



**INSURANCE
INFORMATION**
INSTITUTE

Rising Auto Costs

Ratemaking, Product and Modeling Seminar
Casualty Actuarial Society
March 21, 2018

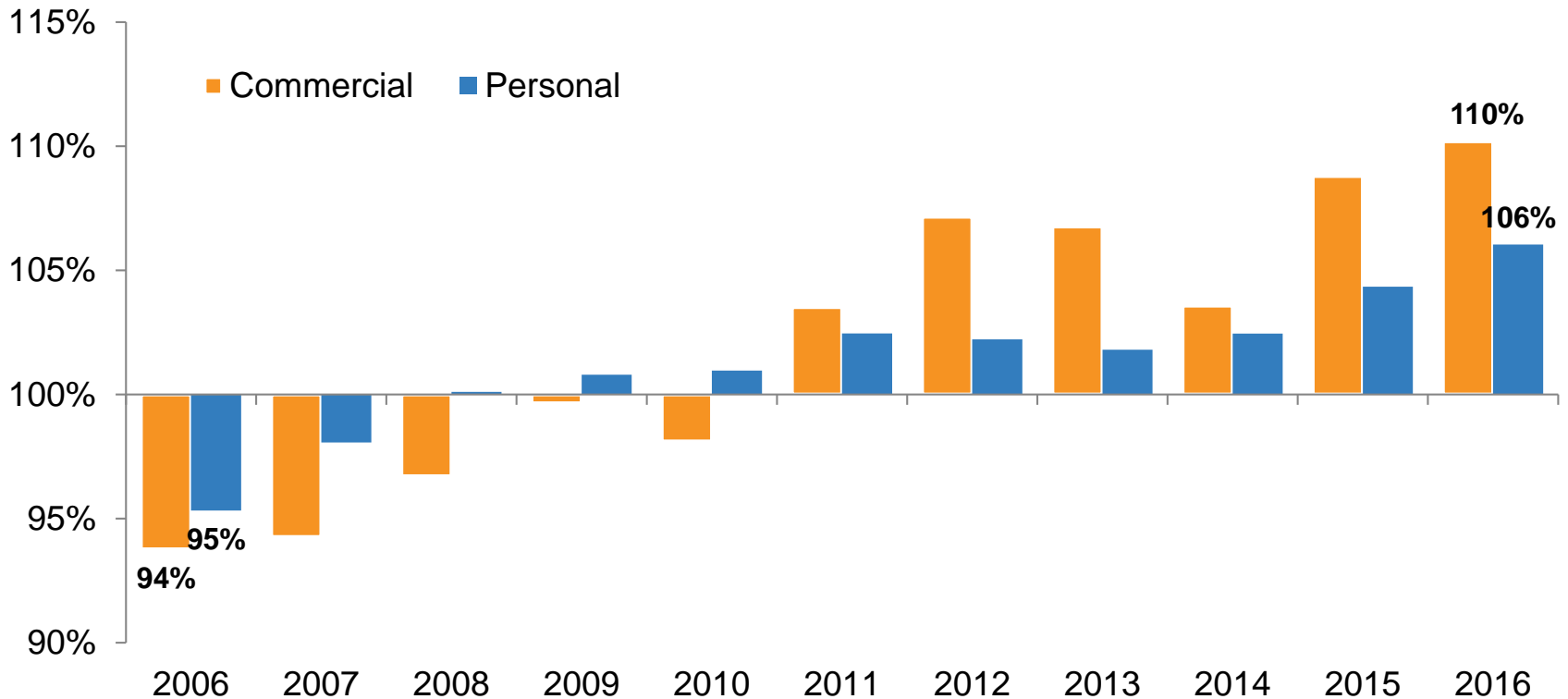
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Personal Auto

Rising Frequency, Severity Pinching
the Largest P/C Line

Auto Net Combined Ratio



**Loss Ratios Have Been Rising for a Decade.
2016 Return on Net Worth is Likely Close to Zero or Negative.**



Source: National Association of Insurance Commissioners data, sourced from S&P Global Market Intelligence; Insurance Information Institute.

P/C Direct Incurred + ALAE Loss Ratio by LOB

LOB	2017	2016	Change From Year Earlier
Personal Auto	70	73	-3
Homeowners	75	54	21
GL (incl Products)	65	71	-6
WC	57	62	-5
Fire & Allied Lines	109	51	58
CMP	68	58	10
Comm Auto	76	75	1
Other	66	58	8
Total	70	65	5

Positive Number =
Bad News



Through Q4. Differences may not add up due to rounding.
Sources: NAIC data from S&P Global Intelligence, Insurance Information Institute.

Rising Accident Costs

All Coverages Affected

Increase in Loss Costs, 2015:Q3–2017:Q3



Bodily Injury

12.4%



Property
Damage

11.4%



Personal Injury
Protection

6.4%



Collision

5.4%



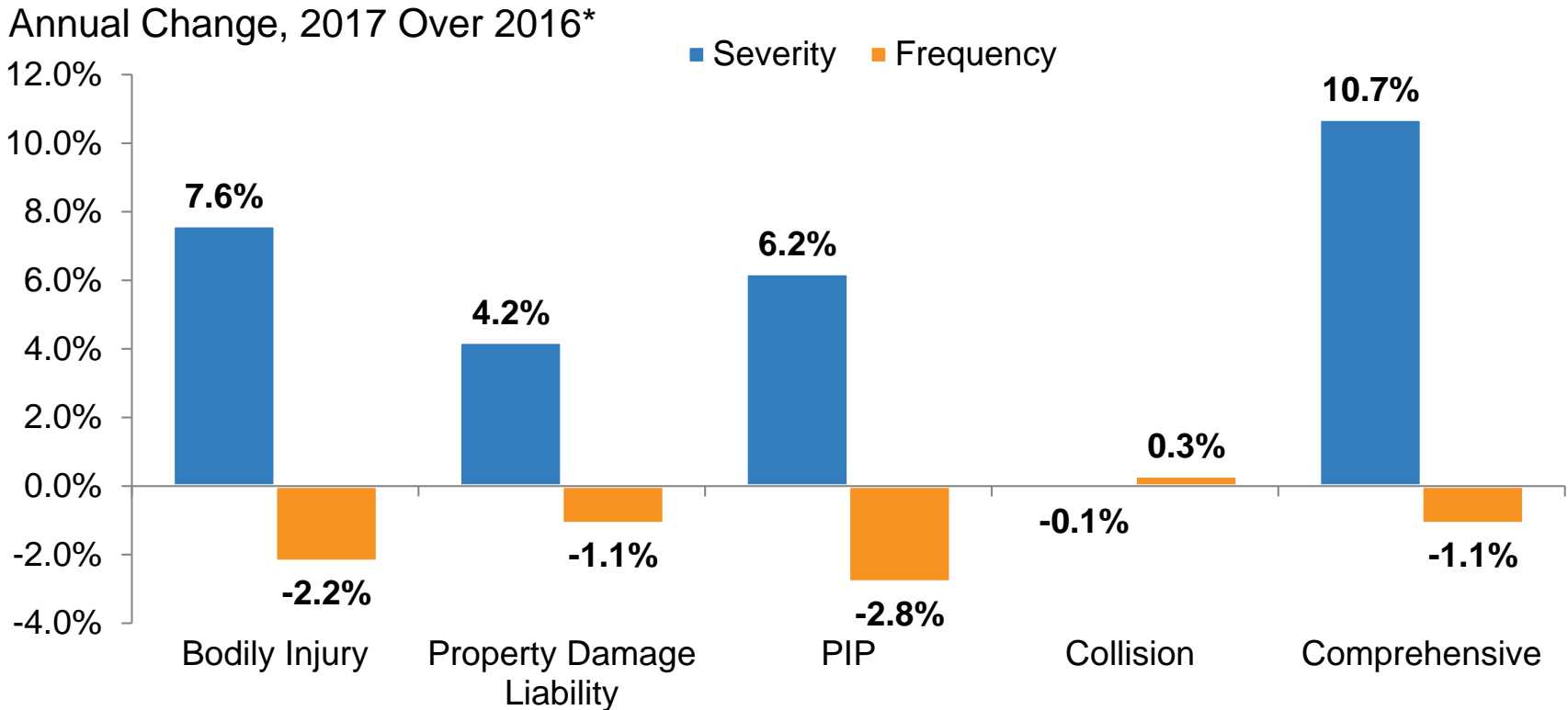
Comprehensive

36.6%

From 2015 to 2017, the cost of accidents has risen dramatically. By contrast, consumer prices overall rose 3.4 percent during 2015 and 2017.



Why Personal Auto Loss Ratios are Rising: Severity & Frequency by Coverage, 2017 vs. 2016



Frequency Spike Has Lessened. Severity Is Now the Problem.



