,Gravel (Standing, Moving.) di by Street (gits Unknown My)	05 Co: 4 Co A Co
4. Work Tr 4. Work Tr Cless (1-9,X) 1 27. FRA Track Cless (1-9,X) 1 28. Number Locome Un(ts Cosesing Warning 1. Gates 4 2. Cantilever FLS 5 3. Standard FLS 6 Code(s) 07 1 35. Location of Warning 1. Bodh Sides 2. Side of Vehicle Accesech 3. Standard Sides 2. Side of Vehicle Accesech 3. Highway 30 Highway 30 Highway	ain of tive I. Wig wags I. Hwy. Iraff I. Audible I. preach	8. Light 29. Numt 1 5 7. fic signals 8 9 0 1 Co 1 . Highway Usa	Switching B. Passerge locols) C. Commute ser of Cars 30. 4 4 Crossbucks 10. Flagg Stop signs 11. Other Watchmen 12. None 36. Crossing We with Highway 1. Yos 2. N	er Train-Pushing er Train-Pushing Consist Spood (R. Recorded E. Estimated ged by crew r (specify) e mining Intercorne y Signals via 3. Unknow ront of Train d Train	2000 Equipme Code 7 1. Main 2. 1 Recorded speed if av 33. Signs/ed (See reve instruction cted 1. Highway User. 1. Wart around ith	ant Involv (and 3. S (altable) mp I Crossing rate side fi rate and co Code 3 o gate	ed Code h R (Warning Code (Code (Code (Code (Code) Code (Code (Code) Code (Code) Code (Code) Code (Code) Code (Code) Code (Code)	31. Time 1. No 2. S 34. Rose A. Dra B. Wet C. Sneuk Dice E. Sand, F. Water Special Li 2. No 3. r (special t around)	Table Direction onth 3. East outh 4. West tway Conditions Stush Mud,Dirt,Dil,Gravel (Glanding, Moving) diby Street Ights Unknown A/J hru temporary berri	105 Co: 4 Co Co A Co Co Co Co Co Co Co Co Co Co Co Co Co
4. Work Tr 27. FRA Track Cless (1-9.X) 1 28. Number Locome Units 27. Type of Crossing Warning 1. Gates 4 2. Cantilever FLS 5 3. Standard FLS 07 1 35. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 3. Opportel Side of Vehicle Ap 30. Highway 39. Highway User's G User's Age 1. Male	ain of tive I. Wig wage i. Hwy. traff i. Audible I proach code 40. Code	8. Light 29. Numt 1 1 5 7. 6 signels 8 9 0 1 Co 1 . Highway Use and Struck o	Switching B. Passergs locols) <u>C. Commute</u> ler of Cares <u>30</u> . 4 4 Crossbucks 10. Flagg Stop signs 11. Other Watchman 12. None <u>38</u> . Crossing We with Highway <u>1. Yos</u> 2. h ar Went Behind or in Fi r was Struck by Secon	er Train-Pushing er Train-Pushing Consist Spood (E. Estimated ged by crew r (specify) s ming Intercome y Signals vo. 3. Unknow mont of Train d Train Code	2000 Equipme Code 17 1. Main 2. 1 Recorded speed if av 33. Signsfed (See reve instructor clad n	ant Involv (and 3. S (altable) mp I Crossing rate side fi rate and co Code 3 o gate	ed iding 4. Indi Code h R Warning or Code 37. Crossing Lights 5. Oth 6. Wer 5. Oth 6. Wer 4. def 7. Wer 7. Wer	31. Time 1. No 2. S 34. Rose A. Dra B. Viet C. Snew D. Ios E. Sanda F. Water 1. Iuminate Special LI 2. No 3. (special t. around) res, sock from through the sectors of the se	Table Direction orth: 3. East outh: 4. Weet tway Conditions Stush Mud, Dir, DJ, Gravel (Standing, Moving.) di by Street (ghts Unknown M/ fru temporary barris structions) gate	05 Cos 4 Co A Co A Co A Co Co Co Co Co Co Co Co Co Co Co Co Co
4. Work Tr 7. FRA Track Cless (1-9.X) 1 Cless (1-9.X) 1 Crossing Crossing 2. Cantilever FLS 9 3. Standard FLS Code(s) 07 1 St. Location of Warning 1. Both Sides 2. Side of Vehicle Aproach 3. Opposite Side of Vehicle Aproach 3. Opposite Side of Vehicle Aproach 3. Opposite Side of Vehicle Aproach 3. Aproach 3. Disposite Side of Vehicle Aproach 3. Aproach 4. Aproach	ain of tive I. Wig wags i. Hwy. traff i. Audible I proach iender 40.	8. Light 29. Numt 1 29. Numt 1 5 7. fc signals 8 9 1 Co 1 Highway Uss and Struck c 1 Yes 2, 5	Switching B. Passergs locols) C. Commute ter of Cars 30. 4 4 Crossbucks 10. Flagg Stop signs 11. Other Watchman 12. None 36. Crossing We with Highway 1. Yos 2. N ar Went Behind or in Fi r was Struck by Secon No 3. Unknown	ar Train-Pushing er Train-Pushing Consist Spood (E. Estimated ged by crew r (specify) s ming Intercome y Signals via 3. Unknow nont of Train d Train Code 2	Code Code 7 1. Main 2. Ascorded speed if av (See reve instructor (See reve instructor 1. Highway User 1. Went around th 3. Dignoted and 3. Dignoted and 3. Dignoted and 3. Dignoted and th	ant Involv (and 3. S (andable) mp I Crossing ree side if ris and co Code 3 o gate en procee	ed iding 4. Indi Code h R Warning or Code 37. Crossing Lights 5. Oth 6. Wer 5. Oth 6. Wer 4. def 7. Wer 7. Wer	31. Time 1. No 2. S 34. Rose A. Dra B. Viet C. Snew D. Ios E. Sanda F. Water 1. Iuminate Special LI 2. No 3. (special t. around) res, sock from through the sectors of the se	Table Direction onth 3. East outh 4. West tway Conditions Stush Mud,Dirt,Dil,Gravel (Standing, Noving.) d by Street (Standing, Noving.) d by Street (Standing, Noving.) d by Street (Standing, Noving.)	Cos 4 Co A Co Co Co Co Co Co Co Co Co Co Co Co Co
4. Work Tr 4. Work Tr 7. FRA Track 28. Number Cless (1-9.X) 1 Location 92. Type of 1. Gates 4 2. Cantilever FL5 5 3. Standard FL5 (Code(s) 07 1 5. Location of Warning 1. Both Sides 2. Side of Vehicle Appoint 3. Opposite Side of Vehicle Ap 3. Standard FL5 (Code(s) 07 1 5. Location of Warning 1. Both Sides 2. Side of Vehicle Appoint 3. Opposite Side of Vehicle Ap 3. Standard States 4 4. Side of Vehicle Appoint 4. Side of Vehicle	ain of tive I. Wig wage i. Hwy. traff i. Audible I proach code 40. Code	8. Light 29. Numt 1 1 5 7. 6 signels 8 9 0 1 Co 1 . Highway Use and Struck o	Switching B. Passerga locols) C. Commute Her of Cars 30. 4 4 Crossbucks 10. Flagg Stop signs 11. Other Watchman 12. None 38. Crossing We with Highway 1. Yos 2. Nore ar Wort Behind or in Fi r was Struck by Secon No 3. Unknown 43. View of Track Obs	er Train-Pushing er Train-Pushing Consist Spood (R. Recorded E. Estimated ged by crear r (spectly) 2 ming Intercome y Signals No. 3 Unknow ront of Train d Train <u>Code</u> 2 acured by (p	Code Code T. Main 2. Anno 2. Recorded speed if av See reve instruction ched T. Highway User T. Highway User T. Highway User Signed and th	ant Involve (and 3, S axtable) mp I Crossing rate side fi ris and co Code 3 o gate en proces ssing	ed iding 4. Indi Code h R Warning or des) 5. Code 1. Yes 5. Oth 5. We 4. Suit	31. Time 1. No 2. S 34. Rose A. Dra B. Wet C. Smoul Dice E. Sand, F. Water I luminate Special II 2. No 3. Special II 2. No 3. Special II 2. No 3. Special II 2. No 3. Special II 3. S	Table Direction orth: 3. East outh: 4. West tway Conditions Stush Mut,Dirt,DI,Gravel (Gandling, Moving) d by Street (ghts Unknown M/ hru temporary berri- structions) gate pted suicide	05 Cos 4 Co A Co A Co A Co Co Co Co Co Co Co Co Co Co Co Co Co
4. Work Tr 4. Work Tr 7. FRA Track 27. FRA Track 28. Number Locome Un(is 1. Gates 2. Cartilever FLS 5 3. Standard FLS 6 Code(s) 07 1 3. Location of Warning 1. Both Sides 2. Side of Vehicle Approach State of Vehicle Approach State of Vehicle Approach State of Vehicle Approach User's Age 1. Male 2. Female 42. Driver Passed Standing Highway Vehicle	ain of tive I. Wig wage i. Hwy. traff i. Audible I proach code 40. Code	8. Light 29. Numt 1 5 7. fc signels 8. 9 Co 1 Highway Uss and Struck c 1 Yes 2.9 Code	Switching B. Passenge locols) C. Commute er of Cars 30. 4 4 Crossbucks 10. Flagg Slop signs 11. Other Watchman 12. None Watchman 12. None (a) S. Crossing We with Highway 1. Yos 2. N ar Wont Bahilot or in Fi x was Struck by Secon yo 3. Unknown 43. View of Track Obs 1. Permane	er Train-Pushing er Train-Pushing Consist Speod (R. Recorded E. Estimated ged by crew ((specify)) e ming Intercome y Signals No 3. Unknow ront of Train d Train Code acured by (p mt Structure	Code Code Code 7 Code C	ant Involvo (and 3, 5 axitable) I Crossing rea side 5 ris and co code 3 code 3 code 3 code 3 code 3 code 3 code 3 code 3 code 3 code 3 code 3 code 3 code 3 code 3 code 3 code 3 code code 3 code 3 code code code code code code code code	ed iding 4. Indi Code h R Warning or Code	31. Time 1. No 2. S 34. Rose A. Drs B. Wet C. Snowly D. Ice E. Sand, F. Water F. Water Special Li 2. No 3. E. Special Li 2. No 3. E. Special Li 2. No 3. E. Special Li 2. No 3. E. Special Li 4. Completion of the special states (Special Li 4. Special Li 5. Special Li 4. Special Li 5. Special Li 5	Table Direction orth 3. East outh 4. West tway Conditions Stush Mud,Dir, Dil/Gravel (Standing, Moving.) di by Street (ahts Unknown M/) hru bemporary berris studions) gate pted suickle ar (specify)	005
4. Work Tr 4. Work Tr 7. FRA Track 27. FRA Track 28. Number Locome Un(is 1. Gates 2. Cartilever FLS 5 3. Standard FLS 6 Code(s) 07 1 3. Location of Warning 1. Both Sides 2. Side of Vehicle Approach State of Vehicle Approach State of Vehicle Approach State of Vehicle Approach User's Age 1. Male 2. Female 42. Driver Passed Standing Highway Vehicle	ain of I. Wig wags I. Hwy. Inal I. Audible I proach iseder 40. Code 1	8. Light 29. Numt 1 29. Numt 1 5 7. fc signel & 8 9 Co 1 1 Ves 2.9 Code 2	Switching B. Passenge locols) C. Commute er of Cars 30. 4 4 Crossbucks 10. Flagg Slop signs 11. Other Watchman 12. None 36. Crossing We with Highway 1. Yos 2. N ar Wont Bahild or in Fi x was Struck by Secon yo 3. Unknown 43. View of Track Obs 1. Permane	er Train-Pushing er Train-Pushing Consist Speod (R. Recorded E. Estimated ged by crew ((specify)) e ming Intercome y Signals No 3. Unknow ront of Train d Train Code acured by (p mt Structure	Code Code T. Main 2. Anno 2. Recorded speed if av See reve instruction ched T. Highway User T. Highway User T. Highway User Signed and th	ant Involvo (and 3, 5 axitable) I Crossing rea side 5 ris and co code 3 code 3 code 3 code 3 code 3 code 3 code 3 code 3 code 3 code 3 code 3 code 3 code 3 code 3 code 3 code 3 code code 3 code 3 code code code code code code code code	ed clong 4. Indi code Code M R Verning Code S Code S Code S Code S Code Lh Ver Lh Ver S Code S Code S Code S Code S Code S Code Code S Code Code Code Code Code Code Code Code	31. Time 1. N 2. S 34. Rose A. Dr. B. Wet C.Snew Dice E. Sand, F.Water 1. Itaminete Special LI 2. No. 3. er (special LI 2. No. 3. er (special LI 2. No. 3. er (special LI 2. No. 3. er (special LI 3. Special LI 4. Special LI 5. Special L	Table Direction orth 3. East outh 4. West tway Conditions Stush Mud,Dir, Dil/Gravel (Standing, Moving.) di by Street (ahts Unknown M/) hru bemporary berris studions) gate pted suickle ar (specify)	105 Co 4 Co A Co Co Co Co Co Co Co Co Co Co
4. Work Tr 4. Work Tr 7. FRA Track Cless (1-9,X) 1 28. Number Locomo Un(s Crossing 2. Cartiliever FLS 5 3. Standard FLS 6 Code(s) 07 1 30. Location of Warning 1. Both Sides 2. Side of Vehicle Aporosch 3. Opponiele Side of Vehicle Ap 38. Highway 39. Highway User's C User's Age 1. Male 82 42. Driver Passed Standing Highway Vehicle	ain of tive I. Wig wage i. Hwy. traff i. Audible I proach code 40. Code	8. Light 29. Numt 29. Numt 29. Numt 1 5 7. fc signals 8 9 1 Co 1 Highway Uss and Struck c 1 Yes 2.9 Code 2	Switching B. Passerga locols) <u>C. Commute</u> ler of Cars <u>30</u> / 4 Crossbucks 10. Flagg Stop signs 11. Other Watchman 12. None <u>38. Crossing Wa</u> with Highway 1. Yos <u>2</u> . No ar Woot Bahisd or in Fi r' was Struck by Secon va <u>3. Unknown</u> 4 <u>3. View of Track Obs</u> <u>2. Standing</u> <u>2. Standing</u>	er Train-Pushing er Train-Pushing Consist Spood (R. Recorded E. Estimated ged by crew er (spectly) e ming Intercome y Signals No. 3. Unknow mont of Train Code 2 acured by (p int Structure rainced equipm	Code Code Code 7 Code C	ant Involvo (and 3. S axtable) mp I Crossing Code 3 c gate en procee ssing 5. Veget 6. Highy 45. Was	ed clong 4. Indi code Code M R Verning Code S Code S Code S Code S Code Lh Ver Lh Ver S Code S Code S Code S Code S Code S Code Code S Code Code Code Code Code Code Code Code	31. Time 1. N 2. S 34. Rose A. Dr. B. Wet C.Snew Dice E. Sand, F.Water 1. Itaminete Special LI 2. No. 3. er (special LI 2. No. 3. er (special LI 2. No. 3. er (special LI 2. No. 3. er (special LI 3. Special LI 4. Special LI 5. Special L	Table Direction orth 3. East outh 4. West tway Conditions Stush Mud,Dir, Dil/Gravel (Standing, Moving.) di by Street (ahts Unknown M/) hru bemporary berris studions) gate pted suickle ar (specify)	105 Co 4 Co Co Co Co Co Co
4. Work Tr 7. FRA Track 7. FRA Track 7. FRA Track 7. FRA Track 7. Second State 7. Second 7. Second State 7. Second 7. Second	ain of I. Wig wags I. Hwy. Inal I. Audible I proach iseder 40. Code 1	8. Light 29. Numt 29. Numt 1 5 7. fc signals 8 9 1 Co 1 Highwaru Uss and Struck c 1 Yes 2, 9 Code 2 Injured	Switching B. Passerga locols) C. Commute ter of Cars 30. 1 4 Crossbucks 10. Flags Stop signs 11. Other Watchman 12. None 38. Crossing We with Highway 14. None 4. Store to a Went Behavior in Fi to was Struck by Secon No 3. Unknown 43. View of Track Obs 1. Remaine 2. Standing 44. Driver wes 1. Killed 2. Injure 47. Highway Vahicle P	er Train-Pushing er Train-Pushing Consist Spood (E. Estimated ged by crew er (specify) e ming Intercome y Signals ico 3 Unknow mont of Train Code 2 accured by (fo int Structure rainced equipmed 3 J. Uninjured	Code Code T. Main 2. 1 Recorded speed if av Seconded speed at av Seconded speed and th S. Diploted	ant Involvi (and 3, S witable) mp I Crossing I Crossing I Crossing Code 3 o gate en proces ssing 5. Veget 6. Hight 45. Wa 1, Y 48. Tot	ed iding 4. Indi Code h R Warning or Code 1. Yes 5. Oth 6. Wer ded (i) 7. Yes 5. Oth 6. Wer 9. Suit 8. Suit ation rey Vehicles a Differ in II 6. 2. No al Number o al Number of al Number of	31. Time 1. No 2. S 34. Rose A. Dru B. Wet C. Sinou Ditas E. Sand, F. Water Illuminete Soecial Li 2. No 3. Tr (spec) the enumble cide/Attern 7. Other 8. Not No 4. No 4. Conce 1. No 5. Social Li 2. No 3. Tr (spec) 4. Conce 1. No 1. N	Table Direction orth 3. East outh 4. West tway Conditions Stush Mud,Dir,Dil,Gravel (Standing, Moving.) ad by Street (Standing, Moving.) (Standing, Moving.) (Sta	005 Co 4 Co A Co Co Co Co Co Co
4. Work Tr 7. FRA Track 28. Number Cless (1-9,X) 1 27. Type of 1. Gates 2. Cantilever FLS 2. Cantilever FLS 3. Standard FLS 0 2. Cantilever FLS 3. Standard FLS 0 2. Cantilever FLS 3. Standard FLS 0 2. Side of Vehicle Accessch 3. Opposite Side of Vehicle Accessch 49 40 1. Male 2. Female 42. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown Casuatties In: 16. Highway-Rail Crossing Users	ain of the two two two two two two two two two two	8. Light 29. Numt 1 29. Numt 1 20. Numt 2 1 1 1 1 1 1 1 1 1 1 1 1 1	Switching B. Passerga locols) <u>C. Commute</u> ler of Cares <u>30</u> . 4 4 Crossbucks 10. Flagg Stop signs 11. Other Watchman 12. None <u>38</u> . Crossing We with Highway <u>4</u> . Yos <u>2</u> . h ar Wont Bahisd or in F1 ar Wont Bahisd or in F1 <u>5</u> . Stronsing We <u>35</u> . Crossing We With Highway <u>1. Yos <u>2</u>. h ar Wont Bahisd or in F1 <u>2. Standing</u> <u>44</u>. Driver was <u>1. Riemane</u> <u>2. Standing</u> <u>45</u>. Driver Webicle P (est. dcular damage</u>	ar Train-Pushing er Train-Pushing Consist Speed (E. Estimated E. Estimated er (speed)) s ming Interconne y Signals to 3. Uniknow ront of Train d Train Code 2 scured by (p nt) Structure raincod equipm d 3. Unijured Property Demage e)	2000 Equipme Code 7 1. Main 2. 1 Recorded speed if av 33. Signaled (See reve instruction (See reve (See	ant Involvi (and 3. S axtable) mp I Crossing rea side in ris and co Code 3 code code 3 code 3 code 3 code 3 code code 3 code 3 code 3 code 3 code 3 code 3 code 3 code 3 code code 3 code code 3 code code code code code code code code	ed iding 4. Indi Code h R Warning or class) Code 27. Crossing Lights or 1. Yes 5. Oth 6. Wer 5. Oth 6. Wer 8. Sub stor viewed (if y 7. Vie 8. Sub stor viewed 2. No al Number 2. No buding drivey	31. Time 1. No 2. S 34. Rose A. Day B. Wet C.Snesh Dice E. Sand, F. Water 1. Itaminete Special LI 2. No 3. er (special LI 2. No 4. er (special LI 2. No 4. (special LI 2. No 4. (special LI 3. No 4. (sp	Table Direction orth: 3. East outh: 4. Weet outh: 4. Weet outh: 4. Weet outh: 4. Weet outh: 4. Weet outh: 5. Stuah Mut, Dir, Dil, Gravel (Standing, Moving.) of by Street (Standing, Moving.) of by Street (Standing, Moving.) outh: 5. Unknown M/ hru bemporary berri- structions) gate pied suicide r (specify) Obstructed ?	105 Co. 4 Co. A Co. Co. Co. Co. Co. Co. Co. Co. Co. Co.
4. Work Tr 7. FRA Track Cless (1-9.X) 1 Cless (1-9.X) 1 Cossing 2. Cardiever FLS 2 Coode(s) 07 1 3. Standard FLS Code(s) 07 1 35. Location of Warning 1. Both Sides 2. Side of Vehicle Accesseh 3. Opposite Side of Vehicle Accesseh 3. Dipposite Side of Vehicle Accesseh 3. Opposite Side of Vehicle Accesseh 49 Cossen	ain of the the the they inst Audible 1 proach code 1 Killed 0 0	8. Light 29. Numt 29. Numt 29. Numt 29. Numt 1 5 7. 1 Co 1 Co 1 Highwav Uss and Struck of 1 Ves 2 Code 2 Injured 1 0	Switching B. Passerga locols) C. Commute ler of Cars 30. 4 4 Crossbucks 10. Flagg Stop signs 11. Other Watchman 12. None 38. Crossing We with Highway 1. Yos 2. N ar Want Bahind or in Fi x was Struck by Secon No 3. Unknown 43. View of Track Obs 1. Permaine 24. Driver was 1. Killed 2. Injure 47. Highravy Vahles 25. Total Namber of Pi	ar Train-Pushing ar Train-Pushing Consist Spool (R. Recorded E. Estimated ged by crear r (specify) - - - - - - - - - - - - -	Code Code T. Main 2. Anno 2. Sopred 4 speed 4 av Sopred 4 speed 4 av Sopred 4 speed 4 av Sopred an av Sopred and th	ant Involve (and 3, S axtable) mp I Crossing I Crossing Code 3 o gate en procee ssing 5. Veget 6. Highw 45. Wa 1. Y 45. Tett (inc) 51. Is a	ed iding 4. Indi Code h R Warning or des) Code 37. Crossing Lights or 1. Yes 5. Oth 5. Oth 5. Oth 5. Oth 6. Wer 4. We 8. Sub ation vay Vehicles 2. No al Driver in B Set 2. No al Number o buding driver	31. Time 1. No 2. S 34. Roser A. Dra B. Viet C. Snew D. Los E. Sand, F. Water 1. Iuminete Special Li 2. No 3. Special Li 2. No 4. Special Li 2. No 4. Special Li 2. No 4. Special Li 4. Special Li 4. Special Li 5. Special Li 4. Special Li 5. Special Li 4. Special Li 5. Special Li	Table Direction orth 3. East outh 4. West tway Conditions Stush Mud,Dirt,D1.Gravel (Standing, Noving.) ad by Street (Standing, Noving.) (Standing,	105 Coo 4 Coo A Coo Coo Coo Coo Coo Coo Coo Coo C
4. Work Tr 7. FRA Track 28. Number Cless (1-9.X) 1 21. Type of 1. Gates 2. Cantilever FL5 2. Cantilever FL5 3. Standard FL5 0 2. Standard FL 0 2. Standard FL 0 2. Standard 1. Male 2. Permain 4 2. Femain 1. Male 2. Femain 1. Male 2. Femain 1. Yes 2. No 3. Unknown Casualties In: 1. Gaugaties In: 1. Railroad Employees 52. Passengers on Train	ain of the the the the they traff Audible 1 proach code 1 Killed 0 0	8. Light 29. Numt 29. Numt 29. Numt 1 5 7. 1 Co 1 Co 1 Highwav Uss and Struck o 1 Yes 2, 3 Code 2 Injured 1 0 0 0	Switching B. Passerga locols) <u>C. Commute</u> ler of Cares <u>30</u> . 4 4 Crossbucks 10. Flagg Stop signs 11. Other Watchman 12. None <u>38</u> . Crossing We with Highway <u>1. Yos</u> 2. h ar Wont Bahisd or in F1 ar Wont Bahisd or in F1 <u>3. Unknown</u> <u>3. Unknown</u> <u>3. Unknown</u> <u>3. Standing</u> <u>44</u> . Driver was <u>1. Riemane</u> <u>2. Standing</u> <u>45</u> . Driver was <u>1. Kiled</u> 2. Injure (est. dc0ar damage <u>50</u> . Total Namber of P1 (include passenger	ar Train-Pushing er Train-Pushing Consist Spool (E. Estimated E. Estimated e. Estimated e. (specify) e. eming Interconne y Signals to 3. Uniknow ront of Train Code 2 excured by (fr int Structure reincod equipm d 3. Unifued Property Demage e. exple on Train e.	Code Code T. Main 2. Anno 2. Recorded speed if av Seconded speed spee	ant Involve (and 3, S witable) mp I Crossing I Crossing I Crossing Code 3 o gate en proces ssing 5. Veget 6. Hight 45. Wa 1, Y 48. Toth (incl 51. Is a linci	ed iding 4. Indi Code h R Warning or class) Code 27. Crossing Lights or 1. Yes 5. Oth 6. Wer 5. Oth 6. Wer 8. Sub stor viewed (if y 7. Vie 8. Sub stor viewed 2. No al Number 2. No buding drivey	31. Time 1. No 2. S 34. Roser A. Dra B. Viet C. Snew D. Los E. Sand, F. Water 1. Iuminete Special Li 2. No 3. Special Li 2. No 4. Special Li 2. No 4. Special Li 2. No 4. Special Li 4. Special Li 4. Special Li 5. Special Li 4. Special Li 5. Special Li 4. Special Li 5. Special Li	Table Direction orth 3. East outh 4. West tway Conditions Stush Mud,Dirt,D1.Gravel (Standing, Noving.) ad by Street (Standing, Noving.) (Standing,	05 Cox Co Co Co Co Co Co Co Co Co Co Co Co Co
4. Work Tr 7. FRA Track 28. Number Cless (1-9.X) 1 21. Type of 1. Gates 2. Cantilever FL5 2. Cantilever FL5 3. Standard FL5 0 2. Standard FL 0 2. Standard FL 0 2. Standard 1. Male 2. Permain 4 2. Femain 1. Male 2. Femain 1. Male 2. Femain 1. Yes 2. No 3. Unknown Casualties In: 1. Gaugaties In: 1. Railroad Employees 52. Passengers on Train	ain of the two wags Hwy, naff Audible 1 proach senter 40. Code 1 1 Killed 0 0 0 0	8. Light 29. Numt 29. Numt 1 29. Numt 1 c 37. 7. Co 1 Co 1 Highwaru Uss and Struck c 1 Yes 2, 3 Code 2 Injured 1 0 0 0 sten? ///	Switching B. Passerga locols) C. Commute ler of Cars 30. 4 4 Crossbucks 10. Flagg Stop signs 11. Other Watchman 12. None 38. Crossing We with Highway 1. Yos 2. Nore with Highway 1. Yos 3. Unknown 43. View of Track Obs 1. Remane 2. Solid 1. Remane 2. Solid 1. Remane 2. Solid 2. Remane 2. Solid 3. Unknown 43. View of Track Obs 1. Remane 2. Solid 3. Unknown 43. View of Track Obs 1. Remane 2. Solid 3. Unknown 43. Driver was 1. Killed 2. Injures 47. Highway Vahicle P. (est. dolar damage 50. Total Number of P. (include passenger Yes Ne	ar Train-Pushing er Train-Pushing Consist Spool (E. Estimated E. Estimated e. Estimated e. (specify) e. eming Interconne y Signals to 3. Uniknow ront of Train Code 2 excured by (fr int Structure reincod equipm d 3. Unifued Property Demage e. exple on Train e.	Code Code T. Main 2. Anno 2. Sopred 4 speed 4 av Sopred 4 speed 4 av Sopred 4 speed 4 av Sopred an av Sopred and th	ant Involve (and 3, S witable) mp I Crossing I Crossing I Crossing Code 3 o gate en proces ssing 5. Veget 6. Hight 45. Wa 1, Y 48. Toth (incl 51. Is a linci	ed iding 4. Indi Code h R Warning or Code Code Code 1. Yes 5. Oth 6. Wer ded (if V) 7. We 8. Suit software 8. Suit software 1. Yes 5. Oth 6. Wer ded (if V) 7. We 8. Suit software 1. Yes S. Oth 6. Wer ded (if V) 7. We 8. Suit software 1. Yes S. Oth 6. Wer ded (if V) 7. We 8. Suit software 1. Wert 8. Suit software 1. Yes S. Oth 6. Wer ded (if V) 7. We 8. Suit software 1. Wert 8. Suit software 1. Wert 1. Wert 8. Suit software 1. Wert 1. We	31. Time 1. No 2. S 34. Roser A. Dra B. Viet C. Snew D. Los E. Sand, F. Water 1. Iuminete Special Li 2. No 3. Special Li 2. No 4. Special Li 2. No 4. Special Li 2. No 4. Special Li 4. Special Li 4. Special Li 5. Special Li 4. Special Li 5. Special Li 4. Special Li 5. Special Li	Table Direction orth 3. East outh 4. West tway Conditions Stush Mud,Dirt,D1.Gravel (Standing, Noving.) ad by Street (Standing, Noving.) (Standing,	105 Coo 4 Coo A Coo Coo Coo Coo Coo Coo Coo Coo C
4. Work Tr 7. FRA Track Cless (1-9.X) 1 Cless (1-9.X)	ain of the the Hwy traff Audible I proach ender 40. Code 1 Killed 0 0 0 Video T: Video U specific an	8. Light 29. Numt 29. Numt 1 29. Numt 1 control of the signals & 9 Control of the signals & 9 Control of the signals & 1 Yes 2, 9 Code 2 Injured 1 0 0 0 aten? 2 Control of continue on control of continue on control of the signals &	Switching B. Passerga locols) <u>C. Commute</u> ler of Cars <u>30</u> . 4 4 Crossbucks 10. Flagg Stop signs 11. Other Watchman 12. None <u>38</u> . Crossing We with Highway <u>4</u> . Yos <u>2</u> . None <u>50</u> . Scossing We with Highway <u>4</u> . Yos <u>2</u> . None <u>50</u> . Scossing We <u>50</u> . Total Namber of Pa (include passenger Yes <u>No</u> Yes <u>No</u> No	ar Train-Pushing er Train-Pushing Consist Spood (E. Estimated ged by crew r (specify) e ming Intercome y Signals ic 3 Unknow mont of Train Code 2 accured by (ic accured by (ic nit Structure rainced equipm d 3. Uninjured Property Demage e) eople on Train c 336. Sp	Code Code T. Main 2. Anno 2. Recorded speed if av Seconded speed spee	ant Involve (and 3, S witable) mp I Crossing I Crossing I Crossing Code 3 o gate en proces ssing 5. Veget 6. Hight 45. Wa 1, Y 48. Toth (incl 51. Is a linci	ed iding 4. Indi Code h R Warning or Code Code Code 1. Yes 5. Oth 6. Wer ded (if V) 7. We 8. Suit software 8. Suit software 1. Yes 5. Oth 6. Wer ded (if V) 7. We 8. Suit software 1. Yes S. Oth 6. Wer ded (if V) 7. We 8. Suit software 1. Yes S. Oth 6. Wer ded (if V) 7. We 8. Suit software 1. Wert 8. Suit software 1. Yes S. Oth 6. Wer ded (if V) 7. We 8. Suit software 1. Wert 8. Suit software 1. Wert 1. Wert 8. Suit software 1. Wert 1. We	31. Time 1. No 2. S 34. Roser A. Dra B. Viet C. Snew D. Los E. Sand, F. Water 1. Iuminete Special Li 2. No 3. Special Li 2. No 4. Special Li 2. No 4. Special Li 2. No 4. Special Li 4. Special Li 4. Special Li 5. Special Li 4. Special Li 5. Special Li 4. Special Li 5. Special Li	Table Direction orth 3. East outh 4. West tway Conditions Stush Mud,Dirt,D1.Gravel (Standing, Noving.) ad by Street (Standing, Noving.) (Standing,	105 Co Co Co Co Co Co Co Co Co Co Co
4. Work Tr 27. FRA Track Clais (1-9,X) 1 28. Number Locomo Units 29. Number Locomo Units 20. Cantilever FLS 5 3. Standard FLS 6 Code(s) 07 1 3. Opposite Side of Verkick Ap 2. Sate of Verkick Aparosch 3. Opposite Side of Verkick Ap 38. Highway 30 Peigthway User's C User's Age 1. Male 2. Female 1. Male 3. Opposite Side of Verkicke 4. Relinead Employees 52. Possengers on Train 53a. Special Study Block	ain of the the Hwy traff Audible I proach ender 40. Code 1 Killed 0 0 0 Video T: Video U specific an	8. Light 29. Numt 29. Numt 1 29. Numt 1 control of the signals & 9 Control of the signals & 9 Control of the signals & 1 Yes 2, 9 Code 2 Injured 1 0 0 0 aten? 2 Control of continue on control of continue on control of the signals &	Switching B. Passerga locols) <u>C. Commute</u> ler of Cars <u>30</u> . 4 4 Crossbucks 10. Flagg Stop signs 11. Other Watchman 12. None <u>38</u> . Crossing We with Highway <u>4</u> . Yos <u>2</u> . None <u>50</u> . Scossing We with Highway <u>4</u> . Yos <u>2</u> . None <u>50</u> . Scossing We <u>50</u> . Total Namber of Pa (include passenger Yes <u>No</u> Yes <u>No</u> No	ar Train-Pushing er Train-Pushing Consist Spood (E. Estimated ged by crew r (specify) e ming Intercome y Signals ic 3 Unknow mont of Train Code 2 accured by (ic accured by (ic nit Structure rainced equipm d 3. Uninjured Property Demage e) eople on Train c 336. Sp	Code Code T. Main 2. Anno 2. Recorded speed if av Seconded speed spee	ant Involve (and 3, S witable) mp I Crossing I Crossing I Crossing Code 3 o gate en proces ssing 5. Veget 6. Hight 45. Wa 1, Y 48. Toth (incl 51. Is a linci	ed iding 4. Indi Code h R Warning or Code Code Code 1. Yes 5. Oth 6. Wer ded (if V) 7. We 8. Suit software 8. Suit software 1. Yes 5. Oth 6. Wer ded (if V) 7. We 8. Suit software 1. Yes S. Oth 6. Wer ded (if V) 7. We 8. Suit software 1. Yes S. Oth 6. Wer ded (if V) 7. We 8. Suit software 1. Wert 8. Suit software 1. Yes S. Oth 6. Wer ded (if V) 7. We 8. Suit software 1. Wert 8. Suit software 1. Wert 1. Wert 8. Suit software 1. Wert 1. We	31. Time 1. No 2. S 34. Roser A. Dra B. Viet C. Snew D. Los E. Sand, F. Water 1. Iuminete Special Li 2. No 3. Special Li 2. No 4. Special Li 2. No 4. Special Li 2. No 4. Special Li 4. Special Li 4. Special Li 5. Special Li 4. Special Li 5. Special Li 4. Special Li 5. Special Li	Table Direction orth 3. East outh 4. West tway Conditions Stush Mud,Dirt,D1.Gravel (Standing, Noving.) ad by Street (Standing, Noving.) (Standing,	105 Cool 4 Cool A Cool Cool Cool Cool Cool Cool Co
4. Work Tr 4. Work Tr 77. FRA Track Class (1-9.X) 1 1 Gates 28. Number Locotne 1 1 Gates 2. Cardiever FLS 2 2. Cardiever FLS 2 3. Standard FLS 1 3. Standard 1 3. Standard 4 2. Cardiever FLS 3 3. Standard 4 2. Standard 4 3. Standard 4 3. Standard 4	ain of the the the the the the the the the the	8. Light 29. Numt 1 29. Numt 1 29. Numt 1 20. Numt 9 0 1 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1	Switching B. Passerga locols) C. Commute ter of Cars 30. 4 4 Crossbucks 10. Flagg Stop signs 11. Other Watchman 12. None Watchman 12. None 4. Storesing We with Highway 1. Yos 2. N ar Went Bahind or in Fi r was Struck by Secon 43. View of Track Obs 1. Permane 2. Standing 44. Driver wes 1. Killed 2. Injures 45. Drotal Namber of P (rest. dollar damage 50. Total Namber of P (rest. dollar damage 50. Total Namber of P (rest. dollar damage 50. Total Namber of P (rest. dollar damage Son Total Namber of P (rest. dollar damage Son State Sheef d'noce DEVICES: YIELD SIGN	ar Train-Pushing er Train-Pushing Consist Spood (E. Estimated ped by crew r (specify) s ming Intercome y Signals vo. 3. Unknow mont of Train d Train Code 2 scured by (fr raincod equipm d 3. Unknow raincod equipm d 3. Unknow raincod equipm d 3. Uninjured Properly Demage of sople on Train rs and frain crew 53b. Sp sssny)	WW Equipmedia Code 7 1. Main 2. Y Recorded speed if av 33. Signaled (See reveninstructor 33. Signaled (See reveninstructor Instructor cted 1 1. Main 2. Y cted 1. Main 2. Y Instructor cted 1. Highway User 1. Work around th 1. Highway User 1. Work around th 1. Sipped on cronor 3. Did not stop 4. Sipped on cronor Signaled 3. Passing Trainent 4. Topography 2 1 1. Sipped and th 3. Did not stop 2 1. Sipped and cronor 2 1 stages and the stop of the stop 2 1 3. Passing Trainent 4. Topography 2 1 1. Stage and the stop of th	ant Involve (and 3, S axtable) mp I Crossing ree side fins and co s and co s and co s gate en proces ssing 5. Veget 8. Hight 45. Weget 9. Hight 45. Tot (incl 51. Is a linco) 5. Y	ed iding 4. Indi Code h R Warning or Code Code Code 1. Yes 5. Oth 6. Wer 6. Wer 6. Wer 6. Wer 6. Wer 6. Wer 6. Wer 8. Sub 2. Oth 6. Wer 8. Sub 2. Oth 8. Sub 2. Oth 6. Wer 6. Wer 7. Wis 8. Sub 2. Sub 3. Sub 3	31. Time 1. No 2. S 34. Roser A. Dra B. Viet C. Snew D. Los E. Sand, F. Water 2. No 3. Special L. 2. No 3. Special L. 2. No 4. Special L. 2. No 4. Special L. 5. Special L. 2. No 4. Special L. 5.	Table Direction Table Direction Table Direction Table Direction Sush Must,Dir, DI ,Gravel (Standing, Moving.) d by Street (st	105
4. Work Tr 7. FRA Track Cless (1-9.X) 1 Cless (1-9.X) 1 Cless (1-9.X) 1 Cossing 2. Cantilever FL5 3 Clossing 2. Cantilever FL5 3 Standard FL5 6 Code(s) 07 1 Standard FL5 6 Code(s) 1 Standard FL5 1 Standard Standard FL5 1 Standard Standard 1 Standard Standard	ain of the the the the the the the the the the	8. Light 29. Numt 29. Numt 1 5 7. Co 10 Co 1 Highwaru Use and Struck of 1 Yes 2, 9 Code 2 Injured 1 0 0 0 aten? 2 codts acciden codts acciden	Switching B. Passerga locols) C. Commute locols) C. Commute locols	ar Train-Pushing er Train-Pushing Consist Spood (E. Estimated B. Recorded E. Estimated get by crew r (specify) - - - - - - - - - - - - -	AUU Code Code T. Main 2: Anno 2: Seconded speed if av Seconded speed seconded speed speed seconded speed speed seconded speed seconded speed seconded speed speed seconded speed seconded speed seconded speed seconded seco	ant Involvo (and 3, S axtable) mp I Crossing rea side is and co Code 3 Code 3 S. Veget 6. Higher 45. Weget 5. Veget 5. Veget 5. Higher 45. Tet (find) 51. Is a line) 5. 1	ed iding 4. Indi Code h R Warning or des) Code 37. Crossing Lights or 1. Yes 5. Oth 5. We 8. Suit ation cay Vehicles 8. Suit ation 2. No al Number of being driver Rall Equiption deni Report (riss 2. No	31. Time 1. No 2. S 34. Roser A. Dra B. Viet C. Snew D. Los E. Sand, F. Water 2. No 3. Special L. 2. No 3. Special L. 2. No 4. Special L. 2. No 4. Special L. 5. Special L. 2. No 4. Special L. 5.	Table Direction Table Direction Table Direction Table Direction Sush Must,Dir, DI ,Gravel (Standing, Moving.) d by Street (st	105

