Salusbury Road / Brondesbury Road / Harvist Road

Junction Review

London Borough of Brent
13th March 2025

RED WILSON ASSOCIATES

Design Ambitions

Objectives and focus of the scheme:

- Review of the existing conditions at the junction and its performance for general traffic, cyclists and pedestrians.
- Develop options
  - Smooth traffic flow through the junction
  - Improve pedestrian provisions and safety
  - Consider impacts to cyclists

Presentation Outline:

1. Feedback on junction operation, and elements to be considered
2. Initial Observations
3. Quantitative Data
4. Base Traffic Modelling
5. Summary
6. Proposed Options for Improvement

Operational Feedback – Elements to be Considered

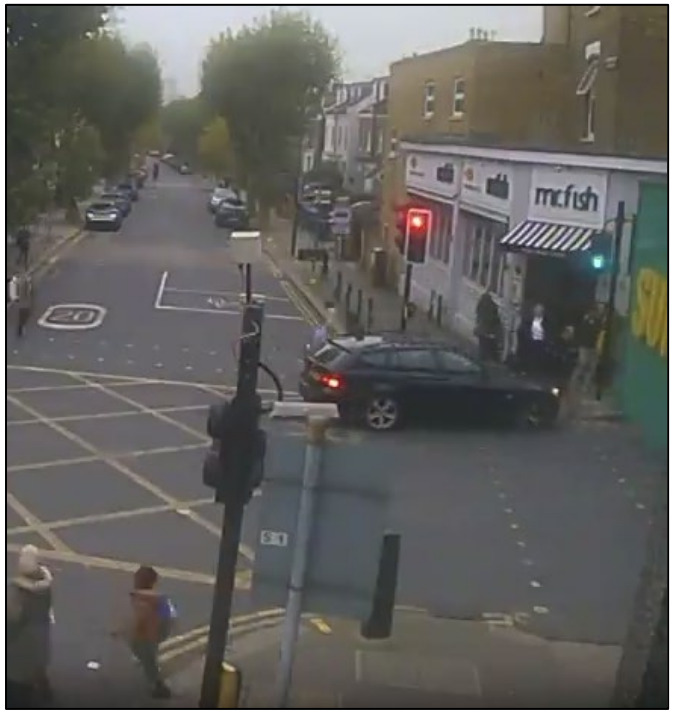
Councillor Feedback	Officer Feedback	TfL NPD Feedback
• Issues with congestion particularly in the AM peak period. Harvist Road performs particularly poorly. • Can this be addressed, possibly by splitting Harvist Road and Brondesbury Road? • Is it beneficial to widen Harvist Road? • Vehicles from Harvist Road turn right through the pedestrian signal – creates unsafe conditions • Cycle lanes would be beneficial • Removal of parking around the junction would smooth traffic flow • Poor compliance with traffic signals identified. • Buses struggle to turn left from Salusbury Road	• Pedestrian crossings are well used, can these be improved. • Existing junction safety to be reviewed, inclusive of speeds around the junction. • Would like review work RWA undertake to be independent.	• Recently reviewed the junction, and have reduced the lower limit on the cycle time to better assist right turning vehicles. • Junction set up to vary green time on each approach based on congestion • Issues around the junction reduce how smoothly traffic flows through it. Primarily narrow lane widths.

RWA Observations

Anecdotally junction more congested in AM peak

Southbound exit blocking, primarily in AM peak.

Vehicles from Harvist Road, and Brondesbury Road crawl through green pedestrian signal



RWA Observations Continued..

Brondesbury and Harvist Road traffic are encouraged to travel through the red signal

