

Railroad Fatalities in the United States: 2012 - 2019

- What are we talking about?
- What have we talked about before?
- Long-term Trend in Fatalities: 1975 to 2019 – *Decreasing* Rates and Number of Fatalities
- Short-term Trend in Fatalities: 2012 to 2019 – *Increasing* Rates and Number of Fatalities
- Focus on Non-Vehicle & Non-Motorized Fatalities – 80.1% of All Fatalities
- A Few Characteristics of Fatalities: Suicide, Month, Hour, Age & Gender
- What's Next?



Steve Laffey, Railroad Safety Specialist
Illinois Commerce Commission

Stephen.Laffey@Illinois.Gov

October 22, 2020



DuPage
Railroad Safety
CouncilSM

What Are We Talking About?

1. <u>All Causes of Death</u> in United States	2017 Fatalities	%	2. <u>Transportation</u> <u>Accident</u> Fatalities Subset	2017 Fatalities	%	3. <u>Railroad</u> Fatalities Sub- Subset	2017 Fatalities	%
Heart Disease	647,457	23.0%						
Cancer	599,108	21.3%						
All Other	561,920	20.0%						
Accidents	169,936	6.0%						
Respiratory Disease	160,201	5.7%	Highway	37,473	94.0%	Trespass Not at Xing	506	46.2%
Cerebrovascular Disease	146,383	5.2%	Railroad (Exc Suicide)	818	2.1%	Xing-Vehicle	169	15.4%
Alzheimers	121,404	4.3%	Water	709	1.8%	Xing-Ped & Other	102	9.3%
Diabetes	83,564	3.0%	Air	347	0.9%	Other	26	2.4%
<i>Influenza/Pneumonia</i>	<i>55,672</i>	<i>2.0%</i>	Transit	239	0.6%	Employee & Contractor	15	1.4%
Nephritis	50,633	1.8%	Pipeline	20	0.1%			
Suicide	47,173	1.7%	Railroad Suicide	277	0.7%	Suicide Not at Xing	239	21.8%
Liver Disease	41,743	1.5%				Suicide Ped & Other at Xing	32	2.9%
Septicemia	40,922	1.5%				Suicide Vehicle at Xing	6	0.5%
Hypertension	35,316	1.3%				<i>In 2017, Suicide was 1.7% of Total Fatalities, but 25.2% of Railroad Fatalities</i>		
Parkinsons	31,963	1.1%						
Pneumonitis	20,108	0.7%						
Total All Fatalities	2,813,503	100.0%	Sub-Total Transportation	39,883	100.0%	Sub-Sub-Total Railroad	1,095	100.0%
			Transportation % of Total Accidents (39,883/169,936)	23.5%		Railroad % of Transportation (1,095/39,883)	2.7%	
			Transportation % of All Fatalities in 2017 (39,883/2,813,503)	1.4%		Railroad % of All Fatalities (1,095/2,813,503)	0.04%	

2,813,503

39,883 @ 1.4%

1,095 @ 0.04%

What Have We Talked About Before?

- 2016: *A Call to Action – Eliminate Trespasser Deaths and Injuries*
- 2018: *The Trespasser / Suicide Reduction Goal*

Three DRSC Analyses By Type of Person	1st Edition @ 2016		2nd Edition @ 2018		3rd Edition @ 2020	
	4 Person Types & 4 Years		7 Person Types & 5 Years		8 Person Types & 8 Years	
	2012 to 2015	%	2013 to 2017	%	2012 to 2019	%
Trespass Not at Xing	1,770	43.6%	2,346	44.6%	3,826	45.4%
Xing-Vehicle	964	23.8%	822	15.6%	1,284	15.3%
Xing-Ped & Other			436	8.3%	755	9.0%
Employee & Contractor					147	1.7%
Other	176	4.3%	220	4.2%	174	2.1%
Suicide Not at Xing	1,146	28.3%	1,209	23.0%	1,891	22.5%
Suicide Vehicle at Xing			45	0.9%	68	0.8%
Suicide Ped & Other at Xing			178	3.4%	274	3.3%
Total Number of Fatalities	4,056	100.0%	5,256	100.0%	8,419	100.0%

