U.S. Department of Transportation

Federal Transit Administration

2022 FTA JOINT STATE SAFETY OVERSIGHT AND RAIL TRANSIT AGENCY HYBRID WORKSHOP

OCTOBER 25-27, 2022   WASHINGTON, D.C

Accident Investigation Update

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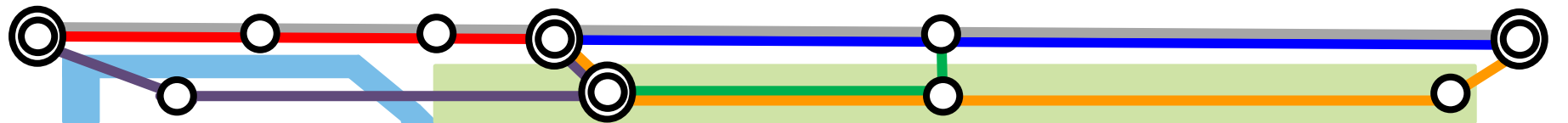Federal Transit Administration

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U.S. Department of Transportation
**Federal Transit Administration**
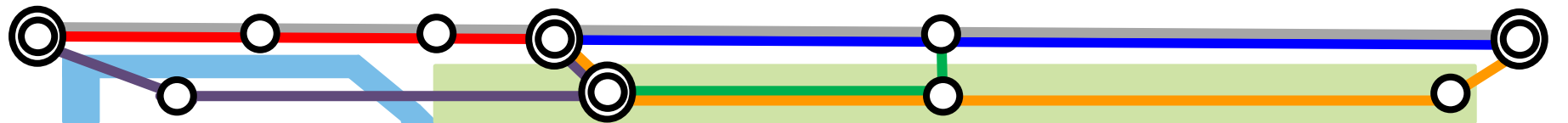
Overview

- Review the requirements for Two-Hour Accident Notification

  o Two-Hour Accident Notification areas for improvement

- Review NTD Trespasser and Suicide Data and Trends

  o Discuss Trespasser Examples, Research and Mitigations

- Review NTD Major Event Reporting

  o Discuss NTD Program and Major Event Reporting

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Agenda

- Two-Hour Accident Notification Requirements and Guidance

- Two-Hour Accident Notification Areas for Improvement

- Trespasser and Suicide Events

- National Transit Database (NTD) Related Definitions

- NTD Trespasser and Suicide Data and Trends

- Trespasser and Trespass Examples

- Trespasser Research and Mitigations

- NTD Major Event Reporting

- Key Takeaways

- Questions and Answers
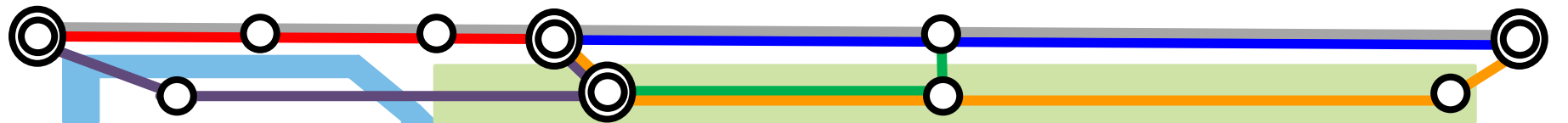
What is an Accident

State Safety Oversight, Final Rule

§ 674.7 Definitions. As used in this part:

Accident means an Event that involves any of the following: A loss of life; a report of a serious injury to a person; a collision involving a rail transit vehicle; a runaway train; an evacuation for life safety reasons; or any derailment of a rail transit vehicle, at any location, at any time, whatever the cause. An accident must be reported in accordance with the thresholds for notification and reporting set forth in Appendix A to this part.

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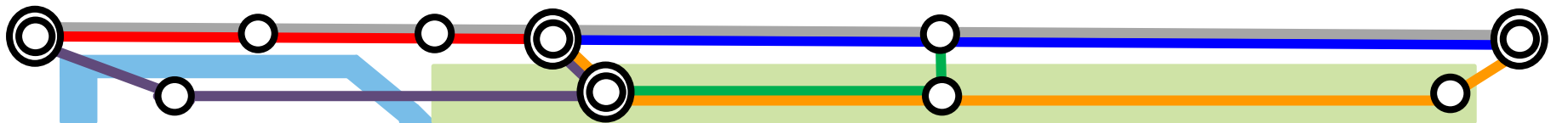
Two-Hour Accident Notification
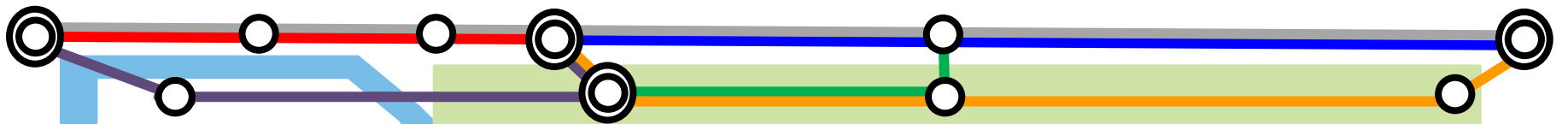
State Safety Oversight, Final Rule

Part 674.33 Notifications of accidents.

a) Two-hour notification. In addition to the requirements for accident notification set forth in an SSO program standard, an RTA must notify both the SSO and the FTA within two hours of any accident occurring on a rail fixed guideway public transportation system. The criteria and thresholds for accident notification and reporting are defined in a reporting manual developed for the electronic reporting system specified by FTA as required in Part 674.39(b), and in appendix A.
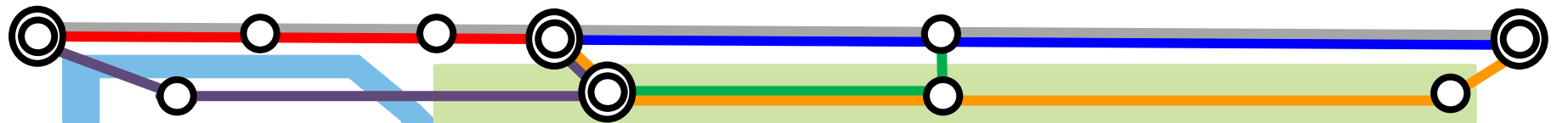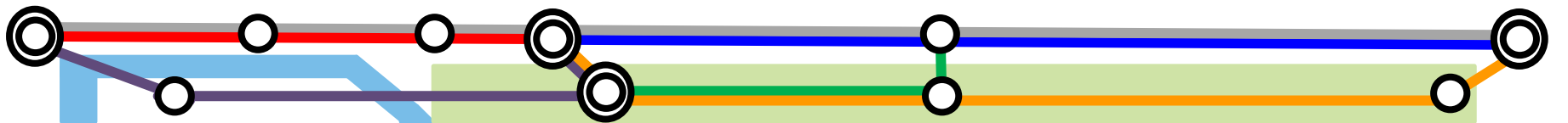
Two-Hour Accident Notification

