Turning “Change” into “Opportunity” (and then reality)

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ITS Maryland
September 22, 2016
The Winds of Change…

#1 Connected / Automated Vehicles

#2 Weakening Revenues

#3 Performance Management Requirements

Challenges

Opportunities

REALITY

www.i95coalition.org
Change #1: Connected and Automated Vehicles

Connected Vehicles

Automated Driving Vehicles

Connected Travelers

Connected Infrastructure

Source: Presentation: Multimodal Intelligent Traffic Signal Systems by Dr. Larry Head, University of Arizona (June 2016)

Photo Source: http://www.its.dot.gov
Today

- 100 yr. old model
- No computer tech

Shared Mobility

- Human driven; mobility on-demand via software

Owned Autonomy

- Sensors, algorithms, mechatronics

Autopia

- Autonomous PODS
- On-demand public transport

Asset Owned

Human Driven

Asset Shared

Company Websites, Morgan Stanley Research
Challenges: Connected and Automated Vehicles
How do we get a reality check?

Source: www.cityam.com, 08 August 2015: “Meet the Gartner Hype Cycle for 2015: It’s all about self-driving cars and smart dust in emerging tech trends”

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Challenges: Connected and Automated Vehicles
How do we get a reality check?

New vehicle series with electronic stability control
by model year

Presentation: Assessing the Effectiveness of Crash Avoidance Features- the Building Blocks for an Intelligent Transportation System (David Zuby, Insurance Institute for Highway Safety)
Challenges: Connected and Automated Vehicles
How do we get a reality check?

Registered vehicles with electronic stability control
By calendar year

Presentation: Assessing the Effectiveness of Crash Avoidance Features - the Building Blocks for an Intelligent Transportation System (David Zuby, Insurance Institute for Highway Safety)

Source: www.i95coalition.org
Challenges: Connected and Automated Vehicles
There are many unknowns....
Opportunities: Connected and Automated Vehicles

- Reduce and mitigate crashes
- Expanded roadway capacity and enhanced traffic flow
- More mobility options
- Land use opportunities (eliminate parking)
- Attract business to your state
- This IS happening
- Fuel efficiencies and reduced emissions

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I95 Coalition Conference (June 2016)

- Find a champion (internal & external)
- Form a multi-disciplinary stakeholder group
- Develop CAV implementation guidelines (e.g., analyze legal barriers to CAV)
- Get involved in existing efforts (e.g., AASHTO, TRB, AAMVA, I-95CC)
- “Wire” your infrastructure
- Identify potential infrastructure changes (+ / -)
- Apply lessons learned from earlier efforts (e.g., ITS adoption)
- Figure out training needs
- Keep the “why” in mind
- Share information / leverage existing efforts

In short: GET ENGAGED
**Change #2: Weakening Revenue**

- Vehicles are more fuel efficient
- Electric and hybrid cars are on the rise
- Federal gas tax has not been raised since 1993
- Inflation

Source: CH2M
Challenges: Weakening Revenue

- We are promoting more fuel efficient vehicles
- No political will to raise the gas tax
- Drivers don’t know how much they are paying

Source: CH2M
Opportunity: Mileage Based User Fee

Methods for Recording and Reporting Miles

Flat Fee  Odometer  Mileage Counter (GPS Optional)  Smartphone  Vehicle Telematics

GPS Based
Cellular providers and car manufacturers

<table>
<thead>
<tr>
<th>Feature</th>
<th>Flat Fee</th>
<th>Odometer</th>
<th>Mileage Counter (GPS Optional)</th>
<th>Smartphone</th>
<th>Vehicle Telematics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knows neither miles or location</td>
<td>Knows only miles traveled</td>
<td>Knows miles traveled and location of those miles</td>
<td></td>
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</tr>
<tr>
<td>Fewer policy options/higher perception of privacy/less user flexibility</td>
<td>Increased policy options/lower perception of privacy/greater user flexibility (value added)</td>
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</tbody>
</table>

Source: CH2M
Turning Opportunities into REALITY
Section 6020 of FAST Act

• Authorizes grants to States for demonstrating:
  ✓ User based alternative revenue mechanisms
  ✓ Utilize a user fee structure
  ✓ For purposes of maintaining the future long-term solvency of the Federal HTF

• Provides $95 million over 5 years

• 50% match required

I-95 Project Goals

1. Address regional issues necessary for national adoption and implementation
2. Increase public acceptance of MBUF
3. Create a low-cost framework to administer MBUF

I-95 Awarded $1.49 Grant

• Objective: Lay the foundation for a viable mileage-based MBUF approach for funding transportation improvements and enable a smooth transition from the current gas tax to this more sustainable and user-based funding source
Educating the Public will be Key

The Washington Post

“East Coast states want to tax drivers’ travel, not their gas”
6/26/2016

Change #3: Performance Management Requirements

Moving Ahead for Progress in the 21st Century (MAP-21) §1203

• **Declaration of Policy:** Performance management will transform the Federal-aid highway program and provide a means to the **most efficient investment** of Federal transportation funds by refocusing on national transportation **goals**, increasing the **accountability** and **transparency** of the Federal-aid highway program, and **improving project decision-making** through performance-based planning and programming. Section 1203 (d)

• **Targets and Reports:** Each state shall set performance **targets** that reflect the measures identified .... and **submit a report** that describes:
  1. The **condition and performance** of the NHS;
  2. The **effectiveness of the investment strategy** document in the State asset management plan for the NHS;
  3. Progress in **achieving performance targets** .....
Challenges: Performance Management Requirements

BELIEVE ME, TARGETS ARE ESSENTIAL!
MAP-21/FAST Act Crossroads

We are here

Letter of the Law
Path of Resistance
Common Sense
Opportunities

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Opportunities: Performance Management Requirements

• Base decisions on data: defensible, repeatable, clear (transparency)

• Articulate the benefits of investment

• Make case for $

• Demonstrate how we are being good stewards of public funds (accountability)

• KEY: help each employee see their role in agency outcomes

• Tell YOUR story

“I have been a longtime proponent of performance measures as a critical ingredient which drives organizations to exceptional standards to meet the transportation demands of our customers.”

— Pete K. Rahn, Secretary Maryland DOT
Opportunities: Performance Management Requirements

Example # 1: RTC of Southern Nevada FAST Dashboard

Example # 2: Rhode Island installation of Snowplow Equipment

Example # 3: Tracking WMATA’s Escalator Preventive Maintenance

45% in 2010
64% in 2011
91% in 2015
Turning Opportunities into REALITY
Performance Management Requirements

• Inventory your performance data
• Set a common language
• Articulate why you are doing this
• Turn that data into information
• Start regularly reporting results
• Relentless connection to goals
• Embrace federal requirements
• Acknowledge there will be some resistance

Source: TR News July-August 2014: Performance Management in Practice
Situation: Setting targets and reporting on results in now required

5 Stages of “Performance-Based Management” (based on Kubler Ross Model)

1. **Denial**
   - Know what doing, don’t need to track performance...

2. **Anger**
   - Don’t have time, can’t quantify me

3. **Bargaining**
   - Well, if you only report X...

4. **Depression**
   - Those are the results?

5. **Acceptance**
   - Performance tracking not such a bad idea

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The I-95 Corridor Coalition: Multi-Modal Multi-Jurisdictional Multi-Disciplinary

I-95 Corridor Coalition is a partnership of multi-state, multi-modal public agencies working together to create a seamless and efficient transportation system

www.i95coalition.org
We can Do This....

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