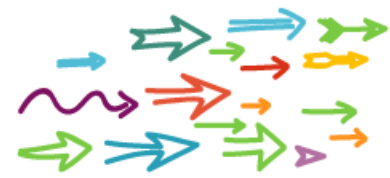


Greater Manchester's Electric Vehicle network

Rafael Cuesta, Head of Innovation, TfGM

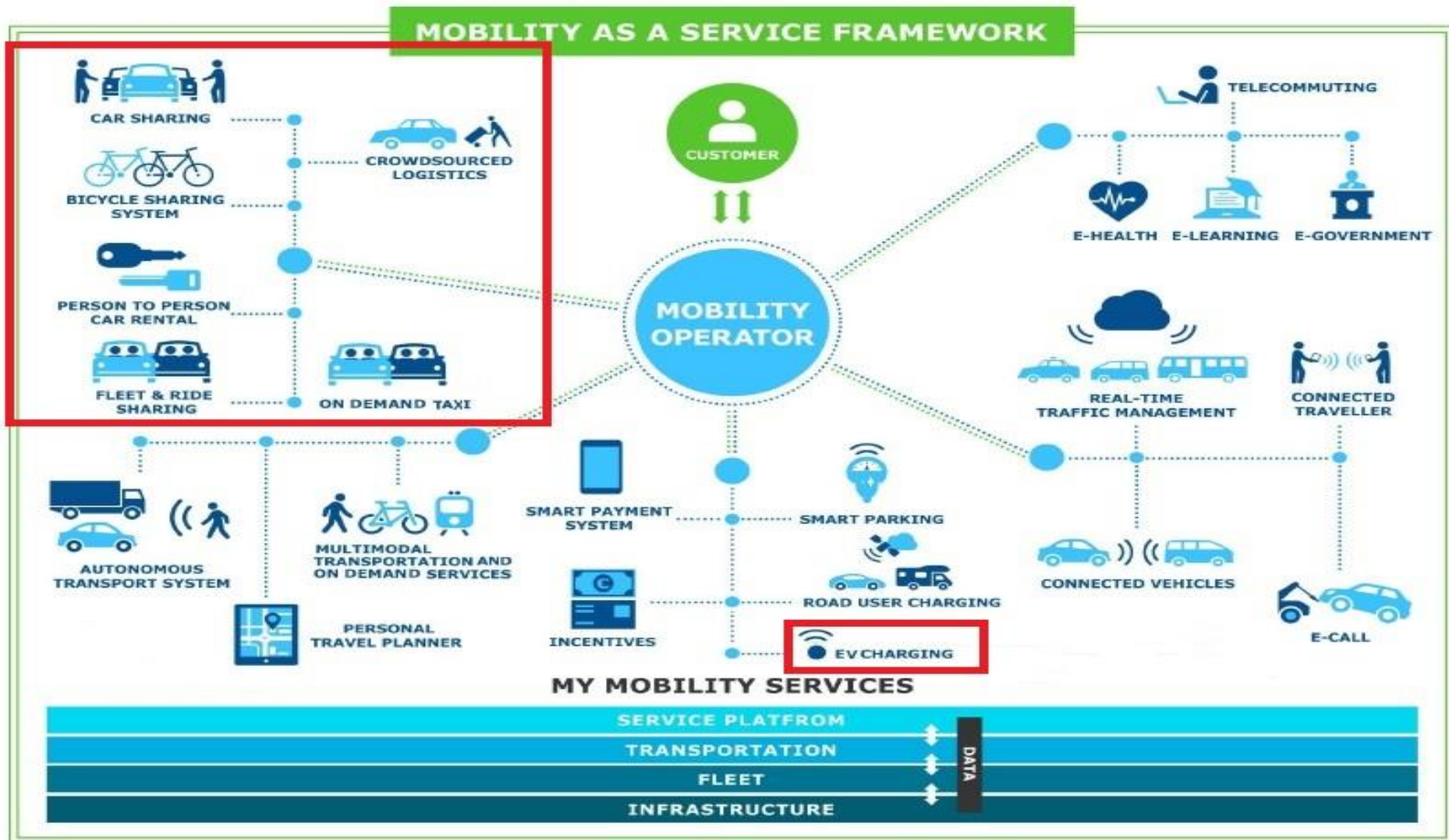




