



Grade Crossing Project Planning Tools

August 9, 2018



FRA's Approach to Grade Crossing Safety

2018 Rail Program Delivery Webinar Series
Grade Crossing Project Planning Tools

August 9, 2018

Our Focus

- **The mission of the Federal Railroad Administration (FRA)** is to enable the safe, reliable, and efficient movement of people and goods for a strong America, now and in the future.
 - Safety is our number one priority
 - We are laying a foundation for higher performing rail
 - Promulgating and enforcing rail safety regulations
 - Investing in America's rail corridors
 - Facilitating and conducting research and technology development
- **Vision: RAIL – *Moving America Forward***

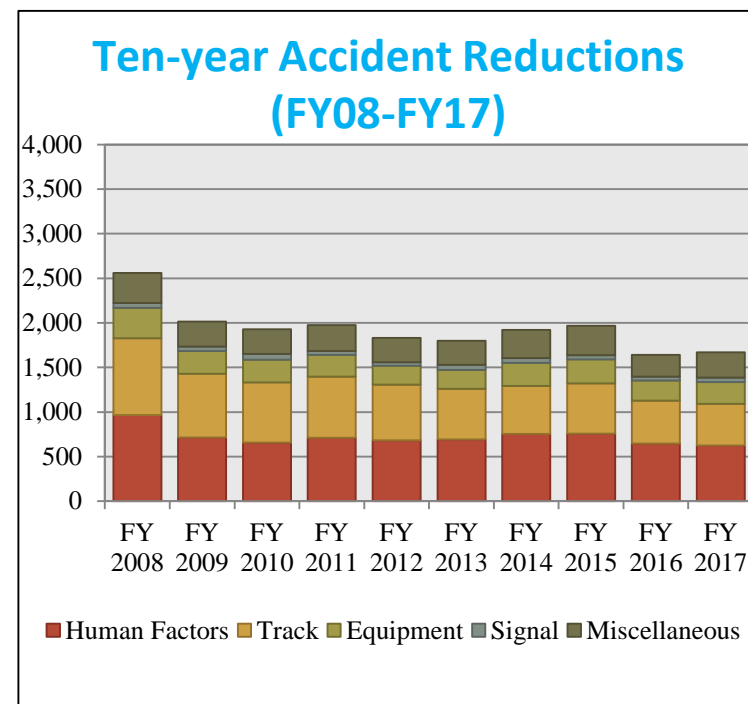


Safety is our number one priority

Rail Has Never Been Safer

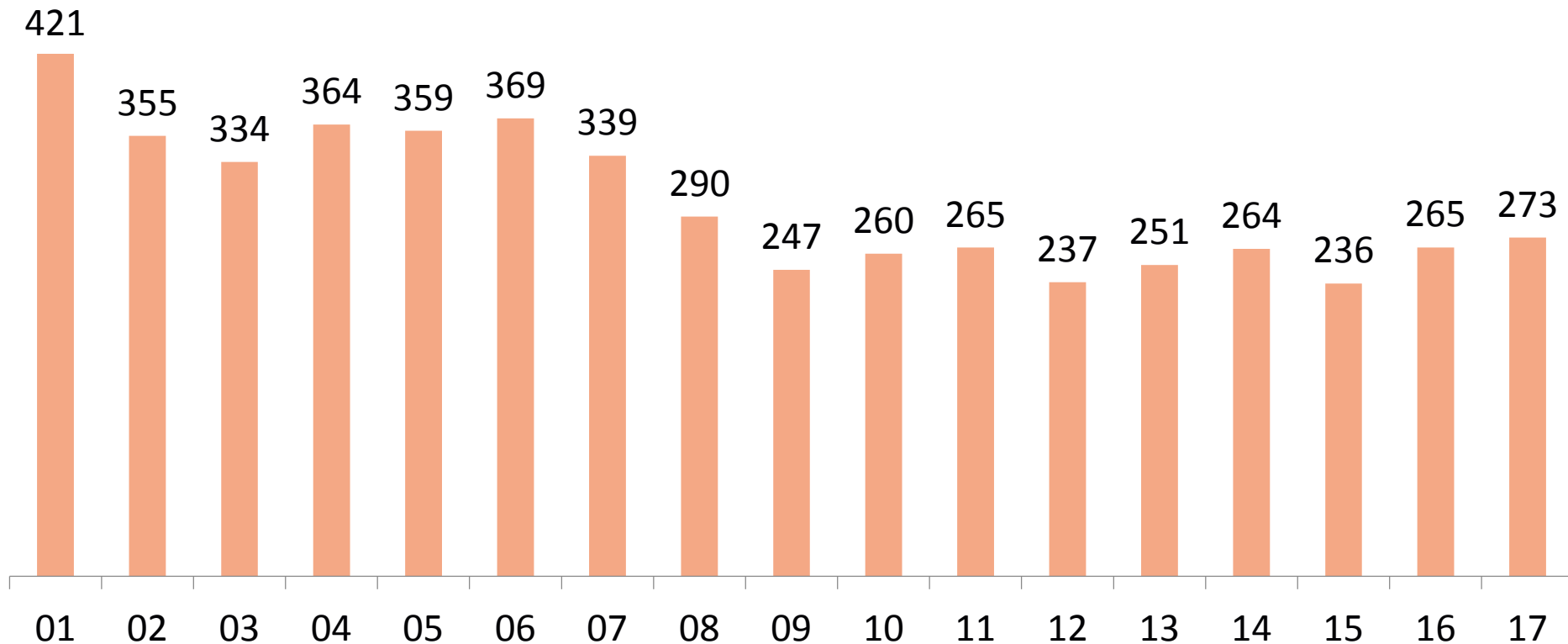
Every regulation and enforcement action we issue is based on facts and sound research.

- Over the past decade, train accidents have declined 41 percent
- Highway-rail grade crossing accidents are down 24 percent
- And employee fatalities have been reduced by 50 percent



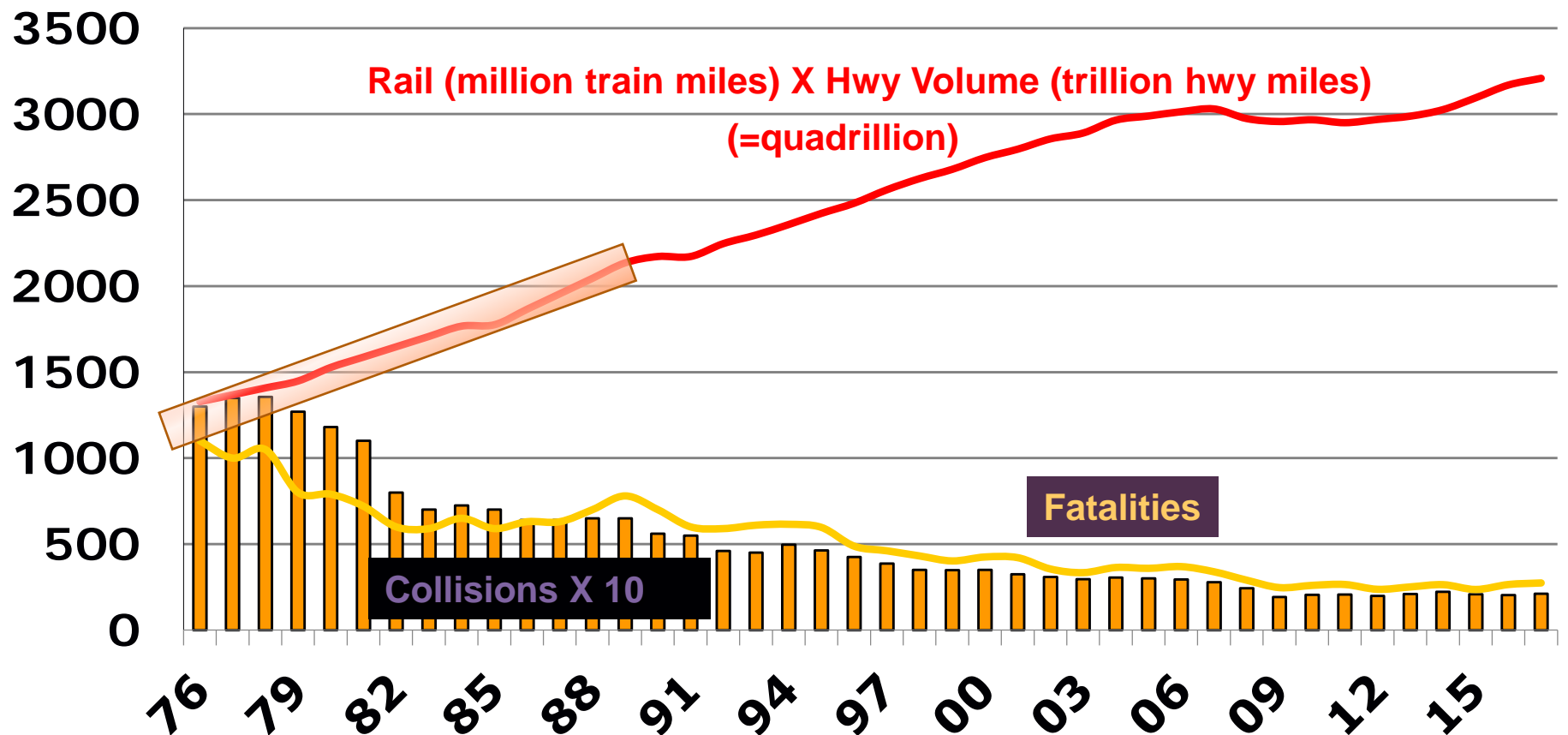
Trends in Fatalities At Grade Crossings, 2000 - 2017

4

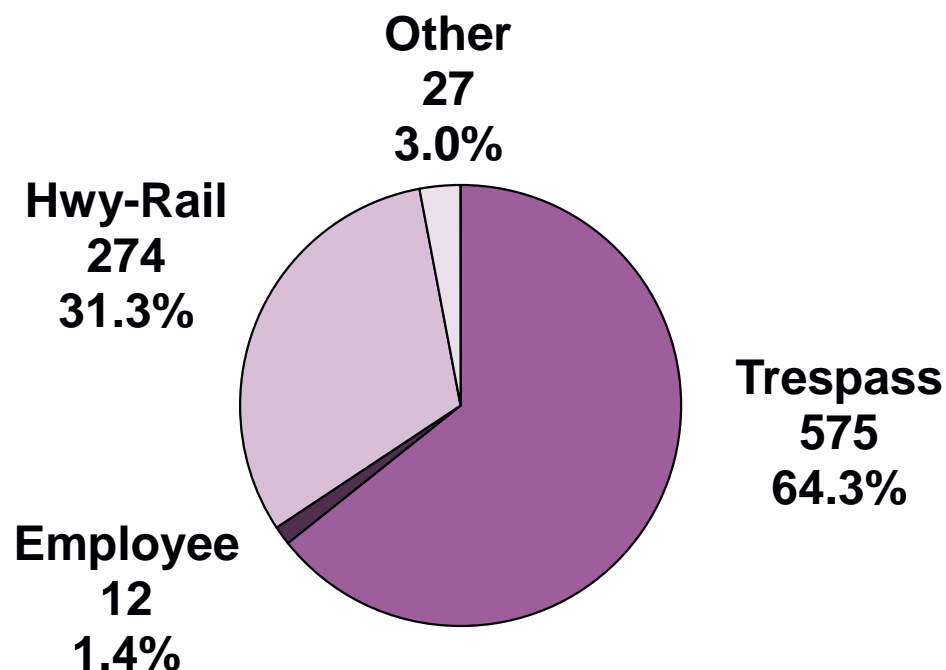


Collisions, Fatalities, and Exposure (1976-2017)

5



871* Rail-Related Fatalities in 2017



*** Does not include 209 suicide fatalities**

Crossing Collisions 2016 vs. 2017

7

	2016	2017	% Change
Collisions	2,042	2,106	+ 3.1%
Fatalities	255	273	+ 7.1%
Injuries	845	813	- 3.8%

*** Does not include 209 suicide fatalities**

Number of Crossings

As of March 2017

Crossing Type	How Many	% of Total
Total	249,947	100.0
Public at grade	127,789	51.2
Private at grade	79,084	31.7
Pedestrian at grade	2,927	1.2
Grade Separated (all)	39,672	15.9

Where Collisions Occur 2012 - 2017 (Public GX)

Device	# Collisions	% Collisions	% Xings (2016)
Gates	5811	52.5%	36.9%
Lights	1484	13.9%	14.2%
STOP	1197	10.8%	9.0%
Crossbucks	2174	19.7%	34.8%
Other	351	3.1%	5.2%

Type of Hwy Users in GX Collisions

10

Vehicle Type	2015	2016	2017
Auto	919	901	963
Truck-trailer	326	324	388
Truck	409	370	357
Pedestrian	151	176	172
Other motor vehicle	132	141	155
Van	71	49	63
Other	63	59	49
Bus	4	3	6

Close As Many Grade Crossings As Possible

11

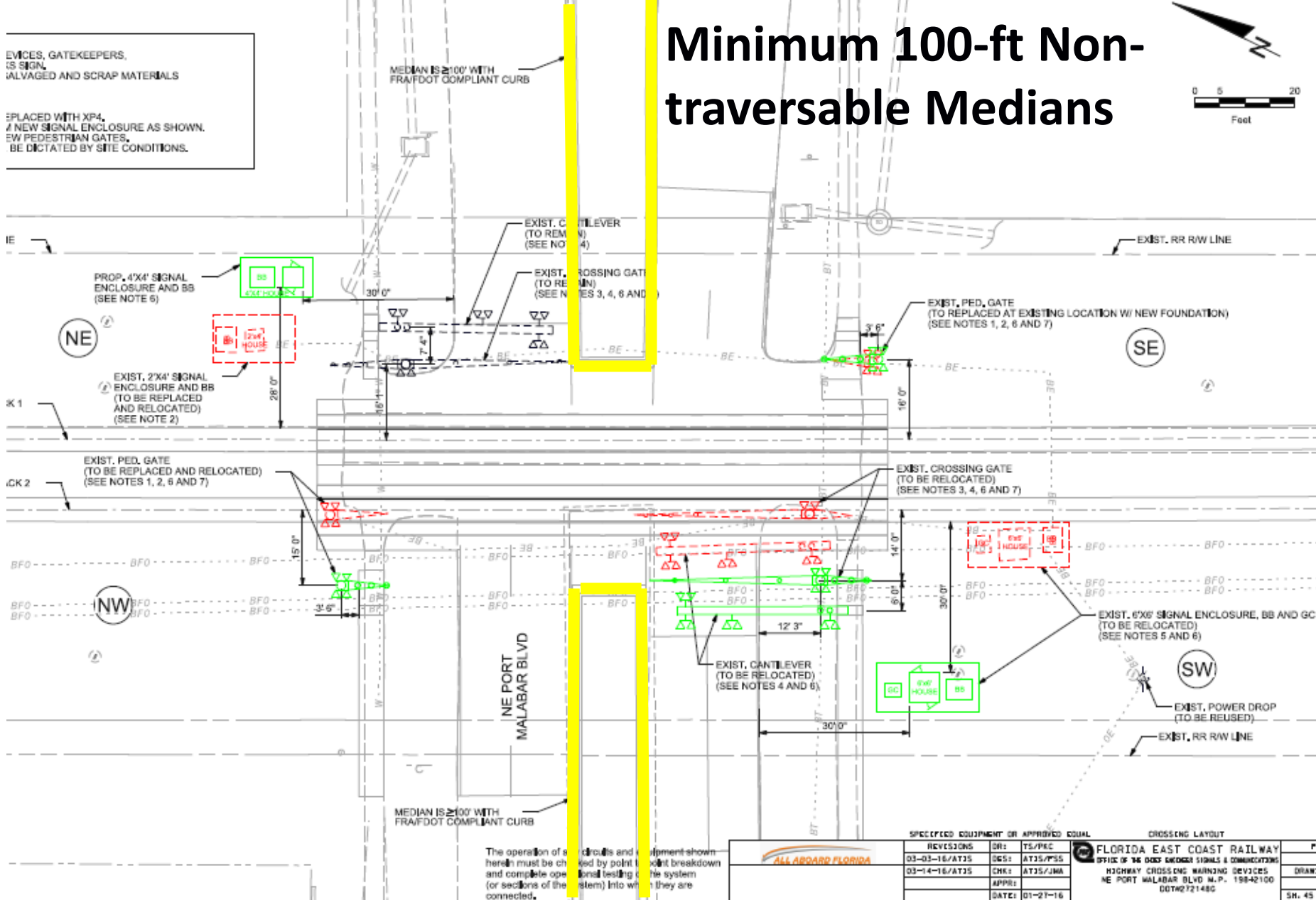


What does the FRA look for in crossing design??

- Non-traversable Medians
- 3 or 4 Quadrant Gates
- Gate orientation
- Cantilevers
- Preemption (Advanced or Simultaneous)
- Technologies (VPD, RHM)

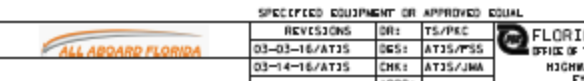
0 5 20
Feet

REPLACED WITH XP4.
A NEW SIGNAL ENCLOSURE AS SHOWN.
EW PEDESTRIAN GATES.
BE DICTATED BY SITE CONDITIONS.



