

Who uses the M25?

Let's talk about the M25...

A 117 mile orbital motorway around London formed out of components of Ringways 3 & 4

Originally designed to enable car-led mobility and relieve London traffic

At the worst of times, known as Britain's largest car park

At the best of times, known as Britain's greatest inter-connector road, the closest to orbit we've managed

What is the role of the M25 now? Who does it serve?



TomTom OD Analysis Tool

About the Data:

- In-dash, On-dash, Mobile Navigation
- Passenger cars inc taxis
- Anonymous GPS traces map-matched

Data from Monday to Friday, November 2019

Time periods:

- All Day
- AM Peak (0700-1000)
- Inter Peak (1000-1600)
- PM Peak (1600-1900)

Captured 52.4m trips (circa 2.5m per day)

The screenshot displays the TomTom OD Analysis Tool interface. It features a central panel with various filters and two side maps. The left map shows a section of the M3 motorway with junctions J12 to J16 labeled. The right map shows a section of the M2 motorway with junctions J29 and J30 labeled. The central panel includes the following sections:

- Date ranges:** Selected 1/4. Range: 01/11/2019 — 30/11/2019. Includes a '+ ADD' button.
- Time Ranges:** Selected 4/4. Options: 07:00 — 10:00, 10:00 — 16:00, 16:00 — 19:00, All day.
- Time zone:** Europe/London (dropdown menu).
- Time condition:** Trips start in selected time range (dropdown menu).
- Days:** Monday, Tuesday, Wednesday (all checked).

At the bottom, it states: Estimated analysis time: 21 minutes.

Summary Results

Total sample: 47.5m

Trips using the M25 make up 9.3% of all trips we observe (4.4m)

Confirmatory:

The majority of trips are internal trips within London

Equal in-out/out-in movements over the day gives us confidence in the data

Surprising:

Around 1% of intra-London (43m) trips use the M25, composing 12% of all trips on the M25

14% of trips have no relationship with London and are just using the M25 for moving between key arterial roads

All trips (all day)

		To	
		In	Out
From	In	43.3m 91%	1.7m 4%
	Out	1.7m 4%	0.8m 2%

Via M25 (all day)

		To	
		In	Out
From	In	0.5m 12%	1.6m 37%
	Out	1.6m 37%	0.6m 14%

Who uses the M25?

Confirmatory:

The majority of trips on the M25 are travelling to or from London (74%)

Surprising:

AM peak inbound and PM peak outbound tidality not as extreme as expected (perhaps explained by exclusion of other modes)

		Via M25 (all day)	
		To In	To Out
From	In	0.5m 12%	1.6m 37%
	Out	1.6m 37%	0.6m 14%

Via M25 (AM PK)