Pedestrian movements significant and often on the diagonal

Lanes narrow due to parked cars and bus stop

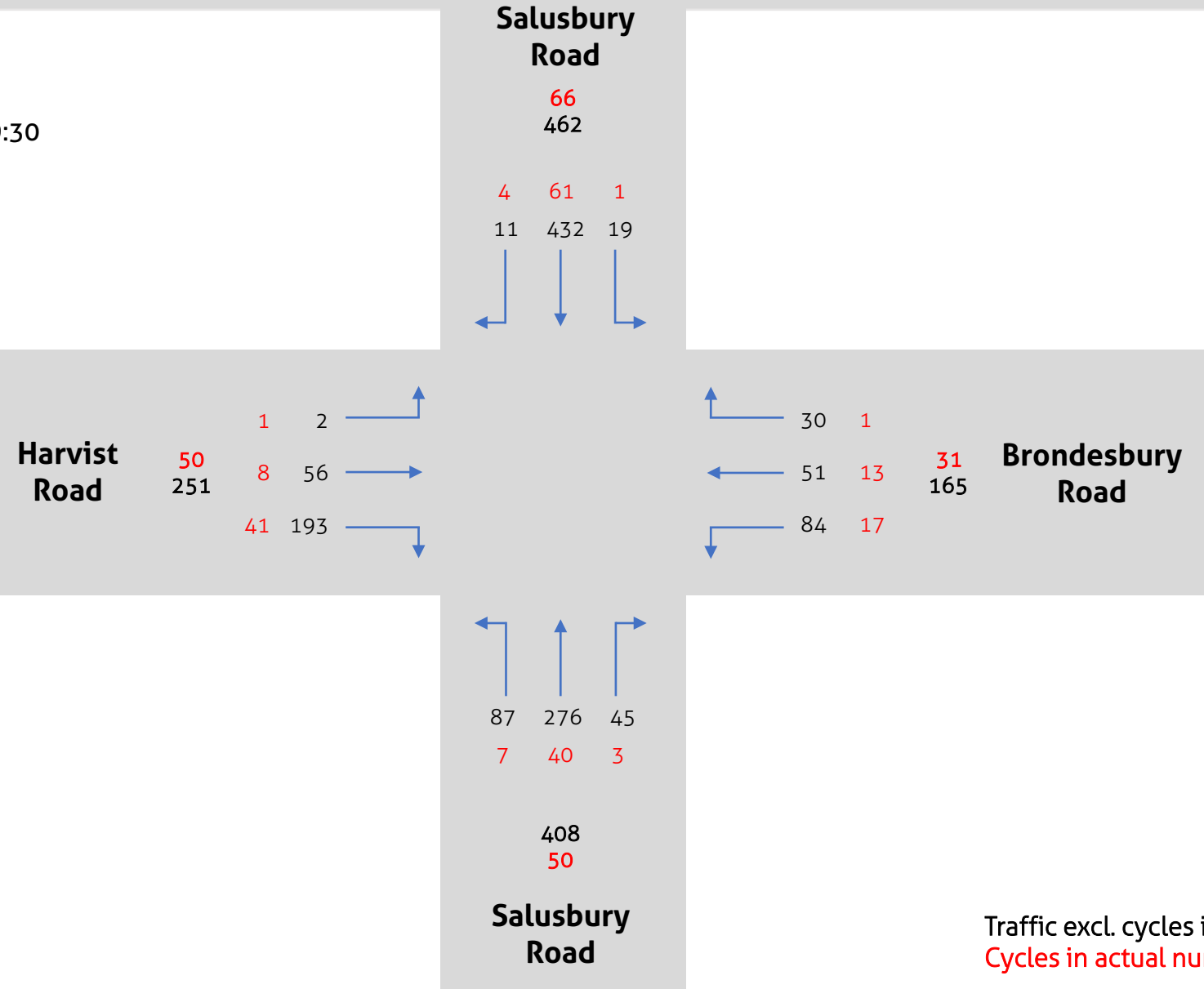
RWA Observations Continued..

Buses encroach ASL when turning left

Existing cycle parking well used.