[illegible]

3-Quad gates



Pedestrian Treatments



Railroad Preemption

17

- Simultaneous Preemption
- Advanced Preemption



**Pre-Signal
Queue-cutter**

Exit Gate Management System

18

Remote Health Monitoring



Cantilevers

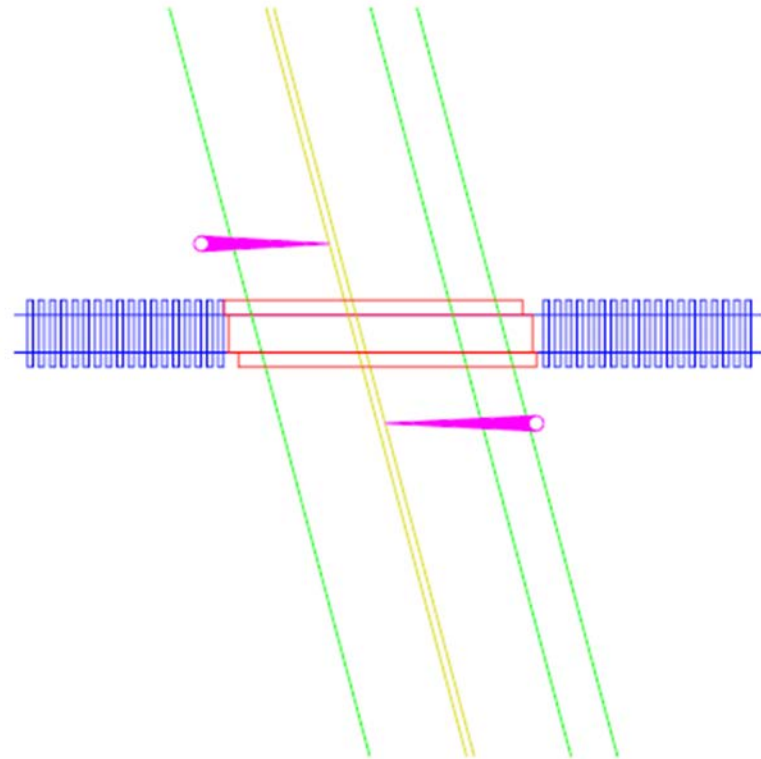
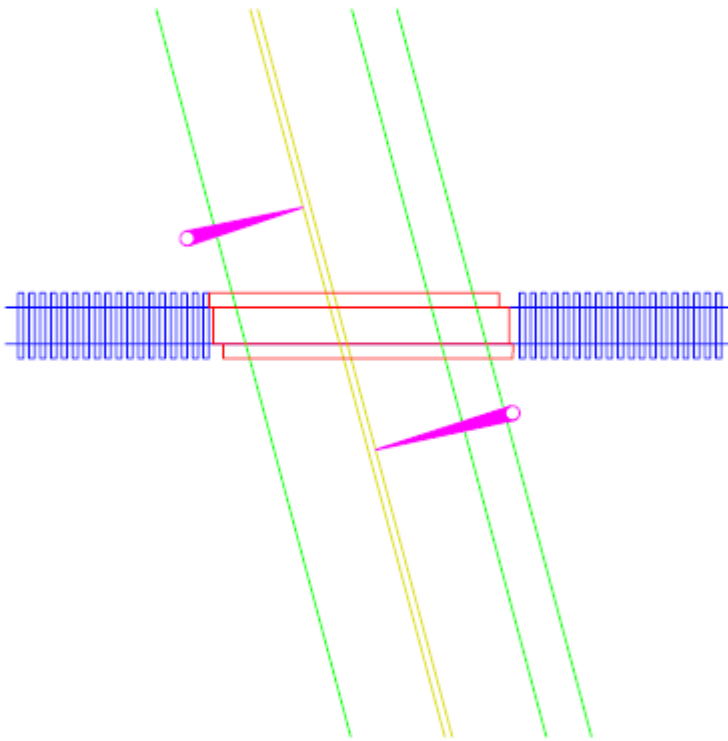
19



Skewed Crossings Acute Angled

20

AREMA Part 3.1.36B



The best grade crossings are...

21



Thank you!

Frank Frey

Frank.frey@dot.gov

202-738-2195



Introduction to *GX Dash!*

Debra Chappell,
Transportation Analyst at FRA

Agenda

- Background
- Features of *GX Dash!*
- Next Steps
- Questions

Background

What is *GX Dash!*?

- A different way to view existing data
- Information from the Office of Safety Analysis database
- Provides information for commonly asked questions from media, public inquiries
- Data timeframe: 2008-2018 (partial) – updated monthly
- Tableau software
- Located at <https://www.fra.dot.gov/gxdash>

Background

What is *GX Dash*!?

- Assists with programming needs
- Provides some supporting data for applications
- Assists with “getting in the weeds” of complex data mining
- Provides a more targeted view
- Assists with outreach efforts
- Answers questions from public, legislative entities, media, etc.

Live Demonstration

<https://www.fra.dot.gov/gxdash>

Questions?



Thank you!

Debra Chappell

Transportation Analyst

Debra.Chappell@dot.gov

202-493-6018

Extra Slides

In case of Internet failure



Highway-Rail Crossing Collisions 2008-2018 (Partial)

Years Displayed: All
Months Displayed: All
States Displayed: All

Collisions

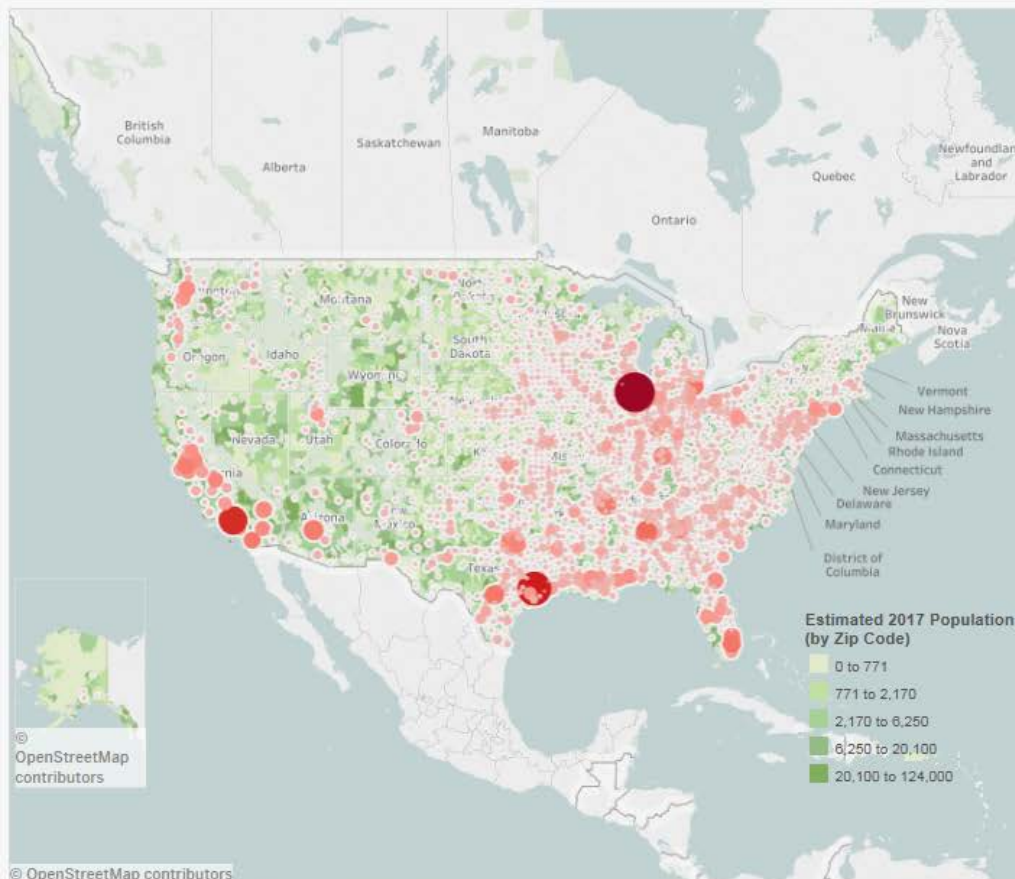
21,798

Injuries

9,448

Fatalities

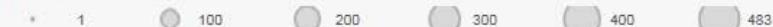
2,609



Severity of Collision (based on injuries and fatalities)

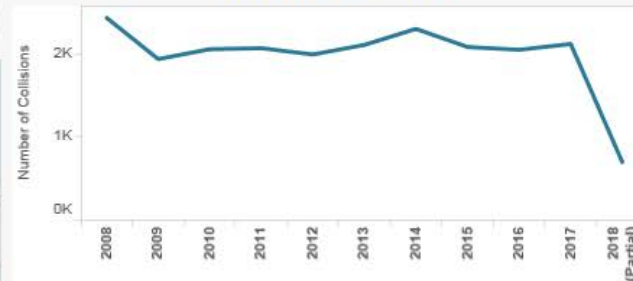


Number of Collisions



← Undo → Redo ↶ Revert ↻ Refresh ⏸ Pause

Collisions Over Time



Calendar Year

(All)

Month

(All)

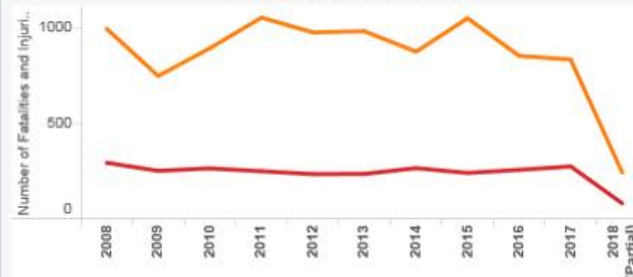
State

(All)

Crossing Type

☒ (All)☐ Private☐ Public

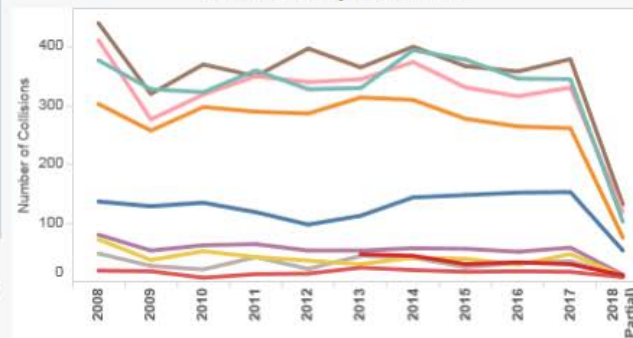
Injuries vs. Fatalities



Fatalities

Injuries

Collisions by Railroad



Railroads with the Most Collisions

ATK

BNSF

CP

CRSH

CSX

IC

KCS

NS

All data current through 4/30/2018

Share Download Full Screen

Highway-Rail Crossing Collisions 2008-2018 (Partial)

Years Displayed: All
Months Displayed: All
States Displayed: All

Collisions

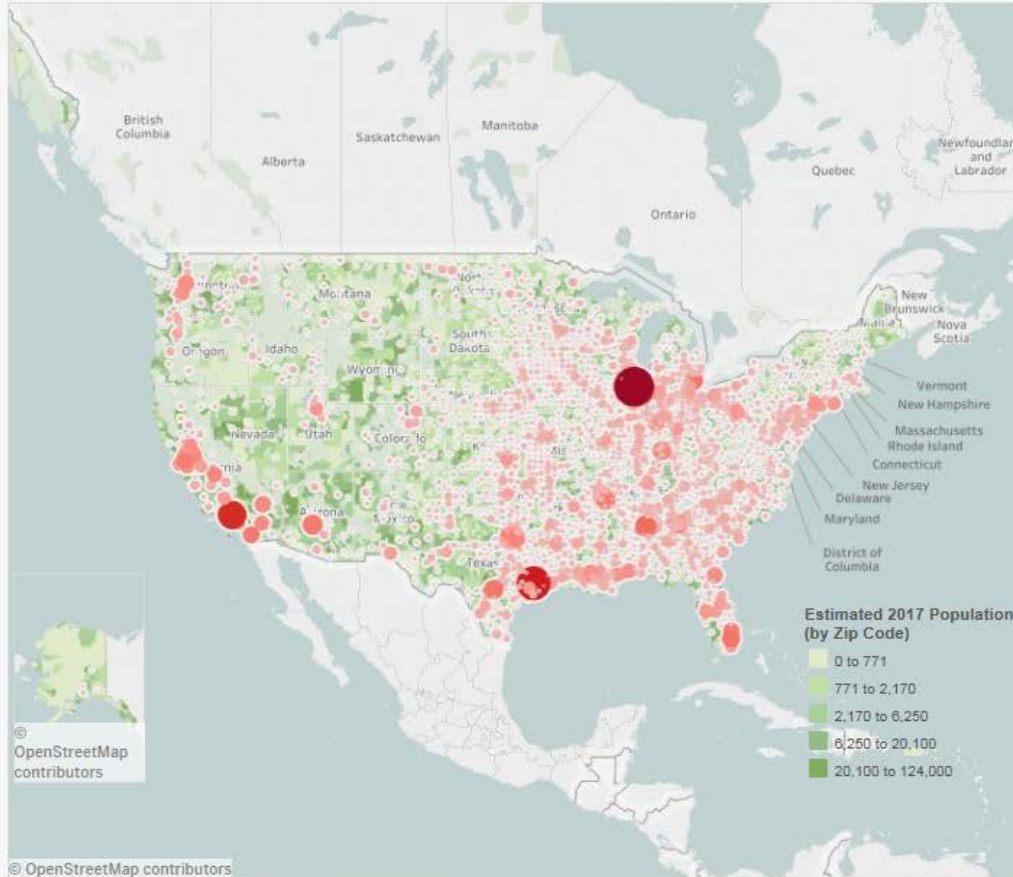
21,798

Injuries

9,448

Fatalities

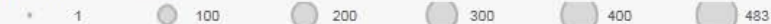
2,609



Severity of Collision (based on injuries and fatalities)

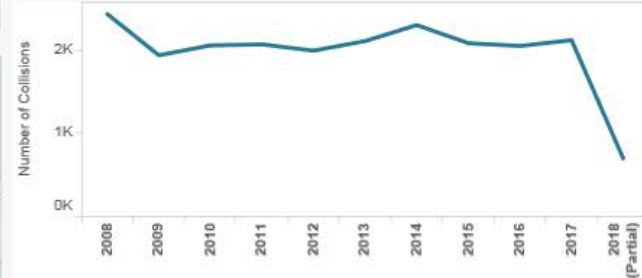


Number of Collisions



Undo Redo Revert Refresh Pause

Collisions Over Time



Calendar Year

(All)

Month

(All)

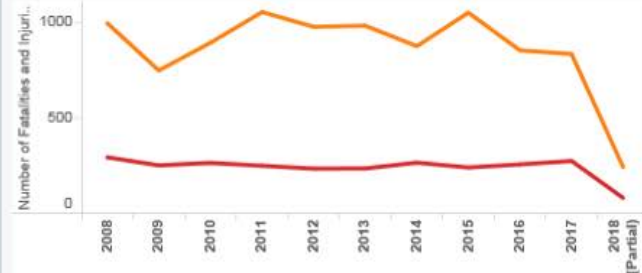
State

(All)

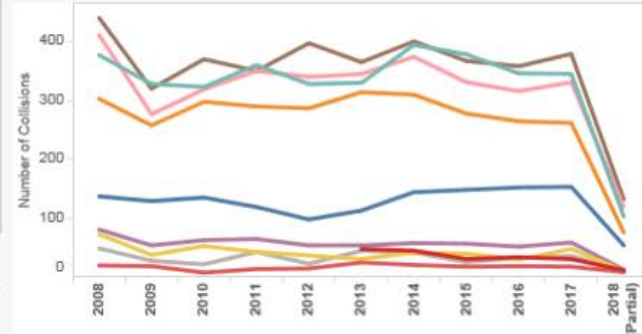
Crossing Type

☒ (All)☐ Private☐ Public

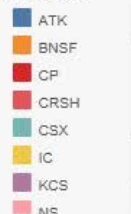
Injuries vs. Fatalities



Collisions by Railroad



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All data current
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Highway-Rail Crossing Collisions 2008-2018 (Partial)

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Months Displayed: All
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Collisions

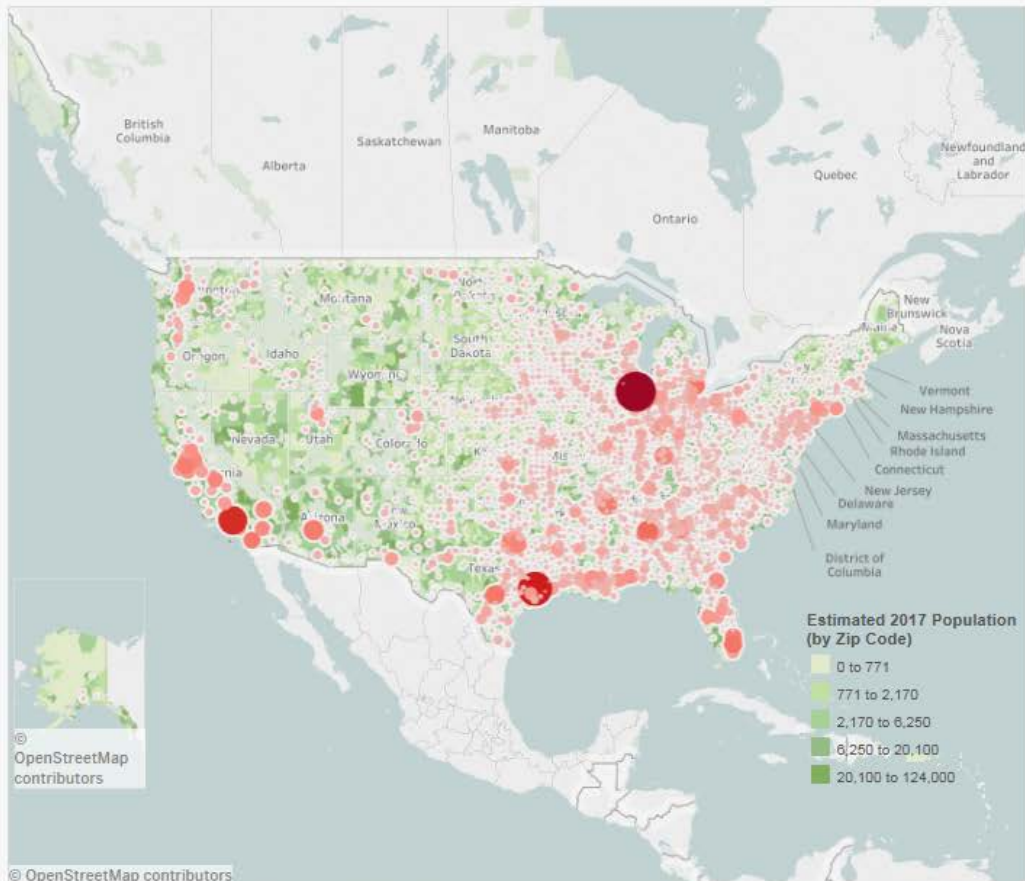
21,798

Injuries

9,448

Fatalities

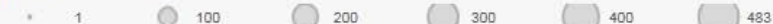
2,609



Severity of Collision (based on injuries and fatalities)