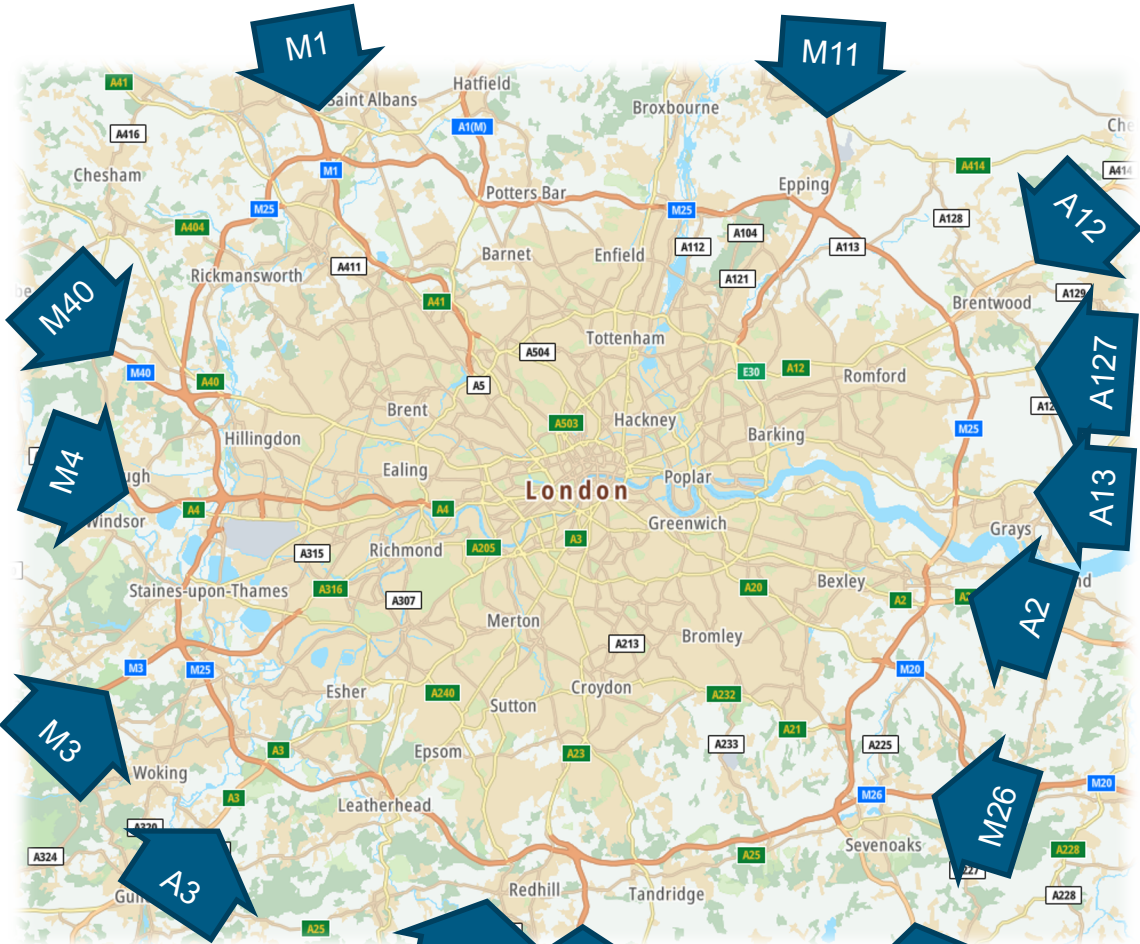
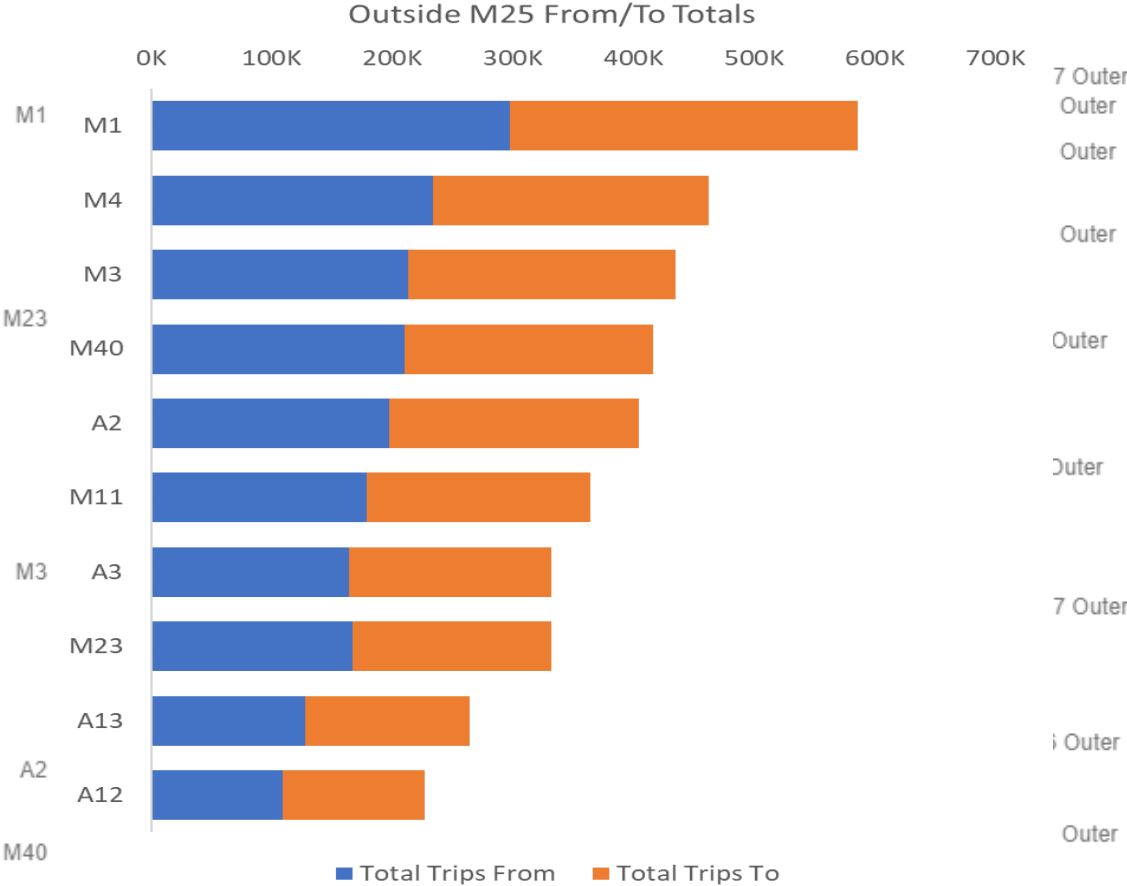
		To	
		In	Out
From	In	13%	33%
	Out	40%	15%