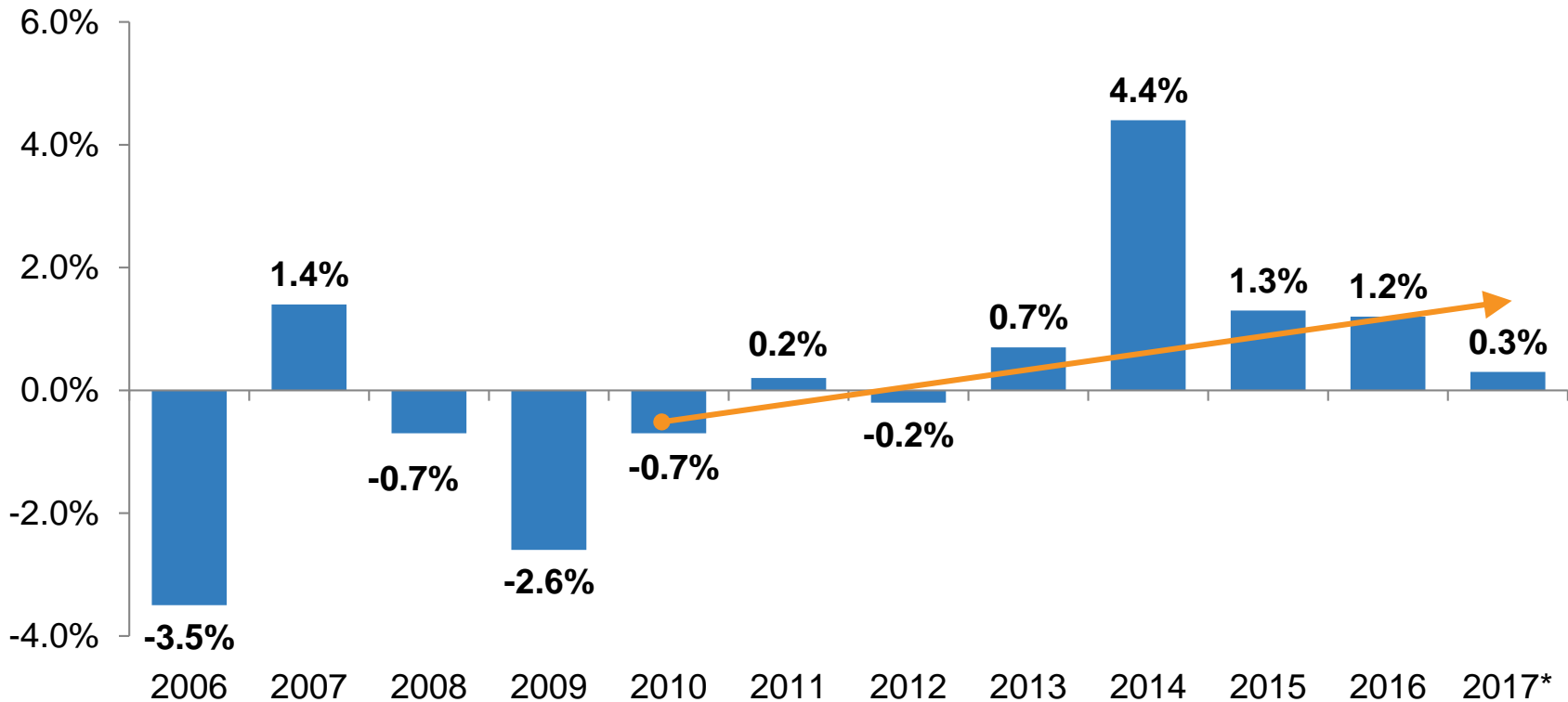
*Four Quarters Ending in September.
Source: Fast Track Monitoring System.

Claim Trends by Coverage

Focus on Collision

Collision Claims: Frequency Trending Higher in 2010s

Annual Change, 2006 through 2017



For a Long Time, Claim Frequency Was Falling, But Since 2010 This Trend Seems to Have Reversed.

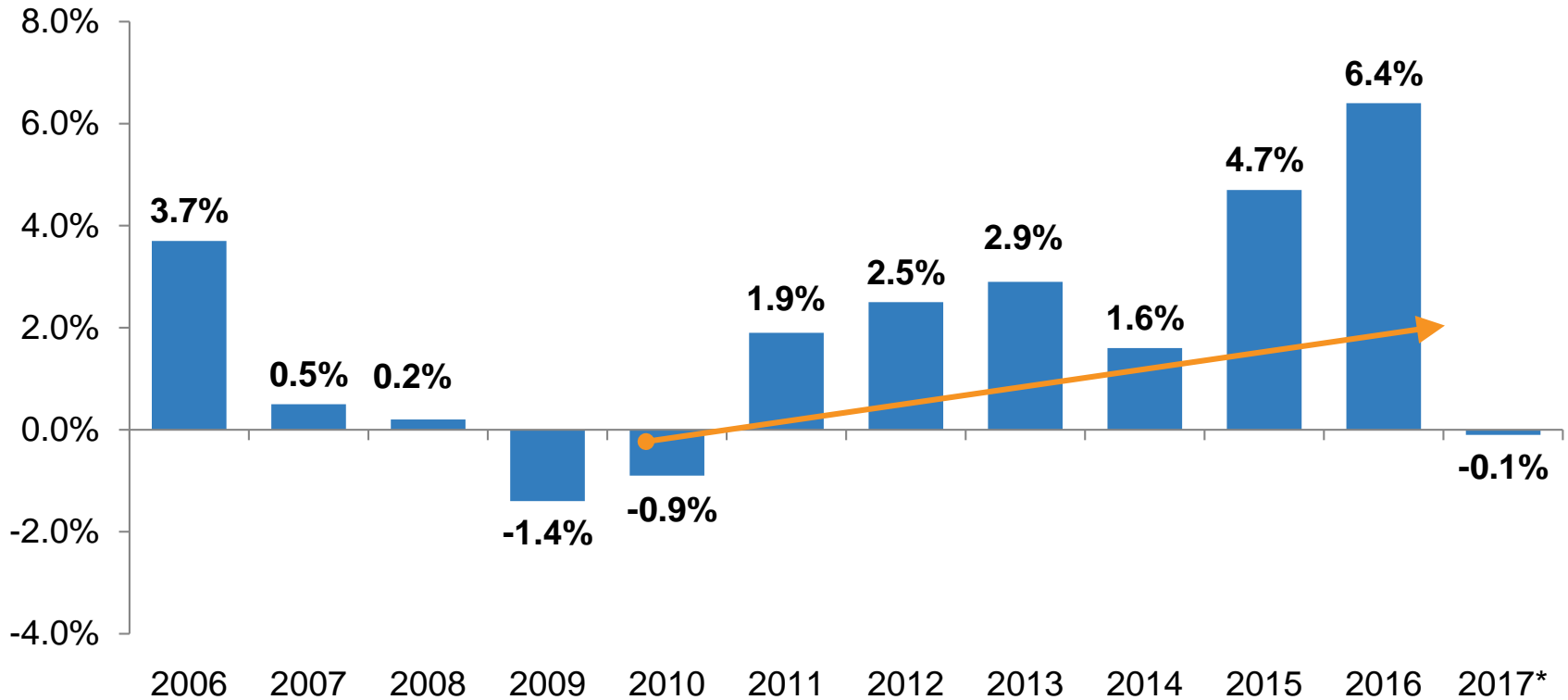


*Four Quarters Ending in September.

Source: ISO, a Verisk Analytics company; Insurance Information Institute.

Collision Claims: Severity Trending Higher in 2010-2016

Annual Change, 2006 through 2017



The Great Recession Helped to Temper Claim Severity, But These forces Have Clearly Reversed, Consistent with Experience from Past Recoveries.



