Hilton Traffic Survey

Tuesday 26th June to 2nd July 2018

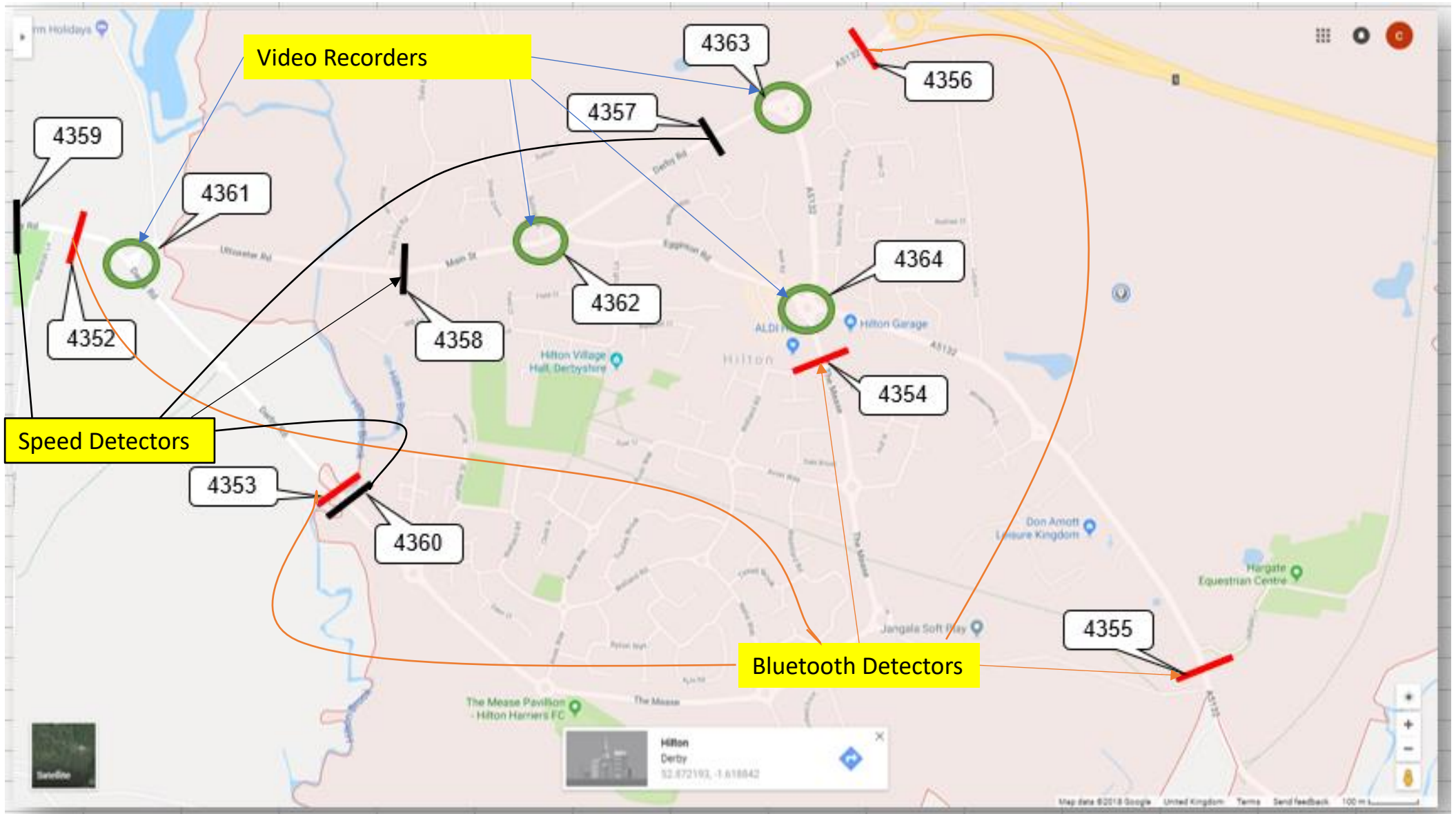
* Sponsored By Hilton Parish Council, Designed by Hilton, Marston and Hoon Neighbourhood Plan Steering Group

Aim of Survey

The questions to be answered are:

1. How much of the through traffic is using Main Street and how much is using the Mease?
2. As 1) but for HGVs
3. The extent of the problem with speeding traffic on Main Street, Derby Road, the Mease?