Traffic Flows

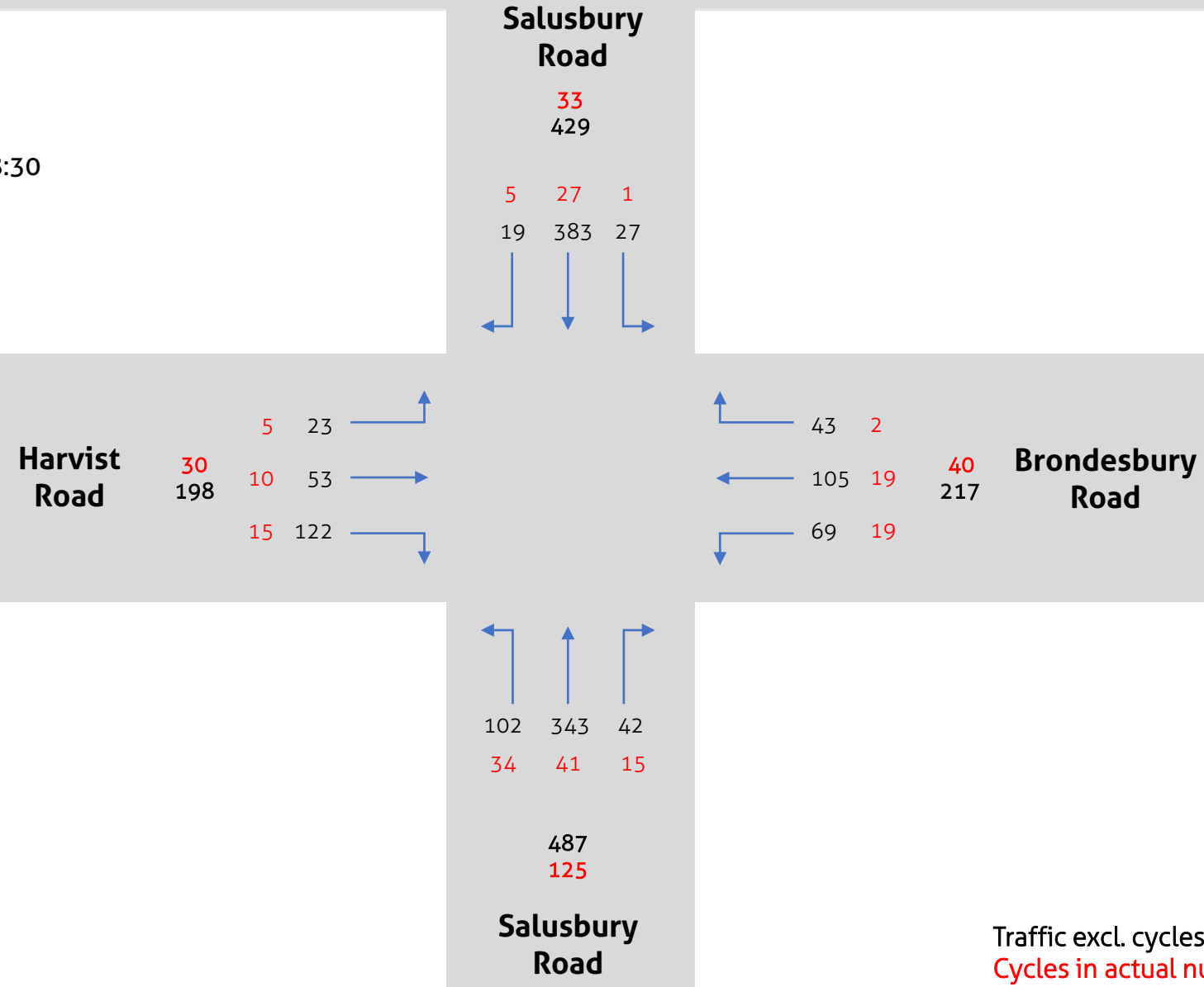
Traffic, Cycle Flows
AM Peak
Tuesday 5th November - 08:30 – 09:30



Traffic excl. cycles in PCU Total: 1,286
Cycles in actual numbers Total: 197

Traffic Flows Continued..

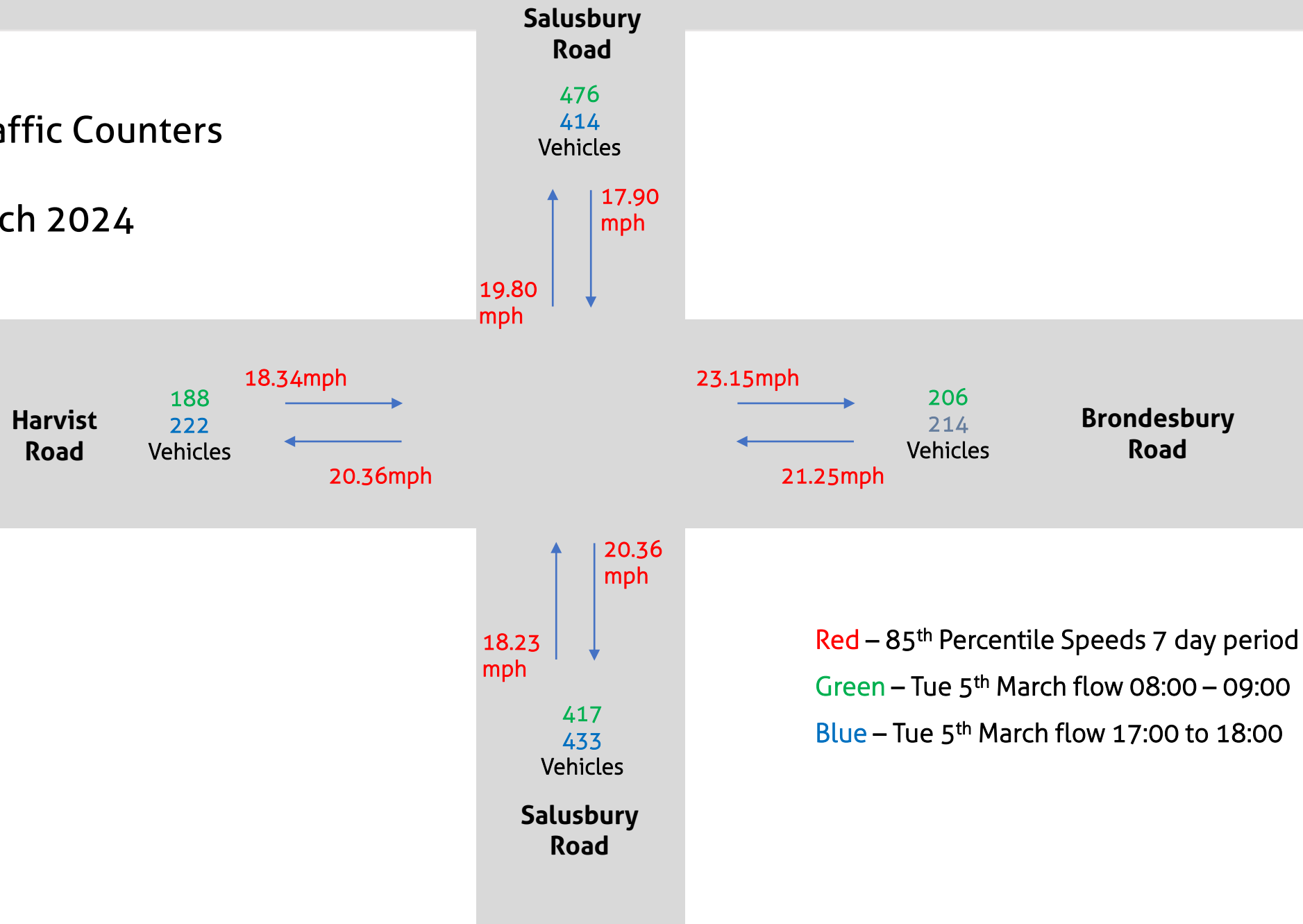
Traffic and Cycle Flows
PM Peak
Tuesday 5th November - 17:30 – 18:30



