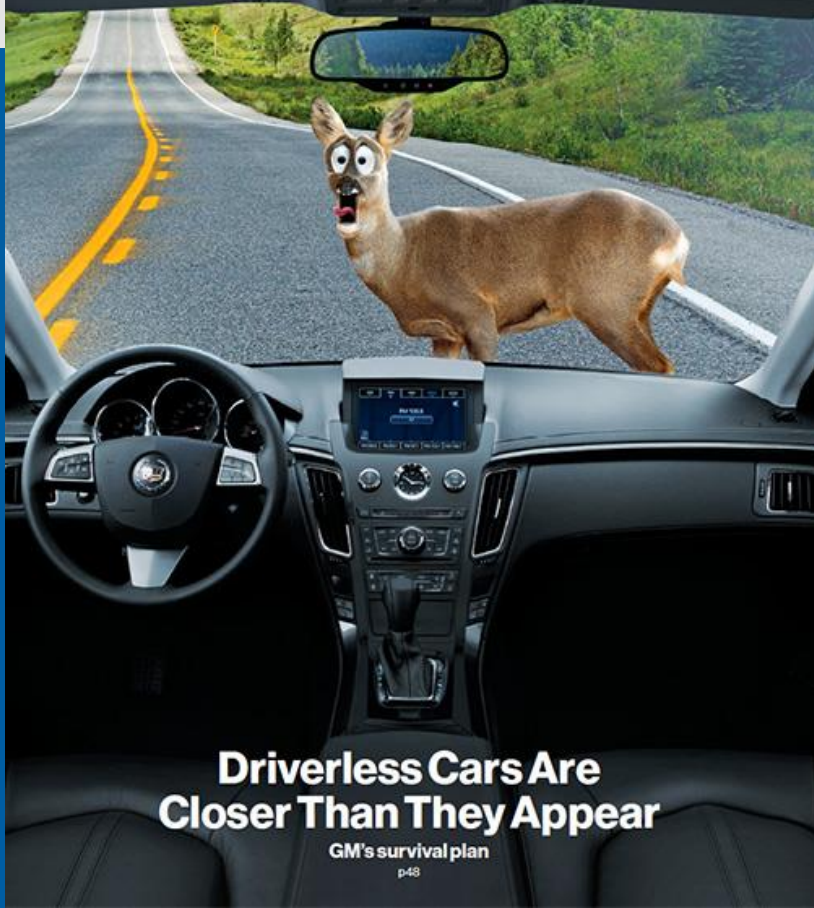


How Government Agencies Can Plan for Driverless Cars



Bloomberg Businessweek

November 2 – November 8, 2015 | bloomberg.com



Driverless Cars Are Closer Than They Appear

GM's survival plan

p48

Discussion Topics

- Driverless Vehicles 101
- Driverless Vehicles Impacts
- Our Driverless Future
- Next Steps



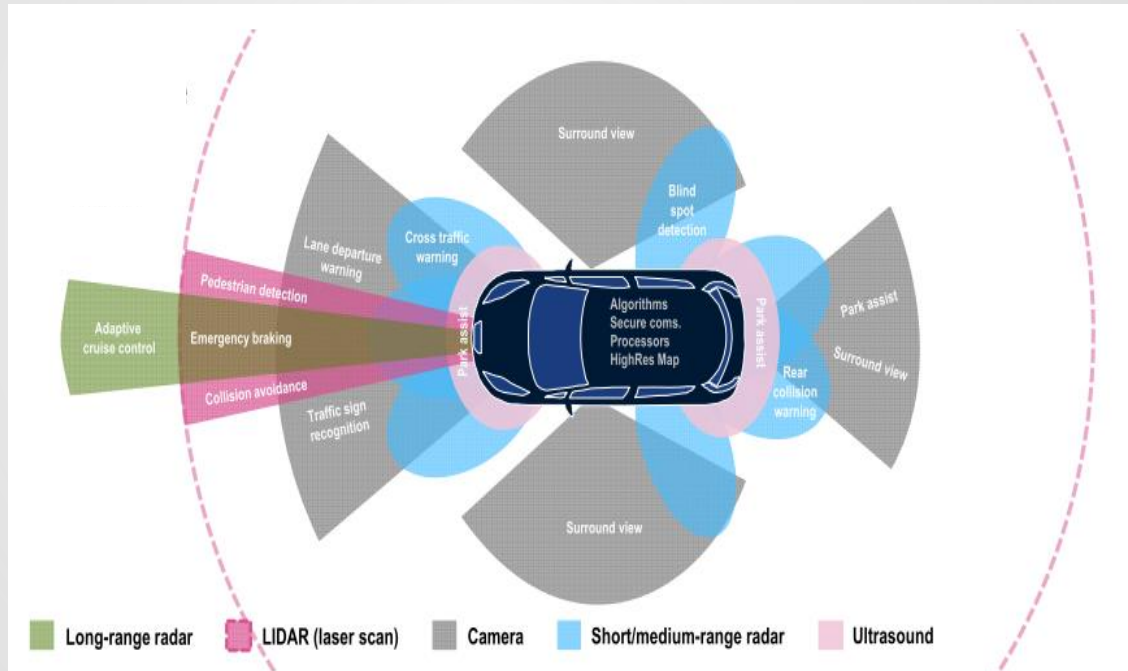
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Driverless Vehicles 101