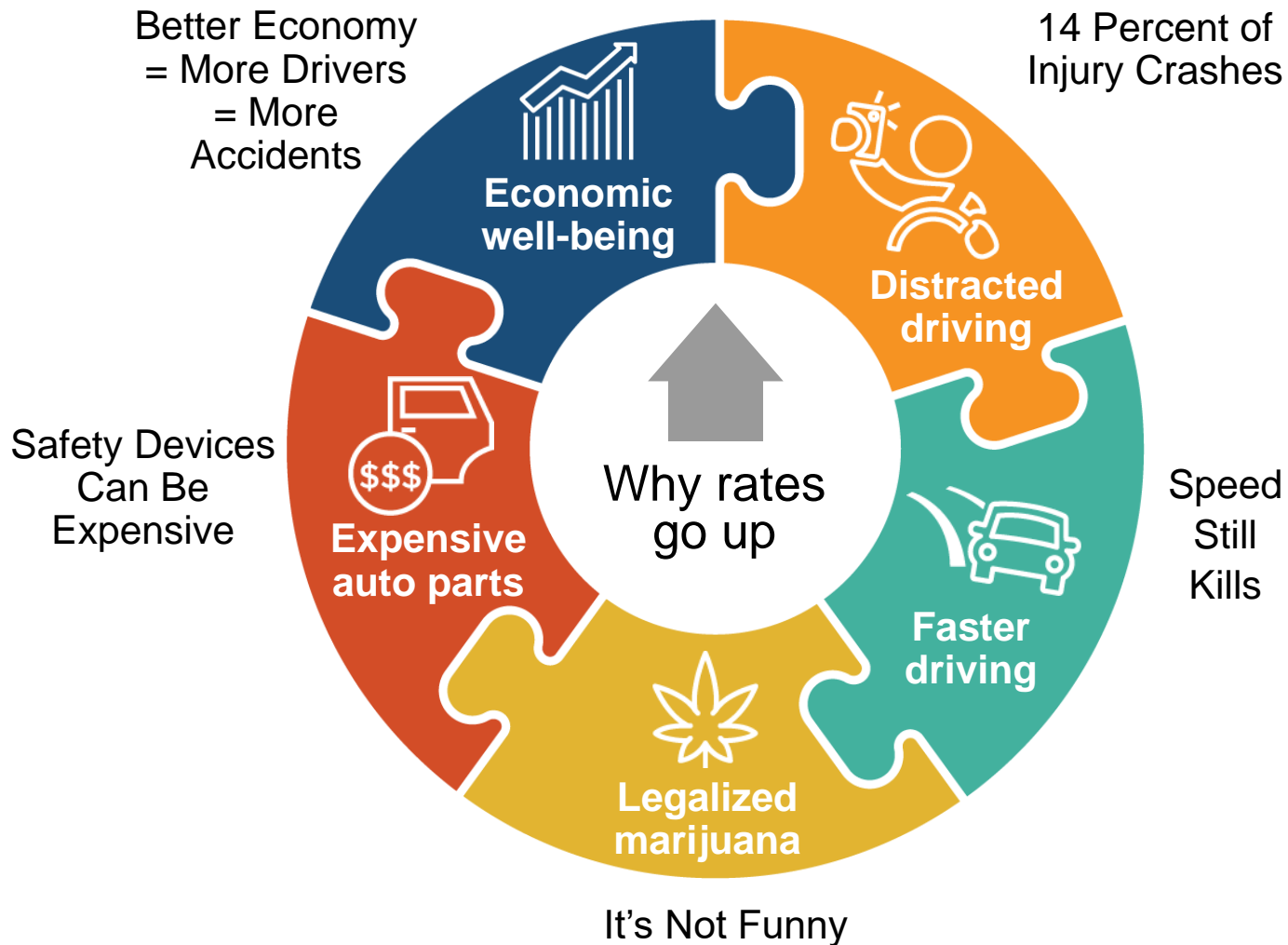
*Four Quarters Ending in September.

Source: ISO, a Verisk Analytics company; Insurance Information Institute.

What's Driving These Trends?

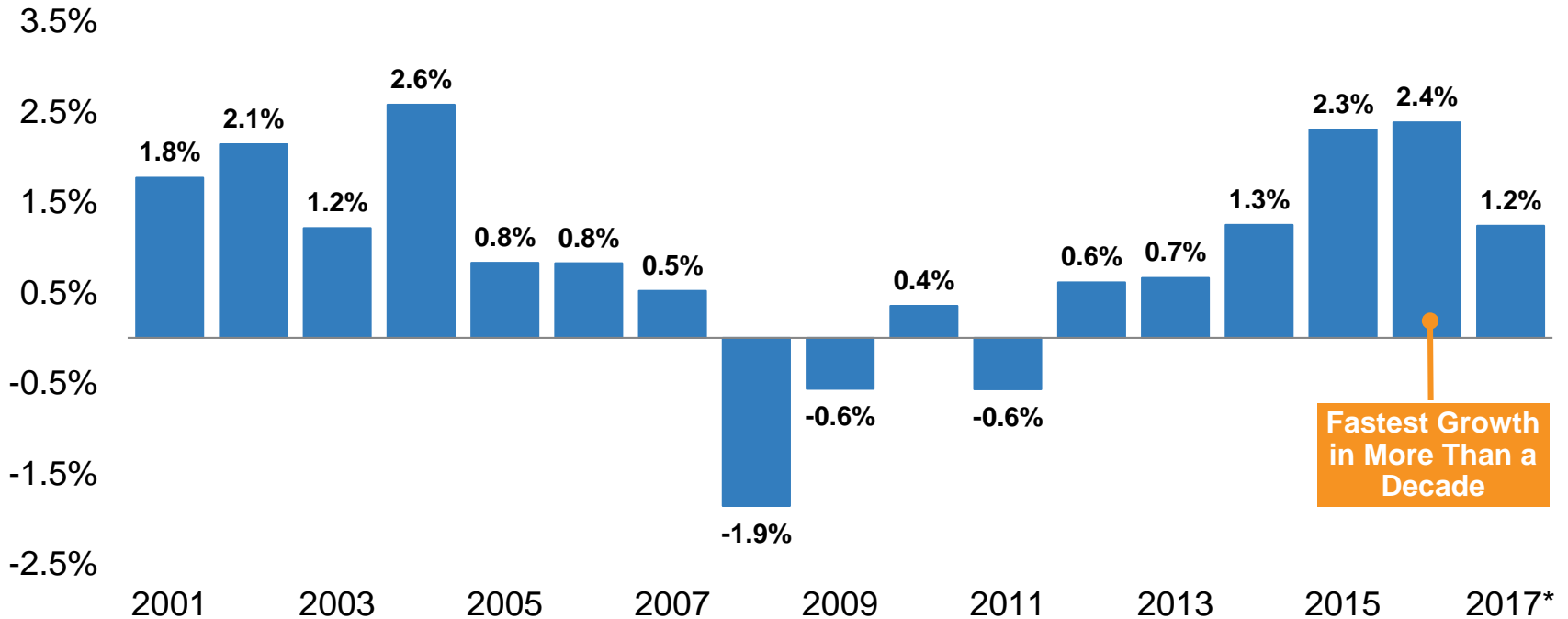
Frequency; Severity; Distraction?

Road Safety



America is Driving More Again: 2000-2017

Percent Change, Miles Driven*



Tremendous Growth In Miles Driven. The More People Drive, The More Frequently They Get Into Accidents.

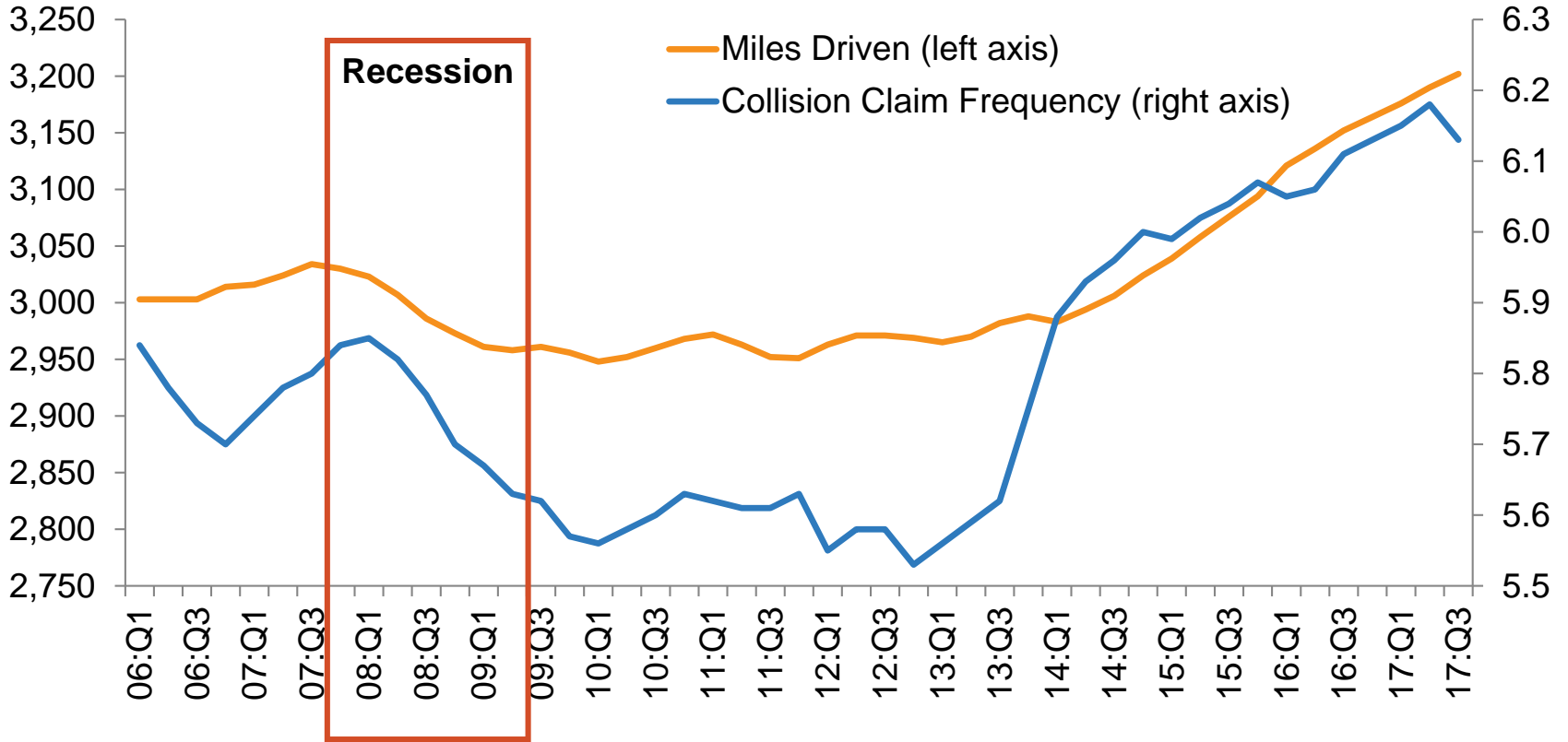


*Moving 12-month total vs. prior year through December.
Sources: [Federal Highway Administration](#); Insurance Information Institute.