Traffic excl. cycles in PCU Total: 1,331
Cycles in actual numbers Total: 228

Traffic Flows Continued..

Automated Traffic Counters
7 days
4th to 10th March 2024



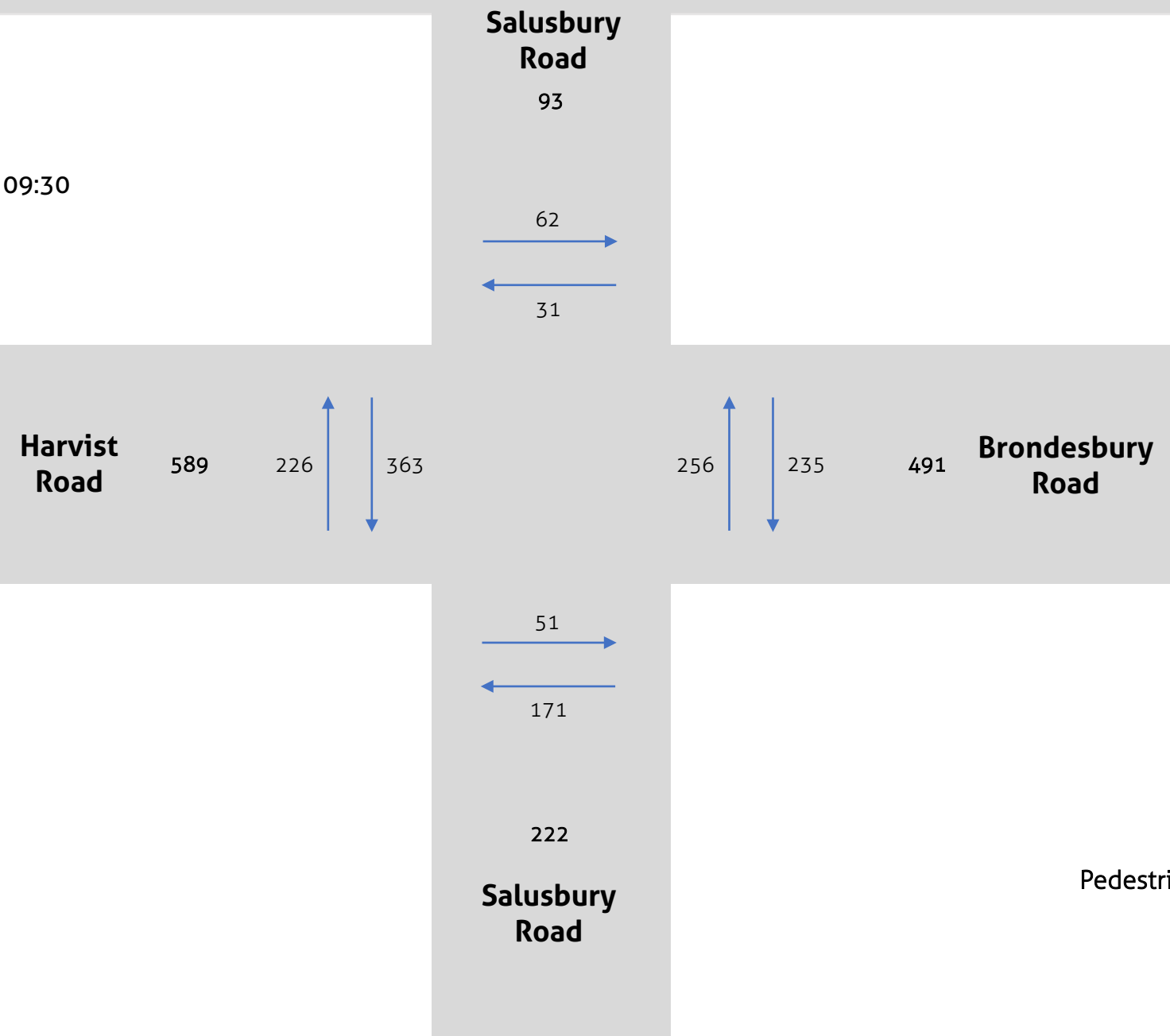
Red – 85th Percentile Speeds 7 day period

