Overview of the Bus Safety Data Report and Rail Safety Data Report

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U.S. Department of Transportation
Federal Transit Administration

Meeting Purpose and Agenda

The purpose of this webinar is to share the findings and key takeaways of the 2008-2018 Bus Safety Data Report (BSDR) and 2007-2018 Rail Safety Data Report (RSDR), published by the Federal Transit Administration (FTA) on September 23, 2021.

Agenda

- Purpose and Uses of Safety Data Reports
- Background on Safety Data Report Publications and Common Features
- BSDR Background and Key Takeaways
- RSDR Background and Key Takeaways
- Question and Answer

Purpose of Safety Data Reports

FTA publishes the BSDR and RSDR to:

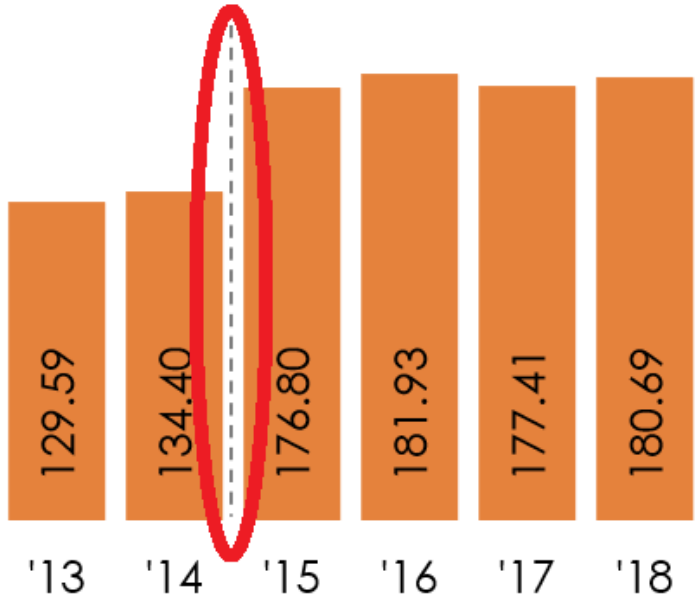
- Report transit safety performance data to the public, including:
  - Safety and security events along with resulting fatalities and injuries;
  - Industry-wide or mode-specific averages and totals; and
  - Trends in frequency of events by event categories.
- Identify areas for research, training, or assessment.
- Provide transit agencies with industry-wide context for safety performance management and targeting activities, including:
  - Performance measurement methodologies;
  - Safety performance context to identify safety performance measures;
  - Safety performance target-setting processes.

FTA previously published the RSDR in 2016 and 2018, and the BSDR in 2018.

Safety Data Reports – Reporting Changes

Note:

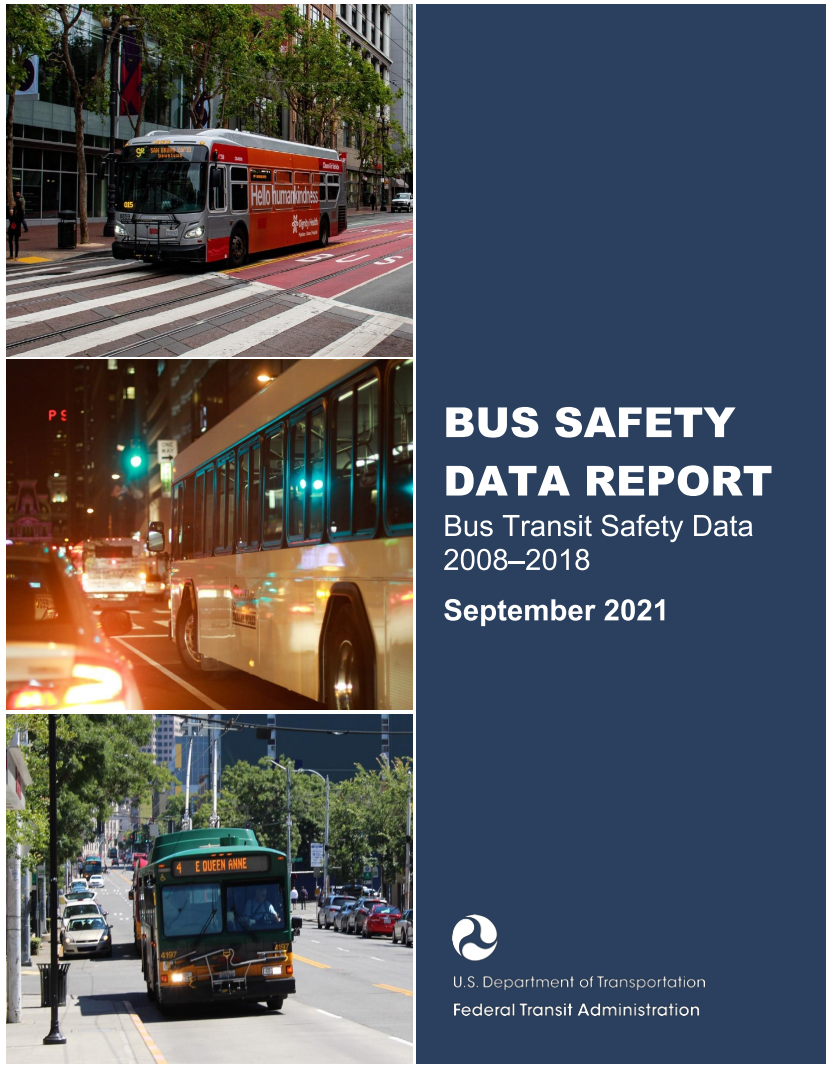
- Changes in reporting requirements may impact data.
- Safety Data Reports use dashed vertical lines to indicate where changes to reporting criteria or data categorization may impact trends.
- Reports provide explanations of changes in reporting.



*	Avg†	Trend
.7	150.1	

BSDR Overview

- Analyzed period: **2008–2018**
- Data sources:
  - National Transit Database (NTD) safety and security module
  - NTD annual service data
- Events, fatalities and injuries analyzed by:
  - Mode
  - Event Type
  - Security Event Type
  - Collision Type
  - Person Type (fatalities and injuries)



BSDR Data Reporting – NTD Reporters

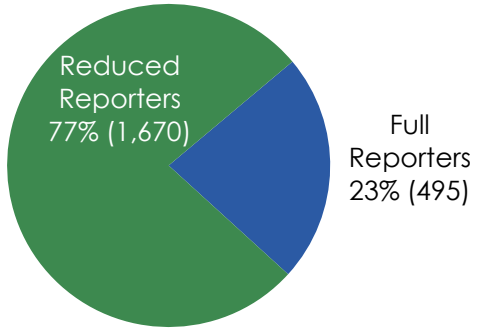
Full Reporters

Reduced Reporters

Reduced Reporters accounted for

77%

of transit agencies in **2018**

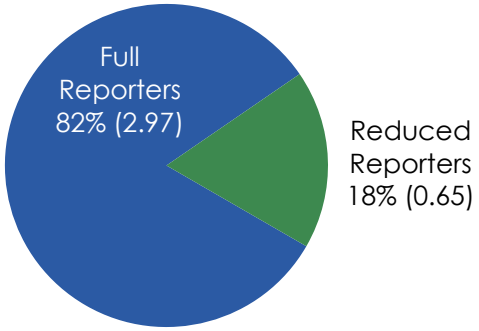


(# of unique NTD reporters)

Full Reporters provided

82%

of transit service in **2018**

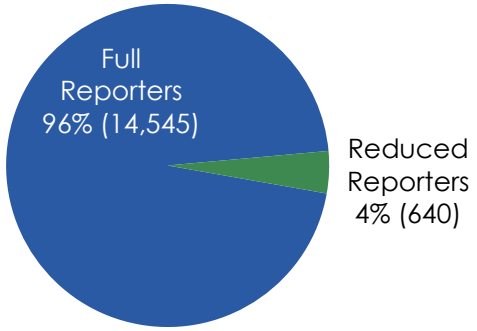


(billions of vehicle revenue miles)

Full Reporters reported

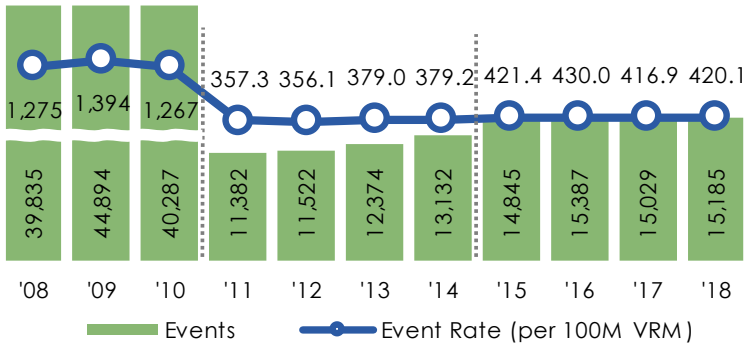
96%

of transit events in **2018**



(# of reportable events)

