



# TLRN Performance Report

## Quarter 2 2016/17

MAYOR OF LONDON



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### Note: corrected data

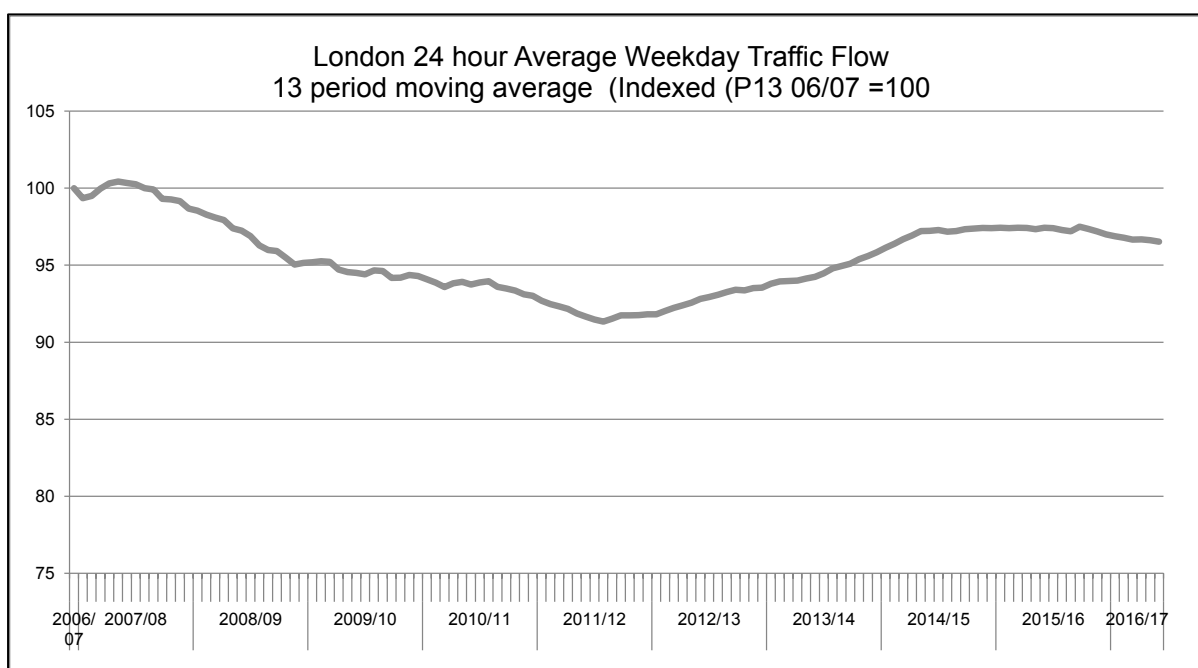
Following publication of the Q1 2016/17 TLRN Performance Report an error was detected in the table of Journey Time Reliability (JTR) values of the main TLRN corridors (page 10). This error also affected the chart of unplanned incidents and events on the TLRN (page 16). This has now been corrected and a revised copy of the Q1 Report has been published on the TfL website.

## Summary of network performance for Q2 2016/17

### Traffic volumes

After a period of relative stability during the past year, Q2 2016/17 saw a 0.6 index point (0.6%) decrease in the volume of traffic on London's major roads compared to last year, and a 0.7 index point (0.8%) decrease compared to two years ago in 2014/15. Taking a longer term view, the Q2 2016/17 figures are a 2.0 index point (2.1%) increase from Q2 2012/13.

These figures are illustrated in the graph below, which shows that during the period of economic recovery from late 2012 to the start of 2014 we saw steep growth in traffic volumes, then from 2014 traffic flows were fairly static for close to two years, with a small decline starting at the end 2015/16 stretching into Q2 2016/17.



### Traffic speeds and journey time reliability

A significant volume of construction work continues to take place across the capital to accommodate London's exceptional economic and population growth. It is expected by 2030 there will be an extra five million trips a day on the roads, on top of the 30 million trips already taking place daily. Developers, TfL, the London boroughs and utility companies are therefore building additional homes, shops, public places and infrastructure to cater for this future demand.

So while the rate of traffic growth in London is significantly slowing, the overall performance of the road network continues to be affected by this construction activity - such as ongoing major redevelopment at Victoria and Nine Elms, and completion and bedding in of major road schemes such as the new Cycle Superhighways.

Major construction and roadworks often require significant traffic management such as temporary and re-phased traffic signals and traffic lane reductions. This has been a large factor in a slight reduction in London-wide traffic speeds (during the observed hours of 07:00 to 19:00) - speeds decreased by 0.1 mph (1%) to 17.4 mph when compared to Q2 2015/16.

Journey Time Reliability (JTR) was forecast to be impacted by these planned works, as well as by unplanned incidents and what was anticipated to be an increase in traffic flows. However, JTR performance on the TLRN in Q2 2016/17 was 88.9%, a strong performance which is 0.3% above the target, and is 0.7 percentage points higher than this time last year.

### Unplanned incidents

There were two significant incidents during Q2 which particularly impacted overall network performance.

The QEII Bridge (M25 Dartford crossing) was closed on 17 August following a collision. This increased demand for the Blackwall Tunnel and Woolwich Ferry, as well as delays on the A12, A13 and A406. Traffic signal timing strategies were used to maximise capacity on alternative routes and keep the roads moving.

A post-heatwave storm on 26 September caused flooding and disruption on a number of major roads including the M25, M4 and M40, as well as the railways. This caused extra demand on London's road networks which led to widespread delay. Again, traffic signal timing strategies were used to maximise capacity on alternative routes and keep the roads moving.

### Other comments

In Q2 2016/17 there were 640 hours of serious and severe disruption resulting from unplanned and planned events. This is a decrease of 180 hours (22%) from Q2 2015/16, attributable mainly to reduced disruption from planned events (including roadworks). Also, the amount of disruption per event (a measure of the effectiveness of the resolution of unplanned incidents) was 1.8 hours in Q2 2016/17, compared to 2.0 hours in Q2 2015/16.

Overall TLRN customer satisfaction in Q2 2016/17 stands at 71. This is the highest score in the last 18 months, up from 69 in Q1 2016/17, and up from 70 this time last year.

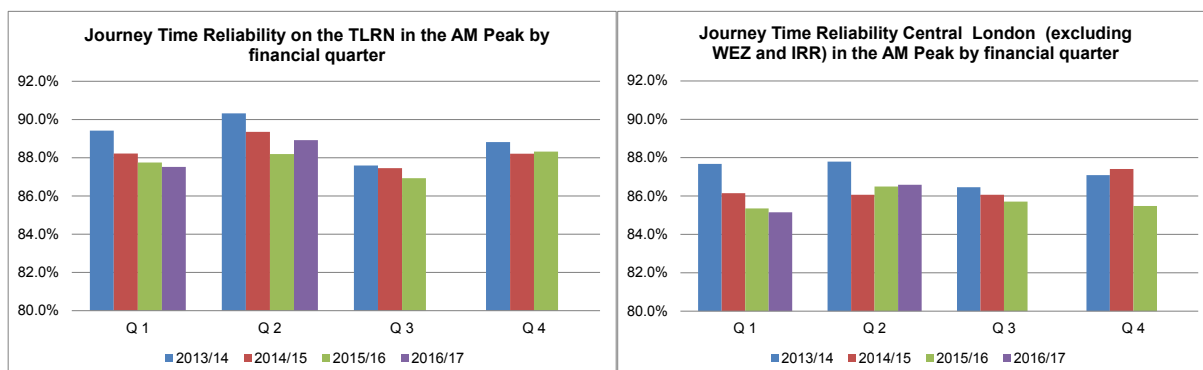
We have seen a further improvement in the number of killed or seriously injured (KSI) collisions. KSIs on the TLRN have decreased by 39.6% compared to the 2005-2009 baseline.

Overall, the average total cycling kilometres travelled per kilometre of TLRN per day within central London for Q1 2016/17\* was 1,287. This represents a 31% increase compared to the 2013/14 baseline, and a 0.3% decrease compared to the same quarter last year.

\* Note that the central London cycle metric is recorded one quarter in arrears.

## 1. Reliability

The key measure in the Mayor’s Transport Strategy for monitoring traffic performance is Journey Time Reliability (JTR). JTR is defined as the percentage of journeys completed within an allowable excess of 5 minutes for a standard 30 minute journey during the AM peak (07:00 to 10:00). Journey times for this purpose are recorded using Automatic Number Plate Recognition (ANPR) camera across the Transport for London Road Network (TLRN). The graphs below show quarterly between 2013/14 and 2016/17 on the TLRN and in central London.



JTR on the TLRN in the AM peak in all directions for Q2 2016/17 was 88.9%, this is 0.7 percentage points higher than the same quarter in 2015/16 and 0.3% above the target (88.7%) for Q2 2016/17. The Q2 2016/17 JTR for Central London (excluding WEZ and the Inner Ring Road) in the AM peak was 86.6%; this is 0.1 percentage points higher than the same quarter in 2015/16.

Average 24-hour weekday traffic flows across London decreased 0.6% compared to the same quarter last year.

While the rate of traffic growth in London is significantly slowing, the overall performance of the road network continues to be affected by construction activity such as ongoing major redevelopment at Lewisham Gateway, Victoria and Nine Elms; and completion and bedding in of major road schemes such as the new Cycle Superhighways.

Across Q2, a number of planned works and incidents impacted JTR results compared to the previous year:

### Period 4

Overall TLRN JTR was 87.7%, 0.6 percentage points above target (meaning it was 1.0 points above the same period last year), and 0.3 points above the previous period. All areas were above target, except for central London which was down 1.0 percentage points against target.

Heading northbound, Bishopsgate and Farringdon were down 4.3 and 5.2 percentage points respectively against target. Delays of up to 50 and 45 minutes were experienced on Bishopsgate due to an incident on Thursday 28th June and a bus fire on Wednesday 6th July. In both instances revised signal timings were introduced to assist available alternative routes.

Farringdon experienced delays along Blackfriars Road of 10-30 minutes during the first three weeks of the period. This was a result of the permanent change in road capacity, which is expected to settle as traffic signal strategies are refined.

Overall the worst day for JTR was Tuesday 12 July which - although not particularly severe - saw the following delays:

- 45 minutes clockwise and 25 minutes anticlockwise on the A406 South Chingford due to a collision. To mitigate, traffic signal strategies were set to create additional capacity on A12, A1400 and at Redbridge Roundabout
- 30 minutes on the Western Cross Route, Cheyne Walk westbound due to ongoing gas works along King's Road. To mitigate, signal timings have been reset at 15 junctions on the signed diversion route
- 15 minutes clockwise on the A406 approaching Henley's Corner
- 15 minutes on several links around Waterloo

There were collisions causing 45 minutes or more of delay on the A2 on Thursday 7 July, the A13 on Thursday 21 July, and the A41 on Friday 22 July. The A13 incident caused delays of an hour at Limehouse Link tunnel with knock-on delays on the A11.

Traffic speeds were down slightly pan-London and in central London, but up on central London TLRN corridors (1.2 mph in the AM and 0.6 mph 7am-7pm).

## Period 5

Overall TLRN JTR was 90.7%, 0.1 percentage points below target (meaning it was 0.3 points above the same period last year), and 3.0 points above the previous period due to lower demand at this time of year.

The North area was up 2.8 percentage points. This was driven in large part by good performance on the A406, particularly anticlockwise, where JTR reached 91.8%, its best ever performance and 6.8 percentage points above target.

The North's higher JTR was offset by reductions in the West and East areas (1.3 and 2.2 percentage points respectively). JTR inbound on the main dual carriageways was the primary cause (the A40, A4 and A316 in the west; and A12 and A13 in the east).

The worst day for JTR was on Wednesday 17 August. This was principally related to higher demand on the Blackwall Tunnel and Woolwich Ferry causing delays on the A12, A13

inbound and A406, due to the closure of the QEII Bridge (M25 Dartford crossing) following a collision. This is estimated to have accounted for a reduction of around 0.4 percentage points for the period's JTR.