- **The FTA has published Two-Hour Accident Notification Guidance**

  o Two-Hour Accident Notification Guide

  o Two-Hour Accident Notification Quick Reference Checklist

    ▪ https://www.transit.dot.gov/regulations-and-guidance/safety/two-hour-accident-notification-guide

- **Relevant definitions are available in the National Transit Database (NTD) glossary**

  o The NTD glossary contains many definitions not listed in FTA Rules

    ▪ https://www.transit.dot.gov/ntd/national-transit-database- ntd-glossary

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Two-Hour Accident Notification

- **On September 24th, 2021, the FTA updated the Two-Hour Accident Notification Guidance**

  o Revised the Crisis Management Center (CMC) name change to Transportation Operations Center (TOC) for both the name and email address

    ▪ The old CMC email address of <u>CMC-01@dot.gov</u> is still an active address and will still send the notifications to the TOC

    ▪ During your next review and revision of any related programs or forms, please replace the old CMC email address with the new TOC email address

  o Revised the bullets for suggested information and details that should be included in the accident notifications
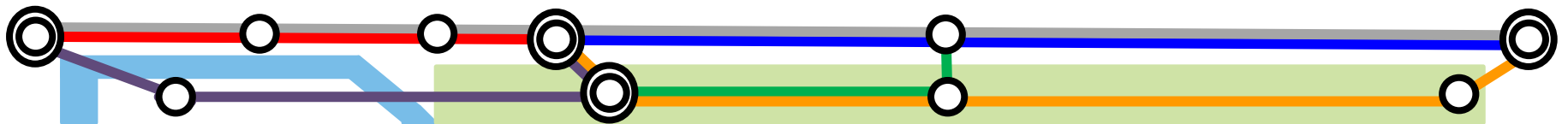
Two-Hour Accident Notification Areas for Improvement

- Since the new SSO Rule was released, all RTAs have significantly improved the quality of Two-Hour Accident Notifications

- SSOs have worked with their RTAs and FTA to considerably improve their Two-Hour Accident Notifications to meet the § 674.33 requirements and the FTA greatly appreciates all of these efforts

- In today's discussion we would like to highlight a few situations where we could still use your help improving these areas that we still see occasional under or over reporting

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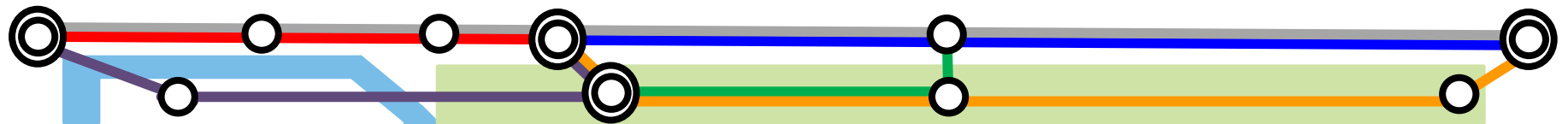
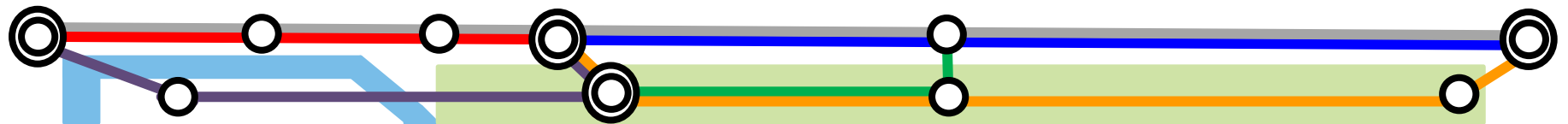# Two-Hour Accident Notification Areas for Improvement

- **Substantial damage**

  o The Substantial damage threshold must be related to a collision involving a Rail Transit Vehicle

- **Evacuation for a "Life Safety Reason"**

  o For an evacuation alone to require Two-Hour Accident Notification it must be for a "Life Safety Reason" and not just a loss of power, mechanical breakdown or non-emergency off loading of persons

  o During a system breakdown, extended exposure to heat or cold could be considered a "Life Safety Reason" for an evacuation and exception to the general rule

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Two-Hour Accident Notification Areas for Improvement

Lack of Accident Notification Details

- Generally, and listed in the FTA Two-Hour Notification Guide the accident notifications should provide what is required by the SSOA Program Standard and basic details such as:

  - Accident date, time, location, and name of the Rail Transit Agency (RTA) providing the notification

  - When RTA has more than one rail mode, providing the rail mode and/or line involved in the accident (Heavy Rail/Subway, Light Rail, Streetcar, etc.)

  - Number of fatalities, serious injury, persons requiring immediate medical transport

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Two-Hour Accident Notification Areas for Improvement

Lack of Accident Notification Details (continued)

- ▪ After an RTV related collision, was there substantial damage that required towing of RTV or POV?

- ▪ Primary and secondary event types (e.g., collision, derailment, fire, etc.)

- Remember, notifications sent from your organization to the TOC are forwarded to many end users. Those end users may not be familiar with or confused by the internal acronyms your transit systems utilize. Because of this, we ask you eliminate acronyms from your reporting
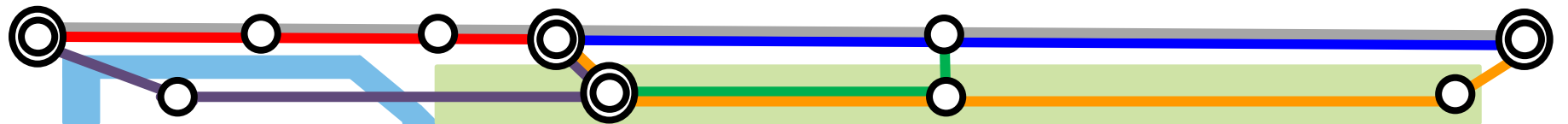
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Trespasser and Suicide Events
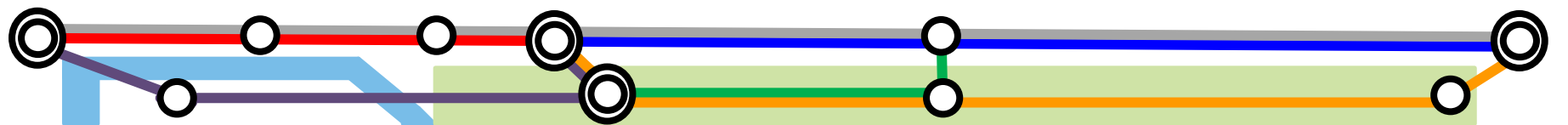
Trespasser and Suicide Events