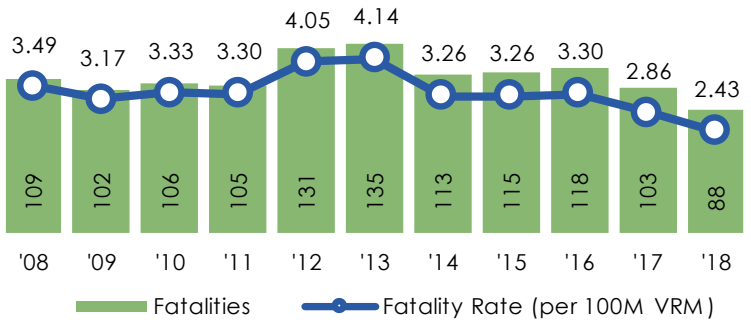
BSDR – Key Takeaways (Overview)



Reportable events per 100M VRM* **increased**

3.7%

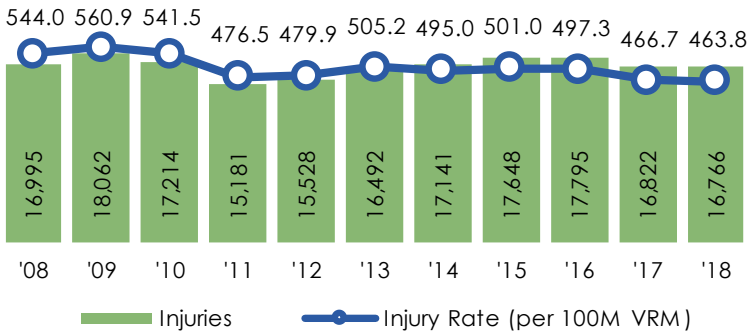
per year on average between 2011 and 2018**



Fatalities per 100M VRM **decreased**

1.9%

per year on average between 2008 and 2018



Injuries per 100M VRM **decreased**

0.1%

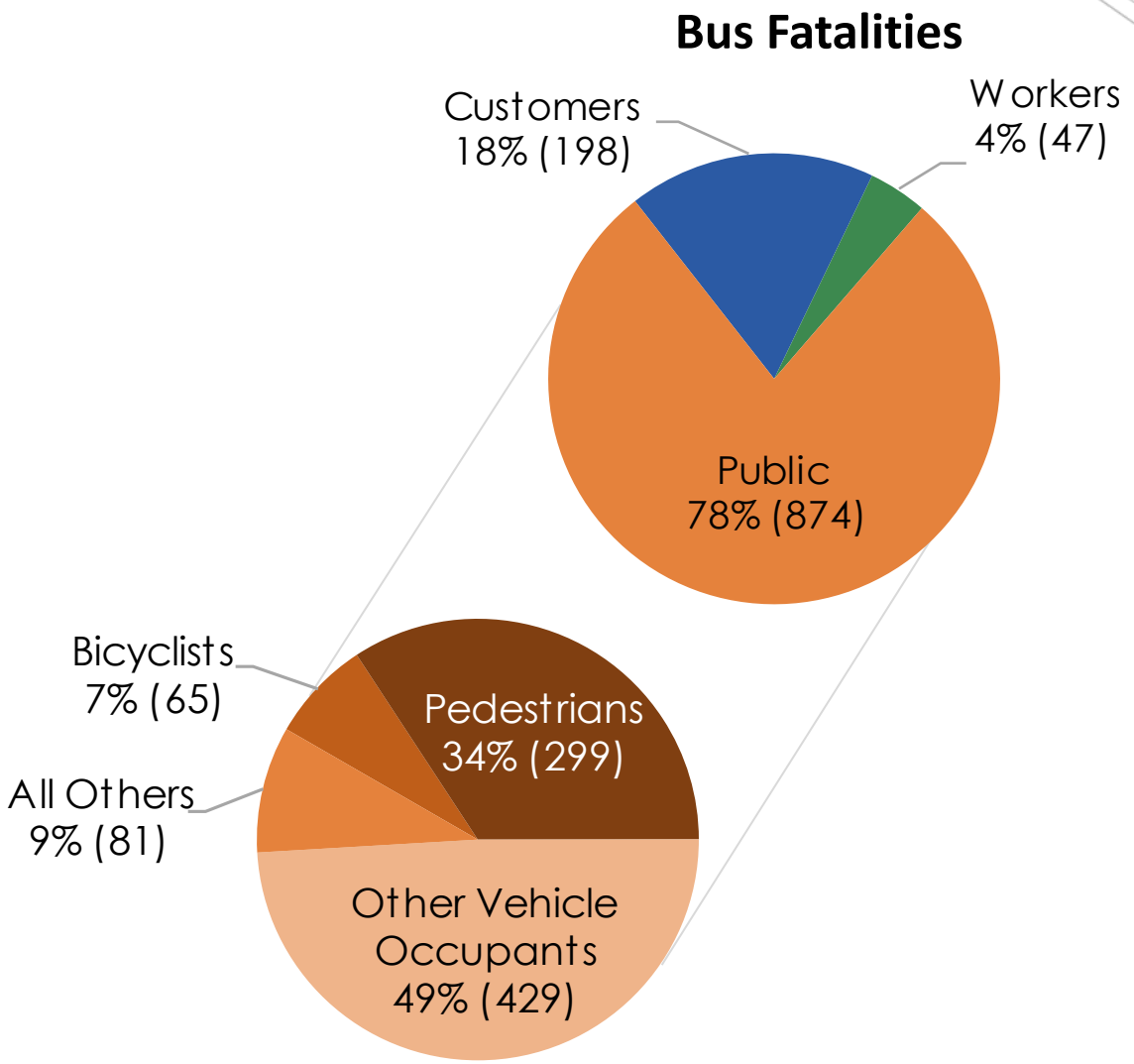
per year on average between 2008 and 2018

*Vehicle Revenue Miles

**Prior to 2011, FTA stopped collecting non-major security event data, reducing the number of reportable events.

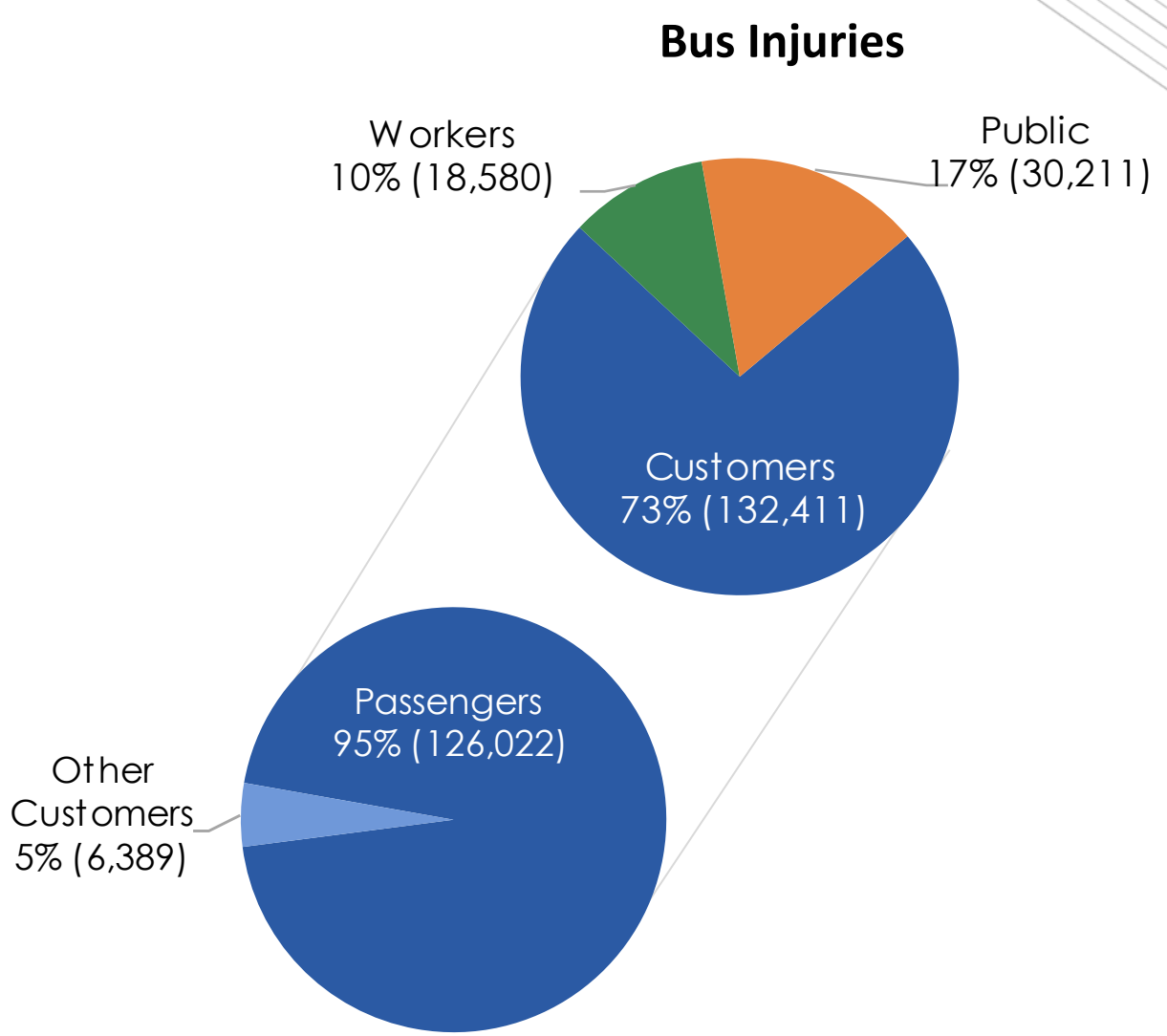
BSDR – Key Takeaways (Fatalities)