More Miles Driven => More Collisions

Billions of Miles Driven in Prior Year

Overall Collision Claims Per 100 Insured Vehicles



The More Miles People Drive, the More Likely They are to Get in an Accident, Helping Drive Claim Frequency Higher.

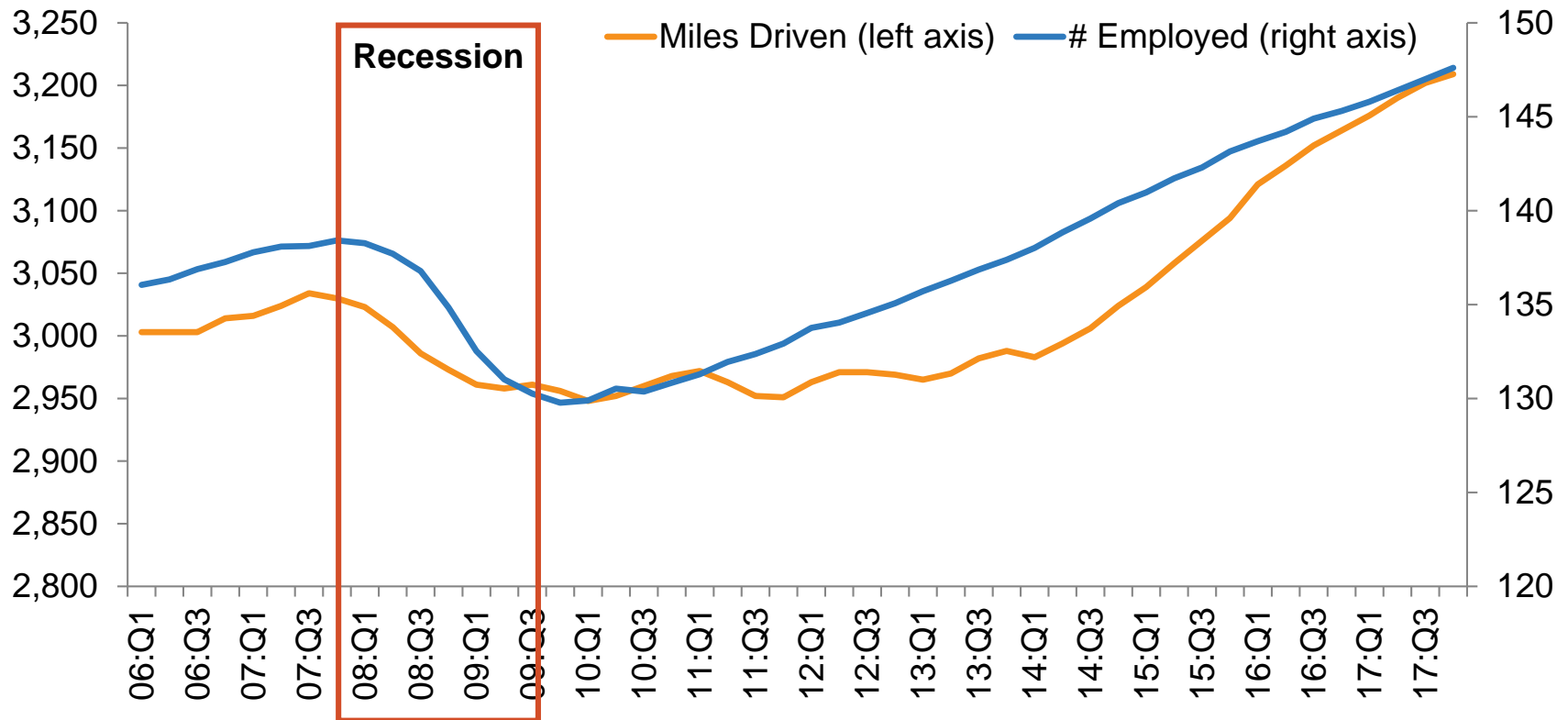


Sources: [Federal Highway Administration](#); Rolling four-quarter average frequency from Fast Track Monitoring System; Insurance Institute for Highway Safety; Insurance Information Institute.

Why Are People Driving More Miles? Jobs?

Billions of Miles Driven in Prior Year

Millions Employed



**People Drive to and from Work and Drive to Entertainment.
Out of Work, They Curtail Their Movement.**

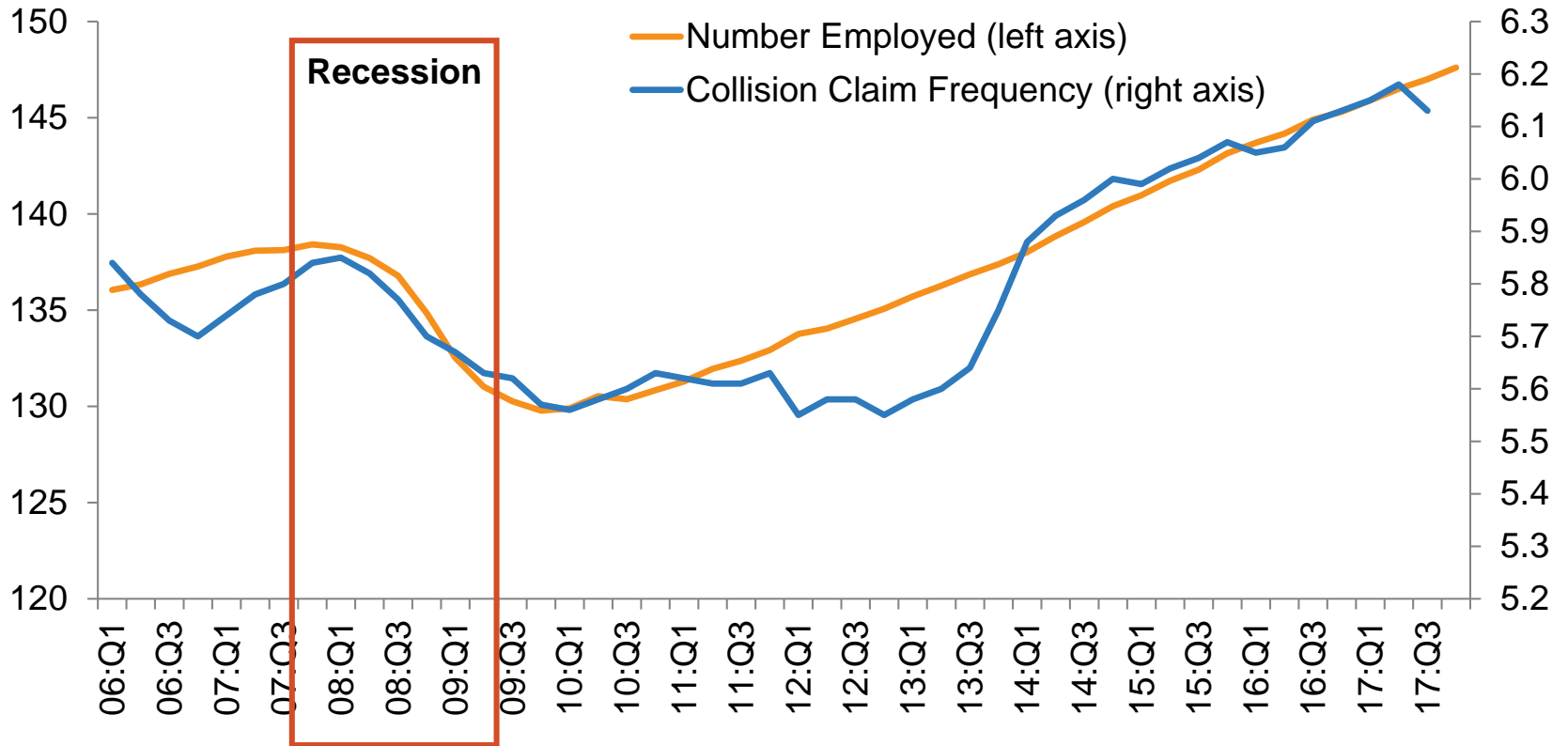


Sources: [Federal Highway Administration](#); Seasonally Adjusted Employed from Bureau of Labor Statistics via [FRED](#); Insurance Institute for Highway Safety; Insurance Information Institute.

More People Working and Driving => More Collisions, 2006-2017

Number Employed, Millions

Overall Collision Claims Per 100 Insured Vehicles



When People are Out of Work, They Drive Less. When They Get Jobs, They Drive to Work, Helping Drive Claim Frequency Higher.