In the second week of P5 there were delays of over an hour on the Inner Ring Road at Victoria due to construction activity on Monday 1 August; and delays of an hour on the A2 at New Cross due to a collision on Thursday 4 August. Despite these incidents, this week was the best performing of the period, due to very strong performance in the North area. The only other delay of over an hour was on the A13 Alfred's Way following a collision on Friday 19 August.

Pan-London traffic speeds were marginally higher in the AM peak and marginally lower 07:00 to 19:00. Speeds were down in central London, although up on central area corridors.

### Period 6

Overall TLRN JTR was 88.4%, 0.4 percentage points above target (meaning it was 0.9 points above the same period last year), and 2.3 points below the previous period (due to the summer holidays finishing).

There were no major positive or negative changes at either an area or corridor level (within  $\pm 1\%$  and  $\pm 5\%$  respectively). The North, East and South areas were up, while the West and Central areas were down.

There was again good performance on the A406 anti-clockwise (3.0 percentage points above target), partially offset by deterioration clockwise (1.8 percentage points below target). The A1, A13, A20, A24 and Blackwall Tunnel (southbound) showed good improvements following the completion of major scheme works at Lewisham Gateway and completion of JTR and bus-focused traffic signal timing reviews. The A4 deteriorated by just over 2% in both directions in part affected by the event below in addition to ongoing lane restrictions for works on Knightsbridge.

The worst day for JTR was on Friday 16 September, the final weekday of the period; this was associated with the post-heat wave storm causing flooding and disruption, not so much on TfL's network, as elsewhere (M25, M4, M40; railways) causing extra demand on the TLRN. It led to widespread moderate delay. The impact is estimated to have affected period JTR by between 0.5 - 0.7 percentage points.

There continued to be significant delays in central London, particularly the southern parts in the second half of the period. Signal timings continue to be fine-tuned to minimise the impact of the eastbound closure of Tooley Street at London Bridge and the Bishopsgate corridor.

Elsewhere there were few very disruptive events, with the worst being collisions in the final week, causing delays of 50 minutes on the A13 inbound on Monday 12 September and 50 minutes on the A312 southbound on Thursday 15 September.

Pan-London speeds were modestly higher in both the AM peak (+0.6 mph) and 07:00 to 19:00 (+0.3 mph). Speeds were down 0.3 mph in central London and up 0.3 mph on Central area corridors (in both the AM peak and 07:00 to 19:00 in both cases).



## Journey Time Reliability (JTR) on the TLRN

The JTR values on each of the main radial routes on the TLRN in the AM and PM peaks in both directions are:

| AM Peak    |          | Inbound    |            |            |            |            |            | Outbound   |            |            |            |            |            |
|------------|----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Route Type | Corridor | 2015/16 Q1 | 2015/16 Q2 | 2015/16 Q3 | 2015/16 Q4 | 2016/17 Q1 | 2016/17 Q2 | 2015/16 Q1 | 2015/16 Q2 | 2015/16 Q3 | 2015/16 Q4 | 2016/17 Q1 | 2016/17 Q2 |
| Radial     | A4       | 89.4%      | 88.3%      | 87.0%      | 88.6%      | 85.6%      | 87.9%      | 94.0%      | 92.2%      | 90.5%      | 92.9%      | 91.0%      | 91.6%      |
| Radial     | A40      | 81.7%      | 79.7%      | 79.5%      | 81.2%      | 80.7%      | 80.4%      | 91.4%      | 93.9%      | 94.2%      | 95.4%      | 93.4%      | 94.3%      |
| Radial     | A41      | 85.3%      | 84.9%      | 83.8%      | 87.0%      | 87.1%      | 87.7%      | 91.0%      | 91.6%      | 88.5%      | 88.1%      | 89.6%      | 90.2%      |
| Radial     | A1       | 80.0%      | 82.0%      | 82.7%      | 83.5%      | 83.8%      | 83.4%      | 88.8%      | 89.0%      | 87.0%      | 86.7%      | 90.4%      | 91.1%      |
| Radial     | A10      | 84.5%      | 85.9%      | 83.4%      | 84.0%      | 83.9%      | 87.0%      | 90.0%      | 89.8%      | 87.0%      | 88.1%      | 88.8%      | 90.4%      |
| Radial     | A12      | 84.6%      | 88.1%      | 83.4%      | 86.5%      | 85.0%      | 87.7%      | 94.2%      | 95.6%      | 96.6%      | 96.2%      | 95.5%      | 96.2%      |
| Radial     | A13      | 79.2%      | 80.9%      | 75.5%      | 84.0%      | 82.3%      | 82.1%      | 98.2%      | 98.2%      | 98.1%      | 97.6%      | 98.1%      | 98.5%      |
| Radial     | A2       | 81.2%      | 84.0%      | 81.2%      | 84.1%      | 86.5%      | 86.1%      | 96.6%      | 96.2%      | 95.6%      | 96.3%      | 96.5%      | 96.3%      |
| Radial     | A20      | 85.4%      | 83.9%      | 77.8%      | 81.1%      | 77.9%      | 83.1%      | 91.0%      | 91.2%      | 91.4%      | 90.8%      | 91.1%      | 91.8%      |
| Radial     | A21      | 88.0%      | 92.0%      | 86.1%      | 85.8%      | 86.5%      | 91.8%      | 91.7%      | 96.4%      | 93.9%      | 93.9%      | 93.5%      | 96.7%      |
| Radial     | A23      | 84.7%      | 88.3%      | 85.5%      | 87.2%      | 85.0%      | 87.8%      | 89.3%      | 91.1%      | 87.8%      | 88.9%      | 87.1%      | 89.6%      |
| Radial     | A24      | 83.2%      | 86.2%      | 80.4%      | 84.9%      | 86.0%      | 89.5%      | 91.9%      | 90.4%      | 90.4%      | 92.3%      | 91.5%      | 93.2%      |
| Radial     | A3       | 86.5%      | 91.2%      | 89.5%      | 90.4%      | 89.6%      | 91.7%      | 94.5%      | 92.3%      | 90.0%      | 92.9%      | 90.6%      | 93.2%      |
| Radial     | A316     | 87.6%      | 92.2%      | 86.2%      | 88.9%      | 84.1%      | 91.3%      | 96.1%      | 95.1%      | 96.3%      | 95.5%      | 92.7%      | 96.6%      |

| PM Peak    |          | Inbound    |            |            |            |            |            | Outbound   |            |            |            |            |            |
|------------|----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Route Type | Corridor | 2015/16 Q1 | 2015/16 Q2 | 2015/16 Q3 | 2015/16 Q4 | 2016/17 Q1 | 2016/17 Q2 | 2015/16 Q1 | 2015/16 Q2 | 2015/16 Q3 | 2015/16 Q4 | 2016/17 Q1 | 2016/17 Q2 |
| Radial     | A4       | 87.7%      | 89.6%      | 87.3%      | 86.8%      | 85.4%      | 87.2%      | 79.7%      | 79.5%      | 81.1%      | 81.3%      | 78.8%      | 80.5%      |
| Radial     | A40      | 83.8%      | 84.2%      | 82.7%      | 85.5%      | 82.3%      | 82.7%      | 84.0%      | 82.2%      | 80.5%      | 79.4%      | 80.8%      | 81.9%      |
| Radial     | A41      | 90.7%      | 91.4%      | 87.9%      | 91.9%      | 90.3%      | 93.1%      | 83.0%      | 83.3%      | 80.2%      | 82.9%      | 81.4%      | 84.5%      |
| Radial     | A1       | 84.8%      | 85.1%      | 86.4%      | 86.3%      | 88.7%      | 89.9%      | 83.4%      | 82.7%      | 80.4%      | 81.9%      | 84.2%      | 85.7%      |
| Radial     | A10      | 87.2%      | 89.5%      | 86.1%      | 87.0%      | 87.5%      | 89.7%      | 79.2%      | 79.5%      | 77.3%      | 79.2%      | 78.3%      | 80.9%      |
| Radial     | A12      | 86.6%      | 87.7%      | 87.7%      | 88.8%      | 86.5%      | 86.8%      | 83.6%      | 82.9%      | 83.9%      | 84.6%      | 83.8%      | 85.0%      |
| Radial     | A13      | 90.2%      | 90.6%      | 87.8%      | 89.5%      | 85.7%      | 92.0%      | 83.3%      | 83.4%      | 82.9%      | 81.8%      | 80.9%      | 82.0%      |
| Radial     | A2       | 90.1%      | 90.7%      | 90.9%      | 91.2%      | 92.3%      | 93.7%      | 81.3%      | 81.0%      | 81.4%      | 81.3%      | 82.4%      | 84.3%      |
| Radial     | A20      | 90.7%      | 85.9%      | 85.6%      | 83.0%      | 81.9%      | 83.0%      | 89.5%      | 85.9%      | 82.5%      | 82.5%      | 83.4%      | 83.9%      |
| Radial     | A21      | 92.7%      | 94.7%      | 92.4%      | 93.2%      | 93.7%      | 96.1%      | 89.5%      | 91.3%      | 87.5%      | 88.9%      | 89.8%      | 93.1%      |
| Radial     | A23      | 88.3%      | 89.3%      | 88.8%      | 89.1%      | 89.2%      | 90.3%      | 81.1%      | 81.4%      | 81.7%      | 80.9%      | 81.8%      | 82.3%      |
| Radial     | A24      | 92.0%      | 90.1%      | 88.4%      | 90.7%      | 89.3%      | 90.4%      | 90.1%      | 87.7%      | 85.9%      | 87.5%      | 87.4%      | 89.0%      |
| Radial     | A3       | 93.3%      | 94.7%      | 95.0%      | 94.7%      | 94.3%      | 94.6%      | 88.8%      | 87.0%      | 85.1%      | 88.6%      | 86.5%      | 89.6%      |
| Radial     | A316     | 89.0%      | 92.5%      | 91.0%      | 89.4%      | 90.4%      | 92.5%      | 90.7%      | 91.1%      | 88.2%      | 88.1%      | 92.3%      | 91.0%      |

The JTR values on each of the main orbital routes on the TLRN in the AM and PM peaks in both directions are:

| AM Peak    |                | Anti-clockwise |            |            |            |            |            | Clockwise  |            |            |            |            |            |
|------------|----------------|----------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Route Type | Corridor       | 2015/16 Q1     | 2015/16 Q2 | 2015/16 Q3 | 2015/16 Q4 | 2016/17 Q1 | 2016/17 Q2 | 2015/16 Q1 | 2015/16 Q2 | 2015/16 Q3 | 2015/16 Q4 | 2016/17 Q1 | 2016/17 Q2 |
| Orbital    | A102 B. Tunnel | 79.5%          | 75.6%      | 79.8%      | 80.6%      | 79.8%      | 76.1%      | 96.5%      | 95.9%      | 93.7%      | 93.1%      | 97.4%      | 94.7%      |
| Orbital    | A406           | 86.7%          | 84.0%      | 86.3%      | 86.1%      | 85.1%      | 87.9%      | 85.6%      | 86.6%      | 84.5%      | 87.7%      | 86.0%      | 86.6%      |
| Orbital    | A205           | 86.5%          | 88.7%      | 84.7%      | 84.3%      | 87.0%      | 89.6%      | 82.6%      | 82.8%      | 84.8%      | 83.9%      | 85.2%      | 85.4%      |
| Orbital    | Inner Ring     | 81.8%          | 83.3%      | 83.2%      | 83.7%      | 81.6%      | 82.8%      | 83.4%      | 84.9%      | 85.3%      | 85.6%      | 83.6%      | 85.0%      |
| PM Peak    |                | Anti-clockwise |            |            |            |            |            | Clockwise  |            |            |            |            |            |
| Route Type | Corridor       | 2015/16 Q1     | 2015/16 Q2 | 2015/16 Q3 | 2015/16 Q4 | 2016/17 Q1 | 2016/17 Q2 | 2015/16 Q1 | 2015/16 Q2 | 2015/16 Q3 | 2015/16 Q4 | 2016/17 Q1 | 2016/17 Q2 |
| Orbital    | A102 B. Tunnel | 74.5%          | 71.0%      | 76.6%      | 77.7%      | 72.6%      | 70.1%      | 79.2%      | 81.2%      | 78.5%      | 79.8%      | 80.3%      | 83.8%      |
| Orbital    | A406           | 83.3%          | 83.5%      | 82.9%      | 84.3%      | 82.9%      | 85.1%      | 85.2%      | 82.1%      | 83.2%      | 82.9%      | 80.9%      | 83.1%      |
| Orbital    | A205           | 82.4%          | 84.4%      | 81.7%      | 82.8%      | 82.7%      | 85.9%      | 84.1%      | 86.3%      | 83.6%      | 83.2%      | 85.9%      | 88.0%      |
| Orbital    | Inner Ring     | 78.4%          | 77.8%      | 77.9%      | 79.5%      | 78.4%      | 77.8%      | 79.2%      | 80.5%      | 79.7%      | 81.5%      | 81.1%      | 80.7%      |