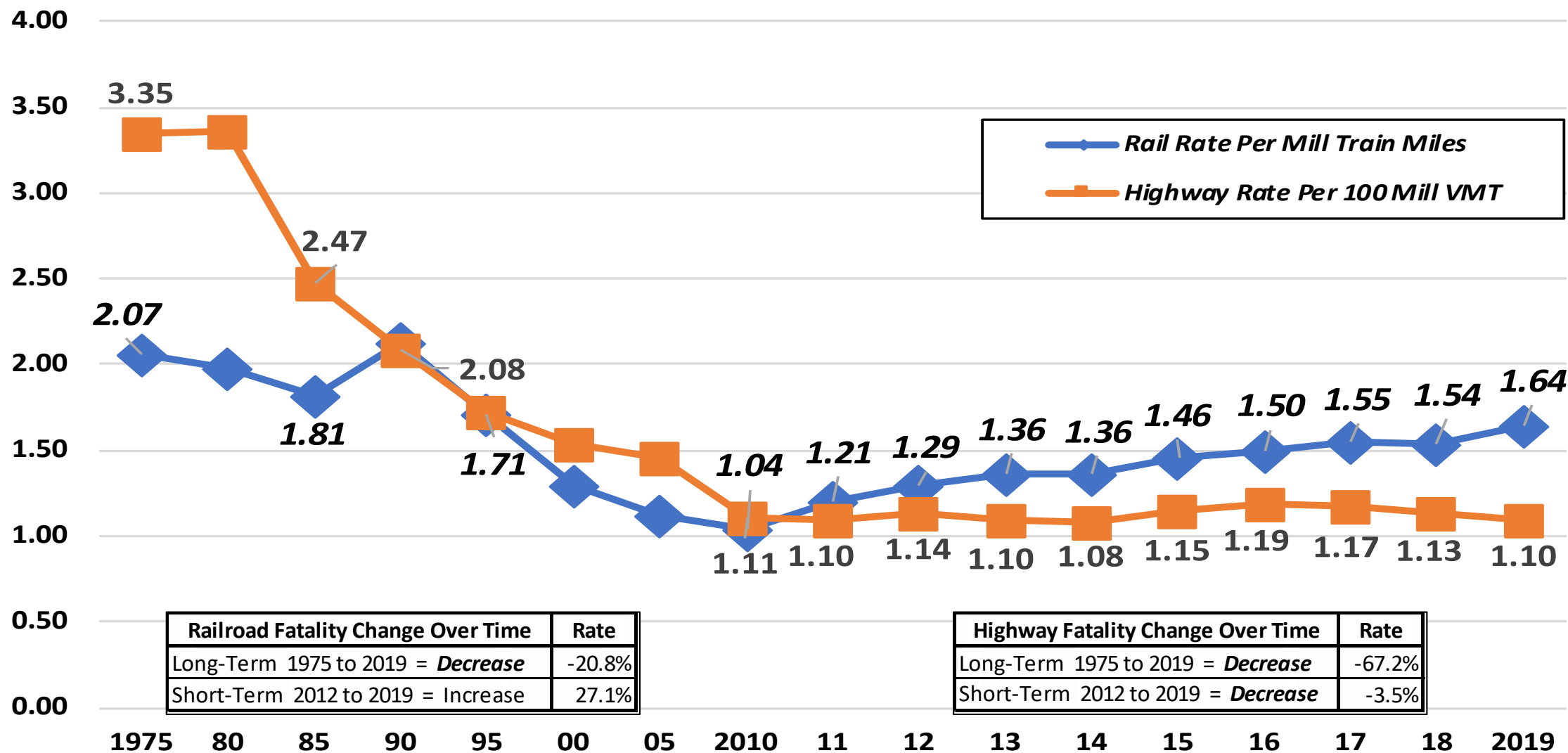
1,014

1,051

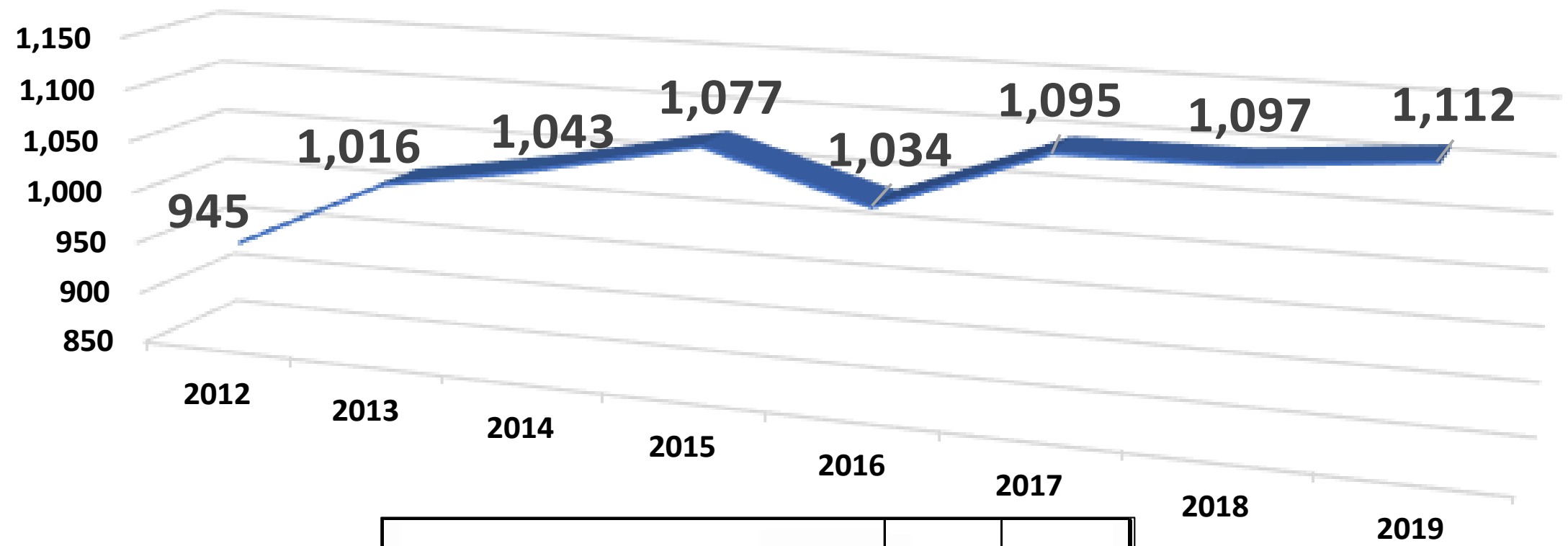
1,052

Fatality Rate Comparison