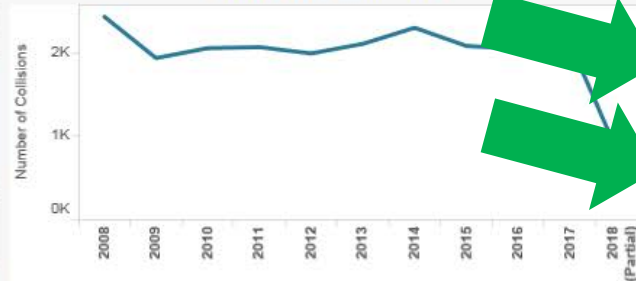


Number of Collisions

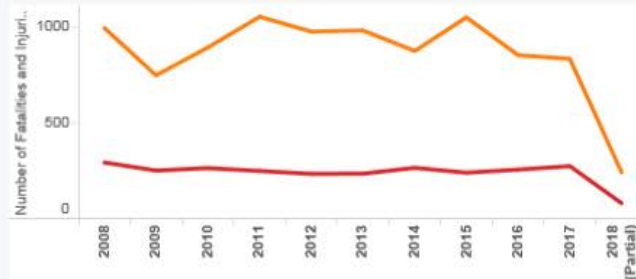


Undo Redo Revert Refresh Pause

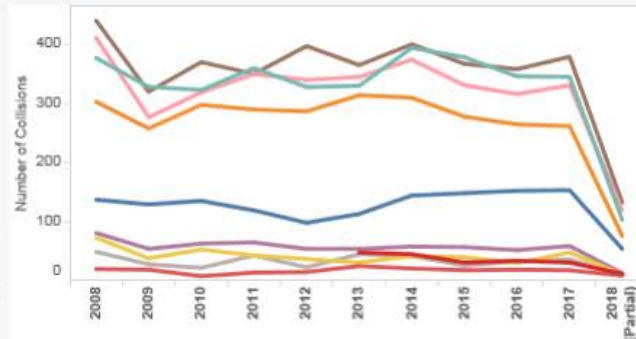
Collisions Over Time



Injuries vs. Fatalities



Collisions by Railroad



Share Download Full Screen



Highway-Rail Crossing Collisions 2008-2018 (Partial)

Collisions

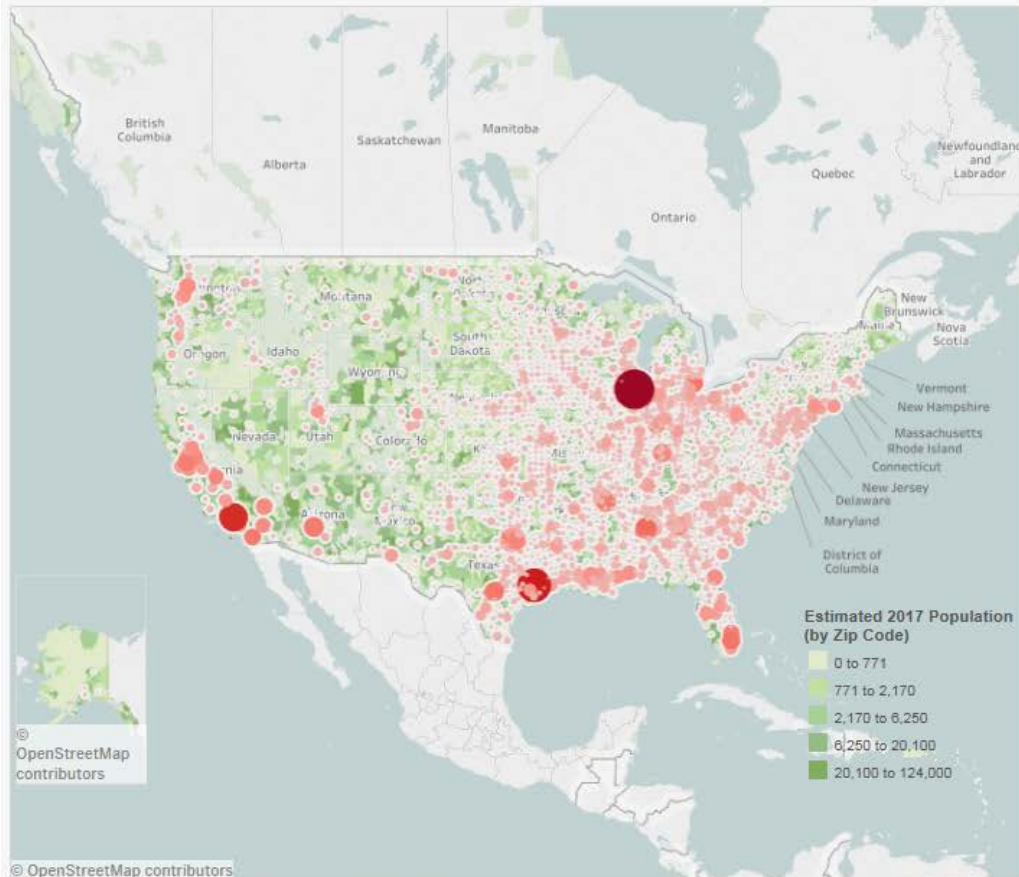
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Injuries

9,448

Fatalities

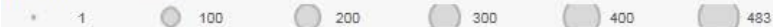
2,609



Severity of Collision (based on injuries and fatalities)

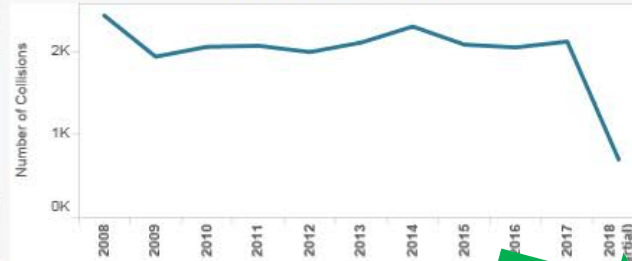


Number of Collisions



Undo Redo Revert Refresh Pause

Collisions Over Time



Calendar Year

(All)

Month

(All)

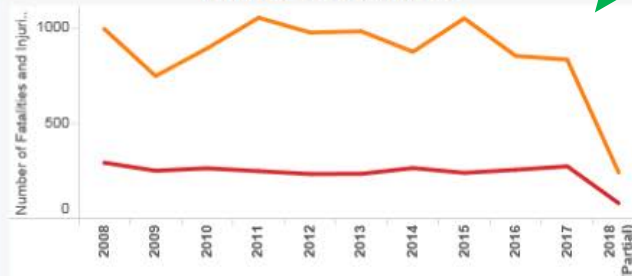
State

(All)

Crossing Type

☒ (All)☐ Private☐ Public

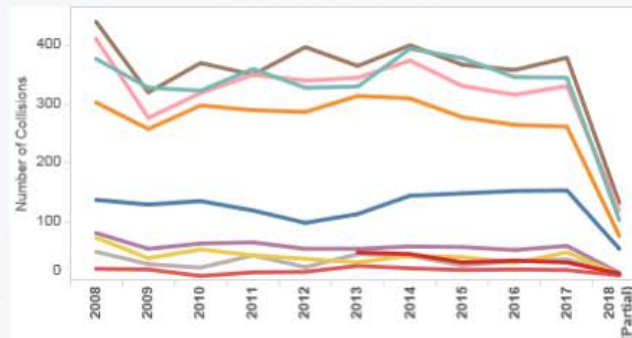
Injuries vs. Fatalities



Fatalities

Injuries

Collisions by Railroad



Railroads with the Most Collisions

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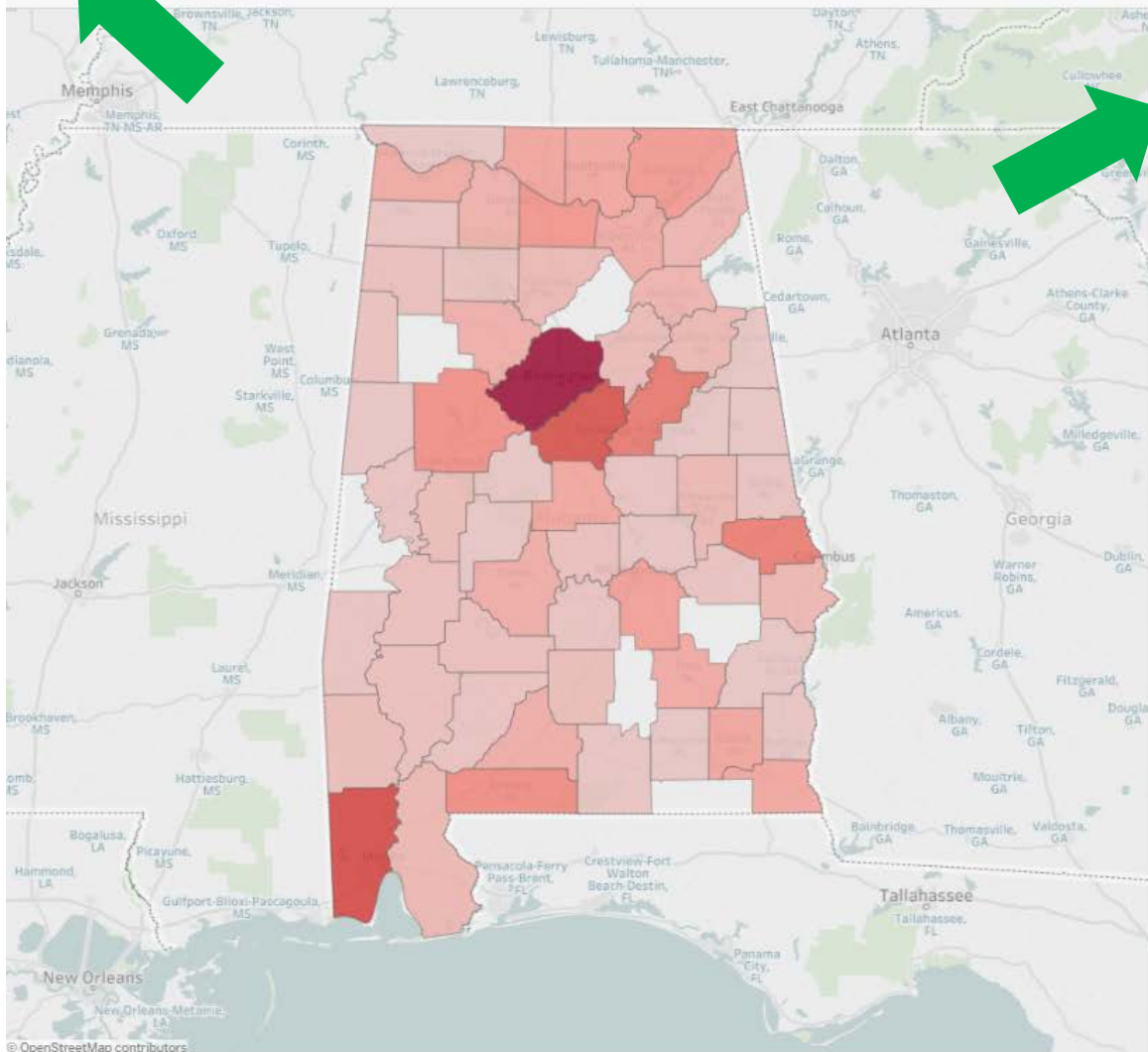
KCS

NS

All data current through 4/30/2018

Share Download Full Screen

State
 Alabama

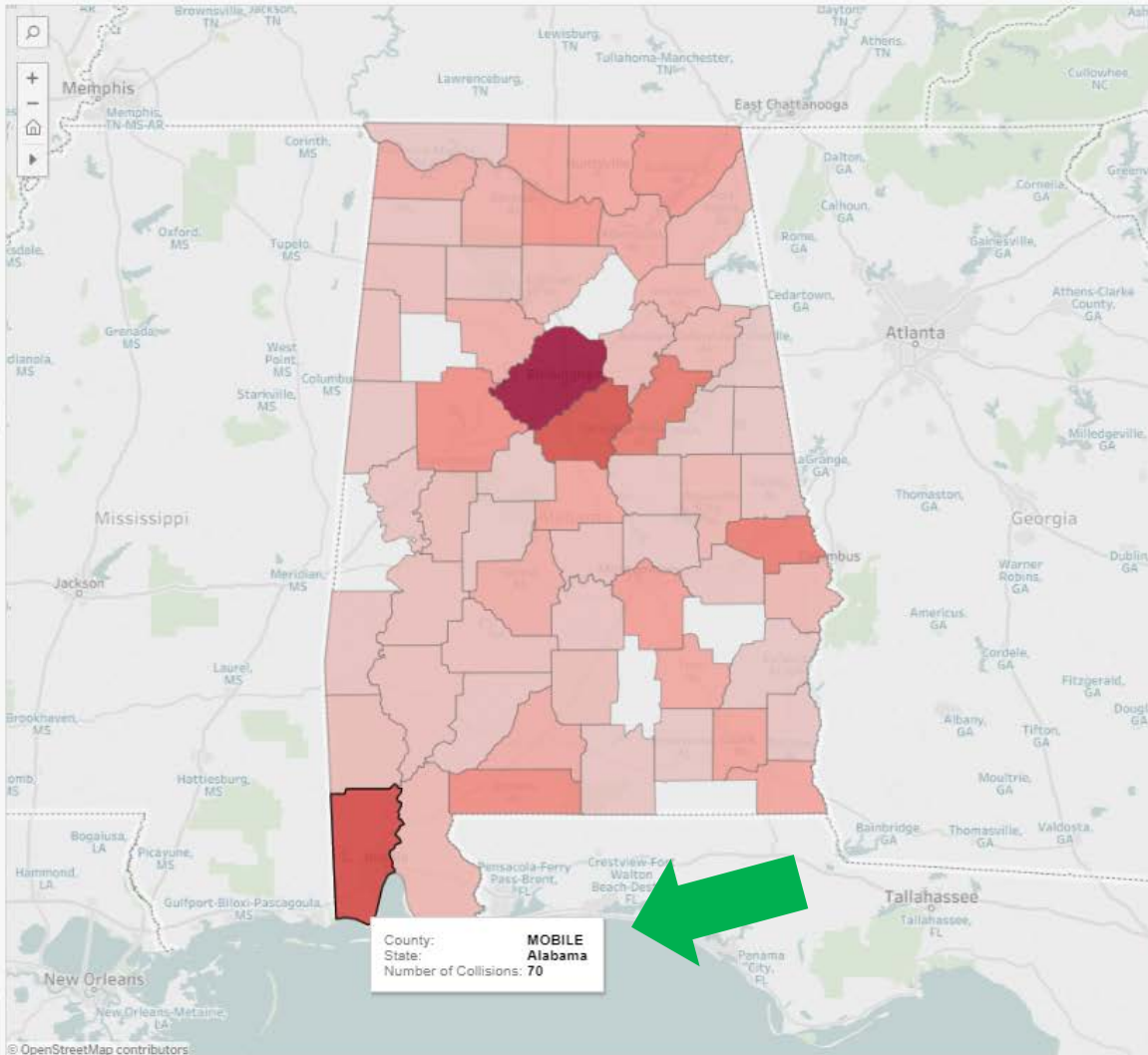


Collisions, Injuries, and Fatalities per Crossing (Ranked by Number of Collisions Over the Past 10 Years)

Crossing ID	Highway	Collisions Injuries and Fatalities
351290D	BELLVILLE STREET	10 0 5
351319Y	MILDRED ST/SR15	4 1 0
	MILDRED ST/SR15/S	2 0 0
	MILDRED STREET	1 0 0
725401E	14TH	1 0 3
	14TH ST	2 0 1
	14TH STREET HWY SR 1	0 1 0
	14TH STREET SR 150	0 0 1
	SR 150	1 0 0
352619R	22ND ST	5 5 0
725363J	24TH ST SW & JEFF	1 0 1
	24TH STREET	0 1 0
	24TH STREET SW	0 0 1
	24TH STREET SW/24TH	1 0 0
	: 24TH ST SW & JEFF	1 0 1
725384R	31ST STREET SW	0 0 1
	31ST SW & CLEBURN	0 0 0
	CR - 18/31ST STREET	3 2 0
725393P	32ND	2 0 3
	32ND STREET	2 2 1
727829V	PRIVATE	0 0 2
	SAW MILL ROAD	0 0 0
	SAWMILL RD.	1 0 0
	SAWMILL ROAD	0 0 1
831179A	ANDERSON RD	2 0 0
	ANDERSON ROAD	0 1 0

State

Alabama

Collisions, Injuries, and Fatalities per Crossing
(Ranked by Number of Collisions Over the Past 10 Years)

