



Alaska ITE AV Forum Policy, Planning, & Decision Making for AVs in Alaska

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June 8, 2018



NCHRP

NATIONAL
COOPERATIVE
HIGHWAY
RESEARCH
PROGRAM



NHTSA

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION



Autonomous Vehicles

The Vision...



Photo: Randcorp

The Reality...

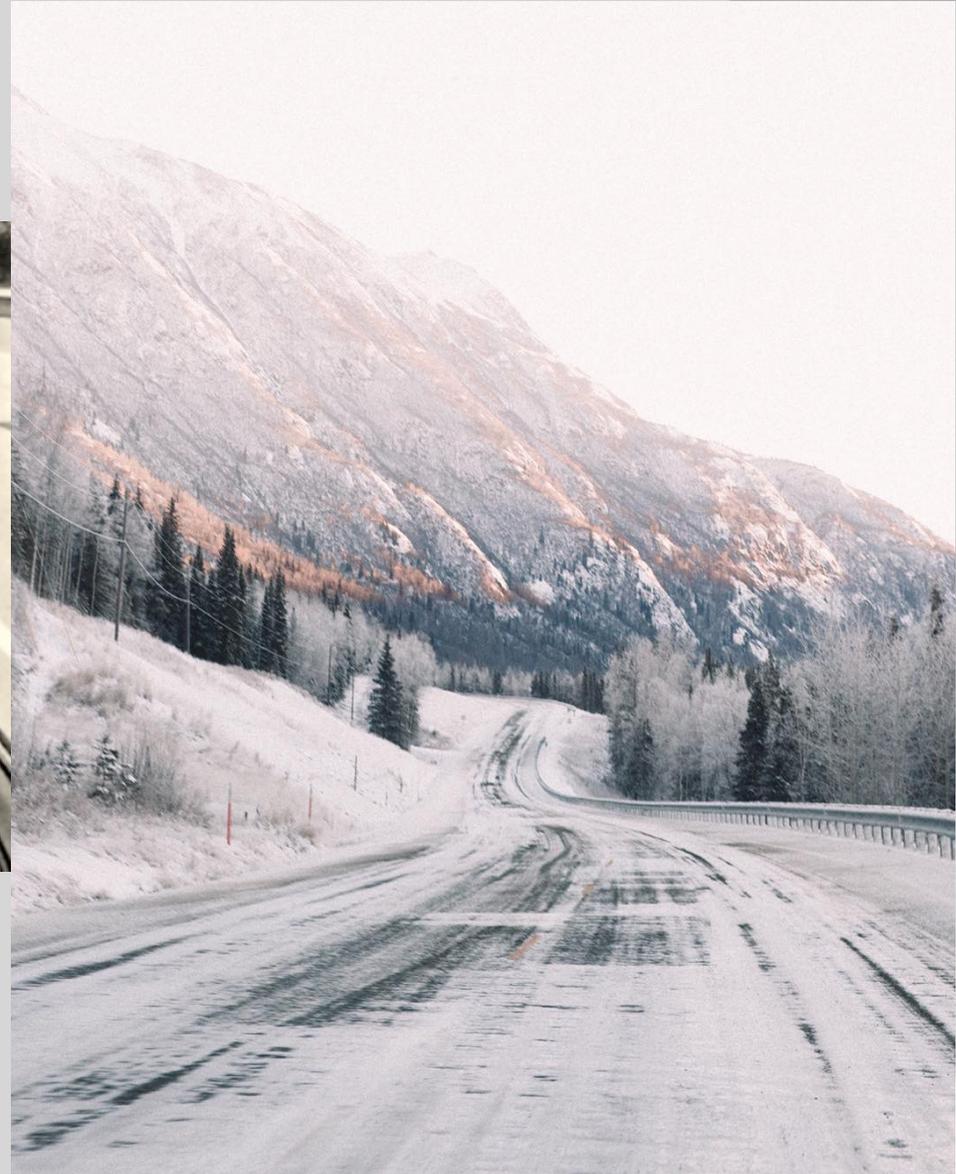


Photo: Pinterest



Emerging
Technologies
are **ACES**....