Highway & Railroad: 1975 - 2019



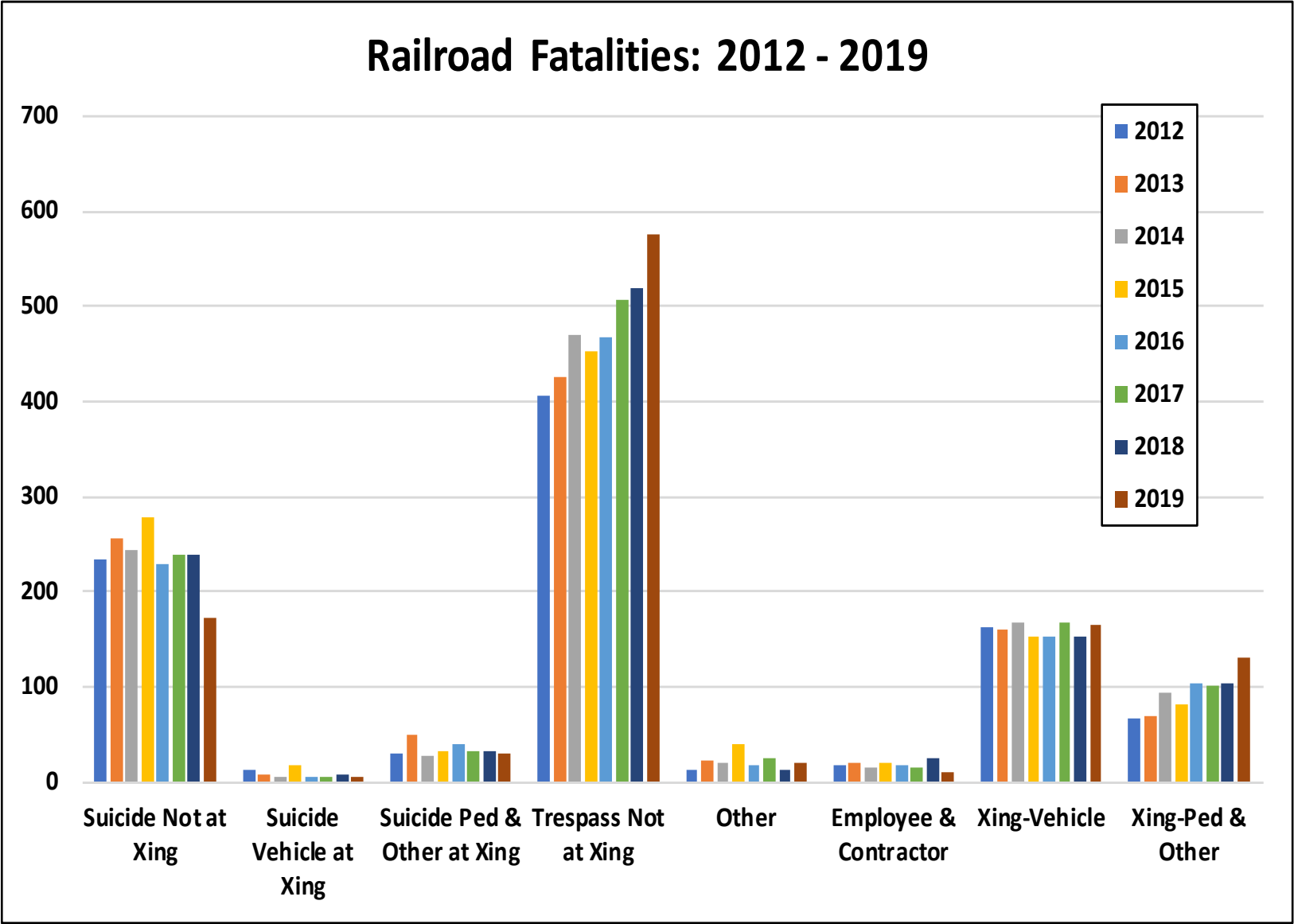
Railroad Fatalities in the United States: 2012 - 2019



