Automotive Outlook

2018 FTA Revenue Estimation & Tax Research Conference

October 8, 2018

Kim Hill, President

HWA Analytics LLC
Ann Arbor, Michigan

Agenda

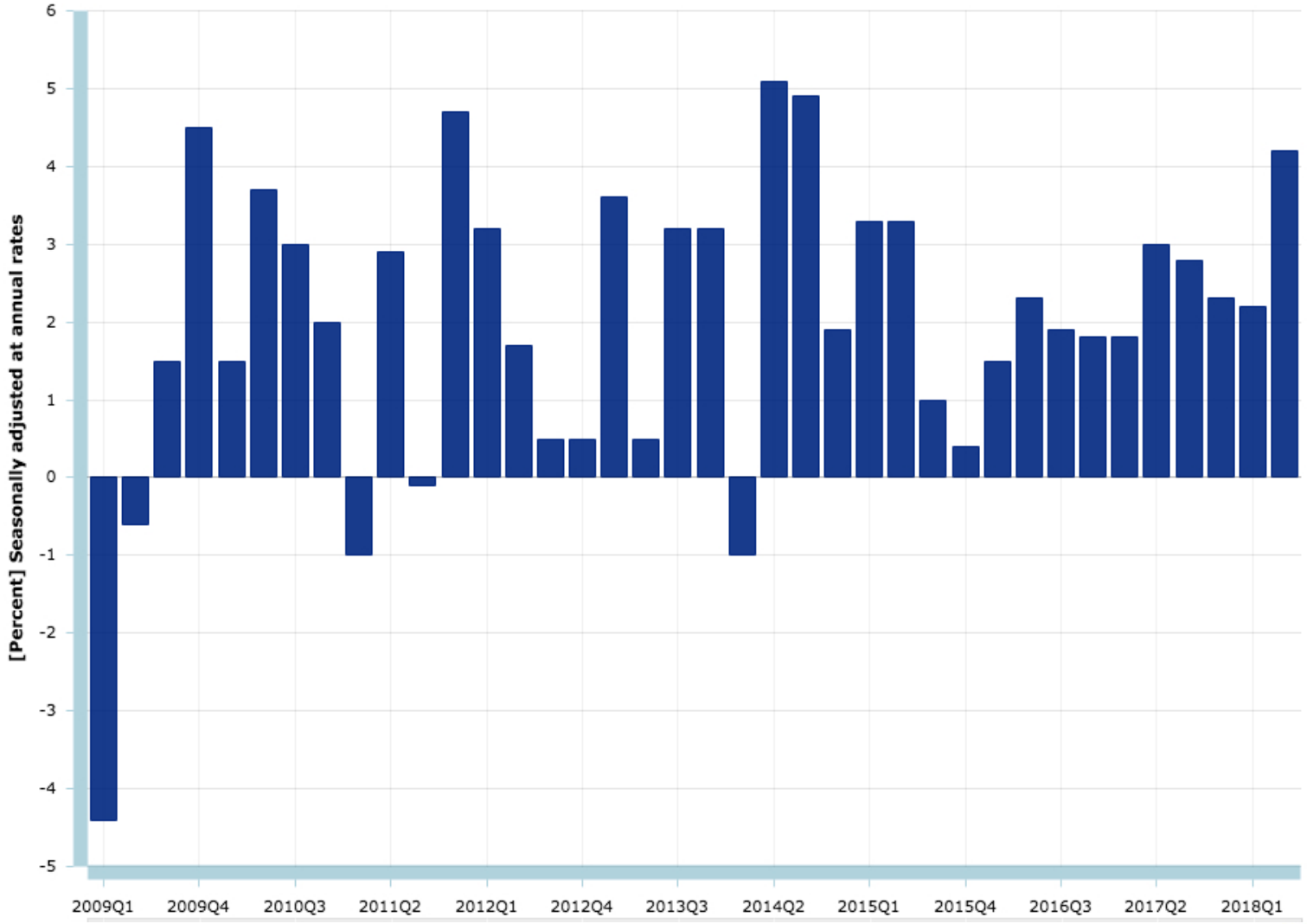
- Economic factors
- Forecast of sales – next three years
- Rise of the trucks
- Revenue implications for car replacement by trucks and new for used vehicles

State of Automotive (it's kind of boring…)

- Sales on a plateau—market is flat
- Educated, better off households in the market
- Potential for revenue loss with slowing sales and increased used vehicle sales
- Average transaction price is higher—driven by truck sales—$35,000
- Many car models are being discontinued—rise of the trucks
- New technologies adding cost, uncertainty, fear…

Economic factors

Real GDP 9/2008 through 9/2018



Source: BMI Research/US Bureau of Labor Statistics

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Consumer Confidence Index 08/2008 through 08/2018

Source: OECD (data.oecd.org)

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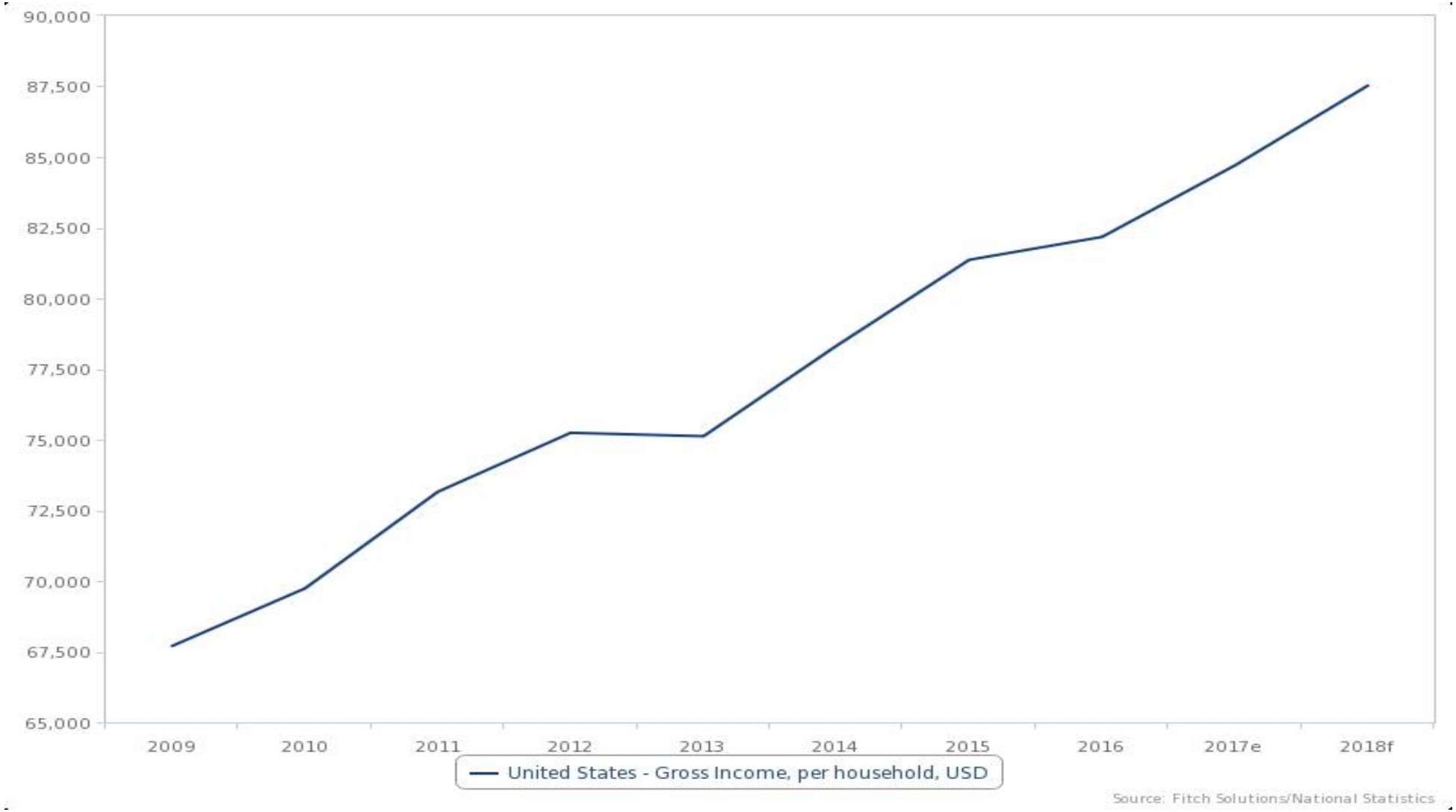
Household Income 08/2008 through 08/2018