- Trespasser and Suicide Events and the resulting fatalities and injuries continue to plague the rail transit industry. The ongoing efforts to identify effective countermeasures and mitigations to save life is a continuous battle

- With the implementation of Safety Management Systems (SMS) and data driven efforts, industry research and the sharing of information on what works we continually attempt to make progress reducing these events

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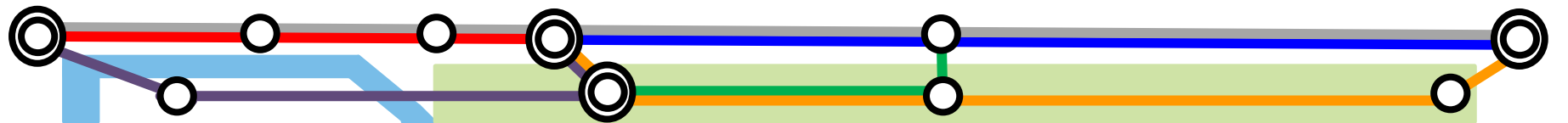
National Transit Database (NTD) Related Definitions

Trespass

The unauthorized entry of transit owned land, structure, or other real property not intended for public use

Trespasser

A person in an area of transit property not intended for public use (i.e., an unauthorized area)

Suicide

Suicide refers to self-inflicted harm where the intention of the person was to cause a fatal outcome and death occurs. The intent can be determined by any reasonable method including police reports and eyewitness account.

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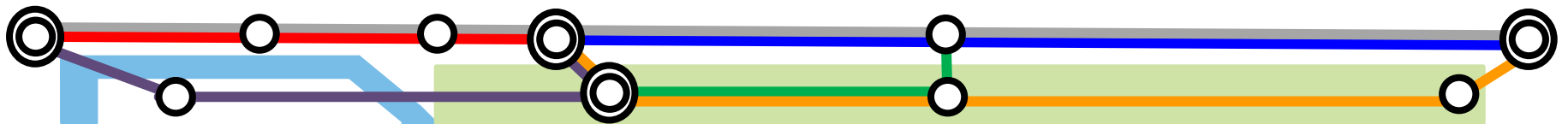
National Transit Database (NTD) Data

Note: The following data only includes events:

Meeting the NTD [major event reporting thresholds](#)

Light rail mode includes the hybrid rail mode

"All Other" modes include streetcars, cable cars, monorails, automated guideways, and inclines

Trespassers includes any fatality or injury reported as a trespasser and not reported as a suicide or attempted suicide. Fatalities and injuries that are marked as both a suicide/attempted suicide and a trespasser are considered suicides

2021 Data marked with an asterisk (*) indicates preliminary data

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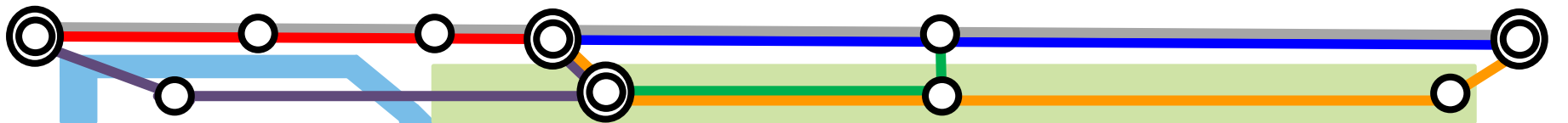
NTD Trespasser and Suicide Data and Trends

Suicide and Trespasser Events[1] by Type, 2017–2021*
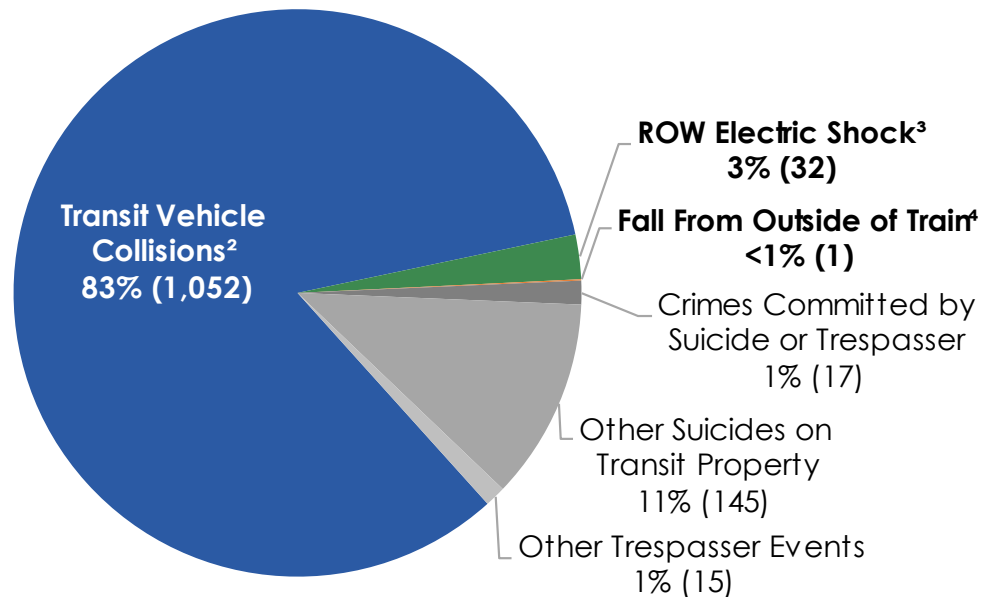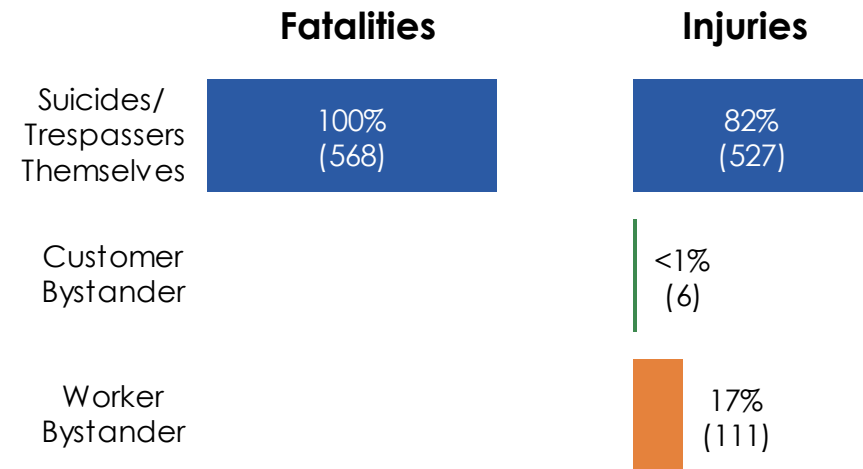