The JTR values on the TLRN and in Central London all directions combined in the AM and PM peaks are:

| Central London All Directions | 2015/16 Q1 | 2015/16 Q2 | 2015/16 Q3 | 2015/16 Q4 | 2016/17 Q1 | 2016/17 Q2 |
|-------------------------------|------------|------------|------------|------------|------------|------------|
| AM Peak                       | 85.4%      | 86.5%      | 85.7%      | 85.5%      | 85.2%      | 86.6%      |
| PM Peak                       | 81.5%      | 82.2%      | 80.5%      | 82.3%      | 82.4%      | 84.3%      |

| TLRN All Directions | 2015/16 Q1 | 2015/16 Q2 | 2015/16 Q3 | 2015/16 Q4 | 2016/17 Q1 | 2016/17 Q2 |
|---------------------|------------|------------|------------|------------|------------|------------|
| AM Peak             | 87.7%      | 88.2%      | 86.9%      | 88.3%      | 87.5%      | 88.9%      |
| PM Peak             | 84.9%      | 84.9%      | 84.0%      | 84.8%      | 84.0%      | 85.6%      |

Legend

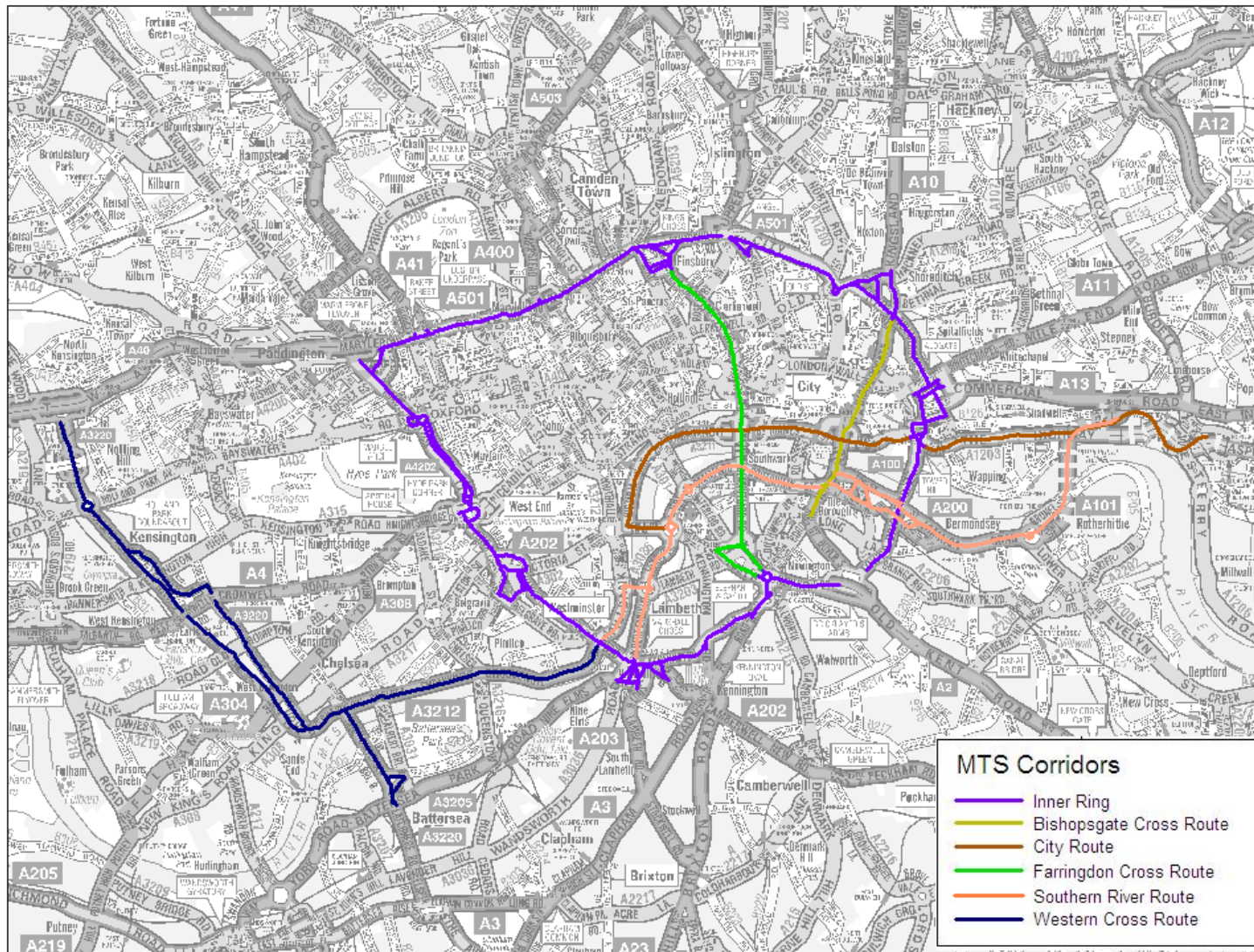
Journey Time Reliability

>=90% More than 9 out of 10 journeys are "on time"

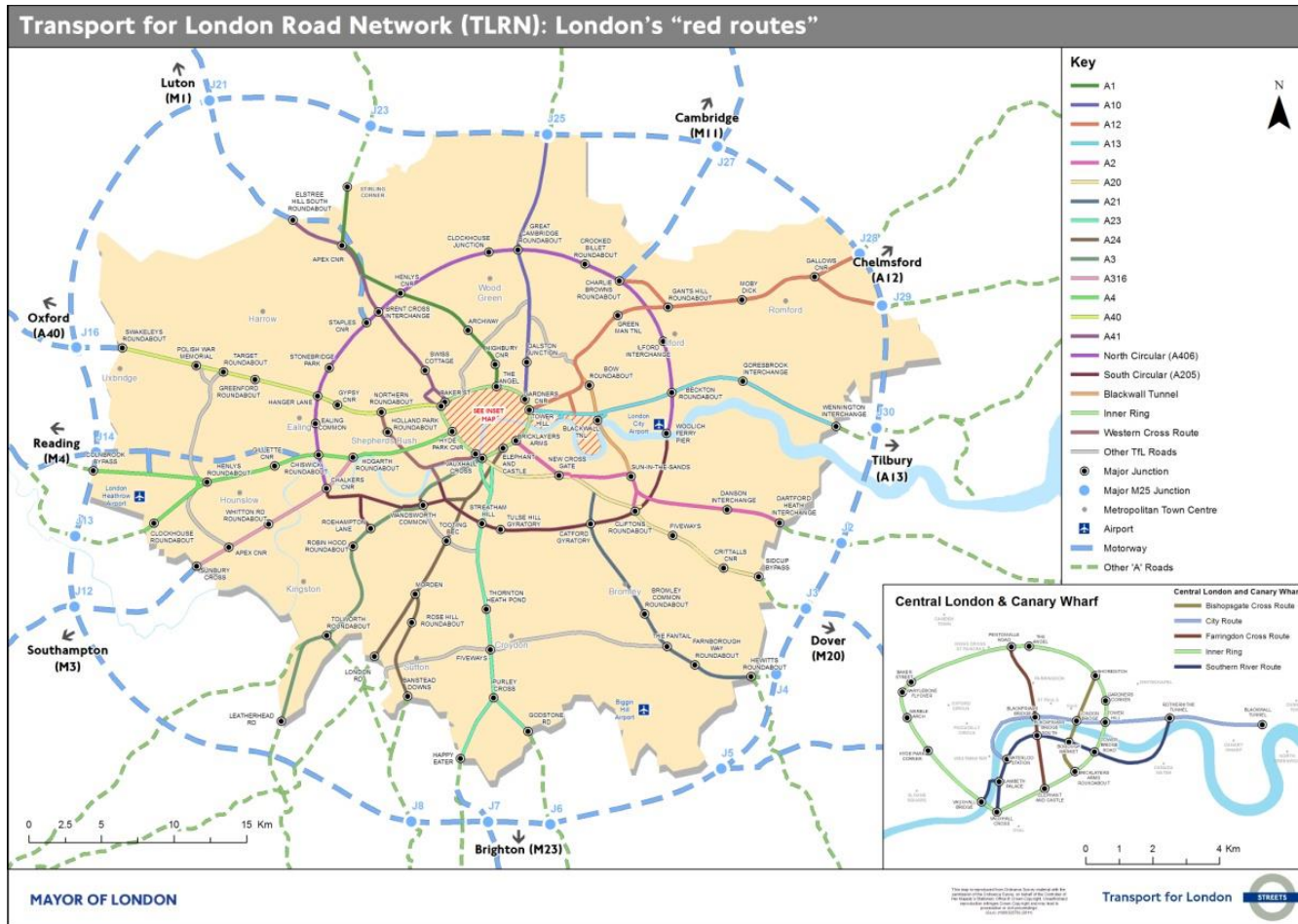
80%-89.9%

<80% Less than 4 out of 5 journeys are "on time"

Map showing the TLRN by MTS corridors in central London



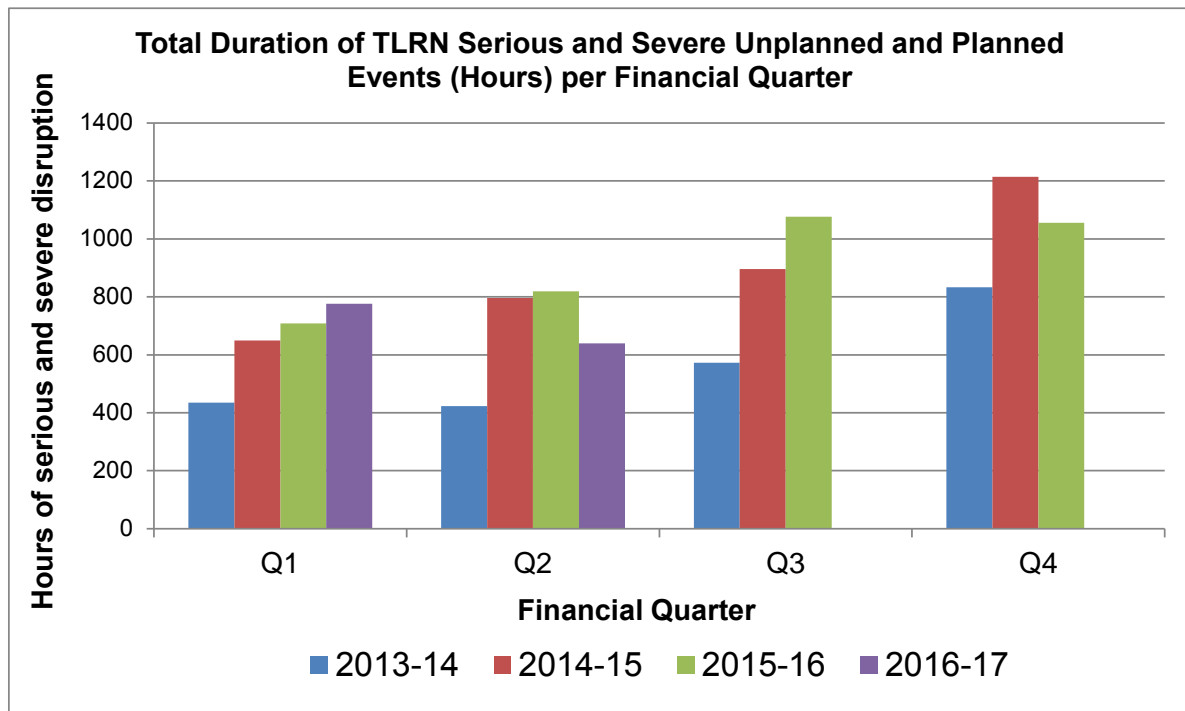
Map showing the TLRN by MTS corridors across London



