GATEway
Exploring how people respond to, engage with and accept automated vehicles in a challenging urban environment
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GATEway
Greenwich Automated Transport Environment

- £8m project funded by industry and Innovate UK
- Understand and overcome technical, legal and societal challenges of using CAVs in urban areas
- Vehicle trials, simulation and public engagement
- October 2015 – March 2018
\textit{Demonstrate} the safe and efficient integration of sophisticated automated transport systems into complex real world smart city environments

\textit{Create} a validated test bed in the heart of London for the evaluation of next generation automated transport systems

**Trial 1:** Micro-transit

**Trial 2:** Automated valet parking

**Trial 3:** Last mile delivery
Activity timeline

August 2016
March 2017
June 2017
February 2018

October 2016
April 2017
December 2017

Public workshops
Activity timeline

- **August 2016**
- **March 2017**
- **June 2017**
- **February 2018**
- **October 2016**
- **April 2017**
- **December 2017**

**1st public trials**

Driverless shuttle bus to be tested by public in London

First driverless shuttle tests begin in London
Activity timeline

August 2016
March 2017
June 2017
February 2018

October 2016
April 2017
December 2017

Simulator Trials

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Activity timeline

- August 2016
- March 2017
- June 2017
- February 2018
- October 2016
- April 2017
- December 2017

Teleoperations demo

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the future of transport.
Activity timeline

- **August 2016**
- **March 2017**
- **June 2017**
- **February 2018**
- **October 2016**
- **April 2017**
- **December 2017**

**Driverless deliveries**
Activity timeline

- August 2016
- March 2017
- June 2017
- February 2018
- October 2016
- April 2017
- December 2017

Valet parking

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Activity timeline

August 2016

October 2016

March 2017

April 2017

June 2017

December 2017

February 2018

Last mile transit
Trial 3: Last mile delivery

Aim
- To explore public perception and experience of driverless deliveries to inform future deployments of services

Research
- 2 week trial with CargoPod and Ocado
- Over 100 customers
- TRL surveyed recipients
- Commonplace local sentiment mapping
77% of customers would choose driverless delivery for 50-100% of their future home deliveries.
Last mile delivery: Willingness to use

- **89%** Likely to use driverless deliveries again
- **96%** Overall positive driverless delivery experience

% of all home deliveries they want driverless:

- 0-24%
- 25-49%
- 50-74%
- 75-100%
Trial 2: Automated valet parking

Aim

- To provide members of the public with direct experience of an automated (“drop-off”) valet parking service and gain feedback on their experience

Findings

- Auto valet parking was seen as a service that would improve the quality of travel and save time
- Increasing safety within vehicles and in public spaces
- Provide more inclusive personal transport
- Some challenges identified
  - Increased congestion
  - Management of drop-off and pick up points
Trial 1: Micro-transit

Aim
- To assess public perceptions of autonomous vehicles as a result of a direct experience with an AV, particularly in a last mile service

Research
- Online surveys (passengers)
- Sentiment mapping (anyone who has seen the vehicles)
- Structured observations (cyclists and pedestrians)
What is the location you’ve marked on the map?
Bubsy Way

Would driverless vehicles be helpful to you there?

Why do you feel like this? (Driverless vehicles will be)
Quick to travel Practical Convenient

If other, please add...
I think it would be great travelling to and from O2 during concert times, may even help with congestion after leaving the events.
Is there anything else you would like to say about driverless vehicles?
I think this may even be a safer option to operate shuttle services to other public transport hubs during busy periods at O2.
Generally positive about CAVs
78%

“Convenient”
48%

“Good for local people”
46%

Positive for people with disabilities
81%

Generally negative about CAVs
7%

Concerns over safety, congestion, negotiating junctions

“People make better decisions than CAVs” (more situational awareness)

Over 50s most negative, followed by 25-34 year olds
Our passengers
- 118 respondents
- More males than females (males, n=75)
- 78% own a car

Journey experience
- 43% spend between 21-30 mins on board
- 59% travelled with friends or family
- 73% reported they were satisfied with their overall journey experience
A use case for last-mile services

- 63% of participants reported they would be likely to use a driverless pod to make this type of journey
- 41% of respondents reported they did not believe the introduction of this type of service would have any effect on their mobility
- WTP - £1 - £3 for a similar journey

Ownership models

- Slightly more interest in owning/leasing fully driverless than partial automation
- When asked specifically to consider alternatives to private ownership, only 8% reported they were not at all interested in considering alternatives
Trials as a tool for building trust

“The pod stopped appropriately when pedestrians and cyclists were in proximity.” Male, 45-54 (March 2017)

“I think probably what I like the most was, a couple of cases [where] someone came too close to the car and it just stops. I think that’s quite reassuring from a safety perspective.” Female, 30-39 (April 2018)
- Trials as a tool for understanding research ethics and safety cases

- Sensor capabilities
  - Very small dogs
  - Toddlers crawling

- Automation capabilities
  - Learning versus static
Putting people at the heart of future urban mobility
This is just the beginning ..... 

www.gateway-project.org.uk
Smart Mobility Living Lab: London

www.smartmobility.london

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