Source: BMI Research - Fitch Solutions/National Statistics

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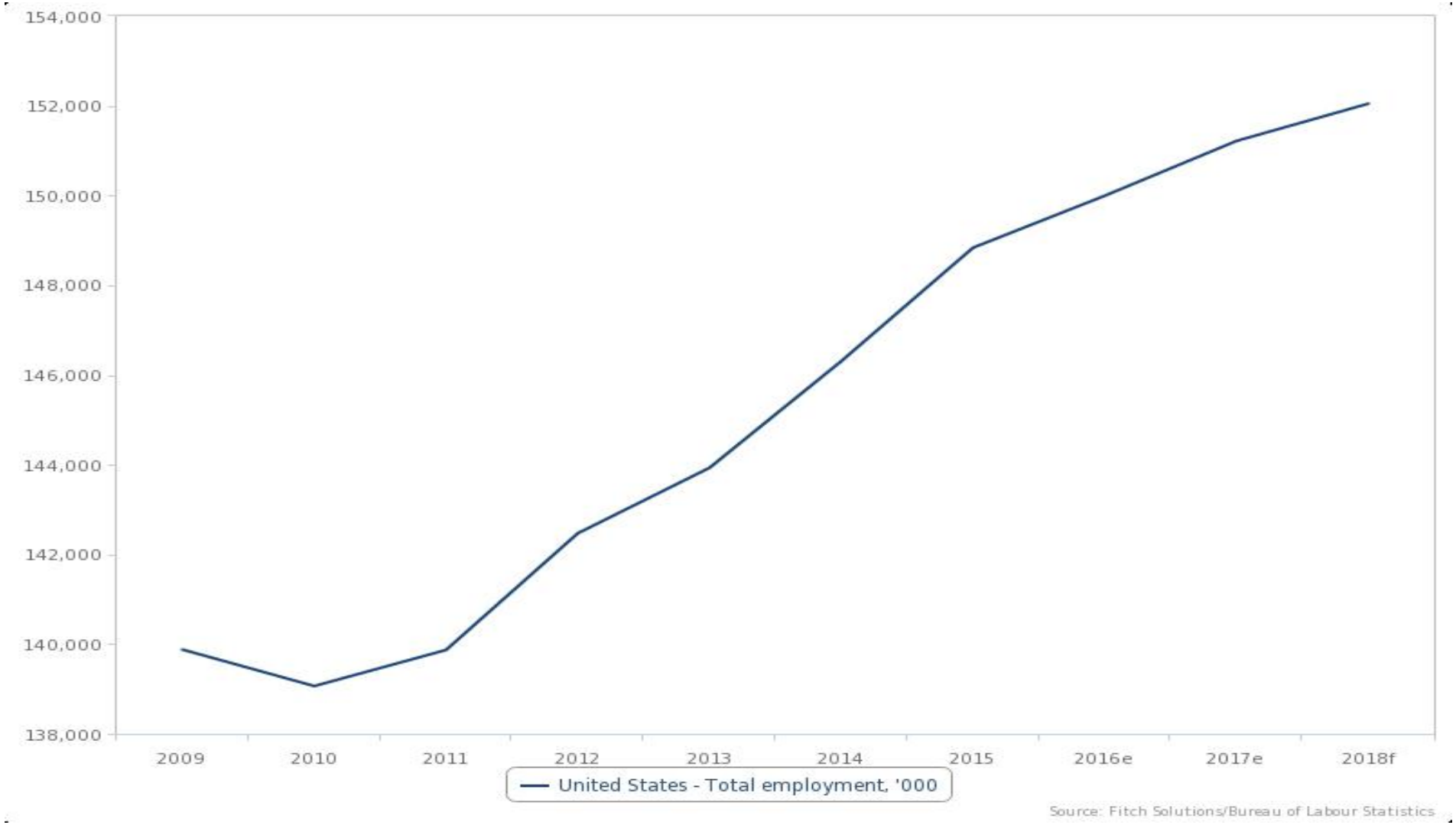
USA - Total Employment 08/2008 through 08/2018



Source: BMI Research - Fitch Solutions/Bureau of Labor Statistics

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USA – Total Unemployment 08/2008 through 08/2018

