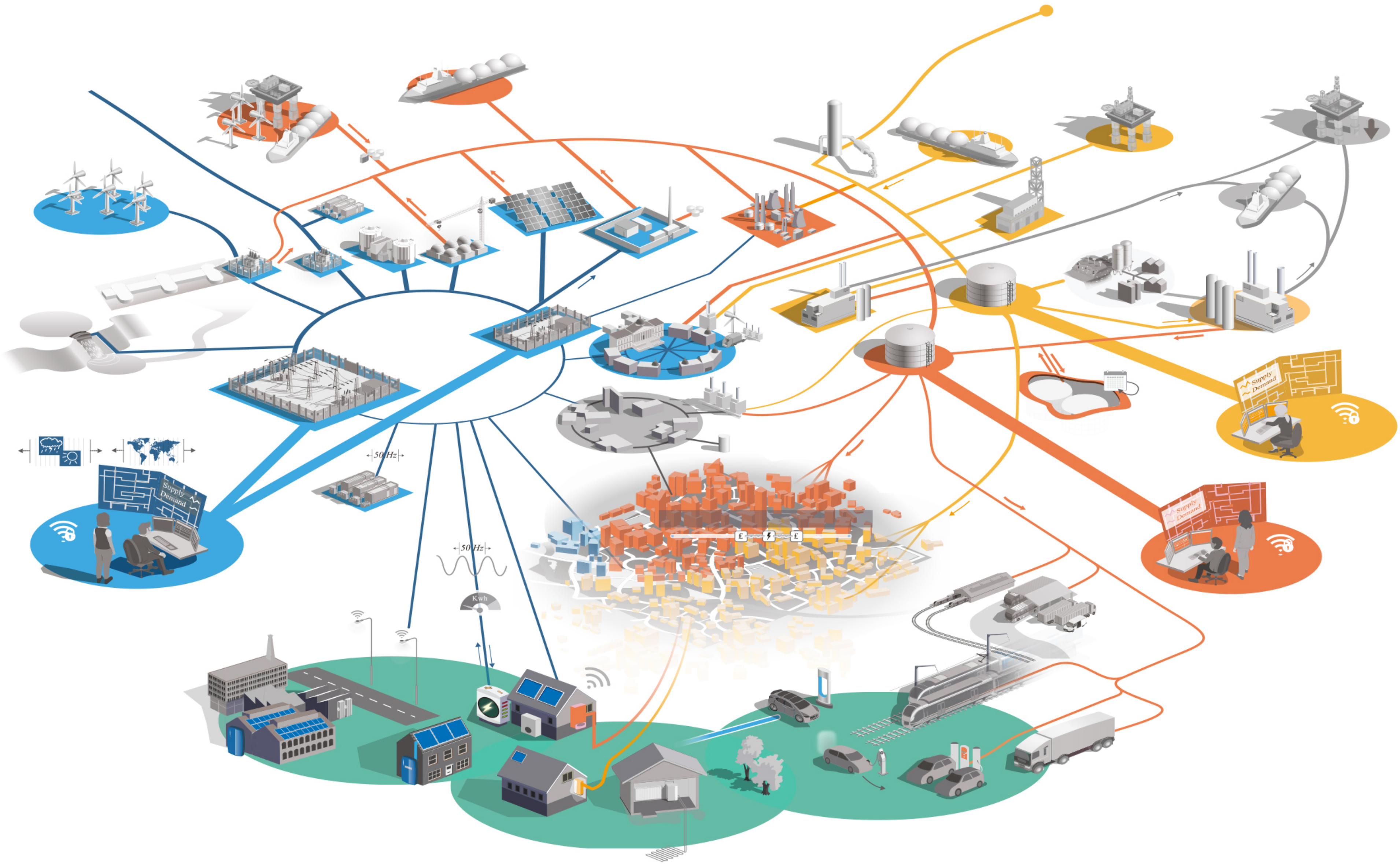
EV Charging Infrastructure

APRIL 2019



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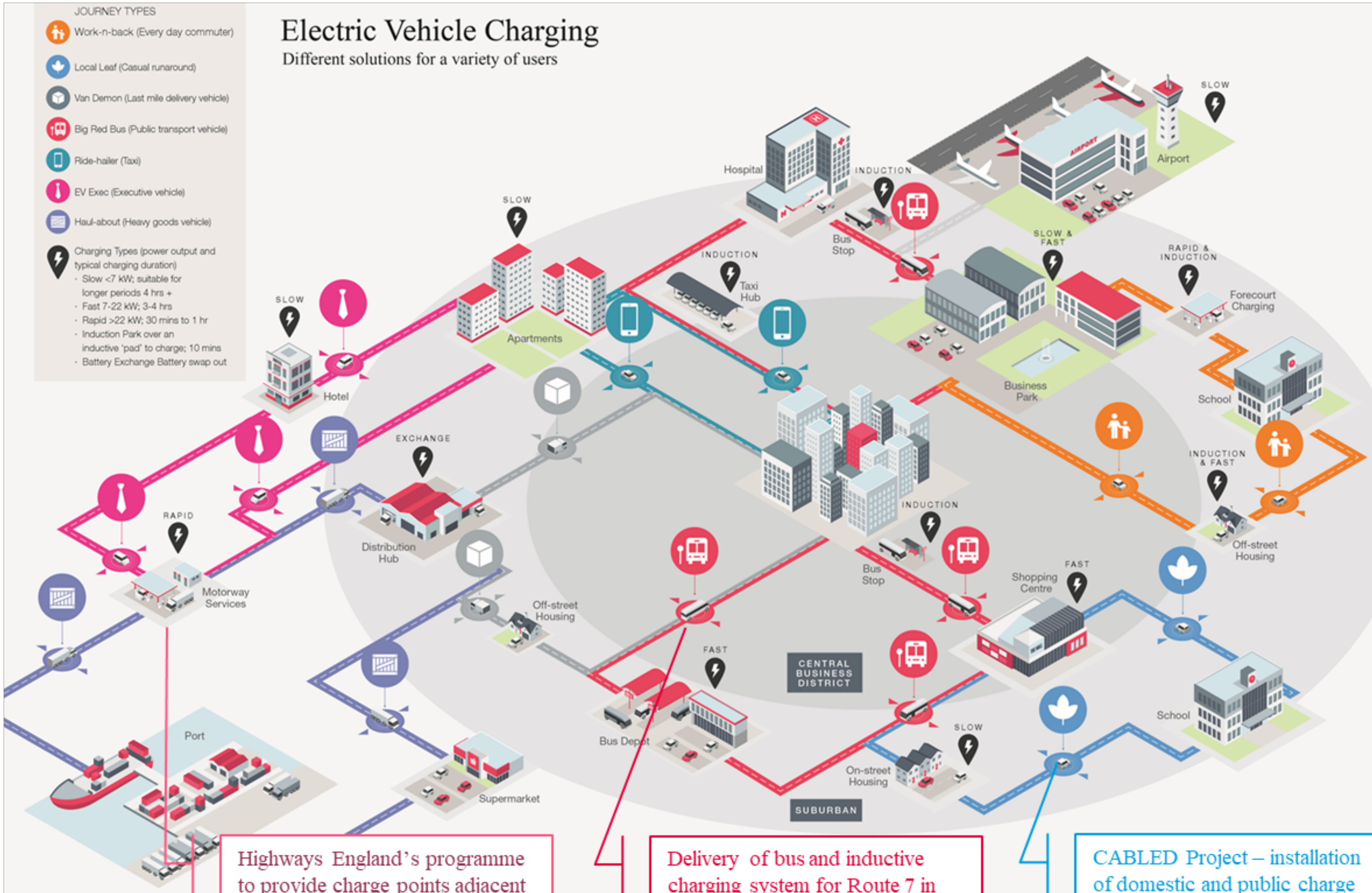
EV Charging Modes



Highways England's programme to provide charge points adjacent to the Strategic Road Network

Highways traffic modelling

Delivery of bus and inductive charging system for Route 7 in Milton Keynes

York City Bus Fleet

CABLED Project – installation of domestic and public charge points, monitoring of driver behaviour

Source: Arup

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EV Charging Participants

Rapid Charging Market Participants

OEMs (vehicles and batteries)

- Focussed on providing complementary services to assist hardware sales.
- Typically OEMs will partner with charge point providers to provide charging facilities at vehicle pint of sale.
- 444 rapid charge points.