Place and Type of Equipment



Miovision Classifications

- **Bicycle**

  Pedal Bikes are categorised as either Bicycle on Road or Bicycle on Crosswalk. Bicycles on Road are a distinct class of their own, which can be added to other classification groupings. Bicycles on Crosswalk are part of the Crosswalk Volumes classification with pedestrians, but are reported separately from pedestrians.

- **Motorbike**

  All motorcycles, motor scooters, mopeds, motor-powered bicycles, and three-wheel motorcycles.

- **Car**

  All passenger-carrying vehicles, including those that pull light trailers: sedans, coupes, station wagons, SUVs, vans, limos, campers, motor homes, small ambulances, etc.

- **Light Goods Vehicle (LGV)**

  All light goods-carrying vehicles, including those that pull light trailers: pickups, panel vans, tow trucks, etc.

- **Single-Unit Truck (OGV1) Other Goods Vehicle**

  All rigid vehicles over 3.5 tonnes gross vehicle weight. All large vehicles on a single frame: trucks, tow trucks, campers, motor homes, large ambulances, etc., including passenger-carrying vehicles from this category pulling trailers. Also includes all buses if the separate Bus class is not selected.

- **Articulated Truck (OVG2) Other Goods Vehicle**

  All articulated vehicles. All multi-unit goods-carrying vehicles with a tractor or straight truck power unit, including goods-carrying rigid trucks pulling trailers.

- **Bus (PSV) Passenger Service Vehicle**

  All passenger-carrying buses, including school buses and articulated buses

How much through traffic is using Main Street?

Methodology:

- Generally, it is clear from both SDR and Bluetooth data that there is more traffic on Thursday than Tuesday. To estimate the increase, the SDR data and Bluetooth data was compared and whilst there are variations in each of the recordings, a conservative average of 5.5% was applied to the Tuesday video traffic before it was compared with the Thursday traffic.
- The video all vehicle traffic data except bicycles for the period 7.00am to 7.00pm was used to estimate the through traffic.