Note: The named corridors do not exactly replicate the road number in the legend, but reflect the strategic radial and orbital corridors set out in the Mayor's Transport Strategy (e.g. the "A12 corridor" includes the A11 Mile End Road into Central London)

## 2. Network disruption

Serious and severe (S&S) unplanned and planned disruption hours on the TLRN

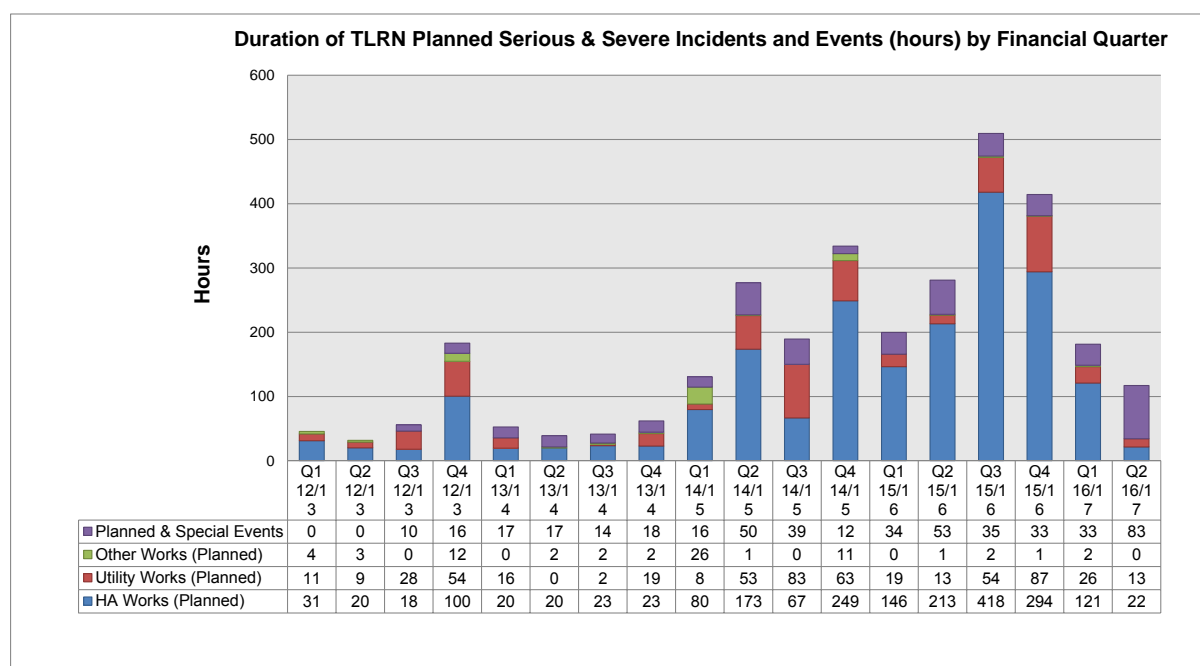


In Q2 2016/17 there were a total of 640 hours of S&S disruption resulting from unplanned and planned events, spread across 316 separate incidents. Planned S&S disruption totalled 117 hours and unplanned S&S disruption totalled 523 hours.

Overall this represents decrease of 180 planned and unplanned hours compared to Q2 2015/16, attributable to a decrease of 164 planned S&S disruption hours and a decrease of 16 unplanned S&S disruption hours.

The amount of S&S disruption per event, a measure of effectiveness of the resolution of unplanned incidents, was 1.8 hours in Q2 2016/17, compared to 2.0 hours per event in Q2 2015/16.

## Planned incidents and events: TLRN <sup>1</sup>

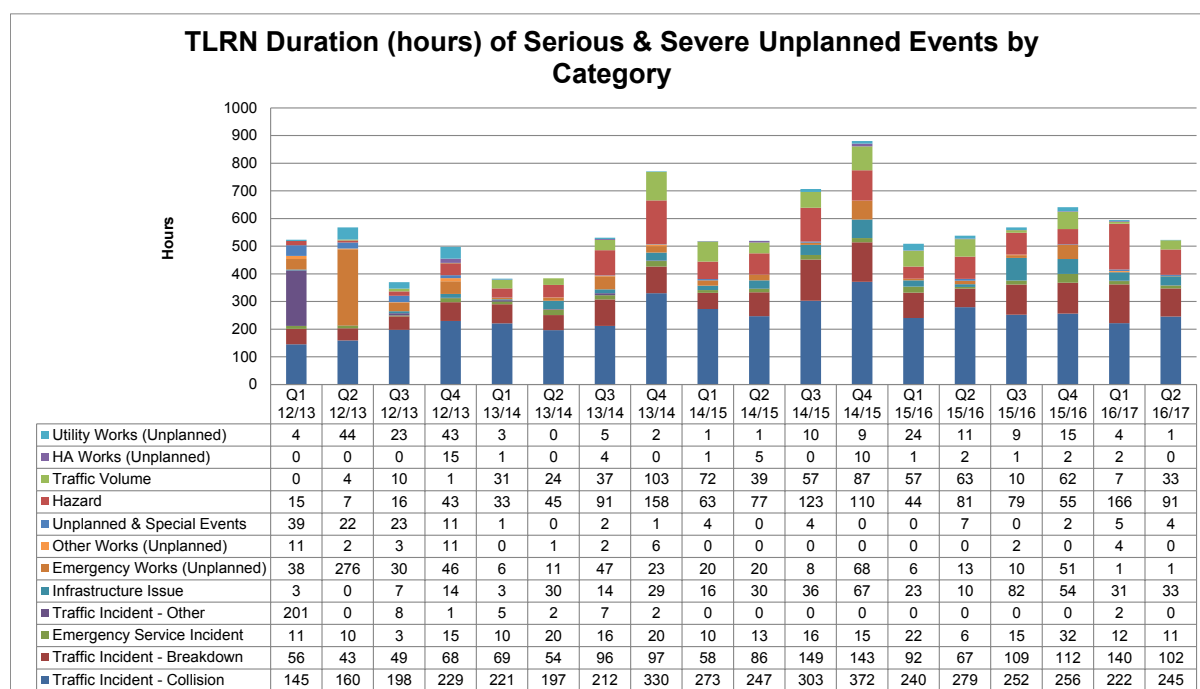


In Q2 2016/17 there were 117 hours of S&S disruption from planned events spread across 29 separate events (an average of 4 hours 2 minutes duration per event). This compared to 281 hours spread across 34 events (an average of 8 hours 16 minutes duration per event) in Q2 2015/16. There were two planned events on the TLRN recording more than 10 hours of serious and severe disruption:

- A crane operation in the Limehouse Link Tunnel accounted for 13.3 hours of serious and severe disruption starting at 23:57 on Friday 8 July 2016 and ending at 22:07 on Sunday 10 July. 13.3 hours.
- Thames Water utility works on Pinkham Way North Circular Road accounted for 11.1 hours of serious and severe disruption starting at 21:00 on Tuesday 19 July 2016 and ending at 04:41 on Thursday 21 July. 11.1 hours.

<sup>1</sup> NB: Data prior to 2013/14 was recorded using LTIS. This was replaced in April 2013 with TIMS. The two systems record incidents and events using different categorisations and are not directly comparable. In the chart above, the LTIS data has been aligned to the new TIMS categories for information only.

## Unplanned incidents and events: TLRN <sup>2</sup>



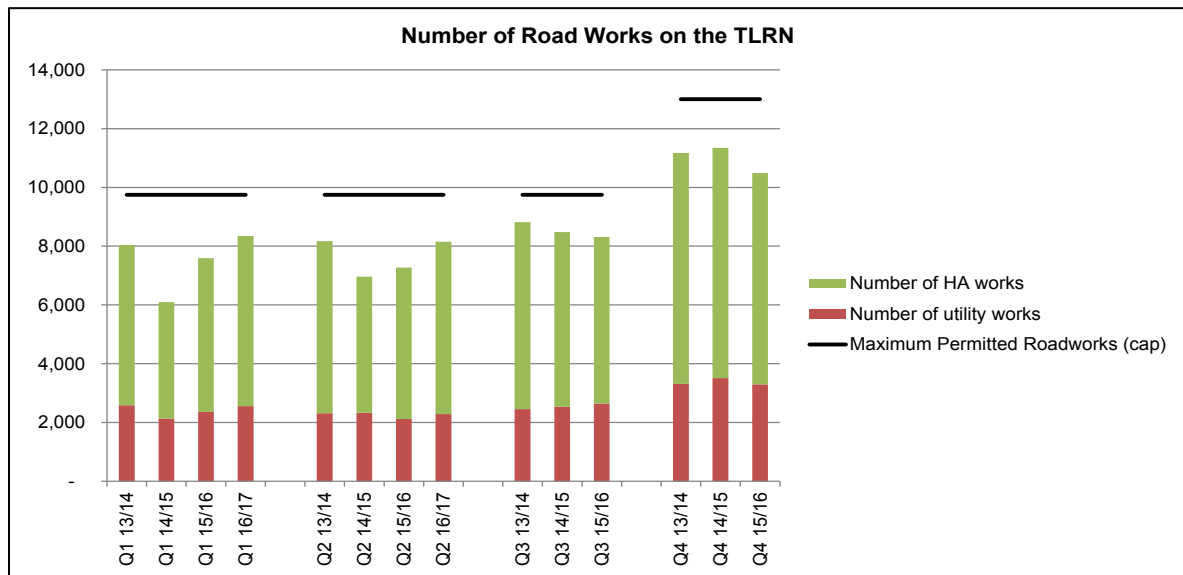
In Q2 2016/17 on the TLRN there were 523 hours of unplanned S&S disruption, spread across 287 separate events (an average of 1 hour 49 minutes duration per event). This compares to 538 hours, spread across 268 events (an average of 2 hours 1 minute duration per event) in Q2 2016/17.

In Q2 2016/17 there were two unplanned incident on the TLRN leading to over 10 hours of serious and severe disruption:

- Starting at 20:31 on Tuesday 28 June 2016 and ending at 20:30 on Sunday 3 July 2016 there was disruption on Pinkham Way North Circular Road due to a burst water main. There were a total of 119.9 hours of disruption, 27.8 hours of which were serious and severe. 27.8 hours.
- Starting at 07:26 on Wednesday 17 August 2016 and ending at 20:07 on Wednesday 17 August 2016 there was disruption on Blackwell Tunnel (Southbound Bore) due to sheer weight of traffic. There were a total of 12.6 hours of disruption, 12.5 hours of which were serious and severe. 12.5 hours.

<sup>2</sup> NB: Data prior to 2013/14 was recorded using LTIS. This was replaced in April 2013 with TIMS. The two systems record incidents and events using different categorisations and are not directly comparable. In the chart above, the LTIS data has been aligned to the new TIMS categories for information only.

### 3. Number of Roadworks on the TLRN



The London Permit Scheme (LoPS) for roadworks was introduced in February 2010. Its purpose is to improve the ability of Highway Authorities to minimise disruption from planned highway works - by requiring works promoters to apply for a permit to work in the highway. A Highway Authority's own works are also included in the scheme.

To manage the cumulative impact of roadworks on the TLRN, the total number of new road works permitted in any one period was capped at 4,170 from the start of 2010/11. This was 20% below the peak level of roadwork activities experienced in 2009/10 (5,212 in period 12 of that year). The cap was then reduced in period 7 of 2011/12 to 3,753 per period.

At the beginning of Q1 2013/14, the maximum permissible total number of roadworks allowed on the TLRN was lowered again to 3,250 per period. This was a reduction of 13.4% from the previous cap. The volume of roadworks on the network stayed below the cap throughout 2014/15.