Utilities

- Concerned with expanding consumer base and diversifying business models.
- Able to cross subsidise and bundle a range of EV charging options (home and public).
- Experiences in delivering and managing EV charge point roll out.
- 395 rapid charge points.

Oil majors

- Concerned with diversifying their business model to adapt to changing transportation land scape.
- Able to utilise existing infrastructure network to access sites.
- Access to capital to allows of acceleration of deployment.
- 281 rapid charge points.

Charge point manufacturers and Operators

- Concerned with early market entry to gain market share.
- Exhibit a variety of operational models e.g. service or hardware provider or both.
- Capable of partnering with other participants
- Currently the largest market share of Rapid chargers.
- 778 rapid charge points.

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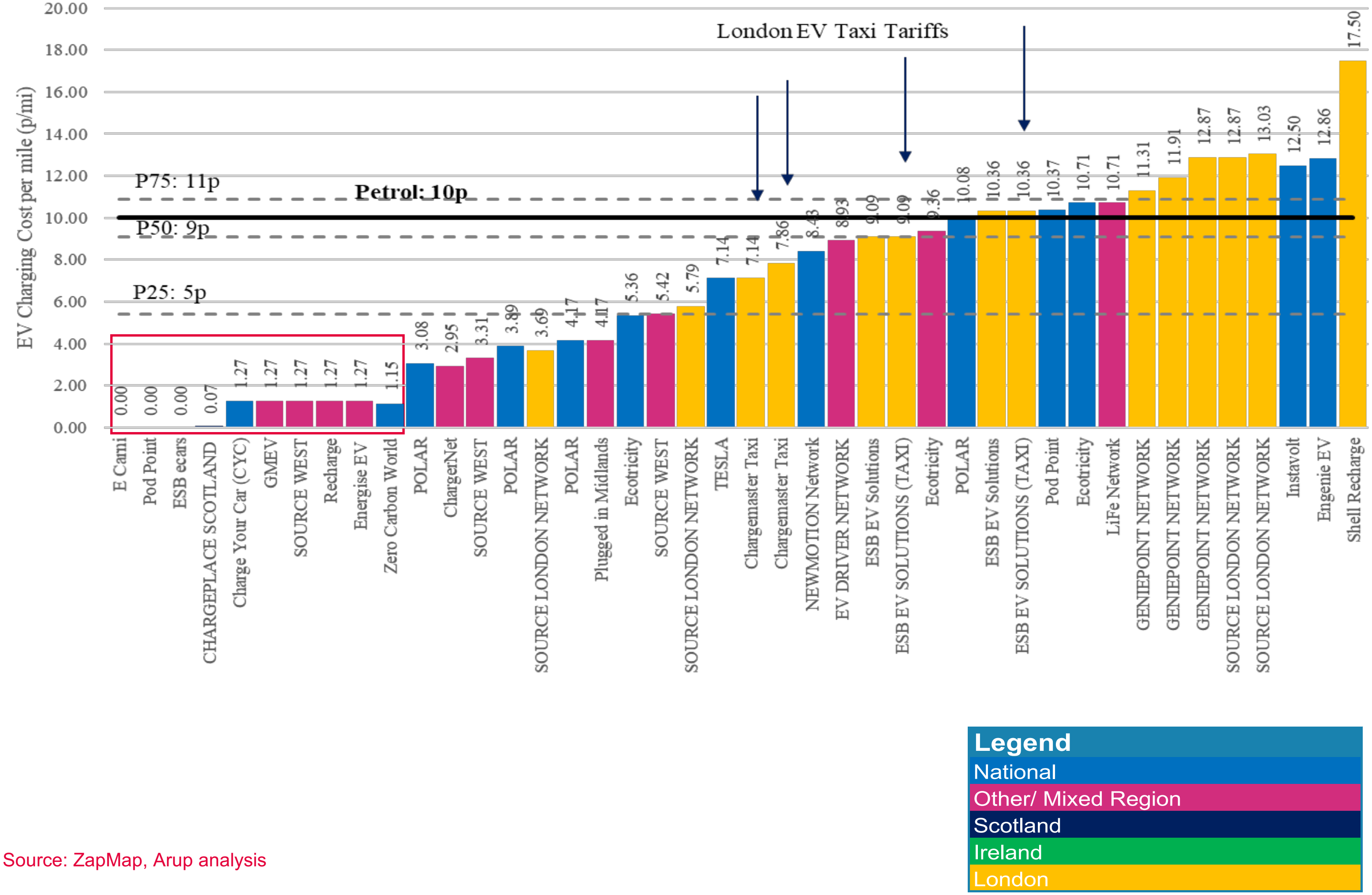
EV Charging Tariffs