Green – Tue 5th March flow 08:00 – 09:00

Blue – Tue 5th March flow 17:00 to 18:00

Pedestrian Flows

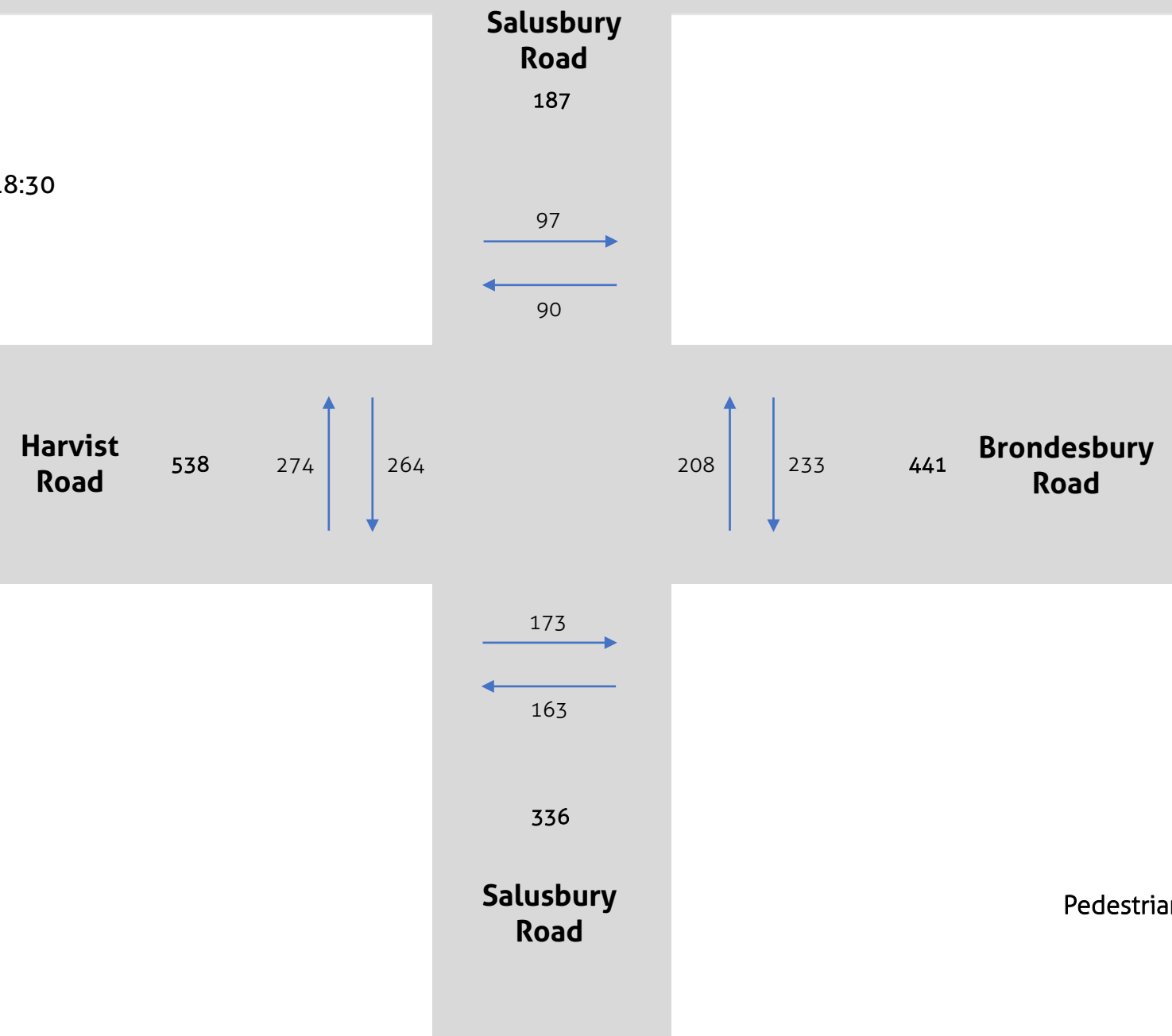
Pedestrian Flows
AM Peak
Tuesday 5th November - 08:30 – 09:30