Transit Vehicle Collisions[2]
83% (1,052)

**ROW Electric Shock[3]
3% (32)**

**Fall From Outside of Train[4]
<1% (1)**

Crimes Committed by Suicide or Trespasser
1% (17)

Other Suicides on Transit Property
11% (145)

Other Trespasser Events
1% (15)

Suicide and Trespasser Fatalities and Injuries by Person Type, 2017–2021*
(Transit Vehicle Collisions, ROW Electric Shocks, and Falls From Outside of Trains Only)

	Fatalities	Injuries
Suicides/ Trespassers Themselves	100% (568)	82% (527)
Customer Bystander		<1% (6)
Worker Bystander		17% (111)

Many types of suicide and trespasser data are reported by transit agencies. This presentation focuses on:
- Suicide and trespasser event types in **bold** in the pie chart above
- Fatalities and injuries of those attempting suicide and trespassers, rather than injured bystanders.

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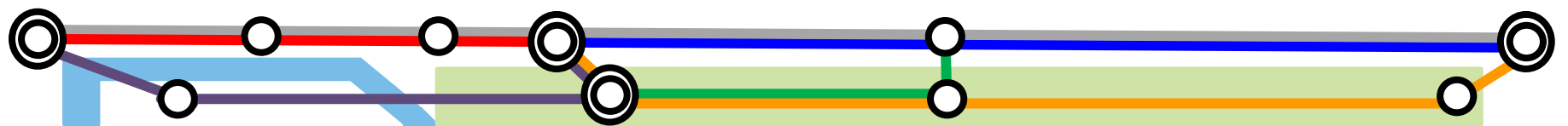
NTD Trespasser and Suicide Data and Trends

Trends in Suicide and Trespasser[1] Event, Fatality, and Injury Counts and Rates per 100M VRM, 2017–2021*

Events

'17	'18	'19	'20	'21*
22.08	23.88	28.42	33.28	33.38
178	193	234	236	244

Fatalities

'17	'18	'19	'20	'21*
10.30	14.10	14.33	16.78	18.33
83	114	118	119	134

Injuries

'17	'18	'19	'20	'21*
11.78	10.14	14.57	16.78	15.19
95	82	120	119	111

Event, Fatality, and Injury Counts — Rates per 100M VRM

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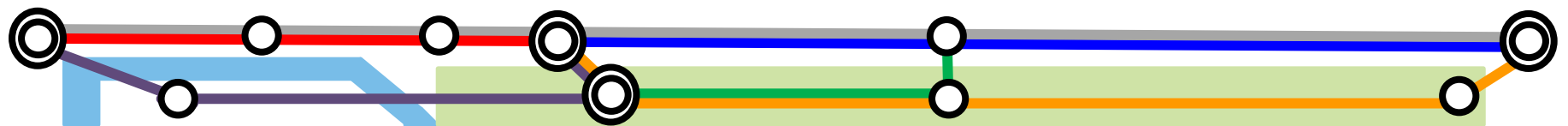
NTD Trespasser and Suicide Data and Trends

Suicide and Trespasser Events[1] by Mode, 2017–2021*

Heavy Rail
78% (846)

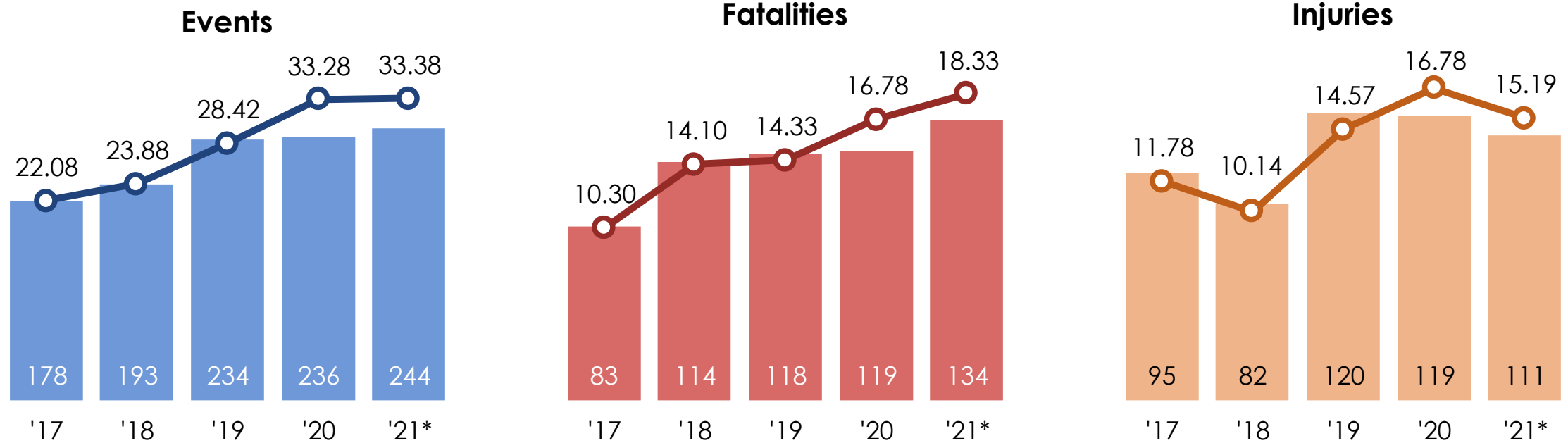Light Rail[5]
21% (233)

All Others[6]
<1% (6)
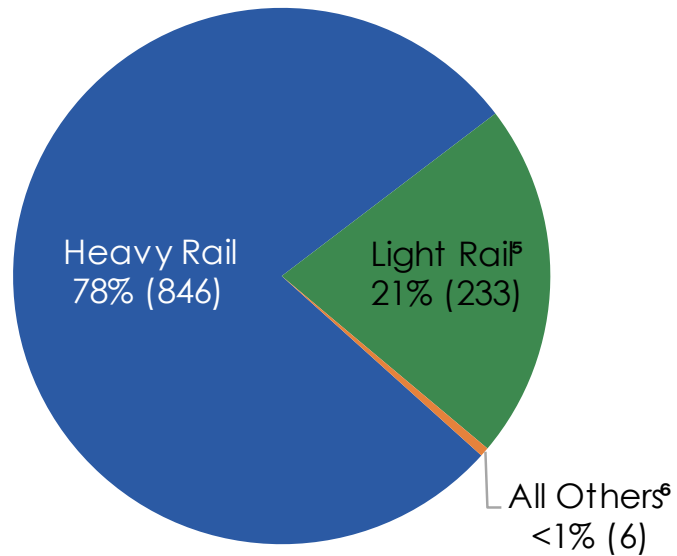
Suicide and Trespasser Event[1] Rate per 100M VRM by Mode, 2017–2021*

