

# Nevada Transportation Conference

Connected Vehicles and Autonomous Vehicles (CV/AV)

3 May 2017



# Intelligent Mobility

A new way of thinking about how to use technology and data to connect people, places, goods, and services and to reimagine infrastructure across all modes of transportation.

# Intelligent Mobility

The future of transportation will be characterised by:



## Public/Private Sector

Public sector acting more as an enabler, providing data and governance. Private sector responsible for the end to end journey



## User Focused

To meet the needs of an ever connected world and a high youth population, as well as an aging population



## Integrated

To maximize and optimise the capacity of multi-modal transportation



## Efficient

To meet global resource demands



## Sustainable

To address global social, environment and economic risks, particularly climate and resilience.

# Agenda

---

1. Connected Vehicles and Autonomous Vehicles Overview
2. Mobility Focused CV/AV Activities
3. Unlocking the Value of CV/AVs

# Five levels of driving automation

		Steering and acceleration/ deceleration	Monitoring of driving environment	Fallback when automation fails	Automated system is in control
Human driver monitors the road	0 NO AUTOMATION				N/A
	1 DRIVER ASSISTANCE				SOME DRIVING MODES
	2 PARTIAL AUTOMATION				SOME DRIVING MODES
Automated driving system monitors the road	3 CONDITIONAL AUTOMATION				SOME DRIVING MODES
	4 HIGH AUTOMATION				SOME DRIVING MODES
	5 FULL AUTOMATION				



“Highly automated vehicles (HAVs)”

# Mobility Focused CV/AV Activities

## CAVs - VENTURER

The VENTURER consortium, which is trialling autonomous vehicles in the Bristol and South Gloucestershire council areas to explore the feasibility of driverless cars in the UK.

- First CV/AV project to start in the UK
- Funded by Innovate UK
- \$6.1M research project
- Working in partnership with **local** universities
- Consortium of 13 companies.





# Intelligent Mobility in action

## CV/AVs - *FLOURISH*

**User-centered approach to achieve a better understanding of consumer demands and expectations, including the implications and challenges of an aging society**



15 member FLOURISH consortium.

Three year \$6.8M research and development project jointly funded by CCAV, Innovate UK and the consortium.

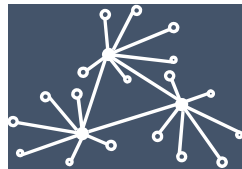
### Three key themes:

1.



user needs and customer experience

2.



data fusion and visualisation

3.



cyber security and communications

### Flourish objectives:

Ensure that future CV/AV provision meets specific mobility needs, improving quality of life

Enable older adults to continue to be active contributors to the economy and society

Make access to CV/AVs a reality by designing human-machine interface addressing age-related impairments

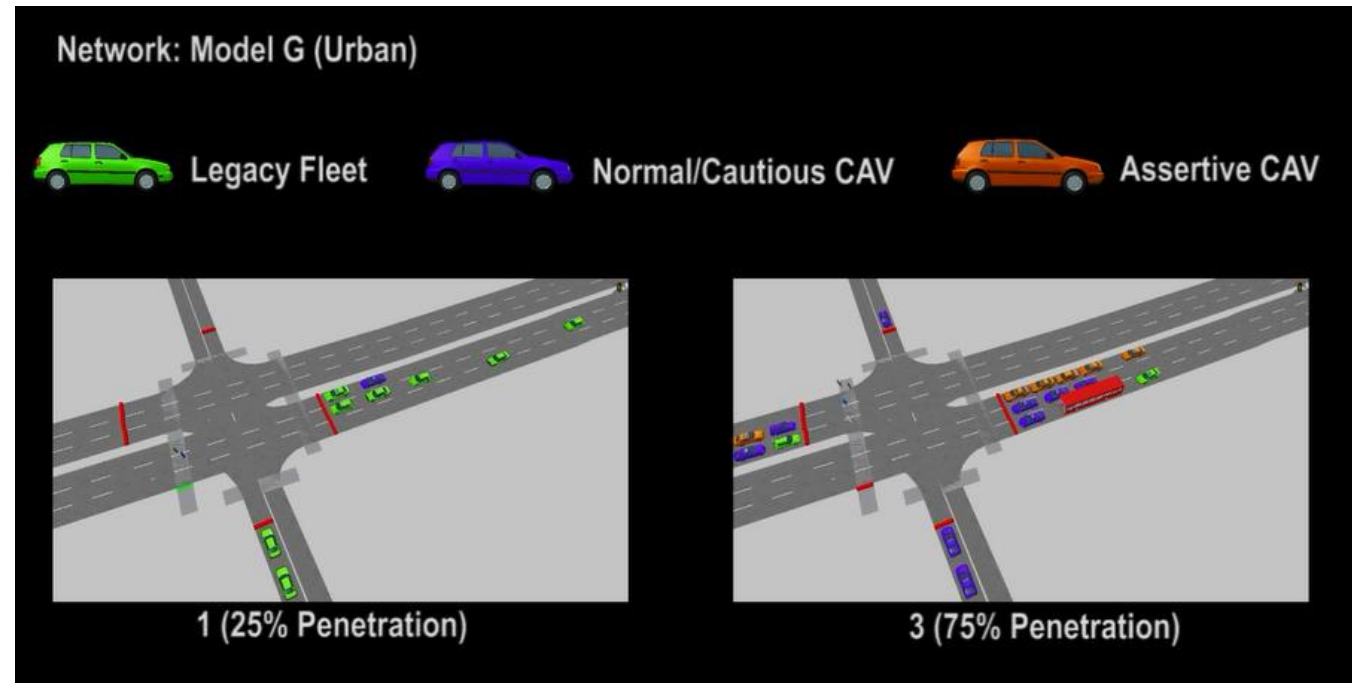
Develop clear guidelines and frameworks for mobility service providers and CV/AV manufactures



