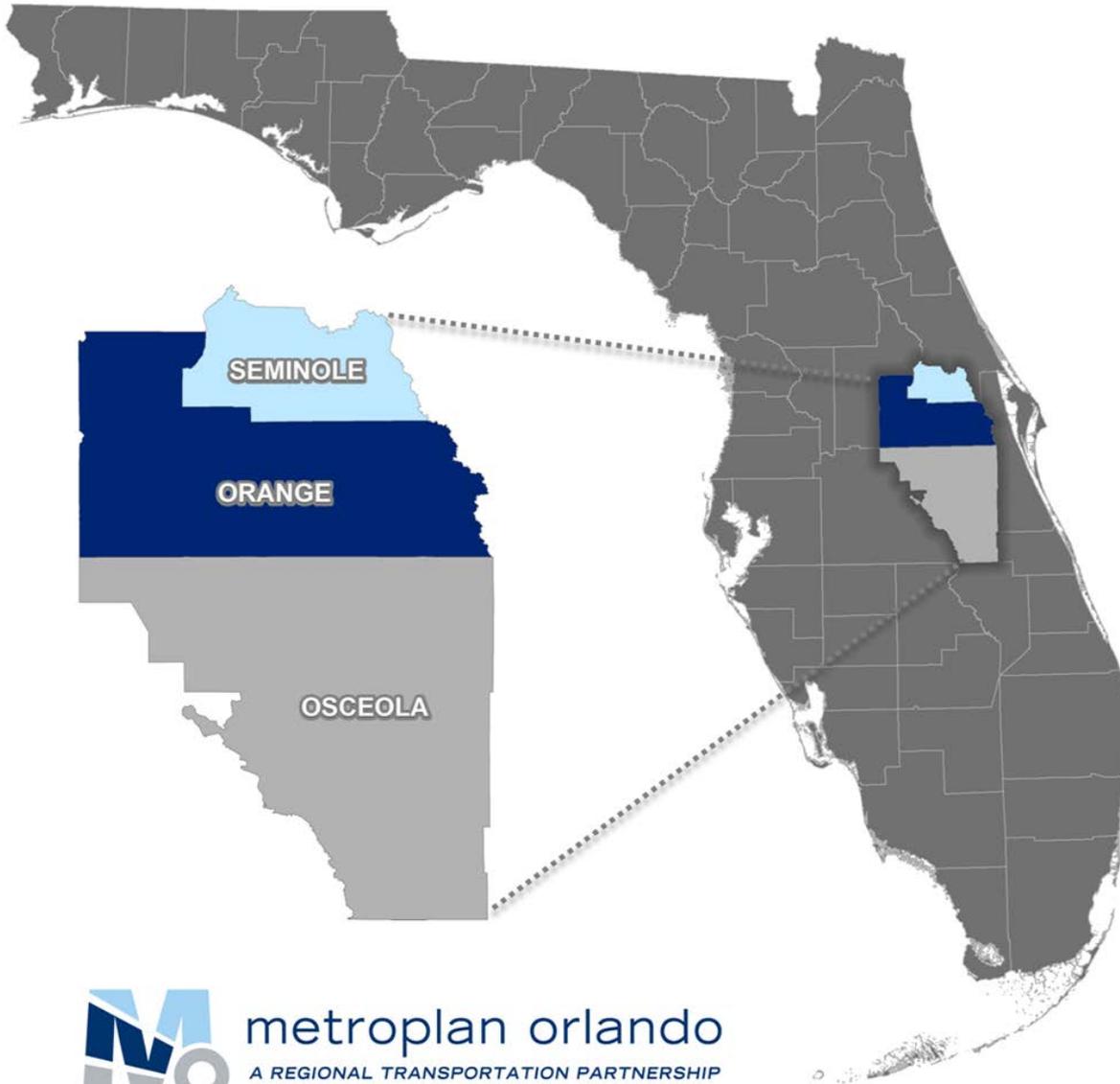
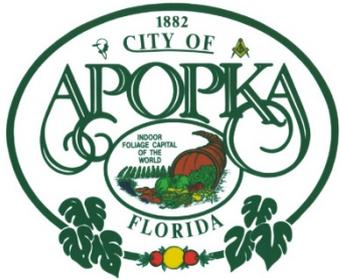