Figure D-4. Holly Street Crossing (2 of 2)

EDERAL RAILROAD ADMINISTRATION (ON (FRA)		IDENT/	NCIDENT	CROSSING REPORT		OMB Approval No. 21	30-0500
Name of Reporting Relirced					1a. Alphabetic Co	de	1b. Reihoed Accident/Incid	ient No.
Union Pacific Railroad Company [U	JPJ				UP		0918DV027	
Name of Other Railroad or Other Entity F		t Involved in Train A	Accidenti	Incident	2a. Alphabetic Co	de	2b. Railroad Accident/Incid	iert No.
3. Name of Railroad or Other Entity Respo	ashis he Track M	alabawana			Sa. Alphabetic Ca		3b. Reinced Accident/Incid	to at the
Enion Pacific Railroad Company (U		annentantes tragér	68475		EP	sec.	0918DV027	HERE NOS
U.S. DOT Grade Crossing ID No.	<u>[]</u>				5. Date of Accide	officialist	6. Time of Appident/Inciden	
		1	000		month p	de l'en	o, the or resident house	
		804614	4H			5 2018	11:40 AM	PM
7 Nearest Railroad Station		8. Subdivision	23		9. County		10. State	Cod
SANDOWN		LIMON SU	<u></u>		DENVER		Abbr. CO	06
11. City of the city? DENVER		12. Highw	ay Name	Britan He	DLLY		Public 🗸 8	Private
	User Involved			IT Failer		Rail Equipment 4 Carls) (moving)		_
13. Type C. Truck trailor F. Bus-	J. Other Motor	Valuate		17. Equipri	in lands puiling)	5. Car(s) (standing		
A Auto D. Pick-up huck G. School Bur			Code		in (units pushing)	6 Light loco(s) (m	and shak as a state of the state of the	
B. Truck E. Van H. Molorcacle			A	3. Tra	in (samaling)	7. Light loco(s) (#	tending) D. ENU Locomotive) E. DNU Locomotive)	
4. Vehicle Speed 15. Direction	- 1.49.498.00 <u>.</u> 84	25.550 / L.	Code	18. Position	t of Car Unit in Tra	8. Other (speaily	 E. DWO LOCONDWE, 	
	2 South 3 East		1		Concerning and the line	1		
16. Position 1. Stalled or stuck on crossi	ng 4. Trapped on	crossing by traffic	0.00	19. Circum	stance			Cot
2. Stopped on Crossing	5. Blocked on	crossing by gates	Code 3	1. Rall e	quipment struck hi	ghway user 2. Rail o	equipment struck by highway	
3. Moving over crossing	Contrast Incontrast		3	201 140-14	have a based	en eta dade perio esta e		
20a. Was the highway user and/or rail equ in the impact transporting hazardous			Code	200. West	mere a nazardous	materials release by		Cod
1. Highway User 2. Rall Equipme		Veither	2	1	Highway User 5	. Rail Equipment 3	3. Both 4. Neither	4
20c. State here the name and quantity of t	he hazardous mat	erial released, if any	y.					
				L'and the second				12
	y isingle entry:		Code		her (single entry)			Cod
(apacify of minus) 51 "F 1 Dawn 24. Type of Equipment 1. Fraight Train	2 Dey 3 Dusk	4. Dirk	4	1. Cler	ar 2. Cloudy 3. R	in 4 Fog 5 Sleet	6. Snow	1
4. Work Train 4. Work Train 27. FRA Track 28. Number of Locomotive 1 Usis	29. Numbr	ar of Cars 30		Speed (Rev orcied	7 1. Main 2. Y conded speed if av	ard 3.Siding 4. Ind. antabilinj Coda I mah R	31. Time Table Direction 1 North 3. East 2. South 4. West	Cor 3
I Units 32 Type of	-1		E. Loan	maleo	93 Semilar	Grossing Warning	34. Roadway Conditions	1.
1 Gales 4. Wig w Crossing	iege 7. C	cosabucks 10. Flag	gged by c	Ch 6M,	West and	1993	A.Drv	
2. Card lever FLS 5. Hwy. I Warning	raffic signate 8, 5	llop signs 11. Olh	ter (apec	sily/		se side for s and codes)	B. Wet C.Snow/Stush	
3. Standard FLS 6. Audibi	e 9.7	Vatchman 12 Nor	ne			Code	D. here	Cot
	11						F. Water (Standing, Moving.)	
Codets) 07 10								
Code(s) 07 10		38. Crossing W	Rening In	terconnecte	d		Illuminated by Street	
Code(s) 07 10 35. Location of Warning 1. Both Sides	, Cod	and the second					a illum nated by Street r Special Lights	Do
Code(s) 07 10	Cod 1	and the second	ay Signal	łs	19	tode Lights or 1. Yes	Special Lights 2. No 3. Unknown	
Codetst 07 10 35. Location of Warking 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 38. Higrwary 39. Higtway User's Center	40. Highway Use	with Highwa 1. Yes 2 rWant Behind or in 1	ey Signal No 3 Front of 1	ls L Unknown Torin (41.)	Highway User	ode Lights or 1. Yes 5. Othe	r Special Lights 2. No 3. Unknown er (specify)	1
Codets) 07 10 35. Location of Warking 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 38. Highway User's Canden User's	40. Highway Use	e with Highwa 1. Yes 2	ey Signal No 3 Front of T ond Train	ls I. Unknown Toxin (41.) 1	Highway User 1. Went around the	ode Lights or 1. Yes 5. Oth 6. Wer	Special Lights 2. No 3. Unknown	icade
Dodetsi 07 10 35. Location of Wanting 1. Echt Sides 2. Side of Vehicle Approach 3. Doposte Side of Vehicle Approach 3. Highway 39 Highway User's Center User's User's 1. Male Code	40. Highway Use and Struck or	with Highwa 1. Yes 2 rWant Bahind or in 1 was Struck by Seco	ey Signal No 3 Front of T ond Train	ls Unknown Tosin 41.1 1 Code	Highway User 1. Went around the 2. Stopped and the 3. Did not stop	tode Lights or 1. Yes 5. Other proceeded 01 y 7. We	Special Lights 2. No 3. Unknown er (specify) nt around/thru temporary ban ves, see instructions) nt thru the gate	Co
Code(s) 07 10 35. Location of Wienking 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 38. Highwavy 39 Highway User's Cancer User's User's Ape 1. Mate Code 38 2. Female 1	40. Highway User and Struck or 1. Yes 2, N	With Highwo 1. Yes 2 (Want Bahind or in 1 was Struck by Sec 0. S. Unknown	ay Signal No 3 Front of T ond Train	ls Unknown Tosin 41.1 1 Code 2	Highway User 1. Went around the 2. Stopped and the 3. Did not stop 4. Stopped on cross	tode Lights or 1. Yes 5. Other proceeded 01 y 7. We	r Special Lights 2. No 3. Unknown er (specify) in around-thru temporary barr res, see instructions)	icade Co
Ocdets1 07 10 35. Location of Warting 1. Ecth Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 34. Highwayi 39 Highwayi User's Gender User's 38. Highwayi Code's Gender User's Gender 38. Highwayi 39 Highwayi User's Gender 39. Highwayi Code's Gender 38. 2. Female 1 42. Driver Pessed Standing 1	40. Highway User and Struck or 1. Yes 2, N	e with Highwi 1. Yes 2. Want Bahind or in 1 was Struck by Sect 5. Unknown 43. View of Track Of	ey Signal No 3 Front of T ond Train	la Unknown Tosin 41.1 Code 2 by (prim	Highway User 11 Went around the 2. Stopped and the 3. Did not stop 4. Stopped on cross any obstruction)	ade Lights or 1. Yes 5. Othe gate 6. Wer in proceeded 01 y 7. We sing 5. Sub	Special Lights 2. No 3. Unknown ar (specify) it around/thur temporary barr res, see instructions) int thru the gate cide/Altempted suicide	icade Co
Ocdets1 07 10 35. Location of Warting 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 38. Highwary (39. Highwary User's Cander User's App 1. Male Code 38. 2. Female 1 1. 42. Driver Passed Standing, Highwary Vehicle 1. Highwary Vehicle	1 40. Highway Use and Struck or 1 Yes 2. N Code (2	with Highwi 1. Yes 2 Want Behind or in 1 was Struck by Seca 5. Unknown 13. View of Track O 2. Standin 2. Standin	ey Signal No 3 Front of 1 ond Train	ki Unknown Train 41.1 Code 2 by (prim cture	Highway User 1 Weet around the 2. Stopped and the 3. Did not stop 4. Stopped on cros wy costruction; 3. Passing Train	bode Lights or 1. Yes 5. Dth 9 gate 6. Wer in proceeded 00 y 7. We sing 8. Sub 5. Vegetation	Special Lights 2. No. 3. Unknown ar (specify) nt around/thru temporary ban we see instructions) nt thru the gate cide/Attempted suicide 7. Other (specify)	icade Co Cod
Ocdets1 07 10 35. Location of Wartling 1. Ecth Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 34. Opposite Side of Vehicle Approach 38. Highwary 39 bilghwary User's Cander User's Age 1. Male Code 38 2. Female 1 42. Driver Passed Standing Highwary Vehicle 1 1. Yes 2. No 3. UninDown	40. Highway Use and Struck or 1 Yes 2. No Code 4 2	with Highwi 1. Yes 2 Want Behind ocin 1 was Struck by Sec: 2. S. Unknown 43. View of Track Di 1. Perman 2. Standin 14. Driver was	ay Signal No 3 Front of T ond Train bscured b tent Struc ng rainas	ls Unknown Tosin 41.1 Code 2 2 by (prim chure d equipment	C 1 Highway User 1. Went around the 2. Stopped and the 3. Did not stop 4. Stopped on creative ary costnuction; 3. Passing Train 4. Topography	bilde Lights or 1. Yes 5. Othe 9 gate 5. Othe 9 gate 5. Othe 9 gate 7. We 1. Yes 5. Othe 1. Yes 5. Othe 5.	Special Lights 2. No. 3. Unknown ar (specify) nt around/thru temporary ban we see instructions) nt thru the gate cide/Attempted suicide 7. Other (specify)	icade Co Cod Cod
Code(s) 07 10 35. Location of Warning 1. Both Sides . 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 38. Highwary 39 brighwary User's Cander User's Age 1. Male Code 38. Highwary Age 1. Male Code 38 42. Driver Passed Standing Highwary Vehicle 1 1. Yes 2. No 3. Unknown Casuatties to Killer 68. Hightogram Consults To Consults To Consult To C	42. Highway Usau and Struck or 1 Yes 2. Ni Code 4 2 4 Injured 4	with Highwi 1. Yes 2 (Want Bahind or in 1 was Struck by Sec 3. Unknown 43. View of Track OI 1. Perman 2. Stantin 1. Kiled 2. Injur	ay Signal No 3 Front of T ond Train biscured b nent Struc ng raitroas red 3, U	Is Unknown Train 41.1 Code 2 Dy (prim cture d equipment hinjured	Highway User 1 Weet around the 2. Stopped and the 3. Did not stop 4. Stopped on cros wy costruction; 3. Passing Train	Lights or 1. Yes 5. Oth 9 gale 5. Wer in proceeded 01 y 7. We 1. Yes 5. Wegetation 6. Highway Vehicles 45. Was 2. No	Soecial Lights 2. No 3. Unknown r (seecify) it around/thru temporary ban exis see instructions) int thru the gate cide/Attempted suicide 7. Other (specify) s 8. Not Chetructed he Wehicle?	icade Co Cod Cod
Code(s) 07 10 35. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 38. Highway User's Candor User's 1. Male Code 38. E-Emale 1 42. Driver Passed Stanting Highway Vehicle 1. Yes 2. No 1. Yes 2. No 3. Unknown	40. Highway Use and Struck or 1 Yes 2. N Code 4 2 d Injured 4	with Highwi 1. Yes 2 Want Behind ocin 1 was Struck by Sec: 2. S. Unknown 43. View of Track Di 1. Perman 2. Standin 14. Driver was	ay Signal No 3 Front of T ond Train becured b hent Struc ng raitroas red 3 Uk	Is Unknown Train 41.1 Code 2 Dy (prim cture d equipment hinjured	C 1 Highway User 1. Went around the 2. Stopped and the 3. Did not stop 4. Stopped on creative ary costniction; 3. Passing Train 4. Topography	Lights or 1. Yes 5. Oth 9 gale 5. Wer in proceeded 01 y 7. We 1. Yes 5. Wegetation 6. Highway Vehicles 45. Was 2. No	Soecial Lights 2. No 3. Unknown or (seesify) it around/thru temporary ban ws. see instructions) int thru the gate cide/Attempted suicide 7. Other (specify) s. 8. Not Obstructed he Vehicle?	icade
Codetsi 07 10 35. Location of Wienking 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 38. Highwany 39 Highway User's Cancer Code 38. Highwany 39 Highway User's Cancer Code 38. Highwany 39 Highway User's Cancer Code 38. Highwany 60 L. Male Code 38. 2. Female 1 42. Driver Passed Stending Highway Vehicle 1. Yes 2. No 3. Unknown Cesuather to: Killer 6. Highway-Rait Crossing Users: 0	40 Highway Usan and Struck or 1 Yes 2. N Code 4 2 d Injured 4	with Highwith 1. Yes: 2. (Want Behind or in 1 was Struck by Sect 0. S. Linknown 43. View of Track O: 1. Perman 2. Standin 4. Driver with 1. Kiled 2. Injur 7. Highway Vehicle (est. dollar dama) 60. Total Number of	ay Signal No 3 Front of T and Train biscured bi ment Shaking railwase red 3 Lik Property gej Paople ci	Is Unknown Toxin 41, 1 Code 2 2 by (privi- dieguipment Minjured / Dismisge	C 1 Highway User 1. Weet around the 3. Stopped on creating and the stop of the stop of the stop of the stop of the	tights or 5. Cith 9 gabe 5. Cith 9 gabe 6. Wer on proceeded 0f y 7. Vie 5. Vegotation 6. Highway Vetecles 45. Was Driver in ft 1. Yes 2. No 46. Total Numbero (including driver 51. b.a. Real Equipm	Soecial Lights 2. No 3. Unknown ar (seecify) a arounditru temporary ban ex see instructions) int thu the gate cide/Attemated suicide 7. Other (specify) is 8. Not Obstructed be Vehicle? 2. Vehicle Occupants () intent Accident.)	1 10ade 2 0 cod 8 0 cod 1
Oddetsi 07 10 35. Location of Wiaming 1. Both Sides . 2. Side of Vehicle Approach 3. Opposhe Side of Vehicle Approach 3. Opposhe Side of Vehicle Approach 38. Highwary 30 Highwary User's Cancer User's Age 1. Male Code 38 2. Female 1 42. Driver Passed Standing Highway Vehicle 1 Highway Vehicle 3. Unknown Killer 66. Highway-Ruit Crossing Users: 0 59. Railroad Employees: 0	40 Highway Usas and Struck or 1 Yes 2. No Date 4 1 Injured 4 0 4	with Highwith 1. Yes 2. Want Bichind or in 1 was Struck by Sect 0. S. Unknown 43. View of Track O: 1. Perman 2. Standin 4. Driver was 1. Killed 2. Injur 7. Higheway Welficle (est. dollar dama)	ay Signal No 3 Front of T and Train biscured bi ment Shaking railwase red 3 Lik Property gej Paople ci	Is Unknown Toxin 41, 1 Code 2 2 by (privi- dieguipment Minjured / Dismisge	C 1 Highway User 1. Weet around the 3. Stopped on creating and the stop of the stop of the stop of the stop of the	sode Lights or 1. Yes 5. Other gale 6. Wer m proceeded 00 y 7. We sing 8. Sub 5. Vegotation 6. Highway Vehicles 45. Was Driver in 1 1. Yes 2. No 48. Total Number o (including driver 51. La Rail Equip Incident Report	Soecial Lights 2. No 3. Unknown ar (seecify) a arounditru temporary ban ex see instructions) int thu the gate cide/Attemated suicide 7. Other (specify) is 8. Not Obstructed be Vehicle? 2. Vehicle Occupants () intent Accident.)	102de Co 3 8 000 1 3
Dodetsi 07 10 35. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 3. Editor Sides 2. Side of Vehicle Approach 3. Byposhe Side of Vehicle Approach 38. Highway 39. Highway User's Center User's 1. Male Code Age 1. Male Code 2. Briaer Passed Stending 1 1 Highway Vehicle 1. 1 1. Yes 2. No 3. Unknown Cesuatities to Killer 66. Highway-Rui Crossing Users: 0 52. Passengers on Train 0 53. Special Study Block Valeit	1 40. Highway Uses and Struck or 1. Yes 2, N Code 4 1. Good 1	with Highwin 1. Yes 2 (Want Bahnd or in 1 was Struck by Sec. 5. Linknown 43. View of Track 0: 1. Perman 2. Stant 1. Kiled 2. Injur	ay Signal No 3 Front of T and Train biscured bi ment Shaking railwase red 3 Lik Property gej Paople ci	le Unknown Toxin 41, 1 Code 2 by (privi- curre d equipment his[crod / Damage in Train frain crew)	C 3 Highway User 1. Weet around the 2. Stopped and the 3. Did not stop 4. Stopped on one any obstruction 3. Passing Train 4. Topography 3. 3. 3. 3. 3. 3. 3. 3. 3. 3.	tights or 5. Cith 9 gabe 5. Cith 9 gabe 6. Wer on proceeded 0f y 7. Vie 5. Vegotation 6. Highway Vetecles 45. Was Driver in ft 1. Yes 2. No 46. Total Numbero (including driver 51. b.a. Real Equipm	Soecial Lights 2. No 3. Unknown ar (seecify) a arounditru temporary ban ex see instructions) int thu the gate cide/Attemated suicide 7. Other (specify) is 8. Not Obstructed be Vehicle? 2. Vehicle Occupants () intent Accident.)	icade Co Cod 8 Cor 1 3 Cod
Dodetsi 07 10 35. Location of Warning 1. Eich Sides 2. Side of Vehicle Approach 3. Doposite Side of Vehicle Approach 3. Highwayi 39 Highway baer's Center User's 38. Highwayi 39 Highwayi baer's Center User's 1. Male Age 1. Male Code 38. Conter Passad Standing 1 1. Male Age 1. Male Code 38. Conter Passad Standing Highway Vehicle 1 Highway Plait Crossing Users 0 9. Railroad Employees 0 52. Passengers on Train 0 53a. Special Study Block Velacite	1 40. Highway Uses and Struck or 1 Yes 2. Ni Code 4 0 4 0 5 0 5 0 5 0 5 0 7 0 Taken? 1	with Highwith 1. Yee 2 (Want Bichind or in 1 r was Struck by Sect 5. Unknown 3. View of Track O 1. Perman 2. Standin 2. Standin 1. Kiled 2. Injur 1. Kiled 2. Kiled 2	ay Signal No 3 Frient of 1 ond Train biscured b tent Struc ng raitroar red 3 LU Property ge) Paople of pars and f	Is Unknown Toxin 41, 1 Code 2 by (prive clure d equipment histored / Demage in Train Train train crew) 55b. Spec	C 3 Highway User 1. Weet around the 2. Stopped and the 3. Did not stop 4. Stopped on creative any costruction 3. Passing Train 4. Topography 3. 3. S3,000 3. 3.	sode Lights or 1. Yes 5. Other gale 6. Wer m proceeded 00 y 7. We sing 8. Sub 5. Vegotation 6. Highway Vehicles 45. Was Driver in 1 1. Yes 2. No 48. Total Number o (including driver 51. La Rail Equip Incident Report	Soecial Lights 2. No 3. Unknown ar (seecify) a arounditru temporary ban ex see instructions) int thu the gate cide/Attemated suicide 7. Other (specify) is 8. Not Obstructed be Vehicle? 2. Vehicle Occupants () intent Accident.)	icade Co Cod 8 Cor 1 3 Cod
Oddetsi 07 10 35. Location of Wienking 1. Bich Sides . 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 38. Highwary 39 brightway User's Conder User's 476 1. Male Code 38 2. Female 1 42. Driver Passed Standing Highway Vehicle 1 43. Highway Vehicle Casuathes to Killer 66. Highway Paul Crossing Usens: 0 52. Passengers on Train 0 53a. Special Study Dlock Velexite Velexite Velexite 54. Namathre Description (Dis specific) Velexite	1 1 40. Highway Uso and Struck or 1 1 Yes 2, N Code 4 2 4 4 Injured 4 6 6 6 0 5 6 0 5 6 0 5 6 0 5 6 0 5 7 0 156d7 1 0 156d7 1	with Highwith 1. Yes 2 (Want Bishind or in 1 was Struck by Sect 5. Unknown 3. View of Track 0: 1. Perman 2. Standin 4. Driver with 1. Kiled 2. Injur 7. Highwary Vehicle (est. dolar dama; 6. Total Number of (include passeng view No ei view No	ay Signal No 3 Front of T ond Train biscured bi nent Strac ng raintasi red 3 Lik Property get Paople of pars and f	Is Unknown Toxin 41, 1 Code 2 2 by (priva clure d equipment histored v Demogram private crew) 55b. Spec	C 3 Highway User 1. Weet encould the 3. Did not stop 4. Stopped on one any obstructiony 3. Passing Train 4. Topography 3. 53,000 2 3. 3. 3. 3. 3. 3. 3. 3. 3. 3.	tede Lights of 1. Yes 5. Oth ogale 6. Wer m proceeded 0f y 7. Vie 5. Vepotation 6. Highney Vehickles 45. Was Driver in th 1. Yes 2. No 48. Total Namber o (including driver 51. Is a Rail Equipm Incident Report 1. Yes 2. No	Soecial Lights 2. No. 3. Unknown ar (apoch/) in around/thru temporary barr test see instructions) in thru the gate cideu/Attempted suicide 7. Other (specify) 8. Not Obstructed the Vehicle? Vehicle Occupants 7. ment Accident J Being Find	icade Co Cod 8 Cor 1 3 Cod
Dodetsi 07 10 35. Location of Warning 1. Echt Sides . 2. Side of Vehicle Approach . . 30. Opposite Side of Vehicle Approach . . 38. Highwayi 39. Highway User's Conter User's . . User's 1. Male Code 38. Opposite Side of Vehicle Approach . . Age 1. Male Code 38. Opposite Side of Vehicle Approach . . Age 1. Male Code 38. Opposite Side Standing . . Highway-Rail Crossing Users 0 . 42. Driver Passed Standing . . Highway-Rail Crossing Users 0 . 43. Raitroad Employees 0 . . 43. Special Study Dlock Velac . . 54. Narrative Description 4	1 1 40. Highway Uso and Struck or 1 1 Yes 2, N Code 4 2 4 4 Injured 4 6 6 6 0 5 6 0 5 6 0 5 6 0 5 6 0 5 7 0 156d7 1 0 156d7 1	with Highwith 1 Yee 2 (Want Bichind or in 1 r was Struck by Sect 5 Unknown S. Unkno S. Unkno S. Unknown S. Unknown	ay Signal No 3 Front of T ond Train becured to the ent Shad mg railroad mg railroad mg railroad ng rai	le L Unknown Train 41. f Code 2 (2 Code 2 (Code 2 (Code	C 3 Highway User 1. Weet encould the 3. Did not stop 4. Stopped on one any obstructiony 3. Passing Train 4. Topography 3. 53,000 2 3. 3. 3. 3. 3. 3. 3. 3. 3. 3.	tede Lights of 1. Yes 5. Oth ogale 6. Wer m proceeded 0f y 7. Vie 5. Vepotation 6. Highney Vehickles 45. Was Driver in th 1. Yes 2. No 48. Total Namber o (including driver 51. Is a Rail Equipm Incident Report 1. Yes 2. No	Soecial Lights 2. No 3. Unknown sr (3000%) f thrushing paragraphic sectors in around thrushing paragraphic sectors in thrushing gate thrushing gate 7. Other (specify) 5. 8. Not Obstructed 1. Other (specify) 5. 8. Not Obstructed 5. 0ther (specify) 5. 8. 0ther (specify) 5. 8. 0ther (specify) 5. 8. 0ther (specify) 5. 8. 0ther (specify) 5. 0ther (specify) 5	icade Co Cod 8 Cor 1 3 Cod
Dodetsi 07 10 35. Location of Wanting 1. Bich Sides 2. Side of Vehicle Approach 3. Diposite Side of Vehicle Approach 38. Highway/ 39. Highway User's Center User's 38. Highway/ 39. Highway User's Center User's 4.66 1. Male Code 38. Highway/ 39. Highway User's Center User's 4.67 1. Male Code 38. Ermale 1 42. Driver Passed Standing Highway-Vehicle 1 1 Highway-Rail Crossing Users 0 49. Railroad Employees 0 42. Railroad Employees 0 53a. Special Study Block Velace	A Highway Uses and Shuck or 1 Yes 2, Ni Code 4 Code 4 0 6 0	with Highen 1. Yee 2 (Want Bichind or in 1 r was Struck by Sect 5. Unknown 3. Unknown 4. Driver was 1. Killed 2. Injur (Figheavy Weltide (est. dollar dama) (On Number of (Incluse passeng vic vice vice vice vice	ay Signal No 3 Front of T and Train becured b hent Struc ng raintee red 3 Lk Property ge/ People of pars and h cessary/ SR'S ACT	Is Unknown Train 41, 1 Code 2 2 by (privi- chure 4 4 equipment histored - 7 Damage - in Train - frain crew) 53b. Spec- tooss stropp	C 3 C 3 C 4 C 4 C 4 C 4 C 4 C 4 C 4 C 4 C 4 C 4	CEEDED, v32 WARNT	Soecial Lights 2. No 3. Unknown or (2000%) in around/thru temporary ban wes, ese instructions) in thru the gata cide/Attempted suicide 2. Other (specify) 5. A Not Obstructed the Vehicle? 4. Vehicle Occupants () inon Accidant.) Being Filed NG DEVICTS: VIELD SIGN [57: Date	icade C Co 3 Co ;