Via M25 (PM PK)

		To	
		In	Out
From	In	11%	43%
	Out	35%	12%



Strategic trips around the M25



*Excludes OD pairs with fewer than 0.5% of all trips
*Excludes OD pairs with fewer than 1% of all trips

Temporal use of M25

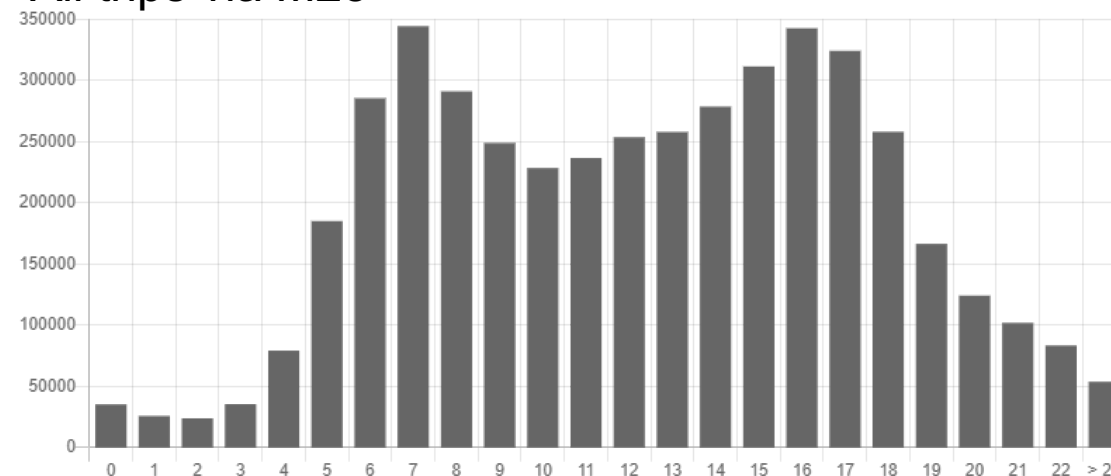
The typical double peak demand profile is seen for all trips on the M25