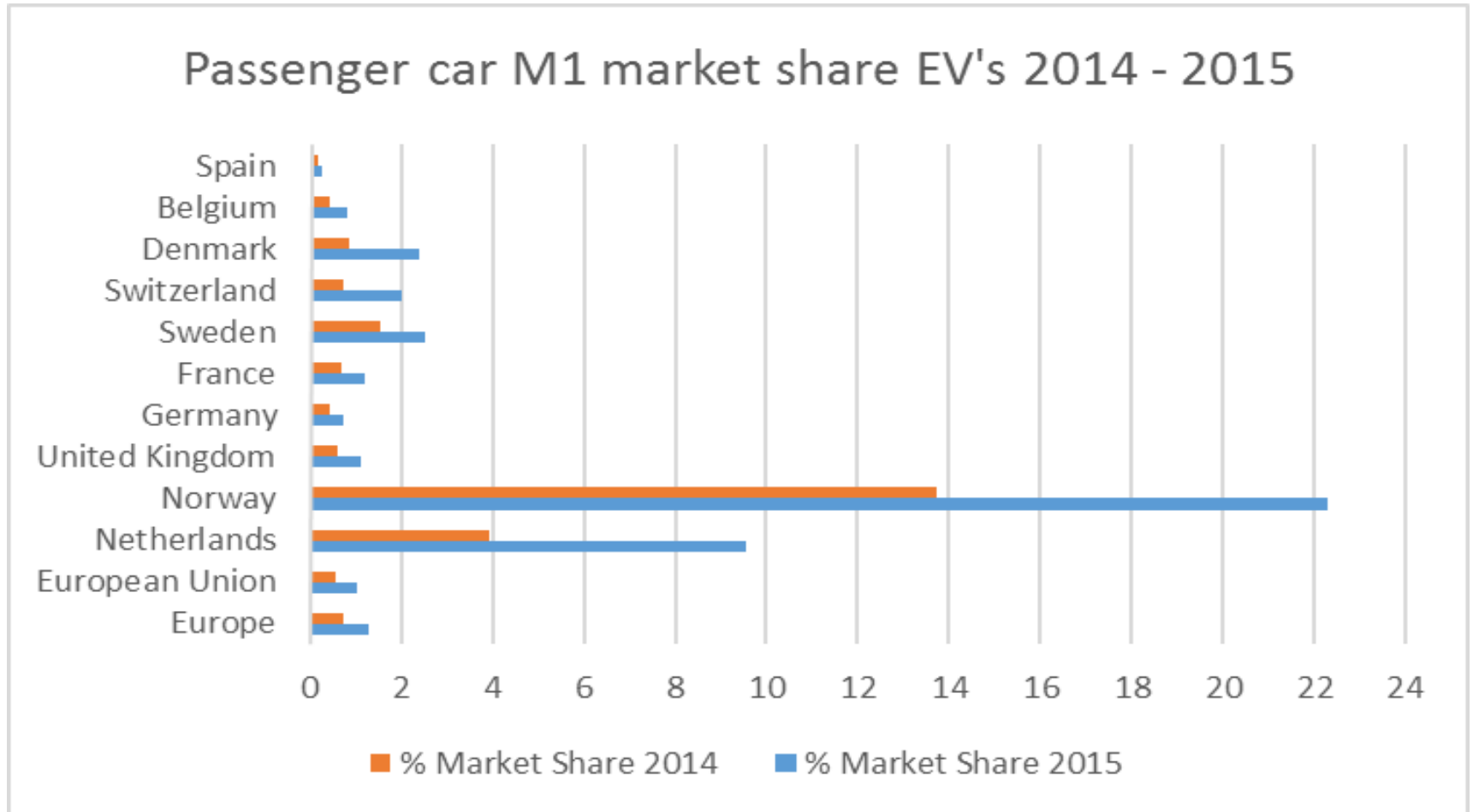
Ambition

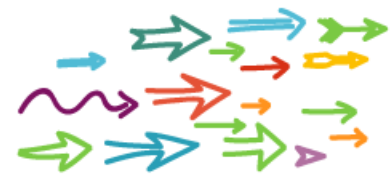


Development of Transport Eco-System



UK position in EV Growth Market





