

North American Auto Manufacturing Challenges During a Global Pandemic

REMI

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THE CENTER FOR AUTOMOTIVE RESEARCH (CAR)

Automotive industry contract research and service organization (non-profit) with more than 30 years experience forecasting industry trends, advising on public policy, and sponsoring multi-stakeholder communication forums.





EVENTS

Industry-driven events and conferences that deliver content, context, and connections.



CONNECT

Consortia that bring together industry stakeholders to participate in working groups, networking opportunities, and access to CAR staff.

End of the Cycle:

N.A. Announced Automaker Investment by Region

2009 to 2019

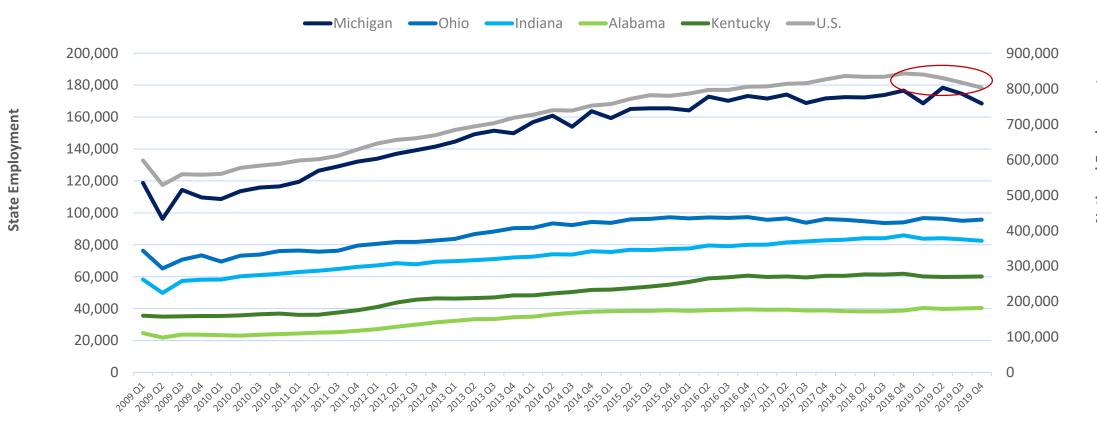
| Region | Investment Amount (\$USD) |
|------------------|---------------------------|
| Canada | \$8.7B |
| United States | \$114.5B |
| U.S. Great Lakes | \$76.8B |
| South | \$23.8B |
| Mexico | \$24.7B |
| Total | \$147.9B |

6% 77% 17%

Note: U.S. Great Lakes includes: IL, IN, KY, MI, MO, and OH South includes: AL, FL, GA, MS, SC, TN, and TX

Motor Vehicle and Parts Manufacturing Employment:

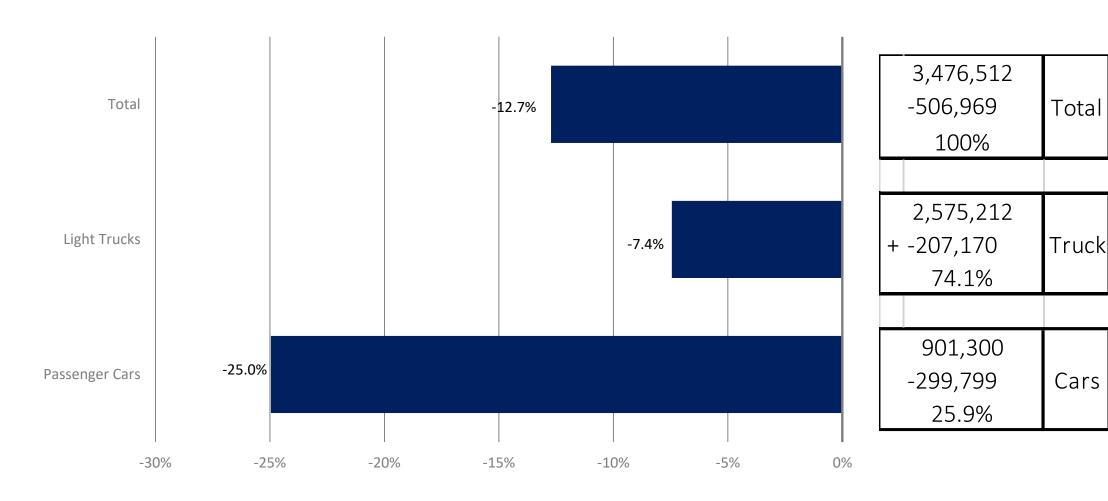
Michigan vs. U.S. and Other States Q1 2009 – Q4 2019