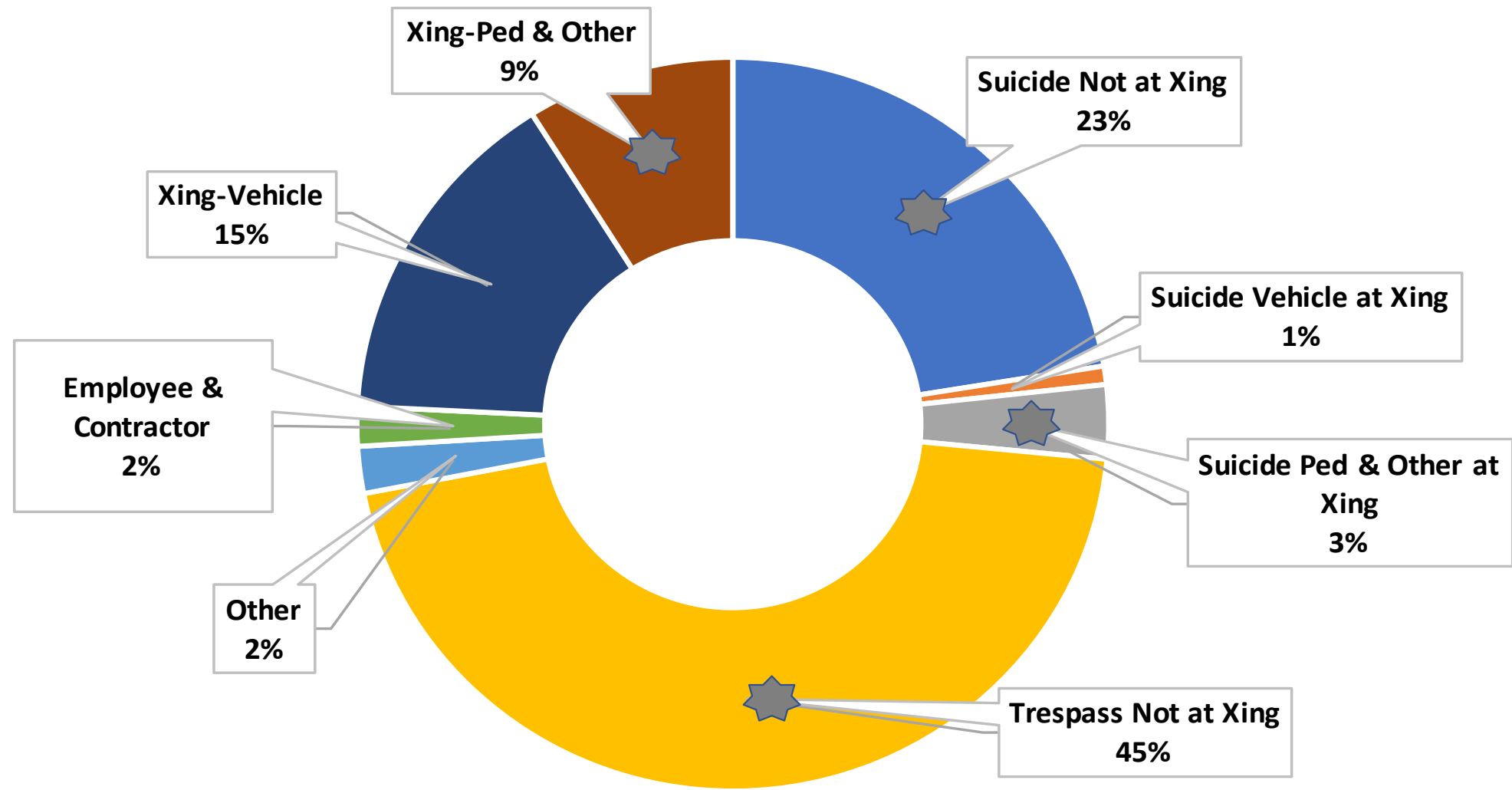
Change Over Time	Rate	Quantity
Long-Term 1975 to 2019 = Decrease	-20.8%	-28.7%
Short-Term 2012 to 2019 = Increase	27.1%	17.7%

Year	Suicide			Trespass Not at Xing	Other	Employee & Contractor	Crossing		Total
	Suicide Not at Xing	Suicide Vehicle at Xing	Suicide Ped & Other at Xing				Xing- Vehicle	Xing- Ped & Other	
2012	234	12	30	407	13	19	163	67	945
2013	256	8	50	427	24	21	160	70	1,016
2014	243	6	27	469	20	16	167	95	1,043
2015	278	17	33	453	39	21	154	82	1,077
2016	229	5	40	467	19	19	152	103	1,034
2017	239	6	32	506	26	15	169	102	1,095
2018	240	8	33	520	12	25	154	105	1,097
2019	172	6	29	577	21	11	165	131	1,112
Total	1,891	68	274	3,826	174	147	1,284	755	8,419
%	22.5%	0.8%	3.3%	45.4%	2.1%	1.7%	15.3%	9.0%	100.0%
	26.5%						24.2%		

Migration Between Categories for 2019 of Trespass and Suicides with Trespass Decreasing Slightly and Suicide Increasing Slightly