Source: FRED – St. Louis Federal Reserve – US Bureau of Labor Statistics

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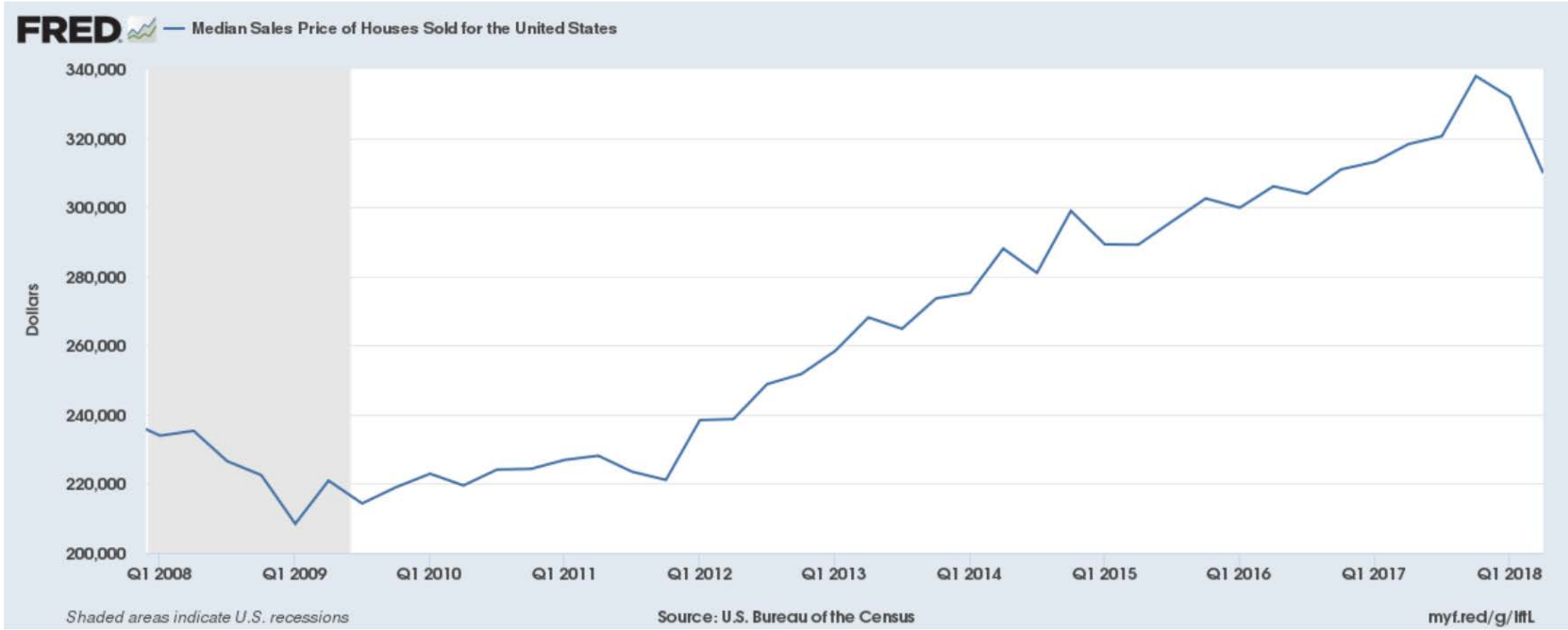
USA – New Home Prices 08/2008 through 08/2018

"Housing market slows as prices outpace wages"— Will we see the same with auto?



Source: FRED – St. Louis Federal Reserve – US Bureau of Labor Statistics

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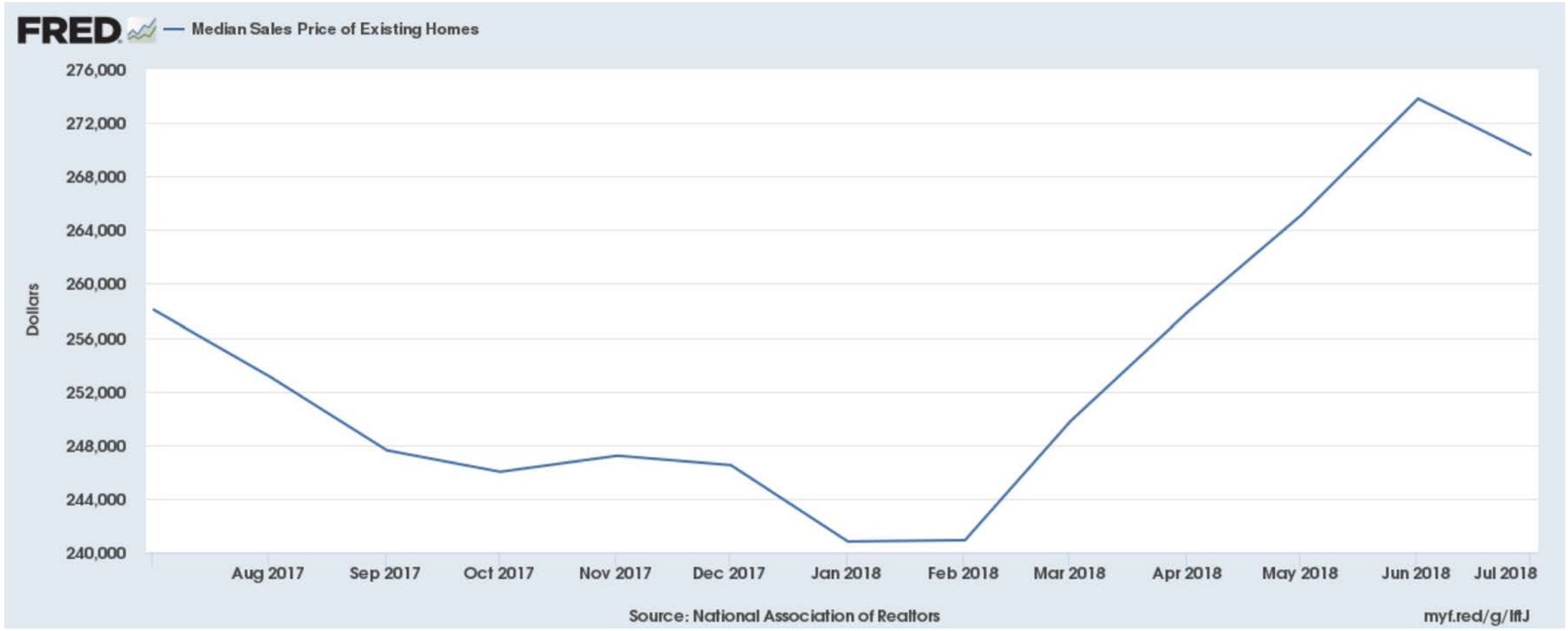
USA – Existing Home Prices 08/2008 through 08/2018