Driverless Vehicles Definition

NHTSA defines “Full Self-Driving Automation” as:

“designed to perform all safety-critical driving functions and monitor roadway conditions for an entire trip. Such a design anticipates that the driver will provide destination or navigation input, but is not expected to be available for control at any time during the trip.”



Source: http://www.internationaltransportforum.org/Pub/pdf/15CPB_AutonomousDriving.pdf

NHTSA's Definition of Vehicle Automation

Level 0 (Non-Automation)

The driver is in complete and sole control of the primary vehicle controls – brake, steering, throttle, and motive power – at all times.



Level 1 (Function-Specific Automation)

Automation at this level involves one or more specific control functions.



Level 2 (Combined Function Automation)

Automation of at least two primary control functions designed to work in unison to relieve the driver of control of those functions.



Level 3 (Limited Self-Driving Automation)

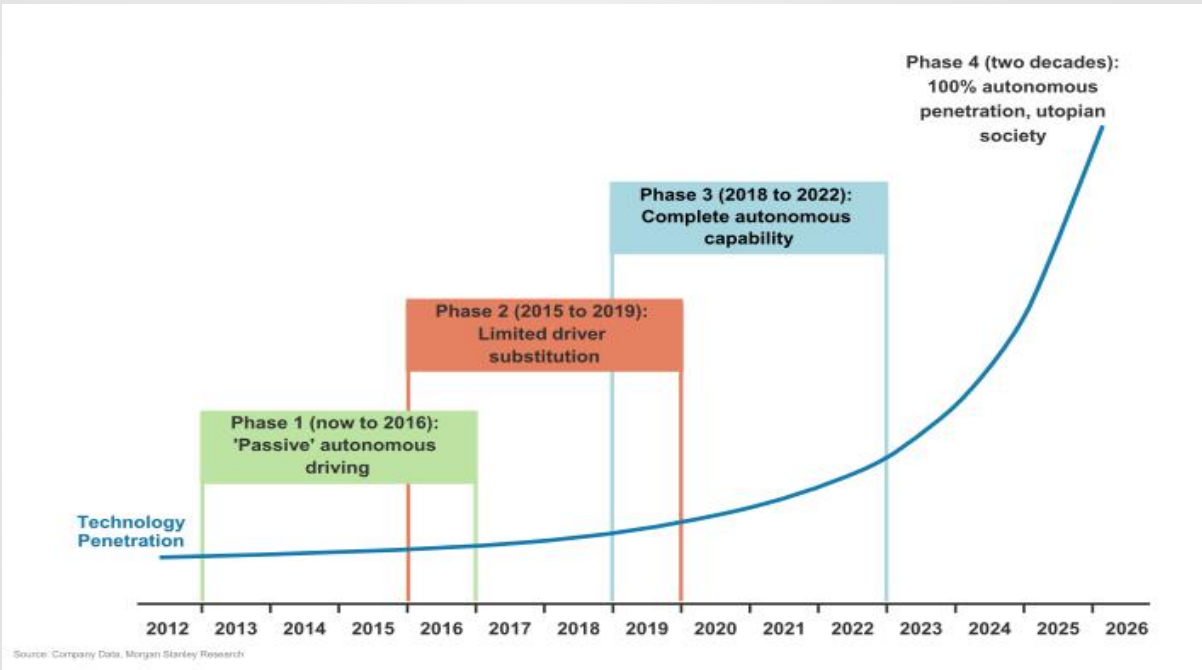
Automation enable the driver to cede full control of all safety-critical functions under certain traffic or environmental conditions. The driver is expected to be available for occasional control, but with sufficiently comfortable transition time.