© OpenStreetMap contributors

Number of Collisions in the Past 10 Years



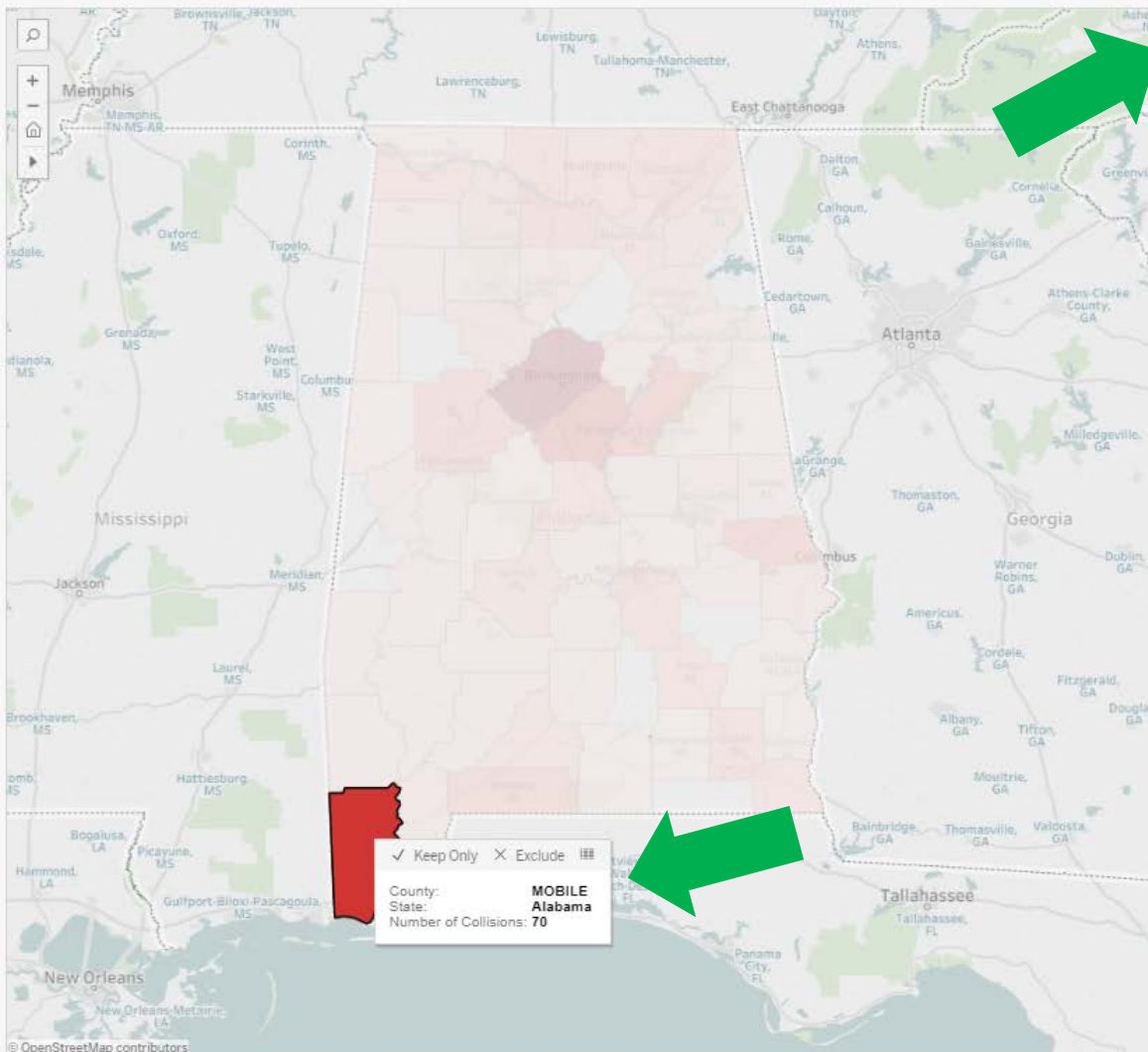
Crossing ID	Highway	Collisions Injuries and Fatalities
351290D	BELLVILLE STREET	10 0 5
351319Y	MILDRED ST/SR15	4 1 0
	MILDRED ST/SR15/S	2 0 0
	MILDRED STREET	1 0 0
		1
725401E	14TH	1 1 0
	14TH ST	3 2 0
	14TH STREET HWY SR 1	1 0 1
	14TH STREET SR 150	1 0 0
	SR 150	1 1 0
		5 5 0
352619R	22ND ST	1 1 0
	24TH ST SW & JEFF	1 0 1
	24TH STREET	1 1 0
	24TH STREET SW	1 0 0
	24TH STREET SW/24TH	1 1 0
	: 24TH ST SW & JEFF	1 0 1
		1
		1
725384R	31ST STREET SW	0 0 1
	31ST SW & CLEBURN	0 0 0
	CR - 18/31ST STREET	3 2 0
		2
725393P	32ND	2 1 0
	32ND STREET	3 3 2
		2
		1
727829V	PRIVATE	0 0 0
	SAW MILL ROAD	2 0 0
	SAWMILL RD.	1 0 0
	SAWMILL ROAD	1 0 0
		2
831179A	ANDERSON RD	0 0 1
	ANDERSON ROAD	1

State

Alabama



Collisions, Injuries, and Fatalities per Crossing (Ranked by Number of Collisions Over the Past 10 Years)



✓ Keep Only ✕ Exclude

County: **MOBILE**
State: **Alabama**
Number of Collisions: **70**

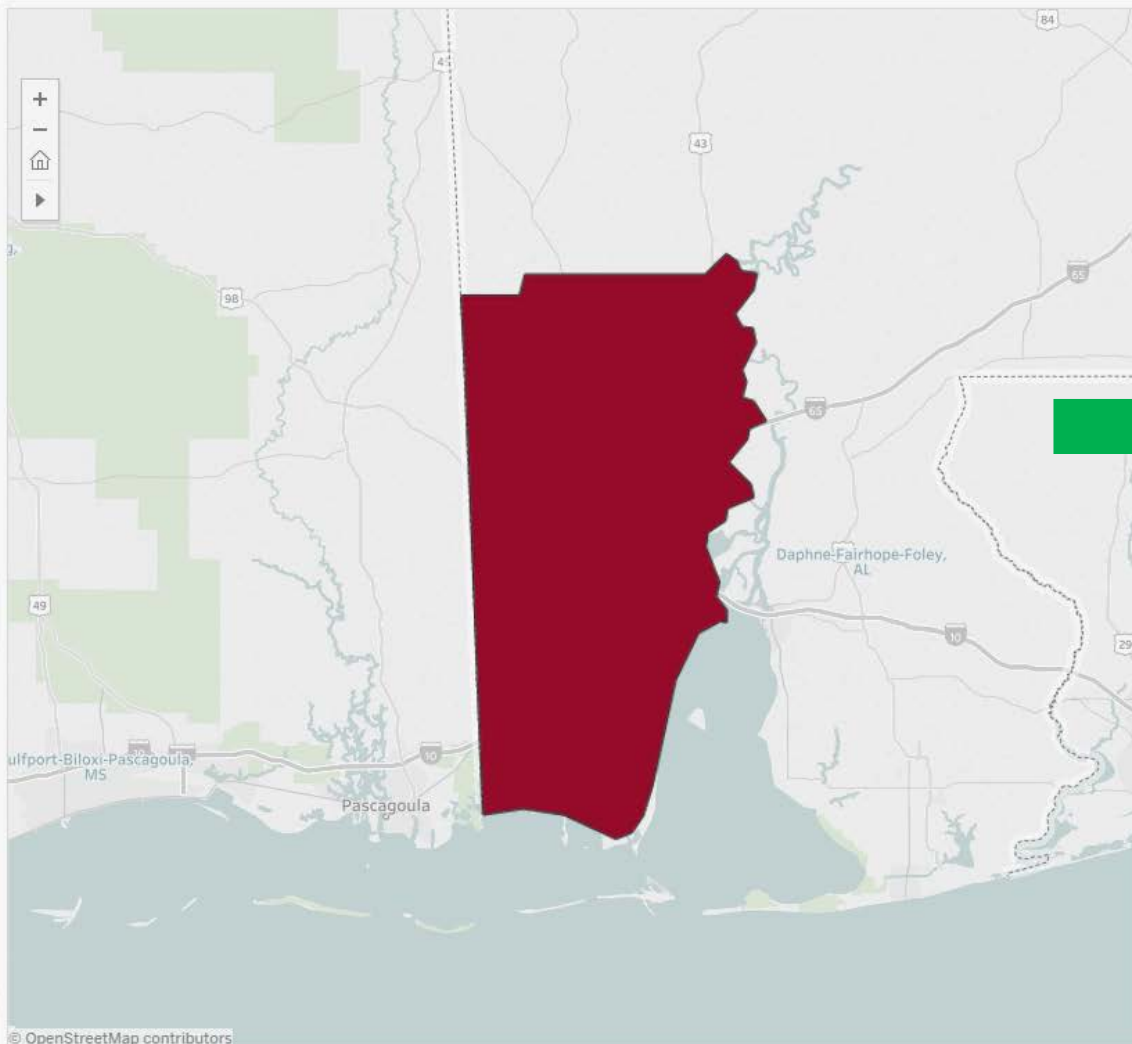
Number of Collisions in the Past 10 Years



Crossing ID	Highway	Collisions Injuries and Fatalities
727829V	PRIVATE	1 0 0
	SAW MILL ROAD	2 0 0
	SAWMILL RD.	1 0 0
	SAWMILL ROAD	1 0 0
727820J	BAYOU AVENUE	1 1 1
	CITY/BAYOU AVE	2 1 0
	HIGHWAY 43	1 0 0
304250E	FORESTDALE DRIVE	2 3 0
	FORESTDALE RD	1 1 0
304256V	SCHILLINGER RD N	3 1 0
351461C	BELLINGRATH RD	2 1 0
	BELLINGRATH RD.	1 0 1
304199J	DAUPHIN ISLAND PK	2 0 0
304233N	MAIN STREET	2 1 0
304257C	FIRE TOWER ROAD	2 1 0
351421E	MADISON ST	1 0 0
	MADISON STREET	1 1 0
351430D	LAWRENCE STREET	2 0 0
727825T	CITY/FERRY AVE	1 4 0
	FERRY AVENUE	1 1 0
727827G	OLD DEPOT STREET	1 0 0
	STATION STREET	1 1 0
727828N	JACINTOPORT BLVD	1 3 0
	JACINTOPORT BLVD.	1 0 0
727836F	CITY/PAPER MILL ROAD	2 0 0
874192S	BERG PIPE	2 2 0

State

Alabama



Number of Collisions in the Past 10 Years

4

Undo Redo Revert Refresh Pause

Collisions, Injuries, and Fatalities per Crossing (Ranked by Number of Collisions Over the Past 10 Years)

Crossing ID	Highway	Collisions Injuries and Fatalities
727829V	PRIVATE	1
	SAW MILL ROAD	0
	SAWMILL RD.	0
	SAWMILL ROAD	1
727820J	BAYOU AVENUE	1
	FORESTDALE RD	1
304256V	SCHILLINGER RD N	3
351461C	BELLINGRATH RD	2
	BELLINGRATH RD.	1
304199J	DAUPHIN ISLAND PK	2
304233N	MAIN STREET	1
304257C	FIRE TOWER ROAD	2
351430D	LAWRENCE STREET	2
727825T	CITY/FERRY AVE	1
	FERRY AVENUE	1
727827G	OLD DEPOT STREET	1
	STATION STREET	1

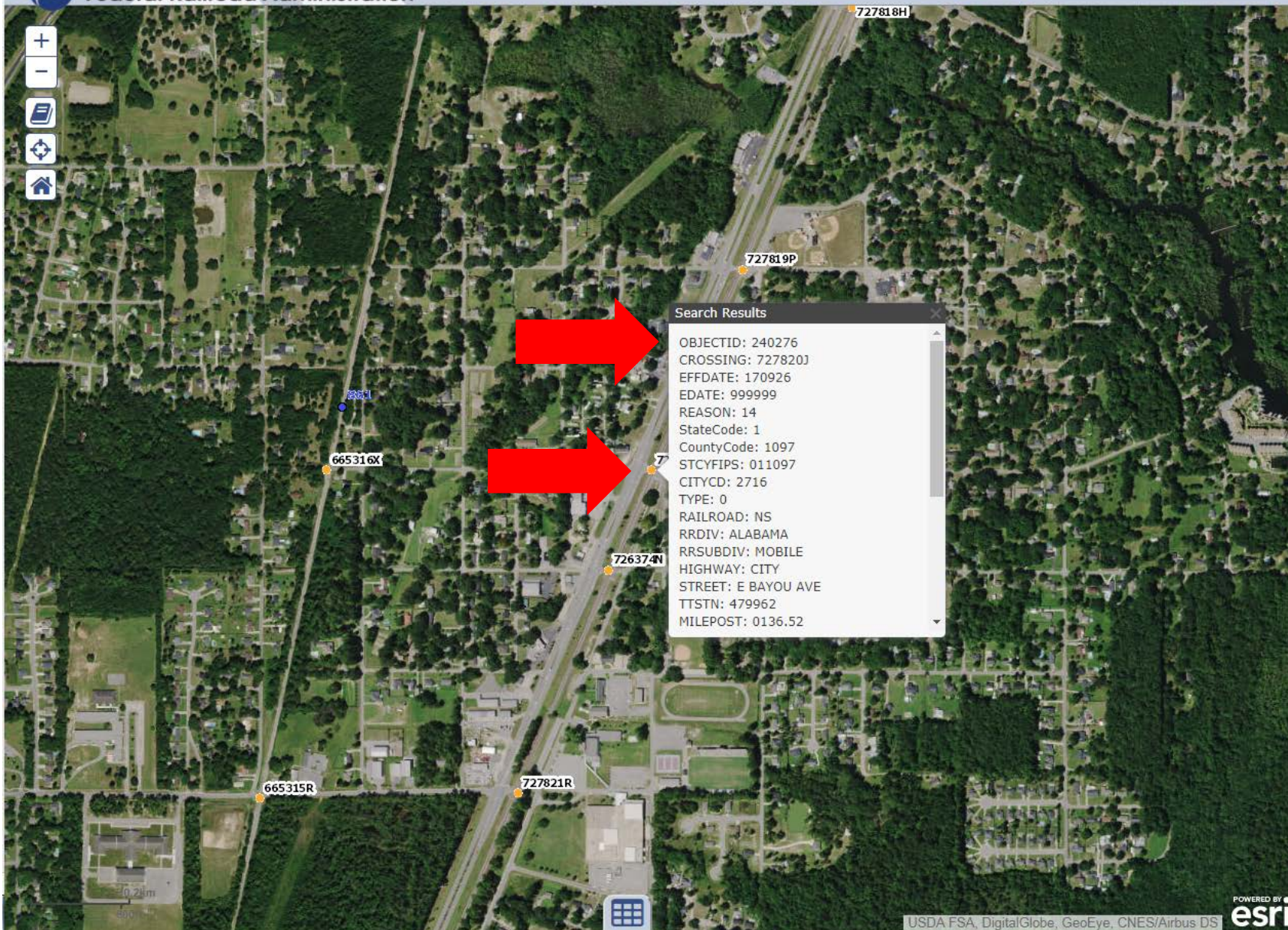
✓ Keep Only ✕ Exclude

3 items selected · SUM(Number of Records): 4

727820J

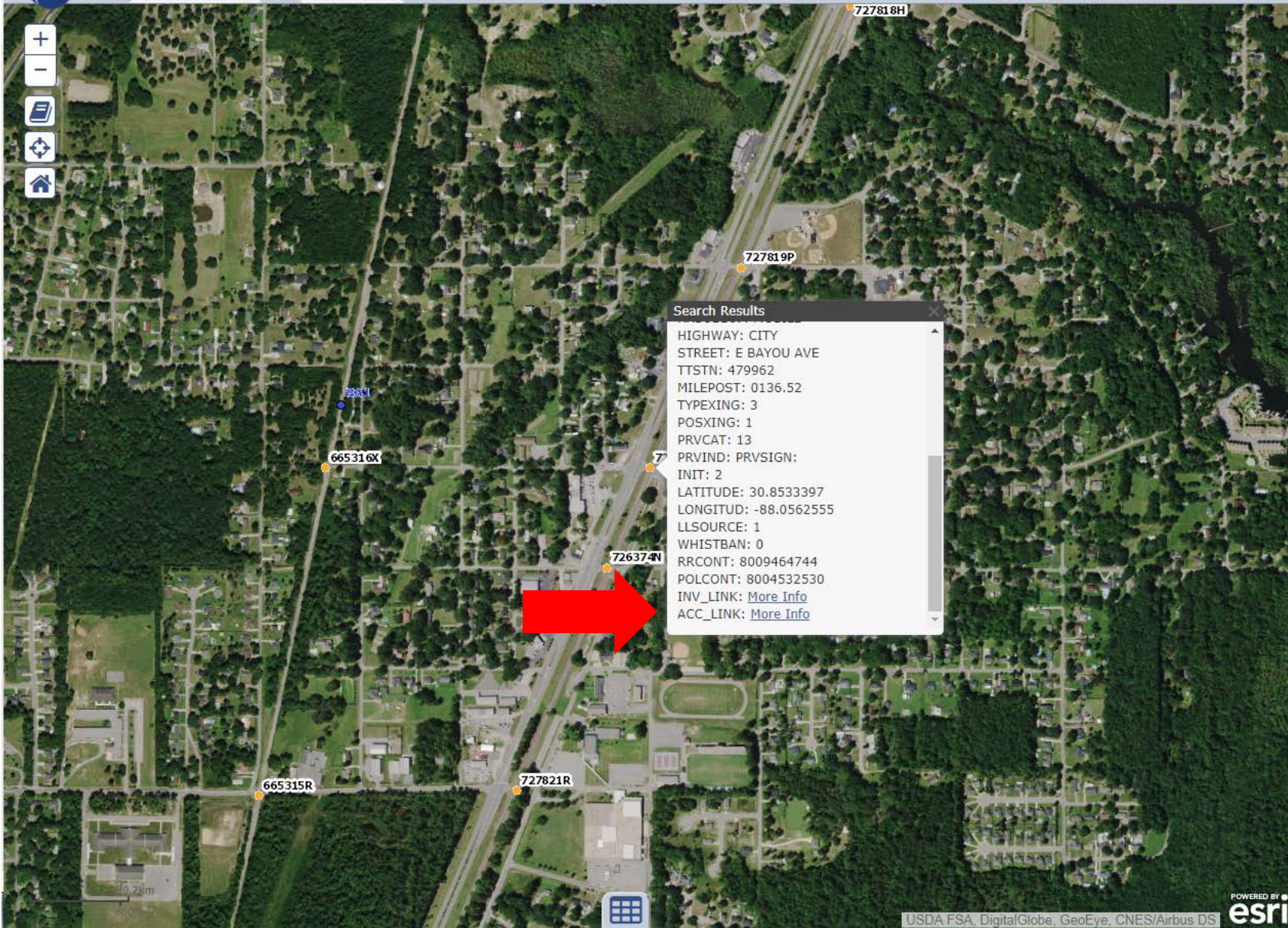
[Click here to view this crossing!](#)

Share Download Full Screen



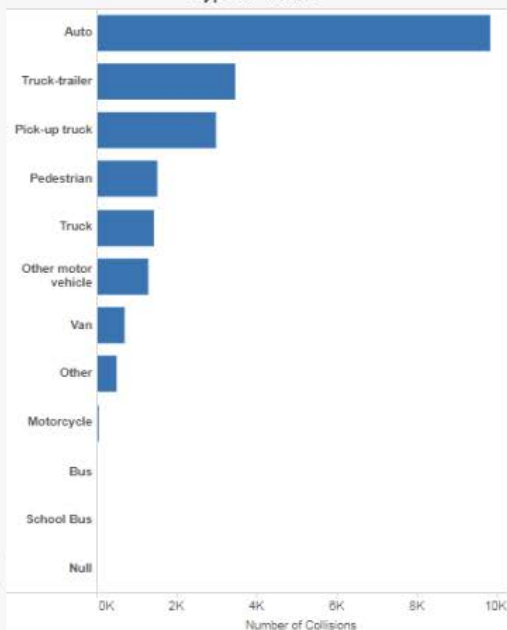
Search Results

OBJECTID: 240276
CROSSING: 727820J
EFFDATE: 170926
EDATE: 999999
REASON: 14
StateCode: 1
CountyCode: 1097
STCYFIPS: 011097
CITYCD: 2716
TYPE: 0
RAILROAD: NS
RRDIV: ALABAMA
RRSUBDIV: MOBILE
HIGHWAY: CITY
STREET: E BAYOU AVE
TTSTN: 479962
MILEPOST: 0136.52