Source: FRED – St. Louis Federal Reserve – US Bureau of Labor Statistics

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Automotive Sales

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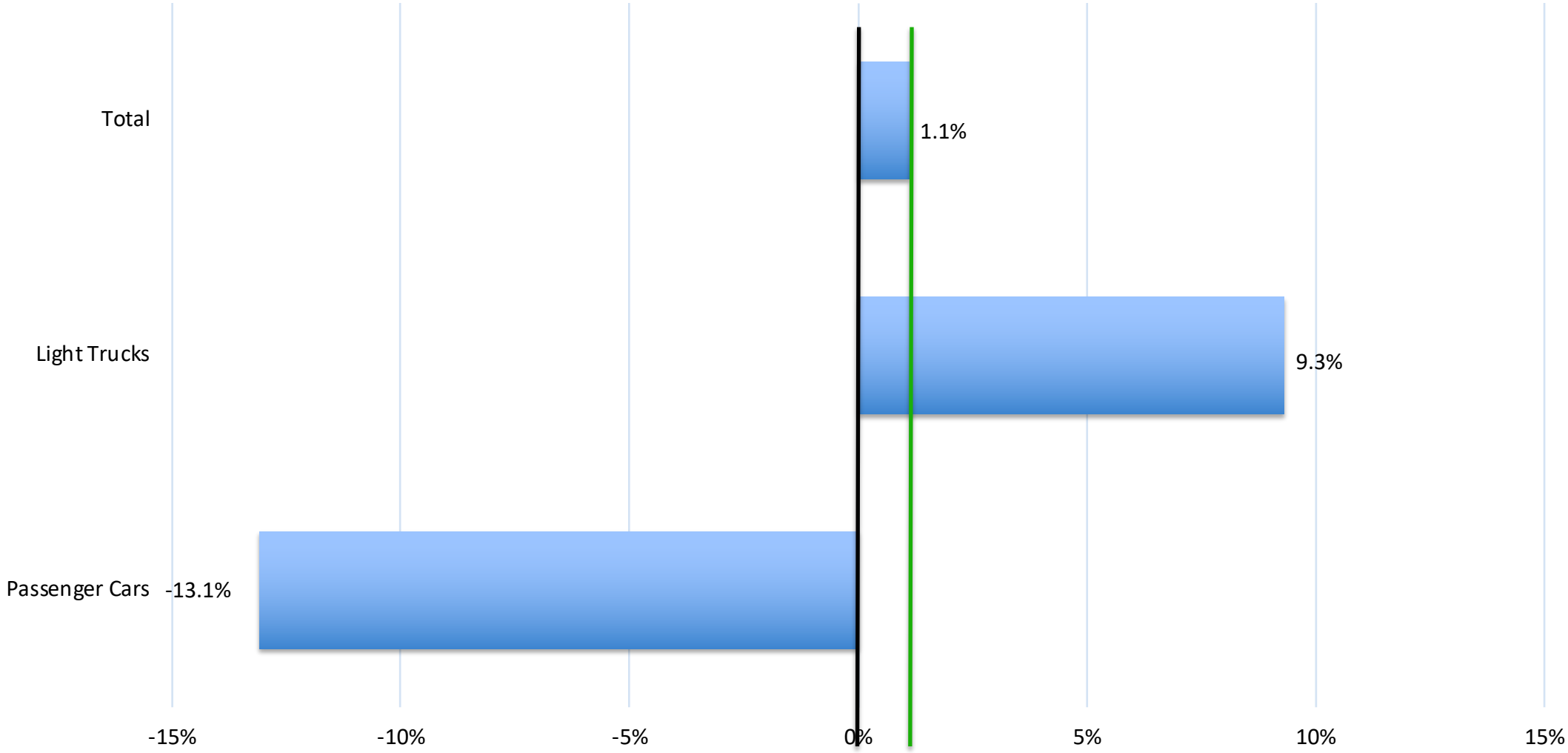
U.S. Light Vehicle Sales
Percent Change YTD Through August: 2018 vs. 2017



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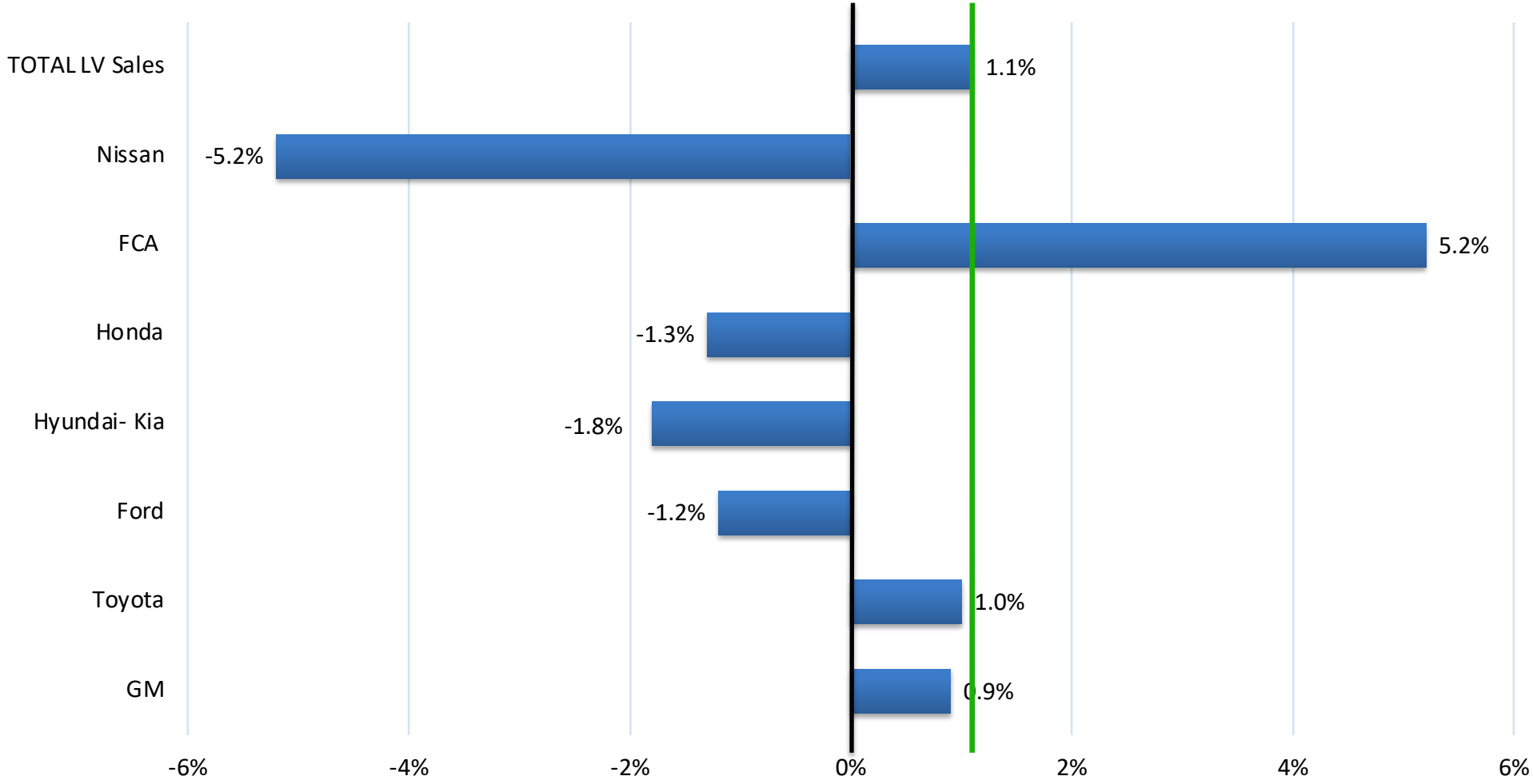
Percent Change in Sales of Light Vehicles Per OEM: YTD Through August: 2018 vs. 2017