National Employment

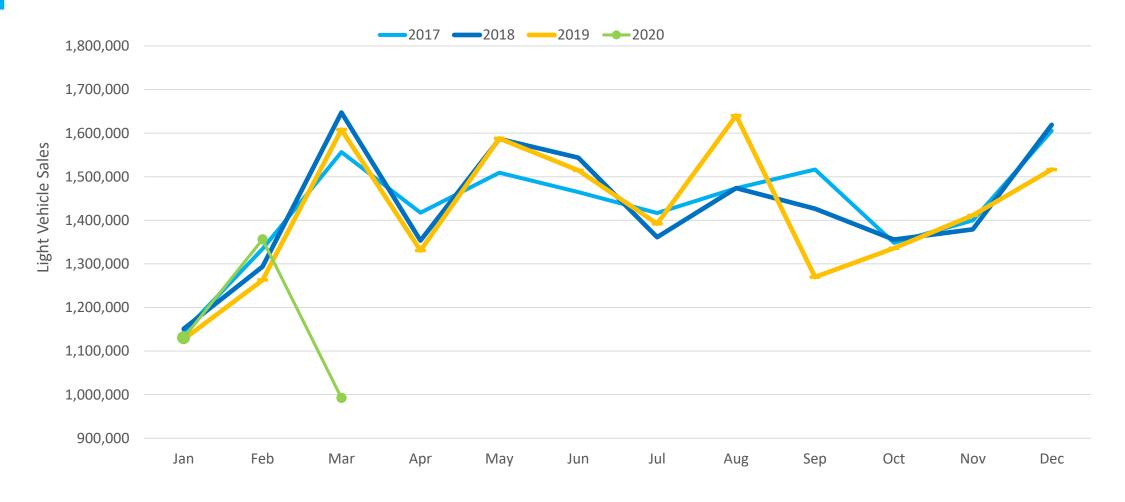
U.S. Light Vehicle Sales

Percent Change (YTD) Through March: 2020 vs. 2019

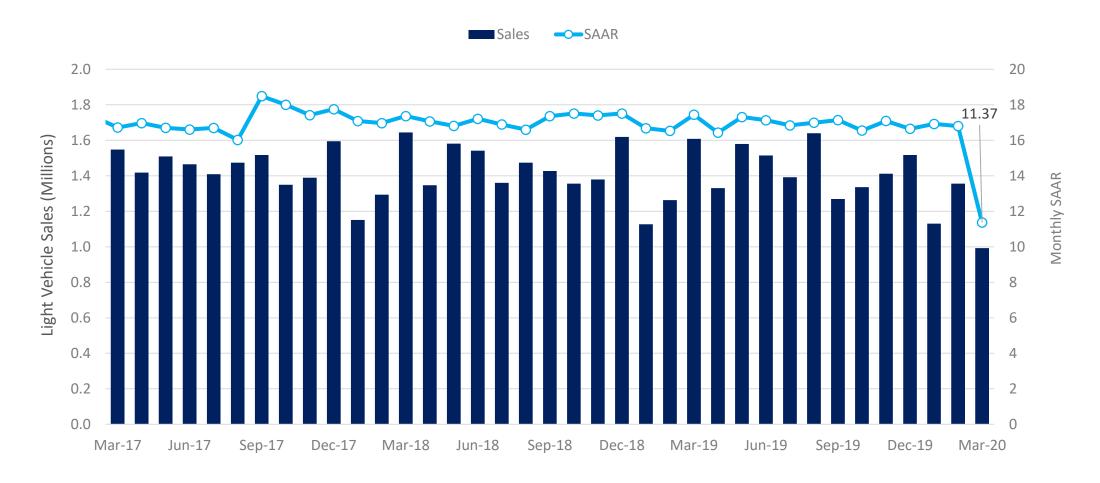


U.S. Light Vehicle Monthly Sales

January 2017 – March 2020

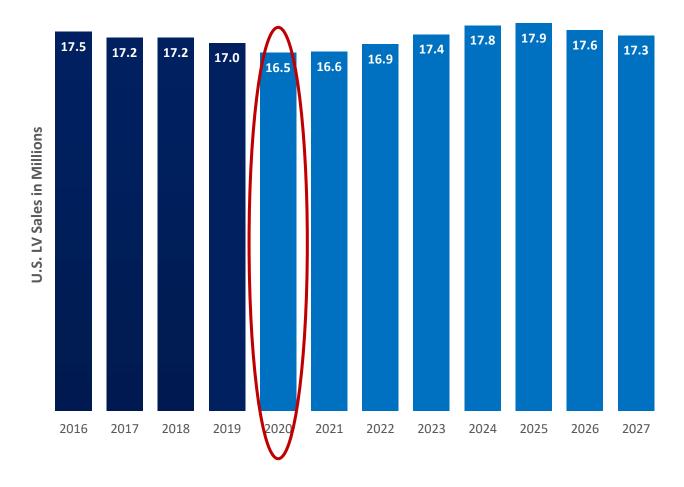


U.S. Light Vehicle Monthly Sales and SAAR: March 2017 to March 2020





U.S. Light Vehicle Sales



Source: CAR Research, January 2020

Modeling the Pandemic

- 1. Production disruption due to shortages from China
- 2. Impact of the virus itself
- 3. Demand drop and recession

Understanding What Comes Next

- A stoppage, not a slowdown
 - Capital for recovery is a bigger issue
 - Direct precedent not available
- Knowing when we've hit bottom
 - Of the pandemic
 - Of the resulting economic downturn
- Duration is everything
 - Bringing production back becomes more difficult
 - Demand challenges are compounded
 - Deferred sales today can be sales that never happened next year
 - New → Used → Existing Vehicle

Arsenal of Health

12 automakers and 9 other companies

Location of supports

- 20 in the United States
- 8 in Europe
- 5 in Asia
- 1 in Canada

Means of supports

- 10 Personal protective items production/procurement
- 8 Service providers
- 7 Medical device production/procurement
- 5 General medical items production/procurement
- 3 Cash donation
- 1 Volunteering