Figure D-5. Dahlia Street North of 51st Street Crossing (1 of 1)

EPARTMENT OF TRANSPOR EDERAL RAILROAD ADMINISTRA		A)		WAY-RAIL GR				OMB Approval No. 2130-	0500
Name of Reporting Railroad		93 1	200		1a. Alphat		de	1b. Railroad Accident/Incident	No.
BNSF Railway Company [BN	SF]				BNSF	ŧ		PR1221202	
Name of Other Railroad or Other E	Entity Fillin	g for Equipm	ent Involved in Trai	n Accident/Incide	nt 2a, Alpha	betic Co	de	2b. Railroad Accident/Incident	No.
3. Name of Railroad or Other Entity	Responsit	e for Track	Maintenance	the averyon	3a. Alpha	balic O	wie .	3b. Railroad Accident/Incident	No
SNSF Railway Company [BNS				a secolo	BNSF			PR1221202	100
U.S. DOT Grade Crossing ID No.						f Accide	nbincident	6. Time of Accident/Incident	
			0570	SEK	1		day Mir	11:37 AM	РМГ
7. Nearest Railroad Station			8. Subdivision		9. Count		2 2021	11:37 AM	Cod
SAND CREEK				ROCK ISLAN	1.01.00000	VER		Abbr. CO	0
1. City (if in a city) DENVER			12. High	way Name or No	DAHLIA N	0.515	r	Public 🔽 Priv	ate
	hway Us	er Involve	1			******	Rail Equipment		
13. Туре		100000000	ort assenado	17. E	quipment	-	4 Gar(s) (moving		
C. Truck-trailer F. Bus		J. Other Mo	lor Vehicle	2005	1 Train (utility)		5. Car(s) (stander 6. Light loco(s) //		
A Auto D Pick-up truck G Sch		K. Pedestric		Code	2. Train (UNIS) 3. Train (stand	burshing,	7. Light loce(s) (i	an anna an anna an an an an an an an an	Cot
	torcycle	M. Other (C		-	8. Other (specif		6
	lirection latth 2 Se	(geographic suth 3. East		Code 18.P	osition of Car Ur	Nt in Tri	en .		
16. Position 1. Stalled or stuck on				c 19. C	lircumstance				
2. Stopped on Crossi	ng		n crossing by gales	Code	Rail equipment s	struck h	ghway user 2. Rail	equipment struck by highway use	Cox F L
Moving over crossi				3			16. 96. 	2010 - 1.152.06 - 80	1
20a. Was the highway user and/or in the impact transporting haz			5	Code 205.	Was there a haz	andous	materials release by		Cod
1. Highway User 2. Rail Eq			Neither	4	1. Highway U	laor d	Rail Equipment	3. Both 4. Naither	4
20c. State here the name and quan	tity of the I	hazardious m	aterial released, if a	any					
		Acade acado A							140
	Sec. 3.5-5	single entry)	Researce -	1 33	Weather (singly	0.0.72	. 1963 - 1963 - 5		Co
(specify if minus) 50 "F 1. t 24. Type of Equipment 1. Freight T		Day 3. Dus 5. Sing	11000		D. EMU	1y 3. R	ain 4. Fog 5. Sleet	6. Snow	1
7. FRA Track 28. Number o Class (1-9,X) Locomoti 1 Units	WD.	29. Num	ber of Cars	30. Consist Speo R. Recorded E. Estimated	d (Recorded spe	ed if av	7 mph E	31. Time Table Direction 1. North: 3. East 2. South: 4. West	Go
1 Units 12 Type of		•	<u>0</u> 1	E. Estimated	33 8	ionaled	Crossing Warning	34. Roadway Conditions	-
	Wig wags	7	Crossbucks 10. F	lagged by crew	1.1	19. SS		A. Dru	
2. Cantilever FLS 5. Warning		ic signals 8	Stop signs 11. C	Wher (specify)			rse side for is and codes)	B. Wet C.Snow/Siush	
3. Standard FLS 6.		9	Watchman 12 N	one			Code	E. Sand, Mud, Dirt, Oil, Gravel	Cox
Code(s) 07 11	í .							F.Water (Standing, Moving)	A
 Location of Warning Both Sides 		100	outh Mad	Warning Intercor tway Signals	nected		Lights o	g Illuminated by Street r Soecial Lights	
2. Side of Vehicle Approach			JOH .	Z No 3 Unkn	-		ode	2. No. 3. Unknown	Co
 Opposite Side of Vehicle App 38 Higrway [39 Highway User's Ge 		1 Histoway Us	and the second se		41. Highway U			er (specify)	1.3
User's	340		or was Struck by Se		1. Wort an	ound th	gate 6. We	nt around thru temporary barrica	de
S5-99 (1997)	Code	1988	1 C-01 C-	Code	2. Stopped 3. Did not s			ves, see instructions) int thru the gate	Co
	1		No 3. Unknown	2	4. Stopped	on cros		icide/Altempted suicide	1
 Driver Passed Standing Highway Vehicle 		Code	43. View of Track	Obscured by enent Structure	(onimary obsitue	10.00		7 Other (constitute	Cod
1. Yes 2. No 3. Unknown		2					5. Vegetation 6. Highway Vehicle	 Other (specify) 8. Not Obstructed 	1 8
	Killed	Injured	44. Driver was		100 P		45. Was Driver in t	and the local sector of th	Cos
Casualties to: 49. Historico De Conseiles Unant		udatas.	and we have been a second of the second s	(ured 1). Uninjure	1.8		1. Yes 2. No 49 Total Mambara	() (abials Oce strate	1
 Highway-Reil Crossing Users 	0	0	47. Highway Vehic (est. dollar dan			400	48. Total Number of (including drive)	of Vehicle Occupants	
 Railroed Employees 	0	0	50. Total Number				51. Is a Rail Equip	ment Accident /	Cod
	0	0	(include passe	ingers and frain ci	ow) 3		1 Yes 2 No	Being Filed	2
52. Passengers on Train	Video Ta		Yes 🔽 No	-53b.	Special Study B	lock			2
		Chair	Yes 🔽 No		1997 (1997) 1997 (1997)	10000			
53a. Special Study Block	Video U		separate sheet if r	recessary)					
53a. Special Study Block 54. Narrative Description (Be s)	Video U pecific, and	d continue or			IAGE, USER'S AG	E UNKN	OWN OTHER TYP	E OF CROSSING WARNING: YIEL	D SIG
TRAIN CONSIST STRUCK THE REAR	Video U pecific, and OF THE T	d continue or RAILER, TH	ERE WAS NO TRACI	K OR SIGNAL DAN 56. Signature				57. Date	
53a. Special Sludy Block 54. Narrative Description (Be a) FRAIN CONSIST STRUCK THE REAR	Video U pecific, and OF THE T	d continue or RAILER. TH	ERE WAS NO TRACT	K OR SIGNAL DAN 56. Signature 5 the accident rep	orts statute and,	as sud	shall not "be admitt	57. Date	

Figure D-6. Monaco Street Crossing (1 of 1)

	TION (FRA)		ALL	ADEN I/AP	NCIDENT	REPORT			OMB Approva	I No. 2130	-0500
Name of Reporting Railroad						1a. Alphabelic C	ode		15 Railroad Acci	dent/Incident	No.
Union Pacific Railroad Compa	and the second second second					UP			0917DV004		
Name of Other Railroad or Other E	entity Filling to	ar Equipmen	t Involved in Train	Accident/1	ncident	2a. Alphabetic C	3odio		2b. Railroad Acci	dent/inclident	No.
Name of Railroad or Other Entity		for Track Ma	intenance over	anarysi.	-	Sa Alphabetic (Code	2	3b. Railroad Acci	denVincident	No.
inion Pacific Railroad Compa			10.002	1922		UP			0917DV004		
U.S. DOT Grade Crossing ID No.					1	5. Date of Apple			6. Time of Accide	int/Incident	
			80460	91		0 9	0 8	2017	12:15	AM	PM
Nearest Rairoad Station			8. Subcivision			9. County	v a i		10. State	Card Lad	Cor
SANDOWN			LIMON SU	B		DENVER			Abbr. (0	0
1. City (If in a city)			12 Highw	vay Name	or No.					olic 🔽 Priv	
DENVER	hway User	laure based		- AU	M	DNACO STRE		quipment		DIC V PAN	919
	iway user	Involved			14 F		10.000.00	s) (moving)		line DCi	
3 Type C Truck-trailer F Bus		Other Motor	in the second		17. Equipm	ient in <i>(units publing</i>)		s) (standing		ating-RCL	
A Auto D. Pick-up truck G. Sch	Same in	. Pedestrian	venice -	23.1		in junts pushing	0 1 lot	t loco(s) (n	kuring) C. Train st	andine- RCL	Co
		LOber (ga	and d	Code	3 Tra		7. L/gP	t loco(s) (S	earning),	comotive(s)	1.6
	29. • · · · · · · · · · · · · · · · · · ·	ecgraphical)		, Code	18 Position	n of Car Unit in T	B Oth	ur (apacity	E. DMULL	comotive(s)	
	Nirection (\$14 Iorth 2. South			2	To: P same			1			
6. Position 1. Stalled or sluck on	1400 Tol. 100			C. L	19. Circum	stance	-				Co
2. Stopped on Crossi 3. Maxima over crossi		Blocked on i	prosaing by gates	Code 3	1. Rail e	quipment struck	highway u	ser 2. Rail e	quipment struck by	highway us	
3. Moving over crossi		A local data da		3	Adv. 1814 - 1	the second second		and a second second			_
20a. Was the highway user and/or in the impact transporting haz				Code	ALD Was 1	here a hazardou	s materials	recease by			Co
1. Highway User 2. Rail Eq			leither	4	1.	Highway User	2. Rall Eq	ulpment 3	. Both 4. Neither		4
0c. State here the name and quan	tity of the haz	ardous mab	erial released, it an	Y	10						
		the sector of									
State Contraction and I have been seen and the second	Asibility (sing			Code	- 923 States	ter (single ontry					Co
specify if minus j 88 °F 1.0	Dawn 2 Day	y 3. Dusk 4	i, Dark	2	1. Clea	er 2. Cloudy 3. I	Rain 4. Fo	g 5. Sleet	6. Snow		1
4. Work Tra 7. FRA Track 28. Number of	×	8. Light lo 29. Numbe	5.55 G 5.1	0. Consist	Speed (Red	8 1. Main 2. corded speed if e		iding 4. Indu Code	31. Time Table D		C
Class (1-9,X) Locomotiv 1 Units	2		0	R. Reco E. Estim			4 mp	n E	1. North 3. 2. South 4.		3
								Warning			-
2. Type of						33. Signale	ci Crossing		34. Roadway Cor		
1. Gates 4.	Wig wags	7.0	rossbucks 10. Fla	agged by c	TC IN	33. Signale			A. Drv		
2. Type of Crossing 2. Cantilever FLS 5.				agged by c her (speci		(See rev	erse side f ans and co	or	A. Drv B. Wet C.Snow/Slush		
2. Type of 1. Gates 4. Crossing	Hwy. traffic s	ignais 8. S		her (speci		(See rev	ense side f	or	A. Drv B. Wet C.Snow/Slush D.los		, Co
2. Type of 1. Gates 4. Crossing 2. Cantilever FLS 5.	Hwy. traffic s Audible	ignais 8. S	top signs 11. Oth	her (speci		(See rev	ense side f	or des)	A. Drv B. Wet C.Snow/Slush	Oil,Gravel	1.03
12. Type of Crossing 1. Getes 4. Warming 2. Centlever FLS 5. 3. 3. Standard FLS 6. 0. 0. Code(s) 0.7 1.1 5. Location of Warming 1. 1.	Hwy. traffic s Audible	ignais 8. S	lop signs 11. Off (atchman 12. No 36. Crossing V	her (speci no Vaming Inf	69 Lerconnecter	(See rev instructio	erse side f ans and co	or des) Code 37. Crossing	A. Drv B. Wot C. Snow/Skish D. loe E. Sand, Mud.Dirt, F. Water (Standing Illuminated by Stre	Oil,Gravel ;, Moving)	1.03
1. Gates 4. Crossing 2. Cantilever FLS 5. Warming 3. Slandard FLS 6. Code(s) 0.7 11 5. Location of Warming 1. Both Sides	Hwy. traffic s Audible	ignais 8. S	lop signs 11. Off (atchman 12. No 36. Crossing V arth Ulata	her (speci no Vaming Inf	69 Lerconnecter	(See rev instructs	erse side f ans and co	or des) Code 37. Crossing Lights or	A. Drv B. Wet C. Snow/Skish D. loe E. Sand, Mud.Dirt, F. Water (Standing Illuminated by Strv Special Lights	Oil,Gravel ;, Moving.) set	1
12. Type of 1. Gates 4. Crossing 2. Centlever FLS 5. 3. Standard FLS 6. Code(s) 07 11 5. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 3. 0.	Hwy. traffic s Audible	ligneis 8. Si 9. W Code 1	top signs 11. Off (atchman 12. No 36. Crossing V with Highw 1. Yes 2	her (spect no Warning Int way Signals 2. No 3.	69 leroonnecter s Unknown	d	ense side f ans and co	or des) Code 37. Crossing Lights or 1. Yes	A. Drv B. Wet C. Snow/Steh D. Joe E. Sand, Mud.Dirt, F. Water (Standing Illuminated by Str- Special Lights 2, No. 3, Unknow	Oil,Gravel ;, Moving.) set	
12. Type of 1. Gates 4. Crossing 2. Cantilever FLS 5. 3. Standard FLS 6. Code(s) 07 11 15. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 8. Highway 39. Highway User's Ge	Hwy. traffic s Audible moach moler 40. His	lignais 8.5 9.W Code 1 chway User	top signs 11. Off (atchman 12. Nor 38. Crossing V with Highw 1. Yes 2 Went Behind or in	her (speci no Warning Int vay Signals 2. No 3. 1 Front of T	Unknown izain 41.1	d (See rev instructo	Code 2	or des) Code 37. Crossing Lights or 1. Yes 5. Othe	A. Drv B. Wet C. SnowSkeh D. lee E. Sand, Mud.Dirt, F. Water (Standing Illuminated by Str Special Lights 2, No 3, Unknow ir (specify)	Oi,Gravel ; Moving) set	^
2. Type of Crossing Warning 1. Gabes 4. Varning 2. Cantilever FLS 5. 3. Standard FLS 6. Code(s) 07 11 5. Location of Warning 1. Both States 2. State of Vehicle Approach 3. Opposite Scie of Vehicle Approach 3. Opposite Scie of Vehicle App User's 39 Highway User's Ge	Hwy traffic's Audible L moach mder 40. His an	lignais 8.5 9.W Code 1 chway User	top signs 11. Off (atchman 12. No 36. Crossing V with Highw 1. Yes 2	her (speci no Warning Int way Signals 2. No 3. Front of T cond Train	69 Ierconnecter s Unknown rain 41.1	(See ray instruction d High way User 1. Went around th	Code 2	ar des) Code 37. Crossing Lights ar 1. Yes 5. Othe 6. Wer	A. Drv B. Wet C. Snow/Steh D. Joe E. Sand, Mud.Dirt, F. Water (Standing Illuminated by Str- Special Lights 2, No. 3, Unknow	Cil,Gravel ;, Moving.) ret n orary barrica	 de
2. Type of Crossing Warning 2. Cantilever FLS 5. 3. Standard FLS 6. Code(s) 5. Location of Warning 1. Both Sidas 2. Side of Vehicle Approach 3. Opposite Side of Vehicle App 8. Highway User's Ge User's Age 1. Male	Hwy traffic a Audible I I I I I I I I I I I I I I I I I I I	lignels 8. Si 9. W Code 1 chway User nd Struck or	top signs 11. Official atchman 12. No 98. Crossing V with Highw 1. Yea 2 Want Behind or in was Struck by Sec	her (speci ne Varning Int vay Signals 2. No 3. Front of T cond Train	69 terconnecter s Unknown rain 41.1 Code	(See my instruction d Highway User 1. Went around th 2. Stopped and th 3. Did not stop	Code 2 be gate be proces	ar des) Code 37. Crossing Lights or 1. Yes 5. Othe 6. Wer clod 0f y 7. Wei	A. Drv B. Wot C. Snow/Skish D. Joe E. Sand, Mud.Dirc, F. Water (Standard Illuminated by Standard Spacial Lights 2. No. 3. Unknow in (spacify) is around/thru temp es, see instruction) thin the gate	Oil,Gravel <u>, Moving)</u> tet n orary barrica	de 1 Ci
12. Type of 1. Getes 4. Crossing 2. Centilever FLS 6. Warning 3. Standard FLS 6. Code(s) 07 11 5. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 4.9 2. Female	Hwy traffic s Audible moach ander 40. His an Code 1.	igneis 8. Si 9. W Code 1 chway User nd Struck or Yes 2. No	Iop signs 11. Off Natchman 12. No 38. Crossing V with Highw 1. Yes 2 Went Behind or in was Struck by Sec 5. Unknown	her (speci no Warning Int Vary Signals 2 No 3 Front of T cond Train	(5) lerconnecter s Linknown cain 41.1 Cocke 2	(See ray instruction d Highway User 1. Wont around th 2. Stopped and th 3. Did not stop	Code 2 be gate be proces	ar des) Code 37. Crossing Lights or 1. Yes 5. Othe 6. Wer clod 0f y 7. Wei	A. Drv B. Wot C. SnowSkish D. loe E. Sand, Mud.Dir, F. Water (Standing Illuminated by Str- Spacial Lights 2. No. 3. Unknow in (Spacify) et around/thru temp es, see instruction	Oil,Gravel <u>, Moving)</u> tet n orary barrica	de C
12. Type of 1. Gates 4. Crossing 2. Centilever FLS 5. 5. 3. Standard FLS 6. 0.7 11 5. Location of Warning 1. Both Sides 2. Site of Vehicle Approach 3. Opposite Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 8. Highwayl 39 Highway User's Ge User's Age 4.9 2. Female 12. Oniver Passed Standing	Hwy traffic s Audible moach ander 40. His an Code 1.	igneis 8. Si 9. W Code 1 chway User nd Struck or Yes 2. No	Iop signs 11. Official Non- Natchman 12. Non- 36. Crossing V with Highw 1. Yea 2 Want Behind or in was Struck by Sec 3. Unknown 3. View of Track O	her (speci no Warning Int vay Signals 2. No <u>3.</u> Front of T cond Train	(j) lerconnecter s Unknown rain 41.1 Cocke 2 y (prim	IS no rmv instruction d High way User 1. Went around th 2. Shopped and th 3. Did not ston 4. Stopped on cn arry obstruction	Code 2 he gate he gate hear proces	or Code J 37. Crossing Lights or 1. Yes 5. Othe 6. Wer clos 0 fy 7. Wer 8. Suit	A. Drv E. Wot C. SnowStash D. ce E. Sand, Mud.Dirt, F. Water (Standing Illuminated by Str Special Lights 2. No. 3. Unknow in (specify) a snoundfhuru temp es, see instructions tithnu the gate aidel/Attempted suite	Oil,Gravel <u>J. Moving)</u> tet n orary barrica ki ide	de 1 Ci
32. Type of 1. Gatos 4. Crossing 2. Cantilever FLS 5. 3. Standard FLS 6. Code(s) 0.7 11 55. Location of Warning 1. Softe Sides 2. Side of Vehicle Approach 3. Sposte Side of Vehicle Approach 3. Highway (39 Highway User's Ge User's Age 1. Male	Hwy traffics Audible Inder 40. His and Code 1.	Code 1 Code 1 chway User ad Struck or Yes 2 No Code 4 2	Iop signs 11. Off Natchman 12. No 38. Crossing V with Highw 1. Yes 2 Went Behind or in was Struck by Sec 3. Unknown 3. View of Track O 1. Pormar 2. Standi	her (speci me Varning Int vay Signals No <u>3</u> Front of T cond Train	6)? terconnecter s Linknown rain 41.1 Code 3 2 y (ones ture	d Highway User 3. Went around the 3. Did not stop 4. Stopped on ch 3. Passing Train 3. Passing Train	Code 2 he gate hen proces oseng n 5 Vegel	or Code J 37. Crossing Lights or 1. Yes 5. Othe 6. Wer clos 0 fy 7. Wer 8. Suit	A. Drv B. Wot C. Snow/Skeh D. Joe E. Sand, Mud.Dirt, F. Water (Standing I Ruminated by Str Spacial Lights 2. No 3. Unknow in (spacify) in aroundhhru temp es, see instruction in thru the gate side/Attempted suite 7. Other (spacify	Oil,Gravel ; Moving) ret n orary barrica N ade	de Co Co
12. Type of 1. Gates 4. Crossing 2. Centilever FLS 5. 3. Standard FLS 6. Code(s) 07 11 5. Location of Warning 1. Both Sides 1. 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 8. Highwayi (39 Highway User's Ge User's 1. Male 1 49 2. Female 1 12. Onriver Passed Standing Highway Vehicle 1 13. Unknown User's 1.	Hwy traffics Audible moach moler 40. His an Code 1.	Code 4 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Automan 11. Official Normal Network Ne	her (apection Warning Int way Signals 2. No 3. Front of T cond Train biscured b nent Struc rig rainced	Unknown sunknown cain 41.1 Code 1 2 y (onen sain 49.1 Code 1 40.1 Code 1 40.1 Code 1 40.1 Code 1 40.1 Code 1 40.1 Code 1 40.1 Code 1 40.1 Code 1 40.1 Code 1 Code 1	(See environmented) d Highway User 1. Went around 1 2. Stopped and 11 3. Did not stop 4. Stopped on cn ery obstruction 3. Passing Trait 4. Toppety	Code 2 Code 2 he gate han procest assing 6. High 45. Wag	or des) Code 37. Crossing Lights or 1. Yes 5. Oth 6. Wer 6. Wer 6. Wer 8. Suh 7. We 8. Suh ation tation	A. Drv B. Wot C. Snow-Skeh D. Joe E. Sand, Mud.Dirc, F. Water (Standard Illuminated by Stim Spacial Lights 2. No. 3. Unknow in (spacify) is around thrus temp as, see instructions in thrus the gate cide/Attempted suits 7. Other (spacifi 8. Not Obstructs	Oil,Gravel ; Moving) ret n orary barrica N ade	de Co Co Co
12. Type of 1. Gates 4. Crossing 2. Centilever FLS 5. 3. Standard FLS 6. Code(s) 07 11 15. Location of Warning 1. Bath Sides 2. 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 3. 3. Opposite Side of Vehicle Approach 3. 0. 18. Highwayi 39. Highway User's Ge User's Age 1. Male 1 12. Onver Passed Standing Highwayi Vehicle 1. Yes 2. No 3. Unknown	Hwy, traffic s Audibio moach ander 40. His an Code 1 1. Killed 1	egnels 8, S 9, W 1 Code 1 Code 1 Code 1 Code 2 No Code 4 2 No Code 4 2 No Code 4 2 No Code 4 2 No Code 1 No No No No No No No No No No No No No	top signs 11. Official formation 12. Not statement 12. Not statement 12. Not statement 13. Not statement 14. Not statement 14. Not statement 14. Not statement 15. Not stateme	her (speci- ns Warning Int vay Signals 2. No 3. Front of T cond Train 1 biscured b nent Struc ng rairoed ared 3. Up	by terconnecters Unknown train 42.1 Code 2 y (onexture tare tares tares tares	d Highway User 3. Went around the 3. Did not stop 4. Stopped on ch 3. Passing Train 3. Passing Train	Cade 2 Cade 2 he gate han procest 6. High 45, Wag 1, Y	or des) Code 37. Croesing Lights or 1. Yes 5. Oth 6. Wer 6. Wer 6. Wer 7. We 8. Suit roug Vehiclers boliver in the or 2. No	A. Drv B. Wot C. Snow/Skish D. Joe E. Sand, Mud.Dirt, F. Water (Standing Illuminated by Str Spacial Lights 2. No. 3. Unknow in (spacify) in around/thru temp es, see instruction tithru the gate side/Attempted suits 7. Other (spacifi 8. 8. Not Obstructs 19. Not Obstructs 19. Not Obstructs 19. Not Obstructs 19. Not Obstructs	Oil,Oravel ; Minving.) ret orary barrica i) idds y) y) gd	C de C
2. Type of Crossing Warming 1. Gates 4. Crossing Warming 2. Centlever FLS 5. 3. Standard FLS 6. Code(s) 07 11 5. Location of Warming 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 4.9 1. Male 49 2. Female 12. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown	Hwy traffics Audible moach moler 40. His an Code 1.	Gede 1 Cede 1 Cede 1 Cede 4 Cede 4 Yes 2 No Cede 4 2 Injured 4	top signs 11. Off falchman 12. No- 38. Crossing V with Highw 1. Yes 2 Want Behind or in was Struck by Sec 3. Unknown 3. View of Track O 1. Parmar 2. Standa 4. Driver was 1. Killed 2. Injur 7. Highway Vehicle	her (apections Warning Interventions Warning Interventions Warning Interventions Provide the Intervention Intervention Intervention Interventions Intervento	by terconnecters Unknown train 42.1 Code 2 y (onexture tare tares tares tares	(See environmented) d Highway User 1. Went around 1 2. Stopped and 11 3. Did not stop 4. Stopped on cn ery obstruction 3. Passing Trait 4. Toppety	Erse side f ans and co Code 2 he gate han proces assing 45, Wage 6, High 45, Wage 1, Y 48, Tot	ar des) Code Lights or 1. Yes 5. Oth 5. Oth 6. Wer 6. Wer 6. Wer 6. Wer 6. Suin 7. Wes 8. Suin attion eny Vehiceles a Driver in th 6. Suin attion and Number o	A. Drv B. Wot C. Snow/Skish D. Jee Sana, Mud.Dirt, F. Water (Standar Spacial Lights 2, No. 3. Unknow in (spacial) a soundhhru temp es, see instruction int thru the gate side/Attempted suit 7. Other (spacif) a. 8. Not Otherusk ie Vehicle?	Oil,Oravel ; Minving.) ret orary barrica i) idds y) y) gd	de Co Co Co
2. Type of Crossing Warning 2. Cantlever FLS 5. 3. Standard FLS 6. Code(s) 07 1. Gatos 4. 2. Cantlever FLS 5. Code(s) 07 11 5. Location of Warning 1. Both Sides 2. Side of Vehicle Appoach 3. Opposite Side of Vehicle Appo 8. Highway 39 Highway Use's Ge Use's Age 1. Male 49 2. Female 2. Oriver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown Casuattes to 6. Highway-Rail Crossing Users	Hwy, traffic s Audibio mosch ander 40. His an Code 1 1. Killed 1	Code Code Code Code Code Code Code Code	top signs 11. Official formation 12. Not statement 12. Not statement 12. Not statement 13. Not statement 14. Not statement 14. Not statement 14. Not statement 15. Not stateme	her (spect- me Warning Int vay Signals 2: No 3. Front of Train 1 bibscured b nent Struc ng rairoed a Property spe)	Erronnecter S Unknown Code S Z Code S Size Inquirred Damage	(See my instructs d Highway User 1. Went around it 2. Stopped and the 3. Did not stop 4. Stopped on en ary obstruction 3. Passing Trait 4. Topography 3.	Code 2 Code 2 he gate han proceed oseing 6. High 6. High 6. High 1. Y 45. Wa 5. Veget 1. Y 45. Wa 5. Veget 1. Y	ar des) Code Lights or 1. Yes 5. Oth 5. Oth 6. Wer 6. Wer 8. Sur 7. We 8. Sur 7.	A. Drv B. Wot C. SnowSkish D. Jos E. Sand, Mud.Dirc, F. Water (Standing Illuministed by Str Spacial Lights 2. No. 3. Unknow in (spacify) et around/thru temp es, see instruction ti thru the gate ada/Attempted suit 7. Other (spacify 8. Not Obstruck 9. Vehicle Occupant 9. Wehicle Occupant 9.	Oil,Oravel ; Minving.) ret orary barrica i) idds y) y) gd	de Co Co Co
2. Type of Crossing Warning 2. Cantlever FLS 5. 3. Standard FLS 6. Code(s) 07 1. Gatos 4. 2. Cantlever FLS 5. Code(s) 07 11 5. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle App 3. Opposite Side of Vehicle App 4. Orace Passed Standing Highway Vehicle 1. Yes 2. No. 3. Uninown Casualties to: 6. Highway-Rail Crossing Users 9. Railroad Employees	Hwy traffic s Audibio roach ander 40. Hi an Code 1. Killed 1 0 0	Injured 4 Code 4 2 1 Code 4 2 1 1 1 1 1 1 1 1 1 1 1 1 1	Automation of the second secon	her (speci- no Warning Int vay Signals No 3. Front of T sond Train Ibscured b neart Struc- rig reinced red 3. Ur a Property sign) I People or	V Interconnecter S Unknown Code Z V (prem tare tare tare Tequipment Train	(See my instructs d Highway User 1. Went around it 2. Stopped and the 3. Did not stop 4. Stopped on en ary obstruction 3. Passing Trait 4. Topography 3.	Code 2 Code 2 hc gate hc gate 6. High 45. Wa 45. Wa 45. Wa 45. Tot (Inc 51. Is a Ind	ar des) Code Lights or Lights or 1. Yes 5. Oth 6. Wer 6. Wer 6. Wer 6. Wer 6. Wer 6. Suit 7. Wes 8. Suit attion eny Vehices 8. Suit attion	A. Drv B. Wot C. SnowSkish D. Jos E. Sand, Mud.Dirc, F. Water (Standing Illuministed by Str Spacial Lights 2. No. 3. Unknow in (spacify) et around/thru temp es, see instruction ti thru the gate ada/Attempted suit 7. Other (spacify 8. Not Obstruck 9. Vehicle Occupant 9. Wehicle Occupant 9.	Oil,Oravel ; Minving.) ret orary barrica i) idds y) y) gd	/ C C C C C
2. Type of Crossing Warning Crossing 3. Cantilever FLS 5. 3. Standard FLS 6. Code(6) 07 10 5. Location of Warning 1. Both Sides 2. Side of Vehicle Apposith 3. Opposite Side of Vehicle Apposith 49 2. Famale 2. Formar Passed Standing Highway Vehicle Yes 2. No 3. Unknown Casuatties to 3. Highway-Rail Crossing Users Raitroad Employees 2. Passengers on Train	Hwy. traffic s Audibio Index 40. His an Code 1 1. FOIled 1 0 0 0 0 Video Take	egnels 8. S 9. W Code 1 cohway Ualer of Struck or Ves 2. No Code 4 2 1 hjured 4 h 5 0 5 0	top signs 11. Official for the second secon	her (speci- no Warning Int vay Signals No 3. Front of T sond Train Ibscured b neart Struc- rig reinced red 3. Ur a Property sign) I People or	V Interconnecter S Unknown Code Z V One Size Inquirrent Inquirrent Train ain crew/	d d d d d d d d d d d d d d d d d d d	Code 2 Code 2 hc gate hc gate 6. High 45. Wa 45. Wa 45. Wa 45. Tot (Inc 51. Is a Ind	ar des) Code Lights or 1. Yes 5. Oth 5. Oth 6. Wer 6. Wer 8. Sur 7. We 8. Sur 7.	A. Drv B. Wot C. SnowSkish D. Jos E. Sand, Mud.Dirc, F. Water (Standing Illuminated by Str Spacial Lights 2. No. 3. Unknow in (spacify) et around/thru temp es, see instruction ti thru the gate ada/Attempted suit 7. Other (spacify 8. 8. Not Obstruck 9. Vehicle Occupant 9. Wehicle Occupant 9.	Oil,Oravel ; Minving.) ret orary barrica i) idds y) y) gd	de Co Co
2. Type of Crossing Warning 2. Cantilever FLS 5. 3. Standard FLS 6. Code(s) 07 1. Both Sides 2. Side of Vehicle Appoach 3. Opposite Side of Vehicle Appoach 4. Horway 39 Highway Use's Ge Use's 4. Horway 39 Highway Use's Ge Use's 4. Horway 39 Highway Use's Ge Use's 4. Horway Bit Crossing Users 9. Raitnaad Employees 2. Passengers on Train 3a Special Study Block 4. Namative Description (Be sp	Hwy, traffic s Audibio ander 40. His ander 40. His an Code 1 1. Killed 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0	egnels 8. S 9. W Code 1 Code 1 Code 2 No Code 4 2 1 1 Code 4 2 1 1 0 5 0 1 5 0 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1	top signs 11. Officients tatchman 12. No alternan 12. No 38. Crossing V with Highw 1. Yes 2 Went Behind or in was Struck by Sec 3. Unknown 3. View of Track O 1. Perman 2. Standi 4. Driver was 1. Killed 2. Inju 7. Highway Vehicle (Include passeng 1. Koller down 0. Total Number of (Include passeng 1. No parate sheet if no parate sheet if no	her (speci- ne Warning Int vay Signals No 3. Front of T cond Train Boscured b nent Struc- rig reinced red 3, Ure a Property 1920 (People or gers and tr	V Interconnecter S Unknown Code Z V (onen Size Anguigment Interin anis cress) S3b. Spec	d d d d d d d d d d d d d d d d d d d	Code 2 Code 2 hc gate hc gate 6. High 45. Wa 45. Wa 45. Wa 45. Tot (Inc 51. Is a Ind	ar des) Code Lights or Lights or 1. Yes 5. Oth 6. Wer 6. Wer 6. Wer 6. Wer 6. Wer 6. Suit 7. Wes 8. Suit attion eny Vehices 8. Suit attion	A. Drv B. Wot C. SnowSkish D. Jos E. Sand, Mud.Dirc, F. Water (Standing Illuminated by Str Spacial Lights 2. No. 3. Unknow in (spacify) et around/thru temp es, see instruction ti thru the gate ada/Attempted suit 7. Other (spacify 8. 8. Not Obstruck 9. Vehicle Occupant 9. Wehicle Occupant 9.	Oil,Oravel ; Minving.) ret orary barrica i) idds y) y) gd	de cc Cc
2. Type of Crossing Warming 1. Gatos 4. Crossing Warming 2. Cantlever FLS 5. 3. Standard FLS 6. Code(s) 07 11 5. Location of Warming 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 4. Opposite Side of Vehicle Approach 1. Male 4. Pge 1. Male 1 4. Onver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown Casuattes to 6. 6. Highway-Rail Crossing Users 9. Raitroad Employees 12. Passengers on Train 3a. Special Study Block 4. Narrative Description	Hwy, traffic s Audibio ander 40. His ander 40. His an Code 1 1. Killed 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0	egnels 8. S 9. W Code 1 Code 1 Code 2 No Code 4 2 1 1 Code 4 2 1 1 0 5 0 1 5 0 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1	top signs 11. Officients tatchman 12. No alternan 12. No 38. Crossing V with Highw 1. Yes 2 Went Behind or in was Struck by Sec 3. Unknown 3. View of Track O 1. Perman 2. Standi 4. Driver was 1. Killed 2. Inju 7. Highway Vehicle (Include passeng 1. Koller down 0. Total Number of (Include passeng 1. No parate sheet if no parate sheet if no	her (speci- ne Warning Int vay Signals No 3. Front of T cond Train Boscured b nent Struc- rig reinced red 3, Ure a Property 1920 (People or gers and tr	V Interconnecter S Unknown Code Z V (onen Size Anguigment Interin anis cress) S3b. Spec	d d d d d d d d d d d d d d d d d d d	Code 2 Code 2 hc gate hc gate 6. High 45. Wa 45. Wa 45. Wa 45. Tot (Inc 51. Is a Ind	ar des) Code Lights or Lights or 1. Yes 5. Oth 6. Wer 6. Wer 6. Wer 6. Wer 6. Wer 6. Suit 7. Wes 8. Suit attion eny Vehices 8. Suit attion	A. Drv B. Wot C. SnowSkish D. Jos E. Sand, Mud.Dirc, F. Water (Standing Illuminated by Str Spacial Lights 2. No. 3. Unknow in (spacify) et around/thru temp es, see instruction ti thru the gate ada/Attempted suit 7. Other (spacify 8. 8. Not Obstruck 9. Vehicle Occupant 9. Wehicle Occupant 9.	Oil,Oravel ; Minving.) ret orary barrica i) idds y) y) gd	
2. Type of Crossing Warning 2. Cantlever FLS 5. Standard FLS 6. Code(s) 07 11 5. Location of Warning 1. Both Sides 2. Side of Vehicle Appoach 3. Opposite Side of Vehicle App 3. Opposite Side of Vehicle App 4. Highway 39 Highway Use's Ge User's Age 1. Male 4. Opposite Side of Vehicle App 3. Opposite Side of Vehicle App 4. Highway 2. Female 1. Yes 2. Nover Passed Standing Highway Vehicle 1. Yes 2. Nover Passed Standing Highway-Rail Crossing Users 9. Railroad Employees 3. Appendix User Description 3. Special Study Block 4. NamaSve Description 5. Typed Name and Title	Hwy, traffic s Audibio ander 40. Hi ander 40. Hi an Code 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	Code Code	top signs 11. Off fatchman 12. No 38. Crossing V with Highw 1. Yes 2 Went Behind or in was Struck by Sec 3. Unknown 3. View of Track O 1. Rolled 2. Inju 7. Highway Vehicle (est. dalar dama 0. Total Number of (include passing 1. Rolled 2. Inju 7. Highway Vehicle (est. dalar dama 0. Total Number of (include passing 1. Rolled 2. Inju 7. Highway Vehicle (est. dalar dama 0. Total Number of (include passing 1. Rolled 2. Inju 7. Highway Vehicle (est. dalar dama 0. Total Number of (include passing 1. Rolled 2. Inju 7. Highway Vehicle (include passing 1. Rolled 2. Inju 7. Highway Vehicle 1. Rolled 2. Rolled 3. Rolled	her (speci- ne Warning Int way Signals 2: No 3: Front of Train Discurred b neet Struct ing arized bacured b neet Struct neet Struct a Property speci- People or gers and to cessery) NNC DEVE	Vy Introven terconnecter Unknown rain 41.1 Code 2 v (onex train	(See my instructs instructs 	Code 2 Code 2 hc gate hc gate hc gate 6. High 45. Wa 45. Wa 45. Wa 45. Wa 51. Its s 1. Its s	ar des) Code 37. Crossing Lights or 1. Yes 5. Oth 5. Oth 6. Wer 6. Wer 6. Wer 6. Wer 6. Wer 6. Suit 7. We 8. Suit ation eny Vehicles 8. Suit ation at Number o Vehicles 7. No	A. Drv B. Wot C. Snow/Skish D. Je E. Sand, Mud.Dirt, F. Water (Standard Spacial Lights 2, No. 3. Unknow in (spacify) is around/thru temp ed., see instruction int thru the gate side/Attempted suit 7. Other (spacify a. 8. Not Otherusk ie Vehicle? 7. Vehicle Occupant 9 ment Accident / Being Filed [57. Date	Ol,Oravel ; Mrwing) ret orary barrice) ide sd s 1	
2. Type of Crossing Warning 2. Centilever FLS 5. 3. Standard FLS 6. Code(s) 07 11 5. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle App 8. Highway 39 Highway User's Ge User's Age 1. Male 1 2. Forwar Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown Casualties to 6. Highway-Rail Crossing Users 9. Railroad Employees 52. Passengers on Trein Sta. Special Study Block 4. Narrative Description (Be sp Inditway User Bab Not Storp Pate	Hwy, traffic s Audibio ander 40. His ander 40. His an Code 1 1. Killed 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	egnese 8. S 9. W Code 1 Code 1 Code 2 No Code 4 2 1 1 Code 4 1 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1	top signs 11. Officients fatchman 12. No fatchman 12. No 38. Crossing V with Highw 1. Yes 2 Went Behind or in was Struck by Sec 3. Unknown 3. View of Track O 1. Permar 2. Standi 4. Driver was 1. Killed 2. Inju 7. Highway Vehicle (est. dolar dama 0. Total Number of (include passeng 1. Killed 2. Inju 7. Highway Vehicle (include passeng 1. Killed 2. Inju 7. Highway Vehicle (include passeng 1. Killed 2. Inju 7. Highway Vehicle (include passeng 1. Killed 2. Inju 7. Highway Vehicle (include passeng 1. Killed 2. Inju 7. Highway Vehicle (include passeng 1. Killed 2. Inju 7. Highway Vehicle (include passeng 1. Killed 2. Inju 7. Highway Vehicle (include passeng 1. Killed 2. Inju 7. Highway Vehicle (include passeng 1. Killed 2. Inju 7. Highway Vehicle (include passeng 1. Killed 2. Inju 7. Highway Vehicle (include passeng 1. Killed 2. Inju 7. Highway Vehicle (include passeng 1. Killed 2. Inju 7. Highway Vehicle (include passeng 1. Killed 2. Inju 7. Highway Vehicle (include passeng 1. Killed 2. Inju 7. Highway Vehicle (include passeng 1. Killed 2. Inju 7. Highway Vehicle (include passeng 1. Killed 2. Inju 7. Highway Vehicle (include passeng 1. Killed 2. Inju 7. Highway Vehicle (include passeng 1. Killed 1. Ki	her (speci- no Warning Int vay Signals No 3. Front of T sond Train Discured b nent Struc rig reinced red 3. Ur a Property ge/ I People or gers and in NING DEVI STING DEVI 6. Signatur the accide	V Interconnecter S Unknown Code Z V Code S Code Cod	d d d d d d d d d d d d d d d d d d d	nnse side f ans end co Code 2 he gate hen proces 6 Heist 45, Wa 45, Wa 1, v 48, Tot 51, Is s Ind 1, v	or des) Code 37. Crossing Lights or 1. Yes 5. Oth 6. Wei 8. Suit cod 0f y 7. Wei 8. Suit cod 0f y 7. Wei 8. Suit all on say Vehicles 5. Driver in the say Vehicles 5. Driver in the say Vehicles 2. No all Number of Vehicles Real Equiption dent Report res. 2. No	A. Drv B. Wot C. Snow/Skish D. Je E. Sand, Mud.Dirt, F. Water (Standard Spacial Lights 2, No. 3. Unknow in (spacify) is around/thru temp ed., see instruction int thru the gate side/Attempted suit 7. Other (spacify a. 8. Not Otherusk ie Vehicle? 7. Vehicle Occupant 9 ment Accident / Being Filed [57. Date	Ol,Oravel ; Mrwing) ret orary barrica) ide sd s 1	