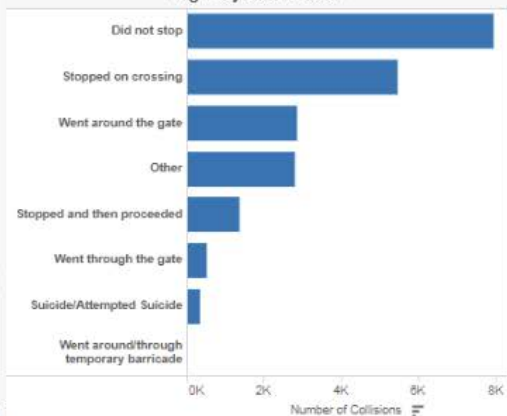


Highway-Rail Crossing Collisions Details

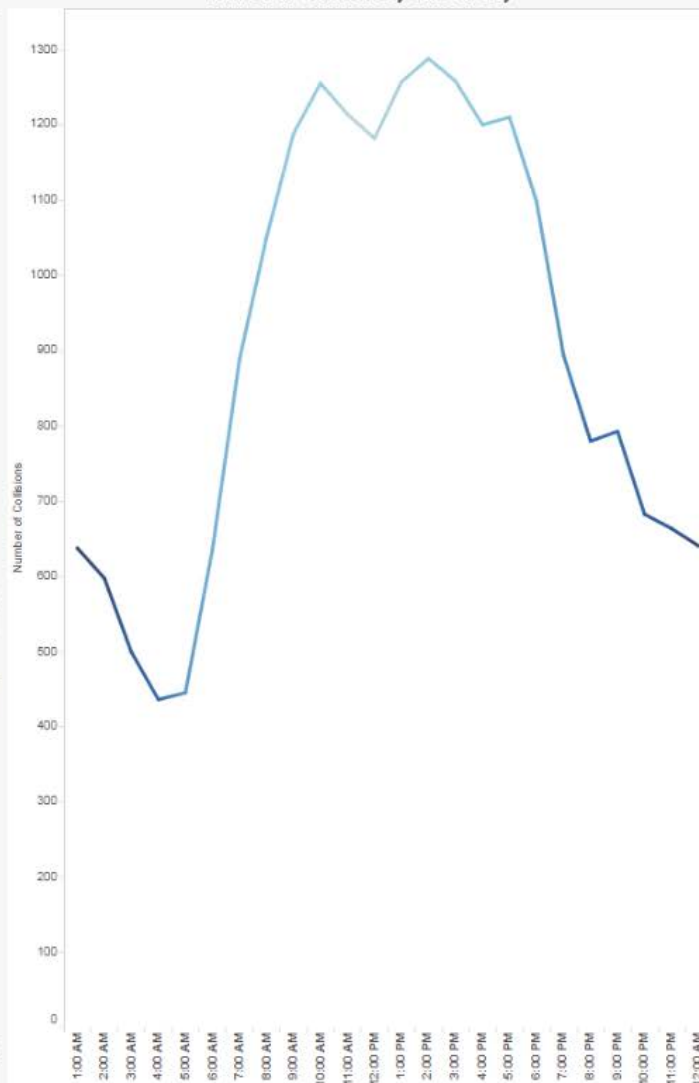
Type of Vehicle



Highway User Action



Number of Collisions by Time of Day



Warning Device



Calendar Year

(All)

Month

(All)

State

(All)

Injuries?

☒ (All)☐ No☐ Yes

Vehicle Position



Fatal?

☒ (All)☐ No☐ Yes

Crossing Type

☒ (All)☐ Private☐ Public

Driver Gender



Driver Age



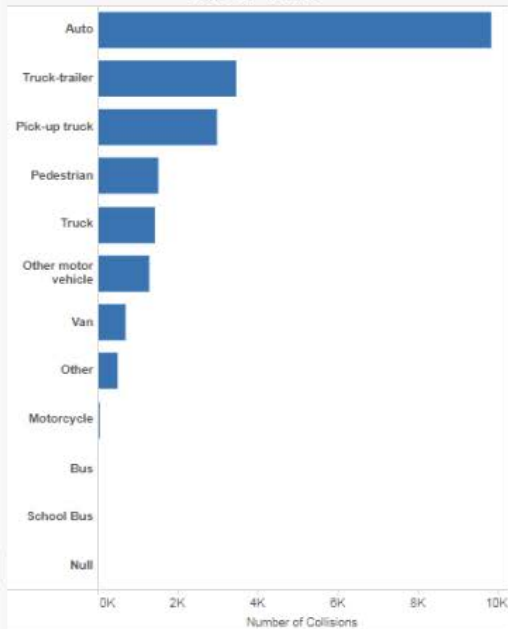
Note: The statistics presented here include both public and private crossings.

*Private crossing are not required to have warning devices and are counted in the "None" category.

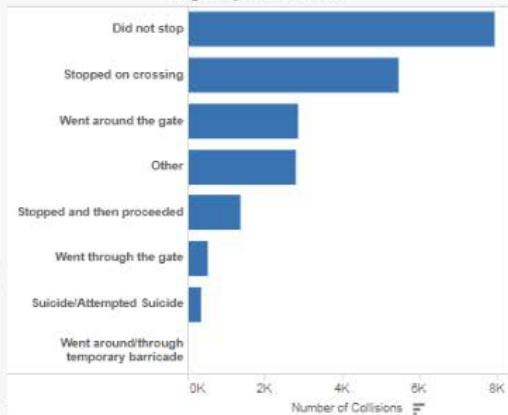
Highway-Rail Crossing Collisions Details

Years Displayed: All
Months Displayed: All
States Displayed: All

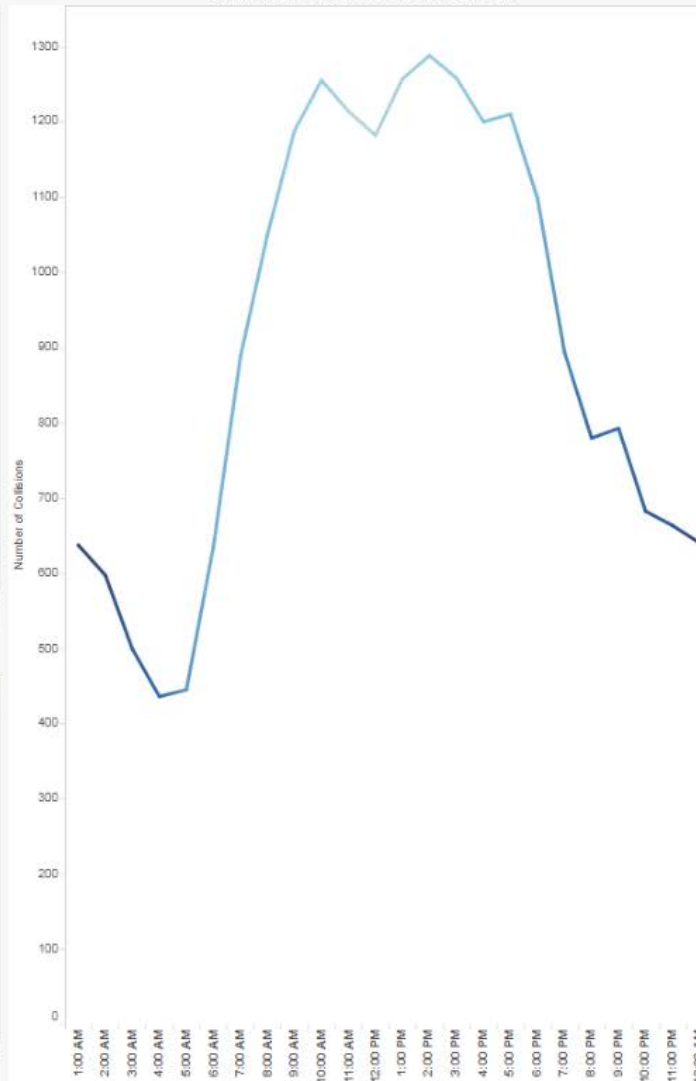
Type of Vehicle



Highway User Action



Number of Collisions by Time of Day



Warning Device



Vehicle Position



Driver Gender



Driver Age



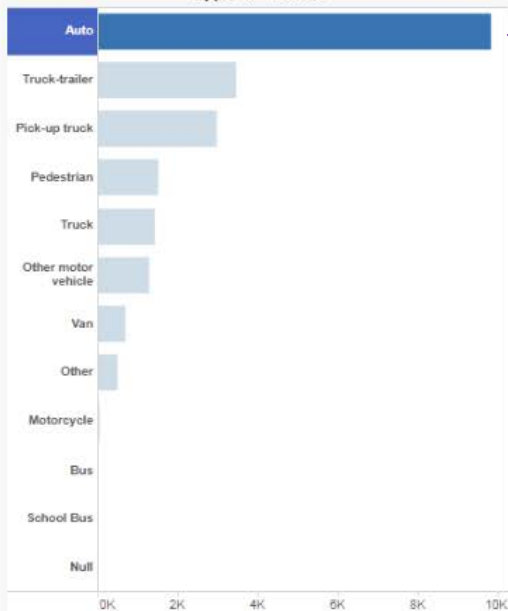
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Highway-Rail Crossing Collisions Details

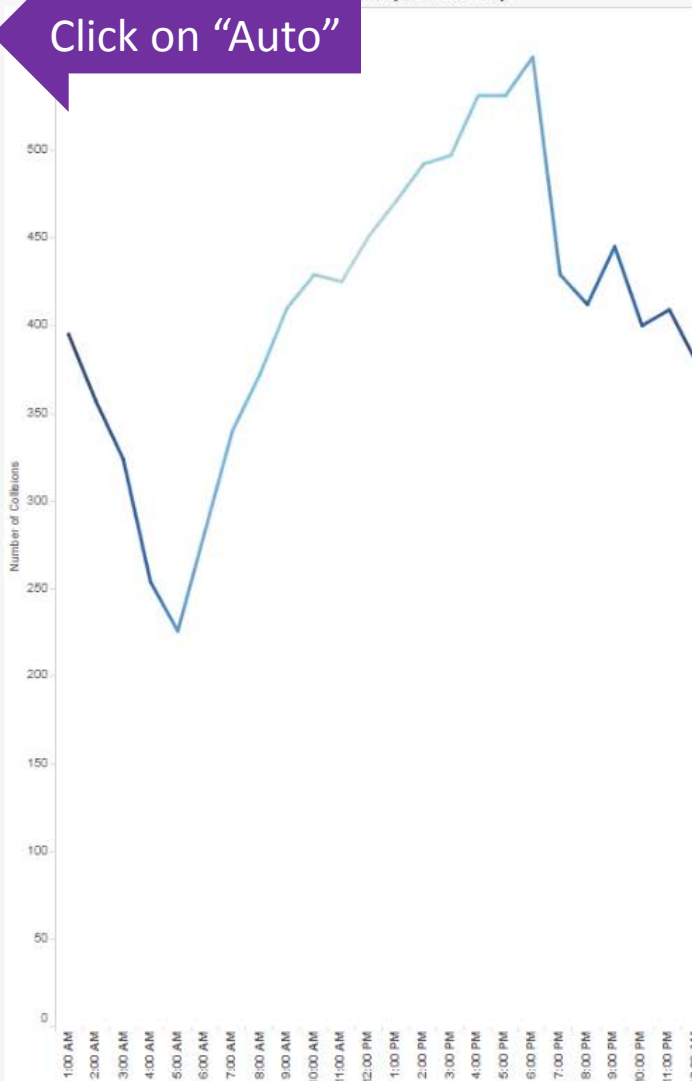
Years Displayed: All
Months Displayed: All
States Displayed: All

Type of Vehicle



Click on "Auto"

Number of Collisions by Time of Day



Warning Device



Calendar Year

(All)

Month

(All)

State

(All)

Injuries?

☒ (All)

☐ No

☐ Yes

Fatal?

☒ (All)

☐ No

☐ Yes

Crossing Type

☒ (All)

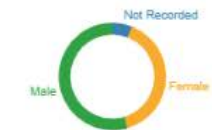
☐ Private

☐ Public

Vehicle Position



Driver Gender



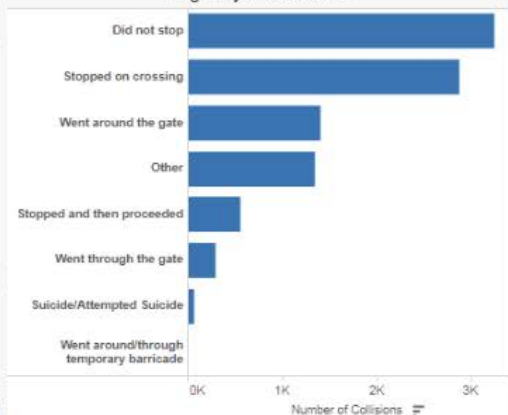
Driver Age



Note: The statistics presented here include both public and private crossings.

*Private crossing are not required to have warning devices and are counted in the "None" category.

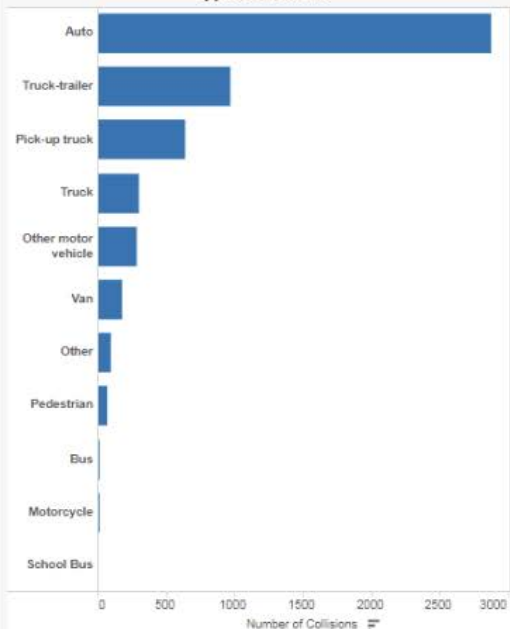
Highway User Action



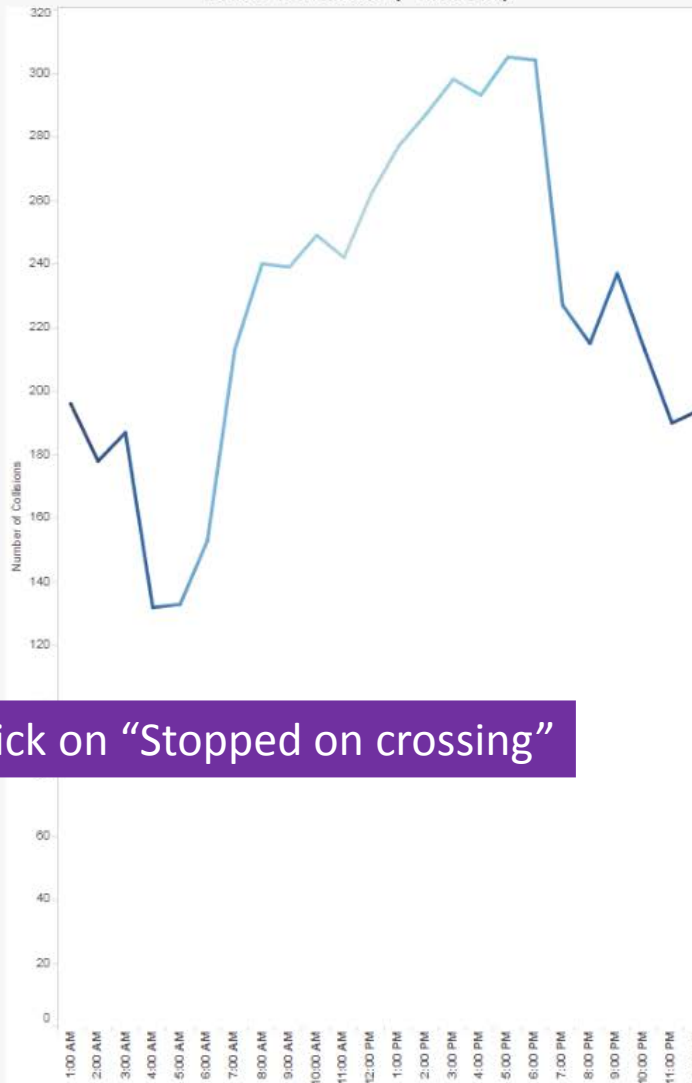
Highway-Rail Crossing Collisions Details

Years Displayed: All
Months Displayed: All
States Displayed: All

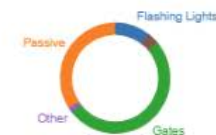
Type of Vehicle



Number of Collisions by Time of Day



Warning Device



Calendar Year

(All)

Month

(All)

State

(All)

Injuries?

☒ (All)☐ No☐ Yes

Vehicle Position



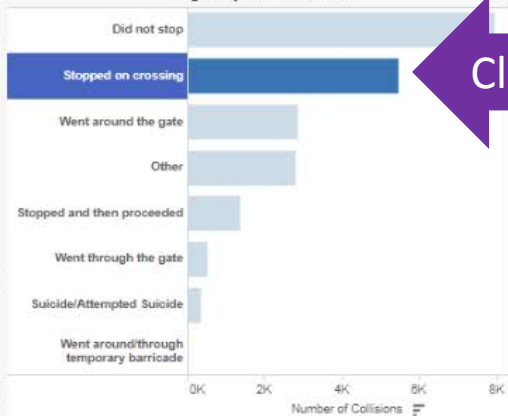
Fatal?