The demand is busy earlier (5am) than other sections of the SRN

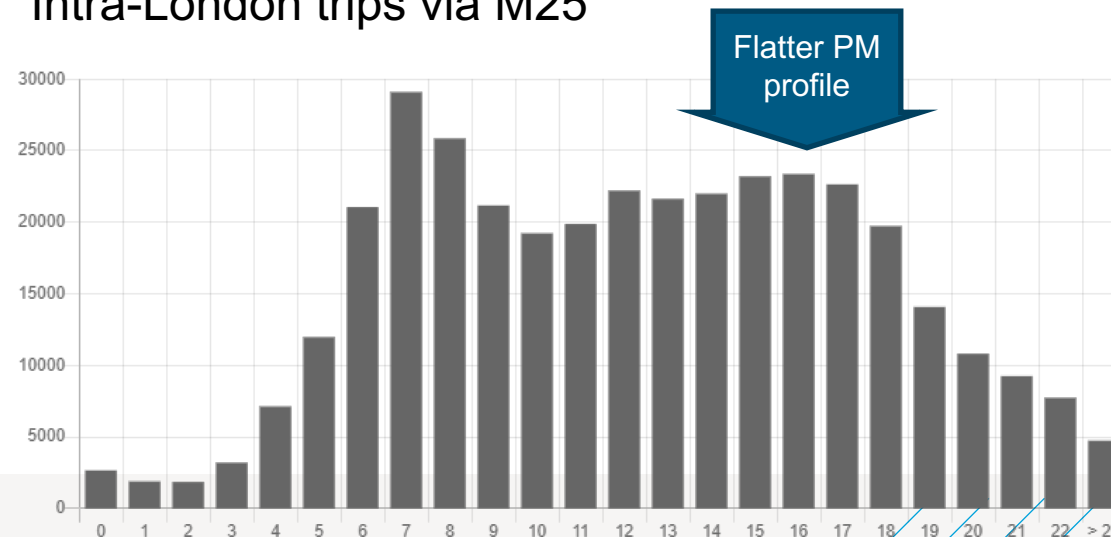
Intra-London trips on the M25 do not show the PM peak. Speculating why this is, perhaps:

- As these are shorter distance trips they are more likely to return early or stay late in London?
- The trips are not just commuting trips but include things such as education?

All trips via M25



Intra-London trips via M25



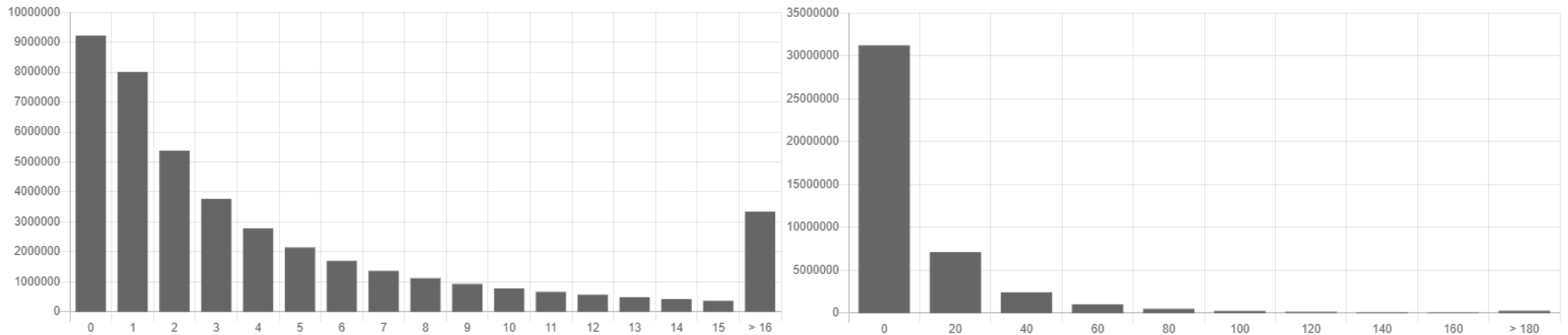
Trip length & duration distributions: Intra-London

Intra-London Trips

Vast majority of trips are short distance <5km with duration <20 minutes.

Surprising number of trips with distance >16km (3.3m).

Of those intra-London trips using the M25, >10% are >16km.