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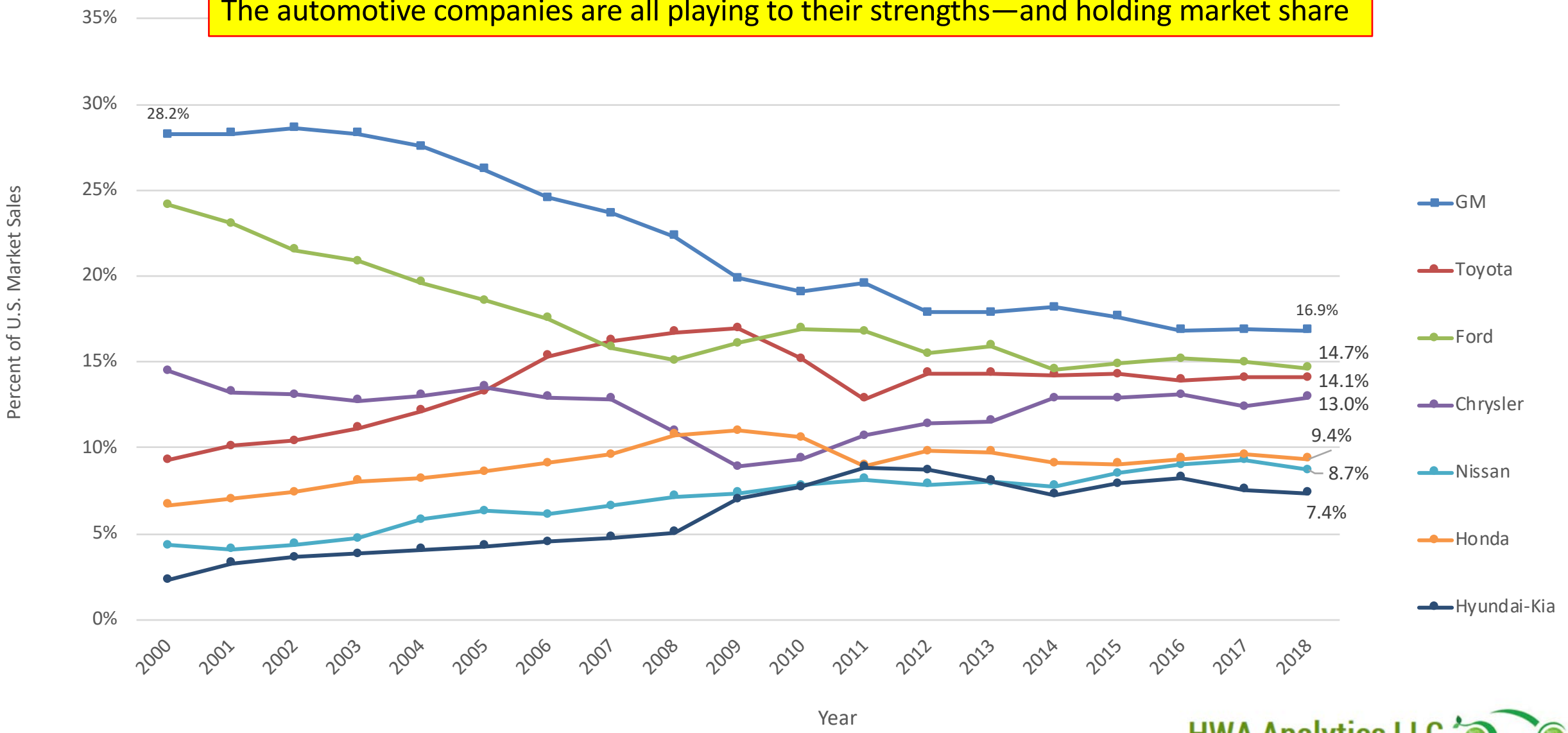
U.S. Market Share 2000 – 2018 YTD

The automotive companies are all playing to their strengths—and holding market share



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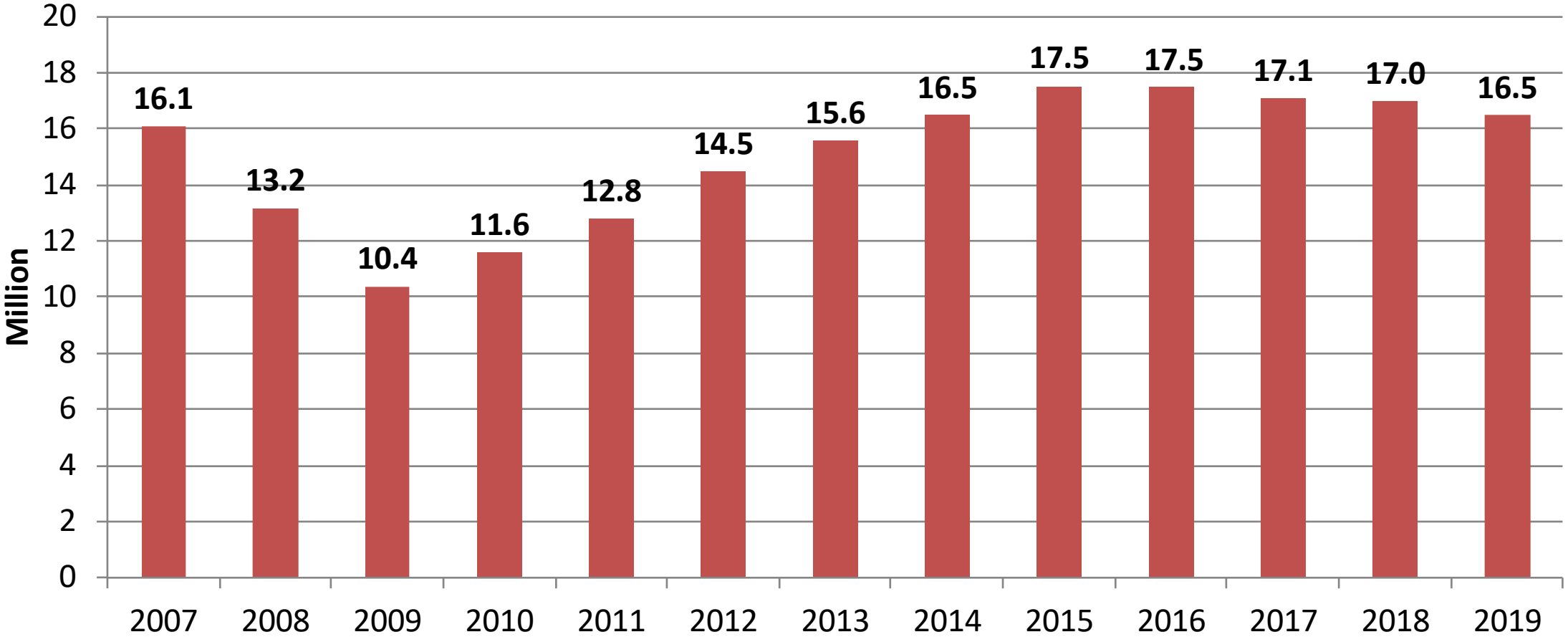
U.S. Sales on a Declining Plateau? We hope…



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2018 U.S. Sales Forecasts (millions)

HWA Analytics, LLC	17.0	(9/18)
OESA	17.0	(8/18)
Cox Automotive	16.8	(8/18)
IHS Global Insight	17.0	(8/18)
LMC Automotive	17.2	(8/18)