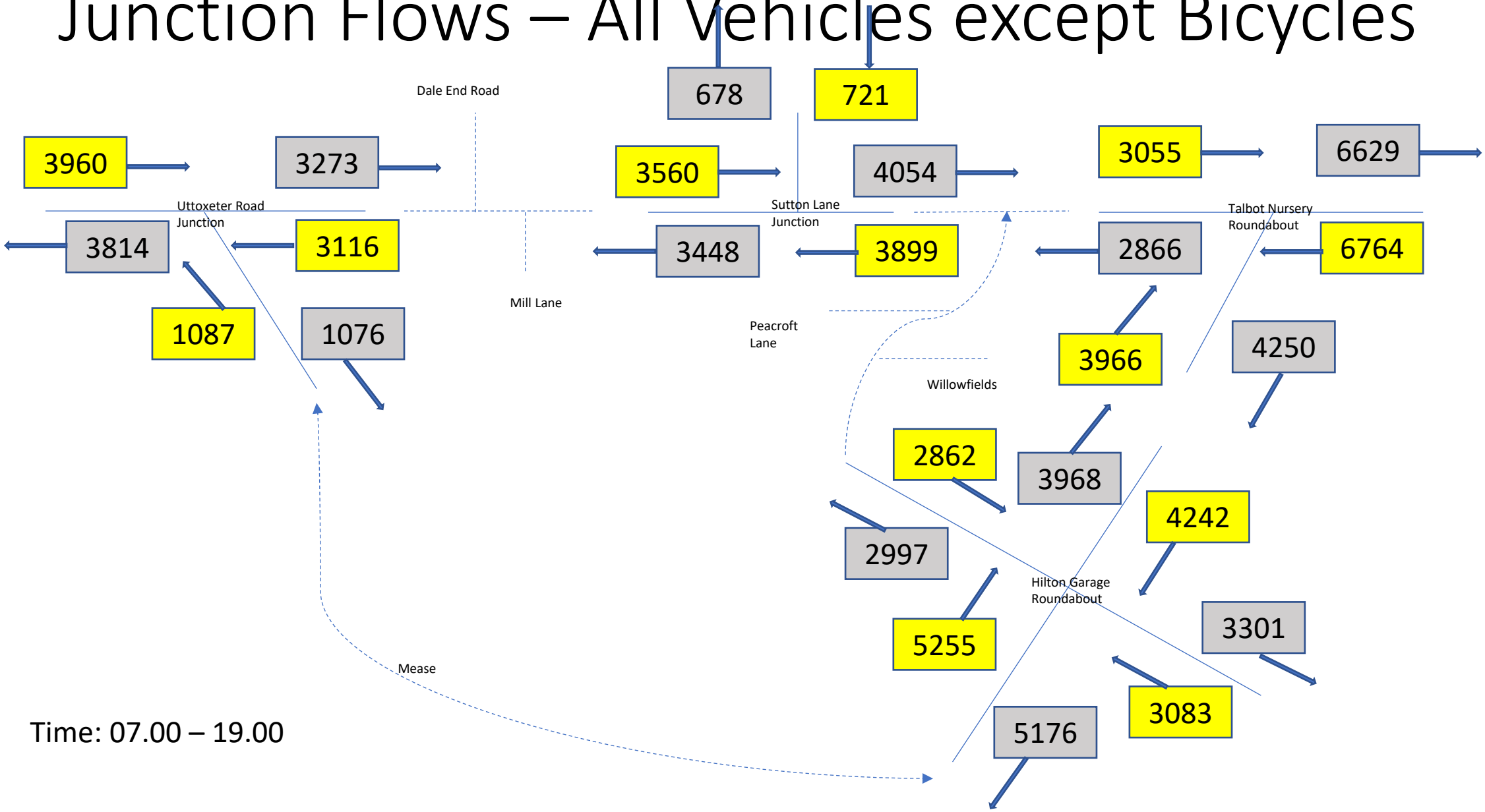
Thursday increase traffic calculation

		SDR Data		07.00-19.00	
		Tuesday		Thursday	
	4359	7056		7425	5.2%
	4357	5509		5845	6.1%
	4358	5952		6361	6.9%
	4360	2233		2398	7.4%
		Bluetooth		07.00-19.00	
4352-4356		173		193	11.6%
4356-4352		188		190	1.1%
4356-4355		45		32	-28.9%
4356-4354		280		337	9.6%
Total 4359+4357+					
top three Bluetooth		12971		13685	5.5%

Only 4359 and 4357 SDR data and top three Bluetooth routes were used to calculate an average to avoid double counting.

Each traffic count in each category for the Tuesday video data was increased by 5.5%