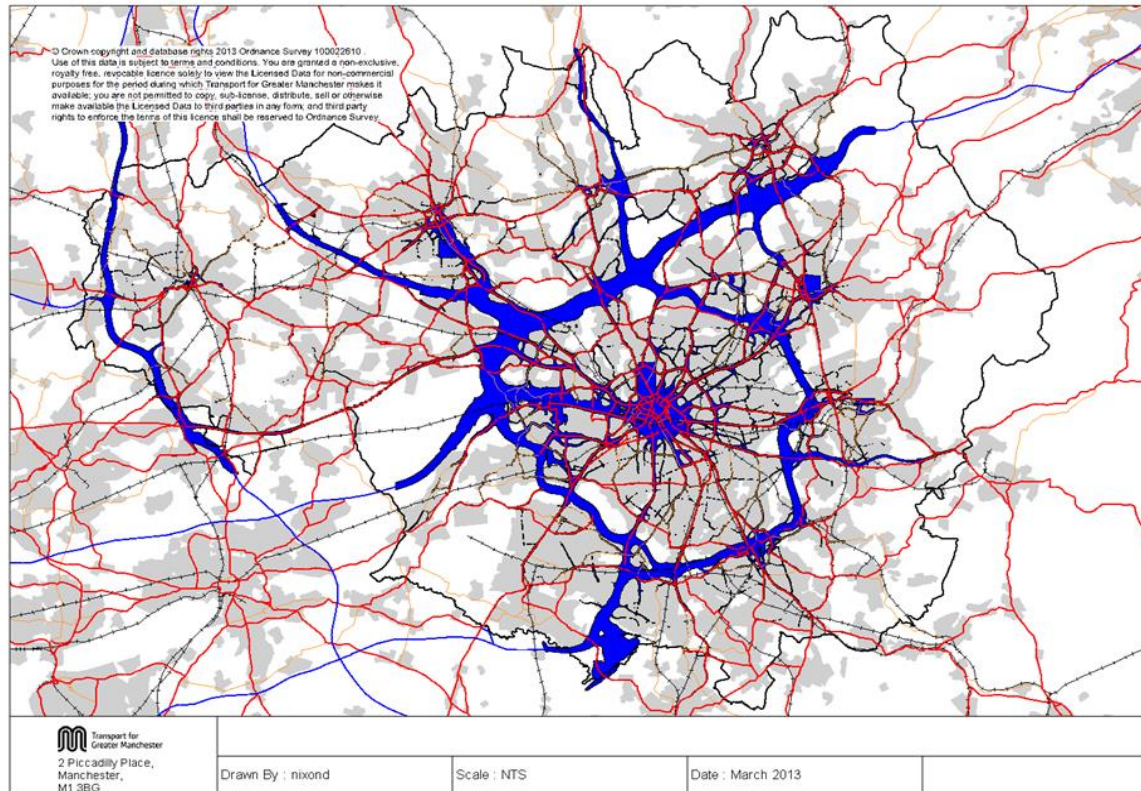
Challenges





Scale of the problem

Greater Manchester is one of a number of major UK conurbations where NO₂ limits are exceeded.