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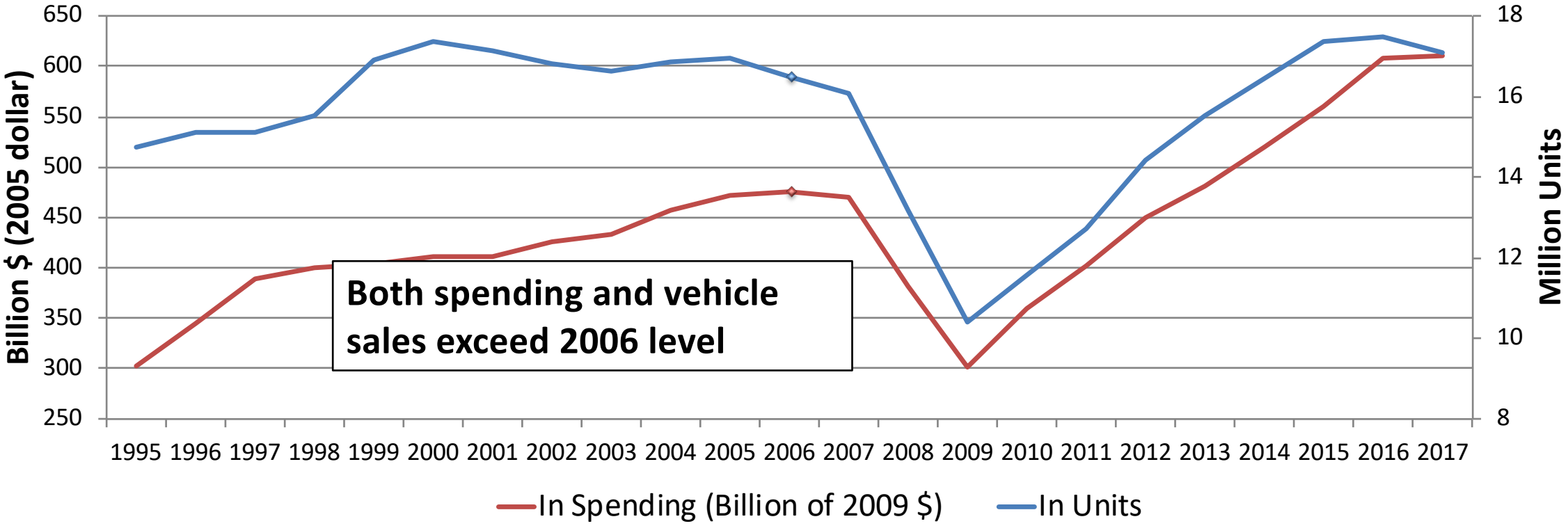
Revenues Have Never Been Higher

Bubble economy helped sales 99-06; recession took wind out 08-10; post recession growth and efficiencies 2011-present



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Average sale price grew 3% in one year—driven by truck sales

- Cars make up only 31 percent of August sales,
- Down from 36 percent just one year ago,
- Consumers purchasing pricier SUVs and trucks.
- Prices also are likely to strengthen as the average days in inventory has begun to recede for the first time this decade
- Automakers seem to be managing production well—keeping prices high

Average transaction price=more profits

Segment	July 2018	Jul-17	Percent Change
Compact Car	$20,412	$20,316	0.50%
Mid-size Car	$25,424	$24,734	2.80%
Compact SUV/Crossover	$28,365	$28,122	0.90%
Electric Vehicle	$36,948	$37,755	-2.10%
Hybrid/Alternative Energy Car	$26,969	$26,309	2.50%
Full-size Pickup Truck	$48,644	$46,475	4.70%
Full-Size SUV/Crossover	$61,557	$60,761	1.30%
High-end Luxury Car	$98,360	$95,874	2.60%
Luxury Car	$59,519	$57,562	3.40%
Luxury Compact SUV/Crossover	$44,524	$42,899	3.80%
Luxury Full-size SUV/Crossover	$88,038	$81,811	7.60%
Minivan	$34,635	$34,174	1.30%
Subcompact Car	$15,026	$14,925	0.70%
Subcompact SUV/Crossover	$24,008	$24,152	-0.60%
Van	$34,902	$33,696	3.60%
Average Transaction price	**$35,359**	**$34,374**	**2.90%**

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Transaction price change—by company

Manufacturer	July-18	July-17	Percent Change
American Honda (Acura, Honda)	$28,179	$27,346	3.0%
Fiat Chrysler (Alfa Romeo, Chrysler, Dodge, Fiat, Jeep, RAM)	$37,666	$37,490	0.5%
Ford Motor Company (Ford, Lincoln)	$39,756	$38,210	4.0%
General Motors (Buick, Cadillac, Chevrolet, GMC)	$40,889	$39,546	3.4%
Hyundai-Kia	$25,090	$25,178	-0.3%
Nissan North America (Nissan, Infiniti)	$29,550	$28,802	2.6%
Subaru	$28,637	$28,451	0.7%
Toyota Motor Company (Lexus, Toyota)	$32,321	$31,593	2.3%
Volkswagen Group (Audi, Volkswagen, Porsche)	$40,577	$38,983	4.1%
Industry	**$35,359**	**$34,374**	**2.9%**

The trucks are taking over

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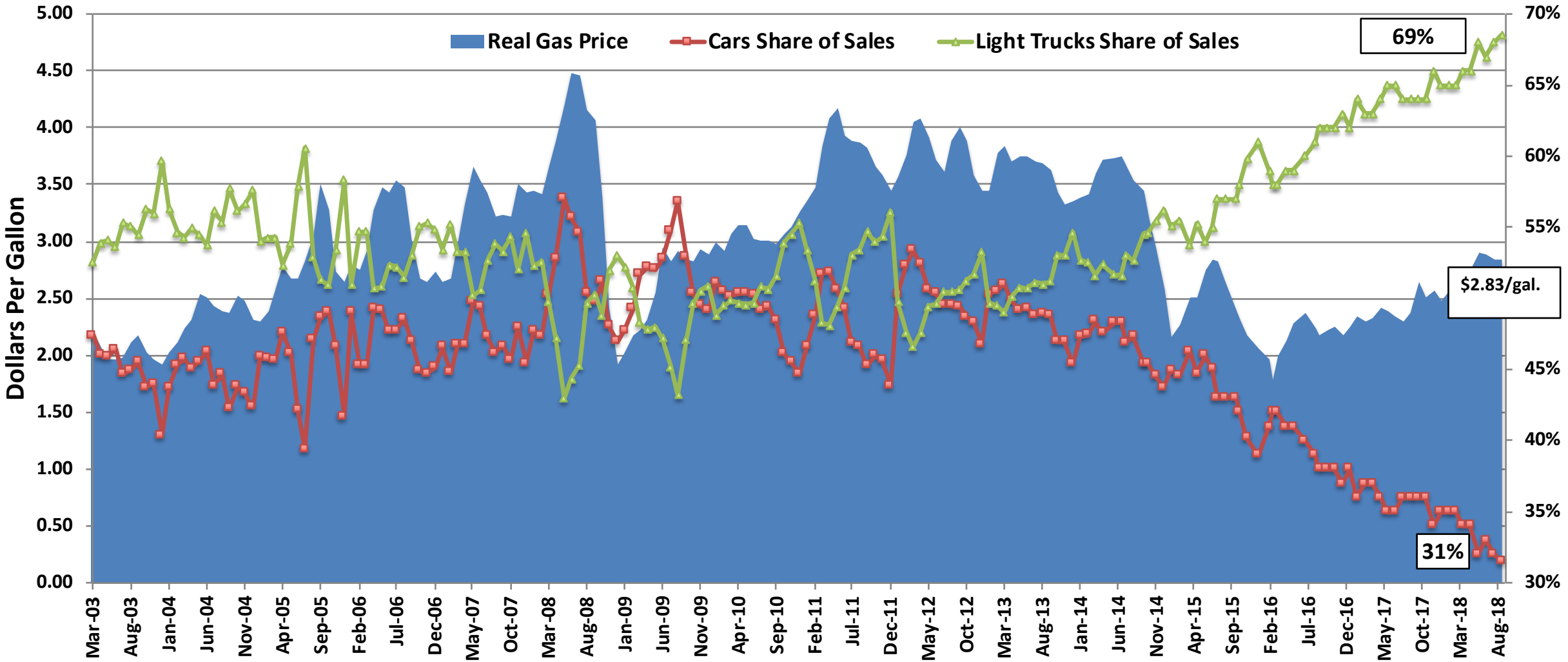
Are Low Gas Prices Affecting the Mix?



