PRINCE GEORGE'S COUNTY

DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION

OFFICE OF HIGHWAY MAINTENANCE

Angela Alsobrooks
County Executive

Terry Bellamy
Director

Overview

Project Overview

Connected Vehicle Pilot Project

- Connected vehicle pilot to test County infrastructure for the next wave of innovation in the transportation industry

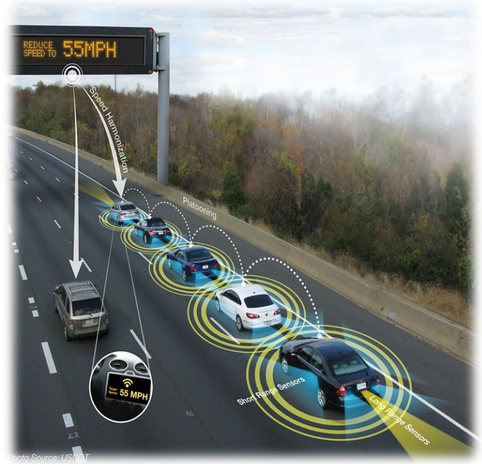
Smart City Project at National Harbor

- Provide transportation-related information and infrastructure data with the traveling public.

Autonomous Vehicle

- Provide signs and markings to support driverless vehicle operation

- **Connected Vehicles**



- **SMART CITY @National Harbor**

Department of Public Works & Transportation

CONNECTED VEHICLE PILOT

The County has started deploying a connected vehicle pilot to test County Infrastructure for the next wave of innovation in the transportation industry. The County's traffic staff along with it's IT department are working to build the infrastructure to support this activity. To do so, a partnership ensued with the National Harbor Property Management team, Trafficware, Traffic Technology Services (TTS) and TrafficCast to design the perfect environment for the pilot.

CONNECTED VEHICLE PILOT SITE

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CONNECTED VEHICLE SIGNALIZED LOCATIONS

1. NATIONAL HARBOR BLVD@ WATERFRONT ST
2. NATIONAL HARBOR BLVD @ FLEET STREET
3. NATIONAL HARBOR BLVD @ ST. GEORGES BLVD
4. AMERICAN WAY @ FLEET ST
5. AMERICAN WAY @ ST. GEORGE BLVD

The National Harbor site was selected for the pilot based on several criterion such as type of infrastructure, existing technology, stakeholders-use case, location, and connection points to the Prince George's County TMC.

TOP Five CAV Goals

Prince George's County, Maryland

- Improve driver and pedestrian safety in Prince George's County.
- Build Smart Infrastructure and improve existing intelligent transportation systems around the County.
- Improve the driving experience and develop a Connected Vehicle Operations plan in Prince George's County.
- Pair up with 5G infrastructure providers to create a connected highway: a DSRC network. Which means faster data transfer between vehicles and infrastructure.
- Create a test track where Connected and Autonomous Vehicles can be tested with smart infrastructure. This will help the State and County governments update legislative Policies.

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Project Challenges

Connected Vehicle Pilot

ROI

- informing stakeholders of the upfront cost for funding this pilot

NETWORK

- assessment of traffic and network equipment
- evaluate network security from the intersections to the data-center

PLANNING

- strategic alignments with regional CAV plans and priorities

TWO TECHNICAL METHODS

Setup and configure a DSRC network that uses an open Standard (J27) to communicate with vehicles via smart phones or other mobile devices.

- Provide traffic light phasing information
- Travel Incident Messaging/PSA
- Travel time and speed data collection
- Management and Performance Measures
- analytics

VEHICLE TO INFRASTRUCTURE (V2X)

The use of Prince George's County Central Traffic Management System (ATMS.now) to publish Signal Phasing and Timing (SPaT) data and MAP messages to service providers who then deliver the selected information to subscribing vehicle owners using cellular LTE communications. (subscription based)

Service providers will communicate with Prince George's County ATMS.now servers to obtain controller data and then provide this data to subscriber groups.