25.96	40.62	13.12
Heavy Rail	Light Rail[5]	All Others[6]
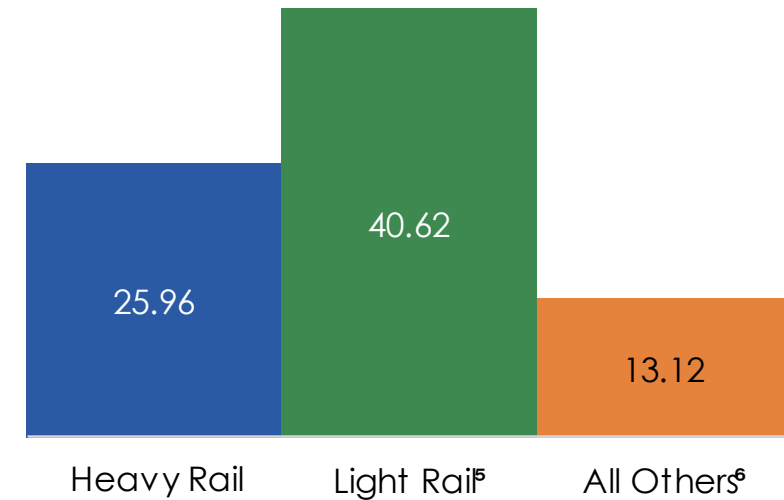
- Heavy rail reports majority of suicide and trespasser events
- Light rail[5] reports more suicide and trespassing events per 100M VRM

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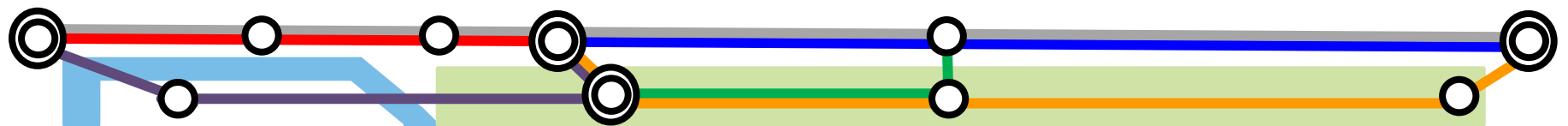
Trespasser and Trespass Examples

- We normally think of trespassers as someone in the Right of Way (ROW) or intentionally entering the ROW to attempt suicide

- Next are some other examples of trespassing that can also result in injuries and death
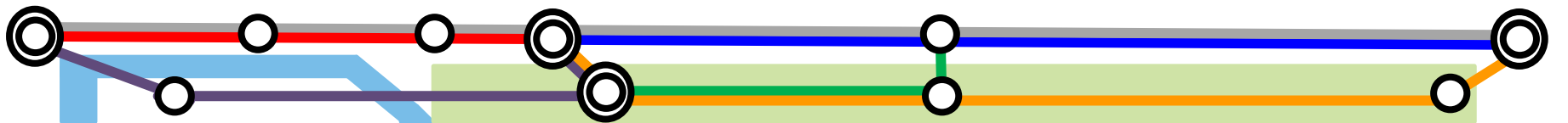
Trespasser and Trespass Examples

Trespasser and Trespass Examples

Brooklyn Subway Surfers' Stunt Caught on Camera - YouTube

Trespasser and Trespass Examples
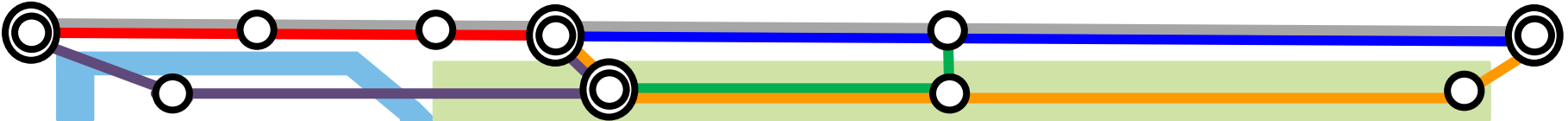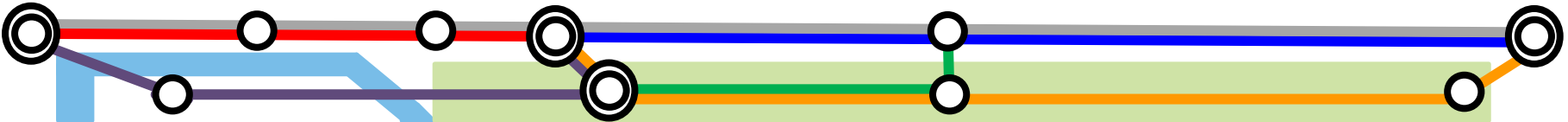
Trespasser Research and Mitigations

FTA RESEARCH
FEDERAL TRANSIT ADMINISTRATION

FTA Standards Development Program: Mitigations for Trespasser and Suicide Fatalities and Injuries

PREPARED BY
Center for Urban Transportation Research

AUGUST 2022

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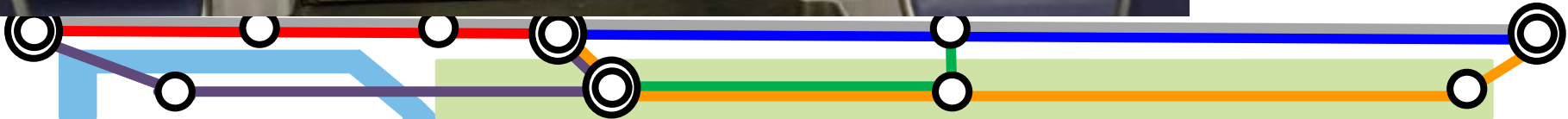
One of the FTAs goals is to provide and make available resources that can assist the transit industry reduce or prevent trespassing and suicide injuries and fatalities. To that end the FTA has sponsored or been involved in two recent research studies that we would like to make sure our stakeholders are aware of and have access to the related links

Trespassing Research Links:

FTA Standards Development Program:

Mitigations for Trespasser and Suicide Fatalities and Injuries

https://www.transit.dot.gov/sites/fta.dot.gov/files/2022-08/FTA-Report-No-0227.pdf

Trespasser Research and Mitigations

Strategies for Deterring Trespassing on Rail Transit and Commuter Rail Rights-of-Way, Volume 2: Research Overview

TRANSIT COOPERATIVE RESEARCH PROGRAM

TCRP RESEARCH REPORT 233

Strategies for Deterring Trespassing on Rail Transit and Commuter Rail Rights-of-Way