Junction Flows – All Vehicles except Bicycles

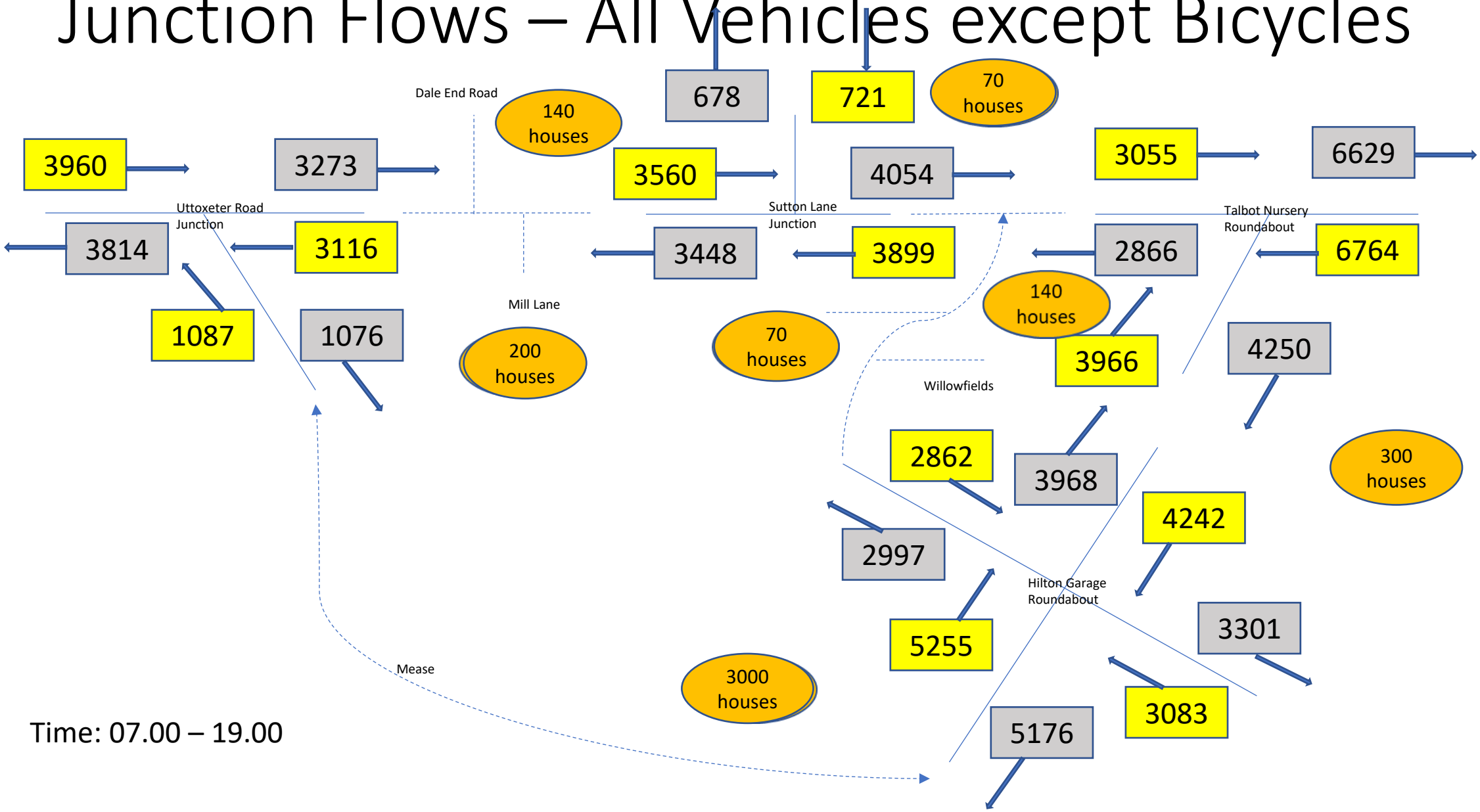


Time: 07.00 – 19.00

How many cars are there in Hilton?

- In order to understand if the traffic seen at the various junctions represents traffic that is leaving and arriving in Hilton or just ‘passing through’. It is necessary to understand how many cars, in particular, are domiciled in Hilton.
- The statistics available from the RAC on car ownership and corroborated by a survey from Statista.com is that somewhere between 1 and 1.2 cars per household is the national average.
- For this study, 1.2 has been used as Hilton is an above average area of affluence and this will give a more conservative result.

Junction Flows – All Vehicles except Bicycles



Time: 07.00 – 19.00

Estimate of through traffic on Main Street

- The number of cars accessing Main Street that emanate from houses in the vicinity is of the order of 340, which gives (x1.2) approx. 400 cars.
- It is unlikely that everyone of these cars will leave and return in the monitored time period on the monitored day.
- However, if they were, then from the flows recorded and assuming the 400 cars depart and return equally in both directions, roughly 3000 vehicles in the period 7.00am to 7.00pm must be ‘through traffic’.
- How does this compare to the traffic using the Mease?