Decarbonisation Challenge – Scale of UK Vehicle Market

United Kingdom

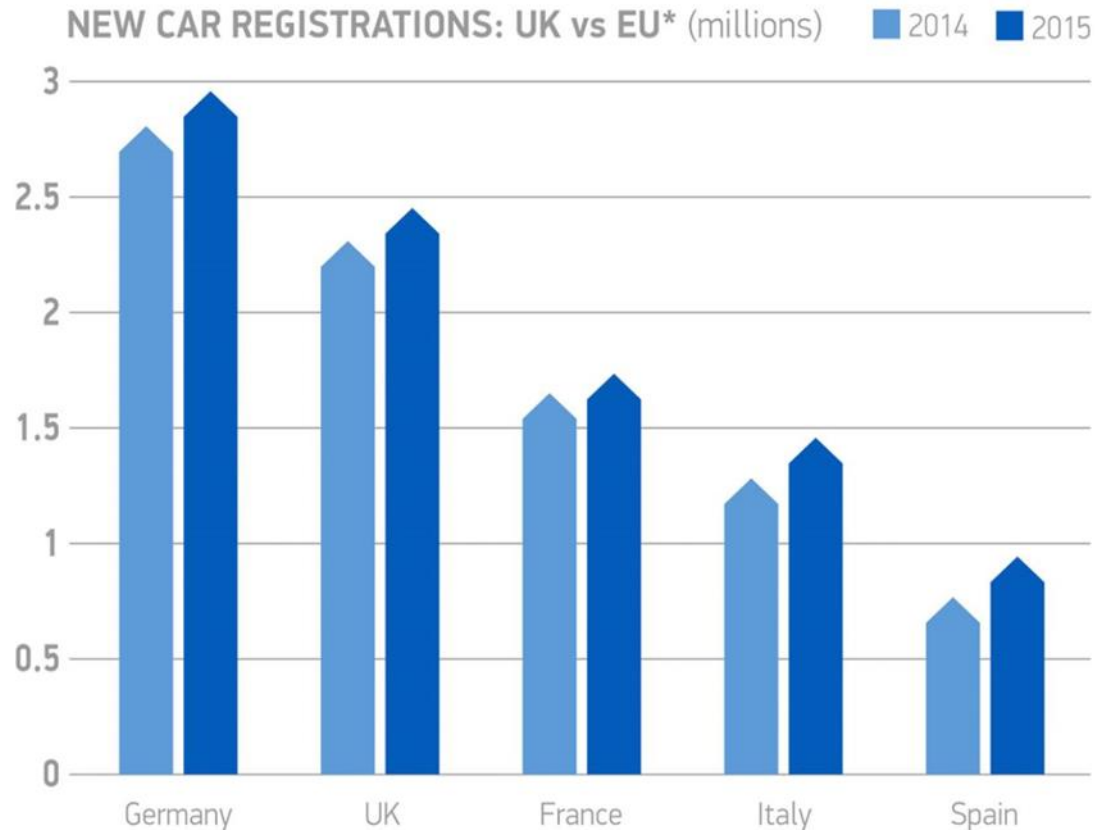
All Vehicles Licensed 2016 Q2

Cars	31,646,347
Motorcycles	1,339,307
Light Vans	3,843,221
HGVs	513,755
Buses	168,639
Total	37,511,269

Table VEH0120 DfT Vehicle Licensing Statistics

Plug-in Car sales so far

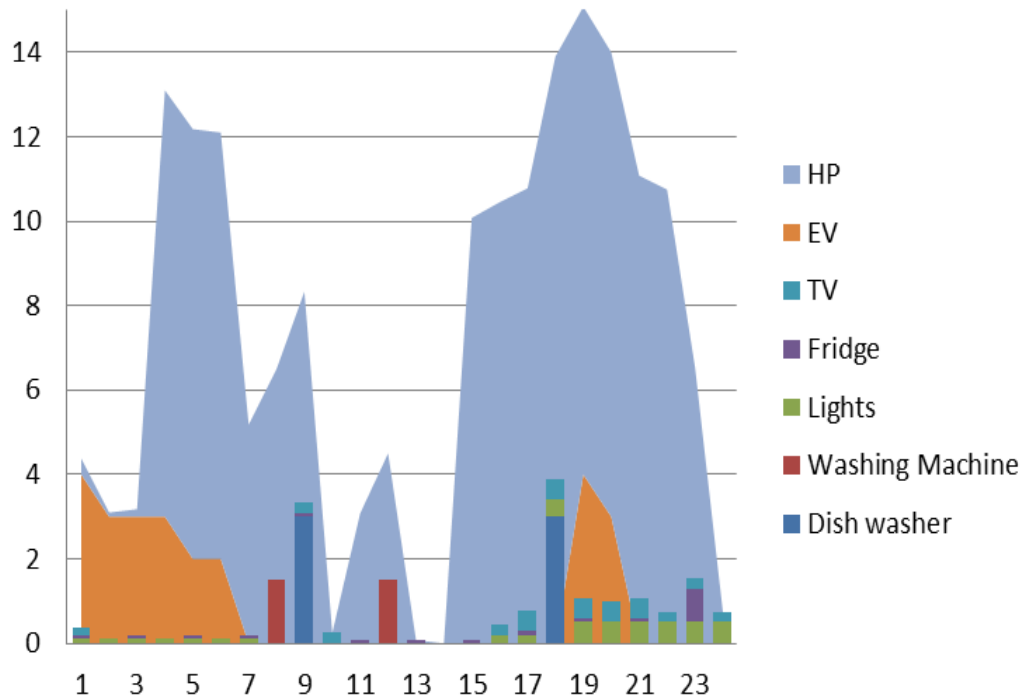
Total plug-in car	85,000
Total plug-in van	5,000
	90,000
% of all cars + vans	0.25