Volume 2: Research Overview
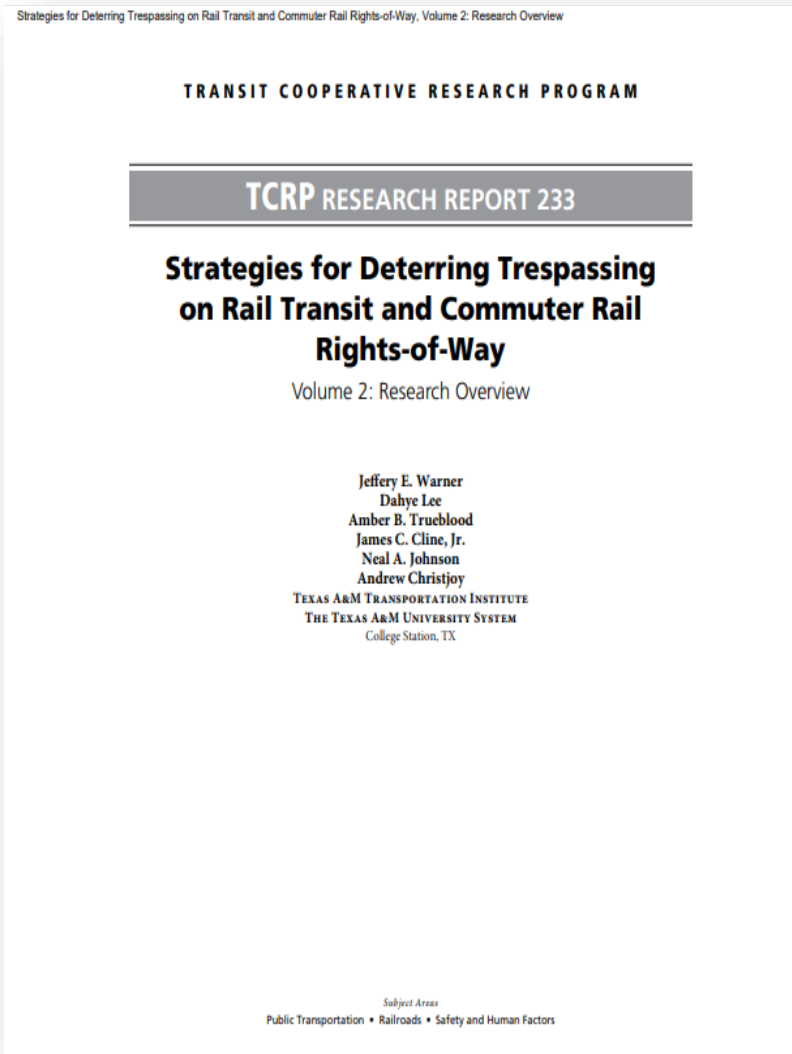
Jeffery E. Warner
Dahye Lee
Amber B. Trueblood
James C. Cline, Jr.
Neal A. Johnson
Andrew Christjoy
TEXAS A&M TRANSPORTATION INSTITUTE
THE TEXAS A&M UNIVERSITY SYSTEM
College Station, TX

Subject Areas
Public Transportation • Railroads • Safety and Human Factors

Description

A great risk facing the rail transit and commuter rail industries is the continuing problem with trespassing incidents occurring on systems throughout the United States.
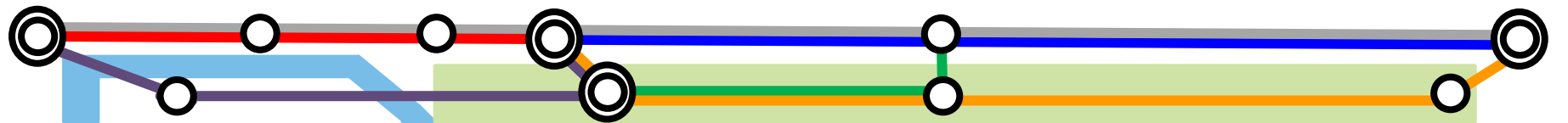
The TRB Transit Cooperative Research Program's pre-publication draft of *TCRP Research Report 233: Strategies for Deterring Trespassing on Rail Transit and Commuter Rail Rights-of-Way, Volume 1: Guidebook* provides guidance on strategies to deter trespassing on rail transit and commuter rail exclusive and semi-exclusive rights-of-way, including within station areas outside designated pedestrian crossings.

Supplemental to the report is the pre-publication draft of *TCRP Research Report 233: Strategies for Deterring Trespassing on Rail Transit and Commuter Rail Rights-of-Way, Volume 2: Research Overview*, an interactive spreadsheet, and a video.

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Trespasser Research and Mitigations
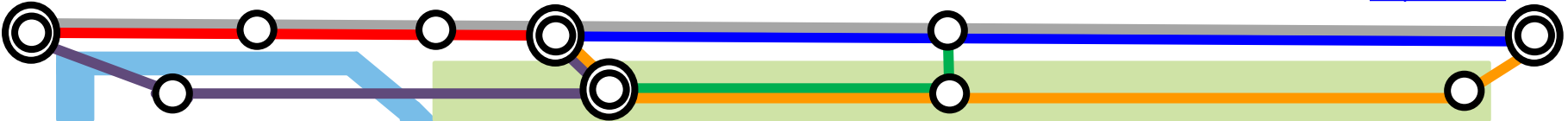
Mitigation and Countermeasure Categories

- Engineering

- Education

- Enforcement

- Technology

- Other Safety Management System Solutions

Trespasser Research and Mitigations

TCRP Research Report 223-Strategies for Deterring Trespassing on Rail Transit and Commuter Rail Rights-of-Way on Vimeo

NTD Major Event Reporting
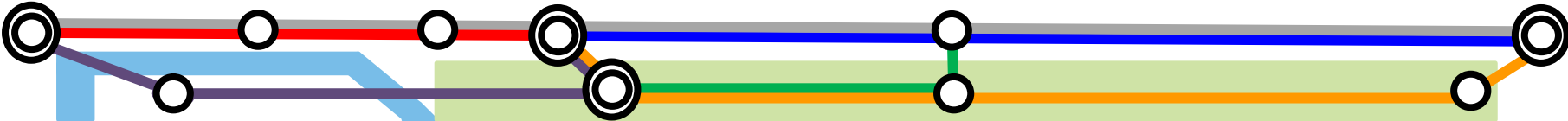
Reporting Criteria

Reportable 'Major' Events on the S&S-40 Fall Into Two Categories

1) Security Events fall into two categories:

- System Security

- Personal Security Events that Affect Individuals (Assault, Homicide, etc.)