Traffic using the Mease

- By applying a similar logic, it would expected that about 3600 cars would be accessing the Mease from Hilton
- The junction flows shows that over 4000 vehicles are stopping in Hilton.
- Part of the discrepancy can be explained by the vehicles accessing the Hilton Business Park off the Mease and probably also from vehicles just ‘visiting’ Aldi.
- The most generous assessment as to how much of the Mease traffic is ‘through traffic’ is the just over 1000 vehicles recorded at the Uttoxeter junction.

Through traffic using Main Street - Conclusion

- The conservative analysis carried out here suggests that ***approximately 3 times as much through traffic uses Main Street compared to the Mease.***

Bluetooth data comparison of Main Street and the Mease through traffic

These are the total match counts for the 7 day period

There is double counting here. The true numbers are more like 571 and 667

These look correct

These are overstated by at least 3 and 4mins

Journey times between these two recorders are overstated

Routes	Avg match count	Avg Travel Time	**Areas**	**Length - Miles**
4352 - 4356 (Top route)	1384	00:02:26	Derby Rd - A5132 Derby Rd	1.1
4356 - 4352 (Top route)	1489	00:02:35	A5132 Derby Rd - Derby Rd	1.1
4356 - 4354 - 4353 - 4352	4210	00:06:34	A5132 Derby Rd - The Mease - The Mease - Derby Rd	2.1
4352 - 4353 - 4354 - 4356	2524	00:08:09	Derby Rd - The Mease - The Mease - A5132 Derby Rd	2.1
4356 - 4355	269 280?	00:03:52	A5132 Derby Rd - Egginton Rd	1.2
4355 - 4354 - 4353 - 4352	1017	00:09:42	A5132 Egginton Rd - The Mease - The Mease - Derby Rd	2.5
4352 - 4353 - 4354 - 4355	1081	00:12:51	Derby Rd - The Mease - The Mease - A5132 Egginton Rd	2.5

Detailed info not supplied to be able to check these totals

Overstated?

This looks correct

The report from DCC is based on the 24 hour, 7 day total captured.

It suggests that between 2 and nearly 3 times as much traffic goes round the Mease as through Main Street.

The information is wrong!

