



Driver & Vehicle  
Standards  
Agency

**Helping you stay safe  
on Britain's roads**





Driver & Vehicle  
Standards  
Agency

A collage of six images related to vehicle safety and enforcement. Top left: A woman driving a white car. Top middle: A man and a woman looking at a document in a car. Top right: A yellow and black traffic enforcement vehicle. Bottom left: A man in a blue coat working on a car on a lift. Bottom middle: A person in a high-visibility jacket working on a car wheel. Bottom right: A person in a high-visibility jacket working on a car. The text 'Enforcement of Compliance and Commercial Vehicle Service Presented by David Wood & Sarah Smith' is overlaid on the collage.

# **Enforcement of Compliance and Commercial Vehicle Service Presented by David Wood & Sarah Smith**

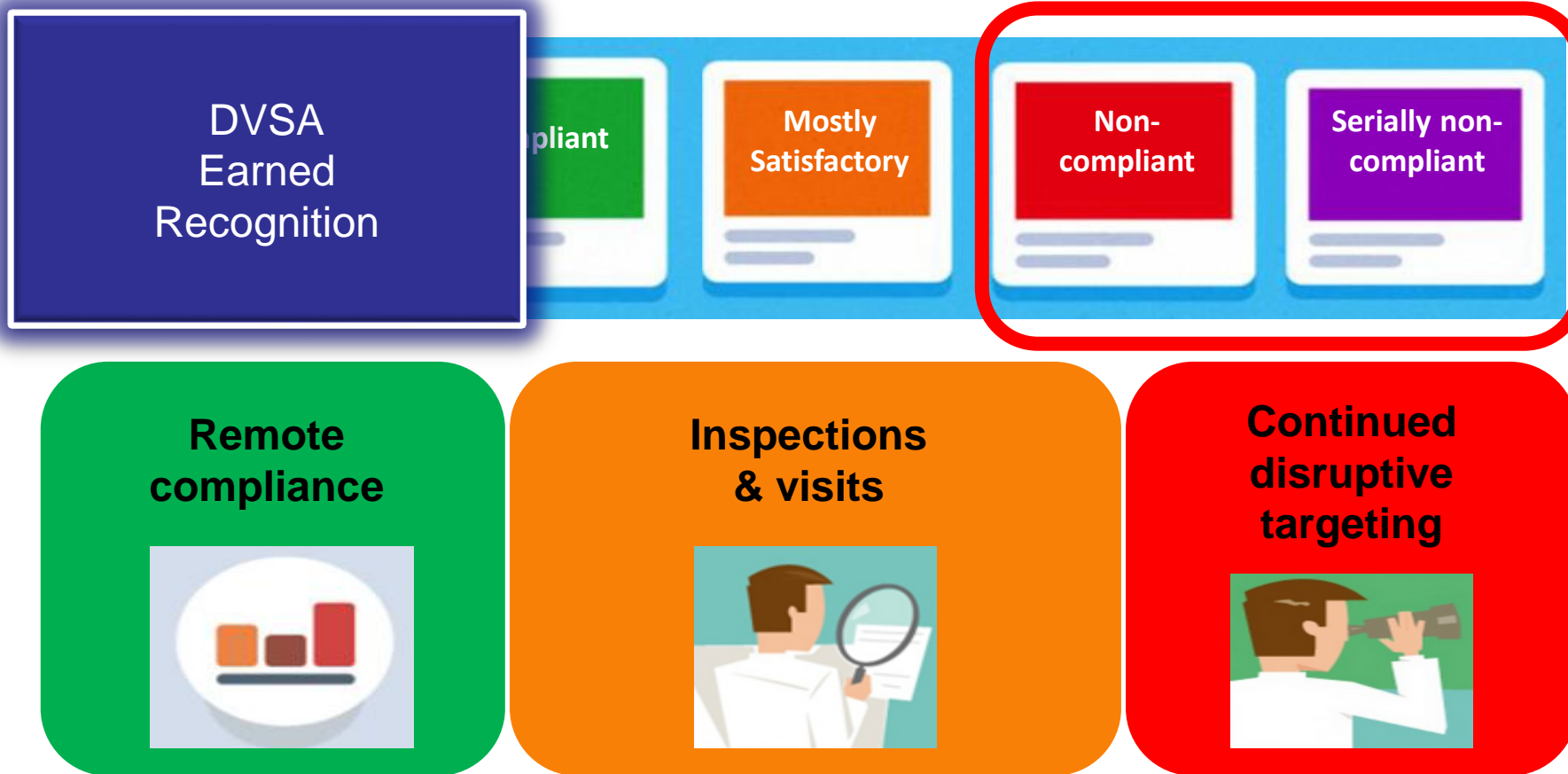


- 
- A collage of six images related to vehicle safety and enforcement. Top left: A woman driving a white car. Top middle: Two people looking at a document. Top right: A yellow and black checkered traffic car. Bottom left: A blue car on a lift. Bottom middle: A person in a high-visibility vest. Bottom right: A person in a high-visibility vest working on a car.
- **Enforcement of Compliance**
    - Compliance Vision
    - Effective Targeting
    - Informed Roadside Inspection
    - Technical Enforcement Evidence
    - Remote Sensing – The Future?
  - **Commercial Vehicle Service**
    - The story so far



# Compliance Vision

To introduce more efficient & effective interventions without compromising standards or outcomes







# National ANPR Service (NAS)

- NAS will replace existing national and local ANPR systems
- Standardise single ANPR data set across the UK
- Transform ANPR capability for Law Enforcement Agencies