Figure D-7. East 48th Avenue at Ash Street Crossing (1 of 1)

EDERAL RAILROAD ADMINISTRA		4)	ACC	IDENT/I	NCIDEN	TREPO	RT			OMB A	pproval No. 213	0-0500
Name of Reporting Railroad		922	7500N				phabetic Co	de		1b. Railr	oed Accident/Incide	int No.
BNSF Railway Company [BNS							NSF				20203	
Name of Other Railroad or Other E	ntity Filling	for Equipm	ent Involved in Train	Accidentil	Incident	2a, Al	phabetic Co	de		2b. Railr	oad Accident/Incide	nt No.
3. Name of Railroad or Other Entity I	Responsib	le for Track	Maintenance	20052		39. A	phabetic C.	xóe		3b Rait	oed Accident/Incide	nt No
BNSF Railway Company [BNS		7.00.000	Config	100.0		BN	200000000000			01.2020-00	20203	10.000
1. U.S. DOT Grade Crossing ID No.						_	te of Accide	nbincident	and the	6. Time e	Accident/Incident	8
			05705	AP			month .	- CO	104		AM	
7. Nearest Railroad Station			8. Subdivision	SA .		9. Co		14 1	2020	5:12 10. Stat	And Address of Address	Code
DENVER TRANFER AEL			BRUSH			100000	ENVER				Abbr. CO	08
11. City (# In a city) DENVER			the second se	vay Name	or No.	ANTH AT	L. Later 1		-		Public 7 Pr	rivate 🗌
	way Use	ar Involve	1		10	anna.	1 4-91	Rail Eq	ipment	Involved	the second s	- Tome
13. Type	-			- 1	17. Equ	ipment		4. Car(s)	(maxing) A	Train pulling- RCL	
C. Truck-trailer F. Bus		J. Other Mo	lor Vehicle		1		(grithus, stin	Q. Codd t	(standing		Train pushing- RCL Train standing- RCL	
A Auto D Pick-up truck G Sch	ool Bus	K. Pedestria	ui .	Code		1222	nits pushing)		000(8) (W 000(6) (8		EMU Locomotive(s)	
8 Truck E Van H Mot	proyole	M. Other (specity)	A	3.	Train (a	tanaling)	8. Other	(specify		DMU Locomotive(s)	1
		(geographic		Code	18. Posi	tion of Ca	r Unit in Tra	in				
(est. moh at impact) 10 1, N 16. Position 1, Stalled or stuck on		uth 3 East 4 Tracoed		4	19 Cko	umstance	2		1			
2. Stopped on Crossin			in crossing by gates	Code				abuut	2 Pal-	in ment	struck by highway u	Cod
3. Moving over crossin				3	1.150	in equiprine	STRE SCHOCK TH	genney use	1 2. Parts	squipment	sauck by nighway u	ser 2
20a. Was the highway user and/or r			E .	Code	20b. We	is there a	hazardous	materials r	elease by			Cod
in the impact transporting haze 1. Highway User 2. Rail Eq.			Neither	4		1. Highes	ay Liser 2	Reil Equi	ment	3. Both 4	Neither	4
20c. State here the name and quant	and the second s	NUMBER OF STREET, STRE	rippini dal secolari in concernante presentativa de la concerna de la concerna de la concerna de la concerna d		-						(100000)	
	88	22422242		a;	5							
	isibility (ringle entry)		Code	23. Wi	ather (s	ingle entryj					Cod
(specify if minus) 45 *F 1. D	lawn 2.0	Jay 3. Dus	k 4. Dark	1	1.0	lear 2.C	loudy 3. Ra	ain 4. Fog	5. Sleet	6. Snow		1
4. Work Trai 27. FRA Track 28. Number of	r		ticco(s) C. Comm ber of Cars 3	0. Consist	Speed (_	Main 2. Y speed if aw		Code	31. Time	807 Table Direction	Cos
Class (1-9,X) Locomotiv 1 Units	·•		34	R. Rece E. Estin				3 mpb	E	0.000	onth 3. East outh 4. West	2
S2. Type of				en esta	Sec.	3	3. Signaled	Crossing V	Varning		way Conditions	
Crossing	Wig wage		Crossbucks 10. Fla			· · · ·	Rea more	ree side for		A. Dri B. Wet		
2. Cantilever FLS 5. Warning			V154PS (0.52) - 522(52)	her (speci	dy)			s and code	s)	C.Snow/	Siush	2.5
3. Standard FLS 6.	Audible	9	Watchman 12 No	ine I	1				Code	E. Sand,	Mud,Dirt,Dil,Gravel	Cod
Code(s) 07			De Constant	Manalana Tar				1 93	0		(Standing, Moving)	A
35. Location of Warning 1. Both Sides			36. Crossing V with Highw	() () () () () () () () () ()		coad	7.04	200		Special Li	d by Street ahts	i Coo
2. Side of Vehicle Approach			de 1. Yes 2				0	ode	27,82	2 No 3.	3005	2
 Opposite Side of Vehicle App 38.Highway[39.Highway User's Ge 					فعيوه المتناصلين	1. Highwa			5. Oth	A	G11000000	
User's			or was Struck by Sec			1. Wen	t around the				nu temporary berric	ade
25-12 U.S. 220 U.S. 22	2ode	222	1000	- E	Code		oed and the tot stop	in proceed		res, see ins nt thru the		Co
	1)		No 3. Unknown		2		ped on cros	ising	8. Sui	cicle/Altern	pted suicide	3
42. Driver Passed Standing Highway Vehicle		Code	43. View of Track C	bscured b nent Struc	a 11	nimery obs				7.00	r (specify)	Code
1. Yes 2. No 3. Unknown		2					ssing Train pography				r (speciry) Obstructed	8
1000 1000 1000 1000 1000 1000 1000 100	Killed	Injured	44. Driver was			1.14	to.	45, Waa	Driver in t	te Vehicle	3	God
Casualties to: 48. Historia Rat Constinue Users			1. Killed 2. Inju 47. Historia Vahiela	the state of the s			3		s 2.No	f Vehicle C	ico cants	1
46. Highway-Rail Crossing Users	0	0	47. Highway Vehicle (est. dollar dame		Cernege		\$2,500		Number o d'ing drivev		ecopana -	1
49. Railroed Employees	0	0	50. Total Number of	People of			1000	51. Is a R	all Equipt	nent Accid		Code
52. Passengers on Train	0	0	(include passen)	gers and h	rain crew	1	3		e 2. No	Being File	đ	2
53a. Special Study Block	Video Ta		Yes No		53b. Sp	ecial Stud	ty Block	- 10				33
and about output provide	Video Us	ied?	Yes 🗸 No		1.000	911/976	n9922395					
		COMPANY OF	n separate sheet if ne	r9229(X)	THEYEL	ED THE C	CENE NO B	AZMAT RE	TASED			
54. Narrativa Description (Be ap	SER DRO	VE INTO THE	SIDE OF A LOCOMO	TIVE AND		ED THE S	Call of the Party of the		CLASSING.			
	SER DRO	VE INTO THE		6. Signatu	n - 11-0-460	EU THE S	Clerks room		LEADER.	57. Dab		
54, Narrative Description (Be sp USER'S AGE UNKNOWN, HIGHWAY (SER DRO	ad's accide	5 nt report pursuant to	6. Signatu the accide	no nit reporte	s statute a	ind, as such	shall not "				purpose

Figure D-8. West Mississippi Avenue Crossing (1 of 1)