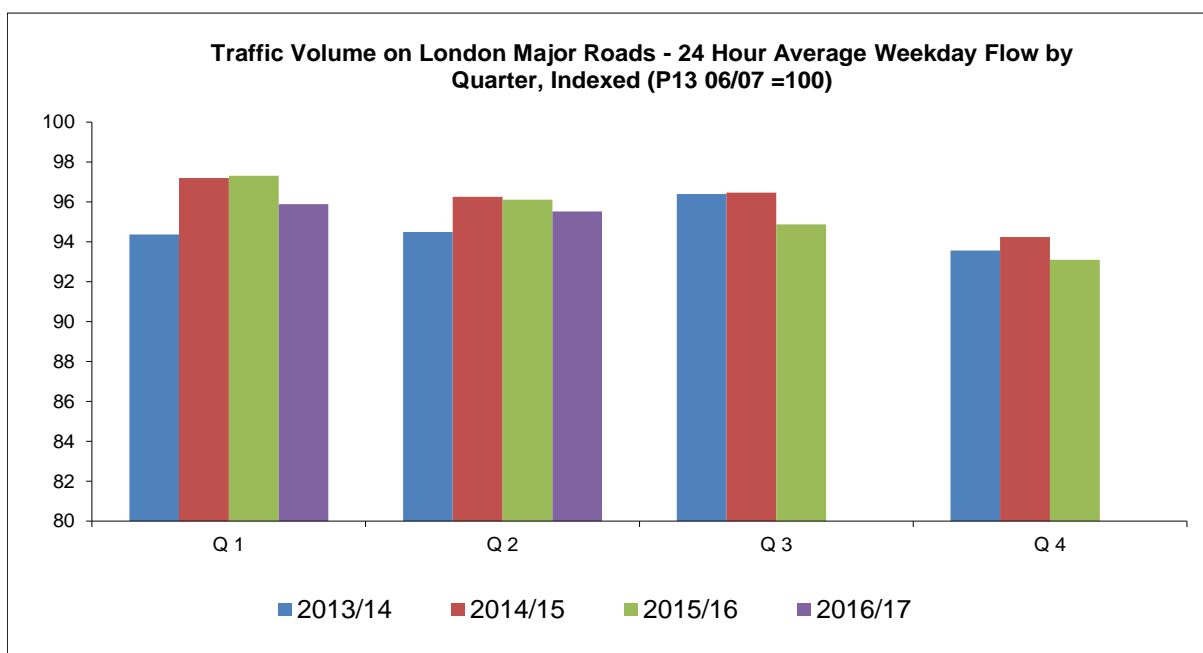
In Q2 2016/17 the total number of roadworks on the TLRN was 8,146 – an increase of 879 (12.1%) on the 7,267 total reported in Q2 of 2015/16, and 16.5% below the allowable cap of 9,750.



## 4. Traffic volumes

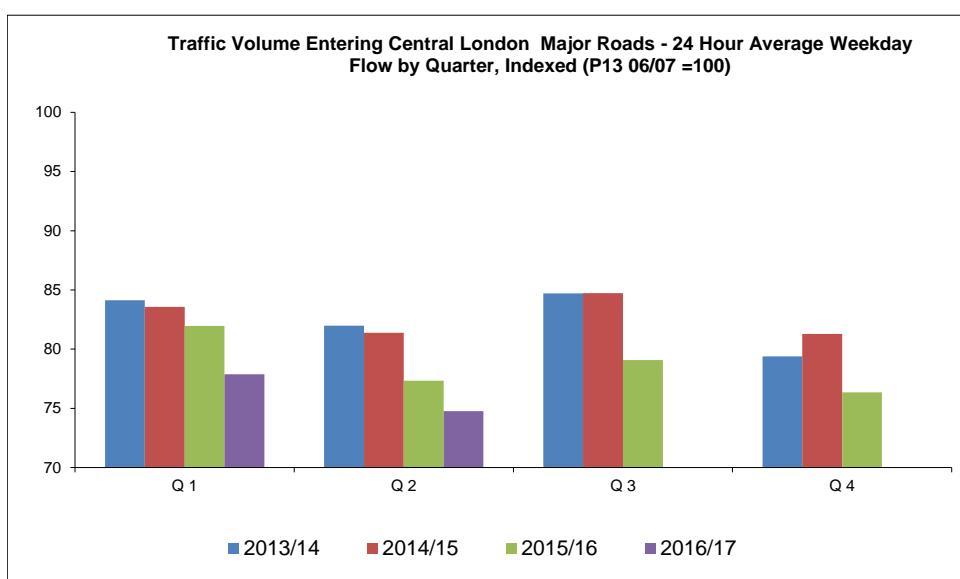
### Vehicular traffic volumes on London's major roads

The pan-London traffic flow index stands at 95.5 in Q2 2016/17. This is 0.6 index points down from the same quarter in 2015/16, and 0.7 index points down from the same quarter in 2014/15. The chart below shows traffic flows relative to an index of 100 in P13 2006/07.



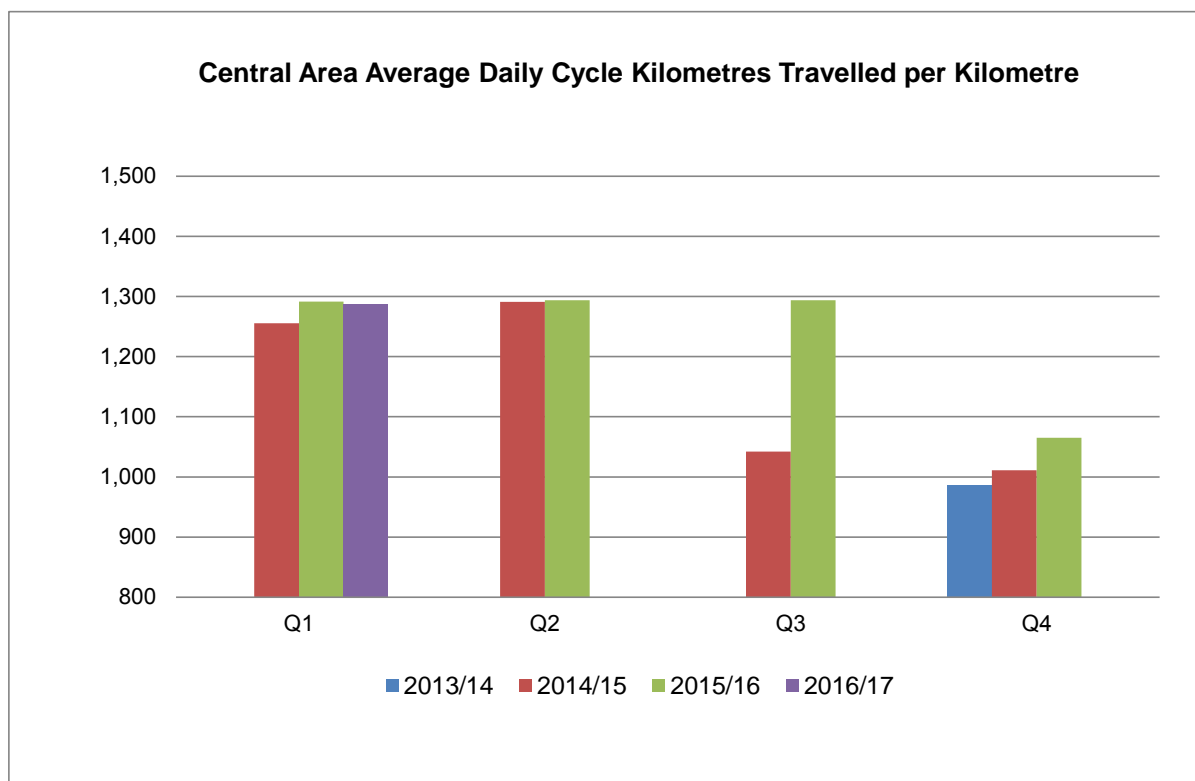
### Vehicular traffic entering central London's major roads

The central London traffic flow index stands at 74.8 in Q2 2016/17. This is 2.6 index points down from the same quarter in 2015/16 and 6.6 index points down from the same quarter in 2014/15. The chart below shows traffic flows relative to an index of 100 in P13 2006/07.



## 5. Cycling levels in central London

The chart below shows cycling levels in central London relative to a baseline established in 2013/14.



Overall, the average total cycle kilometres travelled per kilometre per day within central London across all networks for Q1 2016-17 was 1,287. This represents a 31% increase compared to the baseline in Q4 2013-14 of 986 and a 0.3% decrease compared to 1,291 measured in the same quarter last year.

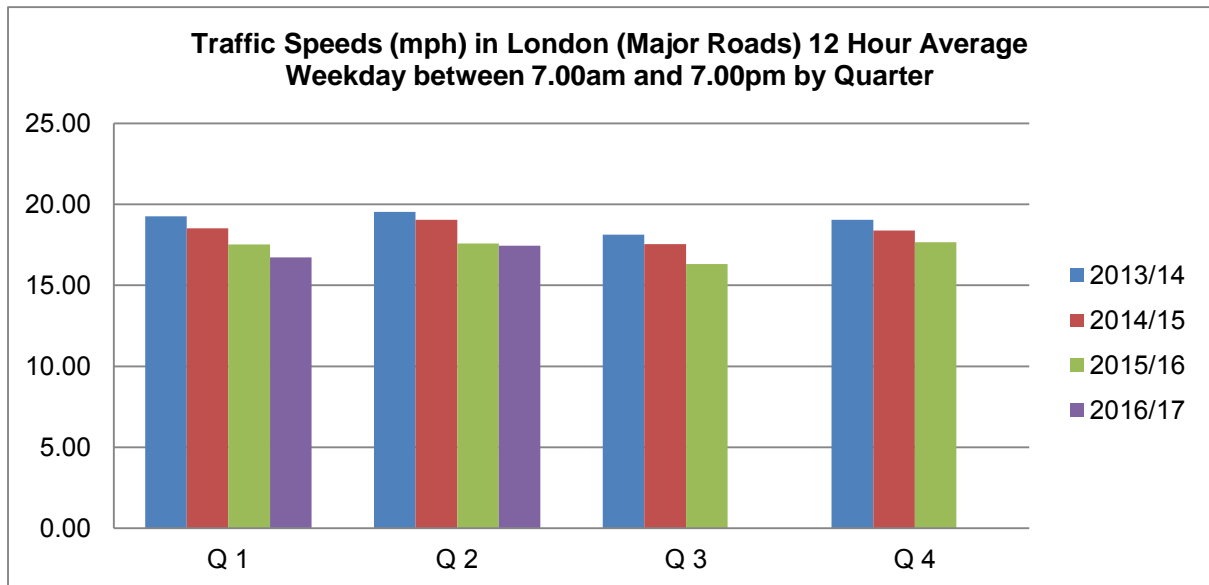
TfL has set a target of cycle levels in 2016/17 to be 3.1% above those in 2015/16.