- Most 2008-2018 bus transit fatalities were members of the public—not customers or workers
- Occupants of private motor vehicles accounted for more fatalities than any other person type
- Pedestrians accounted for second-most number of fatalities, then customers, then bicyclists, then workers



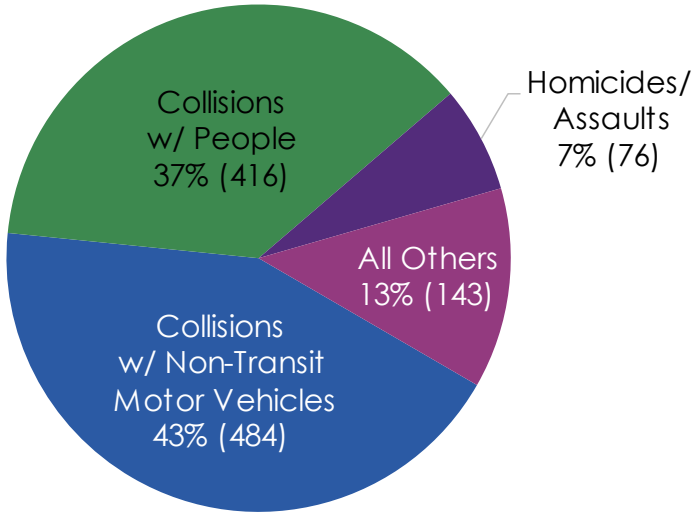
BSDR – Key Takeaways (Injuries)

- Most 2008-2018 bus transit injuries were transit customers
- Passengers onboard buses accounted for most bus transit injuries
- Members of the public accounted for second most bus transit injuries, then workers, then customers not on buses



BSDR – Key Takeaways (Events)

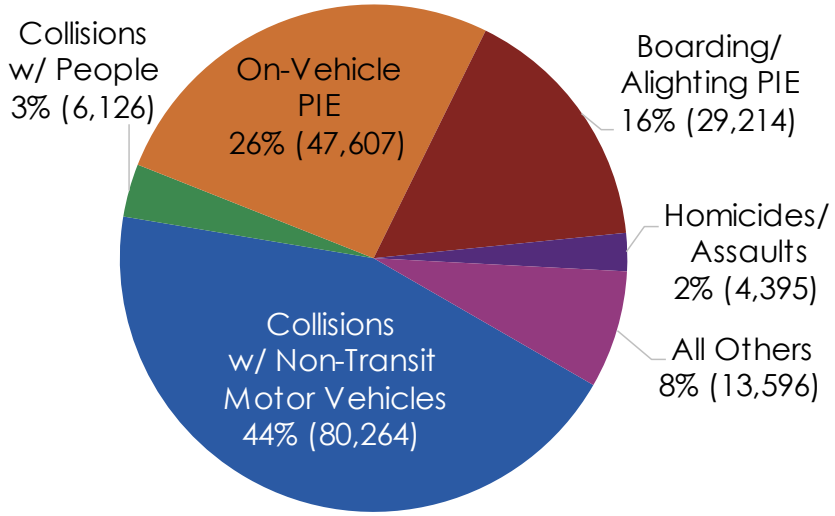
Fatalities, 2008–2018



Events that result in most **fatalities:**

1. Collisions with non-transit motor vehicles (POV)
2. Collisions with people
3. Homicides

Injuries, 2008–2018



Events that result in most **injuries:**

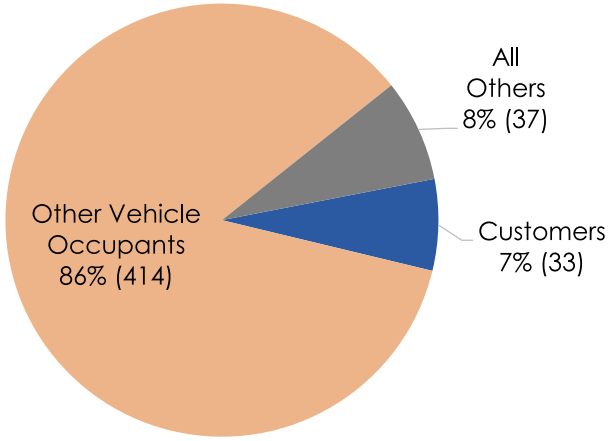
1. Collisions with POV
2. Personal injury events (PIE) on buses
3. PIE while boarding or alighting buses

BSDR – Collisions with Privately-Owned Vehicles

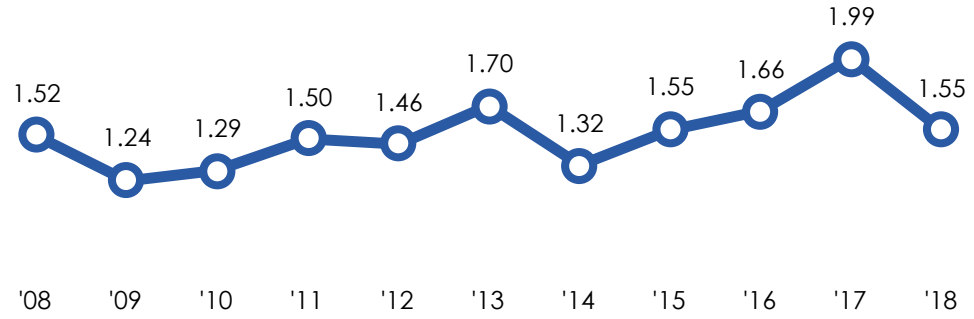
Fatalities

(**#1** source, 2008—2018)

Distribution by Person Type

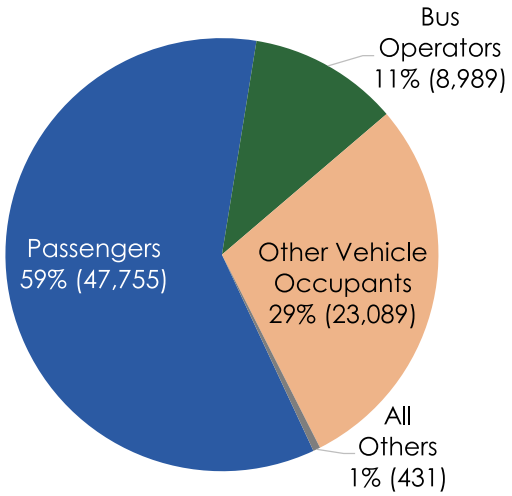


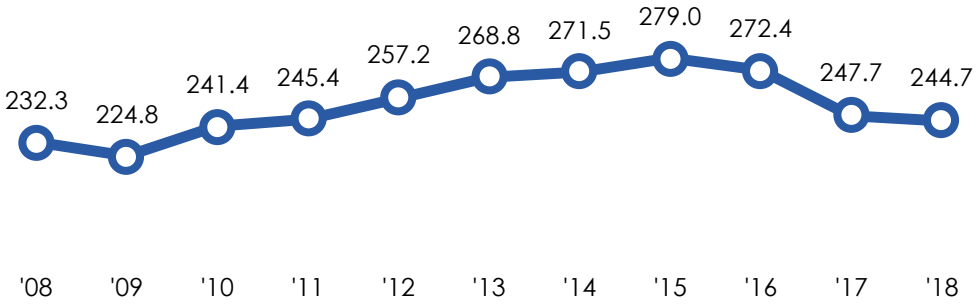
Annual Rate (per 100M VRM) Trend



Injuries

(**#1** source, 2008—2018)