# USDOT ITS University Workshop Eric Hill, Metrolan Orlando





metroplan orlando  
A REGIONAL TRANSPORTATION PARTNERSHIP



## REGIONAL PROFILE



12.4 % increase in employment  
from 2011 to 2015

73 % licensed drivers are between ages  
21 and 59



POPULATION:  
**2 million**



UNEMPLOYMENT RATE:  
**5.1**



REGISTERED VEHICLES  
**1.8 million**



TOURIST VISITS  
**66 million**



Population estimated to reach 3  
million by 2040

20 % increase in visitors from 2011 to  
2015



## MOBILITY TRENDS

Annual Delay per  
peak auto  
commuter

46 hrs  
+  
21 gallons

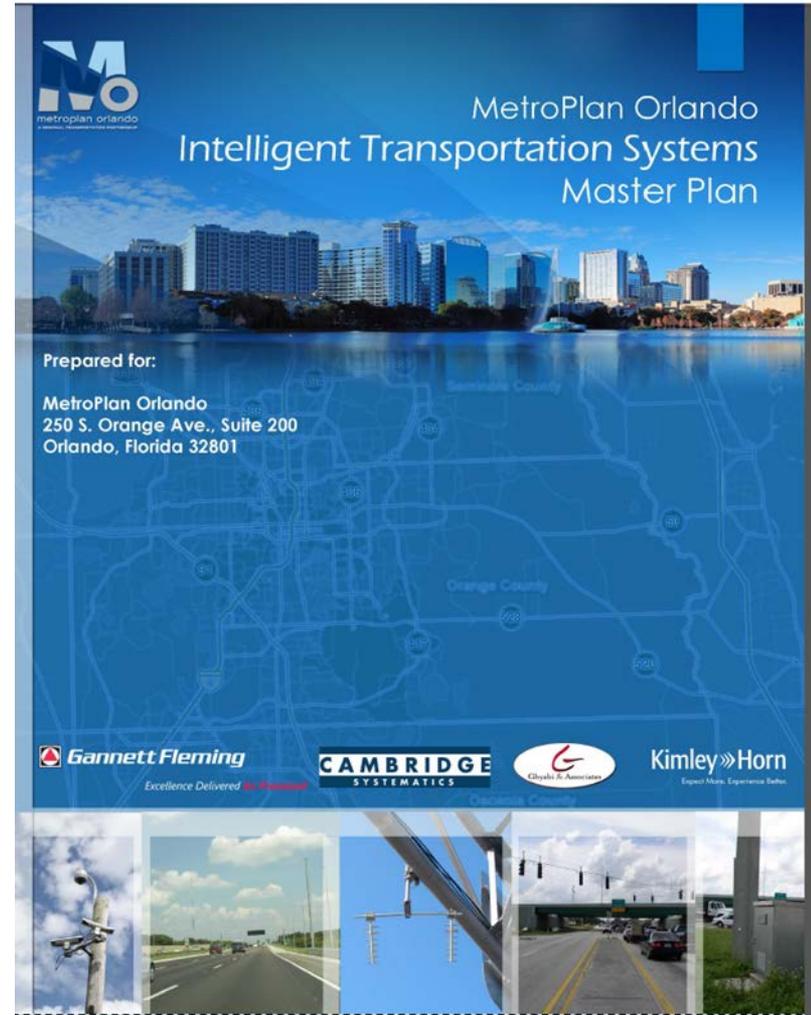
Annual Excess Fuel  
per peak auto  
commuter