AUTOMATED
CONNECTED
ELECTRIC
SHARED



Emerging Technologies

Replace

Replace the need for personal travel

Enable

Enable better use of system resources

Support

Support better management of systems



Emerging Technologies

- Replace the need for personal travel
- Enable better use of system resources
- Support better management of systems

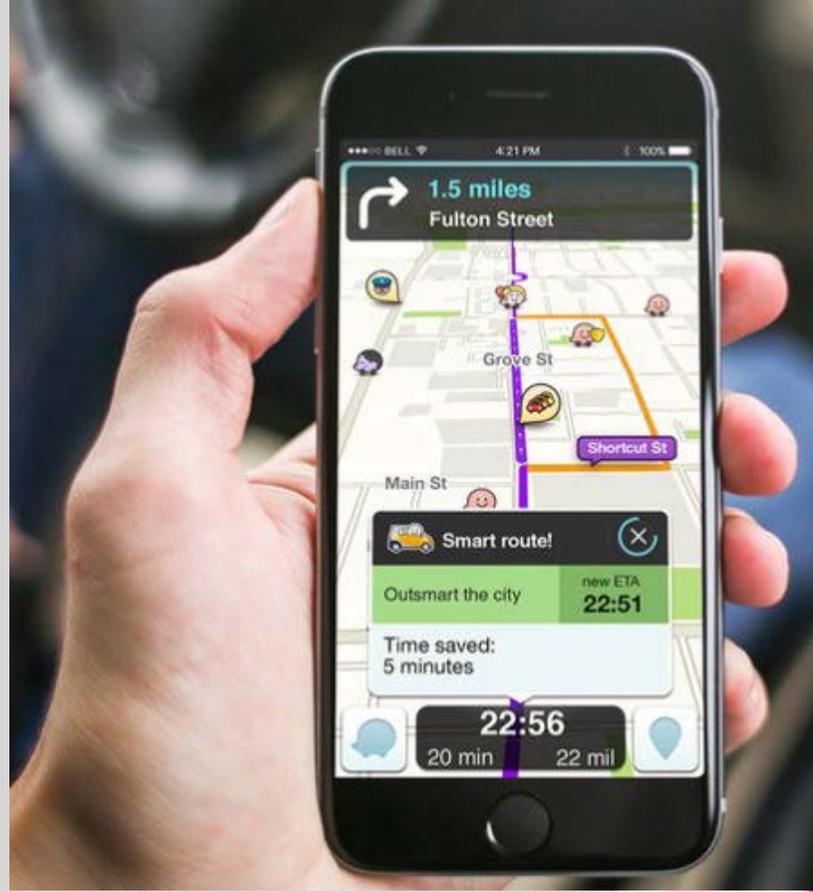


Photo: gsa.gov



Emerging Technologies

- Replace the need for personal travel
- Enable better use of system resources
- Support better management of systems