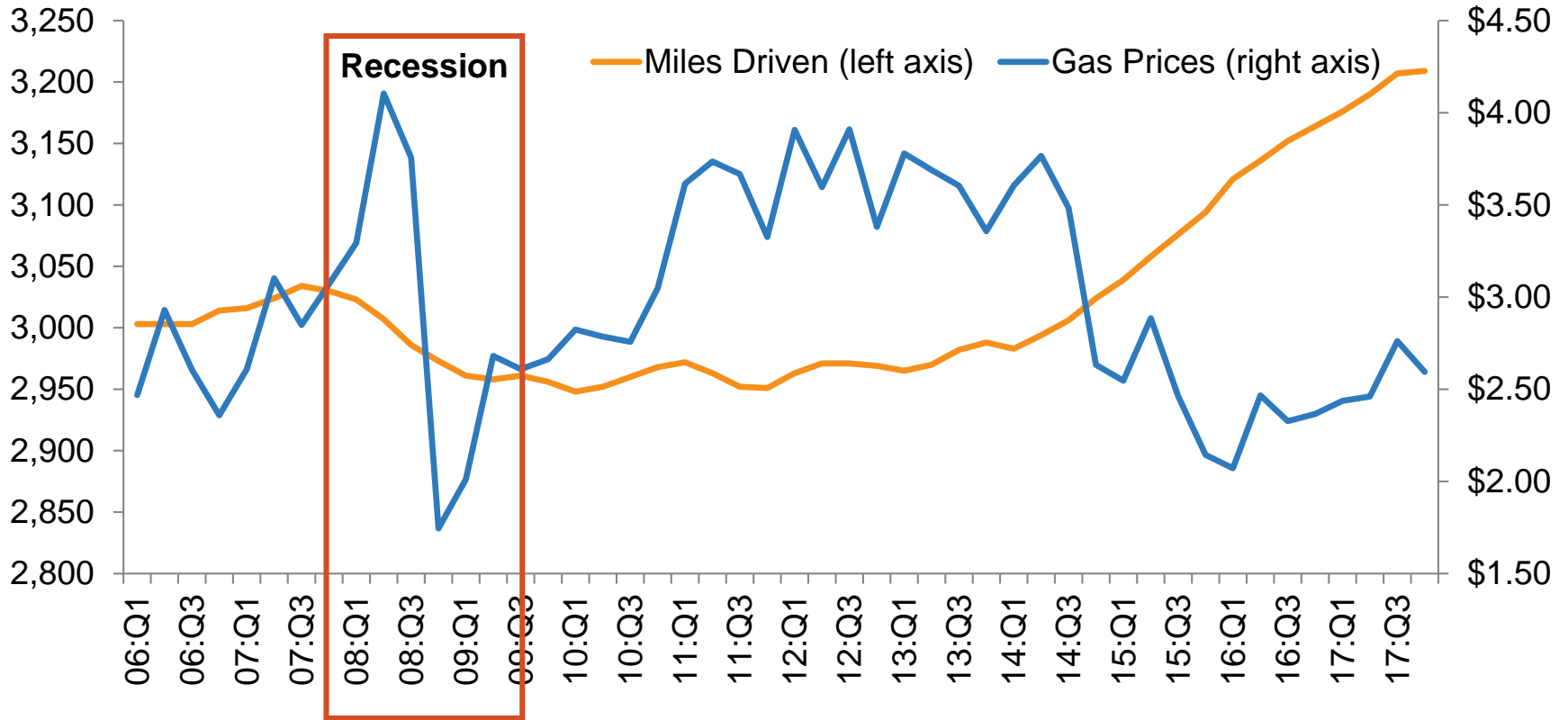


Sources: Seasonally Adjusted Employed from Bureau of Labor Statistics; Rolling four-quarter average frequency from Fast Track Monitoring System; Insurance Information Institute.

Why Are People Driving More Miles? Cheap Gas?

Billions of Miles Driven in Prior Year

Average Price Per Gallon



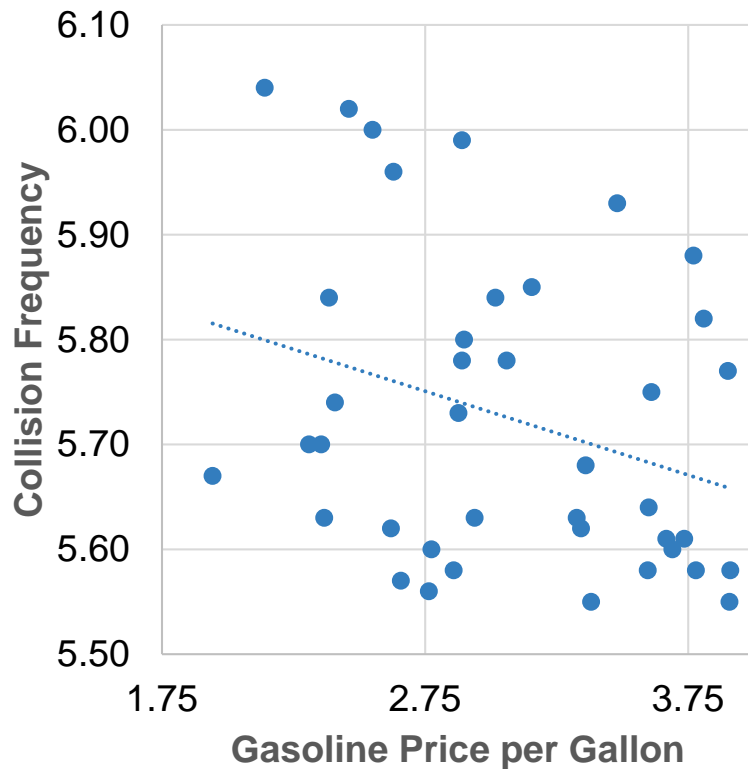
Gas Prices Don't Seem Correlated With Miles Driven.



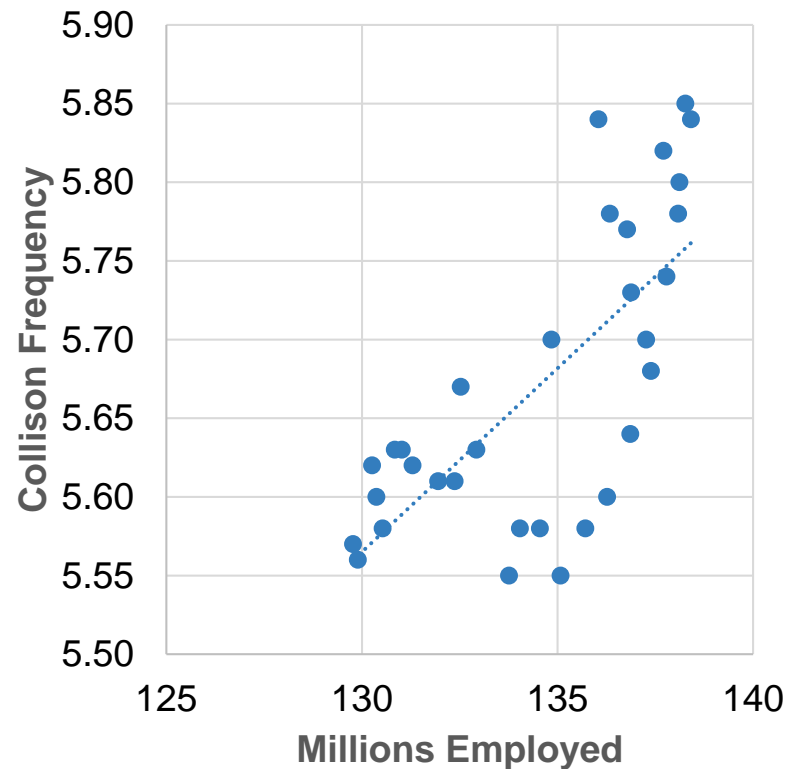
Sources: [Federal Highway Administration](#); [Energy Information Administration](#) (All Grades All Formulations Retail Gas Prices); Insurance Institute for Highway Safety; Insurance Information Institute.