Pedestrian total: 1,395

Pedestrian Flows Continued..

Pedestrian Flows
PM Peak
Tuesday 5th November - 17:30 – 18:30



Pedestrian total: 1,502

Collision Overview

Period	Total Collisions	Total Number of Serious Severity Casualties	Number of Serious Casualties That are Vulnerable User Type	Total Number of Slight Severity Casualties	Number of Slight Casualties That are Vulnerable User Type
5 years prior to 31st August 2024	14	1	1	15	12

Vulnerable (13 of total) road users are most at risk at the junction:

- 1 severe collision involving a pedestrian
- 8 slight collisions involving powered two wheelers
- 4 slight collisions involving cyclists

5 collisions involving vehicles turning from Salusbury Road south

8 collisions occurred in dark conditions (7 involved powered two wheelers)

3 collisions occurred in wet conditions

Data Comparison Highlights

Observations:

- More pedestrians that vehicles use the junction in the peak periods
- Right turn collisions worst one approach that carries low level of right turners
- Pedestrian collisions low despite the high volume
- Cycle volumes relatively high – 15-17% of all traffic in peak periods (pure numbers)

	Salusbury Road / Brondesbury Road / Harvist Road	Park Lane / Wembley High Road	Willesden Lane / The Avenue	Kenton Lane / Kenton Road / Woodcock Hill	Forty Lane / Bridge Road / Forty Avenue
5 Year Collisions (Vulnerable Users)	14 (13)	15 (10)	5 (5)	13 (7)	11 (8)
Traffic Volume AM / PM Peak	1,286 / 1,331	1,732 / 1,607	1,473 / 1,419	2,737 / 2,645	2,819 / 2,815
Pedestrian Volume AM / PM Peak	1,395 / 1,502	1,005 / 1,182	205 / 133	242 / 238	949 / 1,237

Base Traffic Modelling

The peak hours have been modelled in LinSig - results shown below

	AM Peak		PM Peak	
	Degree of Saturation	Mean Max Queue	Degree of Saturation	Mean Max Queue
Salusbury Road S/B	85.3%	10.6	88.9%	10.9
Brondesbury Road W/B	55.4%	3.4	85.6%	6.4
Salusbury Road N/B	85.4%	9.5	98.5%	18.4
Harvist Road E/B	96.7%	10.4	88.2%	5.2

Observations made when modelling junction of note: -

- Harvist Road ahead lane is used by 0.8 and 1.7 vehicles in the AM and PM peak respectively
- Just over 2 vehicles turn right from Harvist Road per cycle in the AM peak. They do this in the "interstage".
- Underutilised green time on Salusbury Road – 3 to 4 sec in AM, and 6 to 7 sec in PM. Southbound most impacted
- Junction is influenced by parking around it mainly on Salusbury Road.

Takeaways From Review Work

Safety:

- Pedestrian collisions are very low considering the volume, however there are observed issues of vehicles traveling through the green pedestrian signal
- Vehicles are aggressive – encouraged by short green times
- Powered two wheelers are involved in significant number of collisions

Capacity / Operation:

- Junction operates at capacity in both peak periods, there is some residual demand not serviced particularly in AM peak
- Runs a short cycle time which is beatifical for pedestrians. It is necessary to let vehicles turn right from Harvist Road but does make vehicles more aggressive.
- Parking to south and north of junction make it more inefficient as does the zebra crossing outside M&S in the AM peak

Pedestrians:

- Station is a key draw with crossings over Harvist Road, Brondesbury Road, and Salusbury Road south extremely well used as majority of people traveling to and from southwest corner of junction.