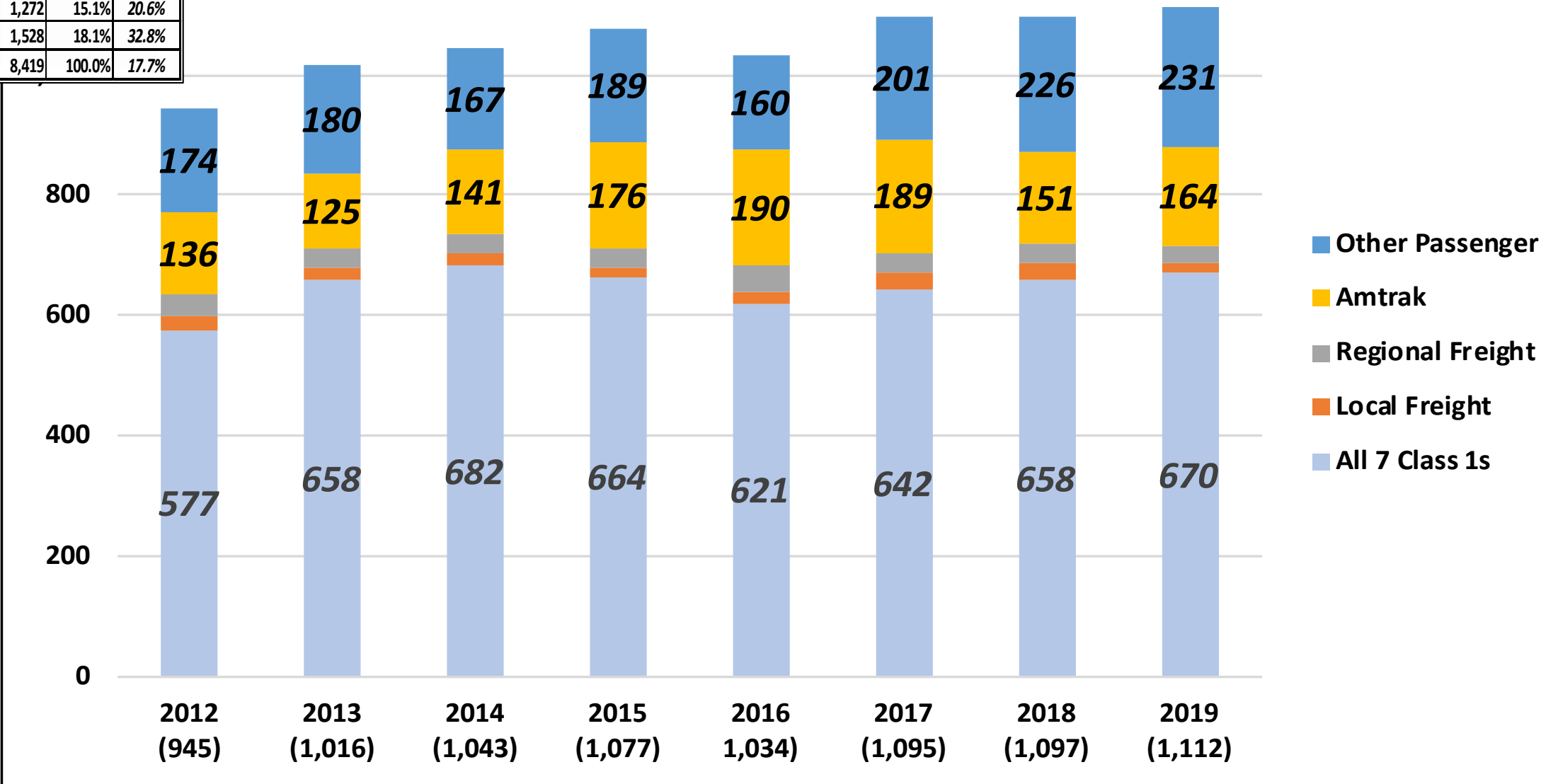
Railroad Fatalities: 2012 - 2019



★ 80.1% Non-Vehicle & Non-Motorized

Railroad Fatalities By Type of Railroad: 2012 - 2019

Railroad System	Total	% of Total Deaths	% Change 2012 to
All 7 Class 1s	5,172	61.4%	16.1%
Local Freight	174	2.1%	-33.3%
Regional Freight	273	3.2%	-8.8%
Amtrak	1,272	15.1%	20.6%
Other Passenger	1,528	18.1%	32.8%
Total	8,419	100.0%	17.7%



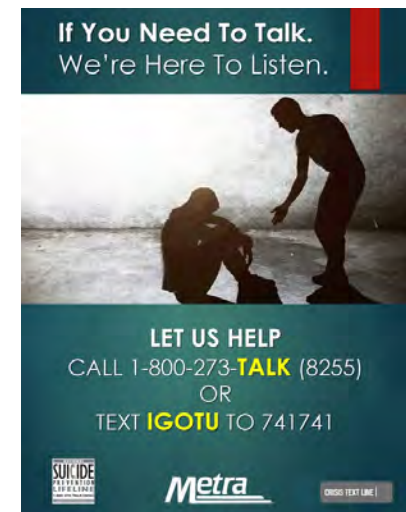
Focus on Rail Related Suicide

26.5% of All Railroad Fatalities

***Medical Examiner Determination Required to Identify Cases of Confirmed Suicide.
Likely a Significant Undercount of the True Number of Suicide Fatalities.***