### **The new cycling metric:**

*This is a representative measure of total kilometres cycled each day in central London, as defined by the congestion charging zone (CCZ), and is reported each quarter. It has been in place since Q4 2013/14, and uses 200 stratified manual count sites and is part of a suite of cycling metrics that have been developed as part of TfL's overall cycling monitoring framework. The previous TLRN index has been replaced because patterns of cycling have changed substantially particularly following the provision of new facilities and the locations of existing cycle counters do not adequately capture these changes. The central London cycle metric is recorded one quarter in arrears.*

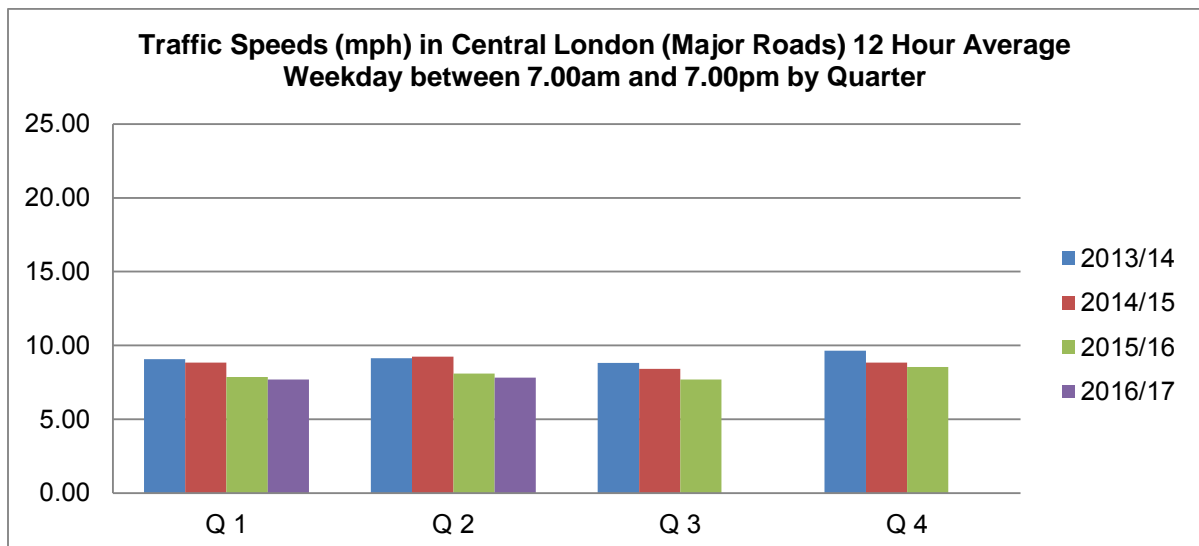
## 6. Traffic speeds

### Traffic speeds in London



Q2 2016/17 average traffic speeds for the 12 hours between 07:00 and 19:00 across London were 17.4 mph, compared to the 17.6 mph observed in Q2 2015/16, a 0.8% decrease year-on-year.

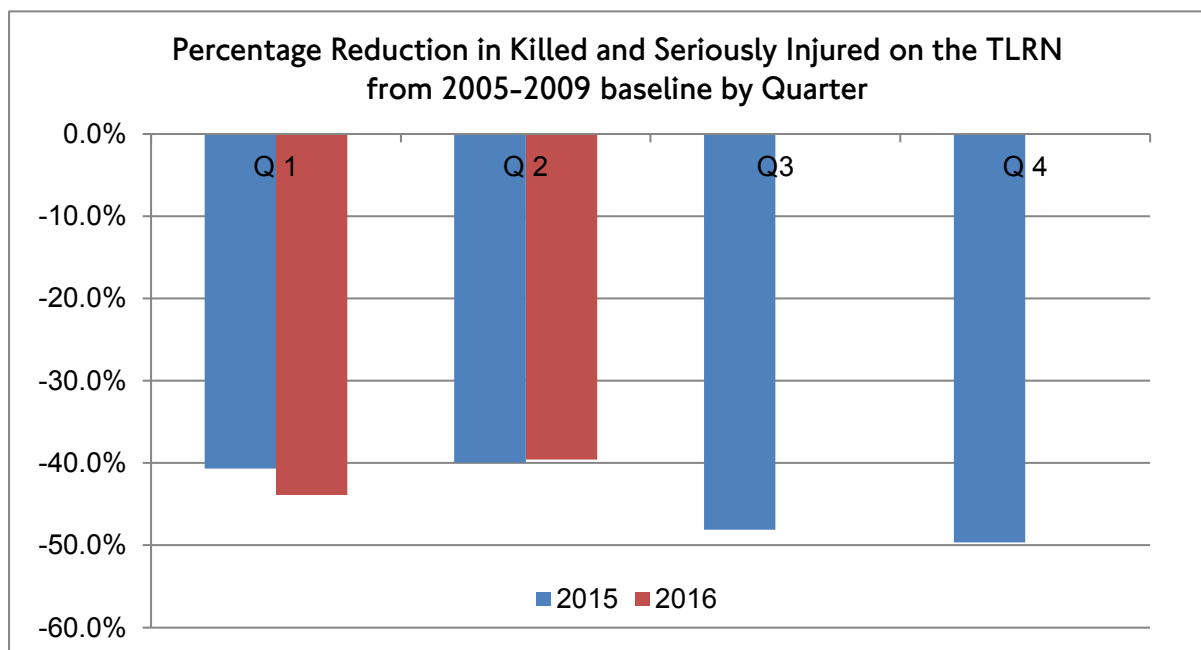
### Traffic speeds in central London



Q2 2016/17 = average traffic speeds for the 12 hours between 07:00 and 19:00 across Central London were 7.8 mph compared to the 8.1 mph observed in Q2 2015/16, a 3.5% decrease year-on-year.

## 7. Road safety

### Fatal and seriously injured casualties on the TLRN



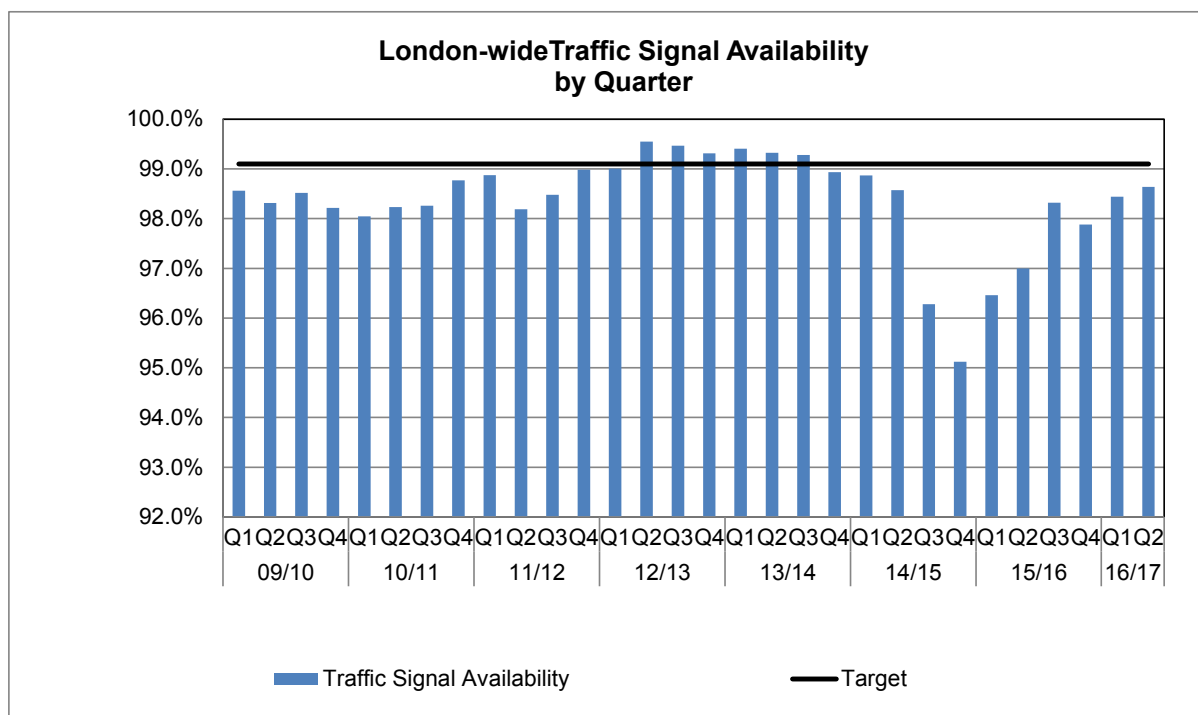
The graph above shows the percentage change in KSI casualties on the TLRN from the 2005-09 baselines for the period from 2014/15 to 2015/16. Note in this data set, Q1 is defined as the three month period from December 2015 to February 2016.

Provisional data for Q2 2016/17 indicates that there were 139 KSI casualties on London's roads, a 39.59% reduction from the 2005-09 Q3 baseline.

The table below shows the absolute and percentage reduction in Q2 2016/17 TLRN KSIs relative to Q2 in previous years.

| <b>Quarter 2 Results 2016</b>      | <b>2013</b> | <b>2014</b> | <b>2015</b> | <b>2016</b> |
|------------------------------------|-------------|-------------|-------------|-------------|
| KSI on the TLRN                    | 178         | 148         | 147         | 139         |
| Percentage change up to Q2 2016/17 | -22%        | -6%         | -5%         |             |

## 8. Asset availability



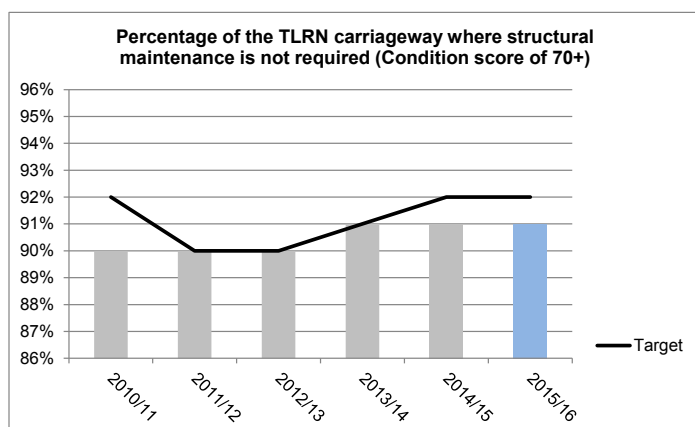
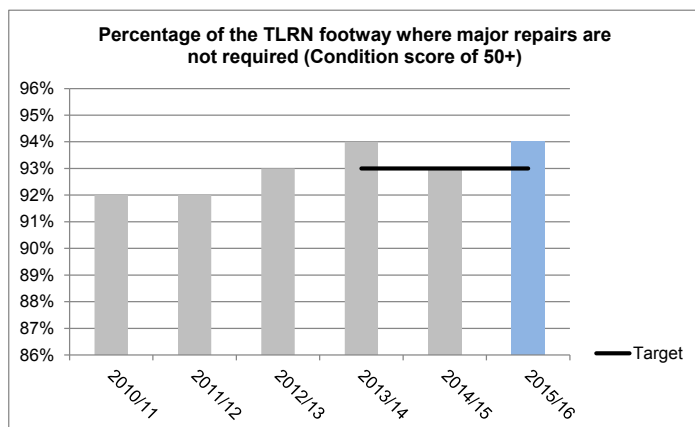
During Q2 2016/17, the availability of traffic signals London-wide was 98.6% - compared to 96.9 % reported in Q2 2015/16. Performance is expected to improve further in the future as new contractors increase resources and continue to train staff.

The target for this indicator is set at 99.1%, representing the availability of all functions of traffic signal equipment. The reason for not meeting this performance target is primarily due to poor performance from one contractor covering the east and south areas. Where full availability is not maintained, abatements are applied to contract payments. This is a demanding target for the three contractors responsible for maintaining London’s traffic signal equipment - and overall, traffic signal assets are in good condition.

TfL’s current focus remains on carrying out preventative maintenance. This is having an impact on availability scores in the short-term as more faults are raised – however, this strategy will lead to improved availability longer term.

## 9. State of good repair

The State of Good Repair (SOGR) metrics for the TLRN carriageways and footways are reported annually at the end of each financial year. SOGR represents the percentage of the TLRN where structural maintenance/major repairs are not required; it is based on asset condition scores from structural surveys analysed using the national Rules and Parameters from the UK Pavement Management System (UKPMS).



The percentage of the TLRN carriageway where structural maintenance is not required was 91% in 2013/14 and 2014/15, the provisional figure for 2015/16 remains at 91% and will be confirmed following the year-end review of delivery. This is on target with the strategy for carriageway State of Good Repair.

The percentage of the TLRN footway where structural maintenance is not required was 94% in 2013/14, 93% in 2014/15 and back to 94% in 2015/16 – the fluctuation is caused by the timing of annual condition inspections in relation to major footway schemes. The condition remains on target with the strategy for footway State of Good Repair.