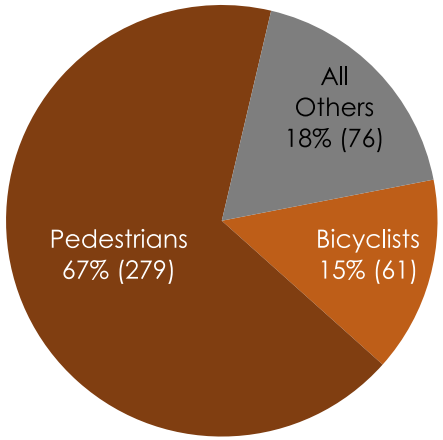


BSDR – Collisions with People

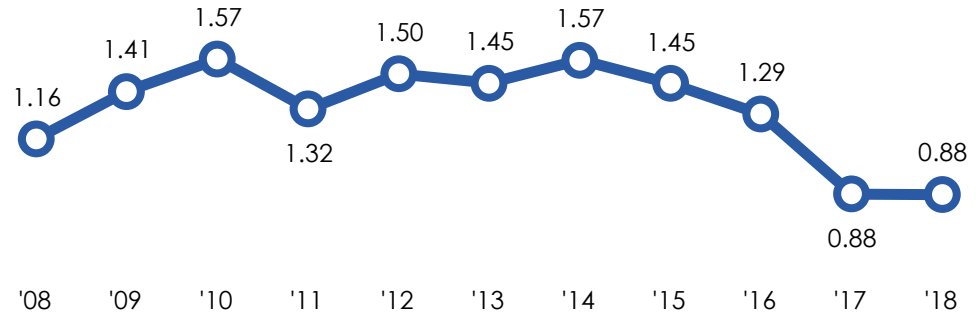
Fatalities

(**#2** source, 2008—2018)

Distribution by Person Type

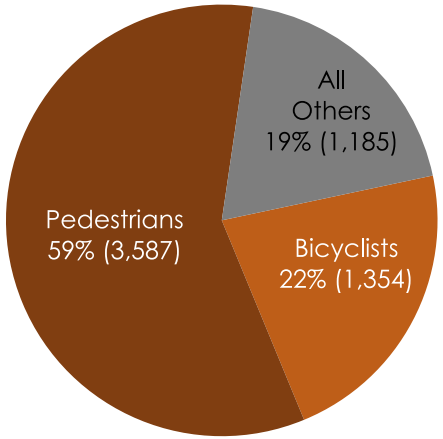


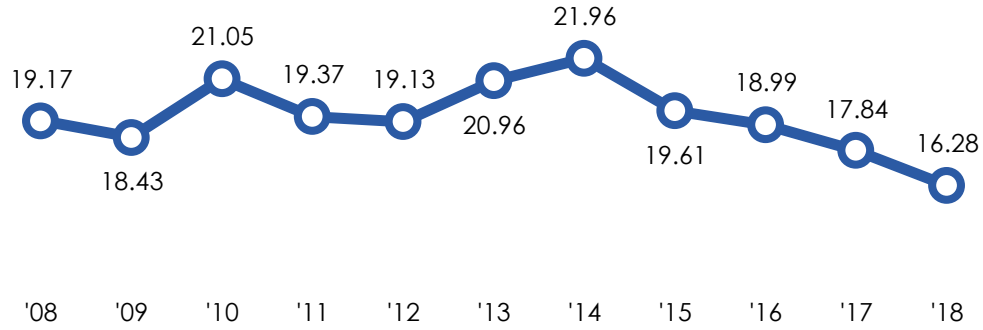
Annual Rate (per 100M VRM) Trend



Injuries

(**#4** source, 2008—2018)



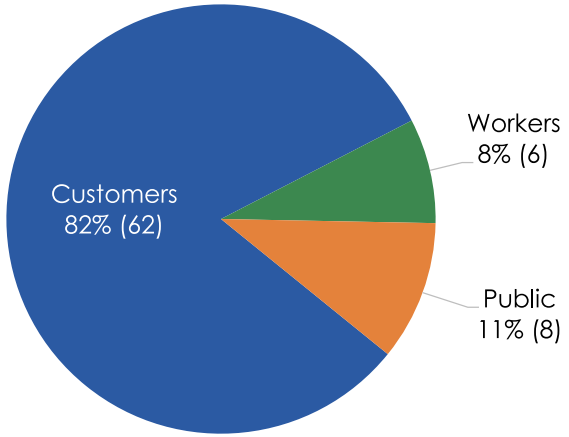


BSDR – Homicides and Assaults

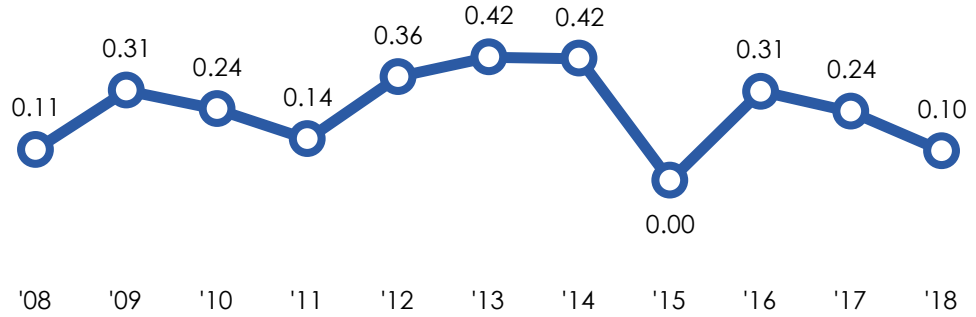
Fatalities

(**#3** source, 2008—2018)

Distribution by Person Type

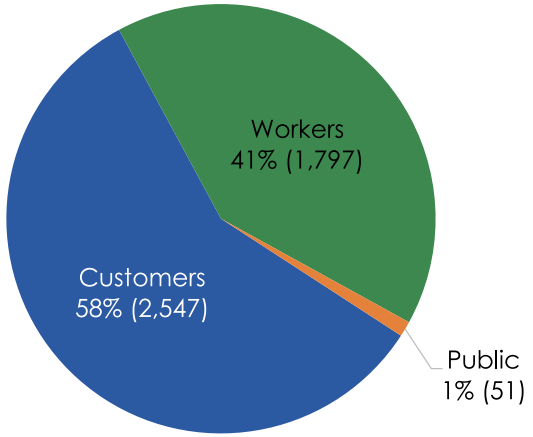


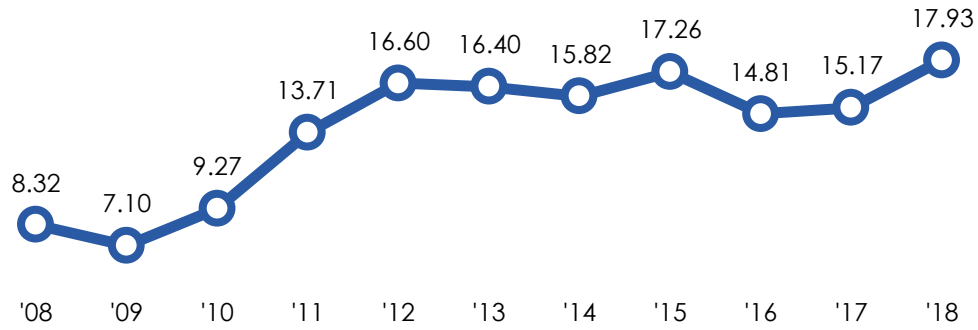
Annual Rate (per 100M VRM) Trend



Injuries

(**#5** source, 2008—2018)



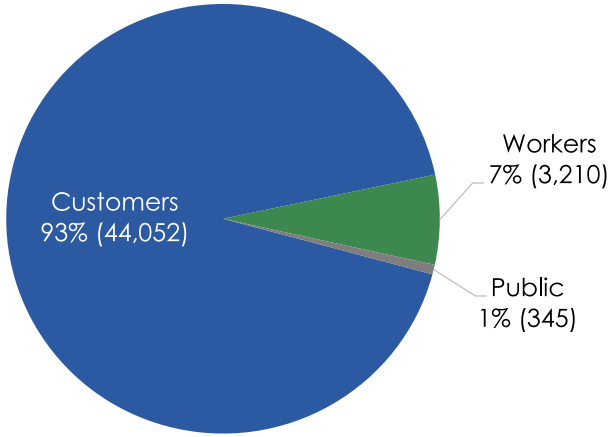


BSDR – Personal Injury Events

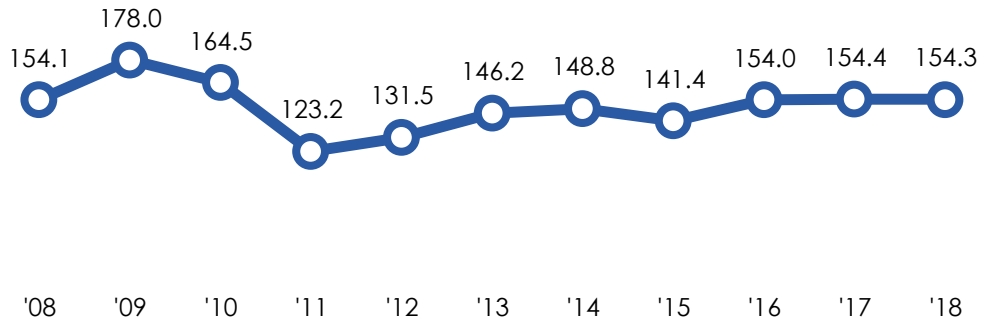
On-Vehicle Injuries

(**#3** source, 2008—2018)

