Keeping Up with the Rapid Evolution of CAV

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Dominating the Headlines
Frequently Asked Questions

— “I’m a policymaker and I want to help my transportation department navigate this space, what laws and regulations should I pursue?”

— “I get calls from vendors twice a day - everyone has the next great widget, how do we decide who to work with?”

— “I’m in law enforcement and I’m concerned about how will I pull over an AV if nobody is behind the wheel?”

— “Technology is evolving so fast, and our procurement process moves so slow – I don’t want to spend money only to find out we’ve deployed yesterday’s technology?”
Do we have the Answers?
When is this Happening?
Are We Ready?
Build on TSM&O Philosophy...

- Establish baseline/conduct self-assessment
- Understand motivation
- Establish clear definitions
- Identify champions/resources needed
- Engage key stakeholders
- Consider external forces

- Analyze and evaluate performance
Taking The Best Steps

- Find the local springboard(s)
- Adapt existing - it isn't all new
- Conscious collaboration
- Map the “now”
- Understand appetite

Finding the best, specific actions to create local solutions & benefits
Don’t Be Intimidated by the Unknown

— Public Sector: One size cannot fit all. Each town, city and country has a different start-point and context. The details of legal, political, economic, technological, environmental, social and ethical considerations matter, and will affect what is possible and desirable.

— Private Sector: We should embrace the inevitable variability in capability and maturity levels of different state, county, and municipal DOT’s when it comes to connected & automated vehicles.
As recently as 2014 a majority of transportation agencies were in “wait and see” posture.

Today a majority of agencies are moving ahead with planning exercises, pilot projects, policy development, and/or engagement with private partners.

Wide variety of definitions for “success”

Wide variety of capability/maturity still exists
Examples in Action....

— Traffic Signal Data Sharing
— A number of municipal and county agencies are now sharing traffic signal data with one of several new companies that have approached them.
— The general preference is for the vendors to access the data at a centralized location to access more intersections at once.
— Third party vendors are sharing data with applications and vehicle manufacturers
Multi-Agency Working Groups

A number of agencies have formed multi-disciplinary working groups to explore the future of CAV.

Some have created strategic plans, others have facilitated a process for companies that wish to test AVs on their roadways.

Federal Grant requests and unique programs (like Smart City Challenge) have helped push these working groups by giving them targets of opportunity.
Examples in Action.

— National SPaT Challenge

— Challenge state and local public sector transportation Infrastructure Owners & Operators (IO&Os) to deploy DSRC infrastructure with SPaT broadcasts in at least one coordinated corridor or network (approximately 20 signalized intersections) in each state by January 2020.

— Will better prepare each agency for future, more complex V2I deployments

— Message of commitment to automakers
— A graduated approach occasionally helps avoid the problem of the over-prescribing policy, design, and operations.

“When faced with great uncertainty, it is almost impossible to get it right the first time.”

- Dr. Nidhi Kalra, Senior Information Scientist, Rand Corporation
Profound Disruption Will Change Transportation

- Attitude shifts regarding driving, car ownership
- Attitude shifts regarding ride sharing/carpooling
- Strengthening of transit services using new technology
- Changes in land use policy
- Changes to cost structure
Many Moving Pieces: Automated, Connected, Electric, and Shared

**CONNECTED**
Moves as part of system... in time, multi-modal
DATA: The key to new network management - people and freight

**AUTOMATED**
FULLY automated - can move when empty
HIGHLY automated - needs a "driver"

**ELECTRIC**
Ideally electric or other future energy source

**SHARED**
Increased interest in shared fleets and use of "mobility as a service"
The key to placemaking benefits

**PRICING**
Taking The Best Steps

01 Map the “now”
Where are you? Current? Opportunities/Risks?

02 Consider appetite for change
What are the real unknowns – scope? timescales? What can stay fluid for now – and what really needs a decision? How agile and creative can you be?

03 Conscious collaboration
Bake bigger pies – everyone can (and should) win. Need to join up the solutions/providers with the right problems.

04 Adapt existing.
It doesn’t all have to be new.
Where is there more to gain from existing infrastructure? Development plans?
How can existing places and infrastructure adapt to fit future levels of service – and (real) future needs?

05 Find the local springboard(s)
Not everyone has to do everything – or do it in the same order.
Where is there a local advantage or head-start – or urgent need? How can this be exploited?
Don’t rush into anything that is overly detailed and restrictive, because in the time it takes for legislation and policy to be enacted the needs and solutions could evolve multiple times.

“It is really, really, really hard regulating uncertainty.”

- Alicia Fowler, Deputy Secretary and General Counsel, California State Transportation Agency
Don’t Panic!

— What we’re attempting to do isn’t simple!

— The infrastructure owner-operators take 5-7 years from planning/design to ribbon cutting for a new facility that is designed to last 50-75 years.

— Automakers take 3-5 years from planning/design to production for new vehicles that last an average of 11-12 years.

— The technology sector can take as little as 8-10 months for a new product that is expected to be obsolete in less than 2 years.
Takeaways

✓ This is coming fast – guide it or respond to it
✓ We have a process – TSM&O – build on it
✓ While still many unknowns, we need to start factoring CAVs into all of our daily processes and future plans
✓ Don’t let the unknowns and complexities paralyze us
Ready – Fire - Aim

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