

## **Downtown CAV Program**

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Presented by: Mike Janssen May 2nd, 2017

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7th Street



#### Autonomous (Driverless) Vehicles?

- How should we plan for them?
- What will their impacts be?
- What Infrastructure will be needed?
- Are they feasible?
- May 2015: Very limited CLV knowledge; CMO wanted answers





#### **USDOT Smart City Challenge**

- Issued in December 2015
- Goals of Challenge:
  - Identify challenges and needs
  - Use technologies to address needs
  - Take evolutionary steps
  - Evaluate the impacts
- Outcomes:
  - Improve Safety
  - Enhance Mobility
  - Address Climate Change
- Applications were due February 4, 2016
  - 78 Cities Applied including the CLV
- USDOT announced 7 finalist cities to continue with development of projects on March 12, 2016; CLV told "we made their choices difficult"
- Final applications of finalist cities was due in June 2016.
- USDOT has pledged up to \$40M to one city to help define what it means to be a "Smart City"; Columbus, OH wins!





#### **Innovation District**

How do we use technology to create a connected, downtown community that enhances the quality of the downtown experience for residents, visitors, businesses, and workers and spurs economic opportunities and vibrancy?





#### Keolis/Navya Autonomous Shuttle Pilot Project



Touchdown on Sunday, Jan. 8!

- Partnered with Keolis/Navya to bring First on-street pilot in the United States to Fremont St
- Vehicle is driverless and electric
- Operated on Fremont St (LVB to 8<sup>th</sup> St) from January 10, 2017 thru January 20, 2017 with just over 10,000 riders
- Utilizes multi-sensor technology
  - LiDAR Sensors, GPS, Camera Stereovision



#### Navya ARMA Vehicle Features







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http://www.ktnv.com/positivelylv/downtown/self-driving-shuttle-unveiled-indowntown-las-vegas

#### THIS CH13 REPORTER JUMPED IN FRONT OF VEHICLE JUST TO SEE IF IT WOULD STOP!



#### Looking at Driverless Shuttle as option for Downtown Transportation Service





#### **Downtown Connected Corridors**

- Backbone of a smart city network
- Planned installation of 24
  DSRC Radios
- Pilots will test various applications:
  - AV communication
  - Pedestrian Crossing Safety
  - Traffic Signal Optimization





#### **GENIVI Alliance Connected Car Pilot**

#### Use Cases to be tested:

- Speed Warning
- High-Risk Pedestrian Area Warning
- Bus Stop Warning
- Traffic Congestion Ahead Warning
- Deploy technology within fleet vehicles to pilot technology

Your vehicle may be included in the Pilot!





# Las Vegas

### **Closing Thoughts**

- Technology has advanced rapidly
- Public was very positive and welcoming with AV shuttle test
- Infrastructure upgrades will make CAV's easier to deploy
- Public-Private Partnerships will help to advance further





## CREATING A SMART CITY

Fostering Innovation To Benefit The Las Vegas Community.

#### **INNOVATION DISTRICT**

The City of Las Vegas charter for becoming a fullfledged Smart City is to provide safe, reliable, and efficient civic technology that stimulates further economic growth. The Innovation District in downtown Las Vegas will serve as a proving ground for the emerging Smart City technologies.

Learn More

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www.Innovate.Vega

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