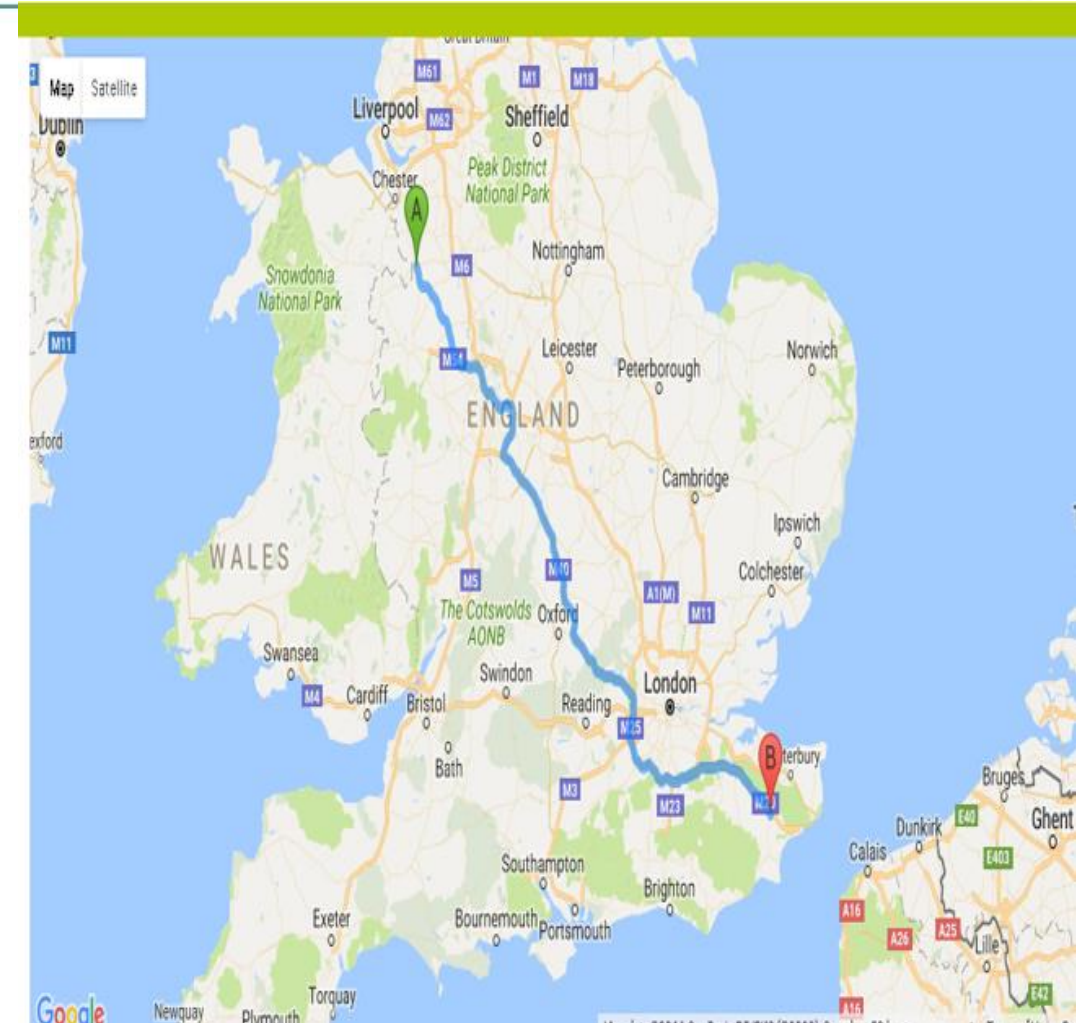


**National ANPR Service**



## National ANPR Service (NAS)

- DVSA ANPR capability increases to 10,000 cameras
- Effective targeting and efficient use of resource
- Currently trialling over 20 methods of using the data, including :—
  - Evidence of illegal operators
  - Investigation of tachograph manipulation
  - Identifying vehicles without current MOT
  - Identifying locations of high-risk vehicles



# Operator Compliance Risk Score (OCRS)



OCRS uses scoring based on graduated fixed penalties, prohibition defects and MOT test history. [Assessments and visits will soon be added to the score.](#)

OCRS is calculated weekly from three years of DVSA data

High Risk

High Score

Medium Risk

Middle Score

Moderate Risk

Low Score

Low Risk

Earned Recognition

RISK

COMPLIANCE



# Operator Compliance Risk Score (OCRS)

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**Stopping priorities are as follows:**