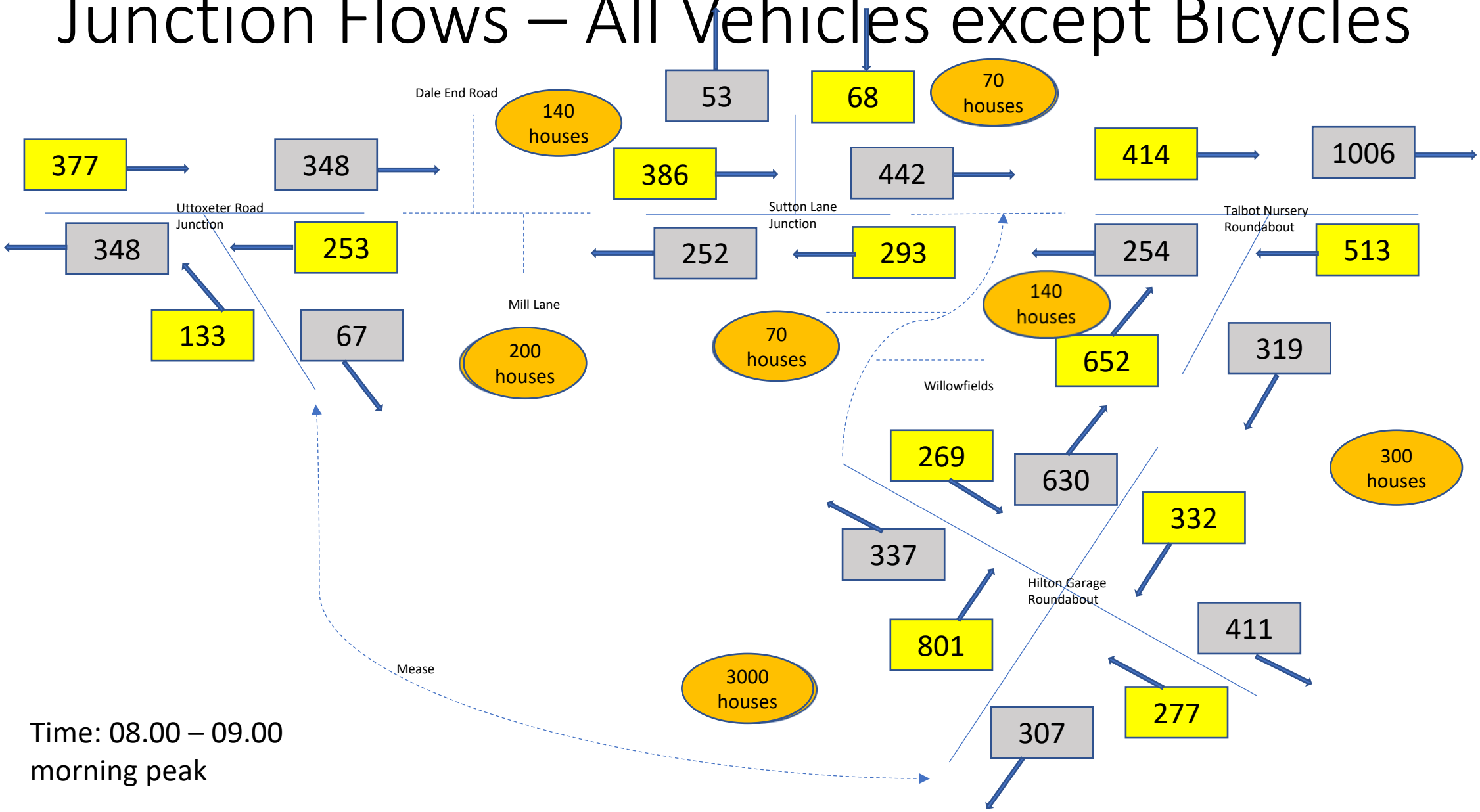
Bluetooth data comparison of Main Street and the Mease through traffic

- The video data and the SDR workday data both show that on average in the 7.00am to 7.00pm period there are between approximately 2200 and 2400 vehicles using the Mease. The true Bluetooth count is around 150.
- The equivalent for Main Street is approximately 6100 v 390
- In both cases the ratio of total vehicles to Bluetooth detected vehicles is between 15 and 16.
- The Bluetooth ratio of Main Street to Mease through traffic is 2.6 which supports the conclusion of 3 times as much traffic.

SDR data comparison of Main Street and Mease Through Traffic

- As the volume data is only recorded at one point on Main Steet and one point on the Mease, it is not possible to say how much of the traffic is through traffic.
- A simple ratio of the average workday volumes recorded in both directions during the period 7.00am to 7.00pm (6083 v 2395) suggests 2.5 times as much through traffic.
- The 24 hour ratio of average workday traffic (7679 v 3018) is also 2.5.