Emerging Technologies

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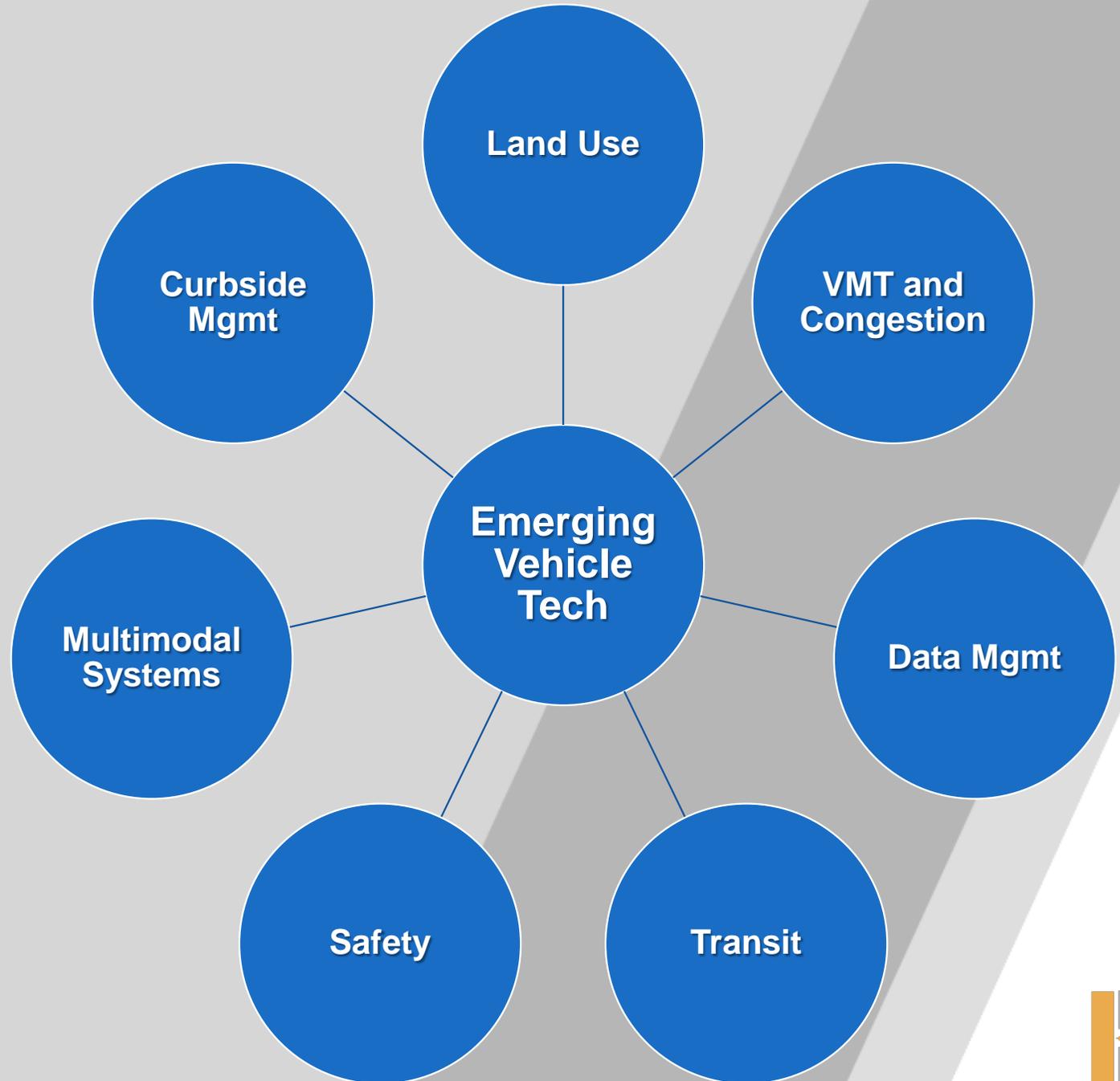


Emerging Technologies

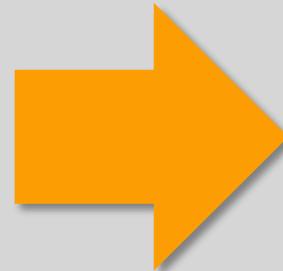
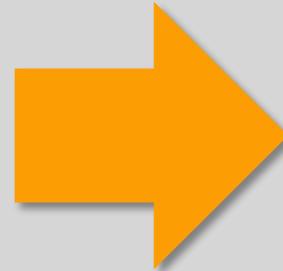
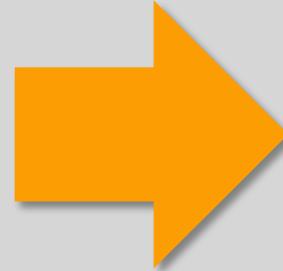
- Replace the need for personal travel
- Enable better use of system resources
- Support better management of systems