Level 4 (Full Self-Driving Automation)

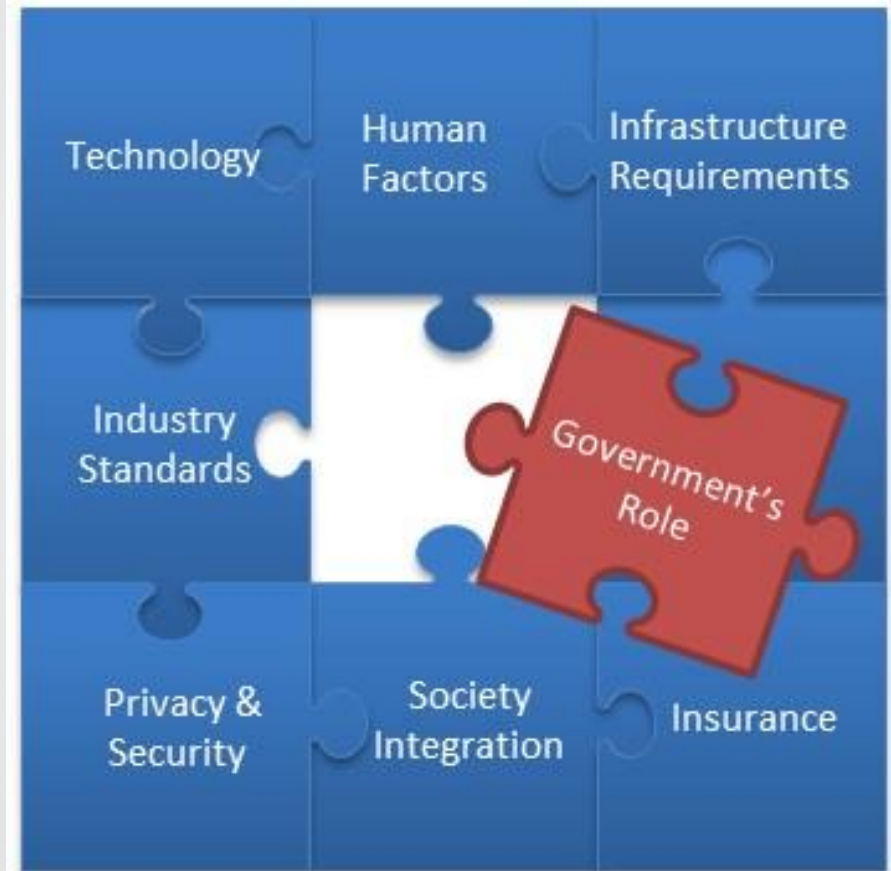
The vehicle is designed to perform all safety-critical driving functions and monitor roadway conditions for an entire trip. Such a design anticipates that the driver will provide destination or navigation input, but is not expected to be available for control at any time during the trip.

Driverless Vehicles Adoption Timeline



Source: Morgan Stanley

Driverless Vehicles Today



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Driverless Vehicles Impacts

Potential Impact of Driverless Cars on Society

Positives

- Safety improvements
- Improved mobility for youth, elderly, and disabled
- Improved traffic circulation
- Reduced need for parking
- Improved travel time reliability
- Reduced GHG emissions
- Reduced need for private car ownership and private auto insurance

Negatives

- Increased “VMT”
- Insurance policy disruption
- Increased urban sprawl
- Job loss



Other Industries Impacted

Car parts
suppliers

Car repair
shops

Driving
professions

Car
dealerships

“Brick and
mortar
stores”

