Management for Electronic Traffic Regulations
METR

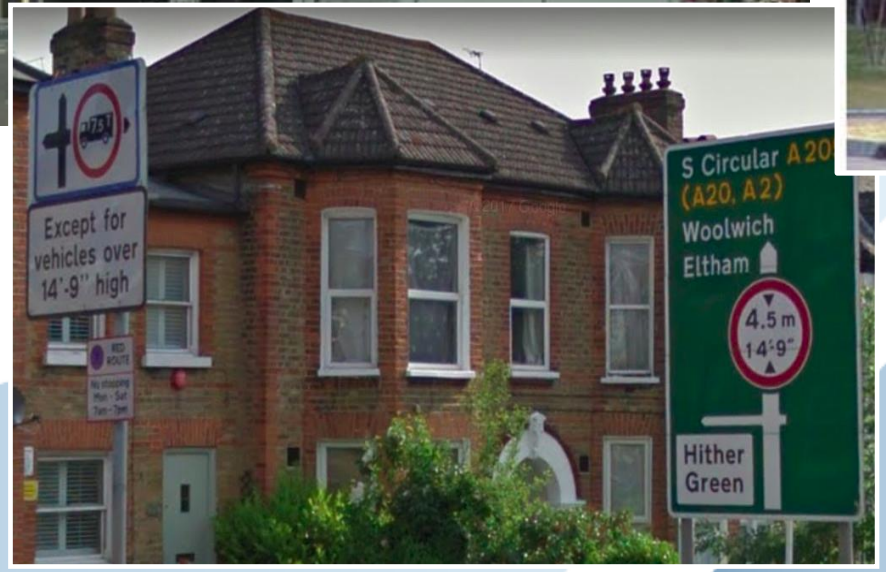
Jonathan Harrod Booth

CEN TC278/WG17 Urban ITS

Management of Electronic Traffic Regulations – the Need

- Means to encode and exchange traffic regulations
  - To support modernisation of the digital transport economy
  - Smart cities, open data … common digital encoding/exchange of road traffic regulations
  - Provide critical source of data for connected and automated vehicles – but more correctly mobility
  - Accessibility to robust, definitive data sources …for the public, service providers, administrative consistency/efficiency, industrialisation

Vehicle/Mobility Detection Challenges



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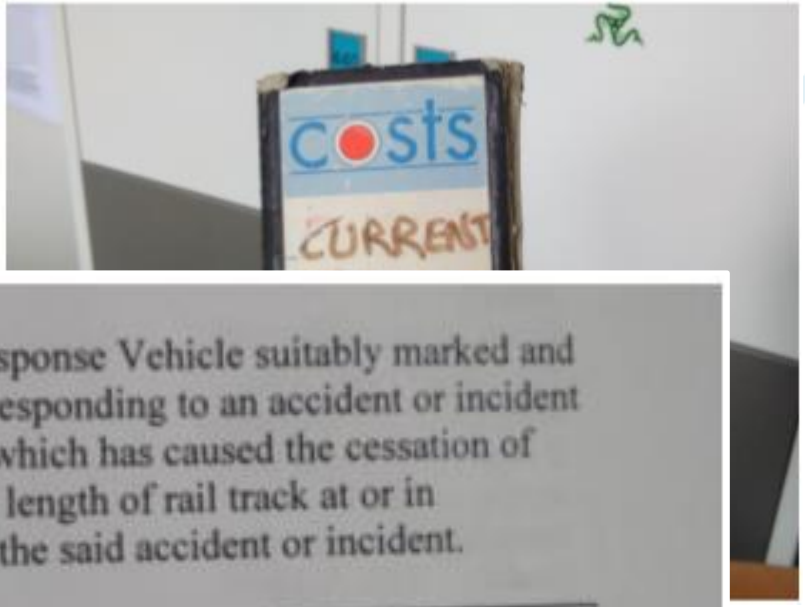
Management of Electronic Traffic Regulations

- In ‘simple’ terms, regulations:
  - General rules of the road embedded in national/regional laws, generally aligned to international conventions
    - E.g. default speed limits; driving side of the road
    - These are often unsigned, or partially signed
  - Traffic signs, signals and road marking – communicating obligations, warning or information
  - Impacting: moving “traffic” (i.e. typified road users), non-moving traffic
  - Both “static” and “dynamic” (e.g. road works, road closures, dynamic speed limits, etc)

The Current Landscape



Traffic Order Example UK
(8 pages)

THE TAUNTON DEANE BOROUGH (WIVELISCOMBE) TRAFFIC REGULATION ORDER, 2001

42. A Specialist Vehicle or Non-

43. A Handcart used in accordan

44. A Specialist Vehicle or a No
(a) a Pedal Cycle being
or
(b) a Handcart.

45. A Specialist Vehicle or Non-
(a) a Pedal Cycle being
or
(b) a Handcart
proceeding on Monday to S
10.30 am to 4 pm.

46. A Specialist Vehicle or
during the period 10.30 am to

47. A Handcart being used by a local authority for street cleaning purposes.

A Network Rail Incident Response Vehicle suitably marked and readily identifiable as such responding to an accident or incident within the railway network which has caused the cessation of rail traffic movement in any length of rail track at or in proximity to the location of the said accident or incident.

1st Sch - 1

~~Dial a ride~~
A bus being used within the terms of the Council's "Dial a Ride Service."