**Intelligence**

**Red**

**Grey** (no data)

**Amber**

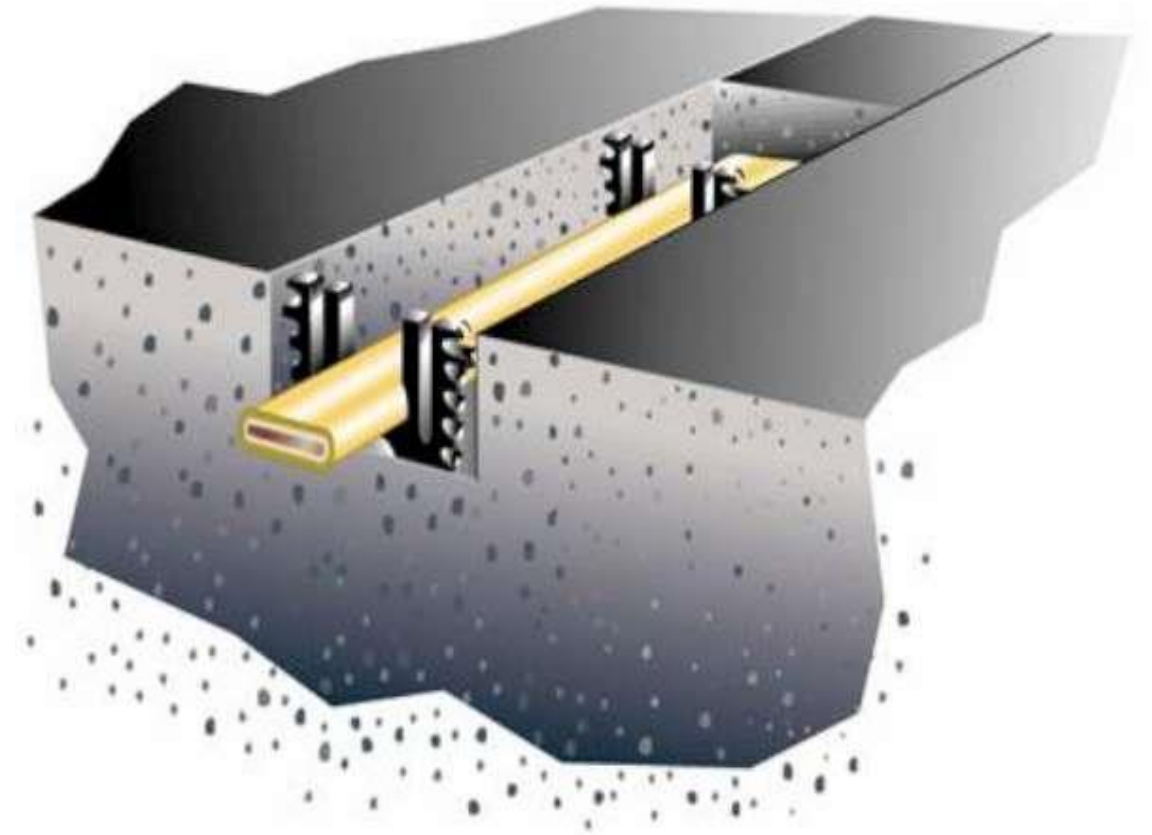
**Green**

**ER** - Only inspected if there is an observed danger





# Targeted Enforcement using ANPR and Weigh In Motion Sensors (WIMS)





# Targeted Enforcement using ANPR and WIMS

**Details** | **My Alert Basket**

⏮

⏪

⏸

⏩

⏭

⏴

Accept

Dismiss

Assign

Delete

Stop

Pause countdown: 09:07



Time since read: 00:51:37

X8 [ ] CJ

Correct VRM

X8 [ ] CJ

|             |                    |
|-------------|--------------------|
| VRM         | X8 [ ] CJ          |
| Date/Time   | 26 Aug 15 12:29:37 |
| Camera      | 201:4:1            |
| Camera Name | 1 - M4 WB [ ] Ln 1 |
| Confidence  | 99                 |
| Longitude   | [ ]                |
| Latitude    | [ ]                |
| Make        | VOLVO              |
| Colour      | WHITE              |

**WIMS Alerts** | **OCRS** | **Notes for - X8 [ ] CJ**

1 - M4 WB [ ] Ln 1

AMBER R/W, GREEN TRAFFIC

5 Axle Artic  
2+3

OH1098 [ ]

RA05 TG00

Amber Roadworthiness

Green Traffic

Axle Overweight

47 mph

18.03 m

18 C



| Axle    | Read      | Max       | Overweight |
|---------|-----------|-----------|------------|
| Axle 1  | 7,310 kg  | 7,100 kg  | (2.87%)    |
| Axle 2  |           | 7,100 kg  |            |
| Axle 3  | 12,920 kg | 10,890 kg | (15.71%)   |
| Tractor | 20,230 kg | 23,400 kg |            |
| Axle 4  | 5,410 kg  |           |            |
| Axle 5  | 5,500 kg  |           |            |
| Axle 6  | 5,350 kg  |           |            |
| Trailer | 16,260 kg |           |            |
| Gross   | 36,490 kg | 44,000 kg |            |



# Targeted Enforcement using ANPR and WIMS

**Details**
**My Alert Basket**

<<
<
|
>
>>
Accept
Dismiss
Assign
Delete
Stop

Pause countdown: 08:31

Time since read: 00:22:34

[Redacted] TS

Correct VRM

[Redacted] TS

|                    |                              |
|--------------------|------------------------------|
| <b>VRM</b>         | [Redacted] TS                |
| <b>Date/Time</b>   | 27 Aug 15 10:13:22           |
| <b>Camera</b>      | 201:4:1                      |
| <b>Camera Name</b> | 1 - M4 WB [Redacted]<br>Ln 1 |
| <b>Confidence</b>  | 99                           |
| <b>Longitude</b>   | [Redacted]                   |
| <b>Latitude</b>    | [Redacted]                   |
| <b>Make</b>        | SCANIA                       |
| <b>Colour</b>      | BLUE                         |

