Some thoughts on the implications of the summary modelling results.

I have been looking closely at the summary results for the traffic modelling, both for the Gyratory and for the CS9.

The Original Gyratory Consultation

First looking at the results for the original gyratory consultation [Link 1]

> *The traffic modelling analysis looks at journey times at the busiest hour in the morning and evening peaks. The most notable increases in journey times will be for traffic approaching Hammersmith gyratory from Fulham Palace Road in the evening peak, which may experience an average journey time increase of up to a minute and a half.*

Now this is the extra time taken only to traverse the gyratory. For traffic in a queue the delay will be longer.

Looking at the information given in the summary results [Link 2]

Fulham Palace Rd to Shepherds Bush Rd / PM traffic	
Current journey time	2-3 min
Future modelled journey time	4-5 min
Future – Current	60-90 sec

Let us take the average current journey time as	2.5 minutes
And the average future journey time as	4.5 minutes.

The ratio of the two is 4.5/2.5 = 1.8, that is an 80% increase in the journey time across the gyratory.

Linking journey time across the gyratory to queuing time beforehand

How to use this ratio to estimate an increase in the time spent queuing before reaching the gyratory.

Current: Imagine taking a snap-shot from above of the gyratory. Then place a white dot on all the vehicles in the gyratory that have come from FPR and are en route to SBR. This will be the number of vehicles that will pass through in the journey time of 2.5 minutes

Future: Now repeat this exercise after the Gyratory and CS9 have been put in. Mark vehicles that have come from FPR and are en route to SBR with white dots. This will be the number of vehicles that will pass through in the journey time of 4.5 minutes.

If these numbers are close it implies the times for any given number of vehicles passing through will be in the ratio of 2.5 to 4.5. It will take 1.8 times as long to clear a queue containing the same number of vehicles in the Future as in the Current.

Why these numbers should be close

a] In Future there will be a similar number of Vehicles to Current occupying the gyratory space if it is congested.

b] The distribution of destinations from a given entry to the gyratory will be similar in Future as in Current

c] The proportion of vehicles entering from each entry point is likely to be similar in Current and Future

Given these conditions it is likely that the numbers will be close. A vehicle in a queue of any given length will now take 80% longer to reach the head of the queue. So a vehicle in a queue that might now take say 20 minutes to reach the gyratory will in future take about 35 minutes.

A further effect is that as vehicles are being removed more slowly from the head of the queue, and if vehicles are arriving at the same rate at the back of the queue, the queue in future will be longer.

The effect on Hammersmith Road

From the same summary traffic modelling sheet for PM traffic

Hammersmith Rd to King Street	
Current journey time	2-3 min
Future modelled journey time	3-4 min
Future – Current	31 - 60 sec

Let us take the average current journey time as 2.5 min
And the average future journey time as 3.5 minutes.
The ratio of the two is 3.5/2.5 = 1.4, that is an 40% increase in the journey time across the gyratory.

Using the argument above for any queue in Hammersmith Rd it will take 40% longer to reach the head of the queue

CS9 Consultation

Now let us look at CS9 Consultation Summary modelling results PM [Link 3]

This gives 3 journey times, and the impact of CS9
2015 journey time,
2021 journey time*
2021 journey time with CS9 scheme
Impact of CS9 scheme on 2021 scenario

*Including future growth, committed schemes and consulted scheme at Hammersmith *ie including the gyratory scheme*

The figures it gives for the effect of CS9 is the difference between the last two times. That is the difference CS9 makes assuming the gyratory scheme is already in place.

What one really needs to know is the difference between the first and the third set of times, the effect of the gyratory plus CS9

Hammersmith Bridge Rd to Shepherds Bush Rd PM traffic

2015 journey time	2-3 min
2021 journey time* [inc gyratory]	4-5 min
2021 journey time [inc gyratory + CS9]	5-6 min
Impact of CS9 scheme on 2021 scenario	1-2 min

But the impact of [gyratory + CS9] on 2015 3-4 min say

Let us take the average 2015 journey time as 2.5 min
And the average 2021 journey time [+gyratory + CS9] 5.5 min.
The ratio of the two is 5.5/2.5 = 2.2, that is an 120% increase in the journey time across the gyratory.

If this is reflected in the ratio of queuing times it will have a massive effect on the queues on Castelnau and the Great West Rd

A surprising observation from this CS9 PM Traffic chart is the time it takes to get from Holland Rd to Goldhawk Rd. This is 12 – 14 minutes in 2015, in 2021 with gyratory, and in 2021 with gyratory and CS9. I am surprised that it is so low, and that the 40% longer queuing time that we saw above is not reflected in the future.

A look at the gyratory - conjecture

The main cause of the longer times is the narrowing of the neck of Kings Street from 2 lanes to 1 lane. You can't get a quart into a pint pot, so a mass of vehicles heading for King Street may form a partial intestinal blockage reaching around the gyratory.

This may explain the pattern of increasing ratios as we go around the gyratory from Hammersmith Road to Hammersmith Bridge Rd.

Hammersmith Rd	1.4
Talgarth Rd	-.-
Fulham Palace Rd	1.8
Hammersmith Bridge Rd	2.2

It will be interesting to see the results TfL comes up with for the ratio of queuing times [Future / Current] and see if it agrees with this rather simplistic approach.

[Link 1] https://consultations.tfl.gov.uk/roads/hammersmith-gyratory/user_uploads/hammersmith-gyratory-modelling-text.pdf

[Link 2] https://consultations.tfl.gov.uk/roads/hammersmith-gyratory/user_uploads/hammersmith-modelling-results-summary.pdf

[Link 3] https://consultations.tfl.gov.uk/roads/fb586463/user_uploads/cs9-traffic-modelling-pm.pdf

Suggested Action

The advantages of CS9 are great, but the possible environmental impacts should not hidden or be overlooked. The calculations above are simple and based on the summary figures given and may not be very accurate. However TfL boasts of its £1m computer.

To get a better idea of the impact of the gyratory + CS9 scheme I would suggest asking TfL for the following [or something similar] before reaching a decision on the merits of the scheme:

> The present and future values for peak AM hour and peak PM hour for a term-time weekday of
>
> the average length of a queue and
> the time for a vehicle at the back of the queue to clear the gyratory
> and
> the greatest length of a queue and
> the time for a vehicle at the back of the queue to clear the gyratory
>
> for each of the approaches to Hammersmith gyratory, namely
>
> Fulham Palace Rd
> Hammersmith Bridge Rd / Great West Rd / Castelnau
> Beadon Rd / Glenthorne Rd / King Street
> Shepherds Bush Rd
> Hammersmith Rd / Kensington High Street.
> Talgarth Rd / West Cromwell Rd / Cromwell Rd
>
> Note that the A4 Great West Road and Talgarth Rd are part of the Transport for London Road Network [TLRN] – red routes

Way Forward

If the congestion does appear significant LBHF and TfL should look at ways to alter the design to reduce this impact.

I hope that this is helpful

John Griffiths
122c Edith Rd
W14 9AP
020 7371 1290 / 07789 095 748
truefeelings@gmail.com