Smart City @ National Harbor

Future Outlook

This project is a public-private partnership between the Harbor and the County to gather, share and provide transportation-related information and infrastructure data with the traveling public. Our plans are to push data-sets from parking and Advance Traffic Management Systems (ATMS) applications into a single platform to automate traffic control responses to the public.

Smart City @ National Harbor

What's Next

The County has deployed network appliances to the Harbor to collect parking data from the parking facilities at the National Harbor. An additional server has been assembled to run software that would automate the traffic management responses at the Harbor. Eventually, the Harbor would like to integrate the use of public service announcements by way of to the system.

AUTONOMOUS VEHICLE

"DRIVERLESS SHUTTLE @ NATIONAL HARBOR"

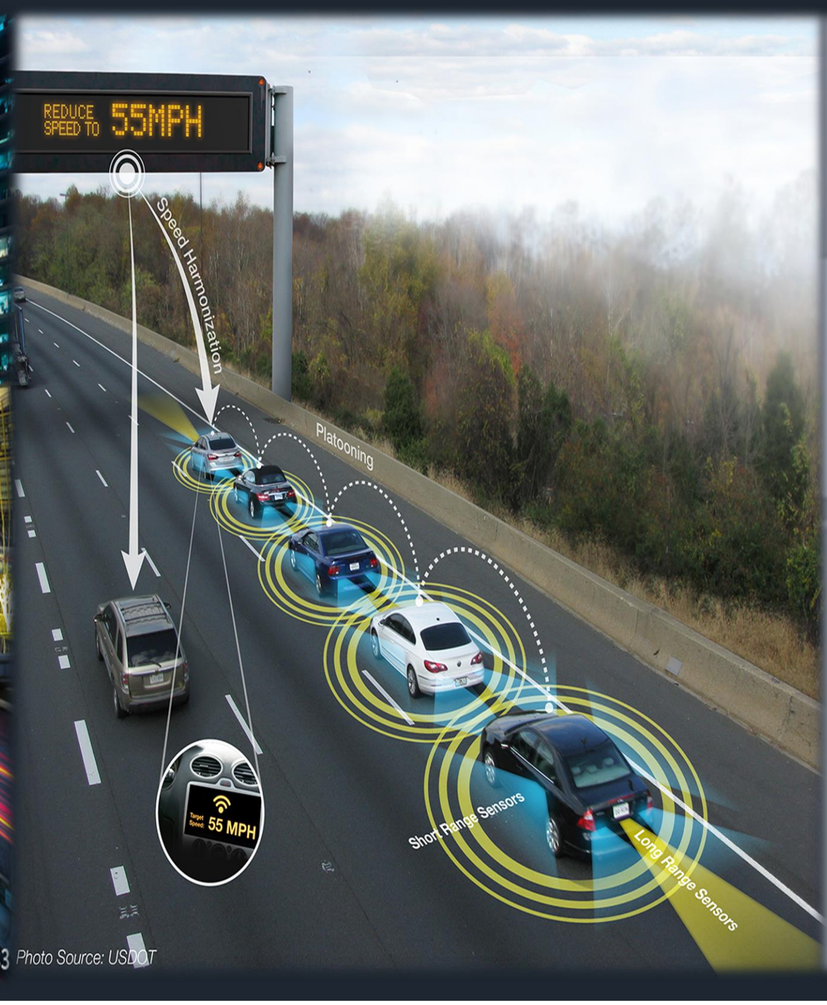
The County is in concurrence with the operation of a driverless vehicle at the National Harbor. To support this operation, the County has deployed advance warning signs to alert the drivers, pedestrians and cyclists that this vehicle is operating in the area. In the near future the County will push infrastructure data to this vehicle.

LESSONS LEARNED

1. Timelines and Administrative Process
2. Risk Management
3. Permissions, approvals and concurrences
4. Cost Benefit Analysis

QUESTIONS?....

- SMART CITY @National Harbor Project
- Connected Vehicles
- Driverless Vehicles



THANK YOU