### 1 - M4 WB [Redacted] Ln 1

## INTEL MARKER

WIMS Alerts
OCRS
INTEL
Notes for [Redacted] TS

**5 Axle Artic**  
2+3  
[Redacted] 94  
RA05 TR10

**Tractor Unit Overweight**

**Axle Overweight**

**Red Traffic**

**Gross Vehicle Overweight**

**Amber Roadworthiness**

56 mph

17.78 m

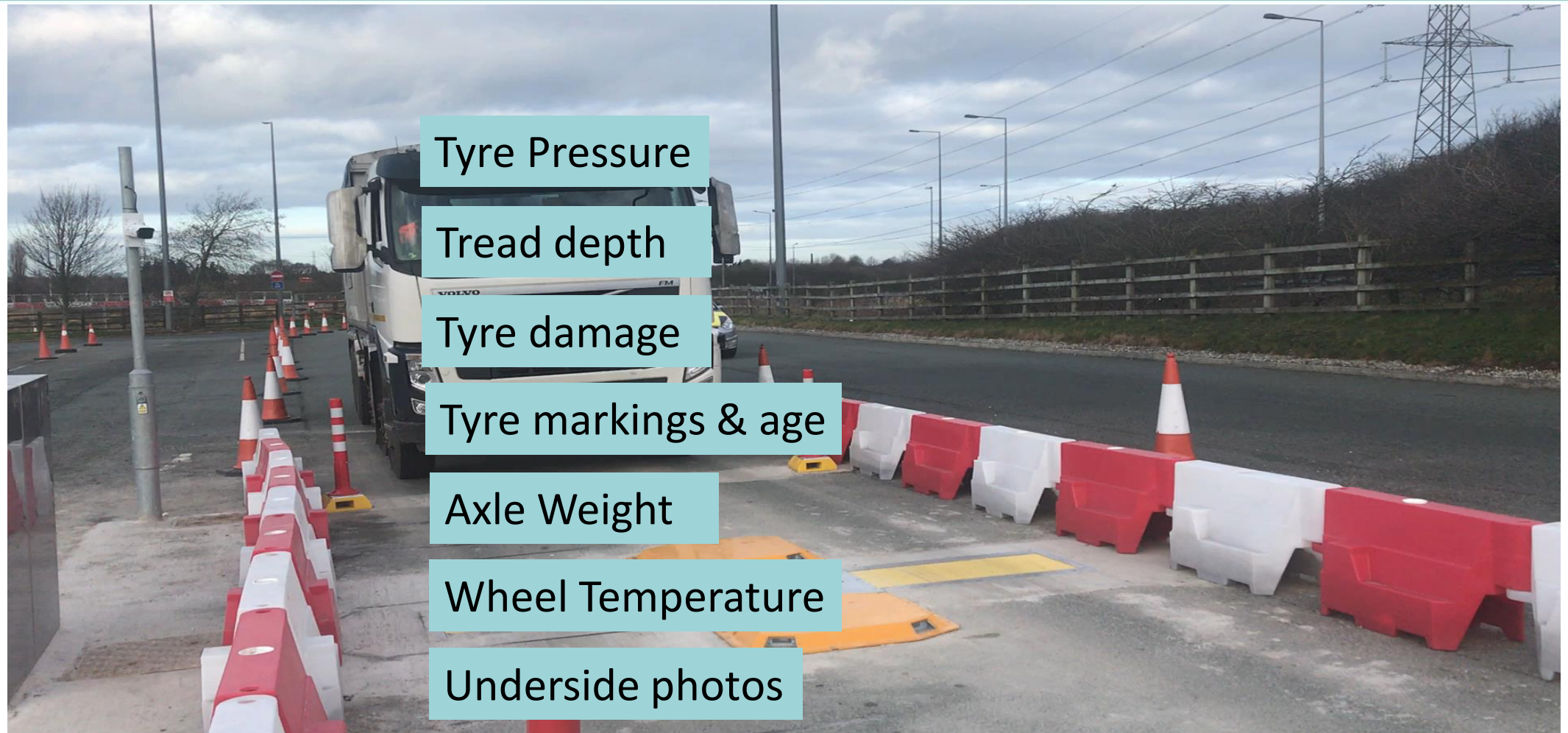
17 C

| Axle    | Read      | Max       | Overweight |
|---------|-----------|-----------|------------|
| Axle 1  | 8,320 kg  | 7,500 kg  | (9.86%)    |
| Axle 2  | 13,550 kg | 11,500 kg | (15.13%)   |
| Tractor | 21,870 kg | 18,000 kg | (17.7%)    |
| Axle 3  | 7,550 kg  |           |            |
| Axle 4  | 7,920 kg  |           |            |
| Axle 5  | 7,760 kg  |           |            |
| Trailer | 23,230 kg |           |            |
| Gross   | 45,100 kg | 40,000 kg | (11.31%)   |