☒ (All)☐ No☐ Yes

Crossing Type

☒ (All)☐ Private☐ Public

Highway User Action



Click on "Stopped on crossing"

Driver Gender



Driver Age

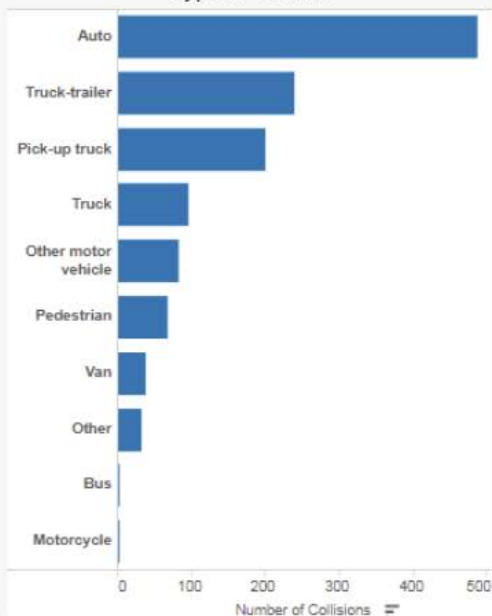


Note: The statistics presented here include both public and private crossings.

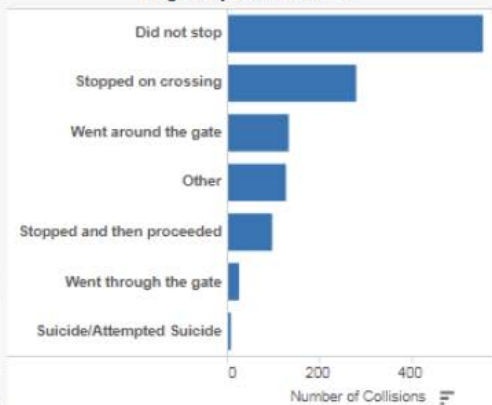
*Private crossing are not required to have warning devices and are counted in the "None" category.

Highway-Rail Crossing Collisions Details

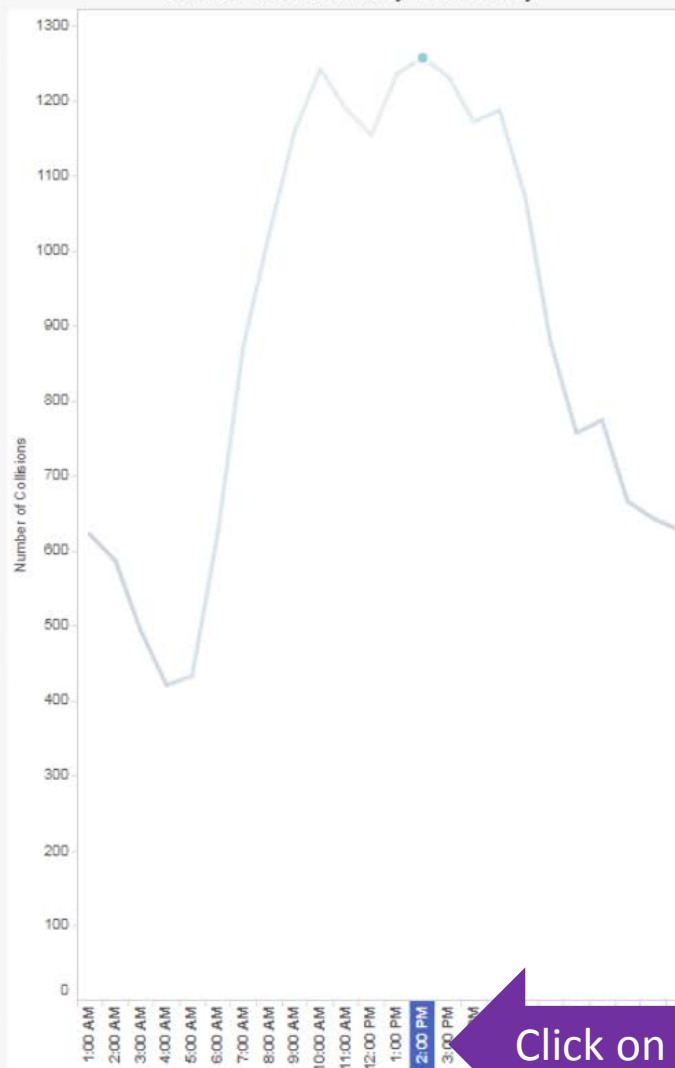
Type of Vehicle



Highway User Action



Number of Collisions by Time of Day



Warning Device



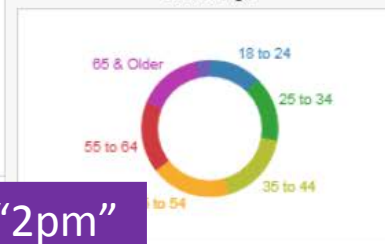
Vehicle Position



Driver Gender



Driver Age



Note: The statistics presented here include both public and private crossings.

*Private crossing are not required to have warning devices and are counted in the "None" category.

Calendar Year

(All)

Month

(All)

State

(All)

Injuries?

☒ (All)☐ No☐ Yes

Fatal?

☒ (All)☐ No☐ Yes

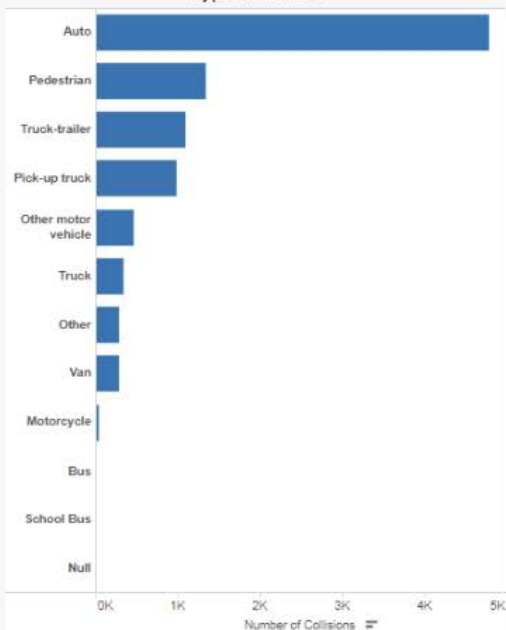
Crossing Type

☒ (All)☐ Private☐ Public

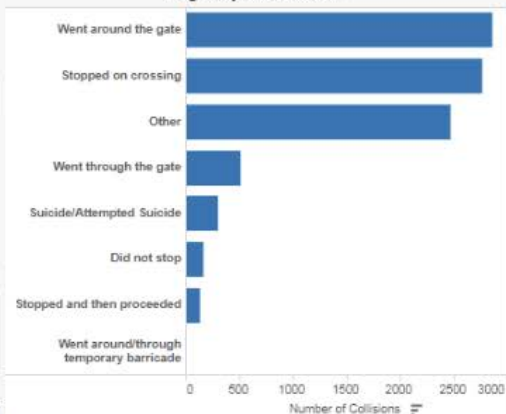
Click on "2pm"

Highway-Rail Crossing Collisions Details

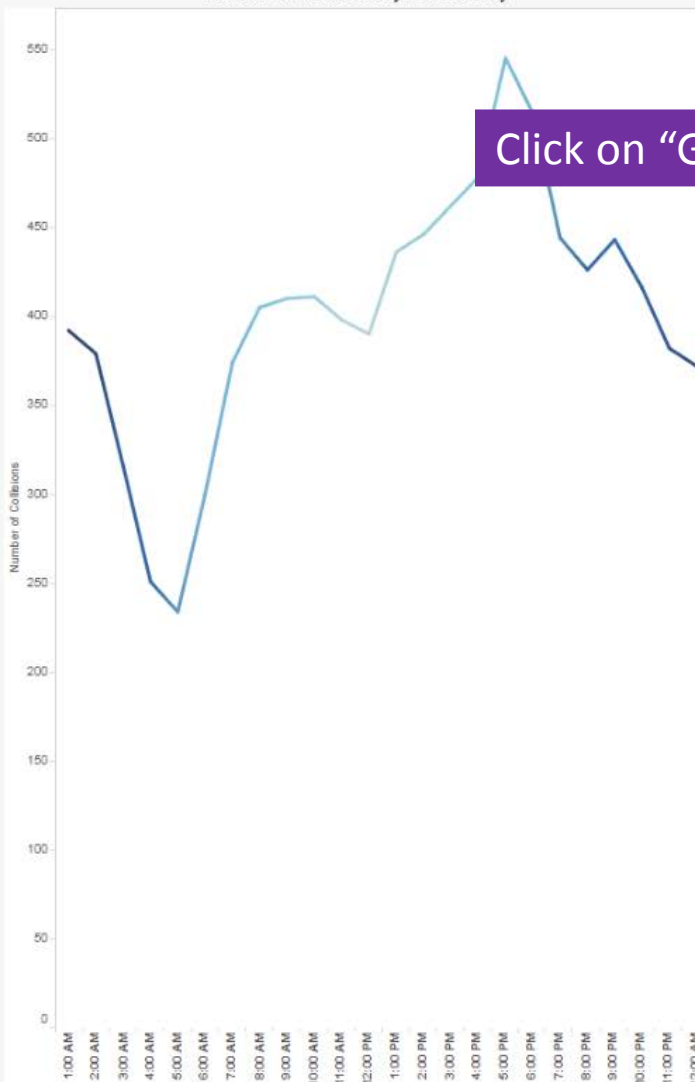
Type of Vehicle



Highway User Action



Number of Collisions by Time of Day



Click on "Gates"

Warning Device



Calendar Year

(All)

Month

(All)

State

(All)

Injuries?

No

✓ Keep Only ✕ Exclude

Warning Device: **Gates**
Number of Collisions: **9,624**
% of Total Number of Collisions: **44.15%**

Vehicle Position



Driver Gender



Driver Age



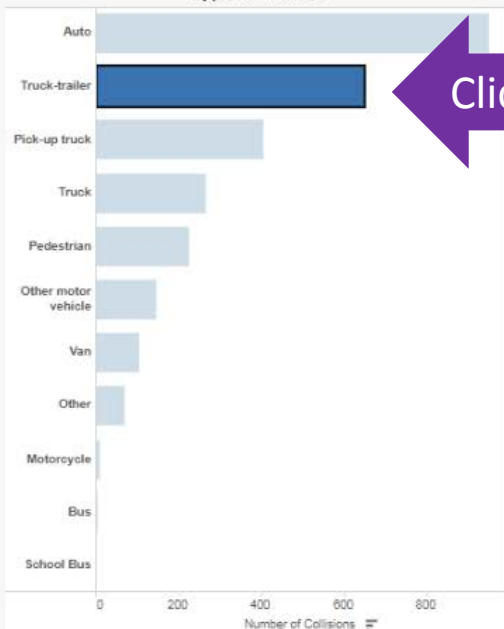
Note: The statistics presented here include both public and private crossings.

*Private crossing are not required to have warning devices and are counted in the "None" category.

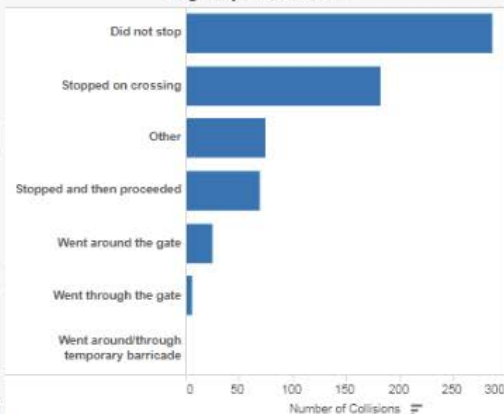
Highway-Rail Crossing Collisions Details

Years Displayed: All
Months Displayed: All
States Displayed: All

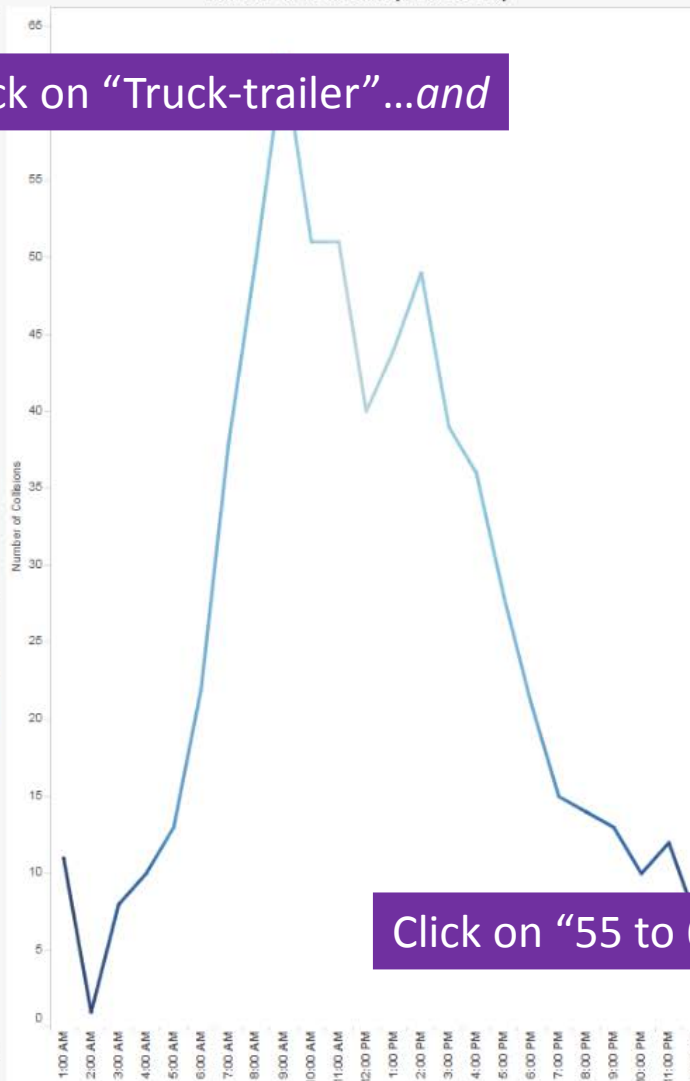
Type of Vehicle



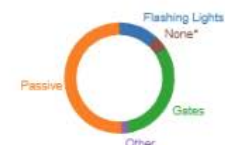
Highway User Action



Number of Collisions by Time of Day



Warning Device



Calendar Year

(All)

Month

(All)

State

(All)

Injuries?

☒ (All)☐ No☐ Yes

Vehicle Position



Fatal?

☒ (All)☐ No☐ Yes

Crossing Type

☒ (All)☐ Private☐ Public

Driver Gender



Driver Age



Note: The statistics presented here include both public and private crossings.

*Private crossing are not required to have warning devices and are counted in the "None" category.

*GX Dash! Tips and Tricks*

GX Dash! is a data visualization tool that allows users to interact with FRA's highway-rail grade crossing and inventory data in an intuitive way that drives insights. *GX Dash!* is supported by Tableau Software, which assists with the visualization of data into a format called dashboards. Tableau is designed to be intuitive and user friendly. As you become familiarized with *GX Dash!*, there are a few things that will allow users to get the most out of interacting with the data. The following are the top 8 most helpful things to know in order to successfully navigate through the dashboard.

- 1. Filters:** Filtering allows you to tailor visualizations to include only specific criteria. For example, limiting graphics to a geographic area or range of years. Filters apply to every visualization you see on each tab including maps, graphs, and charts.
- 2. Tool Tips:** These pop-up text boxes provide additional information when you hover the cursor over an object. Tool tips often pop-up when you hover over areas on a map. You will also find tool tips in line and pie graphs that provide the specific numbers behind the trends.
- 3. Undo:** You can undo the last few actions taken while navigating the dashboard by clicking the back arrow button in the bottom left-hand corner of your dashboard. Whether it's a filter, selection, or exclusion, this function will let you back up a few steps.
- 4. Interactive Visuals:** When you click on part of a graph or map, the rest of the dashboard filters to include only data relevant to what you selected. Deselect by clicking in the blank space of the visual or clicking the original selection a second time.
- 5. Maps Functions:** Use the search function on the top left-hand corner of maps to zoom into a particular state, county, or city. To move the map manually hold "Shift" then click and drag your mouse. You can also double-click to zoom in and "Shift"+ double-click to zoom out.
Pro-tip: To zoom at smaller intervals hold "CTRL" while zooming in/out with your mouse.
- 6. Revert to Saved:** Clicking "Revert" in the bottom left-hand corner of your screen will reset the dashboard to the original version of webpage. This function resets all filters, highlights, etc. giving you a fresh start.
- 7. "Exclude" and "Keep Only":** Hovering over or selecting any element of a visual will present the option "Keep only" or "Exclude". Excluding your selection will eliminate that set of data from visuals on the entire dashboard, the opposite is true for "Keep only." To retrieve these values back, use the "Undo" function (Tip #4).
- 8. Highlighting:** In the top right-hand corner of each legend there is a highlighter symbol, clicking this turns on and off the highlighting function. When this function is on, selecting values in the legend will highlight the corresponding data throughout the rest of the dashboard, where applicable.

For Media Inquiries Contact: frapa@dot.gov
For Technology Inquiries Contact: fraweb@dot.gov



U.S. Department of Transportation
Federal Railroad Administration

When a collision occurs at a highway-rail crossing, also known as a grade crossing, the railroad involved is required to file a detailed report of the incident to the Department of Transportation's Federal Railroad Administration. These reports are recorded through Form FRA F6180.57. Form FRA F6180.57 report data feeds all graphs and visuals in this dashboard. For more information on grade crossing data and statistics please visit the FRA Safety Data website at <https://safetydata.fra.dot.gov>.

Note.

The data contained within the GX Dash! website is being disseminated in the interest of information exchange. This data is generated by the Federal Railroad Administration's Safetydata database, which is located at <https://safetydata.fra.dot.gov>. This database is updated monthly. Users of this data should anticipate possible variations, based on the updates provided by the railroads and/or States. The United States government assumes no liability for the content or use of the data contained within this website.

Additional Online Data Resources

Federal Railroad Administration: <https://www.fra.dot.gov/Page/P0001>

Highway-Rail Grade Crossing and Trespass Prevention Division: <https://www.fra.dot.gov/Page/P0841>

Operation Lifesaver: <https://oli.org/>

Web-based Accident Prediction System (WBAPS)

1



U.S. Department
of Transportation
Federal Railroad
Administration

What is WBAPS?