	TION (FRA	1	ACC	CIDENT/IN	NCIDENT R	REPORT		OMB Approval No. 2130-0500		-0500	
Name of Reporting Railroad		903 1	12000	0.000	1	a. Alphabetic Co	de		1b. Raitro	ed Accident/Inciden	t No.
BNSF Railway Company [BNS	F]					BNSF			PR022	20202	
Name of Other Railroad or Other E	ntity Filling	for Equipment	nt Involved in Train	n Accident/In	ncident 3	2a, Alphabetic Co	de		2b. Railro	ad Accident/Incider	rt No.
3. Name of Railroad or Other Entity F	lesconsibi	o for Track M	aktonansa			3a. Alphabetic C.	wite-	-	Sh Dale	ad Accident/Incider	e Nie
BNSF Railway Company [BNS]	100000.000	e for French a	monomica (indi	le detrys	1	BNSF			PR022		n the
U.S. DOT Grade Crossing ID No.						5 Date of Accide	nbincident	-		f Accident/Incident	
			0.000	-		month	day 198	r i	1537753		hanne
			24535	53R			6 20	20	10:30	AM	PM V
7. Nearest Railroad Station			8. Subdivision		3	9. County			10. State	Abbr. CO	Cod
SOUTH DENVER			PIKES PE	way Name (or No	DENVER		-			05
DENVER			14-11001	met menne :	MIS MIS	SSISS WO KA				Public 🗸 Pr	vate
	way Use	r Involved					Rail Equi	1	17.022.325.8	7-0	
13. Type C. Truck-trailer F. Bus			10000		17. Equipme 1 Train		4. Car(s) 5. Car(s)	(maxing) (standing		Train pulling- RCL Train pushing- RCL	
A Auto D. Pick-up Inuck G. Schr		J. Other Molor K. Pedestrian	Vehicle	100000	Z. Train		6. Light too		ioving) C.	Train standing- RCL	Cod
B Truck E. Van H. Moto		M. Other (ag	ecilyi	Code	3. Train		7. Light loc		oawarth -	EMU Locomotive(s) DMU Locomotive(s)	11
	1.1.1	(geographical)		1.172	18. Position	of Car Unit in Tra	8. Other	(specify) E	DATO Epicomotive(s)	
		uth 3. East		2		A 200 CONTRACTOR		1			
16. Position 1. Stalled or stuck on	crossing 4			- and	19. Circums	eonat		30			Coe
2. Stopped on Crossin	2 - AB	i. Blocked on	crossing by gates	Code	1. Rail eq	ulpment struck hi	ghway user	2. Rai e	quipment s	truck by highway us	
3. Moving over crossin				3			19. Xi.		4800	11202 20	-
20a. Was the highway user and/or n in the impact transporting haze				Code	20b. Was th	iere a hazardous	materials rek	same by			Cod
1. Highway User 2. Rail Equ			leither	4	1.1	lighway Liser 3	Rail Equipr	nent 3	Both 4.	Neither	4
20c. State here the name and quant	and the second se	Contraction and the second second second	solutional metal series series are an annumber of the	iny							-
	8 - Sec Sec.	24122425	20-20-26-21, Mileo	.0.	5						
21. Temperature 22. V	sibility (#	ingle entry)		Code	23. Weath	er (single entry)					Cod
(specify if minus) 25 "F 1.D	awn 2.D	ay 3. Dusk	4. Dark	4	1. Clear	2. Cloudy 3. R	in 4. Fog 5	. Sleet	6. Snow		6
4. Work Trail 7. FRA Track 28. Number of	1	8. Light k 29. Numbe	101000 10100 PT	N. Consist R. Reco	Speed (Rect	7 1. Main 2. Y orded speed if av		g 4. Indi Code	31. Time	3101 Table Direction rtp 3. East	Cos
Class (1-9,X) Locomotiv 1 Units	e 2		13	E. Estim			6 mph	E	0.000	uth 4. West	3
32. Type of		1	and the second	an an a	2.3	33. Signaled	Crossing Wa	ming		way Conditions	10
Crossing	Wig wags		rossbucks 10. FI			(See must	se side for		A. Drs B. Wet		
2. Centilever FLS 5.1 Warning		· · · · · · · · · · · · · · · · · · ·	5 P	ther (speci	dy)		s and codes)		C.Snow/S D.los	Siush	2.5
3. Standard FLS 6.	wdible	9.4	Vatchman 12 No	one	1			Code		Jud, Dirt, Dil, Gravel	Coc
Code(s) 05 07		_	100.00				1	1		Standing, Moving }	
35. Location of Warning			36. Crossing	Warning Int	lerconnected		37.0	Crossing			C
				and the second s	State of the					d by Street	14
1. Both Sides 2. Side of Vehicle Approach		Cod	" NSO "	way Signals		1	ode	lights or	Special Lig	ints.	Cor
1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Appr		1	1. Yes	ZNC 3	Unknown		ode	lights or 1. Yes	Special Lip 2. No 3. 1	ahts Unknown	14
1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Appr 38. Higrway 39. Higtway User's Ger	nder 40.	1 Highway Usa	1. Yes	2 No 3 n Front of Tr	Unknown Irain 41. H	1	ode ¹	lights or 1. Yes 5. Othe	Special Lip 2. No 3. 1 Ir (specif	ahts Unknown	Cor
1. Both Sides 2. Side of Vehicle Abbroach 3. Opposite Side of Vehicle Appr 38. Highway 39 Highway User's Ger User's	nder 40.	1 Highway Usa	1. Yes	2 No 3 n Front of To cond Train	Unknown rain 41.H 1 2	ighway User Want around the Slopped and the	ode ¹ gate	lights or 1. Yes 5. Othe 6. Wer (if y	Special Lip 2. No 3. 1 or (specific t eround/th res, see inst	ahts Unknown V/ ru temporary berric: tructions)	Cor
1. Both Sides 2. Side of Vehicle Abbroach 3. Opposite Side of Vehicle Appr 38. Highway 39 Highway User's Ger User's	nder 40. i ode	1 Highway User and Struck or	1. Yes	2 No 3 n Front of To cond Train	Unknown Irain 41. H 1. Code 3	ighway User Went around the Stopped and the Did not stop	ode l gate in proceeded	lights or 1. Yes 5. Othe 6. Wer (If y 7. We	Special Lip 2. No 3. 1 or (specified at around/th es, sociality at thru the p	ghts Unknown VJ ru temporary berrici tructions) gate	Cor 1 ade
1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Appr 38. Highway 39 Highway User's Ger User's Age 1. Male C	nder 40. i ode	1 Highway Use and Struck or 1 Yes 2. N	* 1. Yes Went Behind or in was Struck by Se	2 No 3 n Front of Tr cond Train	Unknown rain 41. H Code 3 2 4	ighway User Want around the Slopped and the	ode l gate in proceeded	lights or 1. Yes 5. Othe 6. Wer (If y 7. We	Special Lip 2. No 3. 1 or (specified at around/th es, sociality at thru the p	ahts Unknown V/ ru temporary berric: tructions)	Cor I ade Co
1. Both Sides 2. Sute of Vehicle Ausrosech 3. Opposite Side of Vehicle App 38. Highway 39. Highway User's Ger User's Age 1. Male C 2. Female 1 42. Driver Passed Standing Highway Vehicle	nder 40. i ode	1 Highway User and Struck or 1. Yes 2, N Code 4	1. Yos Word Behind or in was Struck by So 3. Unknown 3. View of Track (1. Perms	2 No 3 n Front of Tri cond Train Cond Train	Unknown rain 41. H Code 3 2 4 y (orime ture	ighway User Want around the Stopped and the Did not stop Stopped on cros ry obstruction) 3. Passing Train	ode 1 ogate in proceeded sing 5. Vegetatio	lights or 1. Yes 5. Othe 6. Wer (If y 7. We 8. Sui n	Special Lip 2. No. 3. 1 rr (specific it eround/th res, see insi nt thru the (cide/Attemp 7. Other	phs Unknown fyl ru temporary barrici ructions) gate sled suicide (apac/ly)	Cor ade Co God
1. Both Sides 2. Side of Vehicle Aurosech 3. Opposite Side of Vehicle Appr 38. Highway 39 Highway User's Ge User's Age 1. Male 0 2. Female 1 42. Driver Passed Standing	nder 40. i ode	1 Highway User and Struck or 1 Yes 2, N Code 4 2	1. Yes Went Behind or ii was Struck by Se 3. Unknown 3. View of Track (1. Permi 2. Stand	2 No 3 n Front of Tri cond Train Cond Train	Unknown rain 41. H Code 3 2 4 y (orime ture	() ighway User Want around the Stopped and the Did not stop Stopped on cros ry obstruction)	ode 1 o gato in proceeded sing 5. Vegetatio 6 Higtway	Ights or 1. Yes 5. Othe 6. Wer (If y 7. We 8. Sui n Vehicles	Special Lip 2. No. 3. 1 or (specific t around/th es, see insi thru the (cide/Attemp 7. Other 1. 8. Not C	ghts Unknown M mutemporary barrici Iructions) gate gate sted suicide	Cor ade Co 3 Cod
1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Appr 38. Highway 39. Highway User's Ger User's Age 1. Male C 2. Female 1 42. Driver Passed Standing Highway Vehicle	nder 40. i ode	1 Highway User and Struck or 1 Yes 2, N Code 4 2	1. Yes Went Behind or ir was Struck by Se 3. Unknown 13. View of Track (1. Perms 2. Stand 4. Driver wee	2 No 3 n Front of Tri cond Train 0bscured by anent Struct ing rairced	Unknown rain 41. H Code 2 2 4 y (prime tare tequipment	Ighway User Wart around the Stopped and the Did not stop stopped on cros ry obstruction) 3. Passing Train 4. Toppaphy	ode 1 ogate in proceeded sing 5. Vegetatio	Ights or 1. Yes 5. Othe 6. Wer 6. Wer 7. We 8. Suit vehicles iver in the	Special Lip 2. No. 3. 1 or (specific t around/th es, see insi thru the (cide/Attemp 7. Other 1. 8. Not C	phs Unknown fyl ru temporary barrici ructions) gate sled suicide (apac/ly)	Cod ade Cod Cod 8 Cod
1. Both Sides 2. Side of Vehicle Abarosch 3. Opposite Side of Vehicle Appr 38. Higrway 39 Highway User's Ge User's Age 1. Male 0 2. Female 1 42. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown Casualties to:	nder 40. i ode .	1 Highway Use and Struck or 1 Yes 2. N Code 4 2 Injured 4	1. Yes Went Behind or ii was Struck by Se 3. Unknown 3. View of Track (1. Permi 2. Stand	2 No 3 n Front of Train cond Train 0bscured by anent Struct ing rainced ured 3. Un	Unknown rain 41. H Code 2 2 4 y (orime ture tequipment injured	Ighway User Wart around the Stopped on cross Stopped on cross Stopped on cross y obstruction? 3. Passing Train 4. Topography	ode 1 e gate in proceeded sing 5. Vegetatio 6. Highway 45. Was Dr	Ights or 1. Yes 5. Othe 6. Wer 6. Wer 7. We 8. Suit 7. We 8. Suit 1. Yes 1.	Special Lip 2. No. 3. 1 or (speck) it eround/th tes, socies int thru the g cide/Attemp 7. Other 8. Not C te Vehicle?	ahts Unknown VI nu temporary barrici nucelons) gate sted suicide (specify) (specify) Ibstructed	Cor ade Co God
1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 39. Highway 39. Highway User's Cer User's Age 1. Male C 2. Female 1 42. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown Casualties to: 46. Highway-Reil Crossing Users	ode	1 Highway User and Struck or 1 Yes 2. No Code 4 2 4 Injured 4 0 4	1. Yes Went Behind or ii was Struck by Se 3. Unknown 13. View of Track (1. Perm 2. Stand 4. Driver was 1. Kilad 2. Inj(7. Highway Vahici (est. dclar dam	2 No 3 n Front of Tran cond Train 0bscured by anent Struct ing rairoad ured 3. Un is Property I age)	Unknown rain 41. H Code 3 2 4 y (orime tare tare tare tare tare Demage	Ighway User Wart around the Stopped and the Did not stop stopped on cros ry obstruction) 3. Passing Train 4. Toppaphy	ode 1 ogato n proceeded sing 5. Vegetatio 6 Highway 45. Way Dr 1. Yes 48. Tetal N (includir	Ights or 1. Yes 5. Othe 6. Wer 6. Wer 8. Sui 7. We 8. Sui vehicles her in the 2. No umber on 19 driver	Special Li; 2. No. 3. 1 in (speck) it around th es, socialist it thru the p skele/Attemp 7. Other 8. Not C is Vehicle O 1 Vehicle O	phs Unknown (v) nu temporary berrick (apporty) (apport/) Ibstructed coupants	Con ade Co 3 Cod 8 Cod 1
1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 39. Highway 39. Highway User's Cer User's Age 1. Male C User's Age 1. Male C Age 2. No 3. Unknown Casualties to: 46. Highway-Reil Crossing Users	nder 40. i ode .	1 Highway User and Struck or 1 Yes 2. No Code 4 2 4 Injured 4 0 4	1. Yes Went Bahind or i was Struck by Se 3. Unknown 4. Driver was 1. Killed 2. Inj 7. Highway Vehicl vest. acclar dam 0. Total Number o	2. No 3. In Front of Train cond Train Conscured by anent Struct ing rainced ured 3. Un le Property I age) of People on	Unknown rain 41. H 1. Code 3. 2 4. y (prime tare tare tare tare tare Damage	C 1 ighway User Wart around the Did not stoo Stopped on cres ry distruction Stopped on cres ry distruction 4. Topography 3 \$2,500	ode 1 sgate in proceeded sing 5. Vegetatio 6 Highway 45. Was Dr 1. Yes 48. Total N (includiv 51. Is a Rai	Ights or 1. Yes 5. Othe 6. Wer (if y 7. We 8. Suit we n Vehicles her in 11 2. No umber o 15 gdrt ov 11 gdrt ov 11 gdrt ov 11 gdrt ov 11 gdrt ov 12 gdrt ov 11 gdrt ov 12 gdrt ov 12 gdrt ov 13 gdrt ov 14 gdrt ov 15 gdrt ov 15 gdrt ov 15 gdrt ov 16 gdrt ov 1	Special Li; 2. No. 3. 1 or (specified and the second sec	phs Unknown VI nu bemporary berrici tructions) jate sted suicide (apec#y) bistructed coupants mt /	Cod ada Cod 8 Cod 1 Cod
1. Bodh Sides 2. Side of Vehicle Aborosch 3. Opporeile Side of Vehicle Appr 3. Opporeile Side of Vehicle Appr 39. Highway 39. Highway User's Gen User's Age 1. Male C 2. Female 1 42. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown Casualties to: 46. Highway-Rail Crossing Users 49. Railroad Employees 52. Passengers on Train	Killed	1 Highway User and Struck or 1 Yes 2. Ni Code 4 0 4 0 5 0 5	1. Yos Wont Behind or ii was Struck by Se 3. Unknown 13. View of Track (1. Perm 2. Stand 4. Driver was 1. Kilad 2. In(i 7. Highway Vahici (est. dollar dam 0. Total Number o (include passer	2. No 3. In Front of Train cond Train Conscured by anent Struct ing rainced ured 3. Un le Property I age) of People on	Unknown rein 41. H Code 3. 2 4 y (prime tare equipment injured Damage	I ghway User. Want around the Stopped and the Did not stop Stopped on cree ry obstruction) 3. Passing Train 4. Topography 3 \$2,500	ode 1 sgate in proceeded sing 5. Vegetatio 6 Highway 45. Was Dr 1. Yes 48. Total N (includiv 51. Is a Rai	Ights or 1. Yes 5. Othe 6. Wer 6. Wer 8. Sui 8. Sui Ner in 11 2. No umber on 12. No 13. No 14. No	Special Li; 2. No. 3. 1 in (speck) it around th es, socialist it thru the p skele/Attemp 7. Other 8. Not C is Vehicle O 1 Vehicle O	phs Unknown VI nu bemporary berrici tructions) jate sted suicide (apec#y) bistructed coupants mt /	Cod
1. Both Sides 2. Side of Vehicle Aurosech 3. Opposite Side of Vehicle Appr 3. Opposite Side of Vehicle Appr 39. Highway 39. Highway User's Gen User's Age 1. Male C 2. Female 1 42. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown Casualties to: 46. Highway-Rail Crossing Users 49. Railroad Employees 52. Passengers on Train	Killed 0 Video Ta	1 Highway User and Struck or 1 Yes 2, N Code 4 0 4 0 5 0 5 0 5 0 5 0 5	1. Yes Went Behind or ii was Struck by Se 3. Unknown 1. Perms 2. Stand 1. Rilled 2. In(7. Highway Vehici (est. doclar dam 0. Total Number o (include passer es VN)	2. No 3. In Front of Train cond Train Conscured by anent Struct ing rainced ured 3. Un le Property I age) of People on	Unknown rein 41. H Code 3. 2 4 y (prime tare equipment injured Damage	C 1 ighway User Wart around the Did not stoo Stopped on cres ry distruction Stopped on cres ry distruction 4. Topography 3 \$2,500	ode 1 gate n proceeded sing 5. Vegetatio 6. Highway 4. Ves Un 1. Yes 48. Total N (includit 51. Is a Rai Incident	Ights or 1. Yes 5. Othe 6. Wer 6. Wer 8. Sui 8. Sui Ner in 11 2. No umber on 12. No 13. No 14. No	Special Li; 2. No. 3. 1 or (specified and the second sec	phs Unknown VI nu bemporary berrici tructions) jate sted suicide (apec#y) bistructed coupants mt /	Cod ada Cod 8 Cod 1 Cod
1. Both Sides 2. Side of Vehicle Abarosch 3. Opposite Side of Vehicle Appr 3. Opposite Side of Vehicle Appr 38. Highway 39 Highway User's Ge User's Age 1. Male 2. Formaile 1 42. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown Casualties In: 46. Highway-Reil Crossing User's 49. Railroad Employees 52. Passengers on Train 53a. Special Study Block	Killed 0 0 0 Video Ta Video Us	1 Highway Uses and Struck or 1 Yes 2. No Code 4 0 4 0 5 0 5 0 5 0 5 0 7 9 4	1. Yes Went Behind or ii was Struck by Se 3. Unknown 1. Perms 2. Stand 1. Perms 2. Stand 1. View of Track 1. View 1.	2 No 3 n Front of Train cond Train Discured by anent Struct ing rainced ured 3, Un is Property I app) applied for the struct apple on agers and fro	Unknown rein 41. H Code 3. 2 4 y (prime tare equipment injured Damage	I ghway User. Want around the Stopped and the Did not stop Stopped on cree ry obstruction) 3. Passing Train 4. Topography 3 \$2,500	ode 1 gate n proceeded sing 5. Vegetatio 6. Highway 4. Ves Un 1. Yes 48. Total N (includit 51. Is a Rai Incident	Ights or 1. Yes 5. Othe 6. Wer 6. Wer 8. Sui 8. Sui Ner in 11 2. No umber on 12. No 13. No 14. No	Special Li; 2. No. 3. 1 or (specified and the second sec	phs Unknown VI nu bemporary berrici tructions) jate sted suicide (apec#y) bistructed coupants mt /	Cod
1. Both Sides 2. Side of Vehicle Approx 3. Opposite Side of Vehicle Approx 3. Opposite Side of Vehicle Appr 39. Highway 39. Highway User's Gen User's Age 1. Male C 2. Female 1 42. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown Casualties to: 46. Highway-Rail Crossing Users 49. Railroad Employees 52. Passengers on Train 53a. Special Study Block 54. Narrative Description (Be sp	Killed 0 Video Ta Video Ca Video Ca	1 Highway Uses and Struck or 1 Yes 2. No Code 4 0 4 0 5	1. Yos Went Behind or ii was Struck by Se 3. Unknown 13. View of Track (1. Perm 2. Stand 4. Driver was 1. Kiled 2. In(i) 7. Highway Vahici (est. dolar dam 0. Total Number o (include passer s	2 No 3 n Front of Train cond Train 0bscured by anent Structured ing rairoad ured 3, Un la Propeie on age? of People on agers and fro ecessary?	Unknown rain 41. H 2 2 3 4 4 9 4 9 9 10mage 1 9 0pmage 1 Train ath crow) 53b. Specia	Ighway User. Want around the Stopped and the Stopped on creater y obstruction 3. Passing Train 4. Topography 3 S2,500 4 4 All Study Block	ode 1 ogato n proceeded sing 5. Vegetatio 6. Highway 45. Was Dr 1. Yes 48. Total Ni (inclukt) 51. Is a Ral Incident 1. Yes	Ichits or 1. Yes 5. Othe 6. Wer 6. Wer 8. Sui 8. Sui 9. Sui 9. Sui 1. Yes 9. Sui 9. Sui 1. Yes 9. Sui 1. Yes 1. Yes 9. Sui 1. Yes 1.	Special Li; 2. No. 3. 1 or (specified and the second sec	phs Unknown VI nu bemporary berrici tructions) jate sted suicide (apec#y) bistructed coupants mt /	Cod ada Cod 8 Cod 1 Cod
1. Both Sides 2. Side of Vehicle Ausrosch 3. Opposite Side of Vehicle Appr 38. Highway 39. Highway User's Ge User's Age 1. Male 2. Female 1 42. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown Casualties to: 46. Highway-Rail Crossing User's 49. Railroad Employees 52. Passengers on Train 53a. Special Study Block	Killed 0 Video Ta Video Ca Video Ca	1 Highway Uses and Struck or 1 Yes 2. No Code 4 0 4 0 5	1. Yes Went Behind or ii was Struck by Se 3. Unknown 3. Unknown 4. Driver was 1. Killed 2. In(7. Highway Vehici (est. doclar dam 0. Total Number o (include passer ss. No ss. No ss. No ss. No ss. No No Ss.	2 No 3 n Front of Train cond Train 0bscured by anent Structured ing rairoad ured 3, Un la Propeie on age? of People on agers and fro ecessary?	Unknown rain 41. H 1 Code 2 3 2 4 y (prime ture equipment injured Demage Train atin crow) 53b. Specia	Ighway User. Want around the Stopped and the Stopped on creater y obstruction 3. Passing Train 4. Topography 3 S2,500 4 4 All Study Block	ode 1 ogato n proceeded sing 5. Vegetatio 6. Highway 45. Was Dr 1. Yes 48. Total Ni (inclukt) 51. Is a Ral Incident 1. Yes	Ichils or 1. Yes 5. Othe 6. Wer 6. Wer 8. Sui 8. Sui wer in the 2. No 1. Equipmines 1. Yes 1. Yes	Special Li; 2. No. 3. 1 or (specified and the second sec	ahts Unknown V/ no temporary barrici Incidens) jate sted suicide (apec/ly) itestructed coupants int / t	Cod ada Cod 3 Cod 8 Cod 1
1. Both Sides 2. Side of Vehicle Ausrosch 3. Opposite Side of Vehicle Appr 38. Highway 39. Highway User's Ge User's Age 1. Male 2. Female 1 42. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown Casuatties to: 46. Highway-Reil Crossing User's 49. Railroad Employees 52. Passengers on Train 53a. Special Study Block 54. Narrative Description (Be sp User's Add UNKNOWN, VEHICLE D	Killed Killed 0 0 0 Video Ta Video Us solito, and Rove Entro	1 Highway Uses and Struck or 1 Yes 2, N Code - 2 - Injured 4 0 - 6 - 9 - wen? Y 9 - 0	1. Yos Went Behind or ii was Struck by Se 3. Unknown 13. View of Track (1. Permi 2. Stand 4. Driver was 1. Kiled 2 Inij 7. Highway Vahici (est. dolar dam 0. Total Number o (include passer s	2 No 3 n Front of Train Cond Train Cond Train Characteristic Characterist	Unknown Train 41. H 1 2 3 4 4 y (prima ture aguipment injured Damage Train ain crow) 53b. Specia vnvc THE CR m	Ighway User. Wart around the Stopped and the Did not stop Stopped on creater volstruction 3. Passing Train 4. Topography 3 S2,500 4 stody Block sody Block sody Block	ode 1 ogato n proceeded sing 5. Vegetatio 6. Highway 1. Yes 48. Total N (includt) 51. Is a Rail Incident 5. Yes MAT RELEAS shall not "be	Lights or 1. Yes 5. Othe 6. Wer (If y) 7. We 8. Suit vehicles: mer in 11 2. No ing drivey Equipor Report 2. No Equipor 2. No	Special Li; 2. No. 3. 1 in concern the cound'th encound'th encound'the encound	ahts Unknown VI nu bemporary berrici ructions) gate sted suicide (specify) Zestructed t t t	Code Code S Code S Code 1 Code 2

Figure D-9. East 47th Avenue and York Street Crossing (1 of 1)

EPARTMENT OF TRANSPOR EDERAL RAILROAD ADMINISTRA				CIDENT/INC				OMB Approval No. 2130	-0500
Name of Reporting Railroad		0.2	1200		1a.A	Alphabetic Co	56	1b. Railroad Accident/Incident	No.
Union Pacific Railroad Comp	any [UP]				1	UP		1019GP005	
Name of Other Railroad or Other E	Entity Fillin	g for Equips	nent Involved in Trai	n Accident/Inci	dent 2a./	Alphabetic Co	de	2b. Railroad Accident/Incident	No.
. Name of Railroad or Other Entity	Bernoreik	de for Toront	Malatanaanaa		20	Alphabetic C.	al a	3b. Railroad Accident/Incident	No.
inion Pacific Railroad Compa		He for Trace	Mantanan (200	the average	U		09	1019GP005	IND.
U.S. DOT Grade Crossing ID No.	ayteri					hate of Accide	nbincident	6. Time of Accident/Incident	
Construction of the second second						north	day 1 star		
			8044			1 0 1	1 2019	1:18 AM	PM[
Nearest Railroad Station			8. Subdivision		1000	County		10. State Abbr. CO	Coc
FOREIGSTC 1. City (if in a city)			GREELE	Y SUB way Name or I		DENVER			0
DENVER			20.000	may reacte at t	EAST 4	47TH AVE		Public V Pro	ate
5.2	hway Us	er Involve	d	1.0	Protocord		Rail Equipment 4. Gar(s) (moving	17. N. S. W. S. S.	
3. Type C. Truck-Insiler F. Bus			stor Vehicle	1/	Equipment	(units putting)	5. Car(s) (standa)		
A Aulo D. Pick-up truck G. Sch		K. Pedestr		10000		(units pushing)	6. Light toco(s) (v	ioving) C. Train standing- RCL	Co
	torcycle	M. Other		Code	3. Train	(standing)	7. Light loce(s) (4		11
	lirection	(geograph)			Position of C	Sar Unit in Tra	8. Other (specif) in	9 E. Entro E. Coomonweis)	
			t 4. West	3			1.39		
6. Position 1. Stelled or stuck on		8411241207		Cada	. Circumstand	DR	8.846		Co
 Stopped on Crossi Moving over crossi 	C. 20	5. Blocked	on crossing by gales	Code 3	1. Rail equips	ment struck hi	ghway user 2. Rail e	equipment struck by highway us	
3. Moving over crossi 20a. Was the highway user and/or	-	und in out	4		The Marchan	a harrista -	materials release by	11209	
in the impact transporting haz			5	Code	en vans mere	a not a route outs	materials release by		Cod
1. Highway User 2. Rail Eq	uipment	3. Both	4. Neither	2	1. High	way User 2	Rail Equipment	3. Both 4. Naither	4
20c. State here the name and quan	tity of the I	hazardous r	naterial released; if a	any					
		tions and a	(C)						-
		single entry		1	3. Weather		10238 1925 5		1 2
specify if minus) 14 °F 1.1	Dawn 2.1	Day 3. Du		4 Anspect.car	1. Clear 2.	Cloudy 3. Ra	in 4. Fog 5. Sleet	6. Snow	1 .
7. FRA Track 28. Number o Sats (1-9,X) Locomoti Units			nber of Cars 138	30. Consist Sp R. Record E. Estimate	ed	id spaied if aw	Nobie) Code	31. Time Table Direction 1. North 3. East 2. South 4. West	Go
2. Type of		-	1.55	La la destrucción de la construcción de la construc		33. Signaled	Crossing Warning	34. Roadway Conditions	1
Crossing	Mid weda		Crossbucks 10. F	lagged by crew		(P	se side for	A. Drv B. Wet	
2. Cantilever FLS 5. Warning		ic signals a	Stop signs 11. C	other (specify)			se side for s and codes)	C.Snow/Slush	
3. Standard FLS 6.	Audible		Watchman 12 N	one			Code	E. Sand, Mud, Dirt, Dil, Gravel	Co
Code(s) 01 03	1 S	06					1	F.Water (Standing, Moving)	B
 Location of Warning Both Sides 		200	and the belief	Warning Inter- way Signals	connected		Lights or	g Illuminated by Street r Special Lights	
2. Side of Vehicle Approach			ACCH .	Z No 3 Un	2200058	1.02	ode	2 No 3 Unknown	Co
3. Opposite Side of Vehicle App 8. Higrway 39 Highway User's Ge			and the second se		test management in the second s	any User	5. Oth		
User's	- 440 - 444.		or was Struck by Se		1. We	ant around the	gate 6. We	nt around/thru temporary berrica	de
Age 1. Male (Code		6.00.52	Co		poped and the i not stop		res, see instructions) nt thru the gate	C
N2227 1 1 1 1 1 1 2 2 2 3 3 1 1 1 2 3 3 3 1 1 2 3 3 3 1 2 3 3 3 1 2 3 3 3 1 2 3 3 3 1 2 3 3 3 1 2 3 3 3 1 2 3 3	1	1 Yes 2	No 3. Unknown	2		opped on cros		cide/Attempted suicide	13
42. Driver Passed Standing		Code	43. View of Track	Obscured by		ide/ruction)	- 50 - 10 - 10 - 10 - 10 - 10 - 10 - 10	1850389W 096W	Cod
Highway Vehicle		1.	12-1-1-12	anent Structure			5. Vegetation	7. Other (specify)	1.
1. Yes 2. No 3. Unknown	00.02002	3	2. Stan 44. Driver was	ding ratircad ec	surprisent 4, T	opography	 Highway Vehicles 45. Was Driver in II 		Cos
	Killed	Injured		jured 3. Uninj	ured	3	1. Yes 2. No	Concernant in the second	11
Casualties to:	0	0	47. Highway Vehic		mage	1 Carries		f Vehicle Occupants	
and shared a second state of the		0	(est. dollar dan 50. Total Number		rain	\$5,000	(including driver 51. Is a Rail Equipt		Cod
 Highway-Rail Crossing Users 	0		1			12	Incident Report		1 2
16. Highway-Rail Crossing Users 19. Railroed Employees	0	-	(include passe	ingers and main			1 Yes 2. No		1 2
16. Highway-Reil Crossing Users 19. Reilroed Employees 52. Passengers on Train	0	0	118-32003-18	R.C. (49) 743	th Special St.	uty Block			
6, Highway-Rail Crossing Users 19, Railroad Employees 12, Passengers on Train	<u></u>	0 sken?	Yes VNp Yes VNp	R.C. (49) 743	3b. Special St	udy Block	1015151		
 Highway-Reil Crossing Users Railroad Employees Passengers on Train Special Study Block Narrative Description (Be a) 	0 Video Ta Video U pecific, and	0 sken? sed?	Yes No	5	3b. Special St	udy Block			
 Highway-Reil Crossing Users Raihoad Employees Passengers on Train Special Study Block Narrative Description (Be a) InditWAY USER'S ACTIONS: DID NO 	0 Video Ta Video U pecific, and	0 sken? sed?	Yes Viso Yes Viso ni separate sheef if /	5. Necessary)	3b. Special St	udy Block		57 Date	
 Highway-Reil Crossing Users Railroad Employees Passengers on Train Special Study Block Narrative Description (Be a) 	U Video Ta Video U pecific, and of strop.	e sken? sed? d continue o	Yes No Yes No ri separate sheet if a	5. Signature the accident r	eports statute	and, as such	shail noi "be admitu	57. Date: ed as evidence or used for any p	urpos

Figure D-10. Alameda Avenue Crossing (1 of 1)

EDERAL RAILROAD ADMINISTRA	TION (FR	NI.	ACC	CIDENT/I	NCIDEN'	REPORT		NT REPORT			30-0500
Name of Reporting Railroad		<u></u>	2008			1a. Alphabetic Co	de		1b. Railro	and Accident/Incide	ant No.
BNSF Railway Company [BN	SF]					BNSF			PR12	19202	
Name of Other Railroad or Other I	Entity Filling	for Equipme	nt Involved in Train	n Accidenti	Incident	2a. Alphabetic C	ode	20	2b. Railro	ad Accident/Incide	ent No.
3. Name of Railroad or Other Entity	Responsib	le for Track M	aintenance			3a. Alphabetic C	ocie	-	Sh Rain	and Accident/Incide	ant No
BNSF Railway Company [BNS			cards	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		BNSF			PR12		
I. U.S. DOT Grade Crossing ID No.						5 Date of Accid	enb/incident			of Accident/Inciden	1
			24546	SOF		rooth	day 1900	320		AME	
7. Nearest Railroad Station			8. Subdivision			1 2 0 9. County	3 20	9	10:10 10. State		Cod
SOUTH DENVER			PIKES PE			DENVER				Abbr. CO	08
11 Div (if/n.a.otd)				way Name	or No.			-		Public 2 P	
DENVER	harne Her	ar Involved	Andrones	10000000	A	LAMEDA EO N	Rail Equip	mont	Involued		Tivate
13. Type	inway usi	a moored			17. Equip	mont		moving	17.19.0.07.8	Train pulling- RCL	
C. Truck-trailer F. But		J. Other Molo	Vahirda			min (units putting)	5. Car(s) f	startaing	<i>ў</i> В.	Train pushing- RCI	
A Auto D. Pick-up truck G. Sci		K. Padestrian		Code		nin (units pushing				Train standing- RC EMU Locomotive(s	
	torcycle	M. Other (a)	ecity)	A	3.1	rain (standing)	7. Light loce 8. Other	(6) (5 (specify	ranew.W	DMU Locomotive(s	1 .
14. Vehicle Speed 15. 0	irection	(geographical	F	, Code	18. Positi	on of Car Unit in Tr		autory		CITY COMPANY	
		uth 3. East		4				Ú			
16. Position 1. Stalled or stuck on 2. Stronged on Cross				Pada	19. Circu						Coc
 Stopped on Cross Moving over cross 	877 - AM	 Blocked on 	closend ph dates	3	1. Rail	equipment struck h	Ighway user 2	Rai e	squipment s	struck by highway	
20a. Was the highway user and/or		ent involved		5	205 We	there a hazardous	materials rela	arse by		A 8539 - 69	-
in the impact transporting has				Code	100 110			an of			Cod
1. Highway User 2. Rail Er	uipment	3. Both 4.1	Velther	4		. Highway User	2. Rail Equipm	ent 3	8. Both 4.	. Naither	4
20c. State here the name and quar	stity of the h	azardous ma	erial released, if a	iny							
	a house in the	Acada acada A			5 						1977
	R. 1.10	ingle entry)	\$52/12	Code	24304	ther (single entry)		6 5	83.82		Cod
(specify if mittus) 26 °F 1. 24. Type of Equipment 1. Freight 1		ay 3. Dusk 5. Single	100 M 100 M 100 M 100 M	4 Anspect ci	5 110 K	sar 2. Cloudy 3. R	an 4. Fog 5.	Sleet	6. Snow	-	1.
4. Work Tra 27. FRA Track 28. Number of	nin f		witching B. Passer 200(s) C. Comm ar of Cars 3	uter Train-	Pushing Speed (R	7 1. Main 2. 1 scorded speed if av	(and 3. Siding w/lable)	4. Indi Code	31. Time	3101 Table Direction	Cod
Class (1-9,X) Locomot 1 Units	ive:		13	R. Rec E. Estin			4 mpb	E	20000	onth 3. East outh 4. West	2
32. Type of		1.000	and the second	un read		33. Signaled	Crossing War	ming		way Conditions	
Crossing 1. Gates 4 2. Cantilever FLS 5	Wig wags Hwy traffi		tossbucks 10. Fil top sions 11. Or	agged by o ther (spec		(See reve	rae side for		A. Drv B. Wet		
Warning 3. Standard FLS 6		- V33V	Vatchman 12. Nr	S	-11	instructio	ns and codes)	Code	C.Snow/S D.lce		Cod
Code(s) 05 07				T	1	-				Mud, Dirt, Dil, Gravel	C
35. Location of Warning	<u> </u>	21	36. Crossing	Warning In	terconnec	ed	37. C	rossing		(Standing, Moving) d by Street	10
1. Both Sides		, Cod	outly blinks	way Signal					Special Lip		Cod
 Side of Vehicle Approach Opposite Side of Vehicle App 	mach	1	7.1 (1) - 8 (1) - 3	Z No 3	Unknown	8 18		Yes	2.No 3.1	Unknown	1
38.Higrway[39.Highway User's G			Went Behind or in	n Front of 1	Train 41	Highway User			r (speck		
44/2021		and Struck or	was Struck by Se	cond Train	Carros	1. Went around th 2. Slooped and th			it ercund/th tes, see ins	nu temporary berri tructions)	
User's			2.0.2	1	Code	 Stopped and th Did not stop 	en proceeded		nt thru the p		Cot
Age 1. Male	Code	1 Yes 2. N	3. Unknown		2	4. Stopped on cro	ssing	8. Sui	cicle/Altern;	sted suicide	3
Age 1. Male 40 2. Female		A			DOT						Code
Age 1 Male 40 2 Female 42 Driver Passed Standing	5.5522	Code	 View of Track 0 Docesion 			mary obstruction)			7 04		
Age 1 Male 40 2 Female 42 Driver Passed Standing Highway Vehicle	5.5522	1	1. Perme	anent Struc	ture	3. Passing Train				r (specify) Stelnucted	8
Age 1. Male 2. Female 40 2. Female 40 41 42. Driver Passes Standing Highway Vehicle 1. Yes 2. No 3. Unknown	2	2	1. Perma 2. Stand 4. Driver was	anent Struc Ing raircea	ture 1 equipme		6. Highway V 45. Waa Dri	/ehicles ver in ti	8. Not C	r (specify) Distructed	Cod
Age 1. Male 2. Female 40 2. Female 40 41 42. Driver Passes Standing Highway Vehicle 1. Yes 2. No 3. Unknown Casualties to:	5.5522	2 Injured	1. Perme 2. Stand 4. Driver was 1. Killed 2. Inju	anent Struc Ing raircai ured 3. U	ture t equipme ninjured	3. Passing Train	6. Highway V 45. Was Dri 1. Yes	/ehicles ver in til 2. No	8. Not C ie Vehicle?	Detructed	603 Cod
Age 1. Male 2. Female 40 2. Female 40 41 42. Driver Passes Standing Highway Vehicle 1. Yes 2. No 3. Unknown Casualties to:	2	2 Injured	1. Perma 2. Stand 4. Driver was 1. Killed 2. Inju 7. Highway Vahici	anent Struc Ing raircae ured 3. U	ture t equipme ninjured	3. Passing Train 1. 4. Topography 3. 1	6. Highway V 45. Waa Dri 1. Yes 48. Total Nu	/ehicles ver in til 2. No mber o	8. Not C e Vehicle? f Vehicle O	Detructed	Cod
Age 1. Male 2. Female 40 2. Female 42. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown Casualties In: 46. Highway-Reil Crossing Users	2 Killed I)	2 Injured	1. Perma 2. Stand 4. Driver was 1. Killed 2. Inju 7. Highway Vahici (est. dollar dam	anent Struc Ing railroad ured 3. U la Property age)	ture t equipme ninjured Demage	3. Passing Train et 4. Topography	6 Highwey V 45. Was Dri 1. Yes 48. Total Nu (includin	/ehicles ver in til 2. No mber o g d/tvo/	8. Not 0 e Vehicle7 Vehicle 0	Destructed	Cod 1 1
Age 1. Male 2. Female 40 2. Female 42. Driver Passed Standing Highway Vehicle 1. Yes 2. No. 3. Unknown Casualties to: 46. Highway-Rai Crossing Users 49. Raitroad Employees	2 Killed 0	2 Injured 0	1. Perma 2. Stand 4. Driver was 1. Killed 2. Inju 7. Highway Vahici	anent Struc Ing raircar ured 3. Ur la Property age) of People o	ture d equipme ninjured Demage n Train	3. Passing Train 4. Topography 3 \$2,500	6 Highway V 45, Was Dri 1, Yes 48, Total Nu (includin 51, Is a Rail Incident	/ehicles ver in th 2. No mber o g d/ive/ Equipn Report	8. Not 0 e Vehicle7 Vehicle 0	Destructed Accupants	Cod 1 1 Code
Age 1. Male 2. Female 40 2. Female 42. Driver Passed Standing Highway Vehicle 1. Yes 2. No. 3. Unknown Casualties In: 46. Highway-Rail Crossing Users 49. Railroad Employees 52. Passengers on Train	2 Killed 0 0	2 Injured 0 0	1. Perme 2. Stand 4. Driver was 1. Killed 2. Inji 7. Highway Vahici (est. dollar dam 0. Total Number o (include passer)	anent Struc Ing raircar ured 3. Ur la Property age) of People o	ture d equipme ninjured Demage n Train rain crow)	3. Passing Train 14. Topography 3 \$2,500 3	6. Highwey V 45. Was Dri 1. Yes 48. Total Nu (Includin 51. Is a Rail	/ehicles ver in th 2. No mber o g d/ive/ Equipn Report	8. Not C e Vehicle? / Vehicle O) nent Accide	Destructed Accupants	Cod 1 1
Age 1. Male 2. Female 40 2. Female 42. Driver Passed Standing Highway Vehicle 1. Yes 2. No. 3. Unknown Casualties to: 46. Highway-Rai Crossing Users 49. Raitroad Employees	2 Killed 0	2 Injured 0 0 0 8 0	1. Perme 2. Stand 4. Driver was 1. Killed 2. Inju 7. Highway Vehicl (est. dc0ar dam 0. Total Number o	anent Struc Ing raircar ured 3. Ur la Property age) of People o	ture d equipme ninjured Demage n Train rain crow)	3. Passing Train 4. Topography 3 \$2,500	6 Highway V 45, Was Dri 1, Yes 48, Total Nu (includin 51, Is a Rail Incident	/ehicles ver in th 2. No mber o g d/ive/ Equipn Report	8. Not C e Vehicle? / Vehicle O) nent Accide	Destructed Accupants	Cod 1 1 Code
Age 1. Male 2. Female 40 2. Female 42. Driver Passes Standing Highway Vehicle 1. Yes 2. No 3. Unknown Casualties to: 46. Highway-Reil Crossing Users 49. Reilroed Employees 52. Passengers on Train 53a. Special Study Block	2 Killed 0 0 Video Ta Video Us pecific, and	2 Injured 0 4 0 5 6 5 5 5 5 5 5 5 5 5 5 5 5 5	1. Perma 2. Stand 4. Driver was 1. Kildo 2. Inji 7. Highway Vahici (est. dc0ar dam 0. Total Number o (include passer es	anent Struc ing raincar ured 3. Ur la Property age) of People o agers and f ecessary)	ture d equipme ninjured Demage n Train rain crew) 53b. Spe	3. Passing Train 14. Topography 3 \$2,500 3	6 Highway V 45, Was Dri 1, Yes 48, Total Nu (includin 51, Is a Rail Incident	/ehicles ver in th 2. No mber o g d/ive/ Equipn Report	8. Not C e Vehicle? / Vehicle O) nent Accide	Destructed Accupants	Cod 1 1 Code
Age 1. Male 2. Female 40 2. Female 42. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown Casualties In: 46. Highway-Rail Crossing Users 49. Railroad Employees 52. Passengers on Train 53a. Special Study Block 54. Narrative Description (Be a VEHICLE FAILED TO YIELD AT CRO	2 Killed 0 0 Video Ta Video Us pecific, and	2 Injured 0 4 0 5 6 5 5 5 5 5 5 5 5 5 5 5 5 5	1. Perms 2. Stand 4. Driver was 1. Killed 2. Inji 7. Highway Vahici (est. doctar dam (notude passen fonctude passen fonctude passen ss No ss No ss (BY TRAIN, NO B.)	anent Struc ing raircear ured 3. Ui la Property ape) if People o agers and f scessary/ AZMAT BE	ture d equipmen injured Damage n Train rain crew) 53b. Spe LEASED.	3. Passing Train 14. Topography 3 \$2,500 3	6 Highway V 45, Was Dri 1, Yes 48, Total Nu (includin 51, Is a Rail Incident	/ehicles ver in th 2. No mber o g d/ive/ Equipn Report	8. Not (the Vehicle O) nent Accide Being Filed	Distructed Incoupants ant / d	Cod 1 1 Cod
Age 1. Male 2. Female 40 2. Female 42. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown Casualties to: 46. Highway-Rei Crossing Users 49. Railroad Employees 52. Passengers on Train 53a. Special Study Block 54. Nerrative Description (Be a	2 Killed 0 0 Video Ta Video Us pedific, and ISSING AM	2 Injured 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1. Perma 2. Stand 4. Driver was 1. Killed 2. Inji 7. Highway Vehici (est. dc:Br dam 0. Total Numbero (include passen (include passen se	anent Struc ing rairoar ured 3. U la Property age) of People o agers and f ocessary/ AZMAT RE 56. Signatu	ture d equipme Demage n Train rain crow/ 53b. Spe LEASED, ro	3. Passing Train 14. Topography 3 \$2,500 3 cial Study Block	6 Highway V 45, Was Dri 1. Yes 48, Total Nu (includin 51, Is a Rail Incident 1. Yes	/ehicles ver in 10 2. No mber o g driver Equipn Report 2. No	8. Not C e Vehicle? I Vehicle O nent Accide Being Filec	Substructed Accupants ant / 5	Cot 1 Cot 2