## 10. Customer Satisfaction: TLRN

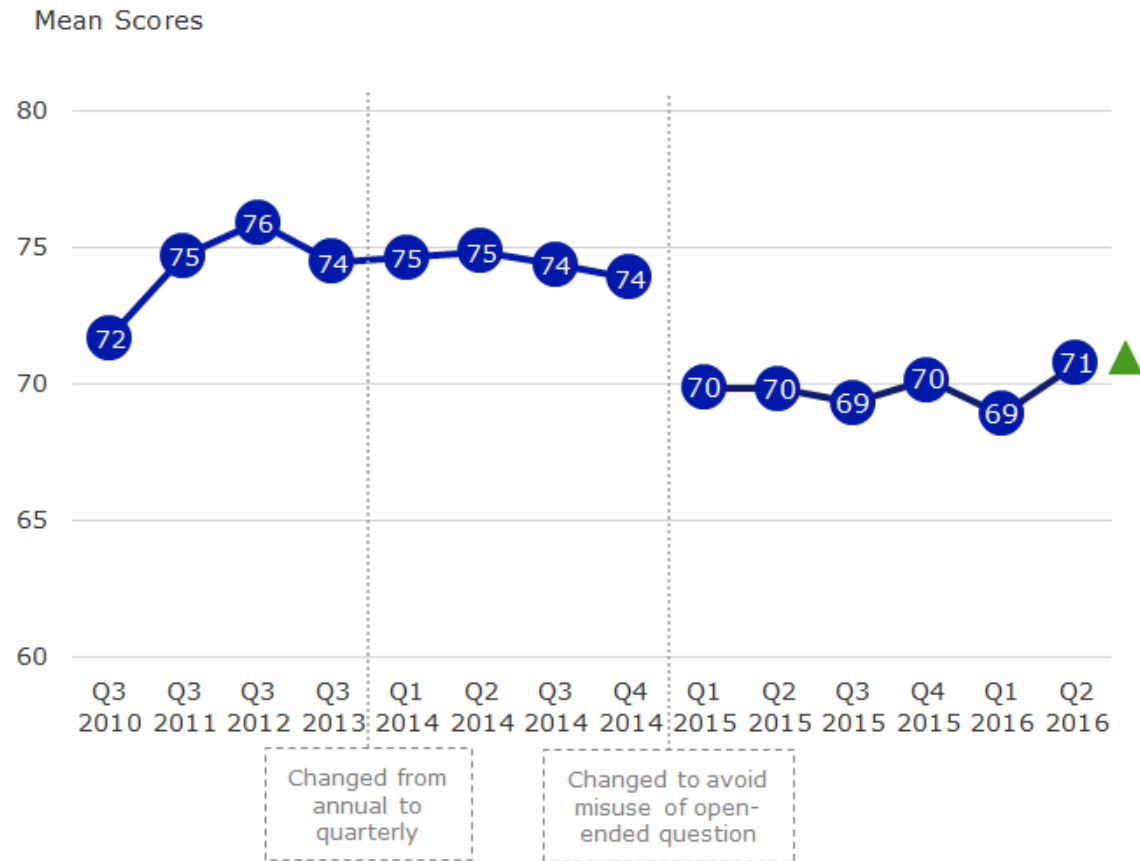
The customer satisfaction survey was conducted annually between 2010 and 2013 (with fieldwork conducted from mid-October to mid-November). Since 2014, the survey has been carried out quarterly to enable the road network to be assessed during different seasons, building up a more representative picture over the year.

In Q2 2016/17 an online customer satisfaction survey was conducted among people who had used the TLRN in the last month and using any of the following modes: car, pedestrian, bus, motorcycle / scooter / moped, taxi / commercial delivery / emergency vehicle, cycle.

### Q2 Survey Results:

- Overall satisfaction among TLRN users is 71, the highest score in the last 18 months, up from 69 last quarter and from 70 this time last year.
- Cyclists' satisfaction increases to 72, a peak score. Car drivers and bus passengers have also increased, equalling previous peaks. Commercial vehicle and P2W drivers are now at their highest levels. Pedestrians were unchanged.
- Satisfaction is higher with aspects related to road condition, roadworks and the environment – reflecting the seasonal impact and fewer RMP roadworks.
- TLRN users are more satisfied across all aspects of the journey, with peak scores for congestion, speed, keeping moving in traffic and estimating journey length.
- Experience of disruption due to roadworks (on this journey) drops to 15%, its lowest level, reflecting performance levels exceeding target. The most improved corridors are the A406, A23, A21 and A10.
- Fewer road users experienced roadworks or a broken down vehicle and overall, road users experience fewer unusual events (28%).

Overall satisfaction with red routes is at 71.

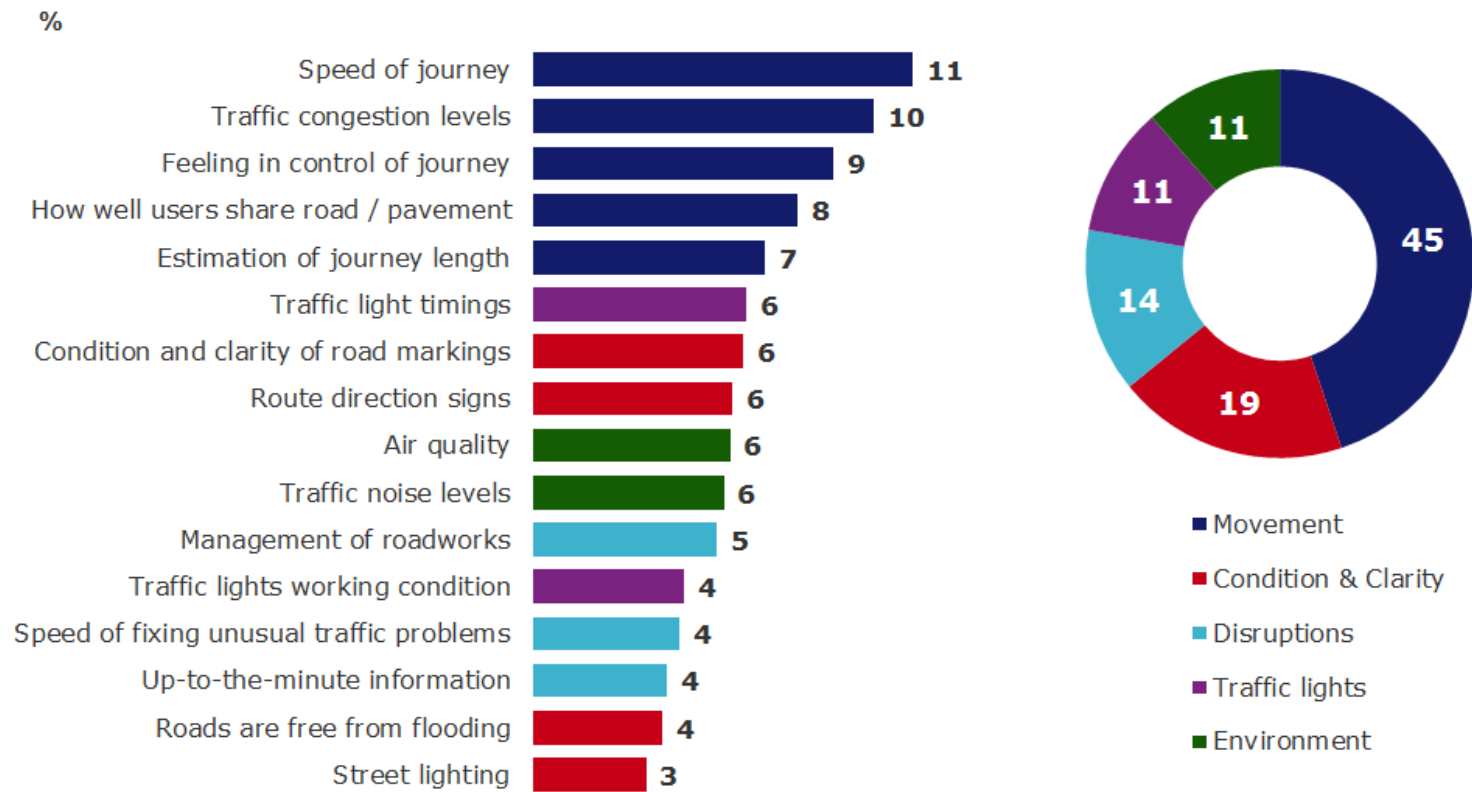


71

Overall satisfaction  
with TLRN  
Q2 2016/17

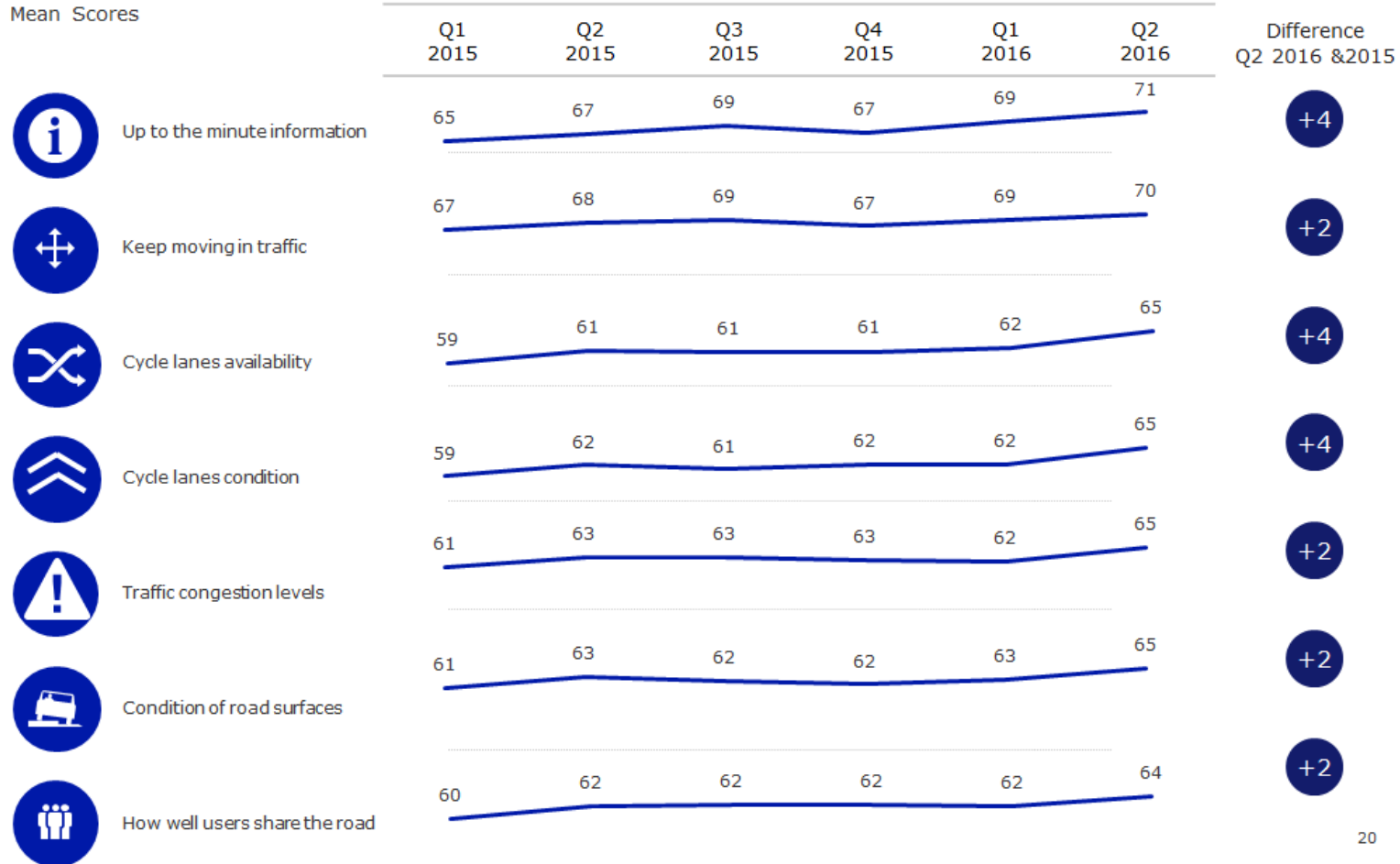


Drivers of satisfaction:  
All TLRN users



Compared to last year, satisfaction has improved for the main traffic related aspects of the journey.