Comparing Gas Prices, Employment on Collision Frequency Through 2017

Gas Price vs. Collision Frequency



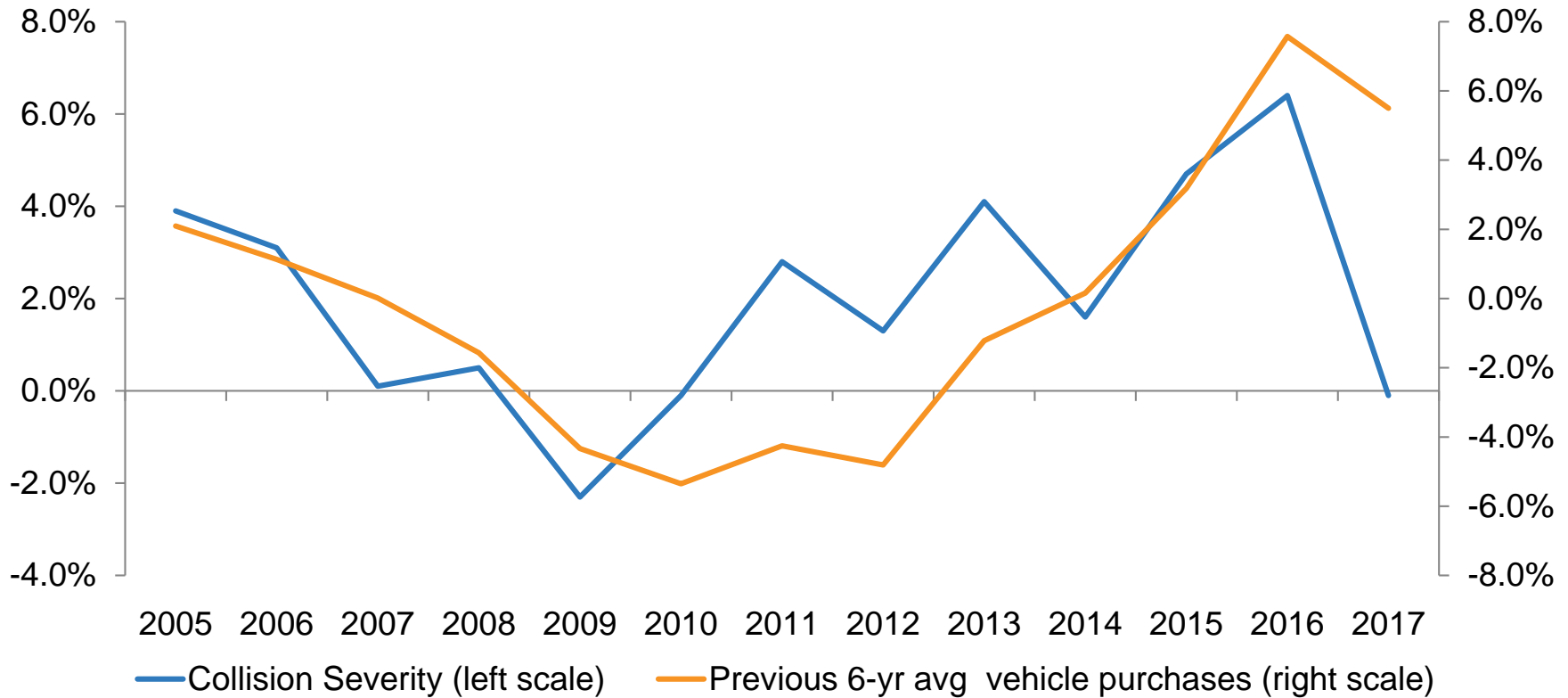
Number Employed vs. Collision Frequency



Sources: Seasonally Adjusted Employed from Bureau of Labor Statistics; Energy Information Administration; Rolling Four-Qtr Avg. Frequency from Fast Track Monitoring System; Insurance Information Institute.

Does Spending on Vehicles Affect Claim Severity?

Annual Change, 2005 through 2017



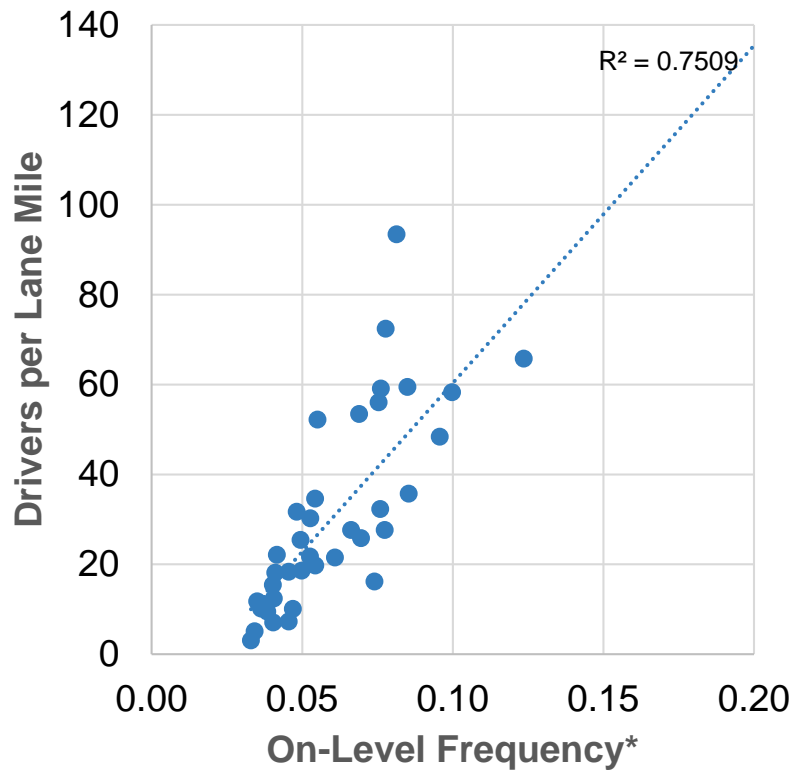
As the Economy Has Gotten Better, People Are Spending More on Vehicles – When Those Cars Wreck, Severity Increases.



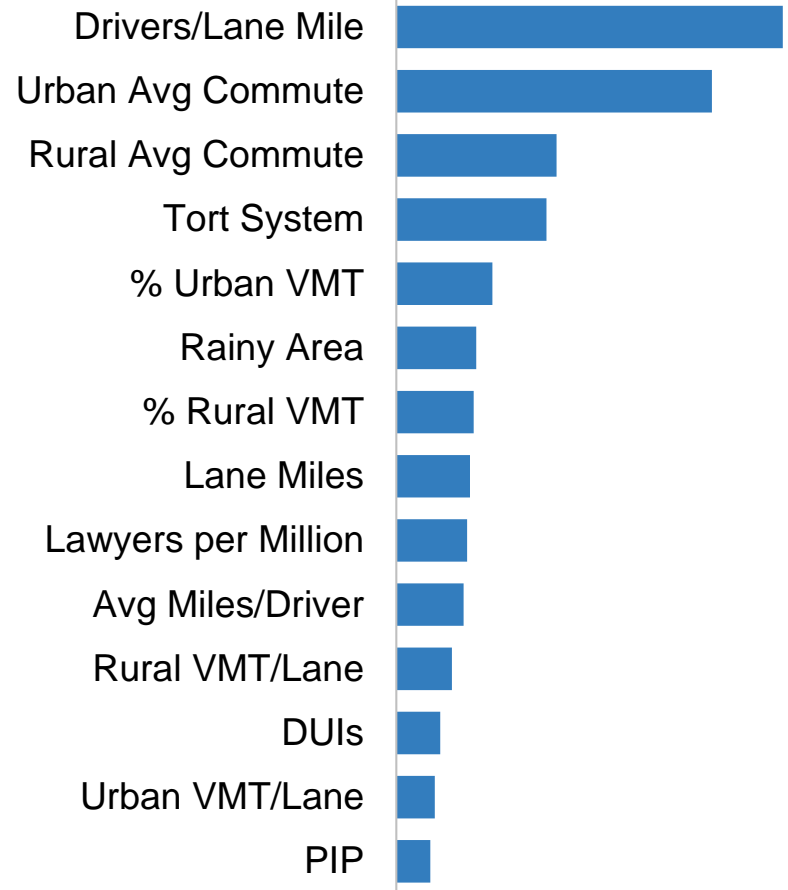
Source: Fast Track Monitoring System; Bureau of Labor Statistics Consumer Expenditure Survey (vehicle purchases – net outlay) Insurance Information Institute.

Recent Research

Frequency vs. Drivers per Lane Mile (Q4 2015)