*ACEA figures: January-November 2015

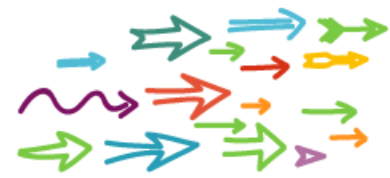
Electricity North West 2030 Forecast – Daily Electricity Use Assumption

**Daily Domestic Demand Profile
Forecast 2030**



Assumes in Region by 2030;

- 720,000 domestic EVs
- 80,000 Electric Vans
- Drawing **3- 8kw** for 8hours (mostly topping up over - night)
- This would add an additional demand of **2 GigaWatts**
- As a reference point, all of Manchester currently draws **400 MegaWatts**



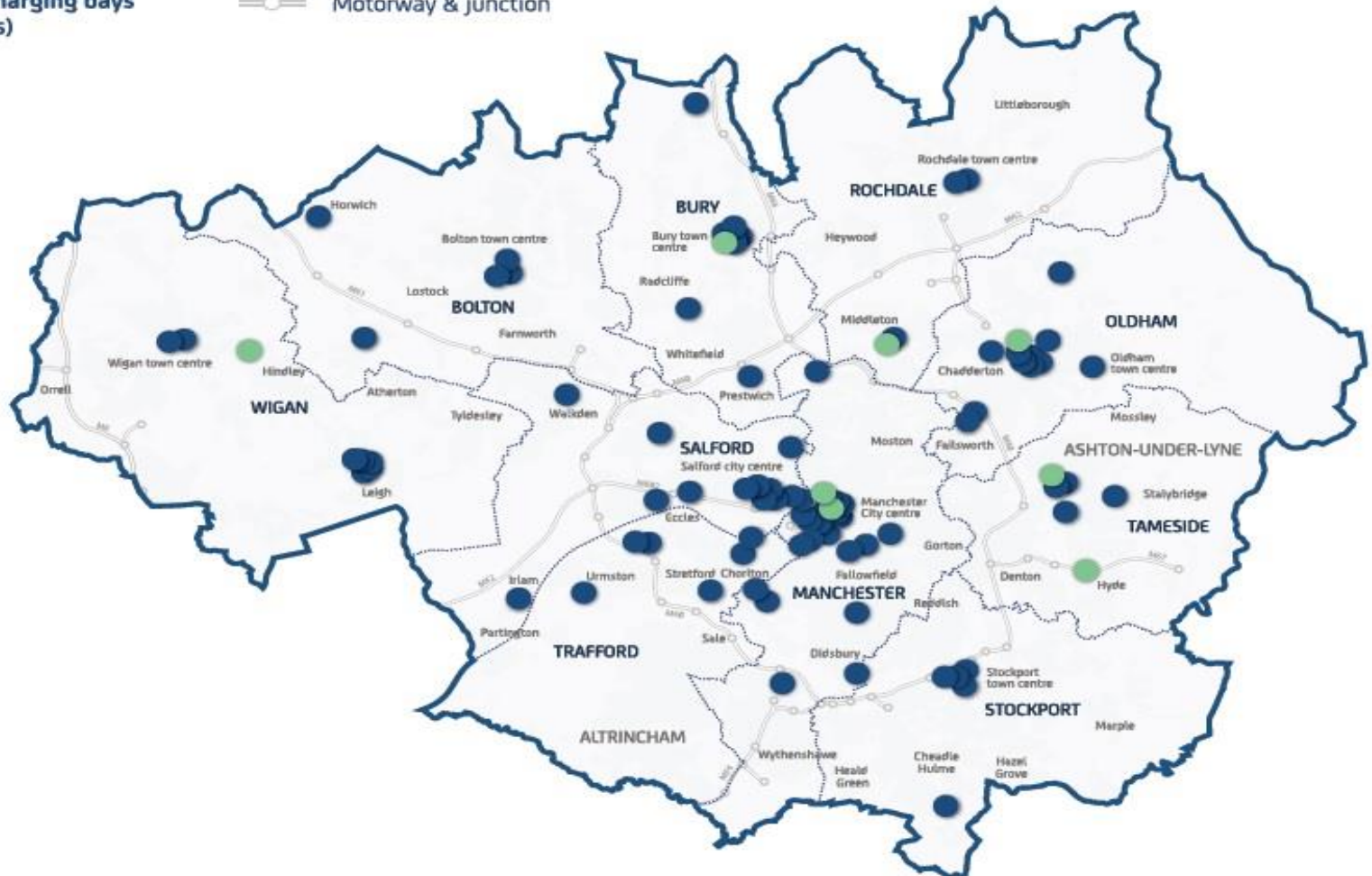
Current offer



Greater Manchester Electric Vehicle Network

- Public access charging bays (minimum 2 bays)
- Private access charging bays (minimum 2 bays)