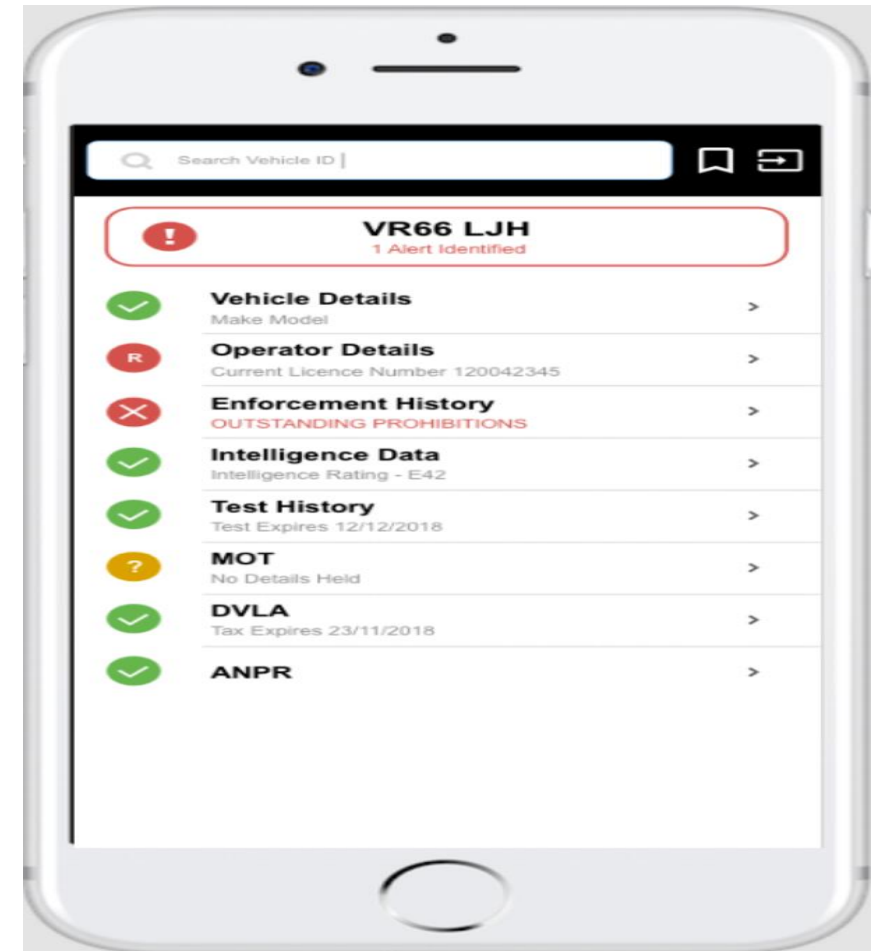


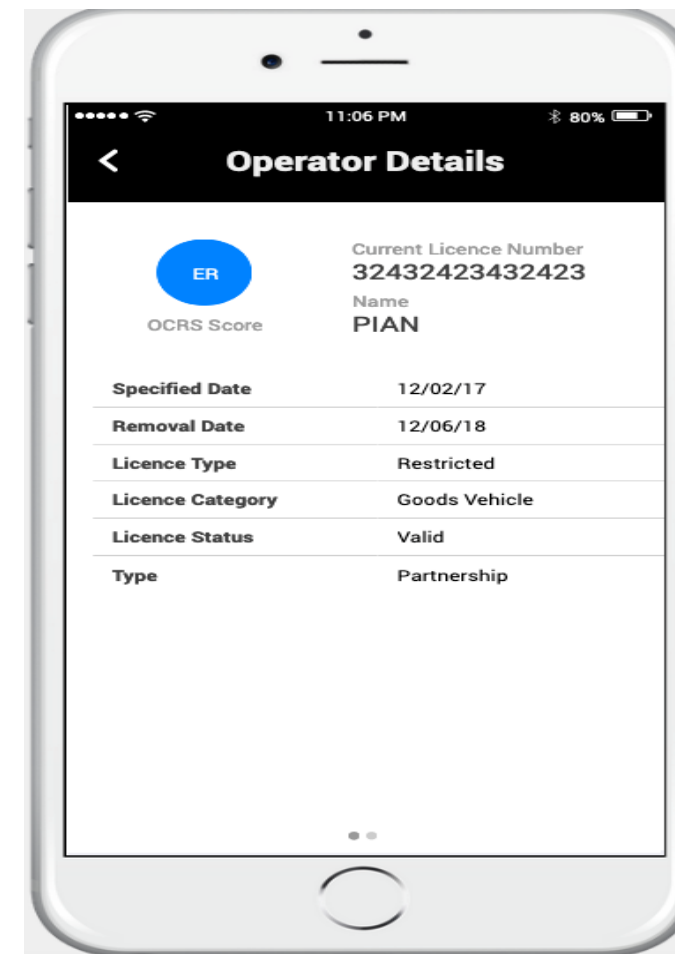
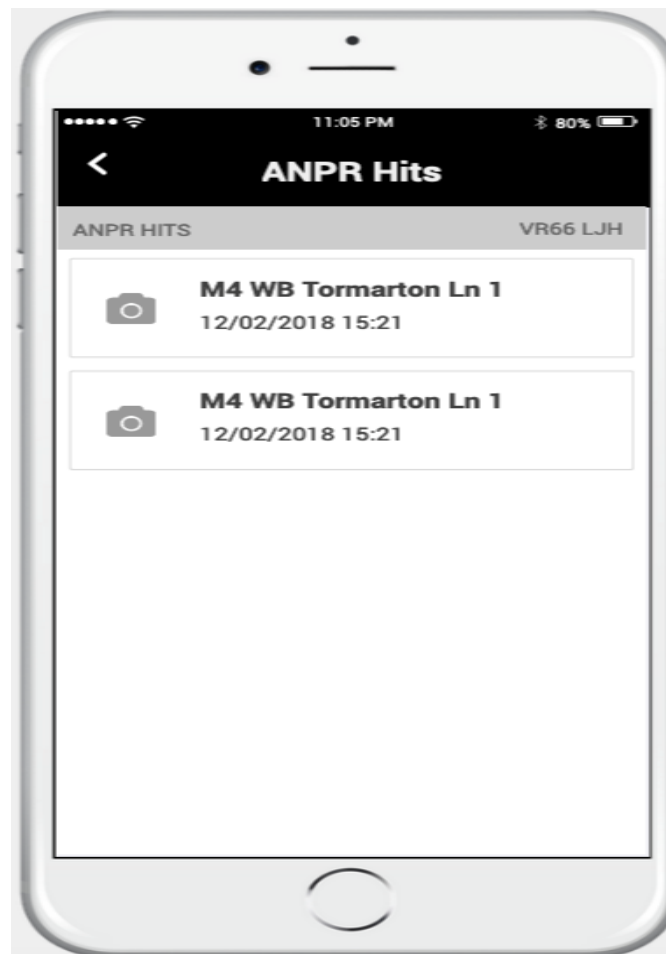
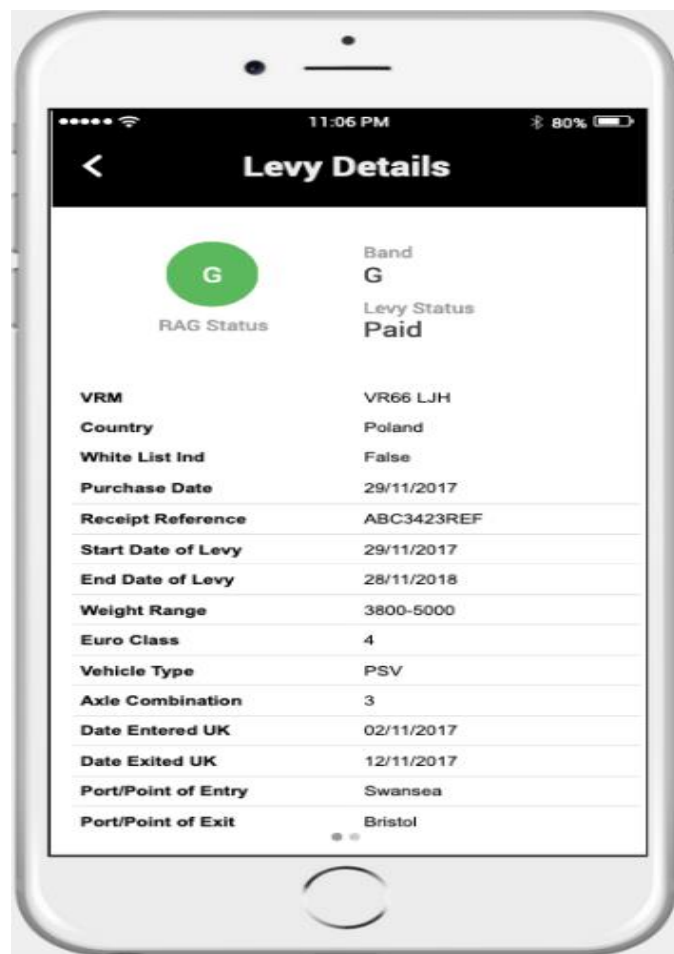
## Wheelwright northbound on M6





- Search used for UK and Foreign vehicles and drivers
- Gives DVSA examiners instant access to enforcement data
- Further information expands for each section









# Tachograph Manipulation





# Tachograph Manipulation







# Tachograph Manipulation







# Enforcement Policy

## Emissions Enforcement Update



- Ongoing DfT research looking at new emissions equipment and inspection for MOT and roadside
- We are working with vehicle manufacturers, who are supporting our research into identifying emissions system manipulation
- We are reviewing the feasibility of roadside inspection using
  - on board diagnostic equipment (OBD)
  - control area network (CAN) scan tools
  - remote sensing
- We are also working with European enforcement counterparts to share enforcement best practice and knowledge



# On-Board Diagnostics

- OBD provides evidence for indicated faults or manipulation
- Provides a time-line of faults that may contradict the driver!