## CAV Modelling – Department for Transport (DfT)

**Connected Autonomous Vehicles (CAV) will transform the way we use our existing networks allowing us to re-imagine future infrastructure**

- DfT commission to look at the impact of CAVs on London's roads
- A new transportation model was developed with control algorithms to represent communication between driver controlled and driverless cars
- Visualisation used extensively to allow people to see what will happen
- Work was presented at the European Transport Conference 2016
- Already looking at similar work in the US and UAE.



# New mobility options



BOOK  
BY CADILLAC



UBER EATS



# Unlocking the Value of CV/AVs

# Unlocking the value of CV/AVs

1

## DEFINE YOUR VISION



2

## ASSESS READINESS

*(e.g., Infrastructure changes, data management needs, operations, human impacts)*



3

## DEVELOP A CLEAR ROADMAP to guide activity & make wise investment decisions toward goals

*(especially on projects in progress)*



# Thank you

---

# NEVADA & THE FUTURE OF AUTONOMOUS VEHICLES

BRIAN HOEFT  
DIRECTOR OF FAST



# WHO WE ARE



**Transit**



**Roadway  
Planning & Funding**



**Traffic Management  
Systems**



**Southern  
Nevada Strong**





# Nevada's Challenge

SAFETY  
CONGESTION  
CAPACITY





Autonomous  
Vehicles



Intelligent  
Infrastructure

# SOLUTIONS



Connected  
Vehicles

Shared  
Mobility





# INTELLIGENT TRANSPORTATION TECHNOLOGY



TESLA



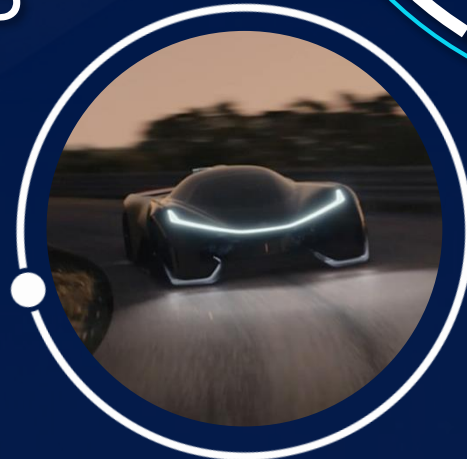
SUCCESS



HYPERLOOP



FARADAY  
FUTURE





ISSUING FIRST  
AUTONOMOUS  
LICENSE WITH  
GOOGLE



WORK WITH  
AUDI AND ITS



SUCCESS



# PEDESTRIAN SAFETY RFI



## CURRENT PROJECTS



GENIVI



The image features a white car, possibly a taxi, parked on a paved surface. A person in a light-colored shirt and dark trousers stands to the right of the car, reaching towards the open rear door. The scene is set in front of a modern building with large glass windows. A large, semi-transparent blue circle with a dashed white border is centered over the car. Inside this circle, the text "THE FUTURE IS NOW" is written in a bold, white, sans-serif font, arranged in two lines. The entire image has a blue tint and a dark blue vertical bar on the left side.

**THE FUTURE  
IS NOW**



**RTC**

**RTCSNV.COM**