Distribution by Person Type

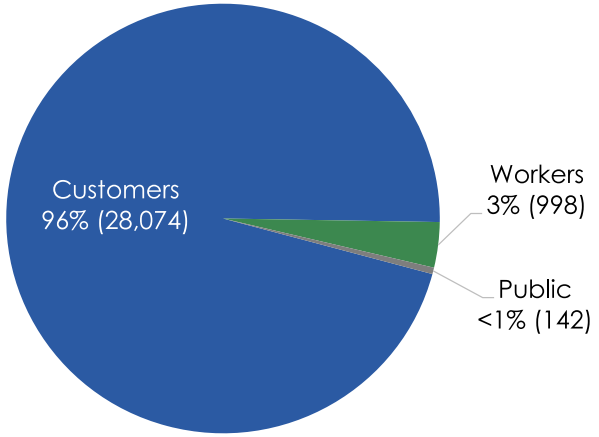


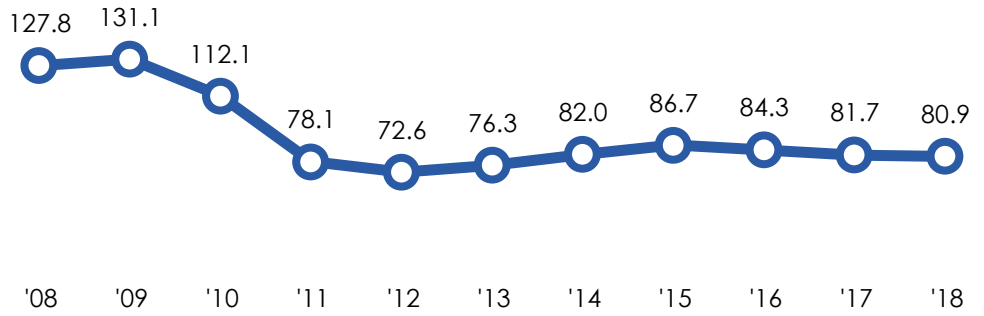
Annual Rate (per 100M VRM) Trend



Boarding/ Alighting Injuries

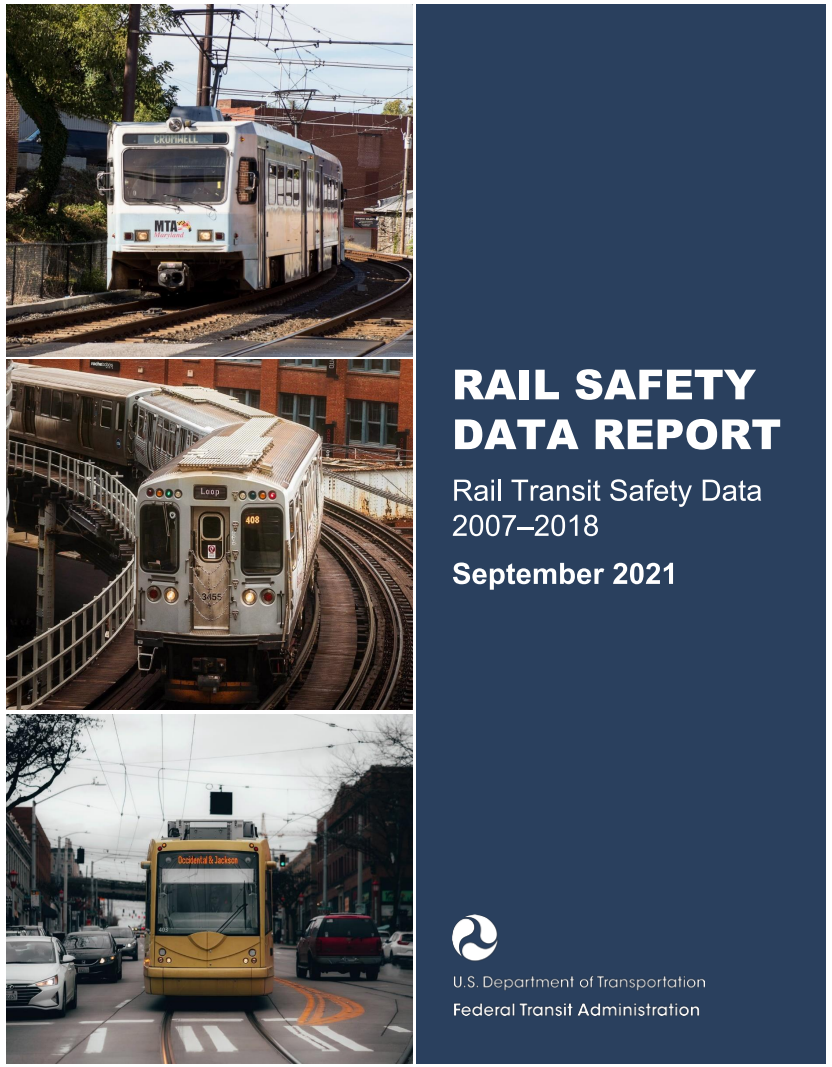
(**#5** source, 2008—2018)





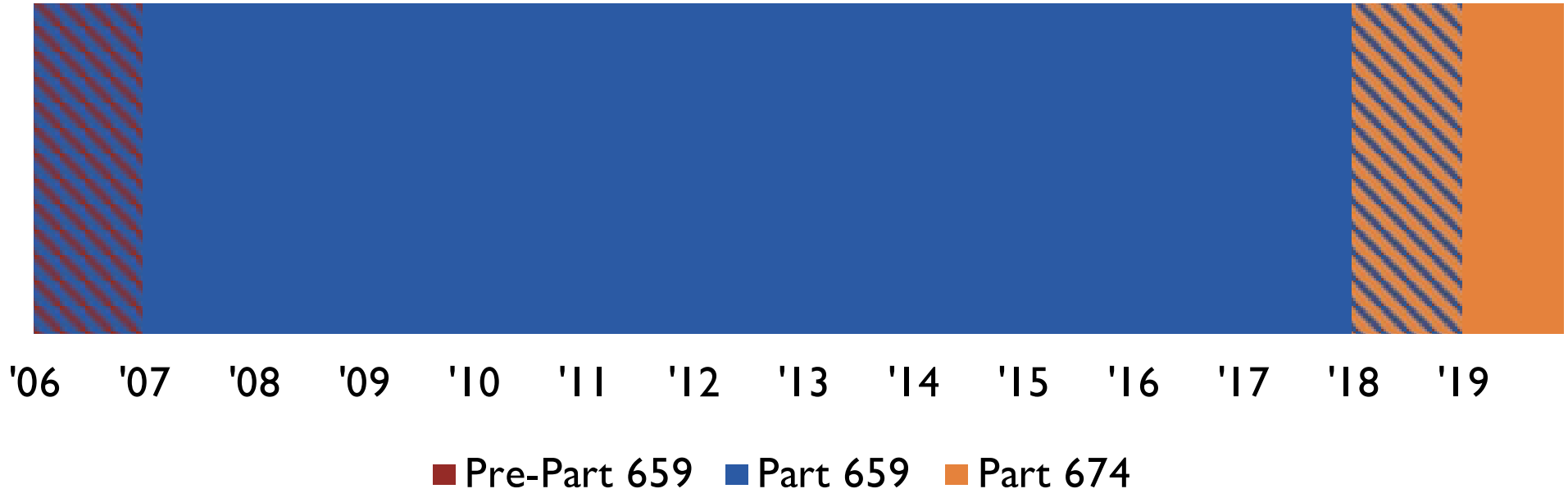
RSDR Overview

- Analyzed period: **2007–2018**
- Data sources:
  - State Safety Oversight Agency (SSOA) annual event reporting
  - NTD annual service data
- Events, fatalities and injuries analyzed by:
  - Mode
  - Event Type
  - Probable Cause
  - Mode and Collision Type
  - Person Type (fatalities and injuries)