## DIAGNOSIS

NOW, THE ERRORS STORED ON THE DIAGNOSIS MEMORY OF THE ENGINE MANAGEMENT SYSTEM WILL BE READ. TAKE INTO ACCOUNT THAT THE ERRORS OF BOTH SYSTEMS WILL BE DISPLAYED.

|   |  |               |      |
|---|--|---------------|------|
| 0 | AdBlue/DEF. Heating element 2. Current below normal or open circuit. (PSID:84 FMI:5) | PRESENT ERROR | x168 |
|---|--|---------------|------|

### FREEZE FRAME DATA

|                         |                     |
|-------------------------|---------------------|
| DATE (FIRST OCCURRENCE) | 05/05/2018 dd:mm:yy |
| HOUR (FIRST OCCURRENCE) | 17:07:00 hh:mm:ss   |
| DATE (LAST OCCURRENCE)  | 11/07/2018 dd:mm:yy |
| HOUR (LAST OCCURRENCE)  | 11:40:00 hh:mm:ss   |

|   |  |                   |    |
|---|--|-------------------|----|
| 1 | Dosing valve of the AdBlue/DEF (Diesel Exhaust Fluid). Mechanical system not responding correctly. (PSID:89 FMI:7) | NON-PRESENT ERROR | x2 |
|---|--|-------------------|----|

|   |   |               |      |
|---|---|---------------|------|
| 2 | AdBlue/DEF. Coolant control valve (CCV). Voltage above normal or shorted high. (PSID:101 FMI:3) | PRESENT ERROR | x172 |
|---|---|---------------|------|