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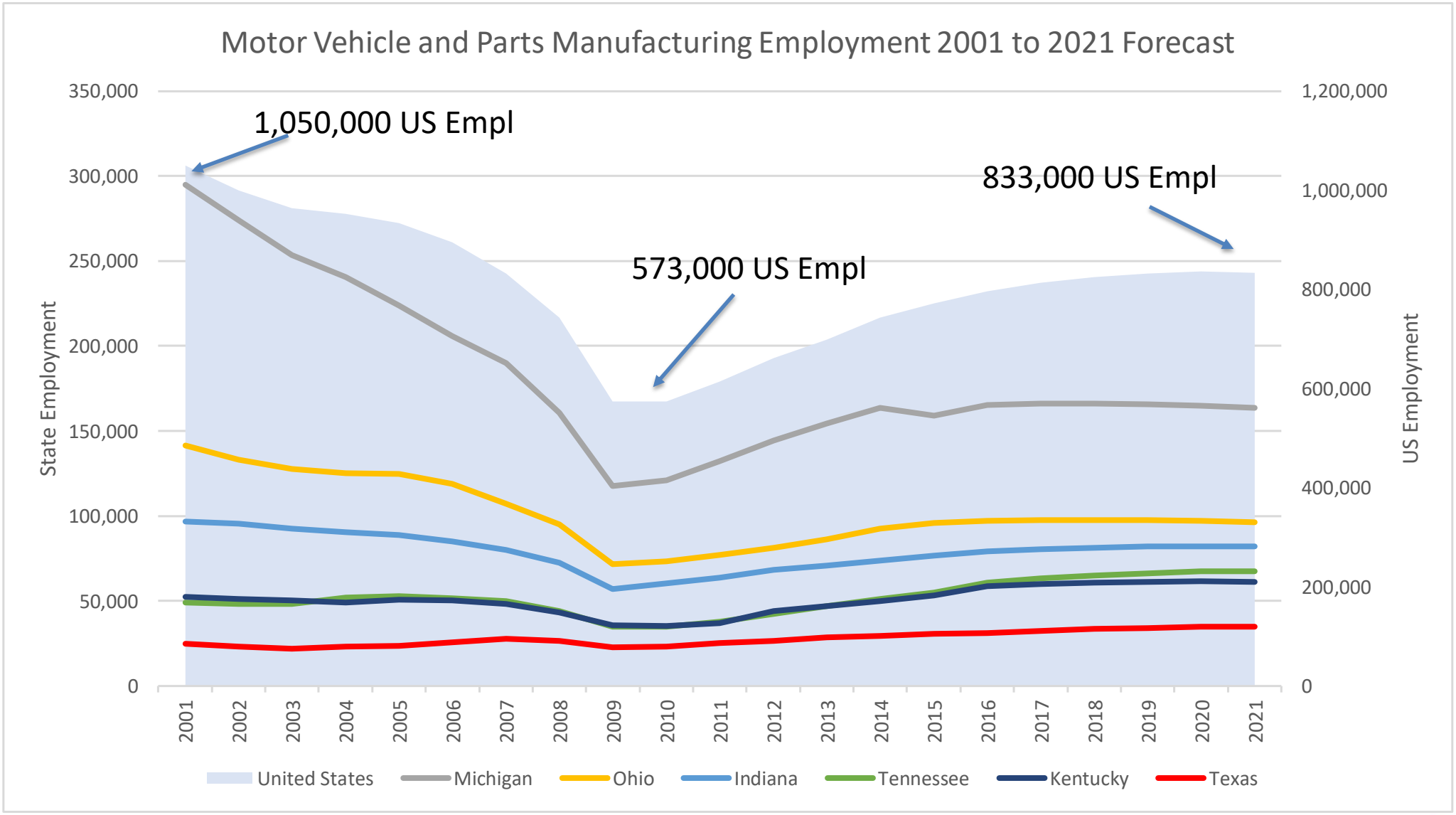
Implications for states

Automation threatens jobs in plants and at supplier companies



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Implications for states—sliding car production threatens jobs

- Illinois—Taurus at Chicago (also Explorer, though)
- Michigan—Flat Rock (Continental, Mustang); Lansing (Camaro, Cadillac); Orion (Sonic, Bolt); FCA already bailed…
- Ohio—Lordstown (Cruze)
- Kentucky—Georgetown (Lexus, Avalon, Camry)
- Kansas—Fairfax (Malibu)
- Tennessee—Chattanooga (Passat—small SUV could help)
- Alabama—Montgomery (Hyundai-Sonata, Elantra)
- Mississippi—Blue Springs (Corolla)
- California—Fremont (Tesla)

Trump and Trade

- NAFTA replacement—more U.S. production predicted for foreign automakers
- More engine, transmission production in U.S. to meet content quotas
  - Typically $300-$500 million investment in new plant, up to 750 employees
- 75% built in N.A.—up from 62%
- 40% - 45% of vehicle made by $16/hr employees
- Non-compliance vehicles—2.5% tariffs
- Automakers who source a lot of parts from overseas at risk—Hyundai, Kia, VW
- Phased in over 2-5 years (enough time to build a plant and find domestic suppliers
- Steel and aluminum tariffs still in place—Will impact suppliers and OEMs
- Higher required N.A. content will increase jobs in N.A. but maybe not U.S.
- In the end, companies will adjust and cost will not climb and more plants will be built in U.S.

How the Industry Is Changing

- Substitution used for New Vehicle Purchases
- Higher New Vehicle Prices
- Costly post 2020 regulations—these could go away
- Advanced safety features driving up costs
- Technological changes are a bumpy road
  - Distracted driving (unintentional), automated vehicle crashes, Luddites…

How the Industry is Not Changing: Yet

- Automated trucks—Amazon, Uber, UPS – much talk, no action
- Autonomous cars
  - Drivers needed? –Always—for now.
  - Can't run automated in bad weather or on bad roads
  - No regulatory push from NHTSA under current administration
  - No funding for true connectivity
  - Yet some driver assist safety features will be implemented
- Ride sharing is not growing quickly
  - Ride-share, on-demand, only replaces taxis and rent-a-cars for travelers – maybe a $30 billion annual market
- Scooters, most other micro-transit options do not impact sales

Understanding Autonomous

- Talent is (still) number one issue, and not getting easier
  - No less than Mary Barra (GM) is recruiting at Harvard University, MIT and Boston University
- Perhaps we follow the NASDAQ, as there are so many tech companies crossing over to autonomous vehicles/mobility
- Are autonomous vehicles a means to solve society's problems (emissions, congestion, highway deaths, etc.), or a plan to make sure everyone can access a car, and technology captures the data?

Time to follow the NASDAQ?