Cyclists:

- Limited existing facilities provided for cyclists

Proposals

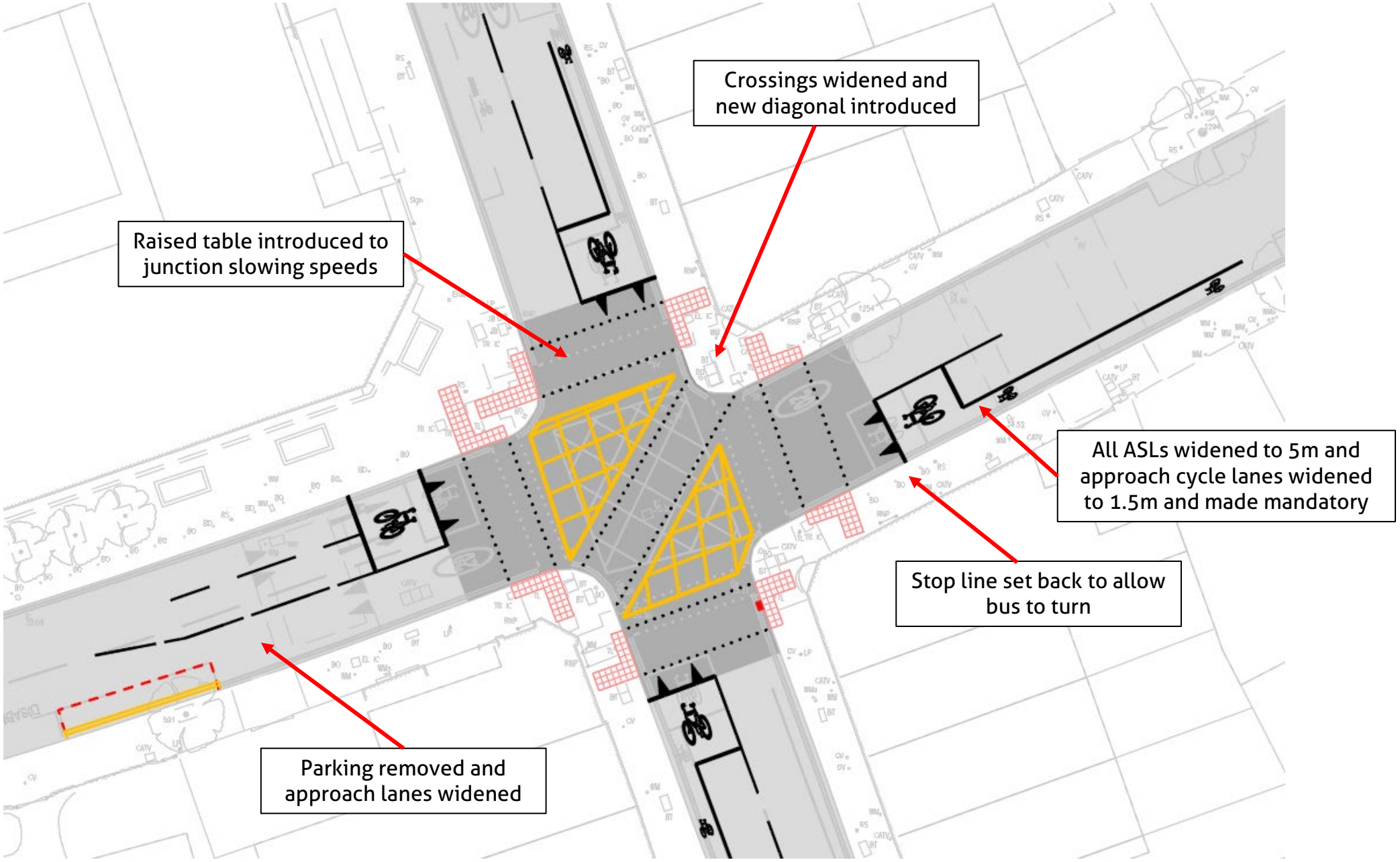
Junction is constrained so there is a limit on the improvement that can be delivered.

Improvements focus on: -

- Improving conditions for pedestrians
- Creating more time and space for vehicles to turn right from Harvist Road
- Slowing speeds
- Improving cyclist provision

The key changes we are proposing are not physical.