Emerging
Technologies
have many
impacts



Trends



Downstream Effects

Increased pick-up and drop-off needs

Reduced parking needs

Increased electric vehicle charging needs





Photo: cartalk.com

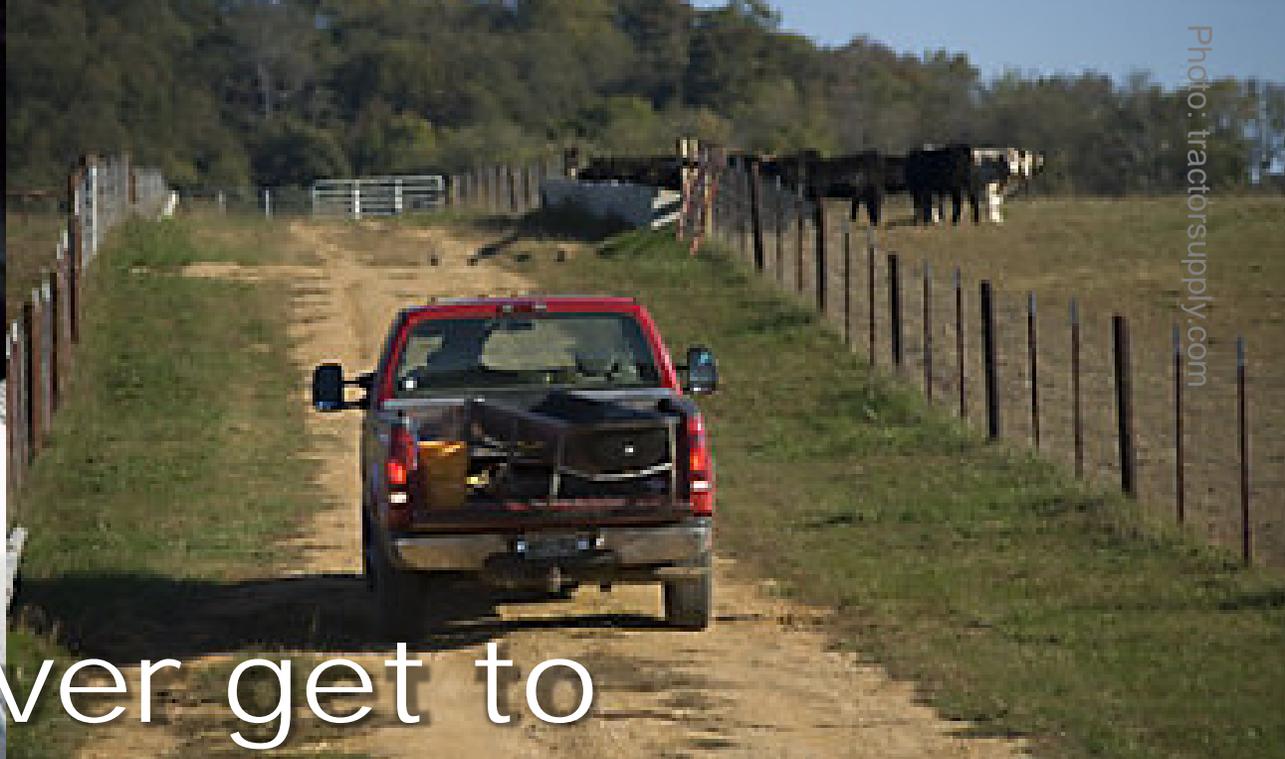


Photo: tractorsupply.com

Will we ever get to

100% market penetration?