### FREEZE FRAME DATA

|                        |                     |
|------------------------|---------------------|
| DATE (LAST OCCURRENCE) | 11/07/2018 dd:mm:yy |
| HOUR (LAST OCCURRENCE) | 11:40:00 hh:mm:ss   |





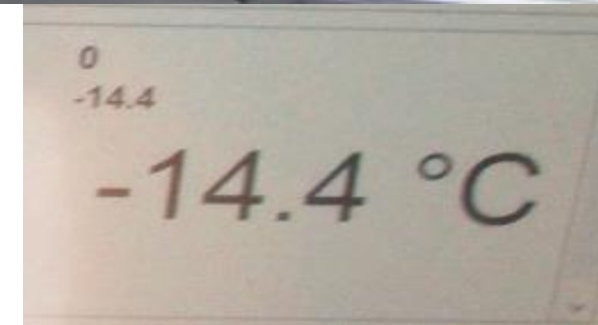
# Emissions Control System Manipulation





# DVSA Enforcement of Emission Control Systems

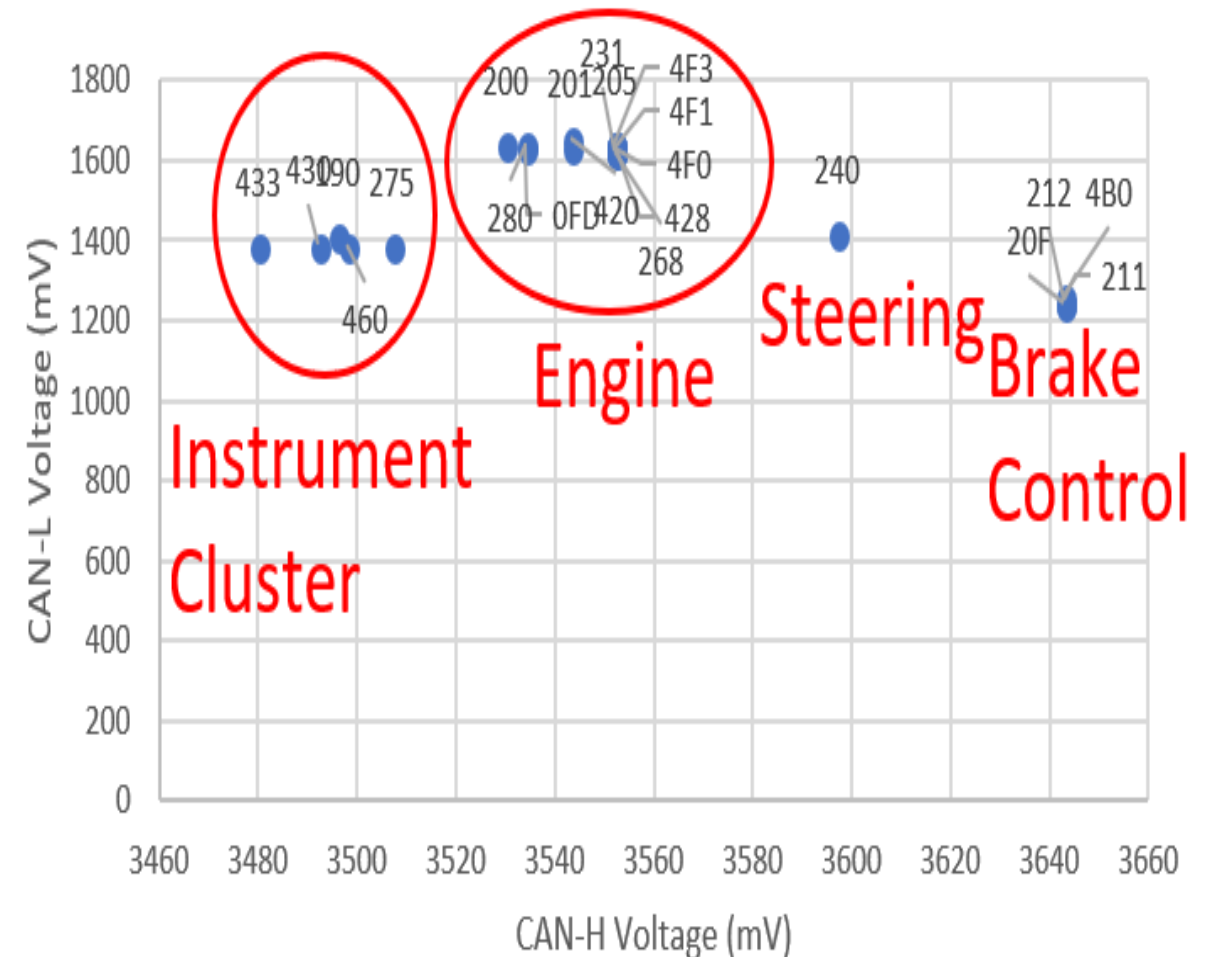
## SCR Temperature Sensor Manipulation





# ECU CAN Message Identifier

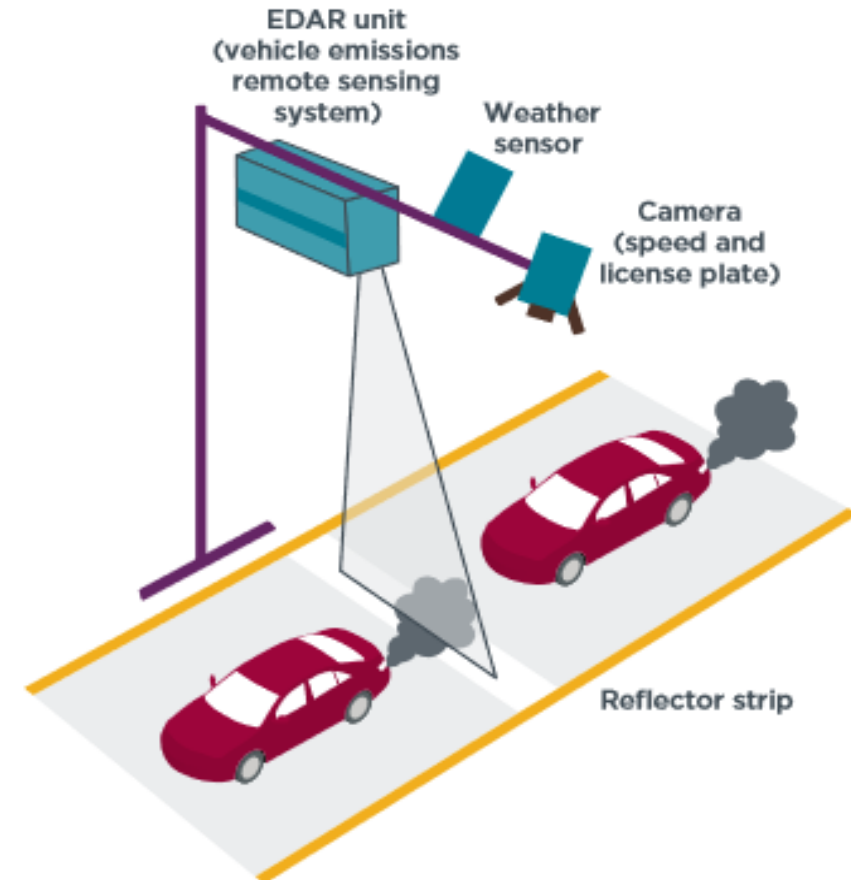
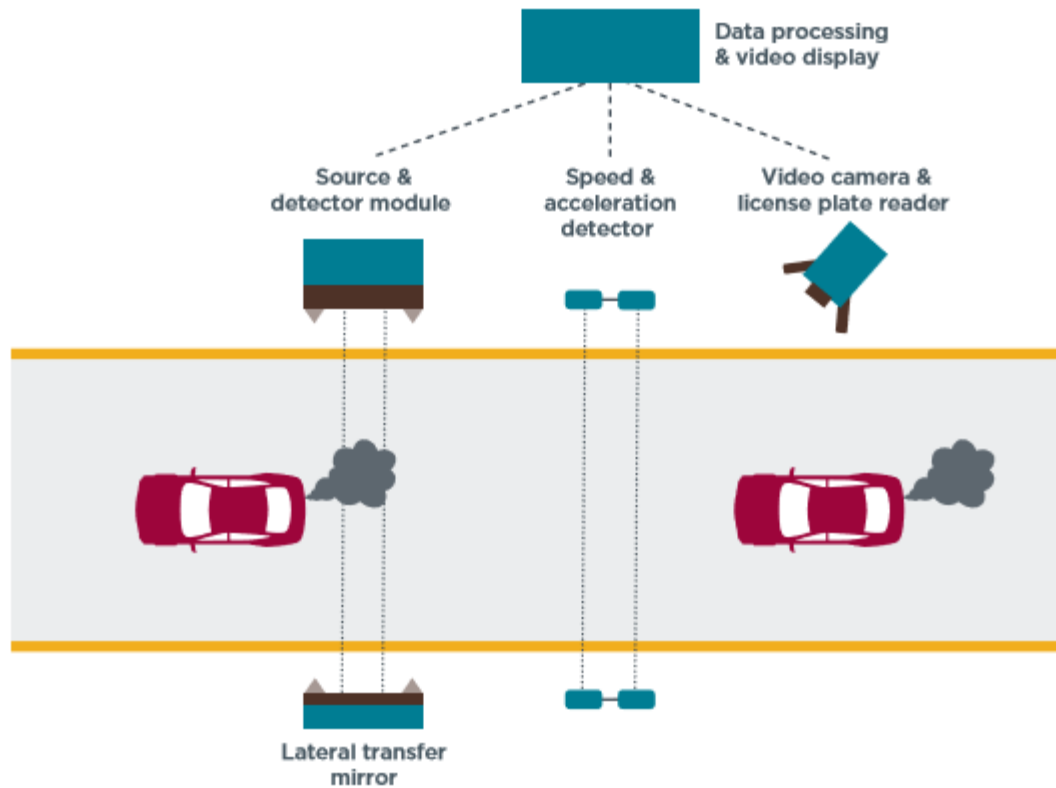
- Each ECU has a unique fingerprint for the CAN message it transmits.
- It is possible to detect intruder messages on the CAN bus which are not supposed to be present
- This can be done by scanning the CAN bus and comparing the ECU fingerprints