Annual Congestion cost per Peak Auto Commuter = \$1,044

# Technology



- UPWP
- TSMOAC
- Traffic Signal Retiming
- Engineer
- Leadership/Champions/  
Partnership



# Partnerships



- City of Orlando: “Smart City”
- MetroLab Network
- Central Florida Automated Vehicle Proving Grounds Partnership
- ATCMTD

# Implications



- Policy
  - Legislation
  - Local
- Capital vs Operations
- Education

# Mobility Ecosystem

19<sup>th</sup> Century



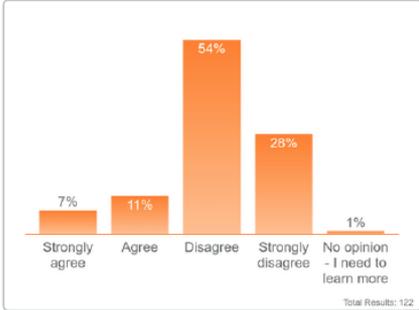
20<sup>th</sup> Century



21<sup>st</sup> Century



**Technology will save us! Things like self-driving cars, new traffic signal equipment, better ways of sharing information on traffic conditions and more people working from home will eliminate the need for building more transportation projects.**



Response options	Count	Percentage
Strongly agree	8	7%
Agree	13	11%
<b>Disagree</b>	<b>66</b>	<b>54%</b>
Strongly disagree	34	28%
No opinion - I need to learn more	1	1%

**83%**

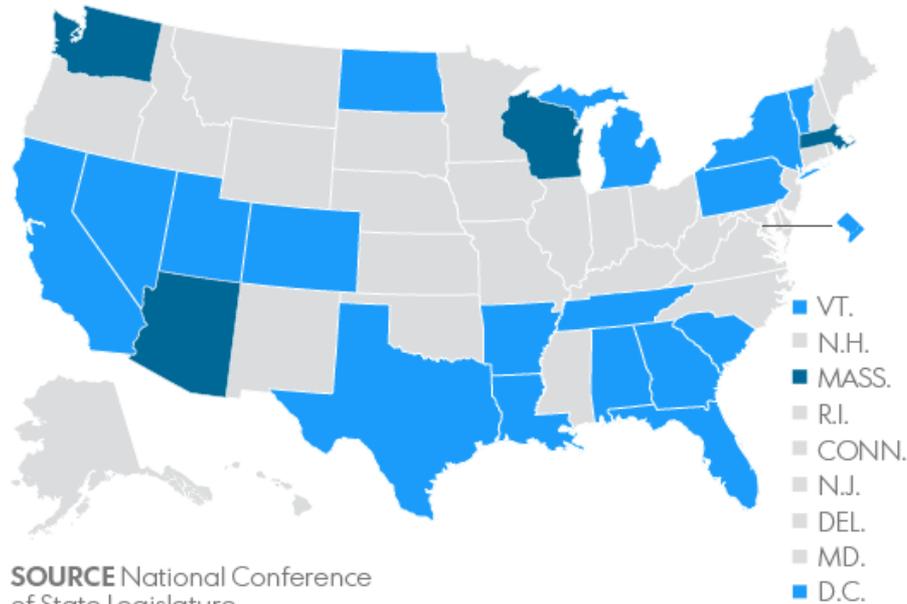
**Engagement**

**122**  
Responses

## AUTONOMOUS VEHICLES LEGISLATION

According to the National Conference of State Legislatures self-driving legislation has been adopted in 24 states and Washington D.C.