- Greater Manchester boundary
- District boundary
- Motorway & junction

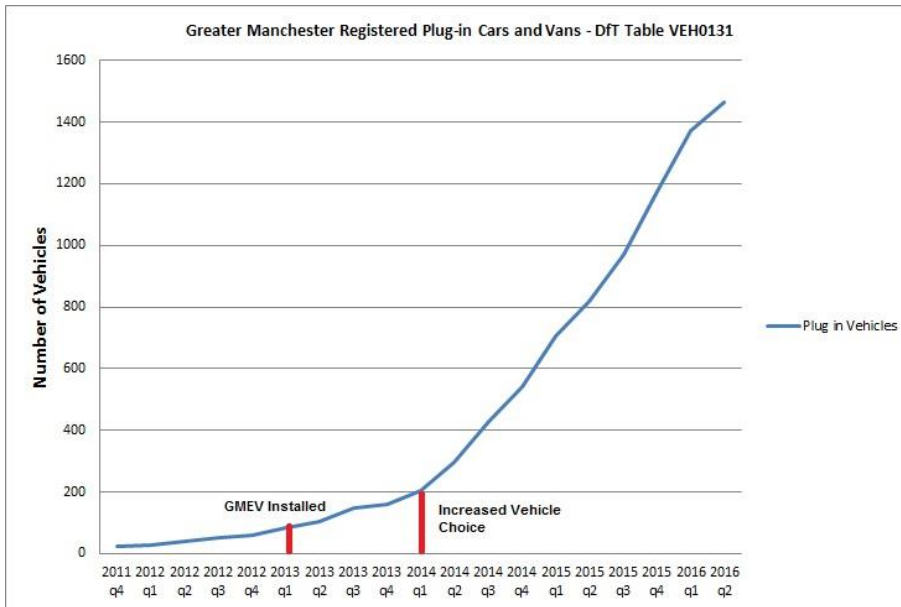


GMEV Infrastructure 160 'Fast' Chargers

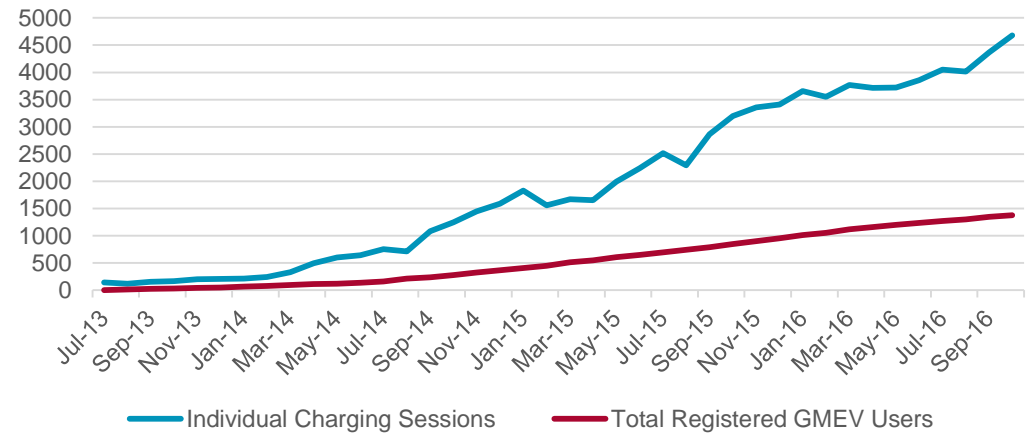


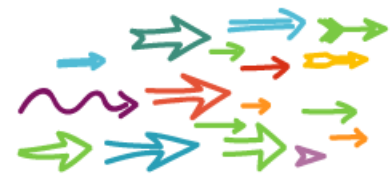
4 Rapid Chargers





Greater Manchester Electric Vehicle Network Utilisation





What next?

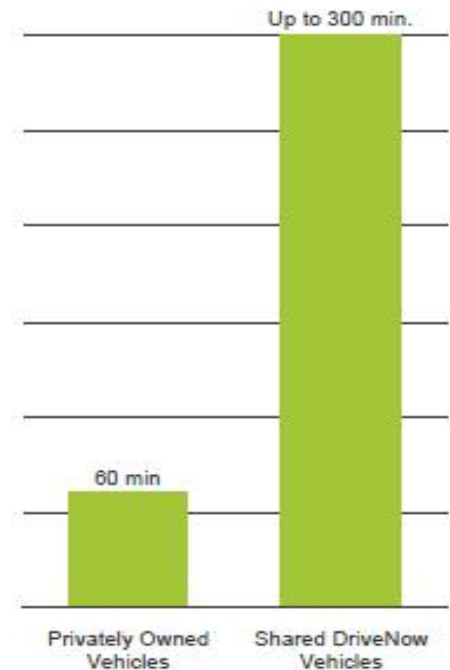


Efficient Vehicles and Efficient Utilisation – ULEV Car Club Opportunity

Approx. 7 older, high-emission vehicles are substituted ...

... through 1 brand new, low-emission or zero-emission vehicles ...

... which is 3-5 times better utilized than privately owned vehicles.



ICE



£14.14



EV



£2.40

Car Club Operating Models – ULEV opportunity

Point-to-Point
fully flexible



DriveNow

- Locationless
- No need to return car to same spot/area
- Spontaneous use

Station-to-Station
semi flexible



AutoLib

- Fixed locations
- Return to a station
- Reserve in advance or spontaneous use

Back-to-Base
traditional

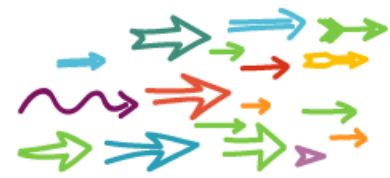


ZipCar

- Fixed locations
- Return to same pick up spot
- Reserve in advance or spontaneous use

GM Joint Tender - ULEV Shared Mobility Services

- Currently developing a GM ULEV Tender to address key challenges
 - Will be issued as one tender with 2 Lots
 - Lot 1 – GMEV Network (operation, maintenance and provision of private finance to upgrade/expand)
 - Lot 2 – GM Car Club Service (initially starting with a replacement of the current Manchester Car Club contract)
 - Informal Market Testing has already taken place
 - Expected to issue to formal tender January 2017
-



Thank You

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