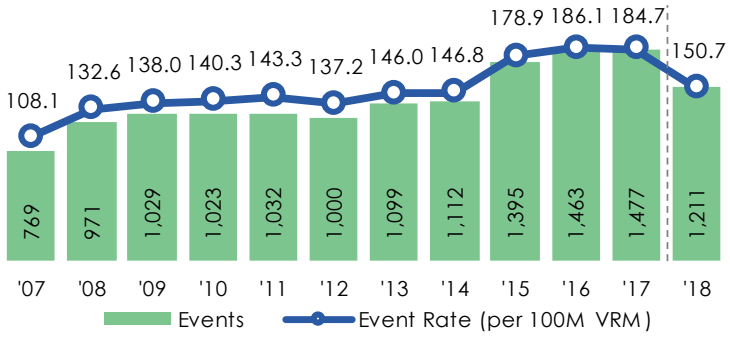


RSDR Data Reporting – 2018 Transition

- **Through 2017:** Events meeting Part 659 thresholds reported by SSOAs
- **2018:** SSOAs continue reporting events, begin shift to Part 674 thresholds
- **2019 & Forward:** NTD-State Safety Oversight (SSO) Reporting integration – Rail agencies report events to NTD, SSOAs report investigation results (cause) through SSO Reporting tool.



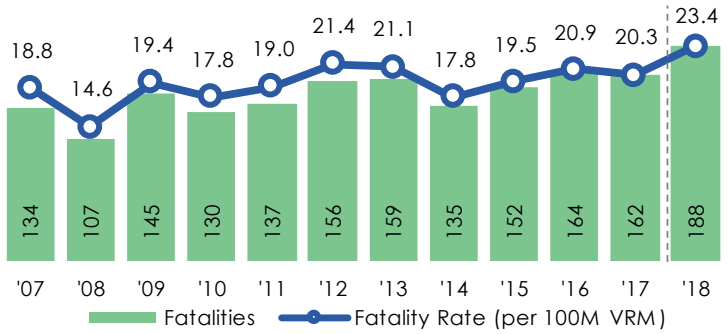
RSDR – Key Takeaways (Overview)



Reportable events per 100M VRM **increased**

6.7%

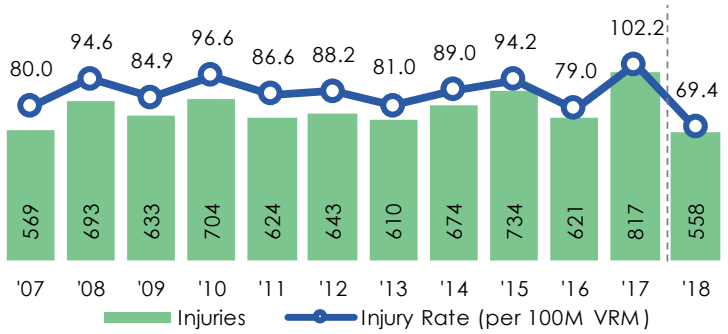
per year on average between 2007 and 2017*



Fatalities per 100M VRM **increased**

1.9%

per year on average between 2007 and 2017*



Injuries per 100M VRM **increased**

3.7%

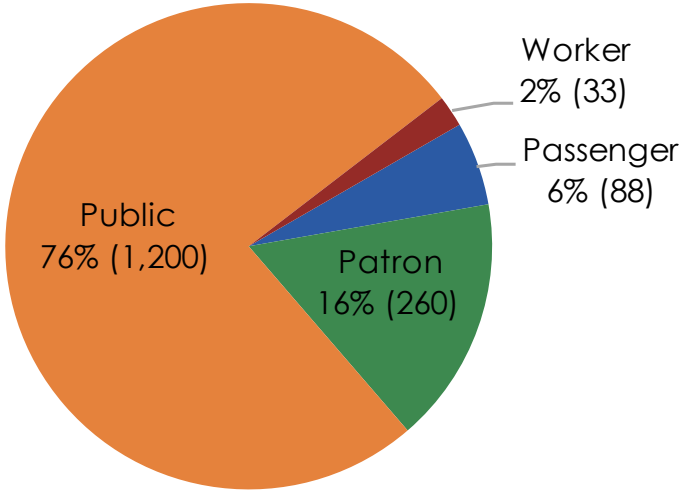
per year on average between 2007 and 2017*

*Data from 2018 includes both events reported under Part 659 and Part 674 thresholds. Due to this transition in reporting criteria, data tallies from 2018 are not comparable to previous years.

RSDR – Key Takeaways (Fatalities)

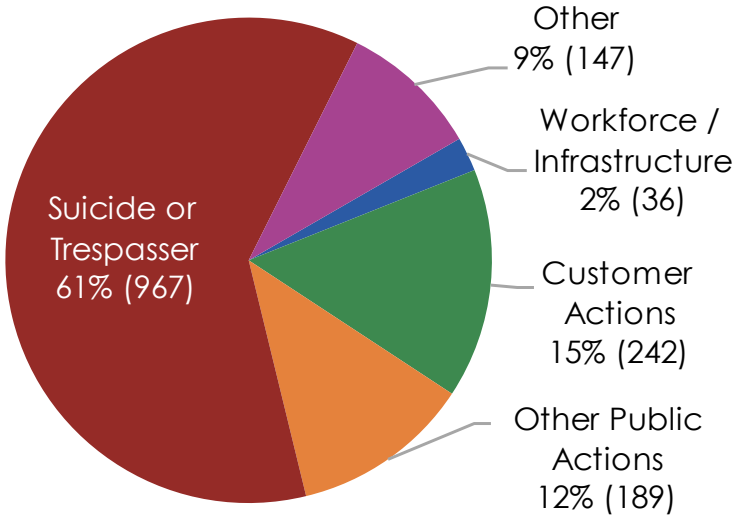
Fatalities by Person Type, 2007—2017*

- Most rail transit fatalities were members of the public—not customers or workers.
- Customers (passengers and patrons) accounted for next highest number of fatalities in the eleven-year period—most were patrons.



Fatalities by Probable Cause, 2007—2017*

- Suicides and trespassing caused majority of fatalities.
- After suicides and trespassing, customers and the public (such as drivers and pedestrians) caused next-highest number of rail fatalities.

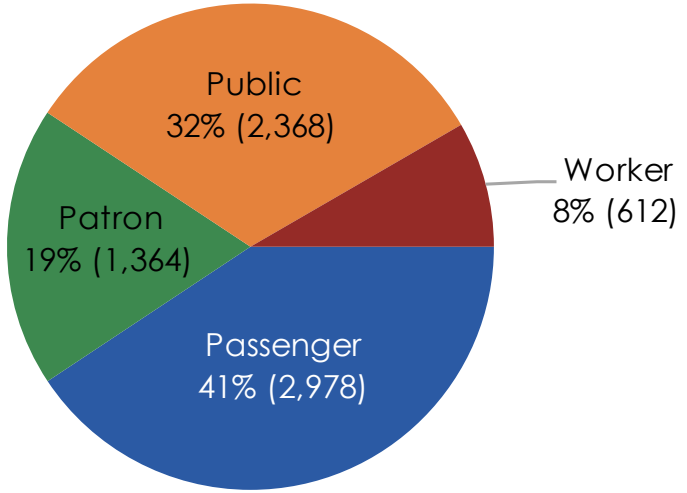


*Data from 2018 includes both events reported under Part 659 and Part 674 thresholds. They are not comparable with previous years and have been excluded from these analyses.

RSDR – Key Takeaways (Injuries)

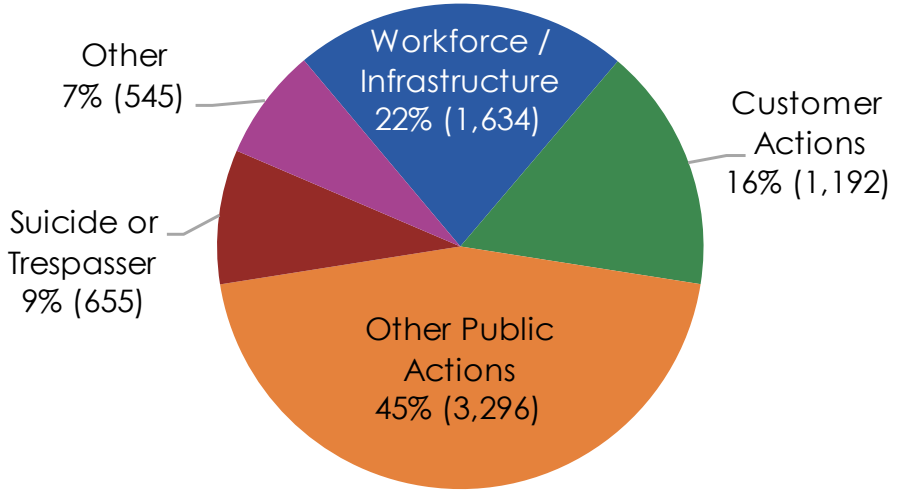
Injuries by Person Type, 2007—2017*

- Majority rail transit injuries were customers—about 2/3rds passengers on trains, 1/3rd patrons in stations.
- After customers, members of the public accounted for next highest number of reported injuries.