Figure D-11. East 50th Avenue Crossing (1 of 1)

	ATION (FRA)		ACCID	ENT/INCIDE	NT REPORT					OMB Approval No. 2130-0500	
Name of Reporting Railroad						habelic Co	de		1.	bad Accident/Incide	nt No.
BNSF Railway Company [BN:					BN				PR10	CZ 20 Caller	
Name of Other Railroad or Other E	Entity Filling for Equip	pment Involv	red in Train Acc	ident/Incident	Za. Alp	habetic Co	xic		2b. Rain	oed Accident/Incide	nt No.
Name of Railroad or Other Entity BNSF Railway Company (BNS		ck Maintenar	nce overlever	58	Sa Ap BNS	shabetic Co	ide		35. Rain PR10	oad Acciden@Incide	nt No.
U.S. DOT Grade Crossing ID No.						e of Apcide	int/inciden	t		Accident/Incident	
		18				month	dis 1	year			
		-	245288M	A	1	_	9	2017	12:11	AM	PM.
Nearest Rairoad Station DENVER		100007	ubdivision RUSH		9. Co.	ENVER			10. State	Abbr. CO	Cod
1. City (If in a city)		0	12 Highway	Mama or No.							0
			12. rugimay	Name of No.	50TH AV	E				Public 🗸 Pr	ivale
	hway User Involv	red							Involved		
	hool Bus K. Pedes	(apocally)	ļ	ade 2 B	ulpment Train (un Train (un Train (st) sition of Car	its pushing) sraing)	5. Car(s 6. Light 7. Light 8. Other) (moving) (standing oco(s) (m oco(s) (% specify) B kuring) C tending) D	Train pulling- RCL Train pushing- RCL Train standine- RCL EMU Locamotive(s) DMU Locamotive(s)	
	iorth 2. South 3. Ea	NOT STREET, NOT STREET, NOT		3	000.5008	C	1995 1995	1			
6. Position 1. Stalled or sluck on	- CO		X6.5900.000 04		cumstance	hanner	3300	0.000-0000		2021022.000	Co
2. Stopped on Crossi 3. Maxima awar crossi		d on crossin	g by gates	Code 1. R	ail equipmer	nt struck h	ghway us	ar 2, Rail e	quipment	struck by highway u	
3. Moving over crossi		il.			/as there a f	a magnification	and a state	minister in a			-
20a. Was the highway user and/or in the impact transporting haz		heid		code 200 V	/as there a t	azarcious	materials	slease by			Co
1. Highway User 2. Rail Eq		4. Neither		4	1. Highea	y User 2	2. Rall Equ	ipment 3	Both 4	Neither	4
0c. State here the name and quan	rity of the hazardous	material rel	eased, it any	- Color - Barr	10000000	-04070-0-0					
	a la al constructo ante										
5, 7 %, 62-52, 508, 50, 51 (June 1995)	visibility (single entr			이었다. 이 이 아이었는	Aeather (sir	Sec. 235		-			Co
specify if minus) 60 °F 1.0 4. Type of Equipment 1. Preight T	Dawn 2 Day 3 Di	usk 4. Dank Ingle Car	9. Maint /insp		Clear 2. Ck	oudy 3: Ho	an 4.⊢og	5. Steel	6. Snow		-
4. Work Tra 7. FRA Track 28. Number o	of 29. N.		C. Commuter	Train-Pushing onsist Speed	7 1			ding 4. Indu Code	31. Time	725 Table Direction	Co
Class (1-9,X) Locomotiv 1 Units	1	11		Recorded Estimated			5 mph	R		with 3. East outh 4. West	4
2. Type of 1. Gates 4.	. Wig wags	7. Crossbu	cks 10. Flagge		33	I. Signaled	Crossing	Warning	34. Road A. Drv	way Conditions	
Crossing	A Read Street Avenue and A	0 Cinc also	na 11. Other	(specify)	1.2	(See revel instruction	rse side fo is and cod		B. Wet C.Snows	Slush	
Crossing 2. Cantilever FLS 5.	Hwy. traffic signals	o. Stop sign						and the second s	D,ice		
Crossing		9. Watchm	an 12 None			1100 00000		Code		Mud Dirt Oil Gravel	Co
Crossing 2. Cantilever FLS 5. Warning		101000000	an 12 None	1	-	1000		Code	E. Sand,	Mud.Dirt,Oil,Gravel (Standing, Moving)	1.12
Crossing 2. Cantilever FLS 5. 3. Standard FLS 6. Code(s) 12 5. Location of Warning 1. Both Sirides	Audible	9. Watchm	Crossing Wan with Highway		ected		122	7. Crossing	E. Sand, F.Water	(Standing, Moving.) d by Street	1
Crossing 2 Cantilever FLS 5. Warning 3 Standard FLS 6. Code(s) 12 5. Location of Warning 1. Both Sides 2. Side of Vehicle Approach	Audible	9. Watchmi	Crossing Wan	Signals			ade 3	7. Crossing Lights or	E. Sand, F.Water Ruminate	(Standing, Moving.) d by Street ghts	
Crossing 2 Cantilever FLS 5. Warming 3 Slandard FLS 6. Code(s) 12 5. Location of Warming 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle App	Audible	9. Watchmi 36. Code	Crossing Wan with Highway 1. Yes 2. N	Signals a 3. Unknow	wn 41. Highway	User C	ade	7. Crossing Lights or 1. Yes 5. Othe	E. Sand, F. Water Burninate Special Li 2, No 3, Ir (speci	(Standing, Moving.) d by Street ghts Unknown M	^
Crossing 2 Cantilever FLS 5. Warning 3 Standard FLS 6. Code(s) 12 5. Location of Warning 1. Both Sides 2. Side of Vahide Approach 3. Opposite Side of Vahide App 8. Highwayi 39 Highway User's Ge User's Age 1. Male 1	Audible eroach ender 40. Hichway and Struc Code	9. Watchmi 38. Code User Went E ck or was St	Crossing Wan with Highway 1. Yes 2. Ni Sehind or in Fro ruck by Second	Signals a 3. Unknow ant of Train f Train Code	wn 41. Highway 1. Went 2. Stopp 3. Did n	y User around the red and the of stop	ade : gale :n procisio	7. Crossing Lights or 1. Yes 5. Othe 6. Wer fod (if y 7. Wei	E. Sand, F.Water Dominate Special Li 2 No 3. In (special st around fil es, see ins nt thru the	(Standing, Moving.) d by Street ghts Unknown Mi wu temporary barrio tructions) gate	ade
Crossing 2 Cantilever FLS 5. Warning 3. Slandard FLS 6. Code(s) 12 15. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle App 8. Higrway 39. Higrway User's Ge User's Ape 1. Male 86 2. Female	Auditile proach ender 40. Hichway / and Strue Code 1. Yes	9. Watchmi Ocde User Went E ck or was St 2. No. 3. Ur	Crossing Wan with Highway 1. Yes 2. Ni Sethind or in Fit ruck by Second	Signals a 3. Unknow ant of Train 2 Train Code 2	wn 41. Highway 1. Went 2. Stopp 3. Did n 4. Stopp	y User around the red and the of stop red on cros	ade : gale :n procisio	7. Crossing Lights or 1. Yes 5. Othe 6. Wer fod (if y 7. Wei	E. Sand, F.Water Dominate Special Li 2 No 3. In (special st around fil es, see ins nt thru the	(Standing, Moving) d by Street ghts Unknown Mi mu temporary barric tructions)	A Co ade
Crossing 2. Cantilever FLS 5. Warming 3. Standard FLS 6. Code(s) 12 5. Location of Warming 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle App 8. Highway 39 Highway User's Ge User's Age 1. Male 1 86 2. Famale	Audible eroach ender 40. Hichway and Struc Code	9. Watchmi Ocde User Went E ck or was St 2. No. 3. Ur	Crossing Wan with Highway 1. Yes 2. Ni Sehind or in Fro ruck by Second Whown of Track Obsc	Signals a 3. Unknow ant of Train 2 Train Code 2 aured by (41. Highway 1. Went 2. Stopp 3. Did ni 4. Stopp prevery obst	y User around the red and the of stop red on cros fruction)	ade : gate :n proceso :sing	7. Crossing Lights or 1. Yes 5. Othe 6. Wer lod 0Fy 7. Wei 8. Suit	E. Sand, F. Water Special Li 2, No 3, ar (special st around th es, see ins int thru the cide/Attem	(Standing, Moving.) d by Street ghta Unknown My withemporary barrio tructions) gate offed suicide	Co A Co ade Co Co
Crossing Warning 2. Cantilever FLS 5. 3. Slandard FLS 6. 3. Slandard FLS 6. Code(s) 12 35. Location of Warning 1. Both Sides 3. Standard Vehicle Approach 3. Opposite Side of Vehicle Approach 3. Opposite Side of Vehicle App 38. Highway 39. Highway User's Ge User's Age 1. Male 46 2. Female 1	Auditile proach ender 40. Hichway / and Strue Code 1. Yes	9. Watchm 38. Code User Went E ch or was St 2. No. 3. Ur 43. View	Crossing Wan with Highway 1. Yea 2. Ni Sehind or in Fro nuck by Second iknown of Track Obso 1. Permanen 2. Standing 1	Signals a 3. Unknow ont of Train 5 Train Code 2 bured by (t Structure	wn 41. Highway 7. Went 2. Stopp 3. Did n 4. Stopp pnewery obs 3. Pas	y User around the sed and the of stop med on cross fruction) sing Train	ade : gate :n proceso :sing :5. Vegeta	7. Crossing Lights or 1. Yes 5. Othe 6. Wer lod 0Fy 7. Wei 8. Suit	E. Sand, F. Water Boecial Li Special Li 2, No 3, 17 (special staroundit) es, see ins nt thru the cide/Attern 7. Other	(Standing, Moving.) d by Street ghts Unknown Mi wu temporary barrio tructions) gate	A A Ade C:
Crossing 2. Cantilever FLS 5. Warning 3. Slandard FLS 6. Code(s) 12 15. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle App 3. Highwayi 39 Highway User's Ge User's Ape 1. Male 1 86 2. Famale 1 12. Onver Passed Standing Highway Vehicle 14. Onver Passed Standing Highway Vehicle 1. Yes 2. No. 3. Unknown	Audible proach ender 40. Hichway and Struc Code 1. Yes Code 2	9. Watchm 2. Code User Went E ch or was St 2. No. 3. Ur 43. View 44. Drive	Crossing Wan with Highway 1. Yes 2. Ni Sahind or in Fro nuck by Second iknown of Track Obso 1. Permanen 2. Sanding 1 xr Was	Signals a 3. Unknow int of Train Code 2 ured by (1. Structure airced equipt	41. Highway 1. Went 2. Stopp 3. Did n 4. Stopp primary obs 3. Pas nent 4. Top	y User around the red and the of stop sed on cross fruction) sing Train ography	5. Vegeta 6. Highwr 45. Was	7. Crossing Lights or 1. Yes 5. Oth 6. Wer 6. Wer 8. Suit 7. Wei 8. Suit 7. Su	E. Sand, F. Water Boecial Li Special Li 2, No 3, 17 (special staroundit) es, see ins nt thru the cide/Attern 7. Other	(Standing, Moving.) d by Street ghts Unknown % % wa temporary barris fractions) gate oted suicide oted suicide r (specify) Distructed	ade Co Co
Crossing 2 Cantilever FLS 5. Warning 3 Standard FLS 6. Code(6) 12 5. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle App 8. Highway 39 Highway User's Ge User's App 1. Male 1 86 2. Famale 1 2. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown Casuatties to:	Auditio	8. Watchm 98. Watchm 98. 99. 9	Crossing Wan with Highway 1. Yes 2. Ni Sehind or in Fin ruck by Second tknown of Track Obso 1. Permanen 2. Spaning 1 wies lifed 2. Injured	Signals a 3. Unknow ant of Train Code 2 ared by (1 Structure airced wquipr 3. Uninjured	41. Highway 1. Went 2. Stopp 3. Did n 4. Stopp primery obe 3. Pas nent 4. Top	y User around the sed and the of stop med on cross fruction] sing Train	5. Vegeta 6. Highwr 45. Was 1. Ye	7. Crossing Lights or 1. Yes 5. Othe 6. Wer ked (if y 7. Wei 8. Suin 100 by Vehicles Driver hith a 2. No	E. Sand, F. Water Burninate Special Li 2. No. 3. or (special s. see ins nt thru the cital/Attemp 7. Other s. 8. No! (he Vehicle?)	(Standing, Moving.) d by Street ghta Unknown My wit temporary barrio tructions) gate street suicide r (specify) Distructed	ade Co Co
Crossing Warning 2. Cantilever FLS 5. 3. Standard FLS 6. 3. Standard FLS 6. Code(s) 12 5. Location of Warning 1. Both Sides 3. Standard FLS 6. 2. Side of Vehicle Approach 3. Opposite Side of Vehicle App 8. Highway 39 Highway User's Ge User's Age 1. Male 2. Orner Passed Standing Highway Vehicle Yes 2. No 3. Unknown Casuatties to: 6. Highway-Rail Crossing Users	Audible proach ender 40. Hichway and Struc Code 1. Yes Code 2	9. Watchm 38. Code User Went E Ck or was St 2. No. 3. Ur 43. View 43. View 43. View 1. K 47. High	Crossing Wan with Highway 1. Yes 2. Ni Sahind or in Fro nuck by Second iknown of Track Obso 1. Permanen 2. Sanding 1 xr Was	Signals a 3. Unknow at of Train train Code 2 arred by (1. Structure airced equipr 3. Uninjured operty Damag	41. Highway 1. Went 2. Stopp 3. Did n 4. Stopp primery obe 3. Pas nent 4. Top	y User around the red and the of stop sed on cross fruction) sing Train ography	ade an proceso an proceso ang 5. Vegota 6. Highw 45. Was 1. Ye 48. Total	7. Crossing Lights or 1. Yes 5. Othe 6. Wer ked (if y 7. Wei 8. Suin 100 by Vehicles Driver hith a 2. No	E. Sand, F. Water Special Li 2, No 3, or (special es, see ins at thru the cida/Attemp 7, Other 8, Not 4 re Vehicle? (Vehicle O	(Standing, Moving.) d by Street ghta Unknown My wit temporary barrio tructions) gate street suicide r (specify) Distructed	ade Co Co
Crossing 2 Cantilever FLS 5. Warning 3 Standard FLS 6. Code(s) 12 5. Location of Warning 1. Both Sirdes 2. Side of Vehicle Appoint 3. Opposite Sick of Vehicle App 8. Highway 39. Highway User's Ge User's Age 1. Mate 1 86 2. Female 1. Yes 2. No 3. Uninown Casualties to 6. Highway-Rail Crossing Users	Auditio	9. Watchm Code User Went E Ck or was St 2. No. 3. Ur 43. View 44. Drive 44. Drive 50. Total	Crossing Wan with Highway 1. Yes 2. Ni Sehind or in Fre nuck by Second known of Track Obse 1. Permanen 2. Sanding 1 mwas lied 2. Injured way Vehicle Pre oblar damage) Number of Pe	Signals a 3. Unknow a Train Code 2 arred by (1. Structure airced equipr 3. Uninjured openty Damag ople on Train	41. Highway 5. Went 2. Stopp 3. Did n 4. Stop pnemary obsi 3. Pas nemt 4. Top e	Viser around the sed and the of stop end on cross fruction(sing Train ography 3	5 Vegeta 45 Wegeta 8 Highw 45 Wegeta 1, Ye 48, Tota (Incl. 51, Is a	7. Crossing Lights or 1. Yes 5. Othe 5. Wer 6. Wer 6. Wer 7. Wei 8. Suit 100 ny Vehicler Driver in th s 2. No Number o dwing driver Rei Equipm	E. Sand, F. Water, Duminate Special 2, No. 3, and (special es, see ins of (special es), see ins of (s	(Standing, Moving.) d by Street ghts Unknown My withermonary barrie thructions) gate ded suicide r (specify) Obtainucled Incupants	
Crossing 2 Cantilever FLS 5. Warning 3 Standard FLS 6. Code(s) 12 5. Location of Warning 1. Both Sides 2. Side of Vahide Approach 3. Opposite Side of Vehicle App 8. Highway 39 Highway User's Ge User's Age 1. Male 1 2. Famale 1 Highway Vehicle 1. Yes 2. No 3. Unknown Casuattes to 6. Highway-Rail Crossing Users 9. Railroad Employees	Audible proach ender 40. Hichway 1 and Struc Code 1. Yes 1 Code 2 Killed Injured 0 0	9. Watchm Code User Went E Ck or was St 2. No. 3. Ur 43. View 44. Drive 44. Drive 50. Total	Crossing Wan with Highway 1. Yes 2. Ni Sahind or in Fro nuck by Second tishown of Track Obso 1. Permanen 2. Sanding 1 with Sailled 2. Injured way Vehicle Pri dollar damage)	Signals a 3. Unknow a Train Code 2 arred by (1. Structure airced equipr 3. Uninjured openty Damag ople on Train	41. Highway 5. Went 2. Stopp 3. Did n 4. Stop pnemary obsi 3. Pas nemt 4. Top e	Viser around the sed and the of stop end on cross fruction(sing Train ography 3	icide i gate an processo sing 5. Vegeta 6. Highwi 45. Was 1. Ye 48. Total (Incl. 51. Is a Incid	7. Crossing Lights or 1. Yes 5. Othe 5. Wer 6. Wer 6. Wer 7. Wei 8. Suit 100 ny Vehicler Driver in th s 2. No Number o dwing driver Rei Equipm	E. Sand, F. Water I Ruminate Special Li 2, No. 3, arr. (special r coundril vis, see ins nt thru the cide/Atterny 7, Othel s. 8, No! (he Vehicle? f. Vehicle C 7	(Standing, Moving.) d by Street ghts Unknown My mit temporary barrio thructions) gate ded suicide r (specify) Obtainucled Incupants	A 04 ade Co Co Co L
Crossing 2. Cantilever FLS 5. Warning 3. Standard FLS 6. Code(s) 12 5. Location of Warning 1. Both Srides 2. Side of Vehicle Appoach 3. Opposite Side of Vehicle App 8. Highway 39 Highway User's Ge User's Age 1. Male 1 8.6 2. Female 8. Orner Passed Standing Highway Vehicle 1. Yes 2. No 3. Uninown Casuaties to 6. Highway-Rail Crossing Users 9. Railroad Employees 32. Passengers on Train	Audibio eroach ender 40. Hichway and Struc Code 1. Yes Code 2 Killed 1. Nes 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	9. Watchm Code 38. Code User Went E Ck or was St 2. No. 3. Ur 43. View 44. Drive 1. A4. Drive 44. Drive 1. K. 50. Total (inct) Yes	Crossing Wan with Highway 1. Yes 2. Ni Selhind or in Fin ruck by Second ishnown of Track Obso 1. Permenen 2. Stending I wias lind 2. Injured way Vehicle Fin dolar damage) Mathematical Second ishnown of Pe- icle passengers	Signals a 3. Unknow a 1 of Train b Train Code 2 arred by (1 Structure airced equipr 3. Uninjured operty Damag ople on Train and train cres	41. Highway 5. Went 2. Stopp 3. Did n 4. Stop pnemary obsi 3. Pas nemt 4. Top e	y User around the end and the of stop investion) sing Train comply 3 \$2,500 4	icide i gate an processo sing 5. Vegeta 6. Highwi 45. Was 1. Ye 48. Total (Incl. 51. Is a Incid	7. Crossing Lights or 1. Yes 5. Othe 6. Wer 6. Wer 8. Suit 7. Wei 8. Suit Driver nit 8. Suit Driver nit 8. 2. No Number o dvg driver Reil Equipmi	E. Sand, F. Water, I. Burninate, Special Special Con- special Con- transmither (apoct ransmither) s, see insist ransmither (apoct ransmither) s, see insist ransmither) ransmither (apoct ransmither) s, see insist ransmither) ransmither	(Standing, Moving.) d by Street ghts Unknown My mit temporary barrio thructions) gate ded suicide r (specify) Obtainucled Incupants	ade Co
Crossing 2 Cantilever FLS 5. Warning 3 Slandard FLS 6. Code(s) 12 5. Location of Warning 1. Both Sides 2. Side of Vehicle Appoint 3. Opposite Side of Vehicle App 8. Highway 39 Highway User's Ge User's Age 1. Mate 1 User's 4. Highway Sail Crossing Users 1. Yes 2. No 3. Unknown Casualties to 6. Highway-Rail Crossing Users 19. Railroad Employees 52. Passengers on Train 33a. Speciel Study Block 4. Narrative Description (Be sp	Audihio Pepach ender 40. Hichway I and Strue Code 1. Yes Code 2 Killed Injured 0 0 0 0 Video Taken? Video Used? pecific and controle	9. Watchm Code. 38. Code. 43. View 43. View 44. Drives 50. Total (inch View Vies 0. Solutioned 0. Soluti	Crossing Wan with Highway 1. Yes 2. Ni Sehind or in Fre nuck by Second tiknown e of Track Obse 1. Permanen 2. Standing 1 www. Bild 2. Injured way Vehicle Pro side damage) Number of Pe side passengers v No No s a sheet if neces	Signals a 3. Unknow a Train Code 2 cured by (1. Structure airced equip 3. Uninjured openty Damag ople on Train a and train cres 53b. 5	en 41. Highway 9. Went 2. Stopp 3. Did n 4. Stopp anewry obs: 3. Pass nent 4. Top 9 9	y User around the end and the of stop investion) sing Train comply 3 \$2,500 4	icide i gate an processo sing 5. Vegeta 6. Highwi 45. Was 1. Ye 48. Total (Incl. 51. Is a Incid	7. Crossing Lights or 1. Yes 5. Othe 6. Wer 6. Wer 8. Suit 7. Wei 8. Suit Driver nit 8. Suit Driver nit 8. 2. No Number o dvg driver Reil Equipmi	E. Sand, F. Water, I. Burninate, Special Special Con- special Con- transmither (apoct ransmither) s, see insist ransmither (apoct ransmither) s, see insist ransmither) ransmither (apoct ransmither) s, see insist ransmither) ransmither	(Standing, Moving.) d by Street ghts Unknown My mit temporary barrio thructions) gate ded suicide r (specify) Obtainucled Incupants	ade Co
Crossing 2 Cantilever FLS 5. Warning 3 Standard FLS 6. Code(s) 12 55 Location of Warning 1. 1. Both Sides 2. 2. Side of Vehicle Approach 3. 3. Opposite Side of Vehicle App 8. Highway 39 Highway User's Ge User's Age 1. Male 1 86 1. Standard Standing 1. 1. Both Sides 1. 2. Driver Passed Standing 1. Highway Vehicle 1. 1. Yes 2. No 3. Unknown Casuattes to 1. 16. Highway-Rail Crossing Users 19. Railroad Employees 53. 2. Passengers on Train 53a. Special Study Block 14. 14. Narrative Description (Be sp. 1. 4. Narrative Description (Be sp. 1. 3. Special Study Block 14. 14. Narrative Description (Be sp. 1. 3. Special Study Block 14. 14. Narrative Description (Be sp. 1. 3. Special Study Block 14. 14. Narrative Description (Be sp. 1. 3. Special Study Block 14. 14. Narrative Description (Be sp. 1. 3. Special Study Block 14. 14. Narrative Description (Be sp. 1. 3. Special Study Block 14. 14. Narrative Description (Be sp. 1. 3. Special Study Block 14. 14. Narrative Description (Be sp. 1. 3. Special Study Block 14. 14. Narrative Description (Be sp. 1. 15. Special Study Block 14. 15. Special Study Block 14. 1	Audihio Pepach ender 40. Hichway I and Strue Code 1. Yes Code 2 Killed Injured 0 0 0 0 Video Taken? Video Used? pecific and controle	9. Watchm Code. 38. Code. 43. View 43. View 44. Drives 50. Total (inch View Vies 0. Solutioned 0. Soluti	Crossing Wan with Highway 1. Yes 2. No sehind or in Fin nuck by Second iknown of Track Obsec 1. Permenen 2. Standing I was lied 2. Injured way Vehicle Pr dolar damage) No way Vehicle Pr dolar damage) No was enseed finaces 19A.	Signals a 3. Unknow a 1 rain Code 2 rain Code 2 and 5 Train Code 2 and 2 rain 2 rain 3 rain 2 rain 3 rain 3 rain 2 rain 3 rain 3 rain 3 rain 2 rain 3 rain 2 rain 3 rain 2 rain 2 rain 3 rain 2 rain 3 rain 2 rain 3 rain 2 rain 3 rain 2 rain 2 rain 2 rain 2 rain 3 rain 2 rai	en 41. Highway 9. Went 2. Stopp 3. Did n 4. Stopp anewry obs: 3. Pass nent 4. Top 9 9	y User around the end and the of stop investion) sing Train comply 3 \$2,500 4	icide i gate an processo sing 5. Vegeta 6. Highwi 45. Was 1. Ye 48. Total (Incl. 51. Is a Incid	7. Crossing Lights or 1. Yes 5. Othe 6. Wer 6. Wer 8. Suit 7. Wei 8. Suit Driver nit 8. Suit Driver nit 8. 2. No Number o dvg driver Reil Equipmi	E. Sand, F. Wate (Emminate Special Li 2, No. 3, If (special Li 2, No. 3, If (special Li 2, No. 3, If (special random special second special random special r	(Standing, Moving) d by Street ghts Unknown %) mu temporary barrie fructions) gate rised suicide r (specify) Distructed focupants d	-
Crossing 2 Cantilever FLS 5. Warning 3 Standard FLS 6. Code(s) 12 55. Location of Warning 1. Both Sides 2. Side of Vahide Appoach 3. Opposite Side of Vahide App 84. Highway 39. Highway User's Ge User's Age 1. Mate 1 User's Age 2. Female 1 82. Onver Passed Standing Highway Vahide 1. Yes 2. No 3. Unknown Casualties to 16. Highway-Rail Crossing Users 19. Railroad Employees 32. Passengers on Train 33a. Special Study Block 14. Narrative Descripton (Be sp	Audibio	9. Watchm Code Code User Want F ck or was St 2. No. 3. Ur 43. View 44. Drive 44. Drive 44. Drive 44. Drive (est. 50. Total (est. 50. Total (est.) 50. Total (est.)	Crossing Wan with Highway 1. Yes 2. Ni Sehind or in Fio ruck by Second Schwan of Track Obso 1. Permanen 2. Sandrag 1 with as lind 2. Injured way Vehicle Pri dolar damage/ No No No Second Traces 104.	Signals a 3. Unknow at col Train b Code c 2 cured by cured by (1. Structure atirced equipr 3. Uninjured openty Damag ople on Train s and train cres 53b. 5 sery) igneture	en 41. Highway 1. Went 2. Stopp 3. Did n 4. Stopp ment 4. Top erent 4. Top 6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	y User around the sed and the of stop end on cross fruction) sang Train correpty 3 \$2,500 4 4 y Block	ade spale an proceso ang 5. Vegota 6. Highw 45. Wegota 1. Ye 48. Total (incl.) 51. Is a Incid 1. Ye	7. Crossing Lights or 1. Yes 5. Othe 5. Wei 8. Suit atom by Vehicles Driver in th a 2. No Number in th a 2. No drug driver Rei Equipment as 2. No	E. Sand, F. Water, I. Ruminate Special Li 2. No. 3. ar. (special ar. ((Standing, Moving) d by Street ghts Unknown Yr/ wu temporary barric functions) gate oted suicide r (specify) Dirstnucled incupants ent / d	Co

Figure D-12. 48th Avenue, West of Forest Street Crossing (1 of 1)