These Will Affect State Revenue Stream

- Light Truck Share/production
- Used for New Purchases
- Trade Impacts
- Used vehicles cost $14K less times sales/use tax rates—no jobs multiplier (except dealer)

Strong Economy Maintaining Vehicle Sales

The Good:

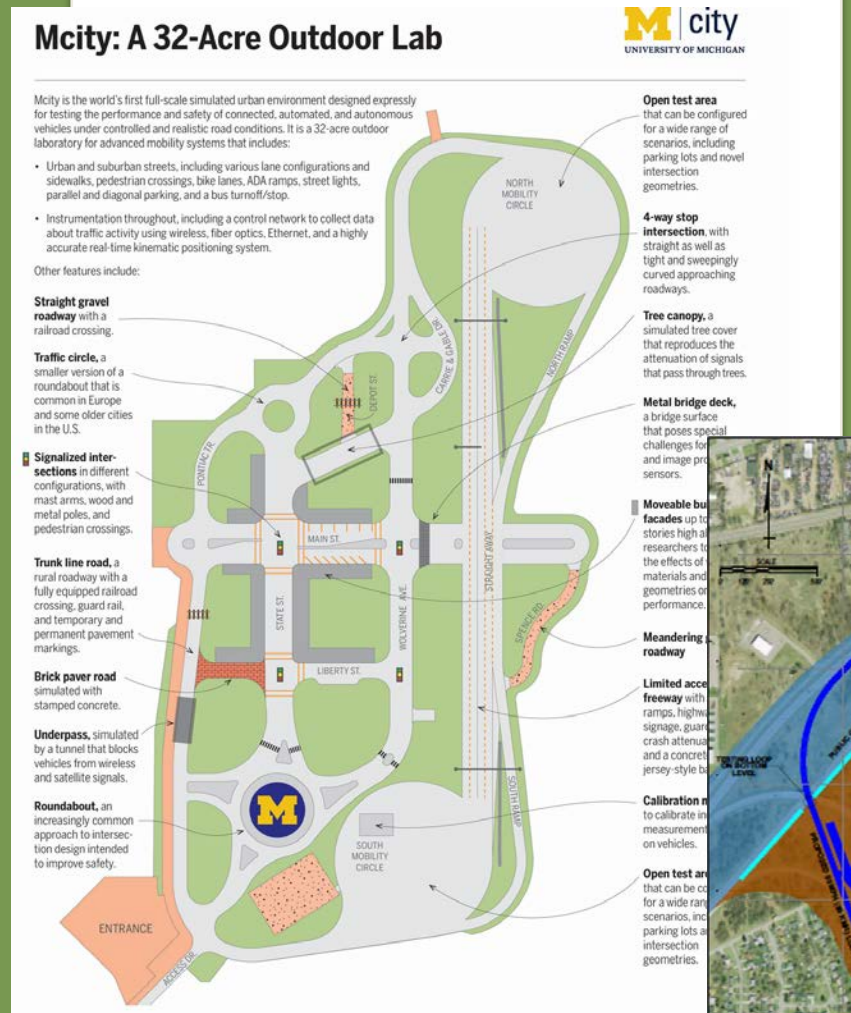
- Economy growing at 3% or higher (2nd Q 4.2%)
- Unemployment at record low of 3.9% (was 4.4% a year ago)
- Duration of unemployment is very short (9 weeks or less)
- Dow-Jones at record peak (again)
- Wages are climbing just above inflation (finally)
- Gas prices at or below $3/gallon—see oil below

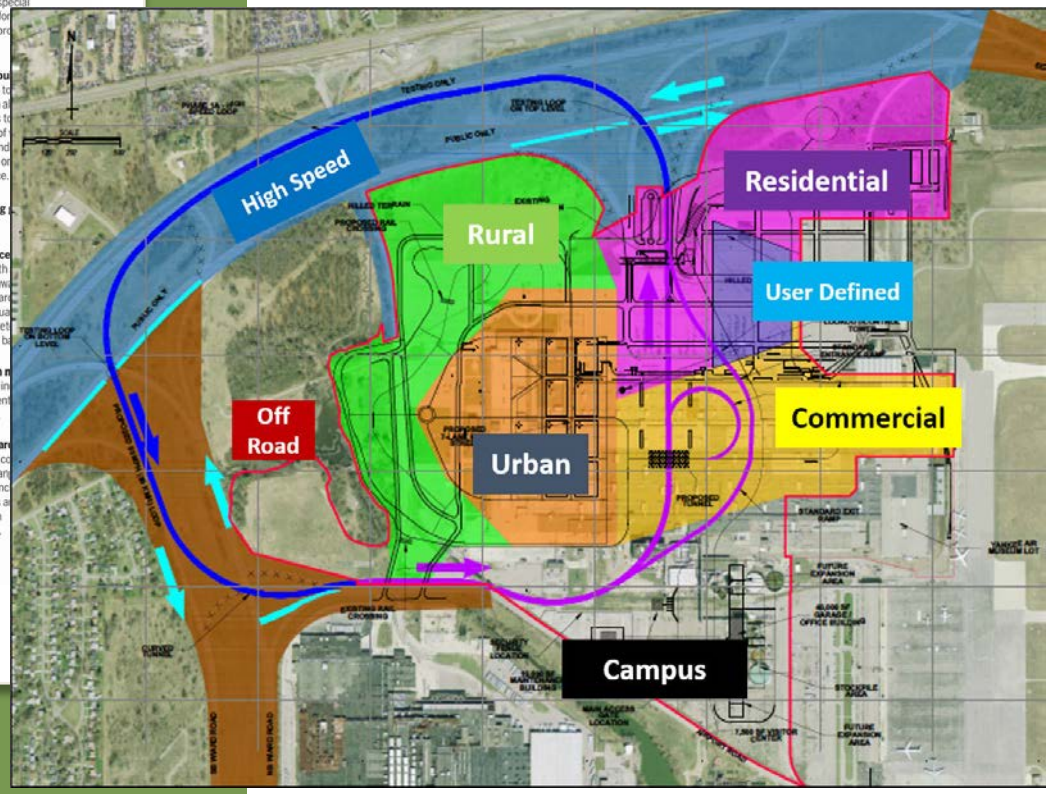
The Bad:

- Labor force participation is still low – Total employment growth is slow—stuck around 63%
- Loan rates are rising, amount borrowed over 90%
- Record leasing levels producing flood of returning, used vehicles (soon, used CUVs)
- Record price gap between new vehicle and used vehicle prices – buyers switching
- Hiring is slow due to labor shortages--
- Price of oil is surging to $80/barrel and beyond– Gas could climb over $3 unless U.S. output surges

The Ugly:

- CUVs/SUVs/Pickups are expensive ($35,000 avg price for all vehicles), used vehicle sales are climbing fast
- Economic recovery is very old – a correction is inevitable – especially in auto sales and stock market (see upcoming election…)
- Plug-in sales are less than 1%, Hybrids about 2% - no growth and no push from federal govt. This could change with Democrats in 2020.
- Fuel economy regulations will top out now in 2020 – but Democrats could reverse that in 2020. Industry won't be ready





Thank you

kimhill@hwa-analytics.com
734-355-1740

HWA Analytics LLC
Ann Arbor, Michigan