Health-
care

Insurance

Data
Analysis

Hotels

Advertising

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Our Driverless Future



Potential Future Scenarios



Changes from Today's Society

	Driverless Nightmare	Driverless Utopia
Safety		
VMT		
GHG Emissions		
Urban Sprawl		
Parking Req'ts	No Change	
Roadway Maintenance Req'ts		
Low Income Mobility		

Our Future City Streets



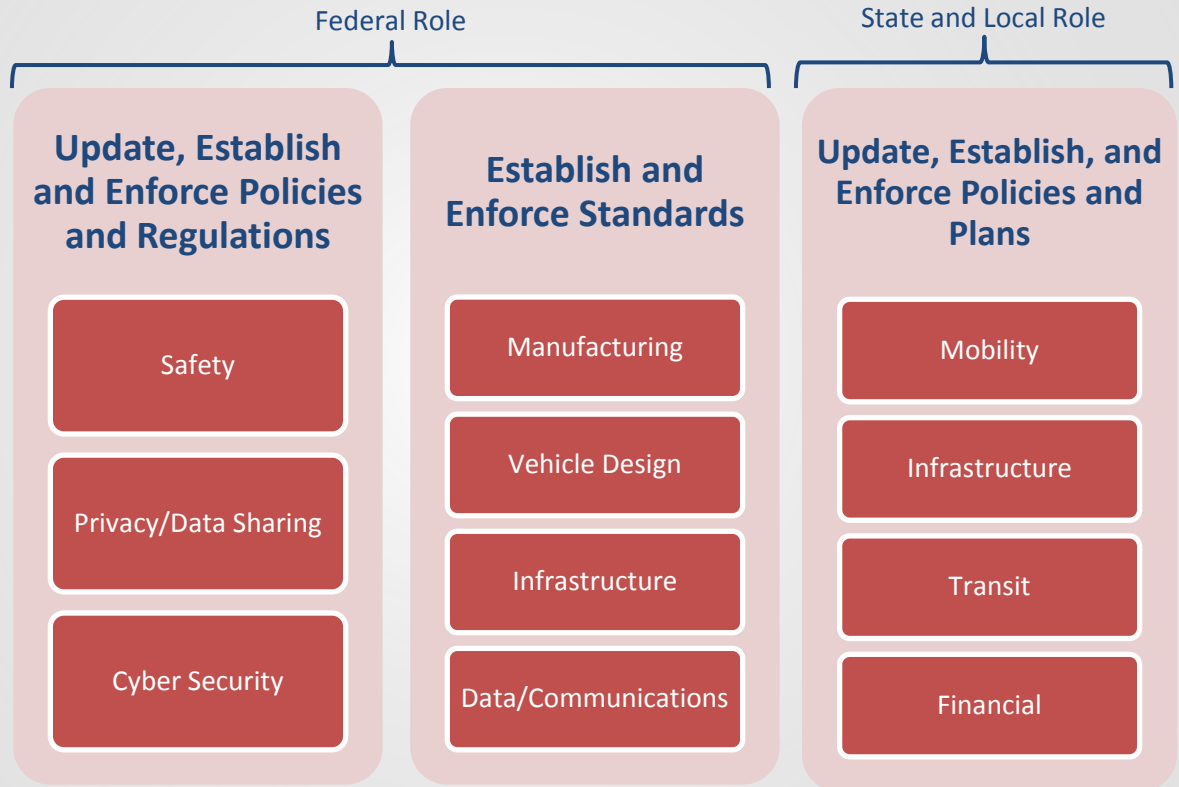
Our Future Suburbs





Next Steps

Proposed Government Role in Driverless Vehicles



What can be done now?

Stay educated on
driverless vehicles
progress

Incorporate driverless
vehicles into city goals

Establish
communications and/or
coalition with driverless
technology stakeholders

Support testing activities

Establish policies and
plans with consideration
for the future

Start ridesharing now!

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Blog:

Driving Towards Driverless Cars



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Driverless Cars: What they Are and What they Are Not

Posted on [March 3, 2015](#)

I'm realizing that I'm writing about driverless cars and yet I haven't explicitly defined them.

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