EPARTMENT OF TRANSPORT				HWAY-RAIL G				OMB Approval No. 2130	-0500
Name of Reporting Railroad		942	100		1a./	Alphabetic Co	de	1b. Railroad Accident/Incident	t No.
BNSF Railway Company [BN	SF]				1	BNSF		PR0519203	
Name of Other Railroad or Other	Entity Fillin	g for Equips	nent Involved in Tr	ain Accident/Incid	ient 2a.	Alphabetic Co	ide	2b. Railroad Accident/Incident	t No.
. Name of Railroad or Other Entity	Responsil	the for Truck	Maintenance		34	Alphabetic Ca	wite:	3b. Railroad Accident/Incident	Ne
SNSF Railway Company [BN		AND THE PARTY	manuscansa //	ingle antropy	1.5.55	NSF		PR0519203	1962
U.S. DOT Grade Crossing ID No						Date of Accide	nbincident	6. Time of Accident/Incident	
			0570	64W	100	ments 1	day Mar		PM V
7. Nearest Railroad Station			8. Subdivisi		1.01	County	8 2019	11:15 AM	Cod
NORTH YARD			BRUSH		1.000	DENVER		Abbr. CO	05
1. City (d in a city) DENVER	5		12. Hi	ghway Name or N	ic. E 48TE	I-W OF FO	REST	Public 🔽 Prix	ate
	hway Us	er Involve	d				Rail Equipment		
3. Type				17.	Equipment		4. Car(s) (moving		
C. Truck-trailer F. Bu	5	J. Other M.	stor Vehicle	1.1		(units puting)	 Car(s) (startoir 6. Light locots) // 		
A Auto D. Pick-up truck G. Sci	hool Bus	K. Pedestr	an	Code		(units pushing)	7. Light loce(s) (an annual contract of the second	Cox
8 Truck E. Van H. Mo	torcycle	M. Other	(apecity)	A	3. Train	(standing)	8. Other (specif		6
	Direction	(geograph)		0000	Position of C	Car Unit in Tra	in .		
 Position 1. Stalled or stuck or 		4. Tracoed		4 fic 19	Circumsten	09	1		
2. Stopped on Cross			on crossing by gal	es Code			dhway user 2 Pail	equipment struck by highway us	Cox
3. Moving over cross	ing			3		Same and the fit	grancy user z. Hall	existences as new objectively up	1
20a. Was the highway user and/or			d	Code 20	b. Was there	a hazardous	materials release by		Cod
in the impact transporting has 1. Highway User 2. Rail Er			A Maither	4	1. High	way Ligar 5	Rail Feuisment	3. Both 4. Neither	4
Dc. State here the name and quar	the second se	Contract of the local distance of the local	a defended and the second states are set of the second states are second states are second states are second states are second state				contraction of the second s		1
	38.5			10. No.					
	Visibility (single entry	>	Code 2	3. Weather	(single entry)			Col
specify (* minus) 52 *F 1.	Dawn 2.1	Day 3. Du	sk 4. Dark	4	1. Clear 2.	Cloudy 3. Ra	ain 4. Fog 5. Sleet	6. Snow	3
7. FRA Track 28. Number lass (1-9,X) Locomot	ive		nber of Cars	100 100 100 100 100 100 100 100 100 100	and (Records ed	id speed if av	L.	31. Time Table Direction 1. North 3. East	Co
1 Units	2.	1	0	E. Estimate	d	00 Dr. 1	4 mph E Crossing Warning	2. South 4. West 34. Roadway Conditions	3
1 Gates 4	Wig wags	. 7	Crossbucks 10.	Flagged by crew				A. Dru	
Crossing 2. Centilever FLS 5	Hwy. traff	ic signals a	Stop signs 11.	Other (specify)			ise side for s and codes)	B. Wet C.Snow/Slush	
Warning 3. Standard FLS 6	Audible	6	Watchman 12	None			Code	P. L.	Co
Code(s) 07								F.Water (Standing, Moving)	B
35. Location of Warning	202	64	1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	ng Warning Interc	onnected	8		g Illuminated by Street	10
1. Both Sides 2. Side of Vehicle Approach			10de	ghway Signals		0	ode	r Special Lights	Co
3. Opposite Side of Vehicle Ap			and the second se	Z No 3 Uni	and encoded and the second	1	1. Yes 5. Oth	2. No. 3. Unknown er (specif/d	1
38. Higrway 39. Highway User's G User's	ender 40.		ser Went Behind o or was Struck by			way User ent around the		er (specky) nt eround/thru temporary barrica	de
22.59.20 II 20.49.10))	Code	and brade	o was or used by	,Cod		opped and the		yes, see instructions)	, Co
2. Female	1	1 Yes 2	No 3. Unknown	2	3. UK	d not stop opped on cros		ent thru the gate icide/Attempted suicide	3
42. Driver Passed Standing		Code	43. View of Trac	k Obscured by		abedruction)		and the second	Cod
Highway Vehicle		1 -	2,10,10	manent Structure	- Mo 7		5. Vegetation	7. Other (specify)	1
1. Yes 2. No 3. Unknown	0.020	2	2. Sta 44. Driver was	nding raircad eq	uipment 4. T	opography	 Highway Vehicle Was Driver in t 	Contractor Contractor	8 Cod
Casualties to:	Killed	Injured	a to be the second	Injured 3. Uninju	red	3	1. Yes 2. No		1 1
 Highway-Rail Crossing Users 	0	0	-5	sicle Property Der	rage	learne		of Vehicle Occupants	
9. Railroed Employees	0	0	(est. dollar de 50 Total Number	mage) In of People on Tr	ain	\$2,500	(including drive 51. Is a Rail Equip		Cod
52. Passengers on Train	0	0		songers and frain		13	Incident Report	t Being Filed	1 2
S3a. Special Study Block	Video Ta	-	Yes No	53	b. Special St	- St.	1 Yes 2. No		3
100 (100 C - 200 C C A C	Video U	sed?	Yes 🗸 No		1. TANKA 1997	08933392			
	pechic, and		n separate sheet i E IN AN INDUSTRY						
		OCCE WHIL							
54. Narrative Description (Be a SERS AGE UNENOWN, TRAIN STR 55. Typod Name and Title		ICLE WHIL		56. Signature				57. Date	
SERS AGE UNENOWN, TRAIN STR	OCK A VEB	oad's accide	ent report pursuant	56. Signature to the accident re					ourpos



APPENDIX E. RAIL CROSSING RISK REGISTER AND MENU OF COSTS



Denver Freight Railroad Safety Risk Study and Analysis	Risk Crito	eria						
CCD Project Risk Register	Rating Rank	GradeDec Rating	CDOT Rating	Haz Index Rating				
Draft Template	Very High	> 20%	> 20%	> 20%				
	High	14% - 20%	14% - 20%	14% - 20%	Time Horizon			
	Medium	8% - 13%	8% - 13%	8% - 13%	Near Term	< 1 Year		
	Low	2% - 7%	2% - 7%	2% - 7%	Mid Term	1 - 5 Years		
	Very Low	<= 1%	<= 1%	<= 1%	Far Term	> 5 Years		

Crossing Location	Speeds	Accidents	Top Risks Rank	GradeDec Incident Rating	CDOT Hazard Rating	Average Hazard Index Rating	Risk Type	Time Horizon	Risk Response Plan (Mitigation S Short Term (What can we do her
BNSF - SOUTH KALAMATH STREET	30	3	1	33%	50%	42%	Action	1. Near Term	Extend median, add pavement mai signs, relocate signs, raise curb, and
RTDC - QUEBEC STREET SOUTHBOUND FRONTAGE ROAD	40	2	2	25%	10%	18%	Action	1. Near Term	Add pavement markings, move tra fencing, and add preemption to traf
BNSF - SOUTH SANTA FE DRIVE	30	2	3	23%	155%	89%	Action	1. Near Term	Extend median, add pavement mai signs, no-right turn signs, relocate si
UP - HOLLY STREET	10	2	4	20%	0%	10%	Action	1. Near Term	Add pavement markings on main lights, blank-out signs, relocate si gate system.
BNSF - DAHLIA STREET NORTH OF 51ST STREET	10	1	5	10%	0%	5%	Opportunity	3. Mid-Term	Add pavement markings, add wa
BNSF - ALAMEDA AVENUE	10	1	6	4%	1%	3%	Opportunity	3. Mid-Term	Add four quadrant gates, add me and bells, add pedestrian gates, c
UP - MONACO STREET	10	1	7	4%	0%	2%	Opportunity	3. Mid-Term	Add pavement markings, add wa
BNSF – WEST MISSISSIPPI AVENUE	10	1	8	3%	0%	2%	Opportunity	3. Mid-Term	Add median, add pavement mar out signs, no-right turn signs, rel quadrant gate system.

Strategy)

narkings on all quadrants, add warning lights, blank-out nd repair asphalt.

traffic signal to the north side of the rail crossing, add raffic signal at crossing.

narkings on all quadrants, add warning lights, blank-out e signs, raise curb, and repair asphalt.

ain street as well as on the industry road, add warning e signs, raise curb, repair asphalt, and a two-quadrant

varning lights, add two-quadrant gate system.

median, add pavement markings, add warning lights s, and ROW fencing.

varning lights, add two-quadrant gate system.

arkings on all quadrants, add warning lights, blankrelocate signs, raise curb, repair asphalt, and a two-

Denver Freight Railroad Safety Risk Study and Analysis	Risk Crito	eria				
CCD Project Risk Register	Rating Rank	GradeDec Rating	CDOT Rating	Haz Index Rating		
Draft Template	Very High	> 20%	> 20%	> 20%		
	High	14% - 20%	14% - 20%	14% - 20%	Time Horizon	
	Medium	8% - 13%	8% - 13%	8% - 13%	Near Term	< 1 Year
	Low	2% - 7%	2% - 7%	2% - 7%	Mid Term	1 - 5 Years
	Very Low	<= 1%	<= 1%	<= 1%	Far Term	> 5 Years

Crossing Location	Speeds	Accidents	Top Risks Rank	GradeDec Incident Rating	CDOT Hazard Rating	Average Hazard Index Rating	Risk Type	Time Horizon	Risk Response Plan (Mitigation S Short Term (What can we do he
BNSF – EAST 48TH AVENUE AT ASH STREET	10	1	9	3%	0%	2%	Opportunity	3. Mid-Term	Add median, add pavement mai out signs, no-right turn signs, rei quadrant gate system.
BNSF - 48TH AVENUE, WEST OF FOREST STREET	10	1	10	3%	0%	1%	Opportunity	3. Mid-Term	Add two quadrant gates, paveme
BNSF – EAST 50TH AVENUE	10	1	11	3%	0%	1%	Opportunity	3. Mid-Term	Add two quadrant gates, pavem
UP – EAST 47TH AVENUE AND YORK STREET	20	1	12	2%	7%	4%	Opportunity	3. Mid-Term	Add four quadrant gates, fencing median, add pavement marking relocate signs.
RTDC - QUEBEC STREET NORTHBOUND FRONTAGE ROAD	40	0	13	7%	10%	9%	Decision	2. Far-Term	Add: 4 quad
UP - SANTA FE DRIVE	25	0	14	4%	5%	4%	Opportunity	3. Far-Term	Add: 4 quad
BNSF - WEST 13TH AVENUE	30	0	15	4%	28%	16%	Concern	1. Near Term	Add: 4 quad
UP - KALAMATH STREET	10	0	16	4%	3%	3%	Opportunity	3. Far-Term	Add: 4 quad
UP - BRIGHTON BOULEVARD	10	0	17	3%	5%	4%	Opportunity	3. Far-Term	Add: Flashing lights

n Strategy) here and now?)

narkings on all quadrants, add warning lights, blankrelocate signs, raise curb, repair asphalt, and a two-

ment markings, warning lights, and signage.

ment markings, warning lights, and signage.

ing along ROW, Wrong-Way sign on York Ln., extend ings, add warning lights, add pedestrian gate, and

Denver Freight Railroad Safety Risk Study and Analysis	Risk Crite	eria				
CCD Project Risk Register	Rating Rank	GradeDec Rating	CDOT Rating	Haz Index Rating		
Draft Template	Very High	> 20%	> 20%	> 20%		
	High	14% - 20%	14% - 20%	14% - 20%	Time Horizon	
	Medium	8% - 13%	8% - 13%	8% - 13%	Near Term	< 1 Year
	Low	2% - 7%	2% - 7%	2% - 7%	Mid Term	1 - 5 Years
	Very Low	<= 1%	<= 1%	<= 1%	Far Term	> 5 Years

Crossing Location	Speeds	Accidents	Top Risks Rank	GradeDec Incident Rating	CDOT Hazard Rating	Average Hazard Index Rating	Risk Type	Time Horizon	Risk Response Plan (Mitigation St Short Term (What can we do here
BNSF - WALNUT STREET	20	0	18	3%	7%	5%	Opportunity	3. Far-Term	Add: 4 quad
BNSF - WEST BAYAUD AVENUE	30	0	19	3%	7%	5%	Opportunity	3. Far-Term	Add: 4 quad
UP - WEST 1ST AVENUE	10	0	20	3%	2%	2%	Opportunity	3. Far-Term	Add: 4 quad
UP - WEST 3RD AVENUE	10	0	21	3%	1%	2%	Opportunity	3. Far-Term	Add: 4 quad
UP - IRONTON STREET	10	0	22	2%	11%	7%	Opportunity	2. Mid-Term	Add: Flashing lights
UP - BRIGHTON BOULEVARD	10	0	23	2%	5%	3%	Opportunity	3. Far-Term	Add: Flashing lights
UP - BRIGHTON BOULEVARD	10	0	24	2%	5%	3%	Opportunity	3. Far-Term	Add: Flashing lights
UP - 47TH AVENUE	10	0	25	2%	10%	6%	Opportunity	3. Far-Term	Add: Flashing lights
BNSF – WEST COLFAX AVENUE	30	0	26	2%	2%	2%	Opportunity	3. Far-Term	Add: 4 quad
UP - HAVANA STREET	10	0	27	2%	9%	6%	Opportunity	3. Far-Term	Add: Flashing lights
UP - 47TH AVENUE	10	0	28	2%	8%	5%	Opportunity	3. Far-Term	Add: Flashing lights

on Strategy) here and now?)		

Denver Freight Railroad Safety Risk Study and Analysis	Risk Crite	eria				
CCD Project Risk Register	Rating Rank	GradeDec Rating	CDOT Rating	Haz Index Rating		
Draft Template	Very High	> 20%	> 20%	> 20%		
	High	14% - 20%	14% - 20%	14% - 20%	Time Horizon	
	Medium	8% - 13%	8% - 13%	8% - 13%	Near Term	< 1 Year
	Low	2% - 7%	2% - 7%	2% - 7%	Mid Term	1 - 5 Years
	Very Low	<= 1%	<= 1%	<= 1%	Far Term	> 5 Years

Crossing Location	Speeds	Accidents	Top Risks Rank	GradeDec Incident Rating	CDOT Hazard Rating	Average Hazard Index Rating	Risk Type	Time Horizon	Risk Response Plan (Mitigation S Short Term (What can we do her
UP - HAVANA STREET	10	0	29	2%	8%	5%	Opportunity	3. Far-Term	Add: Flashing lights
UP - 47TH AVENUE	10	0	30	2%	7%	5%	Opportunity	3. Far-Term	Add: Flashing lights
UP - KINGSTON STREET	10	0	31	2%	6%	4%	Opportunity	3. Far-Term	Add: Flashing lights
UP - 45TH AVENUE	5	0	32	2%	6%	4%	Opportunity	3. Far-Term	Add: Flashing lights
UP - YORK STREET	15	0	33	2%	1%	1%	No Threat	3. Far-Term	None
RTDC - HAVANA STREET	40	0	34	2%	11%	6%	Opportunity	3. Far-Term	Add: 4 quad - 60' medians
UP - ONEIDA STREET	10	0	35	2%	3%	2%	Opportunity	3. Far-Term	Add: Flashing lights
UP - 36TH STREET	10	0	36	1%	2%	2%	Opportunity	3. Far-Term	Add: Flashing lights
RTDC - MONACO STREET	40	0	37	1%	5%	3%	Opportunity	3. Far-Term	Add: 4 quad - 60' medians
UP - 39TH AVENUE	10	0	38	1%	1%	1%	No Threat	3. Far-Term	None

Strategy) ere and now?)	

Denver Freight Railroad Safety Risk Study and Analysis	Risk Crite	eria				
CCD Project Risk Register	Rating Rank	GradeDec Rating	CDOT Rating	Haz Index Rating		
Draft Template	Very High	> 20%	> 20%	> 20%		
	High	14% - 20%	14% - 20%	14% - 20%	Time Horizon	
	Medium	8% - 13%	8% - 13%	8% - 13%	Near Term	< 1 Year
	Low	2% - 7%	2% - 7%	2% - 7%	Mid Term	1 - 5 Years
	Very Low	<= 1%	<= 1%	<= 1%	Far Term	> 5 Years

Crossing Location	Speeds	Accidents	Top Risks Rank	GradeDec Incident Rating	CDOT Hazard Rating	Average Hazard Index Rating	Risk Type	Time Horizon	Risk Response Plan (Mitigation Str Short Term (What can we do here
RTDC - HOLLY STREET	40	0	39	1%	3%	2%	Opportunity	3. Far-Term	Add: 4 quad - 60' medians
RTDC - STEELE STREET	20	0	40	1%	4%	3%	Opportunity	3. Far-Term	Add: 4 quad - 60' medians
RTDC - DAHLIA STREET	40	0	41	1%	9%	5%	Opportunity	3. Far-Term	Add: 4 quad - 60' medians
UP - 42ND AVENUE	10	0	42	1%	1%	1%	No Threat	3. Far-Term	None
UP - EAST 42ND AVENUE	10	0	43	1%	1%	1%	No Threat	3. Far-Term	None
UP - 44TH STREET	10	0	44	1%	1%	1%	No Threat	3. Far-Term	None
UP - JOSEPHINE STREET	20	0	45	1%	0%	1%	No Threat	3. Far-Term	None
RTDC - ULSTER STREET	40	0	46	1%	1%	1%	No Threat	3. Far-Term	None

tion Strategy) do here and now?)		

Denver Freight Railroad Safety Risk Study and Analysis	Risk Crit	eria				
CCD Project Risk Register	Rating Rank	GradeDec Rating	CDOT Rating	Haz Index Rating		
Draft Template	Very High	> 20%	> 20%	> 20%		
	High	14% - 20%	14% - 20%	14% - 20%	Time Horizon	
	Medium	8% - 13%	8% - 13%	8% - 13%	Near Term	< 1 Year
	Low	2% - 7%	2% - 7%	2% - 7%	Mid Term	1 - 5 Years
	Very Low	<= 1%	<= 1%	<= 1%	Far Term	> 5 Years

Crossing Location	Speeds	Accidents	Top Risks Rank	GradeDec Incident Rating	CDOT Hazard Rating	Average Hazard Index Rating	Risk Type	Time Horizon	Risk Response Plan (Mitigation Stra Short Term (What can we do here a
BNSF - EVANS AVE	10	0	47	1%	0%	1%	No Threat	3. Far-Term	None
UP - 46TH AVENUE	10	0	48	1%	1%	1%	No Threat	3. Far-Term	None
RTDC - CLAYTON STREET	20	0	49	1%	1%	1%	No Threat	3. Far-Term	None
UP - SANDOWN ROAD	10	0	50	1%	0%	1%	No Threat	3. Far-Term	None
UP - KALAMATH STREET	10	0	51	1%	1%	1%	No Threat	3. Far-Term	None
UP - KEARNEY STREET	10	0	52	1%	1%	1%	No Threat	3. Far-Term	None
BNSF - W FLORIDA AVE	10	0	53	1%	0%	1%	No Threat	3. Far-Term	None

on Strategy) here and now?)		

Denver Freight Railroad Safety Risk Study and Analysis	Risk Crit	eria				
CCD Project Risk Register	Rating Rank	GradeDec Rating	CDOT Rating	Haz Index Rating		
Draft Template	Very High	> 20%	> 20%	> 20%		
	High	14% - 20%	14% - 20%	14% - 20%	Time Horizon	
	Medium	8% - 13%	8% - 13%	8% - 13%	Near Term	< 1 Year
	Low	2% - 7%	2% - 7%	2% - 7%	Mid Term	1 - 5 Years
	Very Low	<= 1%	<= 1%	<= 1%	Far Term	> 5 Years

Crossing Location	Speeds	Accidents	Top Risks Rank	GradeDec Incident Rating	CDOT Hazard Rating	Average Hazard Index Rating	Risk Type	Time Horizon	Risk Response Plan (Mitigation St Short Term (What can we do here
UP - EAST 47TH AVENUE	10	0	54	1%	0%	0%	No Threat	3. Far-Term	None
UP - LIMA STREET	10	0	55	1%	1%	1%	No Threat	3. Far-Term	None
UP - SANDOWN ROAD	10	0	56	1%	0%	1%	No Threat	3. Far-Term	None
UP - 51ST AVENUE	10	0	57	1%	1%	1%	No Threat	3. Far-Term	None
BNSF - JEWELL AVENUE	10	0	58	1%	0%	0%	No Threat	3. Far-Term	None
UP - DENARGO STREET	10	0	59	1%	0%	1%	No Threat	3. Far-Term	None
UP - JASON STREET	10	0	60	1%	0%	0%	No Threat	3. Far-Term	None

tion Strategy) Io here and now?)		

Denver Freight Railroad Safety Risk Study and Analysis	Risk Crite	eria				
CCD Project Risk Register	Rating Rank	GradeDec Rating	CDOT Rating	Haz Index Rating		
Draft Template	Very High	> 20%	> 20%	> 20%		
	High	14% - 20%	14% - 20%	14% - 20%	Time Horizon	
	Medium	8% - 13%	8% - 13%	8% - 13%	Near Term	< 1 Year
	Low	2% - 7%	2% - 7%	2% - 7%	Mid Term	1 - 5 Years
	Very Low	<= 1%	<= 1%	<= 1%	Far Term	> 5 Years

Crossing Location	Speeds	Accidents	Top Risks Rank	GradeDec Incident Rating	CDOT Hazard Rating	Average Hazard Index Rating	Risk Type	Time Horizon	Risk Response Plan (Mitigation Stra Short Term (What can we do here a
UP - 37TH AVENUE	10	0	61	1%	0%	0%	No Threat	3. Far-Term	None
BNSF - DAHLIA STREET AT 47TH AVENUE	10	0	62	1%	0%	1%	No Threat	3. Far-Term	None
UP - EAST 53RD AVENUE	10	0	63	1%	0%	0%	No Threat	3. Far-Term	None
UP - EAST 45TH AVENUE	10	0	64	1%	0%	0%	No Threat	3. Far-Term	None
BNSF - JASON STREET NORTH OF MISSISSIPPI AVENUE	10	0	65	1%	0%	0%	No Threat	3. Far-Term	None
UP - EAST 53RD AVENUE	10	0	66	1%	0%	0%	No Threat	3. Far-Term	None
UP - MOLINE STREET	10	0	67	1%	0%	0%	No Threat	3. Far-Term	None

on Strategy) here and now?)		

Denver Freight Railroad Safety Risk Study and Analysis	Risk Crit	eria				
CCD Project Risk Register	Rating Rank	GradeDec Rating	CDOT Rating	Haz Index Rating		
Draft Template	Very High	> 20%	> 20%	> 20%		
	High	14% - 20%	14% - 20%	14% - 20%	Time Horizon	
	Medium	8% - 13%	8% - 13%	8% - 13%	Near Term	< 1 Year
	Low 2% - 7% 2% - 7% 2% - 7%	2% - 7%	Mid Term	1 - 5 Years		
	Very Low	<= 1%	<= 1%	<= 1%	Far Term	> 5 Years

Crossing Location	Speeds	Accidents	Top Risks Rank	GradeDec Incident Rating	CDOT Hazard Rating	Average Hazard Index Rating	Risk Type	Time Horizon	Risk Response Plan (Mitigation S Short Term (What can we do he
UP - 45TH AVENUE	10	0	68	1%	0%	0%	No Threat	3. Far-Term	None
UP - EAST 37TH AVENUE	10	0	69	1%	0%	0%	No Threat	3. Far-Term	None
UP - 37TH AVENUE	10	0	70	1%	0%	0%	No Threat	3. Far-Term	None
UP - EAST 45TH AVENUE	10	0	71	1%	0%	0%	No Threat	3. Far-Term	None
UP - JOLIET STREET	10	0	72	1%	0%	0%	No Threat	3. Far-Term	None
UP - EAST 55TH AVENUE	10	0	73	1%	0%	0%	No Threat	3. Far-Term	None
BNSF - COLORADO BOULEVARD SOUTH OF 50TH AVENUE	10	0	74	0%	1%	0%	No Threat	3. Far-Term	None

ion Strategy) o here and now?)	
	-

Denver Freight Railroad Safety Risk Study and Analysis	Risk Crit	eria				
CCD Project Risk Register	Rating Rank	GradeDec Rating	CDOT Rating	Haz Index Rating		
Draft Template	Very High	> 20%	> 20%	> 20%		
	High	14% - 20%	14% - 20%	14% - 20%	Time Horizon	
	Medium	8% - 13%	8% - 13%	8% - 13%	Near Term	< 1 Year
	Low	2% - 7%	2% - 7%	2% - 7%	Mid Term	1 - 5 Years
	Very Low	<= 1%	<= 1%	<= 1%	Far Term	> 5 Years

Crossing Location	Speeds	Accidents	Top Risks Rank	GradeDec Incident Rating	CDOT Hazard Rating	Average Hazard Index Rating	Risk Type	Time Horizon	Risk Response Plan (Mitigation Stu Short Term (What can we do here
BNSF - WARNER PLACE	10	0	75	0%	0%	0%	No Threat	3. Far-Term	None
UP - EAST 40TH AVENUE	10	0	76	0%	0%	0%	No Threat	3. Far-Term	None
BNSF - WASHINGTON STREET	10	0	77	0%	0%	0%	No Threat	3. Far-Term	None
BNSF – BROADWAY -AT EAST 48TH AVENUE	10	0	78	0%	0%	0%	No Threat	3. Far-Term	None
UP - QUEBEC STREET FRONTAGE	10	0	79	0%	0%	0%	No Threat	3. Far-Term	None
BNSF - UMATILLA NORTH OF 13TH AVENUE	10	0	80	0%	0%	0%	No Threat	3. Far-Term	None
BNSF - LOUISANA EAST OF LIPAN STREET	10	0	81	0%	0%	0%	No Threat	3. Far-Term	None

tion Strategy) Io here and now?)	
	-

Denver Freight Railroad Safety Risk Study and Analysis	Risk Crite	eria				
CCD Project Risk Register	Rating Rank	GradeDec Rating	CDOT Rating	Haz Index Rating		
Draft Template	Very High	> 20%	> 20%	> 20%		
	High	14% - 20%	14% - 20%	14% - 20%	Time Horizon	
	Medium	8% - 13%	8% - 13%	8% - 13%	Near Term	< 1 Year
	Low	2% - 7%	2% - 7%	2% - 7%	Mid Term	1 - 5 Years
	Very Low	<= 1%	<= 1%	<= 1%	Far Term	> 5 Years

Crossing Location	Speeds	Accidents	Top Risks Rank	GradeDec Incident Rating	CDOT Hazard Rating	Average Hazard Index Rating	Risk Type	Time Horizon	Risk Response Plan (Mitigation St Short Term (What can we do here
BNSF - 51ST EAST OF LOGAN STREET	10	0	82	0%	0%	0%	No Threat	3. Far-Term	None
BNSF - WEST BAYAUD AVENUE	10	0	83	0%	0%	0%	No Threat	3. Far-Term	None
BNSF - WEST NEVADA PLACE	10	0	84	0%	0%	0%	No Threat	3. Far-Term	None
BNSF - WEST ALASKA PLACE	10	0	85	0%	0%	0%	No Threat	3. Far-Term	None
BNSF - WEST CUSTER PLACE	10	0	86	0%	0%	0%	No Threat	3. Far-Term	None
UP - EAST 53RD AVENUE	10	0	87	0%	0%	0%	No Threat	3. Far-Term	None
BNSF - FOREST STREET NORTH OF E	10	0	88	0%	0%	0%	No Threat	3. Far-Term	None

tion Strategy) Io here and now?)		

Denver Freight Railroad Safety Risk Study and Analysis		eria				
CCD Project Risk Register	Rating Rank	GradeDec Rating	CDOT Rating	Haz Index Rating		
Draft Template	Very High	> 20%	> 20%	> 20%		
	High	14% - 20%	14% - 20%	14% - 20%	Time Horizon	
	Medium	8% - 13%	8% - 13%	8% - 13%	Near Term	< 1 Year
	Low	2% - 7%	2% - 7%	2% - 7%	Mid Term	1 - 5 Years
	Very Low	<= 1%	<= 1%	<= 1%	Far Term	> 5 Years

Crossing Location	Speeds	Accidents	Top Risks Rank	GradeDec Incident Rating	CDOT Hazard Rating	Average Hazard Index Rating	Risk Type	Time Horizon	Risk Response Plan (Mitigation Stu Short Term (What can we do here
BNSF - LIPAN STREET VIRGINIA AVENUE	10	0	89	0%	0%	0%	No Threat	3. Far-Term	None
BNSF - BYERS PLACE NAVAJO STREET	10	0	90	0%	0%	0%	No Threat	3. Far-Term	None
BNSF - LINCOLN STREET NORTH	10	0	91	0%	0%	0%	No Threat	3. Far-Term	None
UP - EAST 55TH AVENUE	10	0	92	0%	0%	0%	No Threat	3. Far-Term	None
BNSF - 50TH AVENUE AT EUDORA STREET	10	0	93	0%	0%	0%	No Threat	3. Far-Term	None
BNSF - WEST MAPLE AVENUE	10	0	94	0%	0%	0%	No Threat	3. Far-Term	None
UP - SHOSHONE STREET	10	0	95	0%	0%	0%	No Threat	3. Far-Term	None

tion Strategy) o here and now?)		

Denver Freight Railroad Safety Risk Study and Analysis	Risk Crite	eria				
CCD Project Risk Register	Rating Rank	GradeDec Rating	CDOT Rating	Haz Index Rating		
Draft Template	Very High	> 20%	> 20%	> 20%		
	High	14% - 20%	14% - 20%	14% - 20%	Time Horizon	
	Medium	8% - 13%	8% - 13%	8% - 13%	Near Term	< 1 Year
	Low	2% - 7%	2% - 7%	2% - 7%	Mid Term	1 - 5 Years
	Very Low	<= 1%	<= 1%	<= 1%	Far Term	> 5 Years

Crossing Location	Speeds	Accidents	Top Risks Rank	GradeDec Incident Rating	CDOT Hazard Rating	Average Hazard Index Rating	Risk Type	Time Horizon	Risk Response Plan (Mitigation Stra Short Term (What can we do here a
UP - RIO COURT	10	0	96	0%	0%	0%	No Threat	3. Far-Term	None
UP - EAST 53RD AVENUE	10	0	97	0%	0%	0%	No Threat	3. Far-Term	None
BNSF - NATIONAL WESTERN DRIVE	10	0	98	0%	0%	0%	No Threat	3. Far-Term	None
BNSF - 50TH AVENUE WEST OF ASH STREET	10	0	99	0%	0%	0%	No Threat	3. Far-Term	None
UP - EAST 49TH AVENUE	10	0	100	0%	0%	0%	No Threat	3. Far-Term	None
UP - EAST 35TH PLACE	10	0	101	0%	0%	0%	No Threat	3. Far-Term	None
BNSF - 48TH AVENUE WEST OF MONROE STREET	10	0	102	0%	0%	0%	No Threat	3. Far-Term	None

on Strategy) here and now?)		

Denver Freight Railroad Safety Risk Study and Analysis	Risk Crit	eria	_			
CCD Project Risk Register	Rating Rank	GradeDec Rating	CDOT Rating	Haz Index Rating		
Draft Template	Very High	> 20%	> 20%	> 20%		
	High	14% - 20%	14% - 20%	14% - 20%	Time Horizon	
	Medium	8% - 13%	8% - 13%	8% - 13%	Near Term	< 1 Year
	Low	2% - 7%	2% - 7%	2% - 7%	Mid Term	1 - 5 Years
	Very Low	<= 1%	<= 1%	<= 1%	Far Term	> 5 Years

Crossing Location	Speeds	Accidents	Top Risks Rank	GradeDec Incident Rating	CDOT Hazard Rating	Average Hazard Index Rating	Risk Type	Time Horizon	Risk Response Plan (Mitigation S Short Term (What can we do he
BNSF - EAST 50TH AVENUE	10	0	103	0%	0%	0%	No Threat	3. Far-Term	None
BNSF - EAST 50TH AVENUE	10	0	104	0%	0%	0%	No Threat	3. Far-Term	None

n Strategy) here and now?)