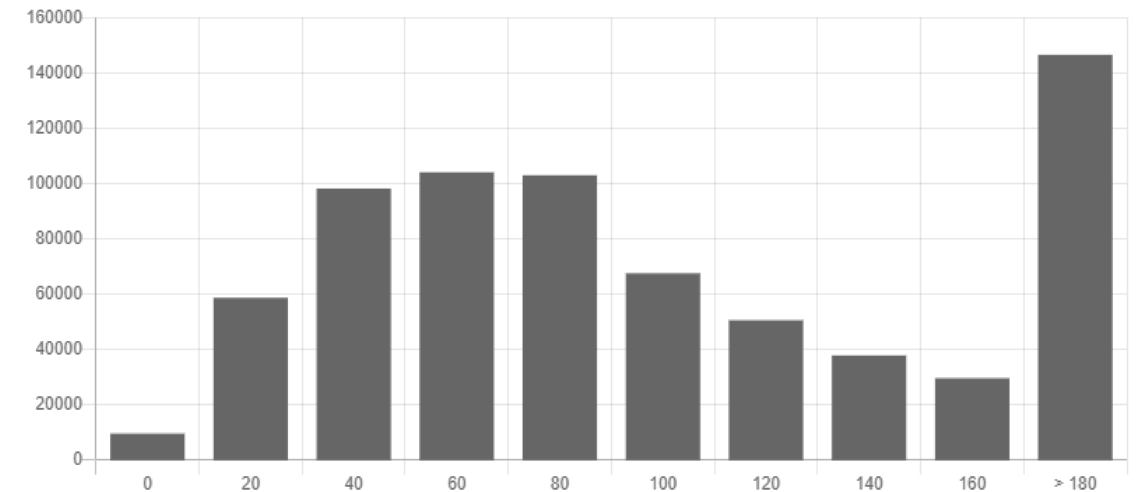
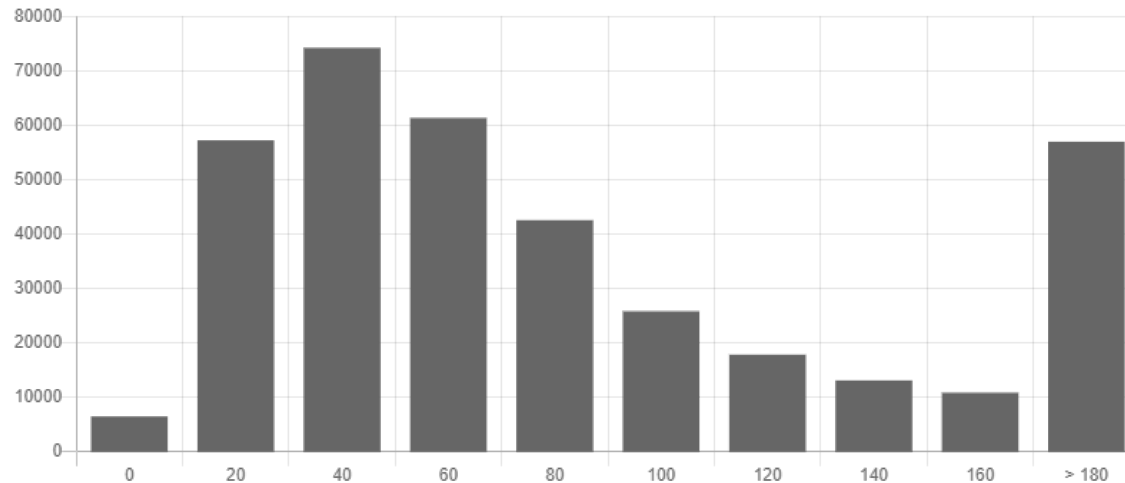


Trip length & duration distributions: Strategic

Strategic Trips

Note the over 180min trips are much lower in the PM peak. Unsurprising these longer trips are not taking place later in the day.

Surprising number of trips with duration >3 hours



So, who does the M25 serve?

A very small proportion of intra-London trips use the M25 (0.8%), although temporal distribution suggests a wide range of trip purposes.

Use of M25 for inbound and outbound commuting still significant (37%), across a range of ODs and throughout the day.

Majority of traffic on M25 (88%) are strategic movements and commuters avoiding London.

Fully observed, high volume GPS-based OD data particularly useful for model development and/or validation. Few alternative sources.

Next steps:

Further analysis, validation and interpretation of the results.

Additional research funding sought (M25 stakeholders & Combined Authorities, Heathrow)



Thank you

Questions

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