- FRA's Highway-Rail Crossing Web-based Accident Prediction System
- Generates reports listing open, public at-grade highway-rail crossings
- Ranked by predicted accidents per year.
- Used by States and Railroads for Section 130 purposes or for grant applications

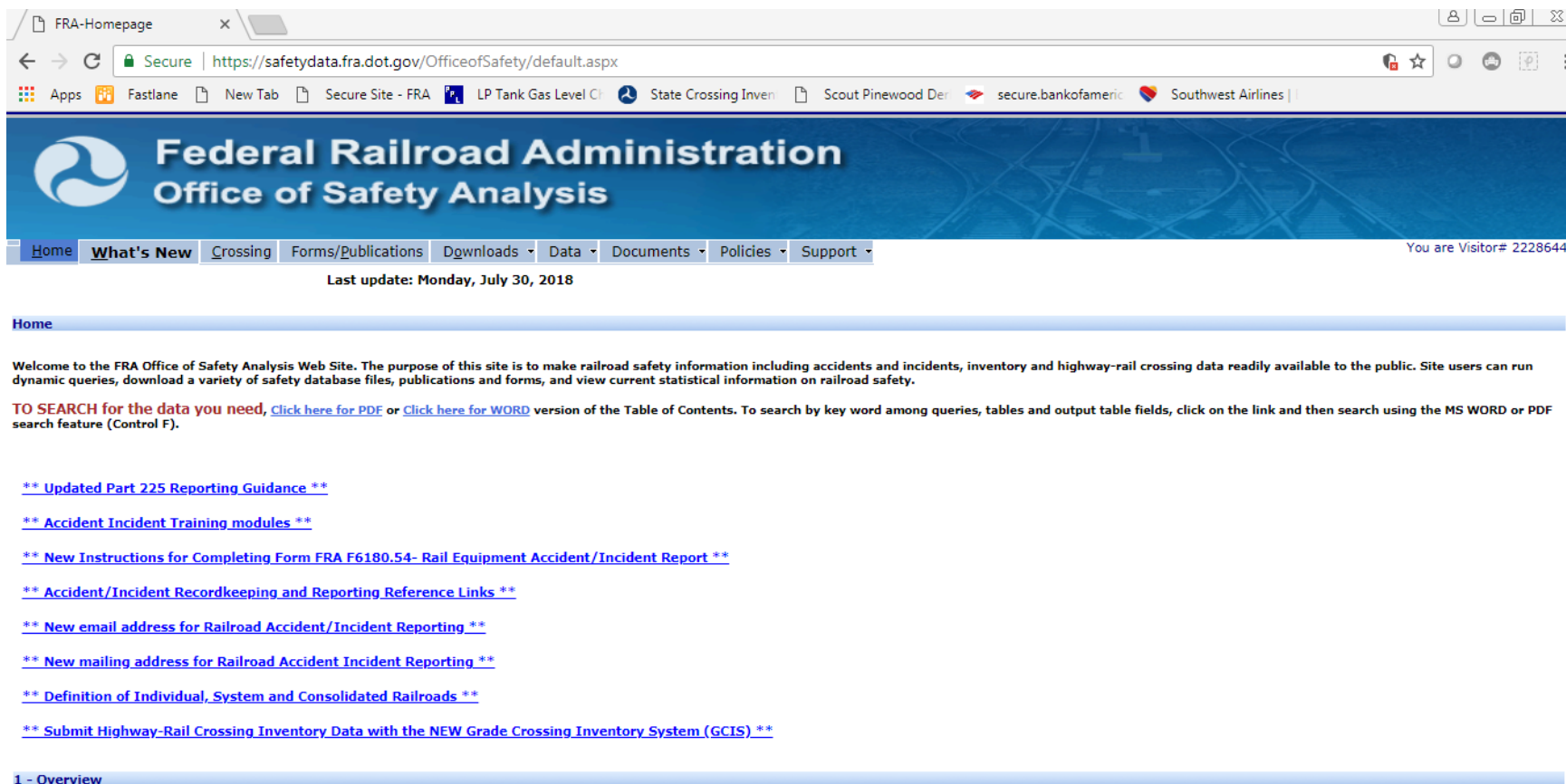
Why use WBAPS?

3

- A tool to identify particular crossings that may be more hazardous than others
- Provides data results of the crossing's physical and operating characteristics, along with the crossing's accident history over the last 5 years
- Assists in the decision-making process in determining which crossing(s) to fund for safety enhancements
- **DOES NOT** rank crossings in terms of most to least dangerous

FRA's Safety Data Homepage

- <https://safetydata.fra.dot.gov/OfficeofSafety/default.aspx>



The screenshot shows a web browser window with the address bar displaying <https://safetydata.fra.dot.gov/OfficeofSafety/default.aspx>. The page features the Federal Railroad Administration Office of Safety Analysis logo and a navigation menu with links: Home, What's New, Crossing, Forms/Publications, Downloads, Data, Documents, Policies, and Support. A visitor count of 2228644 is shown. The main content area includes a welcome message and a list of links for updated reporting guidance, accident training modules, new instructions for completing Form FRA F6180.54, accident/incident recordkeeping and reporting reference links, new email and mailing addresses for railroad accident/incident reporting, definition of individual, system and consolidated railroads, and submit highway-rail crossing inventory data with the NEW Grade Crossing Inventory System (GCIS).

FRA-Homepage x

Secure | <https://safetydata.fra.dot.gov/OfficeofSafety/default.aspx>

Apps Fastlane New Tab Secure Site - FRA LP Tank Gas Level Cl State Crossing Inven Scout Pinewood Der secure.bankofameric Southwest Airlines

Federal Railroad Administration
Office of Safety Analysis

Home What's New Crossing Forms/Publications Downloads Data Documents Policies Support

You are Visitor# 2228644

Last update: Monday, July 30, 2018

Home

Welcome to the FRA Office of Safety Analysis Web Site. The purpose of this site is to make railroad safety information including accidents and incidents, inventory and highway-rail crossing data readily available to the public. Site users can run dynamic queries, download a variety of safety database files, publications and forms, and view current statistical information on railroad safety.

TO SEARCH for the data you need, [Click here for PDF](#) or [Click here for WORD](#) version of the Table of Contents. To search by key word among queries, tables and output table fields, click on the link and then search using the MS WORD or PDF search feature (Control F).

**** Updated Part 225 Reporting Guidance ****

**** Accident Incident Training modules ****

**** New Instructions for Completing Form FRA F6180.54- Rail Equipment Accident/Incident Report ****

**** Accident/Incident Recordkeeping and Reporting Reference Links ****

**** New email address for Railroad Accident/Incident Reporting ****

**** New mailing address for Railroad Accident Incident Reporting ****

**** Definition of Individual, System and Consolidated Railroads ****

**** Submit Highway-Rail Crossing Inventory Data with the NEW Grade Crossing Inventory System (GCIS) ****

1 - Overview

Scroll down to 5.03...

5

- 3.11 [Accident Detail Report](#)
- 3.16 [Summary of Train Accidents With Reportable Damage, Casualties, and Major Causes](#)
- 3.17 [Type Of Territory Vs. Accident Type and Cause](#)
- 3.18 [Accident By State/Railroad](#)

4 - Casualties

- 4.02 [FRA Guide for Preparing Accident/Incident Reports \(Published May 2011\)](#)
- 4.03 [FRA Guide \(PDF\) \(Effective May 1, 2003\)](#)

Query FRA Casualty Data:

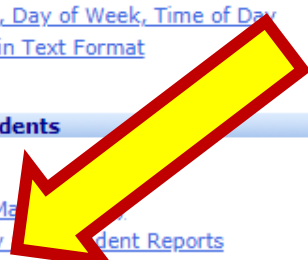
- 4.06 [Casualty Detail Report](#)
- 4.07 [Casualty Map with Table](#)
- 4.08 [Casualty Summary Tables](#)
- 4.09 [Worker Safety Report](#)
- 4.11 [Suicide Casualties By State/Railroad](#)
- 4.12 [Casualties By State/Railroad](#)
- 4.13 [Trespasser Incidents by Age, Day of Week, Time of Day](#)
- 4.14 [One Month Casualty Report in Text Format](#)

5 - Highway-Rail Crossing Accidents

- 5.01 [FRA Guide \(PDF\) \(Effective May 2003\)](#)
- 5.02 [Generate Crossing Inventory and Accident Reports](#)
- 5.03 [Accident Prediction - WBAPS](#)
- 5.06 [FRA Guide for Preparing Accident/Incident Reports \(Published May 2011\)](#)

Query FRA Crossing Accident Data:

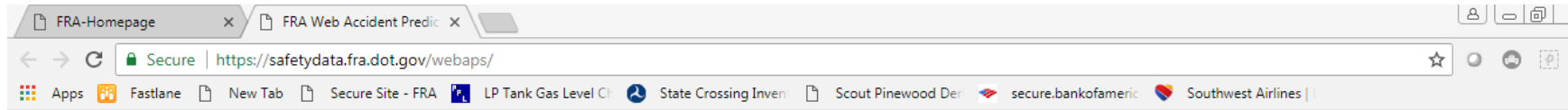
- 5.08 [Frequency of Crossing Collisions](#)
- 5.09 [Hwy/Rail Detail Report](#)
- 5.10 [Hwy/Rail Map with Table](#)
- 5.14 [Hwy Rail Accident Incident Summary By Railroad](#)
- 5.15 [Consolidated Hwy Rail Accident Incident](#)



WBAPS Homepage

6

- <https://safetydata.fra.dot.gov/webaps/>



Federal Railroad Administration
Office of Safety Analysis

FRA Web Accident Prediction System (WBAPS)

Welcome to the newly redesigned FRA Office of Safety Accident/Prediction Web Site. This site was established for the purpose of making railroad safety information readily available to a broad constituency which includes FRA personnel, railroad companies, research and planning organizations and the public, in general.

Visitors have access to railroad safety information including accidents and incidents and highway-rail crossing data. From this site users can run dynamic queries and view current statistical information on railroad safety.

Search by : ☒ Location ☐ Crossing

Select Location(s) and/or Railroad(s), and Choose 'Select'

State: ☐ Entire State

County/City*:
BALDWIN
BARBOUR
BIBB

☒ County ☐ City

*Select more than one County/City in the list by holding down your PC's ctrl key while you click.

Railroad:

[Click here for a complete listing of Railroads](#)

Location selected:	Railroad selected:
<input type="text"/>	<input type="text"/>
<input type="button" value="Remove"/>	<input type="button" value="Remove"/>

FRA Web Accident Prediction System (WBAPS)

Welcome to the newly redesigned FRA Office of Safety Accident/Prediction Web Site. This site was established for the purpose of making railroad safety information readily available to a broad constituency which includes FRA personnel, railroad companies, research and planning organizations and the public, in general.

Visitors have access to railroad safety information including accidents and incidents and highway-rail crossing data. From this site users can run dynamic queries and view current statistical information on railroad safety.

7

Search by : ☒ Location ☐ Crossing

Select Location(s) and/or Railroad(s), and Choose 'Select'

State: Alabama ▼ ☐ Entire State

County/City*:

AUTAUGA
BALDWIN
BARBOUR
BIBB

☒ County ☐ City

Select

*Select more than one County/City in the list by holding down your PC's ctrl key while you click.

Railroad:

▼

[Click here for a complete listing of Railroads](#)

Select

Location selected:

▼

Remove

Railroad selected:

▼

Remove

How many Records?

☒ 30 ☐ 50 ☐ 100 ☐ All

Reports

Begin live demonstration

<https://safetydata.fra.dot.gov/webaps/>

Thank you!

Frank Frey

Frank.frey@dot.gov

202-738-2195



GradeDec.Net

FRA Web-Based Benefit
Analysis Tool

What is GradeDec.Net?

- Web-Based Highway-Rail Grade Crossing Benefit Cost Analysis Tool
 - Evaluates crossing upgrades, closures, and separations
 - Compares grade crossing investment benefits of improved safety and reduced travel time, environmental impacts, and highway vehicle fuel costs to capital and maintenance costs
 - Benefits and costs are discounted to allow decision-makers to inspect future benefits in terms of present day values
 - Meets all criteria outlined in the US DOT Benefit-Costs Analysis Guidance for Discretionary Grant Programs
 - The model is completely transparent. Users can adjust model parameters to more accurately reflect local circumstances.

What is GradeDec.Net?

- Easy access to FRA National Grade Crossing Inventory Database and FRA Accident Data
- Evaluate crossings within a region or along a rail corridor
 - Region: Rank crossings within a county, group of counties, or state
 - Measure the effects of grade crossing closure and separation on adjacent crossings
 - Corridor: Input train and highway vehicle time-of-day arrival rates to estimate probability that trains and vehicles arrive at crossings simultaneously.
- Measures the length of queue behind closed gates to so planners anticipate 'spillback' to the next roadway intersection

LoginGradeDec.Net

<https://gradedec.fra.dot.gov/>

4

U.S. Department of Transportation
Federal Railroad Administration

GradeDec.Net - System for Highway-Rail Grade Crossing Investment Analysis

Welcome to GradeDec.Net

[Login](#) [About](#) [Announcements](#) [Login Assistance](#) [Privacy Policy](#)

You are accessing GradeDec.Net system: a U.S. Government information system. The GradeDec.Net information system, including all related equipment, networks, and network devices, is provided for U.S. Government-authorized use only. Unauthorized or improper use of the GradeDec.Net system is prohibited, and may result in civil and criminal penalties. The communications and data stored or transiting this system may be, for any lawful Government purpose, monitored, recorded, and subject to audit or investigation. By using the GradeDec.Net system, you understand and consent to such terms.

- To read more about GradeDec.Net, click "About" on the toolbar at the top of the page.
- If you experience difficulty logging in, clear your browser's cache of temporary files. This feature can be found in your browser options. (Or click [here](#) for detailed instructions).
- After logging in, the Navigation bar on the left side of the screen also serves as a menu for page-specific functions. Place the mouse over the Navigation bar to view the functions available for the page.
- Current social cost values from the DOT Benefit-Cost Analysis Resource Guide are included by default in scenarios when you create a new dataset. Datasets created prior to February 6, 2017 may not have the most current social cost values.

A revised User's Manual is now available and can be accessed, after logging in, from the Help option of the Main Menu. Please contact [Karen McClure](#), 202-493-6417, at the Federal Railroad Administration if you have additional questions.

LOGIN AND REGISTRATION

Do you have a User ID and password?

Yes

I have a User ID and password

Enter below, then click "Submit"

User ID:

No

I need to create a User ID and password

Click "Go" for New User Registration

U.S. Department of Transportation
Federal Railroad Administration

Select Regional Model and Import All Crossings In County

U.S. Department of Transportation
Federal Railroad Administration

GradeDec.Net - System for Highway-Rail Grade Crossing Investment Analysis

Current Settings ==> User: kmcluredca Dataset: Volpe Present Model: Region Corridor: Broward Co Scenario: Strong highway growth Results: Placeholder - Regional Model

Settings

Selected Dataset: Volpe Present [Enable](#) [Create New Dataset](#) [Delete Dataset](#)

Selected Model: Corridor Model REGIONAL MODEL

Viewing in table below the selected: REGION Scenario Results Set

Selected Region: Broward Co [Go](#) [Create New Region](#) [Delete Region](#)

Settings for the selected region. [Edit](#)

Item	Value
Region ID	7
Description	Broward Co
Effectiveness Factor, New Technology 1	0.5
Effectiveness Factor, New Technology 2	0.5
Effectiveness Factor, New Technology 3	0.5
Percent Benefit from Closure	0
Allow Capital Programming?	False
Default region for the dataset?	False
Last Modified	8/2/2018 2:36:00 PM

Edit to modify the settings for the selection.

Upgrade all crossing while importing

U.S. Department of Transportation
Federal Railroad Administration

GradeDec.Net - System for Highway-Rail Grade Crossing Investment Analysis

Current Settings ==> User: kmcluredca Dataset: Volpe Present Model: Region Corridor: Broward Co Scenario: Strong highway growth Results: Placeholder - Regional Mode

> Settings
> Crossings
 Import
> Scenario
> Parameters
> Simulation
> Results
> Help
> Update
> Logout

Model Parameters, Traffic Distributions and Other Data

Import You are importing data from the National Grade Crossing Inventory to your selected region: Broward Co. Choose criteria to right before selecting an area for importing.

FLORIDA Go

Select county(ies): [View map](#)

BAY Go
BRADFORD
BREVARD
BROWARD

Select subarea(s) within the selected county:

WHOLE COUNTY Go
CITY NOT SPECIFIED
COCONUT CREEK
COLLIER CITY

Selected Areas	
FL, BROWARD, WHOLE COUNTY	Delete

[View selected inventory records](#)

Import crossings data


OPTIONS Criteria | Select or re-select area after setting options or criteria

☒ Automatically fill crossing default costs?
☒ Automatically select alternative type?
☒ Calculate predicted accidents after import?

Base type	Alternative type
No device	==> Flashing lights
Other stop	==> Flashing lights
Crossbucks	==> Flashing lights
Stop signs	==> Flashing lights
Special procedures	==> Gates
Wigwags, etc.	==> Gates
Flashing lights	==> Gates
Gates	==> New technology

Go to Crossings page to verify all imported data

7

 U.S. Department of Transportation
Federal Railroad Administration

GradeDec.Net - System for Highway-Rail Grade Crossing Investment Analysis

Current Settings ==> User: kmccloedca Dataset: Volpe Present Model: Region Corridor: Broward Co Scenario: Strong highway growth Results: Placeholder - Regional Mode

Settings
Crossings
Import
Scenario
Parameters
Simulation
Results
Help
Update
Logout

Crossings in the Region

Select a crossing to view or edit:

1. MP:0326.81 ID:272511K FEC - NE 2ND ST - ELLER STREET
2. MP:0326.97 ID:272512S FEC - HILLSBORO BLVD - SR 810
3. MP:0327.41 ID:272513Y FEC - SE 4TH ST
4. MP:0327.95 ID:272514F FEC - SW 10TH ST
5. MP:0328.48 ID:272515M FEC - SW15TH ST
6. MP:0329.01 ID:272516U FEC - NE 48TH ST
7. MP:0330.06 ID:272517B FEC - SAMPLE ROAD - SR 834
8. MP:0330.31 ID:272518H FEC - WALTON RD 33RD ST
9. MP:0331.10 ID:272519P FEC - COPANS RD
10. MP:0333.00 ID:272520J FEC - DIXIE HIGHWAY

Go
Enter "Delete Crossings" mode
↑
↓

Select data to view / edit: GENERAL Devices Highway Rail Cost APS model

Data for the crossing MP:0326.81 ID:272511K Edit

	Item	Value
Edit all	Crossing ID	272511K
Edit all	Milepost	326.81
Edit all	Description	FEC - NE 2ND ST - ELLER STREET
Edit all	Urban?	True
Edit all	Paved?	True
Edit all	Rank	0

Edit to modify the data for the selected crossing.
NOTE: Click "Go" to refresh the data after "Edit all" or "Quick Import"

All 140 Broward County crossings are imported.