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Use Cases

Users (initial list)

- Driver
- Map maker
- Parking Manager
- Traffic Manager
- Asset Manager
- Traffic Regulation officer (Planning)
- Enforcement officer
- Planning officer (buildings, lane use)
- CIOs
- Modellers
- Road works/street work manager/operatives
- Other mobility users

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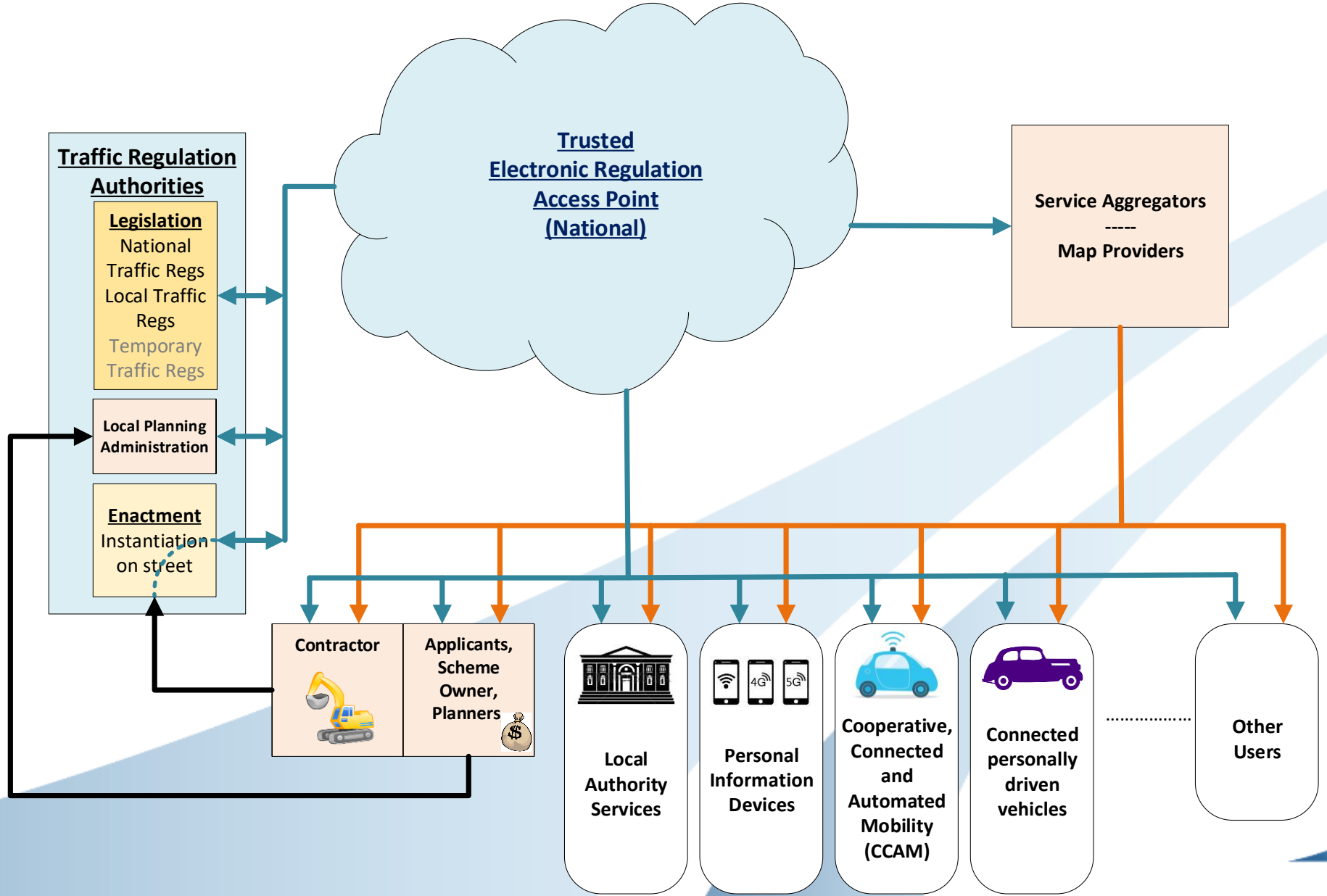
METR – Key Concepts

- A means to encode traffic regulations electronically to be machine read, processed and correctly interpreted
  - This is challenging!! Means to encode traffic regulations (noting the challenge given the variety we have even nationally, and the huge variation that will exist across nations). These specifications will be to be very specific on matters of location (there has been discussion of a single digital map for a jurisdiction) – then think of map edge matching
- A means to securely, exchange data in a traceable manner
  - Security, authentication, certification – essential to *Trust* in the solution

Architecture for METR



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Hasn't this already been done?

- DATEX II
  - Partial fit
  - Designed for TM/TI information exchange
  - Describes dynamic characteristic (events or attribution) using various Loc. Ref. methods against no-specific reference network (but dynamic features might never change!)
  - Extension work on-going
- TN-ITS
  - Partial fit
  - Designed to pass road network attribute changes to map suppliers
  - Uses various Loc. Ref. methods against no-specific reference network – but perhaps INSPIRE networks are a fall back
  - Extension work on-going
- UVAR – Urban Vehicle Access Regulations
- GDF …. INSPIRE/TC211

How to fit this together?

Thank you!

HARROD BOOTH CONSULTING

jon@harrodbooth.com

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