Injuries by Probable Cause, 2007—2017*

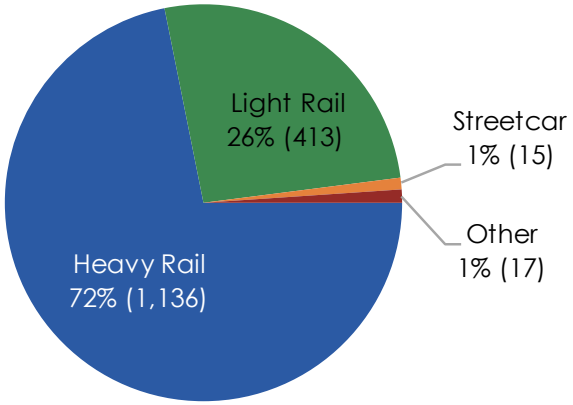
- "Other" public actions (such as motorist and pedestrian actions) caused 45% of reported injuries.
- Second-most common cause of injuries was workforce actions and infrastructure issues.



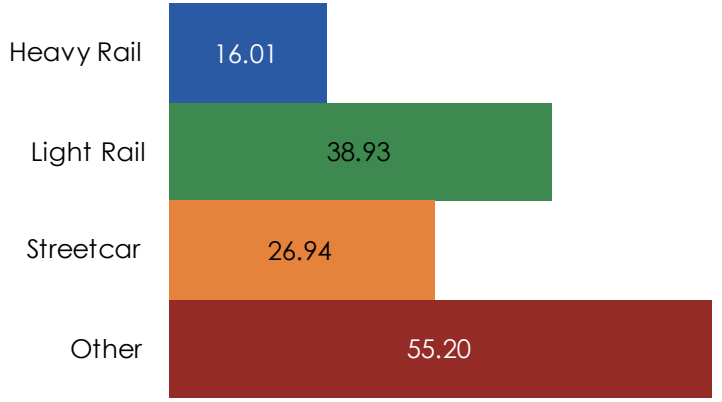
*Data from 2018 includes both events reported under Part 659 and Part 674 thresholds. They are not comparable with previous years and have been excluded from these analyses.

RSDR – Key Takeaways (Modal Rates)

Fatalities, 2007-2017 Total



Fatality Rate, 2007-2017 Total



Heavy Rail: Higher service levels, higher ridership, lower exposure to road vehicles and pedestrians

- **Higher** fatality **count,** but **lower** fatality **rate** than light rail and streetcar

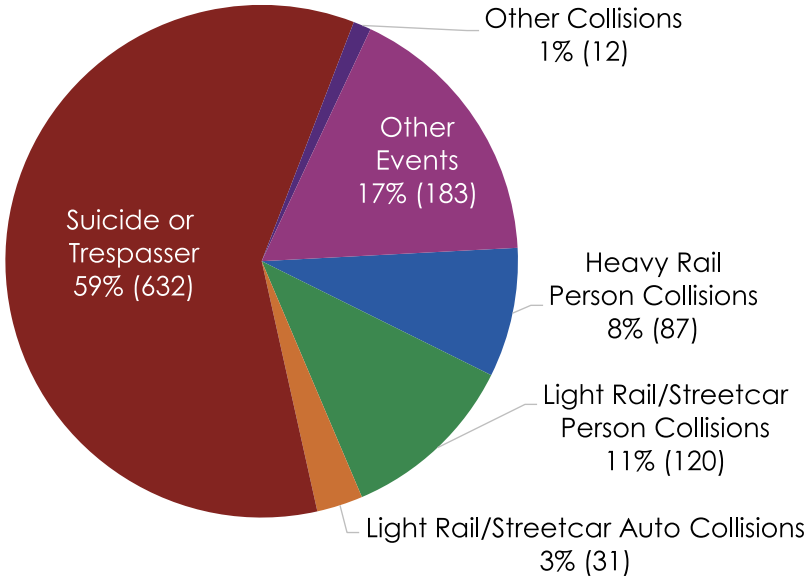
Light Rail & Streetcar: Lower service levels and ridership, higher exposure to road vehicles and pedestrians

- **Lower** fatality **counts,** but **higher** fatality **rates** than heavy rail

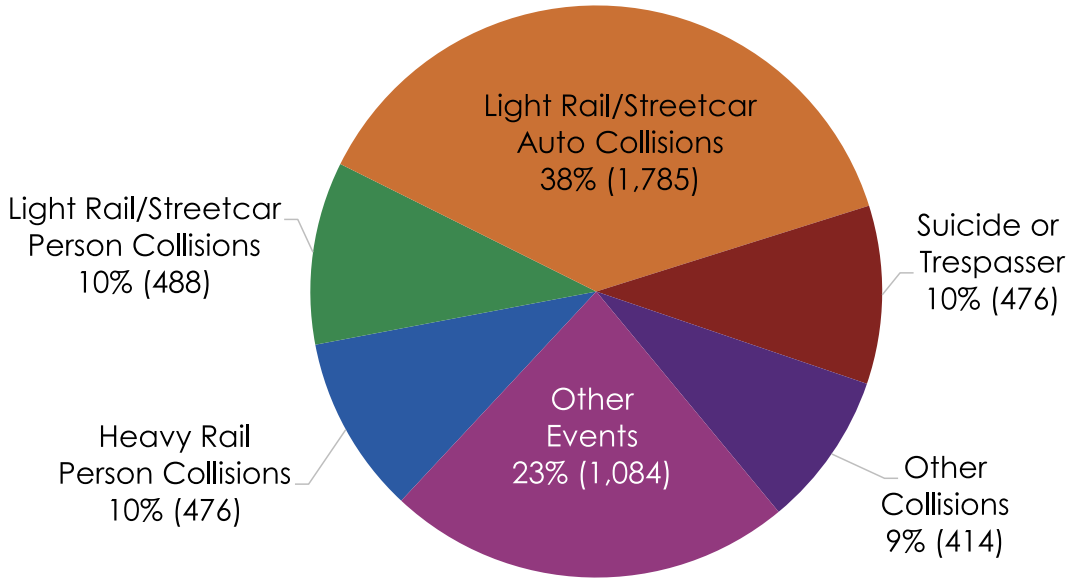
*Data from 2018 includes both events reported under Part 659 and Part 674 thresholds. They are not comparable with previous years and have been excluded from analyses.

RSDR – Key Takeaways (Event Types)

Fatalities, 2011–2017*



Injuries, 2011–2017*



Events that result in most **fatalities:**

1. Suicides and trespasser events
2. Light rail / streetcar (LR/SR) collisions with people
3. Heavy rail collisions with people
4. LR/SR collisions with autos

Events that result in most **injuries:**

1. LR/SR collisions with autos
2. LR/SR collisions with people
3. Heavy rail collisions with people
4. Suicides and trespasser events

*FTA did not collect detailed collision data necessary for these analyses prior to 2011, and data from 2018 includes both events reported under Part 659 and Part 674 thresholds. Those years have been excluded from these analyses.