Variable Importance+

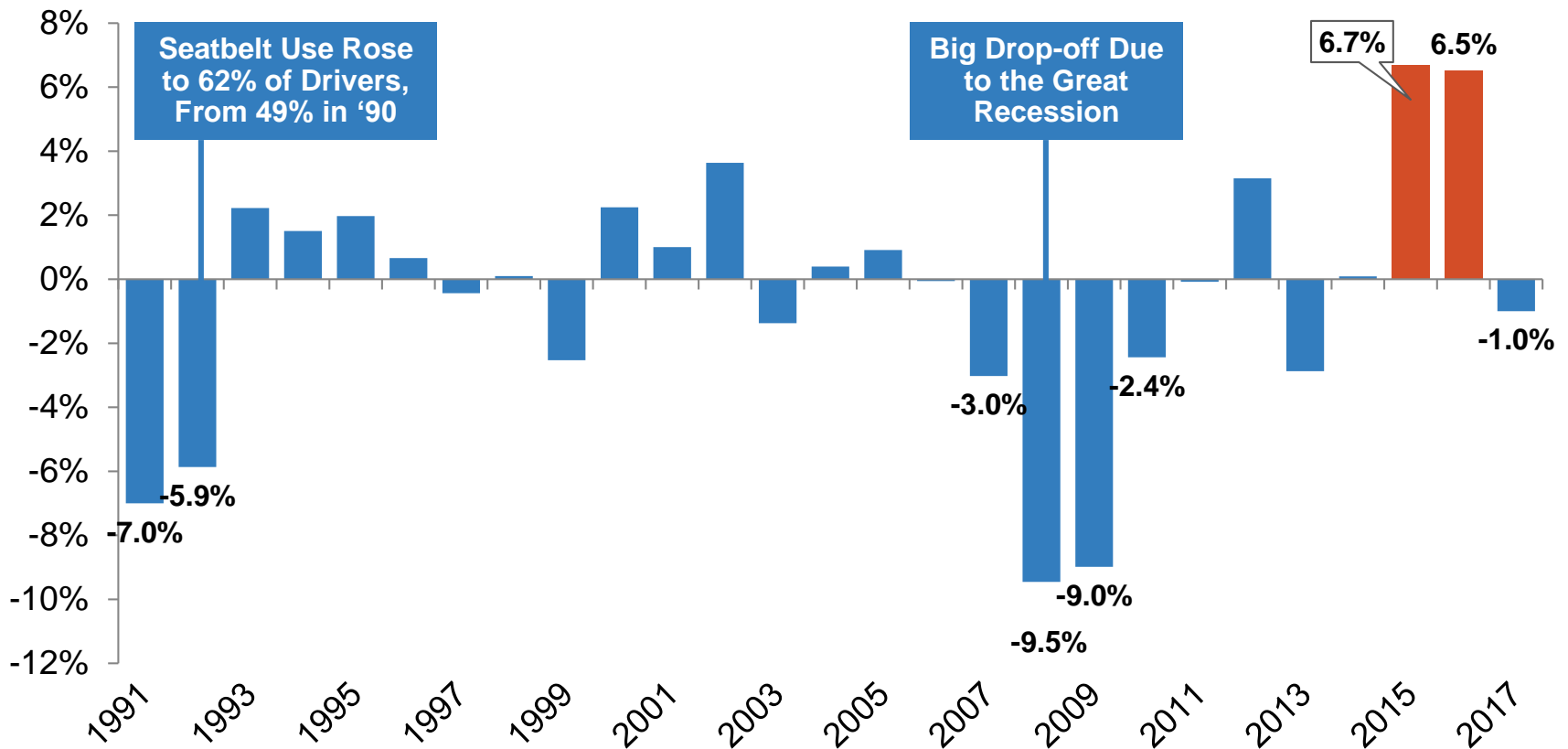


- + Ranked by IncNodePurity (change in predictions when a variable is randomly permuted through random decision forest) * Adjusted for miles driven
- Source: Auto Loss Cost Trend Report, January 2018 (Casualty Actuarial Society, Property Casualty Insurers Association of America, Society of Actuaries)



Severity: Driving Fatalities are Rising

Annual Change in Motor Vehicle Deaths

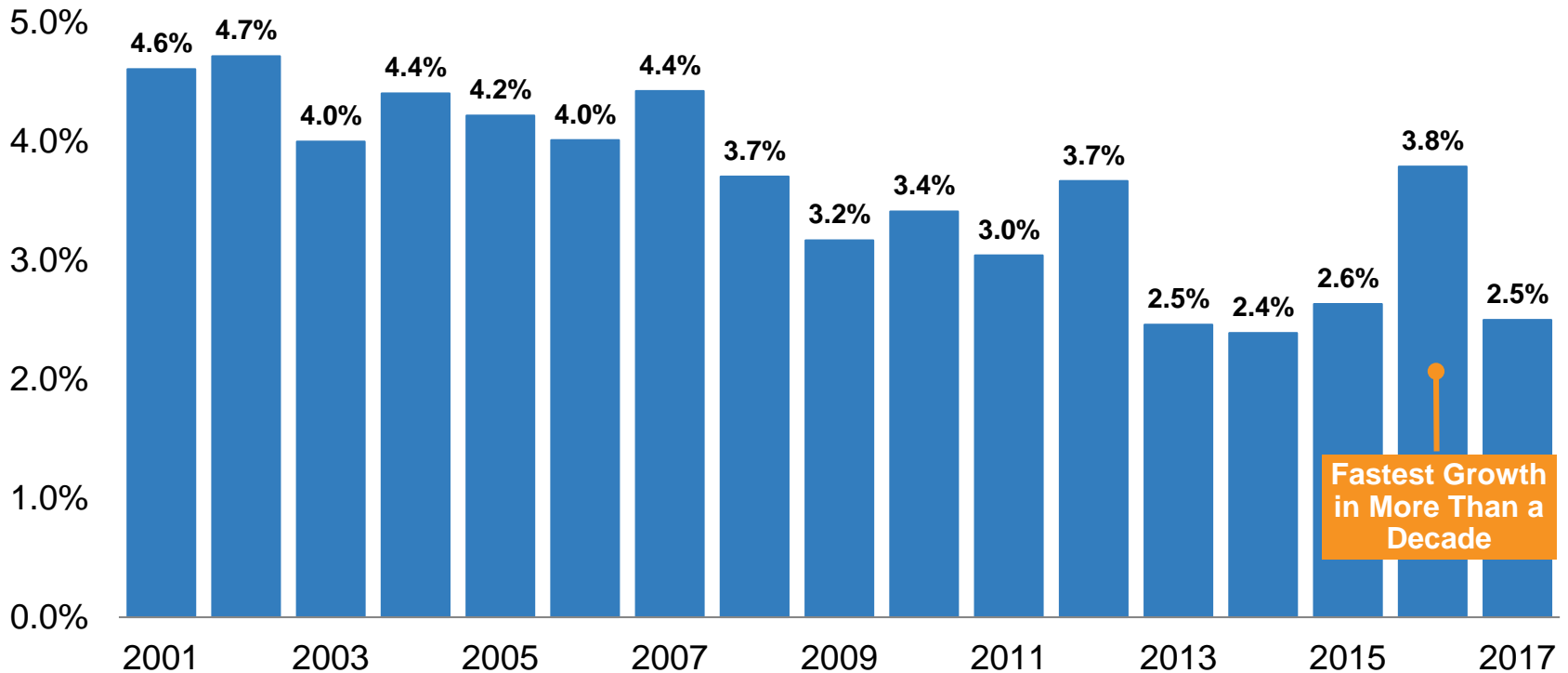


40,000 Deaths in 2016 and 2017 – an Everyday Catastrophe Reaching Epidemic Proportions



Medical Inflation Heating Up

Annual Percent Change, CPI - Medical



Fastest Growth
in More Than a
Decade

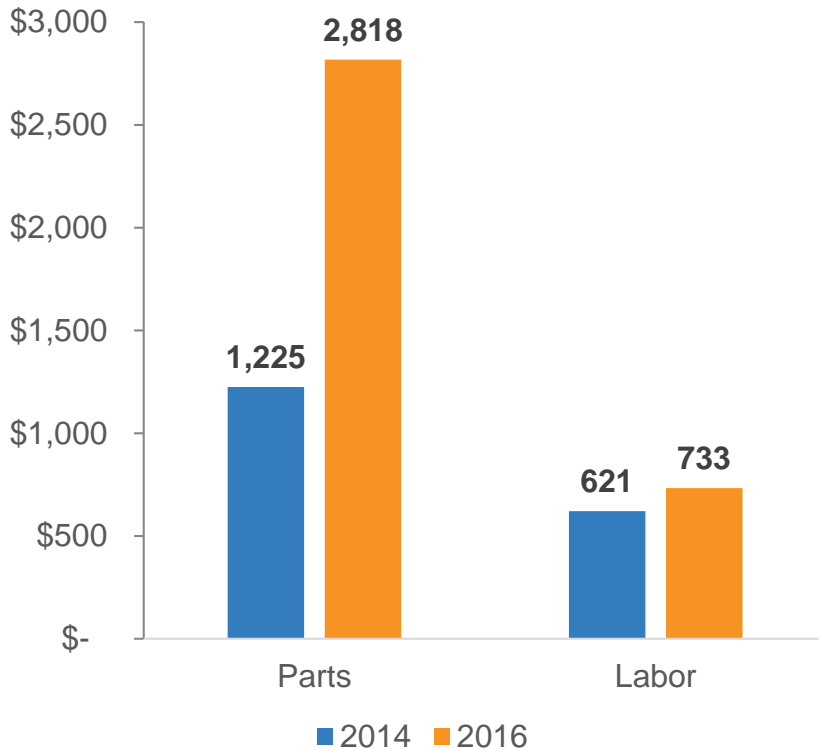
Injury Severity Typically Exceeds Medical CPI.



Fixing a Bumper

... On an Entry-Level Luxury Car (~\$35K)

2014 Cost vs. 2016 Cost



What Has Changed?