Mean Scores



The opening of the newest cycle superhighway, and seasonally warm weather, are having a positive impact on cyclists' satisfaction.

## A new cycle superhighway opened on 30 April

Cyclists are now able to travel from Westminster to Blackfriars, the City, Tower Hill, Canary Wharf and Barking - just under 12 miles - on either tracks separated from vehicles or on low-traffic streets.



3

Overall satisfaction



3

Traffic congestion



4

Air quality



3

Traffic noise levels



3

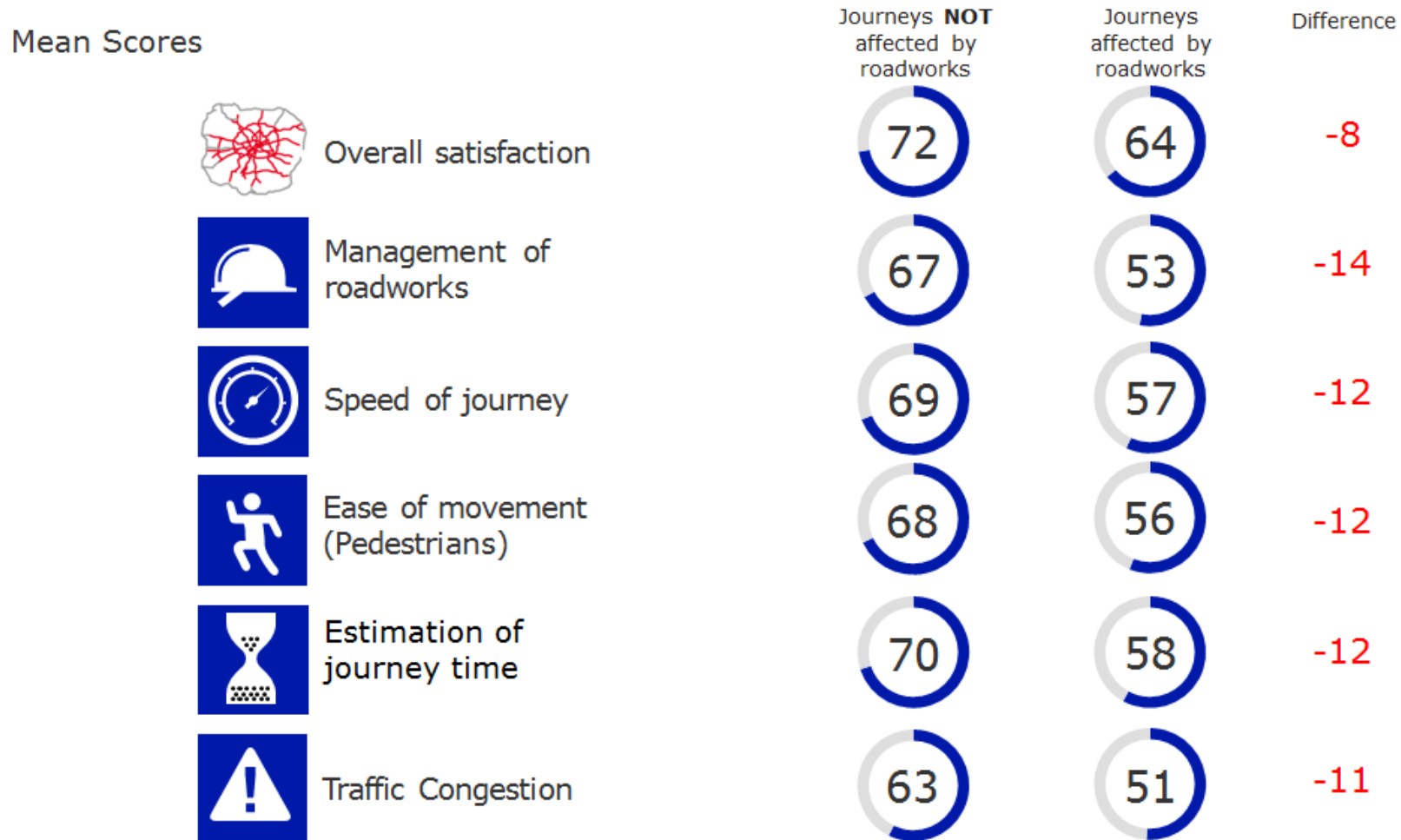
Cycle lanes condition



4

Cycle lanes availability

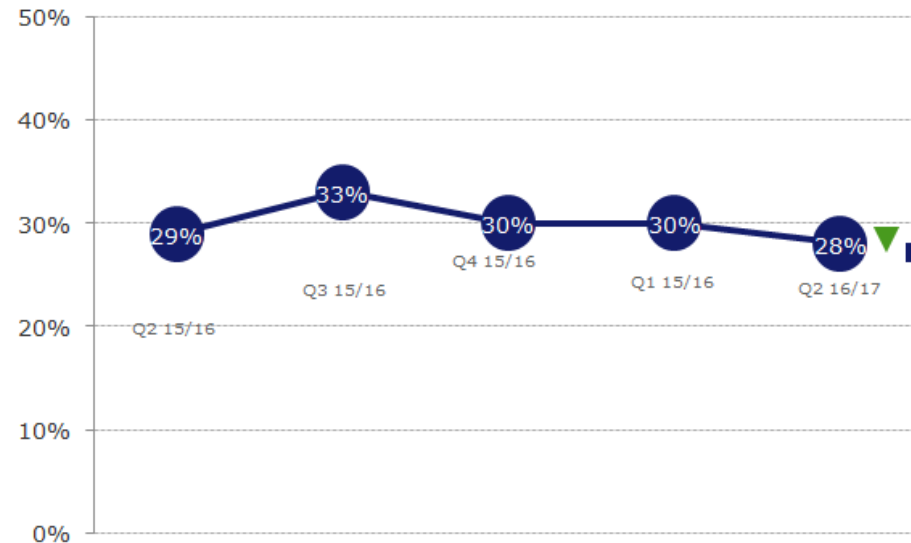
Experiencing roadworks lowers the overall satisfaction score by 8 points. The greatest impact is on satisfaction with managing roadworks, speed, estimating journey time, congestion and ease of movement.



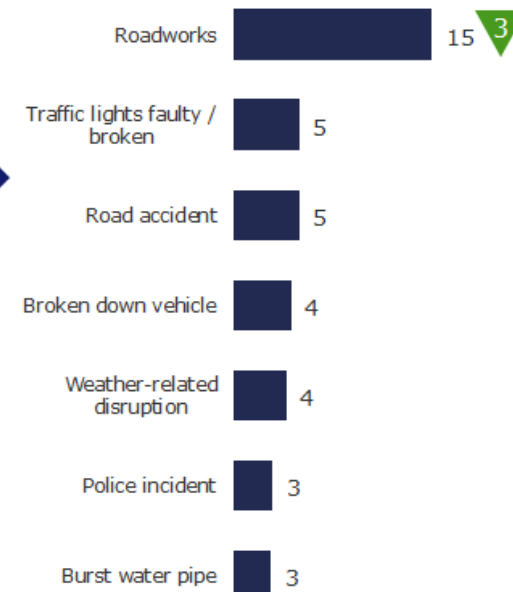
Fewer road users experienced roadworks or a broken down vehicle and overall, road users experience fewer unusual events (28%).

### Experience of unusual events and impact on satisfaction

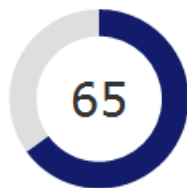
% who experienced an unusual event on journey



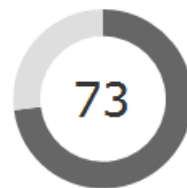
% type of unusual event experienced



Overall satisfaction (Mean score)



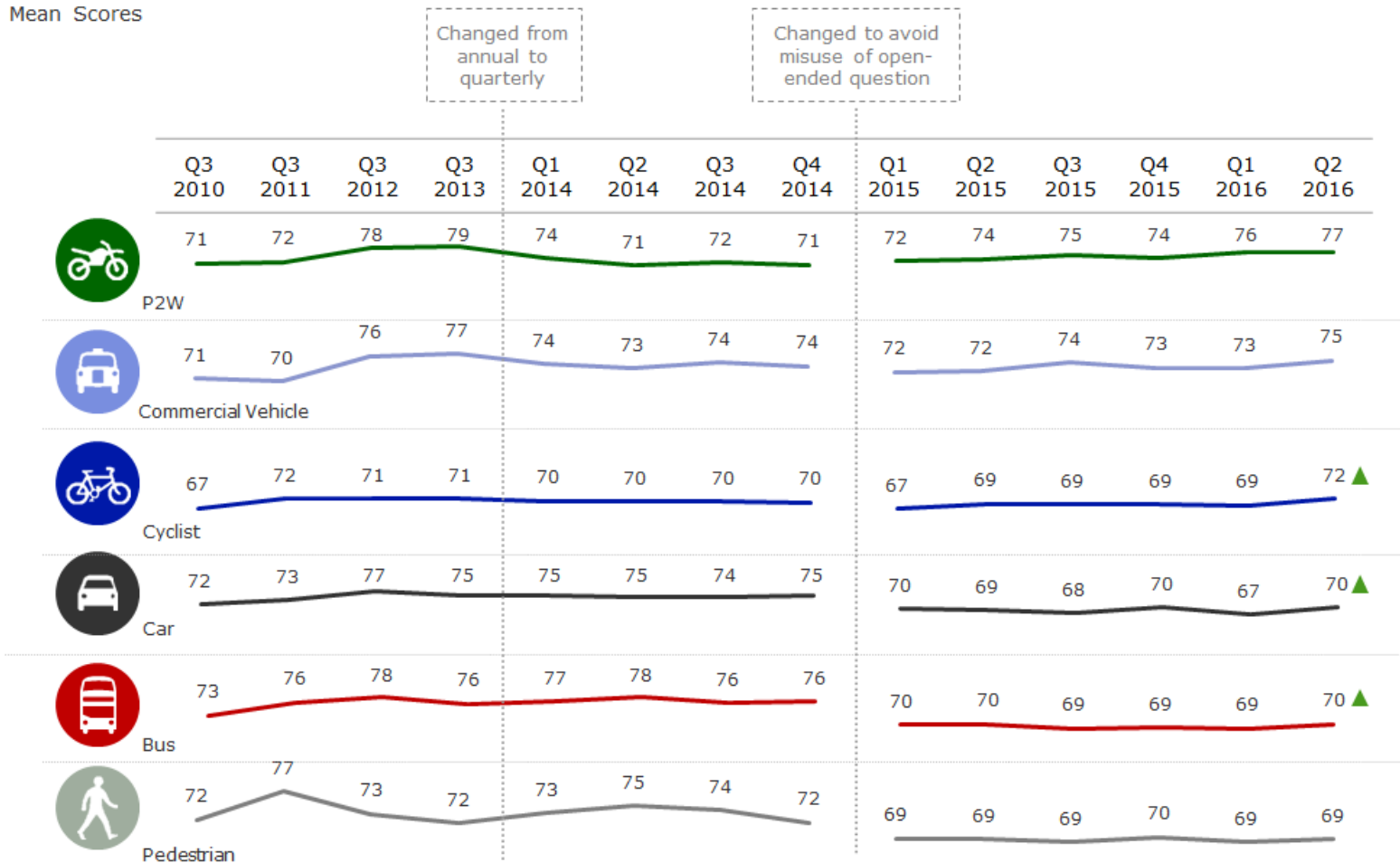
If experienced unusual event



If did not experience unusual event

Cyclists' satisfaction increases to 72, a peak score. Car drivers and bus passengers have also increased, equalling previous peaks. Commercial vehicle and P2W drivers are now at their highest levels. Pedestrians were unchanged.

Mean Scores



Bases Q2 2016/17: Bus (1988); Car (2542); Commercial vehicle (482); P2W (339); Pedestrian (1884); Cyclist (636)

Green/Red arrow: significantly higher/lower than previous quarter