Three Suicide Types	2012	2013	2014	2015	2016	2017	2018	2019	Total	%
6-Suicide Not at Xing	234	256	243	278	229	239	240	172	1,891	22.5%
7-Suicide Vehicle at Xing	12	8	6	17	5	6	8	6	68	0.8%
8-Suicide Ped/Other at Xing	30	50	27	33	40	32	33	29	274	3.3%
Three Suicide Type Sub-Total	276	314	276	328	274	277	281	207	2,233	26.5%
	29.2%	30.9%	26.5%	30.5%	26.5%	25.3%	25.6%	18.6%	26.5%	

Any of FRA's standard ten types of person can be flagged as being a suicide. Suicide collectively accounted for 2,233 of the total 8,419 fatalities that occurred between 2012 and 2019 (26.5%).



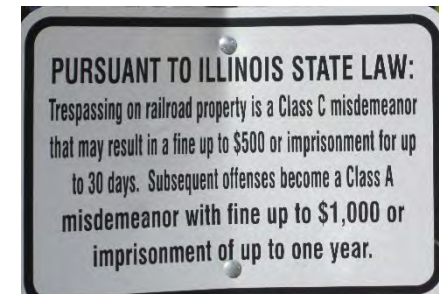
Focus on Four Types of Non-Vehicle & Non-Motorized Fatalities

80.1% of all Railroad Fatalities

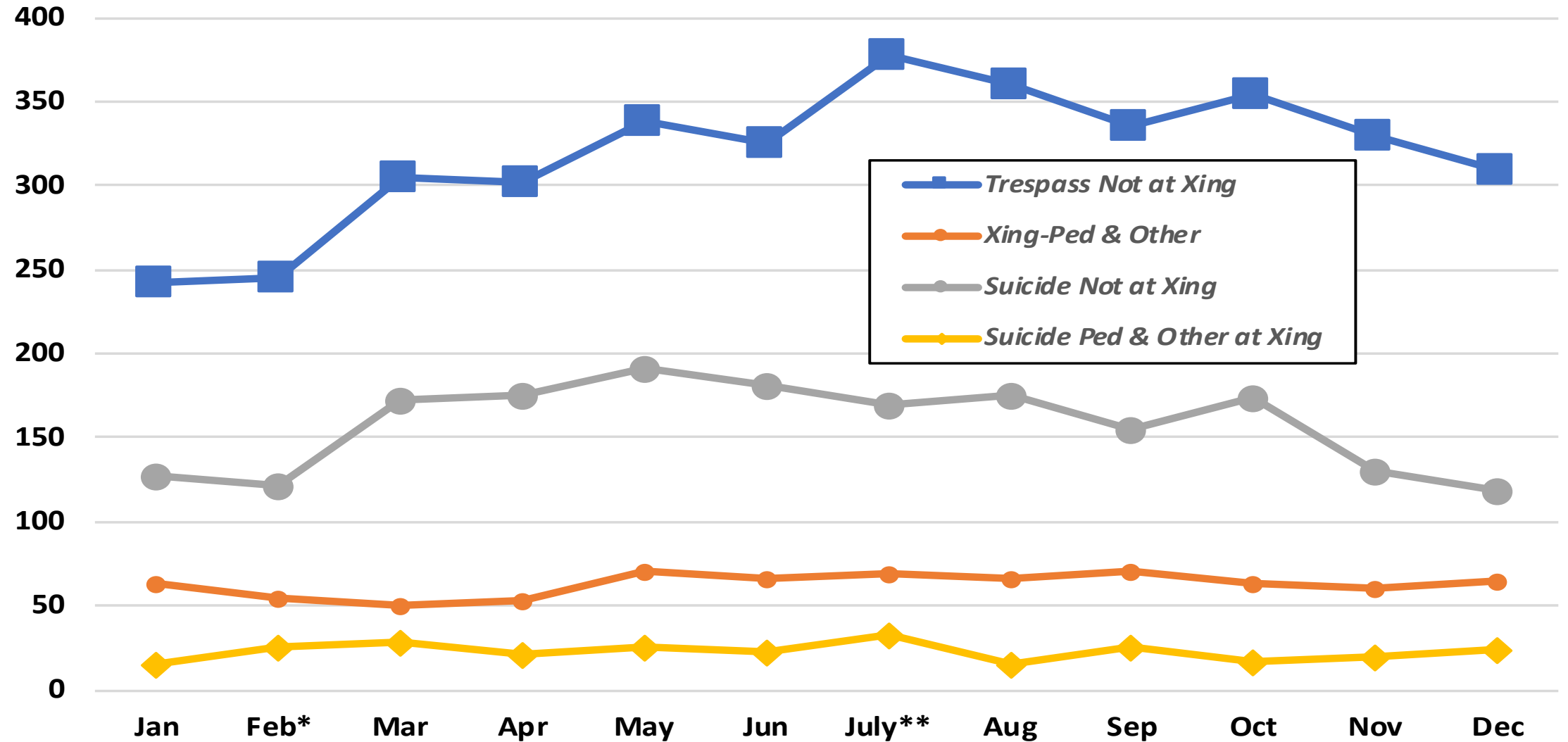
4 Non-Motorized Types of Person	2012 (945)	2013 (1,016)	2014 (1,043)	2015 (1,077)	2016 1,034)	2017 (1,095)	2018 (1,097)	2019 (1,112)	Total (8,419)	%
Trespass Not at Xing	407	427	469	453	467	506	520	577	3,826	56.7%
Xing-Ped & Other	67	70	95	82	103	102	105	131	755	11.2%
Suicide Not at Xing	234	256	243	278	229	239	240	172	1,891	28.0%
Suicide Ped & Other	30	50	27	33	40	32	33	29	274	4.1%
Total	738	803	834	846	839	879	898	909	6,746	100.0%
% of Total Per Year	78.1%	79.0%	80.0%	78.6%	81.1%	80.3%	81.9%	81.7%	80.1%	