2) Safety Events:

- Collisions

- Derailments

- Fires

- Hazardous Material Spills

- Acts of God

- 'Other Safety Events' (Defined on Next Slide)

Reporting Criteria (Continued)

Other Safety Event Definition:

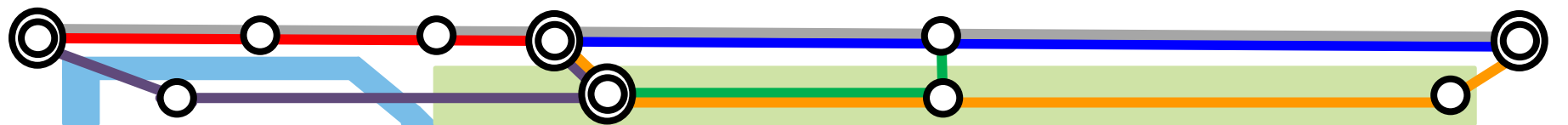- A safety event not specifically listed as a reportable event but where two or more persons are injured (transported away from the scene);

- One or more serious injuries; OR

- Another reportable threshold is met.

- **Examples:**

  o Slips/Trips/Falls

  o Electric Shock

- **Events are reportable if they occur on transit property such as**:

  o Platforms, transit facilities, or transit parking facilities.

- **Events are <u>not</u> reportable where events occur off transit property and**:

  o Affected persons, vehicles, or objects come to rest on transit property after the event.

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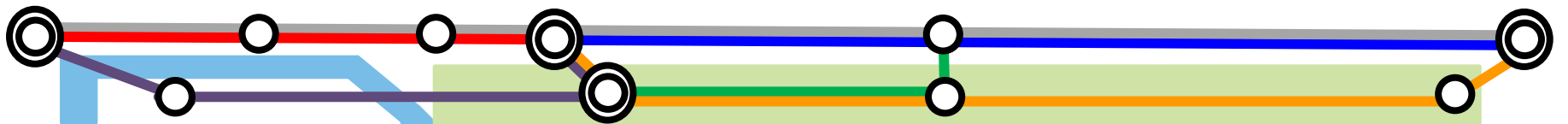
If Someone Gets Injured, How do I know if it is *Reportable?
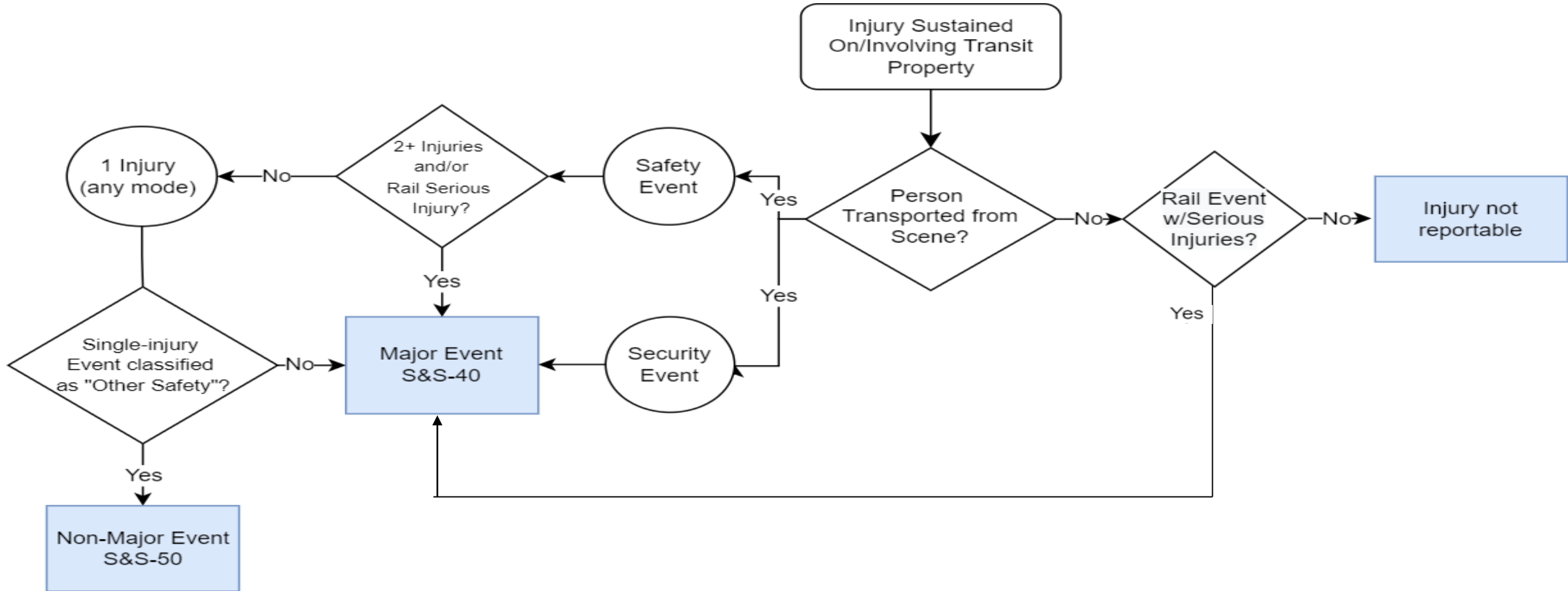
*Major event reporting is independent of two-hour accident requirements

Example – Events occurring off-property

Event Description: Two privately owned vehicles collided near our Light Rail system with one vehicle partially blocking our alignment. Both drivers involved in the collision were medically transported to area hospital in critical condition, one of the individuals involved succumbed to injuries sustained in the collision.

Consideration: Events that occur off transit property where affected persons, vehicles, or objects come to rest on transit property after the event are excluded from reporting.

Determination: The event is **not reportable to the NTD**.

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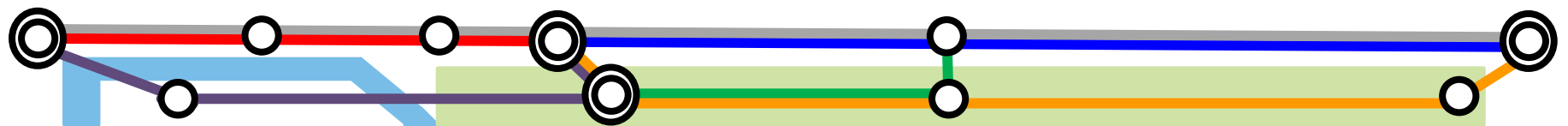
Example – Fatality Related to Security Event

Event Description: Two passengers grabbed the operator's bag and ran off of the coach. The operator chased the suspects down the street when he was fatally shot by one of the suspects.

Consideration: The robbery involves (occurred on) a transit revenue vehicle. The robbery may have not met a threshold on its own and the fatality happened away from the vehicle, but the operator was fatally shot during this event.