RSDR – Suicides and Trespasser Events

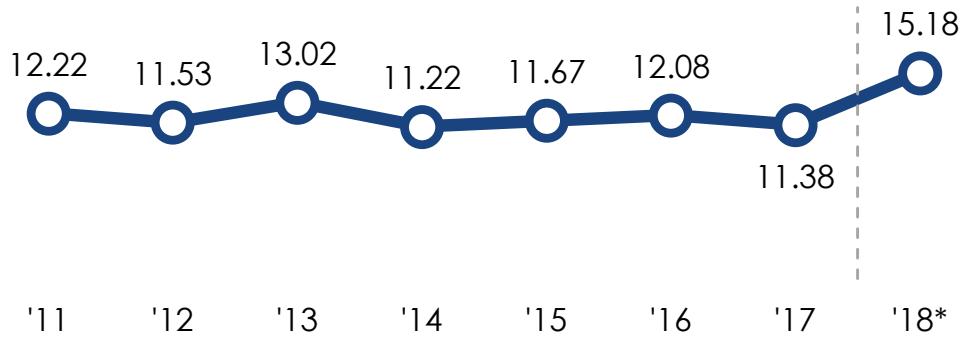
Total Count

Annual Rate (per 100M VRM) Trend

Fatalities

(**#1** source, 2007—2017)

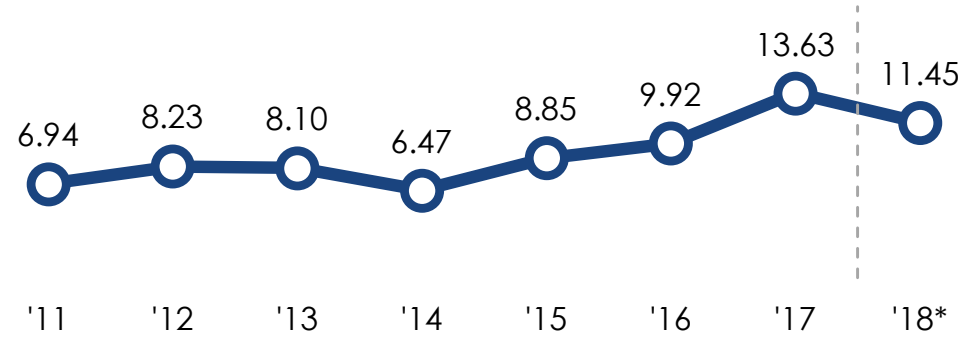
632



Injuries

(**#4** source, 2007—2017)

476



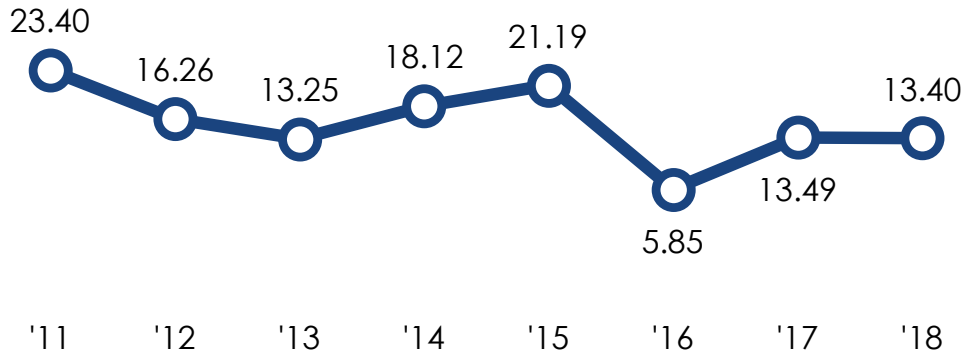
RSDR – Light Rail/Streetcar Collisions with People*

Total Count

Annual Rate (per 100M VRM) Trend

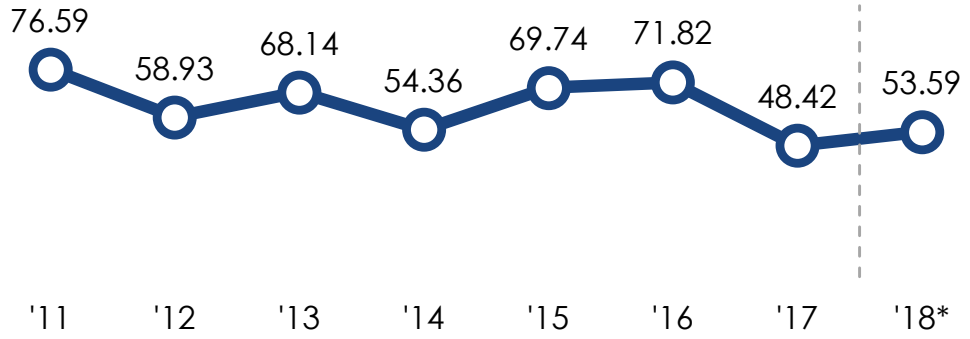
Fatalities

(**#2** source,
2007—2017)



Injuries

(**#2** source,
2007—2017)



*Non-suicide events

RSDR – Heavy Rail Collisions with People*

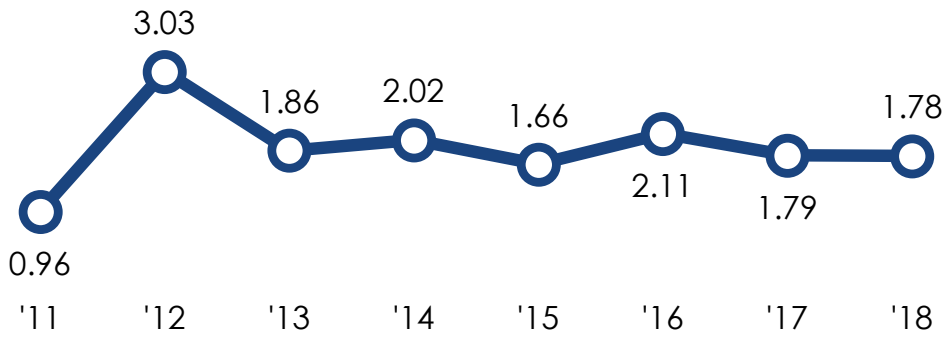
Total Count

Annual Rate (per 100M VRM) Trend

Fatalities

(**#3** source, 2007—2017)

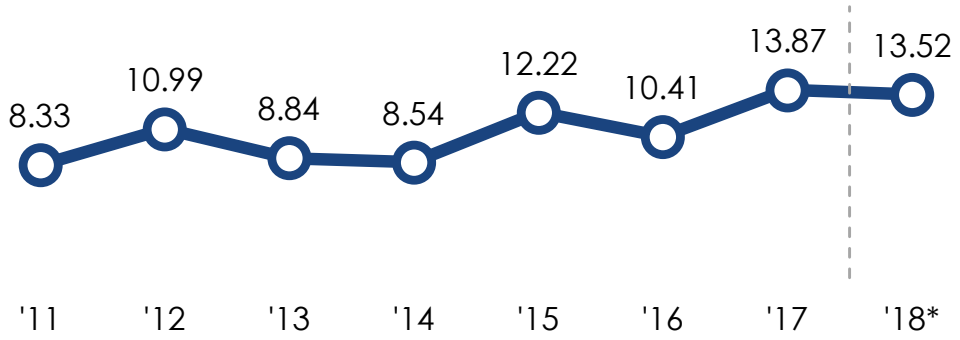
87



Injuries

(**#3** source, 2007—2017)

476



*Non-suicide events

RSDR – Light Rail/Streetcar Collisions with Autos

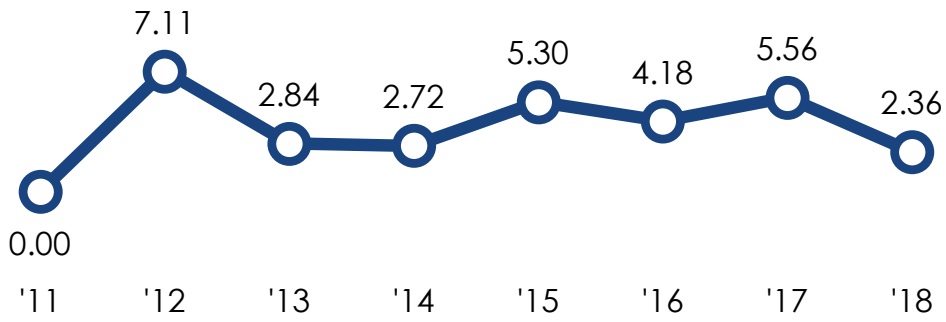
Total Count

Annual Rate (per 100M VRM) Trend

Fatalities

(**#4** source, 2007—2017)

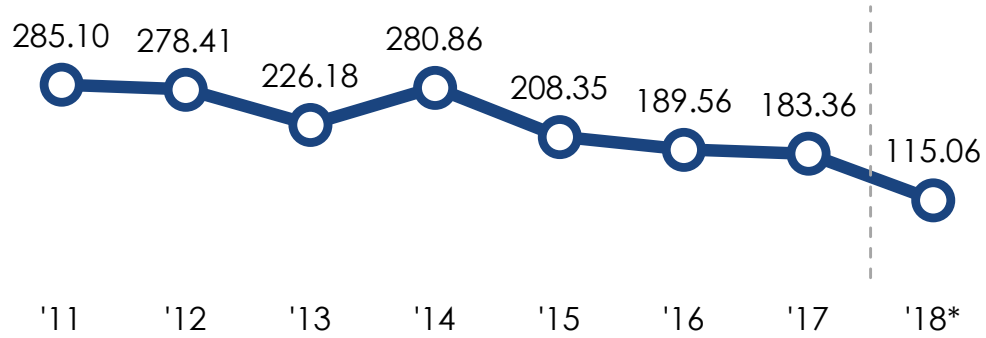
31



Injuries

(**#1** source, 2007—2017)

1,785



Questions?

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