Perception of vehicle related fatalities at crossings.

Should funding be oriented to actually reducing the number of fatalities?

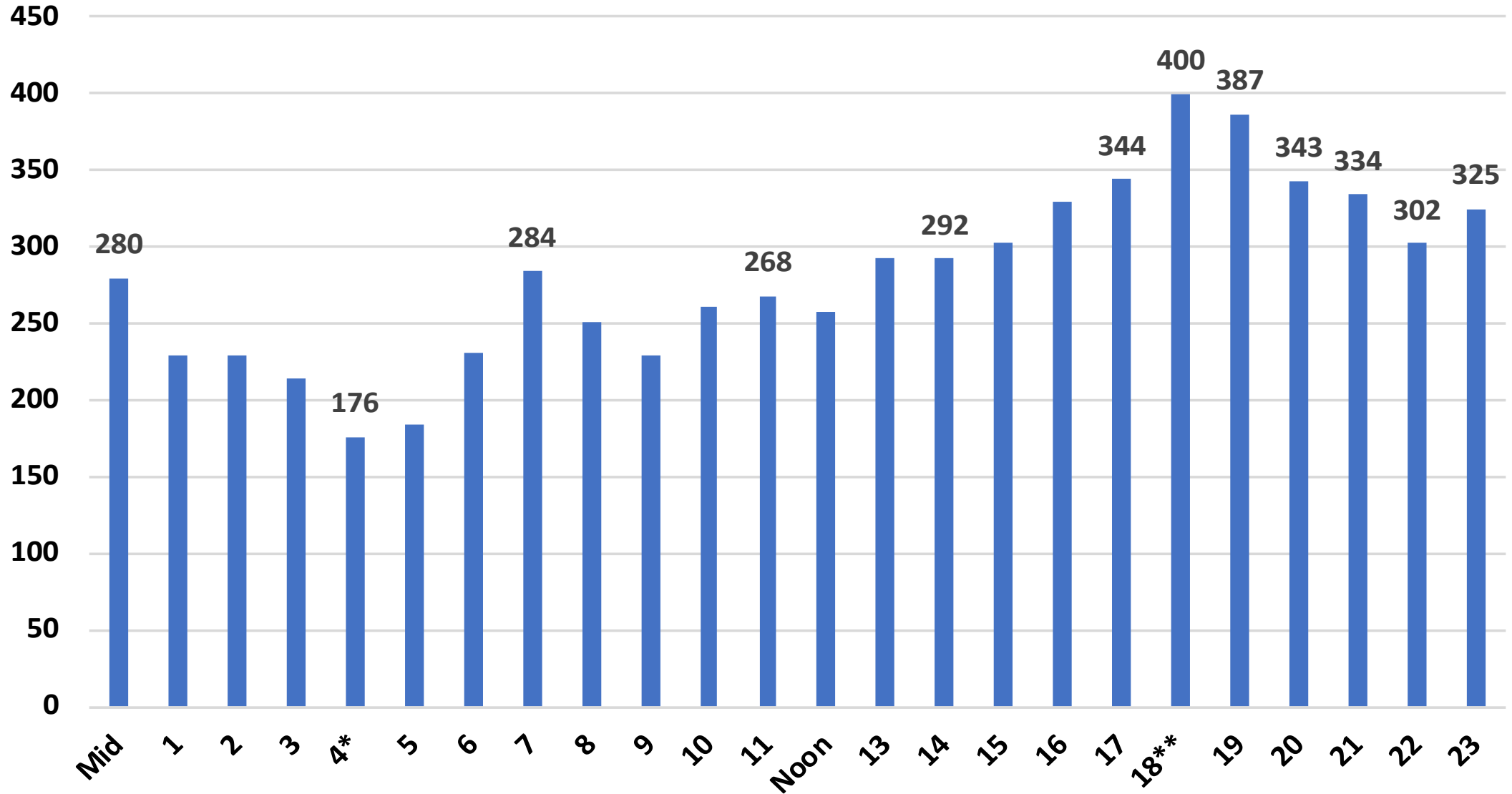


Railroad Fatalities By Month: 2012 - 2019



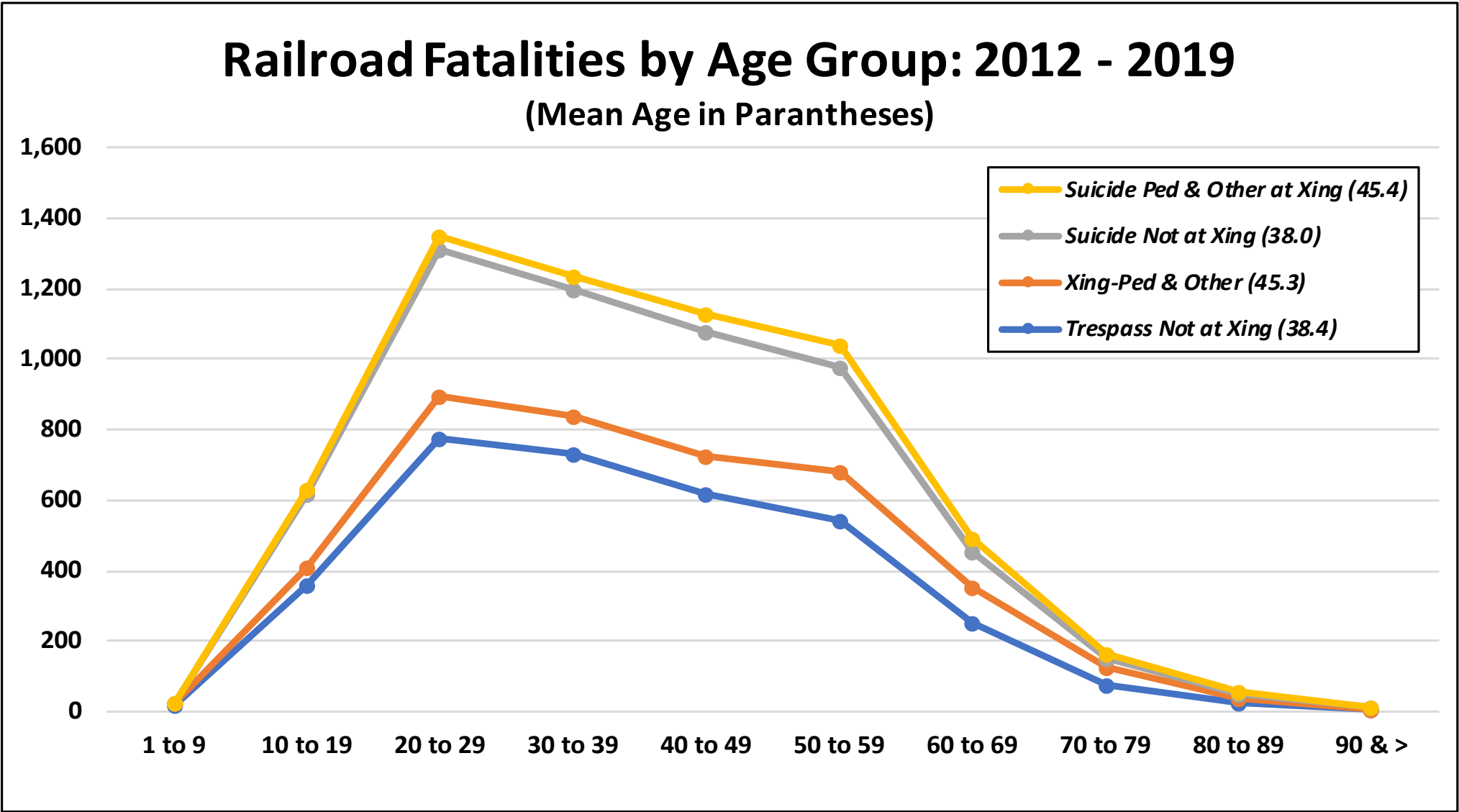
Fewest in February & Most in July

Railroad Fatalities By Hour of Day: 2012 - 2019



Fewest at 4:00 a.m. & Most at 6:00 p.m.

Gender		
Gender & Age For Hwy-Rail Collisions Only	Total	% Male
1 to 9	42	50.0%
10 to 19	167	59.3%
20 to 29	388	78.6%
30 to 39	324	74.7%
40 to 49	335	77.0%
50 to 59	424	72.4%
60 to 69	298	74.2%
70 to 79	164	69.5%
80 to 89	102	72.5%
90 & >	18	72.2%
Total	2,361	73.7%
%	100.0%	



Four Non-Motorized Types of Person (Mean Age)	Mean Age											Age Avail.	Total
		1 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 & >		
		0.4%	10.3%	22.0%	20.2%	18.4%	17.0%	8.0%	2.6%	0.9%	0.2%		
Sub-Total Non-Motorized	39.3	23	630	1,348	1,239	1,130	1,042	491	161	55	12	6,131	6,746

What's Next? Turn to Best Practices of Local Communities.....