Determination: Reportable as homicide (S&S-40 form required).

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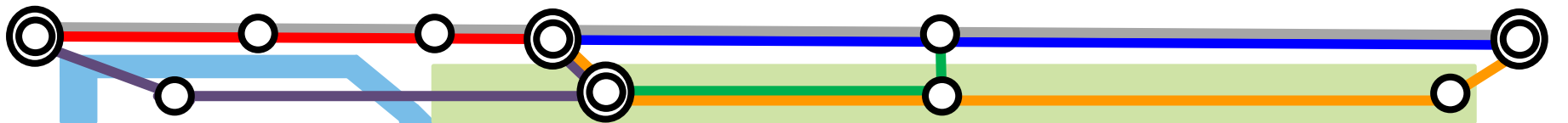
NTD New Functionality – Incident Descriptions

The NTD now releases narrative descriptions publicly

"Operator had a confrontation with 2 passengers who then grabbed the operator's bag and ran off of the coach. The operator chased the suspects down the street when he was fatally shot by one of the suspects. {Redacted} and {Redacted} City {Redacted} were on the scene."

Source

https://data.transportation.gov/Public-Transit/Major-Safety-Events/9ivb-8ae9/

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Federal Transit Administration
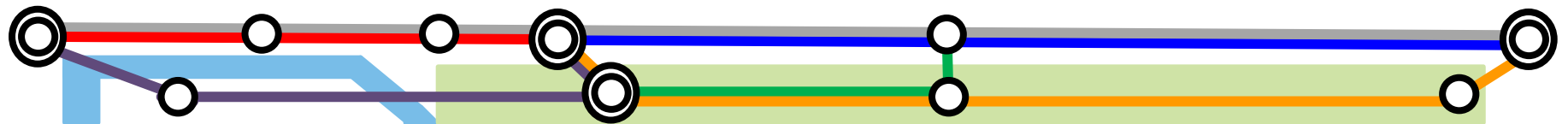
Key Takeaways

- Two-Hour Accident notifications must contain details as required in the SSOA Program Standard, 674.33 and FTA Two-Hour Accident Notification Guidance

- RTAs and SSOAs should use all available resources to identify problem areas, countermeasures and mitigations that can be applied in their operations that will reduce trespassing and suicide injuries and fatalities

- For reporters make sure you understand the reporting criteria and where and how to find the current guidance located in the [NTD Safety and Security Reporting Policy Manual](#)

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Federal Transit Administration

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202-366-5333
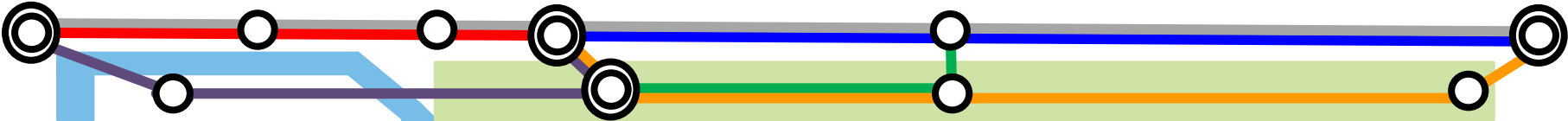
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Appendix

NTD Trespasser and Suicide Data and Trends

Rail Fatalities	'17	'18	'19	'20	'21*	Total
From Any Event	151	174	173	176	197	871
Suicides and Trespassers	83	114	118	119	134	568
Suicides	53	70	56	48	62	289
Trespassers	30	44	62	71	72	279

Rail Injuries	'17	'18	'19	'20	'21*	Total
From Any Event	1,534	1,532	1,917	1,156	1,365	7,504
Suicides and Trespassers	95	82	120	119	111	527
Suicides	57	40	61	53	45	256
Trespassers	38	42	59	66	66	271
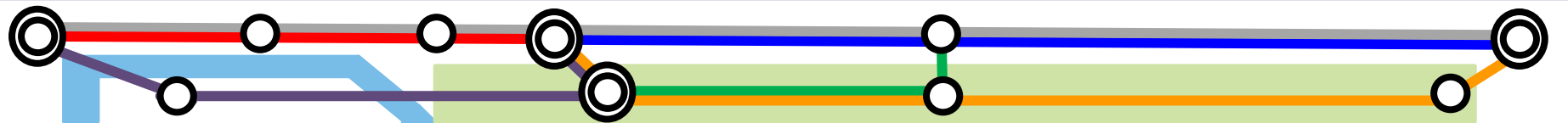
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NTD Trespasser and Suicide Data and Trends

Rail Fatalities	'17	'18	'19	'20	'21*	Total
Reported as Suicide	53	70	56	48	62	289
Customers	30	44	39	24	46	183
Pedestrians crossing tracks in crosswalks	2	3	1	1	0	7
Pedestrians crossing tracks, not in crosswalks	2	1	2	1	0	6
Pedestrians walking along ROW	8	0	0	1	1	10
Other Pedestrians	10	21	14	20	14	79
All Others	1	1	0	1	1	4

NTD Trespasser and Suicide Data and Trends

Rail Fatalities	'17	'18	'19	'20	'21*	Total
Reported as Trespasser	30	44	62	71	72	279
Customers	7	5	11	6	12	41
Bicyclists	1	1	2	0	1	5
Pedestrians crossing tracks, in crosswalks	3	0	1	1	0	5
Pedestrians crossing tracks, not in crosswalks	1	2	2	2	4	11
Pedestrians walking along ROW	4	3	5	7	22	41
Other Pedestrians	9	26	40	48	33	156
All Others	5	7	1	7	0	20

U.S. Department of Transportation
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NTD Trespasser and Suicide Data and Trends

Rail Injuries	'17	'18	'19	'20	'21*	Total
Reported as Suicide	57	40	61	53	45	256
Customers	39	27	49	36	34	185
Pedestrians crossing tracks in crosswalks	1	0	0	3	0	4
Pedestrians crossing tracks, not in crosswalks	1	0	0	0	0	1
Pedestrians walking along ROW	0	1	0	1	2	4
Other Pedestrians	16	12	12	13	9	62
All Others	0	0	0	0	0	0

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NTD Trespasser and Suicide Data and Trends

Rail Injuries	'17	'18	'19	'20	'21*	Total
Reported as Trespasser	12	3	8	7	18	48
Customers	0	1	0	1	0	2
Employees/Contractors	1	1	2	2	1	7
Bicyclists	1	1	1	0	1	4
Pedestrians crossing tracks, in crosswalks	2	1	2	2	4	11
Pedestrians crossing tracks, not in crosswalks	9	2	1	1	22	35
Pedestrians walking along ROW	9	25	44	53	20	151
Other Pedestrians	4	8	1	0	0	13
All Others	12	3	8	7	18	48

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