- Approved by legislators
- Approved via executive order by governor

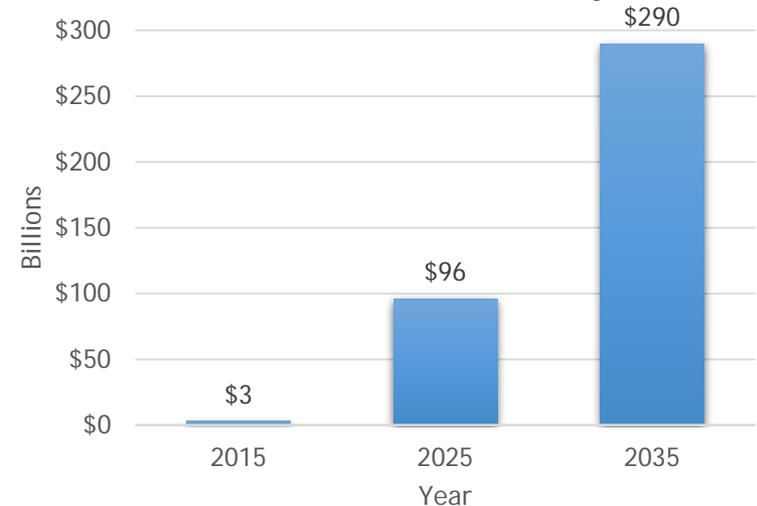


**SOURCE** National Conference of State Legislature

Janet Loehrke, USA TODAY



## Goldman Sachs Market Projection



Source: Cities vie to become hubs of self-driving technology, USA Today, June 25, 2017

## Mass Market Automotive Brands May be the Big Losers in the Mobility as a Service Transition

### Mass Market Automotive Brands May be the Big Losers in the Mobility as a Service Transition

London, United Kingdom - 10 Jul 2017

Share:   

As 91% of respondents in the automotive space brace themselves for the entry of a new player in personal mobility, mass market OEMs are expected to face difficult years. In a recent B2B technology survey, ABI Research finds that only 10% of respondents expect these brands to have the most to gain from the mobility as a service (MaaS) megatrend. Though automotive incumbents recognize that new personal mobility opportunities will attract competitors from markets such as ride-sharing and autonomous system development, the overwhelming expectation remains that premium brands stand to gain the most from the prevalent automotive technology megatrends.

“Mass market OEMs thrive on their expertise in maintaining profitability when shipping in high volume, as well as their ability to mitigate for their consumers the necessary expense of private vehicle ownership,” says James Hodgson, Senior Analyst at ABI Research. “As adoption of shared driverless mobility spreads, private vehicle ownership will diminish and profitability will be tied heavily to utilization of shared vehicles, rather than ever higher new car sales. In this context, it’s hardly surprising that the industry as a whole is pessimistic about the future of mass-market OEMs.”

High-volume brands are under increasing pressure to demonstrate their relevance in the forthcoming era of shared driverless transportation, most recently due to Tesla’s market cap exceeding that of both GM and Ford. In fact, Ford recently appointed former chairman of its smart mobility division, Jim Hackett, as CEO in a bid to restructure the company from a product seller into a mobility service provider.

Survey results show that 25% of automotive respondents expect ride share operators, such as Uber and Lyft, to dominate the MaaS market, with most accepting that they will have some role to play. Mass-market OEMs have been particularly aggressive in partnering with and investing in smaller ride share operators, and Renault-Nissan recently announced its intention to develop its own shared driverless vehicle service within the next 10 years.

“Premium brands are weathering the transition much better than their mass market counterparts,” concludes Hodgson. “Not only do they have a commanding lead amongst automotive incumbents in the ‘nuts & bolts’ development of autonomous vehicles, but their history of delivering premium in-vehicle experiences makes them well poised to capitalize on the shared third space.”

# Skills and Abilities



- Strength
  - Apps & Algorithms
  - Theory vs. Application
- Weakness
  - Communication
  - Hands-on
  - Electrical/Computer Science

# Emerging Needs



- Automated Traffic Signal Performance Measures
- Adaptive Signal Control Technologies
- Data management – circuits and networking
- Transportation economics
- Connected/Autonomous Vehicles

# Other Considerations



- Big data and analytics
- Common sense
- International exposure
- Evolution of transportation
- “Curiosity”

# Thank You

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