Source: ZapMap, Arup analysis

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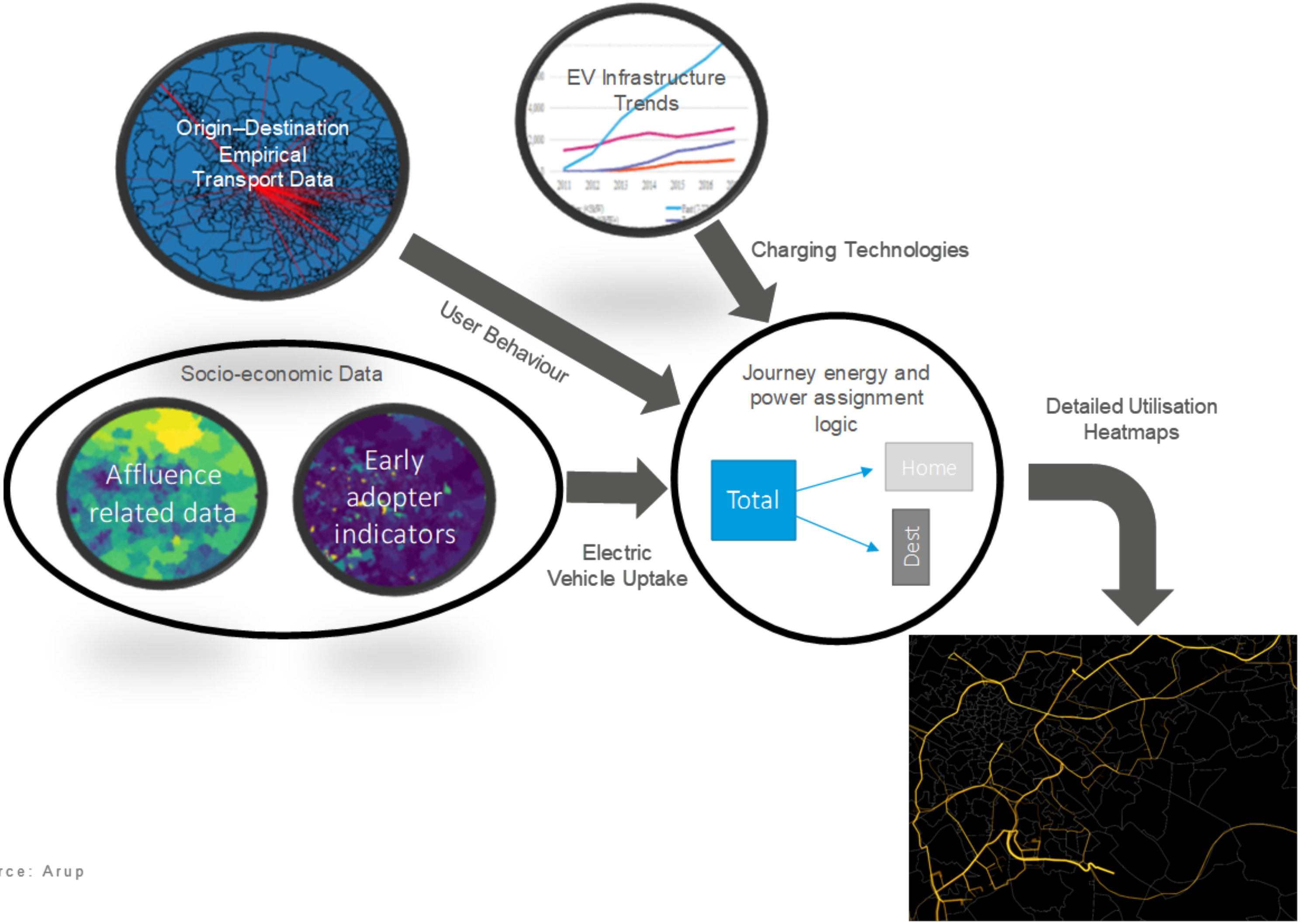
EV Charging Modelling

EV Power System Impact Model



Source: Arup

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