Photo: fhwa.dot.gov

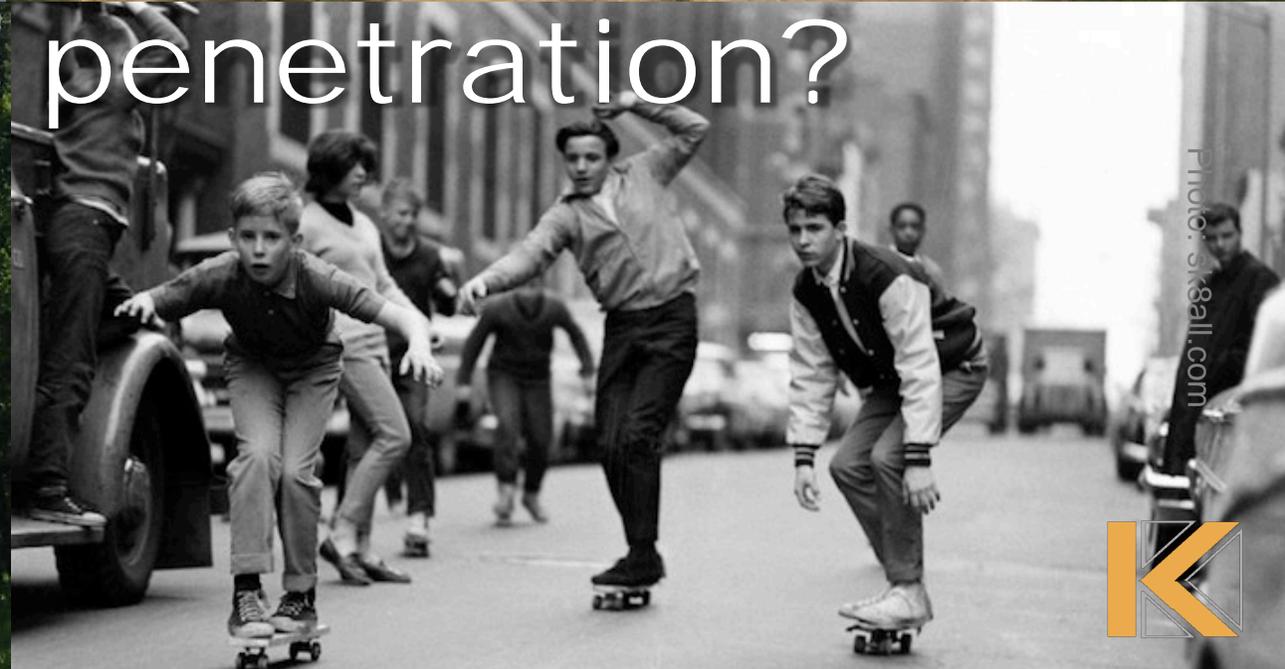


Photo: sk8ball.com



What will **You**
DO *differently* with the
CAV **DATA**



Advances in Traffic Signal Systems

We will use CV data to:

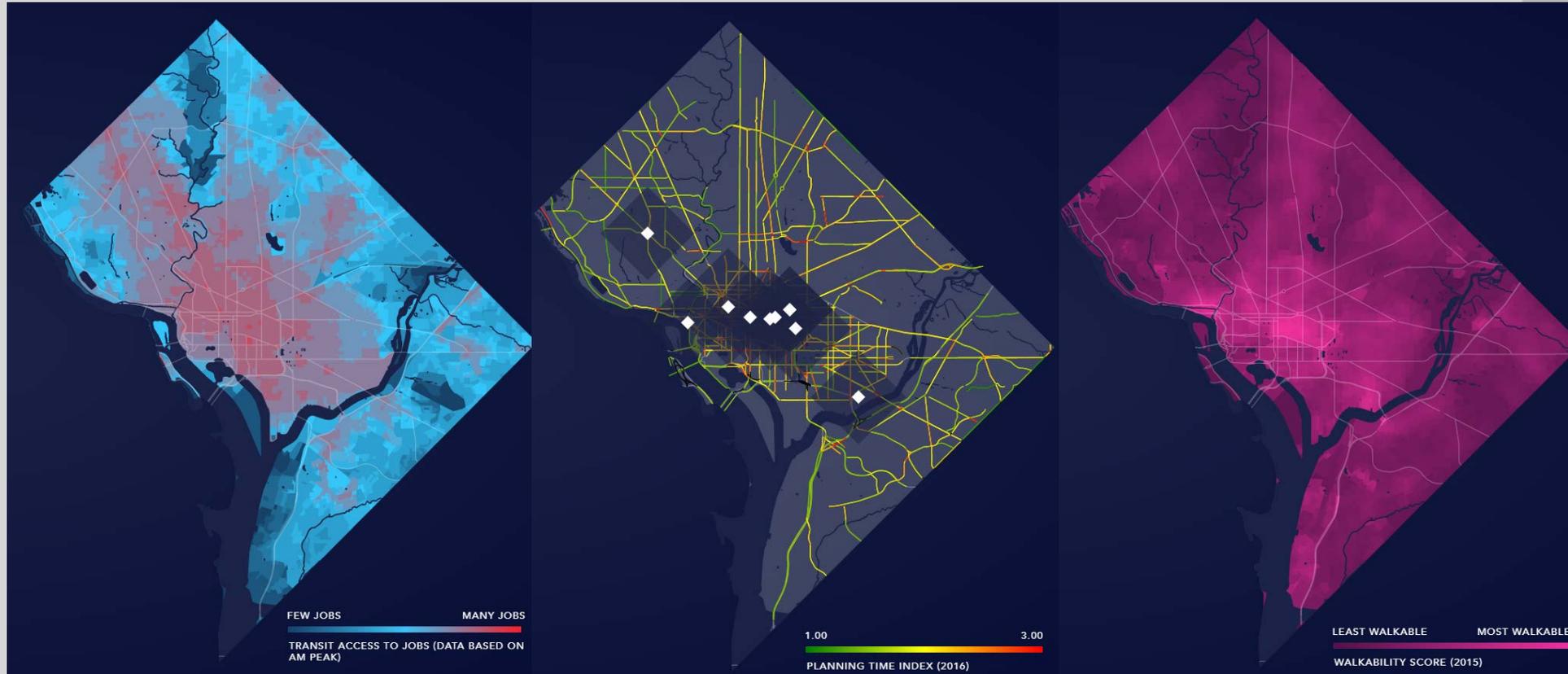
- Adjust signal timing
- Request preferential treatment
- Report performance measures

Today, we can start to:

- Program controllers that adjust signal timing cycle-by-cycle
- Operate vehicle-to-infrastructure equipment
- Convert high-resolution data into planning-level information



Data-Driven Decision Making



DDOT DistrictMobility.org

Monitor mobility performance
Prioritize investments
Inform decision making



Pilot Testing



VEHICLE TO VEHICLE

- Forward collision warning
- Distress notification

VEHICLE TO INFRASTRUCTURE

- Alerts and advisories
- Road weather warnings
- Work zone warnings

Photo: its.dot.gov/pilots



Potential Safety Benefits



Photo: fox13now.com





Photo: AK DOT&PF

Improved incident response



**Collect real-world data
to support policy changes**



Responsibilities

NHTSA'S RESPONSIBILITIES	STATES' RESPONSIBILITIES
<ul style="list-style-type: none">• Setting Federal Motor Vehicle Safety Standards (FMVSSs) for new motor vehicles and motor vehicle equipment (with which manufacturers must certify compliance before they sell their vehicles)³³• Enforcing compliance with FMVSSs• Investigating and managing the recall and remedy of noncompliances and safety-related motor vehicle defects nationwide• Communicating with and educating the public about motor vehicle safety issues	<ul style="list-style-type: none">• Licensing human drivers and registering motor vehicles in their jurisdictions• Enacting and enforcing traffic laws and regulations• Conducting safety inspections, where States choose to do so• Regulating motor vehicle insurance and liability

Photo: nhtsa.gov



Educate
all road
users



Educate all road users



Educate all road users



Courtesy Remolacha.net

DANGEROUS DEMO

VOLVO PLOWS INTO PEDESTRIANS DURING TEST

CNN

7:58 PM ET

OUTFRONT

remolacha.net

Key Take-Aways

- ▶ Emerging technologies are affecting our standards from maintenance to geometric design to land use planning
- ▶ Collect data for operations, maintenance, and investment decision making
- ▶ Learn from pilot deployments
- ▶ Educate all road users

Thank you!

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