Option 1

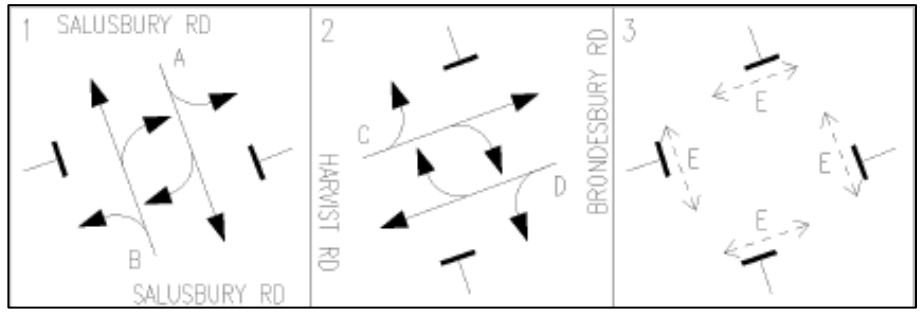

Crossings widened and new diagonal introduced
Raised table introduced to junction slowing speeds
All ASLs widened to 5m and approach cycle lanes widened to 1.5m and made mandatory
Stop line set back to allow bus to turn
Parking removed and approach lanes widened

Option 2

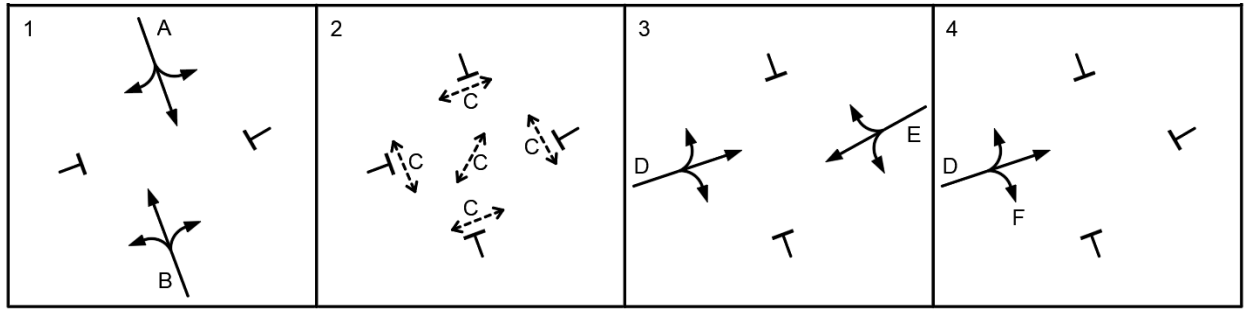
Operational Proposed Changes and Impact

Key operational change we believe will improve safety and efficiency at the junction

Existing Method of Control



Proposed Method of Control



Improvements focus on: -

- Providing the 4th stage means the cycle time can flex with demand from Harvist Road
- Having stage 3 follow the pedestrian stage will significantly reduce instances of traffic becoming "stuck" in junction and rolling through the pedestrian green signal

Modelling Outputs

AM Peak	Base		Option 1 (64 sec)		Option 1 (72 sec)		Option 2 (72 sec)	
	Degree of Saturation	Mean Max Queue	Degree of Saturation	Mean Max Queue	Degree of Saturation	Mean Max Queue	Degree of Saturation	Mean Max Queue
Salusbury Road S/B	85.3%	10.6	127.9%	64.4	86.4%	11.9	86.4%	11.9
Brondesbury Rd W/B	55.4%	3.4	76.2%	4.4	85.7%	5.9	85.7%	5.9
Salusbury Rd N/B	85.4%	9.5	113.2%	36.4	88.7%	11.2	88.7%	11.2
Harvist Road E/B	96.7%	10.4	57.3%	4.3	66.3%	5.4	87.1	8.0

PM Peak	Base		Option 1 (64 sec)		Option 1 (72 sec)		Option 2 (72 sec)	
	Degree of Saturation	Mean Max Queue	Degree of Saturation	Mean Max Queue	Degree of Saturation	Mean Max Queue	Degree of Saturation	Mean Max Queue
Salusbury Road S/B	88.9%	10.9	88.9%	10.9	76.2%	9.4	72.7%	9.1
Brondesbury Rd W/B	85.6%	6.4	85.1%	6.4	71.8%	5.5	78.4%	6.0
Salusbury Rd N/B	98.5%	18.4	98.5%	18.4	89.3%	13.1	85.5%	12.0
Harvist Road E/B	88.2%	5.2	88.2%	5.2	79.4%	4.3	75.7%	3.7

Conclusions

- Changes are possible at the junction to improve all journeys through it: -
  - Refreshing crossing provision, introducing a raised table as well as providing new road markings will improve look and feel.
  - Operational changes will make a difference to perceived safety and better balance demand across the junction

- We would recommend either option with Option 2 having a slight edge in respect to safety, and Option 1 providing better capacity improvements.

- Further benefits could be realised through: -
  - Introduction of additional minor traffic calming measures on Brondesbury Road
  - Removing parking on east and west side of Salusbury Road north in AM and PM peak periods