High-Level Estimated Crossing Improvement Costs

TRAFFIC CONTROL SYSTEMS			
Audible / Visual Warnings			
"No Left Turn" Signal	LS	\$	20,000
Warning Lights	LS	\$	25,000
Relocate bells lower on cantilever	LS	\$	20,000
Blank Out Sign	LS	S	5,000
Exit Signals / Gate	EA	\$	175,000
Pre-Signals / Queue-Cutter Signals	EA	\$	125,000
Preemption	N/A	Location	Specific
Detection	N/A	Location	Specific

SITE IMPROVEMENTS		
Remove Obstructions		
Trim & Maintain Vegetation	LS	\$ 5,000
Remove/lower platform wall	LS	\$ 20,000
Crossing Geometry		
Realign Intersection	LS	\$ 1,500,000
Roadway Pavement Repair / Resurface		
Reprofile Road Crossing	LS	\$120,000
Resurface Roadway/restripe	LS	\$ 220,000
Replace/raise curb/repair asphalt	LS	\$ 30,000
Pedestrian Pavement Repair / Resurface		
Widen walkway	LS	\$ 25,000
Minor grading	LS	\$ 20,000
Replace track panel rubber filler / Patch asphalt voids	LS	\$ 10,000
Add tactile warning mats/strips	LS	\$ 5,000
Illumination		
Add Street Lights	LS	\$ 20,000
Safety Barriers		
SGL TK Approach Embankment w/Retaining Wall-High Impact Barrier	LF	\$ 5,129
DBL TK Embankment w/Retaining Wall-High Impact Barrier	LF	\$ 9,424
Extend Median	LS	\$ 25,000

Signage & Striping			
Add pavement markings	LS	\$	10,00
Add pavement striping	LS	\$	10,00
Add signs	LS	\$	5,00
Add convex mirror	LS	\$	5,00
Remove pavement striping/marking	LS	\$	5,00
Relocate signs	LS	\$	5,000
Add Wayfinding Signage	LS	\$	5,00
Remove platform tactile warning strip & add curb	LS	\$	20,00
Add HiViz LED Crosswalk Lighting	LS	\$	25,00
Fencing / Railing / Channelization			
Extend/Add cable/picket fencing	LS	\$	8,00
Add "No Pedestrian" tubular railing	LS	\$	5,00
Upgrade pedestrian channelization railing	LS	\$	50,00
Intertrack Fencing / ROW Fencing	LF	\$	2
Pedestrian Gates with Emergency Exit Gates	PAIR	\$	50,00
Driveway Closures	<u>N</u> ∕A	ş	
OTHER STRATEGIES / METHODS TO ENHANCE SAFETY			
Upgrade to Quiet Zone Ready	LS	s	750,00

- Grade Crossing Closure
- Minor crossing upgrades \$175,000 (est.) ٠
- Full Grade Separation \$100m (est.) .
- Crash Barrier Protection (per 100') \$5,130 (per LF) (est.) ٠
- Track Separation (Trench) \$2.5b (per 20-mile, est.)

LS	\$ 750,000
LS	\$ 125,000



APPENDIX F. DENVER TRESPASSING RECORDS



Freight Railroad Safety Study Denver Trespassing Records

Incident Date	Railroad	Age Group	CASFATAL	Railroad Class	AM/ PM	Event	Injury	NARR1	phyactdesc	LATITUDE	LONGITUDE	
4/18/2021	UP	20-29	Non-Fatal	Class 1	PM	Assaulted by other	Cut/laceration/abrasion, injuries to multiple body part of relatively equal severity.		Walking	39.803849	-104.962583	
3/20/2021	RTDC	Unknown	Fatal	Class 3	AM	Struck by on- track equipment	to multiple body part of	SOUTHBOUND TRAIN 4051/52, 4061/62, TRIP 244, STRUCK AND FATALLY INJURED A TRESPASSER JUST NORTH OF THE NORTHBOUND QUEBEC STREET CROSSINGON TRACK 2, MP 5.9. CASE CURRENTLY UNDER INVESTIGATION. AGE UNKNOWN	Standing	39.771819	-104.90207	
1/17/2021	UP	30-39	Fatal	Class 1	PM	Aggravated pre- existing condition	Fatally injured, internal injuries.		Laying	39.737787	-105.010188	
12/2/2020	UP	40-59	Fatal	Class 1	AM	Aggravated pre- existing condition	Fatally injured, internal injuries.		Lying down	39.71438	-104.99926	
9/26/2020	RTDC	40-59	Fatal	Class 3	AM	Struck by on- track equipment		SOUTHBOUND TRAIN 4003/04, 4029/30, TRIP 114 STRUCK AND FATALLY INJURED A TRESPASSER UNDER THE SAND CREEK BRIDGE, MP 6.74. CASE CURRENTLY UNDER INVESTIGATION.	Lying down	39.77132	-104.88564	
8/15/2020	BNSF	40-59	Fatal	Class 1	AM	Stabbing, knifing, etc.	Fatally injured, injuries to multiple body part of relatively equal severity.		Using, other	39.778551	-104.976865	
6/26/2020	RTDC	60+	Fatal	Class 3	PM	Highway-rail collision/impact		INDIVIDUAL RODE BICYCLE AROUND CROSSING WARNING DEVICES INTO ACTIVE CROSSING AND WAS STRUCK BY NORTHBOUND TRAIN 4058/57, 4020/19, TRIP 185. INDIVIDUAL AGE IS UNKNOWN.	Riding	39.772035	-104.903477	
4/6/2020	RTDC	60+	Non-Fatal	Class 3	AM	Slipped, fell, stumbled, other	Bruise/contusion, injuries to multiple body part of relatively equal severity.	TRESPASSER CLIMBED ONTO THE OUTSIDE OF THE END OF SOUTHBOUND TRAIN 4014 AND FELL OFF WHILE THE TRAIN WAS TRAVELLING.	Standing	39.771876	-104.902321	
1/13/2020	UP	30-39	Non-Fatal	Class 1	AM	Rubbed, abraded, etc.	Cut/laceration/abrasion, hand.		Standing	39.769262	-104.975984	
10/12/2019	RTDZ	40-59	Fatal	Class 3	AM	Struck by on- track equipment	Fatally injured, unspecified	PEDESTRIAN/TRESPASSER ASSISTING IN PUSHING/PULLING GROCERY CART OVER CROSSING/TRACKS; CART BECAME STUCK ON UP TRACKS WHEN DEVICES ACTIVATED. ONE TRESPASSER EXITED TO WEST, THE FATALITY RAN TO THE EAST AND IN FRONT OF LRT TRAIN. DOA BY DENVER PARAMEDICS.	Jumping onto	39.7147	-104.9968	
10/7/2019	RTDC	Unknown	Non-Fatal	Class 3	PM	due to contact	injuries to multiple body	INDIVIDUAL (AGE UNKNOWN) WAS WASHING WINDOWS FOR ADJACENT BUILDING WHEN THE EXTENSION POLE HE WAS US ING MADE CONTACT WITH THE OVERHEAD CATENARY SYSTEM.	-	39.753429	-105.00048	
5/28/2019	BNSF	20-29	Non-Fatal	Class 1	AM	Struck by on- track equipment	Amputation, toes.	TRESPASSER WAS INJURED WHEN STRUCK BY TRAIN.	Laying	39.767439	-104.991391	

Incident Date	Railroad	Age Group	CASFATAL	Railroad Class	AM/ PM	Event	Injury	NARR1	phyactdesc	LATITUDE	LONGITUDE
2/6/2019	RTDC	13-19	Fatal	Class 3	AM	Struck by on- track equipment		NORTHBOUND TRAIN 4019/20, 4027/28, TRIP 243, STRUCK AND FATALLY INJURED A TRESPASSER JUST NORTH OF THE SOUTHBOUND QUEBEC STREET CROSSING ON THE QUEBEC STREET BRIDGE, MP 5.85. CASE CURRENTLY UNDER INVESTIGATION.	Lying down	39.771937	-104.902634
9/1/2018	UP	20-29	Non-Fatal	Class 1	ΡM	Lost balance	Cut/laceration/abrasion, injuries to multiple body part of relatively equal severity.		Climbing over/on	39.771409	-104.973419
7/11/2018	BNSF	13-19	Non-Fatal	Class 1	AM	Struck by on- track equipment	Crushing injury, hips/buttocks/pelvis.	TRESPASSER WAS INJURED AFTER CRAWLING UNDER THE TRAIN.	Crossing or crawling under	39.690422	-104.989674
3/23/2018	UP	40-59	Non-Fatal	Class 1	ΡM	Caught, crushed, pinched, other.	Crushing injury, lower leg.		Walking	39.764965	-104.98379
11/18/2017	RTDC	60+	Non-Fatal	Class 3	PM	Struck by on- track equipment	Amputation, thumb/finger.	INDIVIDUAL WAS AN ELDERLY FEMALE SUFFERING FROM ALZEIMERS AND DEMENTIA WHO WANDERED AWAY FROM HER CAR.	Laying	39.847466	-104.673781
10/29/2017	RTDC	Unknown	Non-Fatal	Class 3	AM	Slipped, fell, stumbled, other	Cut/laceration/abrasion, knee.	TRESPASSER TRIPPED ON RAIL CAUSING HIM TO FALL AND SCRAPE HIS KNEES. TRESPASSER WAS TAKEN TO DENVER	Walking	39.753429	-105.00048
5/5/2017	RTDC	13-19	Non-Fatal	Class 3	AM	Struck by on- track equipment	Fracture, skull/scalp.		Sitting	39.768669	-104.976657
2/27/2017	UP	20-29	Non-Fatal	Class 1	PM	Bitten by animal	Animal/snake/insect bite, external injuries.		Arresting/ apprehending/ subduing	39.76925	-104.97648
11/6/2016	BNSF	40-59	Non-Fatal	Class 1	PM	Slipped, fell, stumbled, other	Fracture, lower leg.		Climbing over/on	39.755765	-105.003186
10/2/2016	BNSF	40-59	Non-Fatal	Class 1	PM	Slipped, fell, stumbled, other	Cut/laceration/abrasion, skull/scalp.		Climbing over/on	39.76842	-104.990051
9/25/2016	BNSF	20-29	Fatal	Class 1	AM	Struck by on- track equipment	Fatally injured, injuries to multiple body part of relatively equal severity.		Laying	39.824618	-105.032857
9/13/2016	BNSF	20-29	Fatal	Class 1	AM	Struck by on- track equipment	Fatally injured, injuries to multiple body part of relatively equal severity.		Laying	39.701489	-104.990871
6/3/2016	BNSF	40-59	Non-Fatal	Class 1	PM	Struck by on- track equipment	Bruise/contusion, elbow.		Sitting		
2/9/2016	BNSF	20-29	Fatal	Class 1	ΡM	Slipped, fell, stumbled, other	Fatally injured, injuries to multiple body part of relatively equal severity.		Jumping from	39.747813	-105.012124



APPENDIX G. RAIL EQUIPMENT ACCIDENTS



INCDTNO	YR	MTH	DY	HR	MIN	AMPM	CARSHZD	TRNSPD	TYPSPD	RAILROAD	SUBDIV	MILEPOST	NARR1
PR0322103	22	3	6	3	0	AM	0	3	E	BNSF	BRUSH	541.3	Y-DEN5131-05 DERAILED 1 LOCOMOTIVE WHILE OPERA FAILURE TO CONTROL SHOVE MOVE IN TURN RUNNIN RELEASED.
PR0222118	22	2	21	2	15	PM	0	4	E	BNSF	BRUSH	540.4	Y-DEN1031-21 DERAILED 5 RAILCARS WHILE PULLING O WITHSCRAP METAL FALLING FROM RAILCAR. NO HAZAR
PR0222115	22	2	18	5	30	PM	0	4	E	BNSF	BRUSH	541.3	Y-DEN1012-18 IMPACTED THE E-CRDSCM0-03 WHILE SHOVEMOVEMENT AND RADIO COMMUNICATION FAILU PRIOR TO IMPACT. RESULTED IN A TOTAL OF 5 RAILCARS I
PR0222115	22	2	18	5	30	PM	0	10	E	BNSF	BRUSH	541.3	Y-DEN1012-18 IMPACTED THE E-CRDSCM0-03 WHILE SHOVEMOVEMENT AND RADIO COMMUNICATION FAILU PRIOR TO IMPACT. RESULTED IN A TOTAL OF 5 RAILCARS I
PR0222114	22	2	18	4	35	AM	0	3	E	BNSF	BRUSH	540.3	Y-DEN3031-17 DERAILED 6 RAILCARS WHILE PULLING IN WORNRAILS. NO HAZARDOUS MATERIALS WERE RELEAS
PR0222108	22	2	12	7	22	AM	0	4	E	BNSF	FRONT RANGE	0.8	H-DENLAU1-11 DERAILED 7 RAILCARS WHILE SHOVING Y FORCEON A CURVE. NO HAZARDOUS MATERIALS WERE F
1121GP032	21	11	17	7	8	PM	0	7	R	UP	MOFFAT TUNNEL SUB	3.02	YDV71-R ESTABLISHED A RCL ZONE ON THE NORTH EN SWITCHING ON THE NORTH END OF NORTH YARD AFTER THEN WENTINTO TRACK 17 THINKING THAT THEY WERE & 4 EMPTIES.THE YDV71R WAS LINED TOWARDS THE PULLED NORTH, THEYRAN THRU THE HIGH STAND SWIT TRAIN IN ACCORDANCE WITHSIGNAL INDICATION (RUN SHOVE, DERAILING 3 CARS AS ARESULT OF THE RUN THR
0321GP007	21	3	6	5	45	AM	0	3	E	UP	MOFFAT TUNNEL SUB	3.22	MNYGR-06 CREW WAS GOING TO PUT THEIR POWER SWITCH ATTHE NORTH END, THE SWITCH MOVED UND LOCOMOTIVE UP7845STARTING TO GO DOWN ANOTHE
1220ME019	20	12	29	8	21	AM	0	5	E	UP	MOFFAT TUNNEL SUB	2.29	WHILE MOVING LOCOMOTIVES INSIDE THE CIRCLE AT MOVING OVERA BROKEN SWITCH POINT.
PR0920108	20	9	17	3	15	PM	0	1	E	BNSF	FRONT RANGE	0.6	Y-DEN0311-17 DERAILED 5 RAILCARS WHILE SHOVING THROTTLE POWER. NO HAZARDOUS MATERIALS WERE R
0920GP014	20	9		2	16	PM	0	8	E	UP	MOFFAT TUNNEL SUB	2.9	LDV08-16, AFTER CLEARING FIVE CROSSOVERS, THE CREW ONBOTH SIDES OF THE TRAIN. ONCE THE AIR TEST WAS BELTLINE. THE TRAIN TRAVELED APPROXIMATELY 1,388 DERAILING THE BNSF490482 AND THE BNGX31136. THE MECHANICAL BLUEFLAG THAT HAD WEDGED UNDERNEA
0720GP033	20	7	9	9	30	AM	1	5	E	UP	BRUSH BNSF	537.65	UP TRANSFER JOB YDV22-09 WAS PULLING INTO BNSF RAIL.ASPHALT WAS RELEASED FROM ONE OF THE CARS. E 207857 ASPHALT, 20,000 GAL.
PR0720102	20	7	9	9	30	AM	0	0		BNSF	BRUSH	540.6	FOREIGN TRAIN F-TUPBN1-09 DERAILED 6 RAILCARS V BROKENRAIL. APPROXIMATELY 20,000 GALLONS OF ASP
0620GP016	20	6	18	6	26	AM	0	2	R	UP	MOFFAT TUNNEL SUB	2.45	MNYGR-18 WAS SHOVING THEIR POWER WESTWARD OF WHEN THE THIRD UNIT DERAILED AXLE 5 & 6. APPROXIM
PR0620106	20	6	13	11	30	PM	0	1	E	BNSF	BRUSH	541.1	H-DENPUE1-13 DERAILED 9 RAILCARS WHILE SHOVING HAZARDOUS MATERIALS WERE RELEASED.
PR0520113	20	5	21	6	0	PM	0	5	R	BNSF	BRUSH	540.8	Y-DEN2071-21 DERAILED 6 RAILCARS WHILE SHOVING RELEASED. CAUSE WAS DETERMINED TO BE EXCESSIVE C

ATING LIGHT LOCOMOTIVES IN YARD TRACK 317 DUE TO ING OVER A DERAIL. NO HAZARDOUS MATERIALS WERE

OUT OF YARD TRACK 138 DUE TO OVERLOADED RAILCAR ROOUS MATERIALS WERE RELEASED.

SHOVING YARD TRACK 541 DUE TO FAILURE TO CONTROL LURE TO COMPLY. CAR COUNTS DID NOT STOP MOVEMENT S DERAILED. NO HAZARDOUS MATERIALS WERE RELEASED. SHOVING YARD TRACK 541 DUE TO FAILURE TO CONTROL LURE TO COMPLY. CAR COUNTS DID NOT STOP MOVEMENT S DERAILED. NO HAZARDOUS MATERIALS WERE RELEASED. IN YARD TRACK 104 DUE TO TRACK WIDE GAGE DUE TO ASED.

YARD TRACK 323 DUE TO EXCESSIVE LATERAL DRAWBAR RELEASED.

END OF THE YARD ZONE 2, 2B AND 3 AT 1845 AND WAS ER SETTING OUT A SINGLE CAR INTO TRACK 13. THE CREW RE LINED INTO THEIR ZONE. CREW PULLED OUT 22 LOADS E NORTH LEAD INSTEAD OF INTO ZONE, SO ONCE CREW TITCH NEXT TO 37 BLOCK AND FAILED TO CONTROL THEIR INNING A RED BLOCK). WHEN THE CREW STARTED THEIR TRU SWITCH.

R ON THEIR TRAIN. WHILE TRAVERSING THE NUMBER 4 NDER THE LOCOMOTIVE RESULTING IN THE REAR OF THE IER TRACK, AND DERAILING.

AT NORTH YARD, TWO LOCOMOTIVES DERAILED WHILE

G YARD TRACK 354 DUE TO TOO RAPID ADJUSTMENT OF RELEASED.

REW WALKED THE AIR TEST FROM THE REAR TO HEAD END VAS COMPLETED, THEY DEPARTED NORTH, ONTO DENVER 88 FEET, WHEN THE TRAIN WENT INTO THE EMERGENCY, IE CAUSE OF THE DERAILMENT WAS DETERMINED TO BE A EATH AND CAUSED THE CARS TO LEAVE THE RAIL.

TRACK 146 AND DERAILED 6 RAILCARS DUE TO BROKEN BNSF REPORTED \$35,000 IN TRACK DAMAGE. CAR#: CTCX

WHILE PULLING INTO YARD TRACK 146 DUE TO TRACK SPHALT WAS RELEASED FROM 1 RAILCAR.

ON THE SOUTH LEG OF THE WYE. TWO UNITS PASSED POD IMATELY A FOOT PRIOR TO THE POD HAD BROKEN RAIL. NG YARD TRACK 2005 DUE TO TRACK WIDE GAGE. NO

G YARD TRACK 132. NO HAZARDOUS MATERIALS WERE COUPLING SPEED.

INCDTNO	YR	MTH	DY	HR	MIN	AMPM	CARSHZD	TRNSPD	TYPSPD	RAILROAD	SUBDIV	MILEPOST	NARR1
0420GP031	20	4	28	5	13	PM	0	5	Ε	UP	MOFFAT TUNNEL SUB	3.1	YDV21-28, AFTER DOUBLING 12 TRACK WITH 36 CARS SWITCH FOR THEIR MOVEMENT TOWARDS THE LOW CLEARANCE CONE AT THE NORTH END OF 2 TRACK, AND TRACK TO PROTECT THE SHOVE. THE REAR CAR WAS A FOREMAN STARTED THE SHOVE INTO 2 TRACK AND TH TRACK. AT APPROXIMATELY 1713, WHEN THE BRAKEMA CARS HAD DERAILED AND IMMEDIATELY TOLD THEIR EN DETERMINED THE CAUSE OF THE DERAILMENT WAS A TRACKS 1, 2, 3 AND 4, 5, 6, 7 ON THE NORTH END. A TOT
0420GP010	20	4	8	7	18	PM	0	9	R	UP	MOFFAT TUNNEL SUB	3.15	YDV21-08, LEAD LOCOMOTIVE UP1510, WAS SHOVING NORTHEND DERAILED ON FROG AND GUARD RAIL. DERA DRUG POSITIVE - NOT DETERMINED TO BE A CAUSAL FAC
PR0320115	20	3	28	9	15	AM	0	9	R	BNSF	DENVER ROCK ISLAND	0.5	Y-DEN3051-27 DERAILED 6 RAILCARS WHILE PULLING INT MISSING CROSSTIES. NO HAZARDOUS MATERIALS WERE
3282002	20	3	28	9	15	AM	0	0		DRIR	STOCKYARDS	0.1	THE BNSF CREW WAS PULLING THE DRIR OUT BOUND B CREWWAS PULLING THE CARS TO THE SINGLE POINT D LOCOMOTIVETO DROP THE CONDUCTOR THERE TO O ABRUPTLY BANG INTO EACHOTHER CLOSING THE SLACK OF DERAILMENT WAS CLOSE TOMID CONSIST WHERE THE BANGING TOGETHER, THEY THEN PULLED AHEAD FO SPINNING AS THERE ARE MARKS TO PROVE IT ALONG W
PR1219106	19	12	12	7	30	PM	0	4	E	BNSF	FRONT RANGE	2.3	RCO Y-DEN2012-12 DERAILED 1 RAILCAR WHILE INTO Y/ NO HAZARDOUS MATERIALS WERE RELEASED.
PR0819111	19	8	27	7	0	AM	0	7	E	BNSF	BRUSH	540.9	Y-DEN3051-26 DERAILED 3 RAILCARS WHILE SHOVING IRREGULAR.NO HAZARDOUS MATERIALS WERE RELEASE
0419GP037	19	4	16	11	14	AM	0	4	E	UP	MOFFAT TUNNEL SUB	2.45	YDV68R-16 TRANSFERRED ZONE TO THE YDV72R-16 AT THEY WERE ON THE GROUND. CREW WALKED UP TO TH A DERAIL SOUTH SIDE OF NUMBER FIVE CROSSOVER TRAVERSED THE SWITCHES. TWO ENGINES AND ONE CAI
PR0319104	19	3	14	2	45	AM	0	4	R	BNSF	BRUSH	541.5	K-PUEPUE1-14 DERAILED 2 LOCOMOTIVES WHILE OPERAICE AND SNOW BUILDUP ON TRACK. NO HAZARDOUS MA
PR0119120	19	1	22	8	15	PM	0	4	E	BNSF	BRUSH	540.3	RCO Y-DEN2062-22 DERAILED 2 RAILCARS THAT IN TUR WHILESHOVING YARD TRACK 130 DUE TO A SWITC HAZARDOUS MATERIALS WERE RELEASED.
PR0119120	19	1	22	8	15	PM	0	0	E	BNSF	BRUSH	540.3	RCO Y-DEN2062-22 DERAILED 2 RAILCARS THAT IN TUR WHILESHOVING YARD TRACK 130 DUE TO A SWITC HAZARDOUS MATERIALS WERE RELEASED.
PR0119103	19	1	2	8	45	PM	0	6	R	BNSF	FRONT RANGE	0.7	Y-DEN2051-02 DERAILED 5 RAILCARS WHILE PULLING IN SLACK ACTION. NO HAZARDOUS MATERIALS WERE RELEA
1118DV009	18	11	22	9	35	РМ	0	2	E	UP	GREELEY SUB	2.63	AFTER FINISHING THEIR SHOVE INTO 802 THE ZLADV-21 THE POINT AS THEY WERE SHOVING WITH 4 UNITS AND TRACK, THE ENGINEER NOTICED HIS SPEED DECLINING A GETTING A WHEEL SLIP WARNING HE THROTTLED DOWN LOCOMOTIVES AND SUBSEQUENT AUTORACK DERAILED

AS TO 18 TRACK, PULLED PAST 37 BLOCK AND LINED THE DW SIDE OF TRACKS. THE FOREMAN WALKED TO THE ND THE BRAKEMAN GOT A RIDE TO THE SOUTH END OF 2 A LOADED LUMBER FLAT THAT WAS NOT RIDEABLE. THE THE BRAKEMAN TOOK OVER ONCE THE CARS WERE IN 2 MAN GAVE A 15 CAR COUNT, THE FOREMAN NOTICED THE ENGINEER TO STOP. AFTER INVESTIGATING, IT HAS BEEN A BOLTSTUCK IN THE MIDDLE OF THE FROG THAT SPLITS DTALOF 5 EMPTY RAILCARS DERAILED.

IG A CUT OF CARS INTO ONE TRACK. CARS 9 - 12 FROM RAILMENT DAMAGED LEAD FROM 1 THROUGH 7 TRACKS. 1 ACTOR.

NTO FOREIGN YARD TRACK 1 DUE TO TRACK DEFECTIVE OR RE RELEASED.

BACK TO THEIR YARD WHEN THEY DERAILED 6 CARS. THE DERAIL AND STOPPED ONLY USING THE BRAKES OF THE CLOSE AFTER PASSING WHICH CAUSED THE CARS TO CK FROM ALL THE DRAFT GEARS OF THE CARS. THE POINT HE HIGH SIDE RAIL WAS ROLLED DUE TO THE LOADED CARS OR 250+- FT WITH THE WHEELS OF THE LOCOMOTIVE WITH SAND ON THE RAIL.

YARD TRACK 209 DUE TO TRACK SWITCH POINT GAPPED.

NG YARD TRACK 103 DUE TO CROSS LEVEL OF TRACK SED.

AT 0959. AT APPROXIMATELY 1114 CREW WAS NOTIFIED THE HEAD END. THEY HAD ZONE 2, 2A AND 3, AND FOUND R INSIDE OF AN ACTIVE ZONE. CREW HAD PREVIOUSLY CAR DERAILED.

RATING LIGHT LOCOMOTIVES IN YARD TRACK 316 DUE TO MATERIALS WERE RELEASED.

URN IMPACTED A CUT OF RAILCARS IN ADJACENT TRACK TCH BEING IMPROPERLY LINED UNDER RAILCARS. NO

URN IMPACTED A CUT OF RAILCARS IN ADJACENT TRACK TCH BEING IMPROPERLY LINED UNDER RAILCARS. NO

INTO YARD TRACK 354 DUE TO EXCESSIVE BUFFERING OR LEASED.

1 LINED UP TO SHOVE 803 WITH THE CONDUCTOR RIDING ND 4 CARS AND 14 LBS OF AUTOMATIC BRAKES INTO THE AND THROTTLED UP FROM NOTCH 2 TO NOTCH 4, AFTER NN AND BROUGHT THE TRAIN TO A STOP. THE REAR THREE ED. NO INJURIES.

INCDTNO	YR	MTH	DY	HR	MIN	AMPM	CARSHZD	TRNSPD	TYPSPD	RAILROAD	SUBDIV	MILEPOST	NARR1
0718DV002	18	7	3	3	43	AM	0	0	R	UP	MOFFAT TUNNEL SUB	2.36	YDE36R-02, WAS PULLING OUT OF TRACK 5 AND DERAIL BROKEN RAIL IN THE TRACK 5 SWITCH. THE CREW PROC CAUSED THE REST OF THE AXLES TO DERAIL. 2 ADDITION, POSITIVE NOT DETERMINED TO BE A CAUSAL FACTOR.
0718DV002	18	7	3	3	43	AM	0	8	E	UP	MOFFAT TUNNEL SUB	2.36	YDE36R-02, WAS PULLING OUT OF TRACK 5 AND DERAIL BROKEN RAIL IN THE TRACK 5 SWITCH. THE CREW PROC CAUSED THE REST OF THE AXLES TO DERAIL. 2 ADDITION, POSITIVE NOT DETERMINED TO BE A CAUSAL FACTOR.
0518DV021	18	5	27	4	0	AM	0	5	E	UP	MOFFAT TUNNEL SUB	2.85	YDV25-26 WAS SHOVING 87 CARS INTO TRACK 2 AND H. AND THE MOVE CAME TO A STOP. THE UP5487 WAS ON TILX305078 DERAILED.
0518DV021	18	5	27	4	0	AM	0	0	E	UP	MOFFAT TUNNEL SUB	2.85	YDV25-26 WAS SHOVING 87 CARS INTO TRACK 2 AND H. AND THE MOVE CAME TO A STOP. THE UP5487 WAS ON TILX305078 DERAILED.
PR0418113	18	4	19	6	5	PM	0	8	R	BNSF	BRUSH	541	Y-DEN1031-19 DERAILED 8 CARS DUE TO IMPROPER RELEASED.
0318DV003	18	3	4	10	30	AM	0	0	E	UP	GREELEY SUB	2.14	YDE22R-04 WAS SWITCHING ON THE SOUTH END OF TH PROCEEDED INTO TRACK 406, RELEASED THREE CARS, FO THERE WERE FIVE HANDBRAKES TIED ON THE NORTH SUBSEQUENTLY THE YDE54R-04 WAS SWITCHING ON TH NORTH LINED OUT OF THE LEAD THROUGH TRACK 41 INSPECTION DISCOVERED THEY WERE STRUCK BY A ROLL ADMX16956 STRUCK CAR TILX257071, CAUSING A DERAI
0318DV003	18	3	4	10	30	AM	0	3	E	UP	GREELEY SUB	2.14	YDE22R-04 WAS SWITCHING ON THE SOUTH END OF TH PROCEEDED INTO TRACK 406, RELEASED THREE CARS, FO THERE WERE FIVE HANDBRAKES TIED ON THE NORTH SUBSEQUENTLY THE YDE54R-04 WAS SWITCHING ON TH NORTH LINED OUT OF THE LEAD THROUGH TRACK 41 INSPECTION DISCOVERED THEY WERE STRUCK BY A ROLL ADMX16956 STRUCK CAR TILX257071, CAUSING A DERAI
PR0118109	18	1	15	3	51	PM	0	5	E	BNSF	BRUSH	540.4	RCO Y-DEN1142-15 DERAILED 4 RAILCARS WHILE PULLIN HAZARDOUS MATERIALS WERE RELEASED.

AILED THE LEADING AXLE ON CAR GBRX700009, DUE TO A OCEEDED TO SHOVE NORTHWARD INTO TRACK 8, WHICH NAL CARS WHICH STRUCK ON ADJACENT TRACK 3. 1 DRUG R.

AILED THE LEADING AXLE ON CAR GBRX700009, DUE TO A OCEEDED TO SHOVE NORTHWARD INTO TRACK 8, WHICH NAL CARS WHICH STRUCK ON ADJACENT TRACK 3. 1 DRUG R.

HAD TRAVERSED THE CROSSING WHEN 4 CARS DERAILED ON AN ADJACENT TRACK AND WAS DAMAGED WHEN THE

HAD TRAVERSED THE CROSSING WHEN 4 CARS DERAILED ON AN ADJACENT TRACK AND WAS DAMAGED WHEN THE

TRAIN HANDLING. NO HAZARDOUS MATERIALS WERE

THE LEAD TRACK AND HAD A HANDLE OF 13 CARS. THEY FOLLOWED BY A CUT OF TWO CARS. SPEED WAS 3 MPH, H END OF TRACK 406, PER SUPERINTENDENT BULLETIN. THE NORTH END OF THE YARD IN TRACK 411 AND PULLING 410, WHEN YDE54R-04 WENT INTO EMERGENCY. UPON OLL OUT FROM TRACK 406. IMPACT OCCURRED WHEN CAR BAILMENT OF SIX CARS.

THE LEAD TRACK AND HAD A HANDLE OF 13 CARS. THEY FOLLOWED BY A CUT OF TWO CARS. SPEED WAS 3 MPH, H END OF TRACK 406, PER SUPERINTENDENT BULLETIN. THE NORTH END OF THE YARD IN TRACK 411 AND PULLING 410, WHEN YDE54R-04 WENT INTO EMERGENCY. UPON OLL OUT FROM TRACK 406. IMPACT OCCURRED WHEN CAR AILMENT OF SIX CARS.

LING OUT OF YARD TRACK 146 DUE TO BROKEN RAIL. NO



APPENDIX H. TIER II FACILITIES





APPENDIX H. TIER II FACILITIES

Table H-1. Tier II Facilities

Name	Address
Thermofluids Denver	4845 Forest Street Denver, CO 80022 USA
General Shale Brick Inc. Plant #60	1845 West Dartmouth Avenue
ChemTrade Solutions	5075 East 50 th . Avenue Denver, CO 80216 USA
Mountain Cement Company	1630 35 th Street Denver, CO 80216 USA
Safeway Denver Milk Plant	4301 Forest Street Denver, CO 80216 USA
Airgas USA LLC	2455 South Platte River Drive Denver, CO 80223 USA
US Mix Co	112 South Santa Fe Drive Denver, CO 80223 USA
AMERICAN BUILDING SUPPLY	5025 Florence Street Unit D Denver, CO 80238 USA
Colorado Salt Products	3910 Joliet Street Denver, CO 80239 USA

Note: See Figure 4-2 for locations of Tier II Facilities in the main document.