Use US DOT APS Model to estimate risk for each crossing and the entire county

Crossings in the Region

Select a crossing to view or edit:

1. MP:0326.81 ID:272511K FEC - NE 2ND ST - ELLER STREET
2. MP:0326.97 ID:272512S FEC - HILLSBORO BLVD - SR 810
3. MP:0327.41 ID:272513Y FEC - SE 4TH ST
4. MP:0327.95 ID:272514F FEC - SW 10TH ST
5. MP:0328.48 ID:272515M FEC - SW15TH ST
6. MP:0329.01 ID:272516U FEC - NE 48TH ST
7. MP:0330.06 ID:272517B FEC - SAMPLE ROAD - SR 834
8. MP:0330.31 ID:272518H FEC - WALTON RD 33RD ST
9. MP:0331.10 ID:272519P FEC - COPANS RD
10. MP:0333.00 ID:272520J FEC - DIXIE HIGHWAY

Go Enter "Delete Crossings" mode

Select data to view / edit: **General** Devices Highway Rail Cost **APS MODEL**

Update your personal info

Data for the crossing MP:0326.81 ID:272511K Edit

	Item	Value
Edit all	Number of accidents at crossing, previous year	0
Edit all	Number of accidents at crossing, 2 years ago	0
Edit all	Number of accidents at crossing, 3 years ago	0
Edit all	Number of accidents at crossing, 4 years ago	0
Edit all	Number of accidents at crossing, 5 years ago	0
Edit all	Include aggravating risk factors?	False

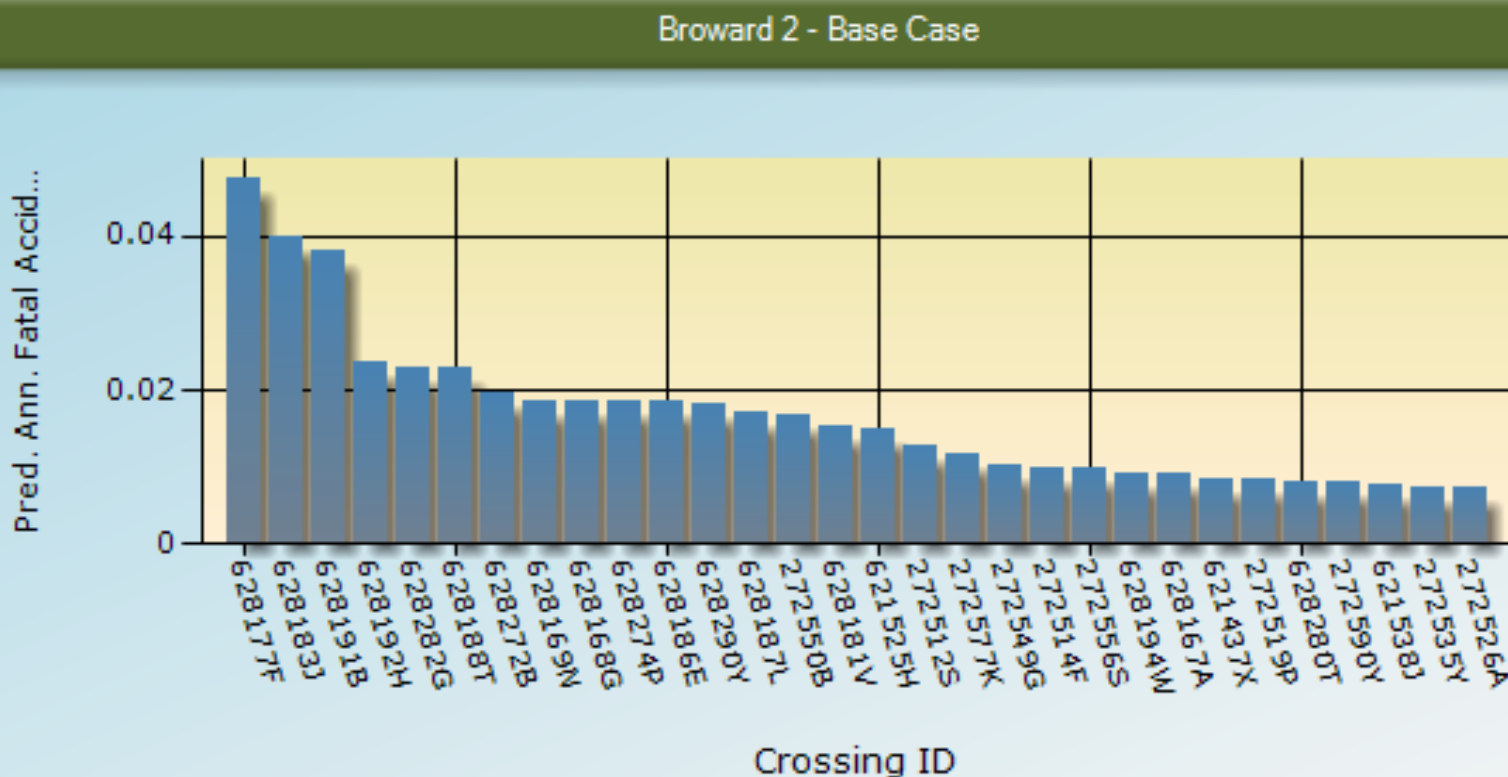
Edit to modify the data for the selected crossing.
NOTE: Click "Go" to refresh the data after "Edit all" or "Quick Import"

Recalculate Show Chart

Annual Predicted Accidents

	This Crossing		Regional Summary	
	Base	Alt	Base	Alt
Fatal	0.002355	0.001177	0.766521	0.378863
Injury	0.005686	0.002843	2.116954	1.018567
PDO	0.013348	0.006674	5.572701	2.673408
Total	0.021389	0.010694	8.456176	4.070838

Select the 10 most dangerous crossing IDs in the county



Switch to Corridor Model, Use Quick Import to select top 10 high risk crossings

Current Settings ==>	User: kmccluredca	Dataset: Broward Co 2	Model: Corridor	Corridor: broward Co Top 10	Scenario: Strong rail growth
----------------------	----------------------	--------------------------	--------------------	--------------------------------	---------------------------------

- > Settings
- > Crossings
- > Import
- > Scenario
- > Parameters
- > Simulation
- > Results
- > Help
- > Update
- > Logout

GradeDec.Net - Quick import page - Google Chrome

Secure | <https://gradedec.fra.dot.gov/QuickImport.aspx>

Close this window when you have finished importing

Quick Import Enter up to five IDs Import List Import crossings to corridor: broward Co Top 10

Option 1 - Import Up to 5 Crossings - Enter Crossing IDs on Page

Enter below the identification number(s) of the crossing(s) to import to the current corridor.

Crossing 1	<input type="text" value="628177F"/>
Crossing 2	<input type="text"/>
Crossing 3	<input type="text"/>
Crossing 4	<input type="text"/>
Crossing 5	<input type="text"/>

Import the crossings

Option 2 - Import Crossings Using a File with a List of IDs

Prepare a comma separated value (CSV) file that contains a list of Grade Crossing IDs to import from the National Grade Crossing Inventory of Public Highway-Rail Grade Crossings. Along with each crossing ID, the list should specify a rank value. The file should contain column headers in the first row (Rank and ID) followed by successive rows with the rank and the ID of each crossing to import. The rank value

Sample List File	
Rank,	ID
1,	003629K
2,	003630E

Calculate the Maximum Queue Length Behind Each Crossing

Results: Placeholder - Corridor Model

Selected results data group: [Show summary chart](#)

	Variable	Mean Value	Standard Deviation
No view	Max queue length, last year, GCX 1, PCE, MP 1001.29	71.067	NaN
No view	Max queue length, last year, GCX 2, PCE, MP 1002.3	42.604	NaN
No view	Max queue length, last year, GCX 3, PCE, MP 1004.34	29.929	NaN
No view	Max queue length, last year, GCX 4, PCE, MP 1006.31	18.160	NaN
No view	Max queue length, last year, GCX 5, PCE, MP 1007.88	7.801	NaN
No view	Max queue length, last year, GCX 6, PCE, MP 1009.01	36.414	NaN
No view	Max queue length, last year, GCX 7, PCE, MP 1010.08	10.771	NaN
No view	Max queue length, last year, GCX 8, PCE, MP 1016.2	28.747	NaN
No view	Max queue length, last year, GCX 9, PCE, MP 1017.3	24.567	NaN
No view	Max queue length, last year, GCX 10, PCE, MP 1020.85	28.144	NaN

Go to the Simulation Page, click run, then select Max Queue, last year, by GCX. Identify crossings most suitable for separation

Return to the Crossings page,
Click the Devices tab, click “Edit
All’ alternative devices, then
separate the top two crossings.

Data for all crossings in the corridor

[Edit](#)

No.	Crossing ID	Milepost	Description	Alternate Case Device
1	628168G	1001.29	SFRV - NW 36 ST/SAMPLE R	Grade Separation
2	628169N	1002.3	SFRV - COPANS RD	Grade Separation
3	628177F	1004.34	SFRV - ATLANTIC BLVD	New Technology 1
4	628183J	1006.31	SFRV - NW 62ND/CYPRESS C	New Technology 1
5	628188T	1007.88	SFRV - PROSPECT RD	New Technology 1
6	628191B	1009.01	SFRV - OAKLAND PARK BLVD	New Technology 1
7	628192H	1010.08	SFRV - NW 19TH ST	New Technology 1
8	628272B	1016.2	SFRV - NEW GRIFFIN RD	New Technology 1
9	628274P	1017.3	SFRV - STIRLING RD	New Technology 1
10	628282G	1020.85	SFRV - PEMBROKE RD	New Technology 1

Adjust Highway Traffic Time of Day Arrival Rate

Crossings in the Corridor

Select a crossing to view or edit:

1. MP:1001.29 ID:628168G SFRV - NW 36 ST/SAMPLE R
2. MP:1002.3 ID:628169N SFRV - COPANS RD
3. MP:1004.34 ID:628177F SFRV - ATLANTIC BLVD
4. MP:1006.31 ID:628183J SFRV - NW 62ND/CYPRESS C
5. MP:1007.88 ID:628188T SFRV - PROSPECT RD
6. MP:1009.01 ID:628191B SFRV - OAKLAND PARK BLVD
7. MP:1010.08 ID:628192H SFRV - NW 19TH ST
8. MP:1016.2 ID:628272B SFRV - NEW GRIFFIN RD
9. MP:1017.3 ID:628274P SFRV - STIRLING RD
10. MP:1020.85 ID:628282G SFRV - PEMBROKE RD

Go Enter "Delete Crossings" mode

View / edit: General Devices HIGHWAY Rail Cost APS model HSR model

View the crossing MP:1001.29 ID:628168G Edit

	Item	Value
Edit all	Number of Lanes	6
Edit all	AADT	59000
Edit all	Percent of trucks	45
Edit all	of this, trailers	0
Edit all	Percent of Buses	0
Edit all	T-O-D distribution of auto traffic	PM Peak
Edit all	T-O-D distribution of truck segment	Day Flat
Edit all	T-O-D distribution of bus traffic	AM Peak
Edit all	Traffic direction auto	Balanced
Edit all	Traffic direction trucks	Balanced
Edit all	Traffic direction bus	Balanced
Edit all	Distance from closest intersection	0.1
Edit all	Traffic Management Measures?	False

Edit to modify the data for the selected crossing.
Check "Traffic Management Measures" to enable different values in alternate case.
NOTE: Click "Go" to refresh the data after "Edit all" or "Quick Import"

Use “Edit All” for all auto traffic distributed to PM peak

Data for all crossings in the corridor

[Cancel](#) [Update](#)

No.	Crossing ID	Milepost	Description	T-O-D distribution of auto traffic
1	628168G	1001.29	SFRV - NW 36 ST/SAMPLE R	PM Peak ▼
2	628169N	1002.3	SFRV - COPANS RD	PM Peak ▼
3	628177F	1004.34	SFRV - ATLANTIC BLVD	PM Peak ▼
4	628183J	1006.31	SFRV - NW 62ND/CYPRESS C	PM Peak ▼
5	628188T	1007.88	SFRV - PROSPECT RD	PM Peak ▼
6	628191B	1009.01	SFRV - OAKLAND PARK BLVD	PM Peak ▼
7	628192H	1010.08	SFRV - NW 19TH ST	PM Peak ▼
8	628272B	1016.2	SFRV - NEW GRIFFIN RD	PM Peak ▼
9	628274P	1017.3	SFRV - STIRLING RD	PM Peak ▼
10	628282G	1020.85	SFRV - PEMBROKE RD	PM Peak ▼

Be sure to click “Update” to save your changes.

Benefit Cost Results at the 7 percent discount rate

Results: Placeholder - Corridor Model

Selected results data group: Benefits and Benefit-Cost Summary ▼ Go [Show summary chart](#)

	Variable	Mean Value
No view	Safety benefits, thous \$ PV	28156.590
No view	Travel time savings, thous \$ PV	37618.070
No view	Environmental benefits, thous \$ PV	4151.333
No view	Veh operating cost benefit, thous \$ PV	11513.290
No view	Network benefits, thous \$ PV	70.713
Help	Total benefits, thous \$ PV	82717.030
Reference Help	of this, benefits from induced trips, thous \$ PV	29.829
ing Workbooks	of this, disbenefits from induced trips, thous \$ PV	-80.621
ut GradeDec.Net	of this, investment salvage value, thous \$ PV	1257.826
No view	Total costs, thous \$ PV	23000.700
No view	Net benefits, thous \$ PV	59716.330
No view	Benefit-cost ratio	3.596
No view	Rate of return (constant dollars), %	19.143
No view	Local benefits (not included in summary), thous \$ PV	8271.703

Intermediate Values: Maximum Queue Length

Results: Placeholder - Regional Model

Selected results data group:

Max Queue Length, last year, by GCX ▼

Go

[Show summary chart](#)

Variable	Mean Value	Stdev
Max queue length, last year, GCX 1, PCE, ID 272511K	5.890	
Max queue length, last year, GCX 2, PCE, ID 272512S	425.665	
Max queue length, last year, GCX 3, PCE, ID 272513Y	5.084	
Max queue length, last year, GCX 4, PCE, ID 272514F	95.014	
Max queue length, last year, GCX 5, PCE, ID 272515M	12.342	
Max queue length, last year, GCX 6, PCE, ID 272516U	17.157	
Max queue length, last year, GCX 7, PCE, ID 272517B	425.665	
Max queue length, last year, GCX 8, PCE, ID 272518H	15.630	
Max queue length, last year, GCX 9, PCE, ID 272519P	397.776	
Max queue length, last year, GCX 10, PCE, ID 272520J	2851.942	

Targeting the two most dangerous crossing of the 10 selected for the analysis reduced accident risk by 50%.

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Crossings in the Corridor

Select a crossing to view or edit:

1. MP:1001.29 ID:628168G SFRV - NW 36 ST/SAMPLE R

2. MP:1002.3 ID:628169N SFRV - COPANS RD

3. MP:1004.34 ID:628177F SFRV - ATLANTIC BLVD

4. MP:1006.31 ID:628183J SFRV - NW 62ND/CYPRESS C

5. MP:1007.88 ID:628188T SFRV - PROSPECT RD

6. MP:1009.01 ID:628191B SFRV - OAKLAND PARK BLVD

7. MP:1010.08 ID:628192H SFRV - NW 19TH ST

8. MP:1016.2 ID:628272B SFRV - NEW GRIFFIN RD

9. MP:1017.3 ID:628274P SFRV - STIRLING RD

10. MP:1020.85 ID:628282G SFRV - PEMBROKE RD

Go

Enter "Delete Crossings" mode

Select data to view / edit:

General

Devices

Highway

Rail

Cost

APS MODEL

HSR model

Data for the crossing **MP:1001.29 ID:628168G**

Edit

	Item	Value
Edit all	Number of accidents in previous five years at the crossing	1
Edit all	Include aggravating risk factors?	False

Edit to modify the data for the selected crossing.
NOTE: Click "Go" to refresh the data after "Edit all" or "Quick Import"

[Recalculate](#)

[Show Chart](#)

	This Crossing		Corridor Summary	
	Base	Alt	Base	Alt
Fatal	0.018390	0.000000	0.267011	0.114893
Injury	0.028586	0.000000	0.473520	0.207830
PDO	0.079627	0.000000	1.349835	0.594330
Total	0.126603	0.000000	2.090366	0.917053

U.S. Department of Transportation
Federal Railroad Administration

Add 4 quad gates with 60' median barriers to the other 8 crossings

Crossings in the Corridor

Select a crossing to view or edit:

1. MP:1001.29 ID:628168G SFRV - NW 36 ST/SAMPLE R
2. MP:1002.3 ID:628169N SFRV - COPANS RD
3. MP:1004.34 ID:628177F SFRV - ATLANTIC BLVD
4. MP:1006.31 ID:628183J SFRV - NW 62ND/CYPRESS C
5. MP:1007.88 ID:628188T SFRV - PROSPECT RD
6. MP:1009.01 ID:628191B SFRV - OAKLAND PARK BLVD
7. MP:1010.08 ID:628192H SFRV - NW 19TH ST
8. MP:1016.2 ID:628272B SFRV - NEW GRIFFIN RD
9. MP:1017.3 ID:628274P SFRV - STIRLING RD
10. MP:1020.85 ID:628282G SFRV - PEMBROKE RD

Go Enter "Delete Crossings" mode

Select data to view / edit: **General** Devices Highway Rail Cost **APS MODEL** HSR model

date your personal info

Data for the crossing MP:1007.88 ID:628188T Edit

	Item	Value
Edit all	Number of accidents in previous five years at the crossing	1
Edit all	Include aggravating risk factors?	False

Edit to modify the data for the selected crossing.
NOTE: Click "Go" to refresh the data after "Edit all" or "Quick Import"

[Recalculate](#) [Show Chart](#)

This Crossing			Corridor Summary	
	Base	Alt	Base	Alt
Fatal	0.022158	0.001773	0.267011	0.018383
Injury	0.027997	0.002240	0.473520	0.033253
PDO	0.063234	0.005059	1.349835	0.095093
Total	0.113389	0.009071	2.090366	0.146728

Questions?



Thank you!

Karen McClure

Economist, Office of Safety Regulatory Analysis

karen.mcclure@dot.gov

202-493-6417