	2014	2016
Grille: Distance Sensor	\$0	\$2,818
Headlamp Assembly	394	918
Mechanical Labor	0	108

Fewer Accidents, Higher Costs

- ▲ Parts: 130% Higher
- ▲ Labor: 18% Higher
- ▲ Total cost: \$1,705 higher



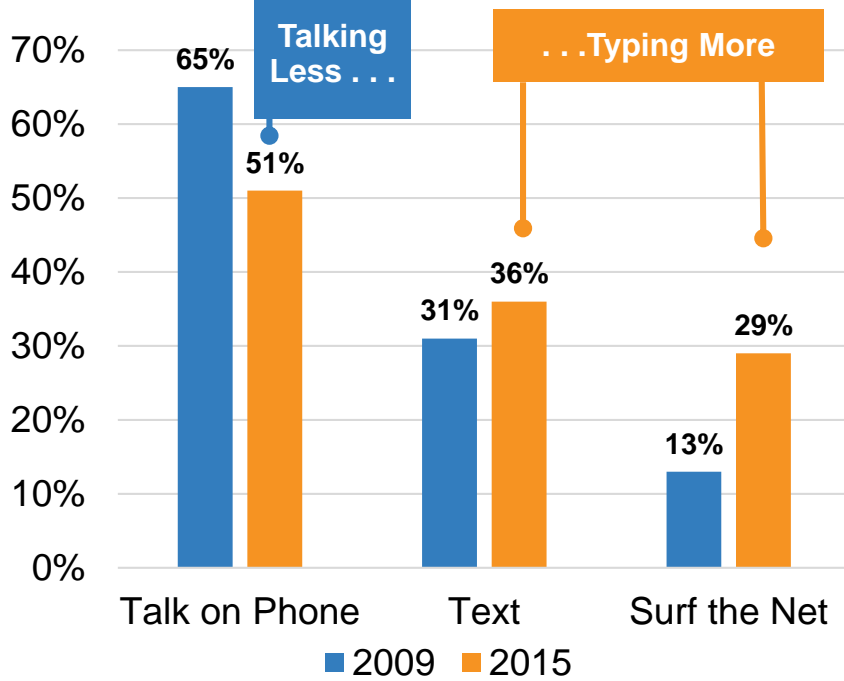
2016 vehicle has LED headlights and adaptive cruise control.
SOURCE: Liberty Mutual Insurance.

What About Distractions?

It's A Problem. Is It Growing?

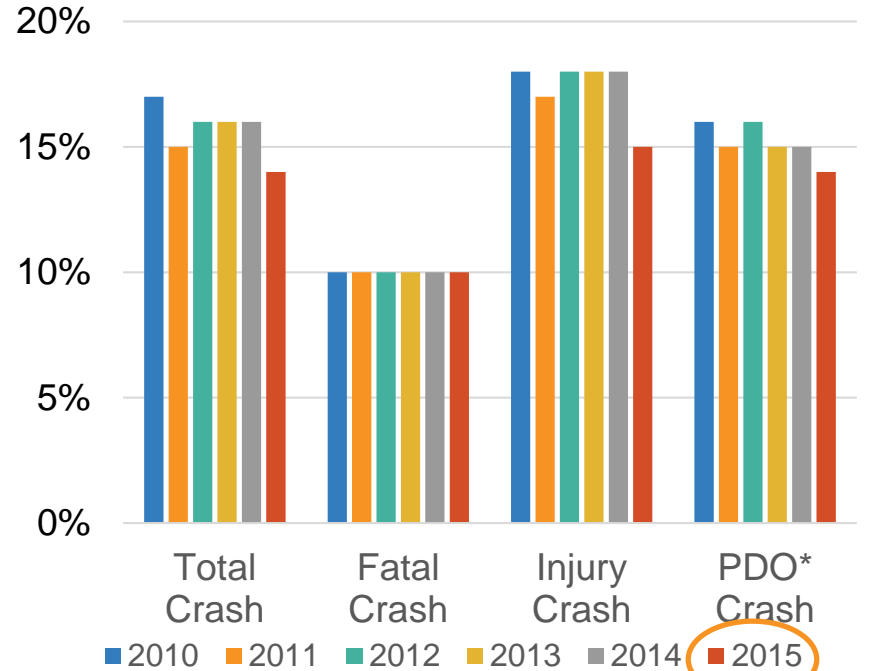
What We Do Behind The Wheel

Percentage of Drivers Who . . .



But Impact Is Not Clear

Percentage of Crashes Involving Distraction



Most Recent Year



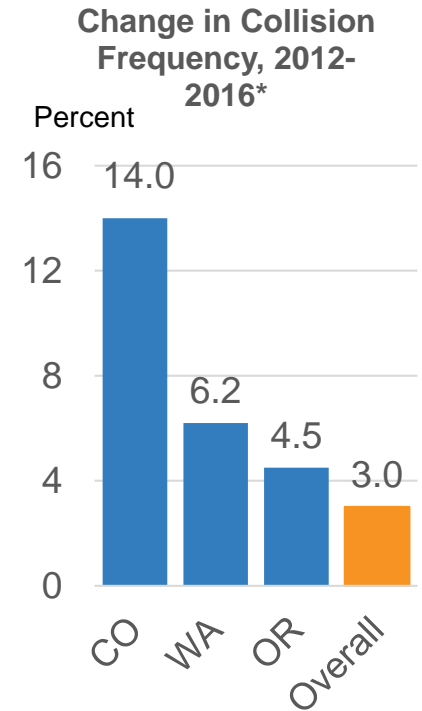
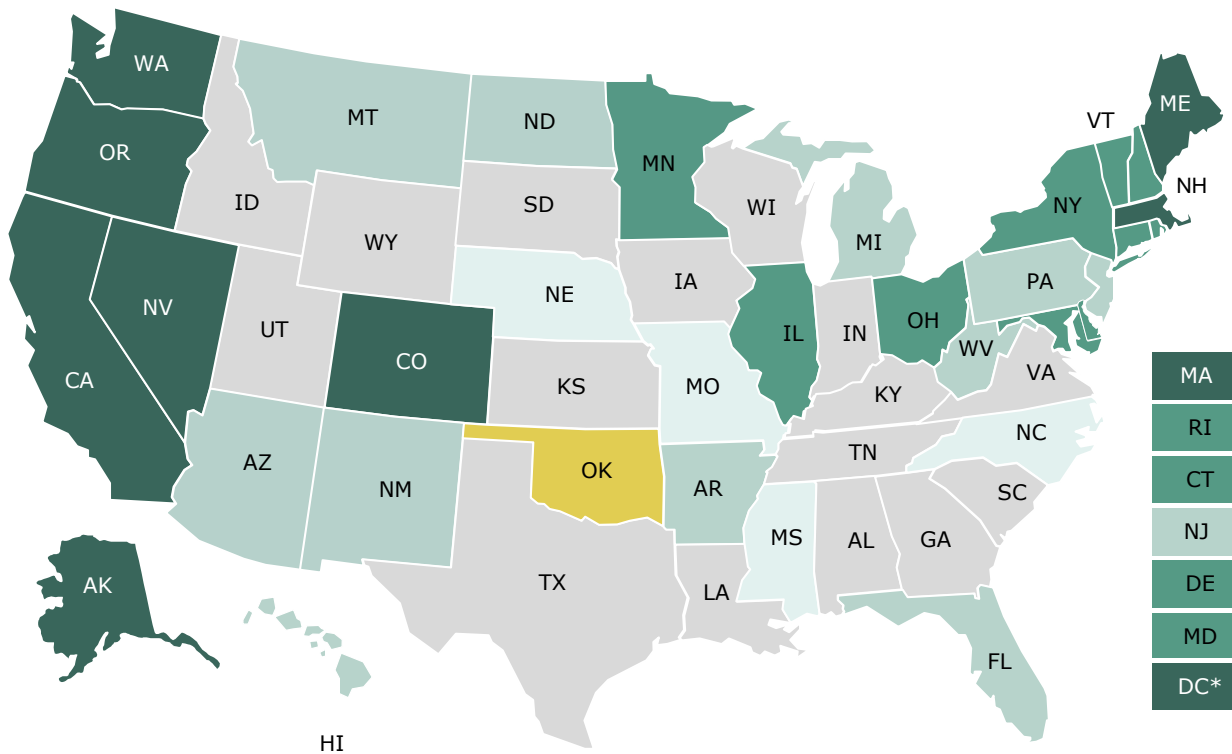
* Property Damage Only.

SOURCES: State Farm, National Highway Transportation Safety Administration (distraction.gov)

Weed Spreads Like Wildfire. Insurers Caught in the Middle

Current marijuana laws by state

■ Fully legal
 ■ Medical use legal and recreational use decriminalized
 ■ Medical use legal
 ■ Recreational use decriminalized
 ■ Fully illegal
■ Upcoming vote



* Vs. Neighboring States.

Sources: National Journal. National Conference of State Legislatures, "State Medical Marijuana Laws," November 9, 2015; Stephanie Simon, "Marijuana and soda taxes win big, but cigarette taxes fail in several state votes," STAT, November 9, 2016; Ballotpedia, 2018; William Cummings, "Pot now legal in DC despite threats from Congress," USA Today, February 25, 2015.





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Thank you for your time
and your attention!

Read our auto [White Paper](#) on Rising Personal Auto Costs at
www.iii.org