# Remote Emissions Sensing





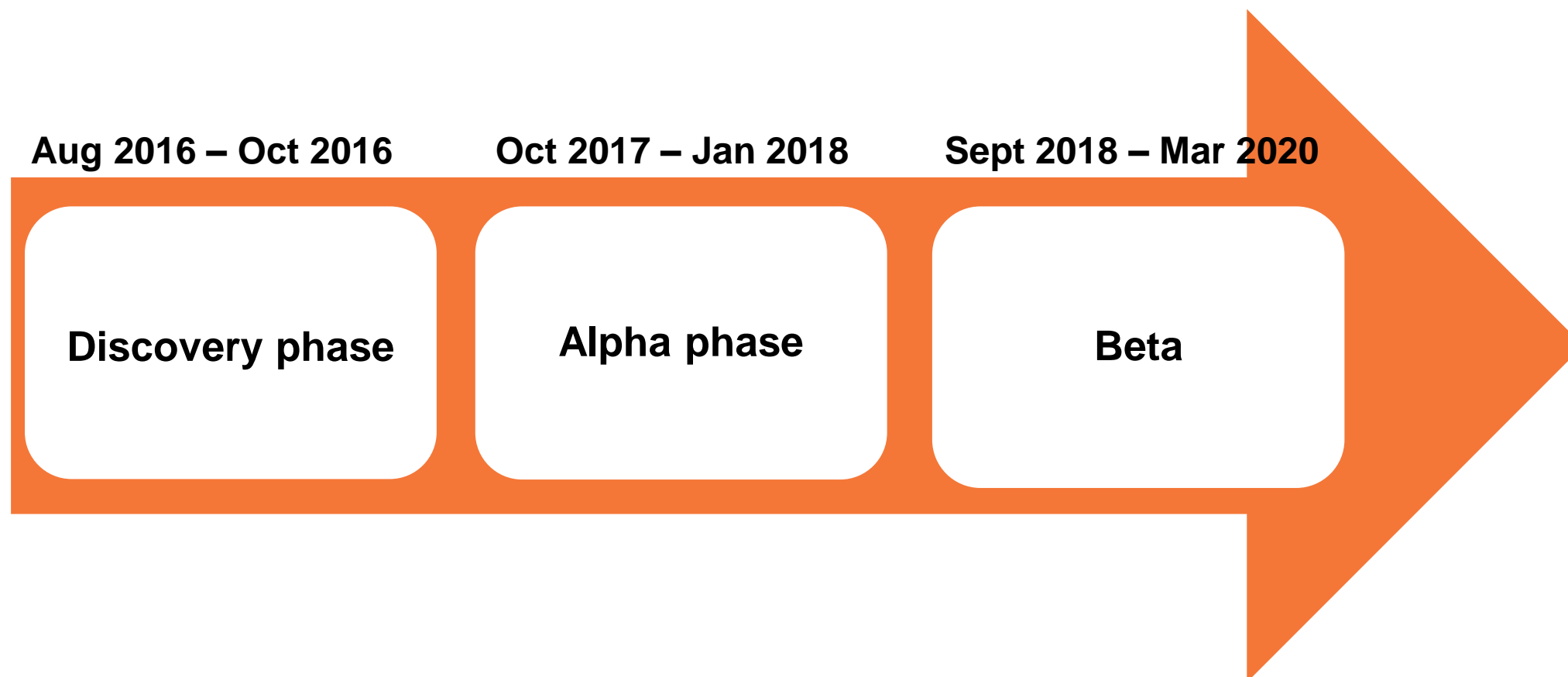
# Commercial Vehicle Service

## The story so far.....





The CVS Project is following the **agile methodology to deliver value iteratively**. We have been through Discovery and Alpha phases to inform the **development of Beta**:

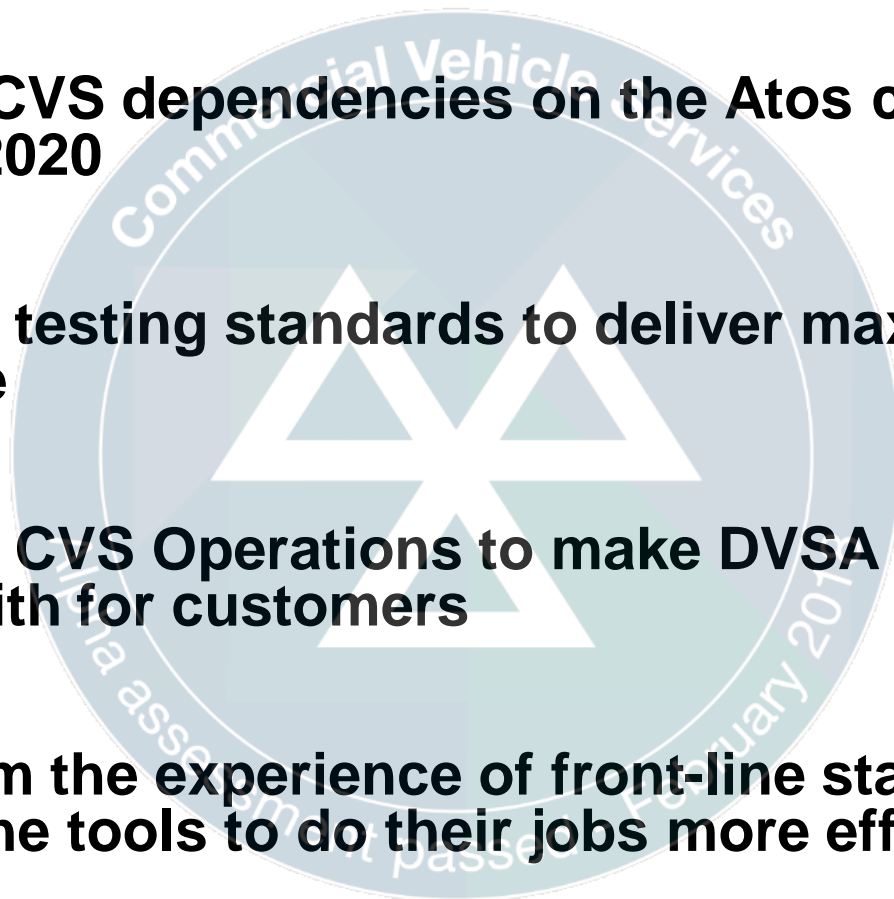






# Investment Objectives

- 1: To remove CVS dependencies on the Atos contract by December 2020**
- 2: To increase testing standards to deliver maximum road safety value**
- 3: To enhance CVS Operations to make DVSA easier to do business with for customers**
- 4: To transform the experience of front-line staff by providing them with the tools to do their jobs more effectively**





## 4 VSAs

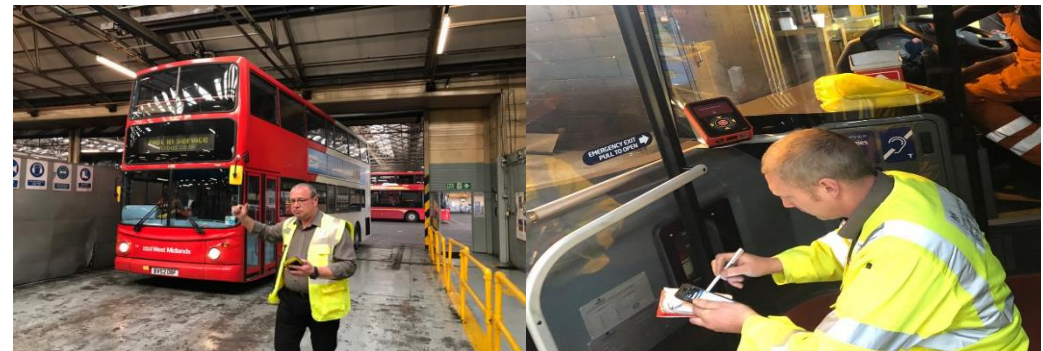
- Craig L (iPhone 8+)
- Craig W (iPhone 6+)
- Graham (iPhone 6+)
- Kevin (iPhone 6+)

## 3 PSV ATFs

- West midlands travel - West Bromwich
- West midlands travel – Coventry
- West midlands travel – Wolverhampton

## 30+ PSV annual tests completed using the VT app and counting!

- Pass
- Pass with an advisory
- Fail with defect
- Retest
- Cancelled test





Department  
of Transport





- 
- A large, semi-transparent circular logo for 'Commercial Vehicle Services' is centered in the background. It features a white recycling symbol in the center and text around the perimeter: 'Commercial Vehicle Services' at the top and 'Alpha assessment passed - February 2019' at the bottom.
- Now – Piloting the App at PSV ATF's
  - This year - Roll out App to all ATF's
  - 2020 – Pilot My ATF and Rollout



# Any Questions?





DVSA Direct Email Alerts - <https://www.gov.uk/guidance/dvsa-email-alerts>

DVSA Contact - <https://www.gov.uk/contact-dvsa>

DVSA Complaints - <https://www.gov.uk/government/organisations/driver-and-vehicle-standards-agency/about/complaints-procedure>