

A large iceberg is shown floating in the ocean. The tip of the iceberg, which is the visible part above the water, is a jagged, white peak. The much larger, submerged part of the iceberg is visible below the water line, showing a dark blue, textured surface. The background is a clear blue sky and a calm blue sea.

EMERGING ISSUES

2016 MIIA Annual Meeting

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JANUARY 2016

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The Future of Auto



Driverless Cars / Autonomous Vehicles





Driverless Vehicles

- Makers taking three approaches
 1. Incremental approach
Favored by traditional auto manufacturers
 2. Ground up to fully autonomous
Favored by non-standard manufacturers – Google, Apple
 3. Secondary market accessories
Turn newer models into driverless vehicles currently very limited to Audi's and soon VW models

The Future of Auto



States Gearing Up for Driverless Cars





Driverless Vehicles

- To Market:
 - Tesla will be selling fully autonomous cars in two years
 - Apple will be selling fully autonomous cars by 2019
 - Ford, Toyota, Alibaba, Baidu and Renault-Nissan shooting for 2020
 - Nissan to have 10 models with autonomous driving by 2020
 - Mercedes – fully driverless cars on the market within 10 years
 - 10/15 – GM announces it will be a leading maker of driverless cars
- Deloitte: Transformation of vehicles to disrupt industries beginning in 5–15 years
- Roadblocks
 - Technological
 - Regulatory
 - Acceptance
 - Liability ?



Driverless Cars Predicted to Reduce Frequency and Severity

- NHTSA: in 2011
 - 3,331 fatalities due to distracted driving
 - 387,000 injuries due to distracted driving
- Eno Center for Transportation
 - If 90% of vehicles were autonomous:
 - 4.2 million accidents would be avoided
 - 21,700 lives saved
 - If 10% of vehicles were autonomous:
 - 211,000 fewer accidents
 - 1,100 lives saved
- KPMG
 - Driverless cars could reduce frequency from 1 in 280,000 miles driven now to 1 in 1.6 million miles by 2040



Driverless Cars Predicted to Reduce Vehicle Ownership

- University of Michigan's Transportation Research Institute
 - Driverless cars with an unoccupied “return home” feature could reduce vehicle ownership by 43%
- Google – driverless cars can reduce the number of cars by 90%
- Barclays Plc – driverless cars could reduce vehicle ownership by 40% by 2025
- University of Texas – combine Uber with driverless cars and 90% of vehicles unnecessary
- KPMG – predicts a reduction in vehicle ownership could be as high as 99%



Driverless Vehicles—Reducing Industry Auto Premium

- KPMG – autonomous vehicles may bring about the most significant change to the automobile insurance industry since its inception
- KPMG – driverless cars will cut auto premium by 50% by 2020 and will eliminate 90% of collisions
- Celent – driverless cars could reduce auto premium by between 30%–60% in 5–10 years



Driverless Vehicles—Reducing Industry Auto Premium

PARADIGM SHIFT!

- Google, Mercedes-Benz and Volvo assume all liability for accidents caused by their driverless cars
- NHTSA – encouraging auto makers to assume liability for accidents caused by their driverless cars



Assisted Driving Innovations

- Vehicle-to-Vehicle (V2V) Communication
 - Feds give green light to auto makers to install V2V communications
 - Feds considering making V2V mandatory for new cars and light trucks beginning with 2017 or 2018 models
 - V2V effective to about 300 yards
 - NHTSA: V2V might avoid or reduce the severity of 80% of crashes that occur when the driver is not impaired
 - Current V2V simply warns drivers – future systems could take over breaking and/or steering if it sensed an imminent collision
 - NHTSA: Safety benefits can be seen with as few as 7%–10% of vehicles equipped with V2V
 - V2V: 3,000 vehicles equipped with V2V have been driving around Ann Arbor, MI for over 1 ½ years as part of a pilot program



Internet of Things

VEHICLE TO VEHICLE/VEHICLE TO INFRASTRUCTURE

- NYC conducting a pilot program
 - Connecting 10,000 vehicles (taxis, buses, trucks and the city fleet) to each other and to traffic signals and road infrastructure
 - Expected to cut congestion – but also cut accidents by 80%
- Wyoming conducting a similar program to relieve commercial heavy truck traffic



Driverless Vehicles

COMMERCIAL VEHICLES

- Mercedes – driverless tractor-trailer
 - Already two driving on highways in Nevada
- Volvo – driverless convoy technology for trucks and tractor-trailers
 - Already driving on European highways
 - Driverless crash trucks – 2 to be operating on FL highways in 2015
- 10/15 – China allows driverless bus to take to the streets
- 10/15 – Greece allows driverless mini-buses on the streets



Implications for Municipalities

- Urban Garages
- Parking meters
- Availability of parking
- Traffic violations
 - For most cities traffic fines account for 5% of city revenue in some cases 30%
- Taxi medallions
- Personal property taxes
- Job loss/Job creation
 - 2M–3.5M truckers
- Special land or zone creation
- Gas stations
- Accident response
- Need for municipal fleets
- Less pollution
- Car registration fees
- Issuing driver's licenses
- Migration



Implications for Municipalities

- Many municipalities have transportation plans that project out at least 15 years.
- Yet according to the NLC only 6% of 68 communities surveyed include the potential effects of driverless cars in their current plans.
- NLC: “self-driving technology could allow cities to redevelop at least 50% of their current street parking permanently reclaiming sidewalks and dramatically expanding the public realm.”

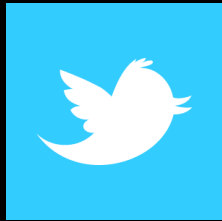


Cyber Attacks
Nanotechnology
Concussions
3D Printing
Self-Driving Vehicles and
Assisted Driving Innovations
Internet Communications—
Personal Injury Claims
Hydraulic Fracturing
Drone Use
Food-borne Illness
BPA
Food Flavorings and
Coloring Litigation

SO
MANY
ISSUES,
SO
LITTLE
TIME

Internet of Things
GMO's
The Share Economy
Hazardous Imported Products
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