Junction Flows – All Vehicles except Bicycles

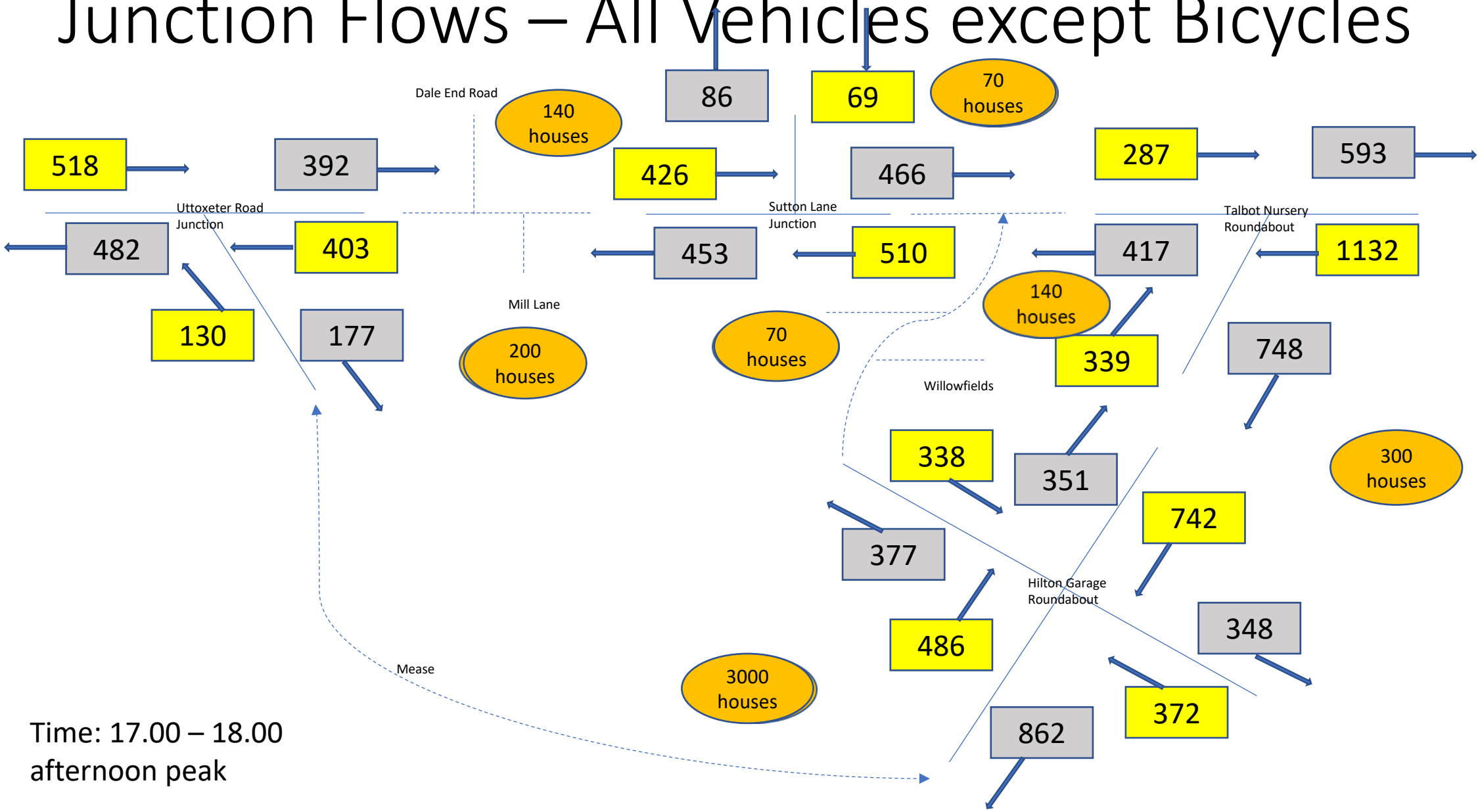


Time: 08.00 – 09.00
morning peak

Morning peak traffic through Main Street

- It is not possible to use the same estimates of traffic generated by the houses off Main Street as we simply do not know at what times during the day they leave their houses.
- ‘Eyeballing’ the data seems to suggest that of the order of 600 vehicles pass through Main Street compared to approximately 200 going round the Mease. This seems to support the daily ratio.
- The SDR data for this peak hour gives 608 vehicles using Main Street compared to 201 using the Mease again supportive of 3 times the traffic.
- The Bluetooth data is much less with 39 passing through Main Street v 17 going round the Mease i.e. 2.3 times.

Junction Flows – All Vehicles except Bicycles



Time: 17.00 – 18.00
afternoon peak

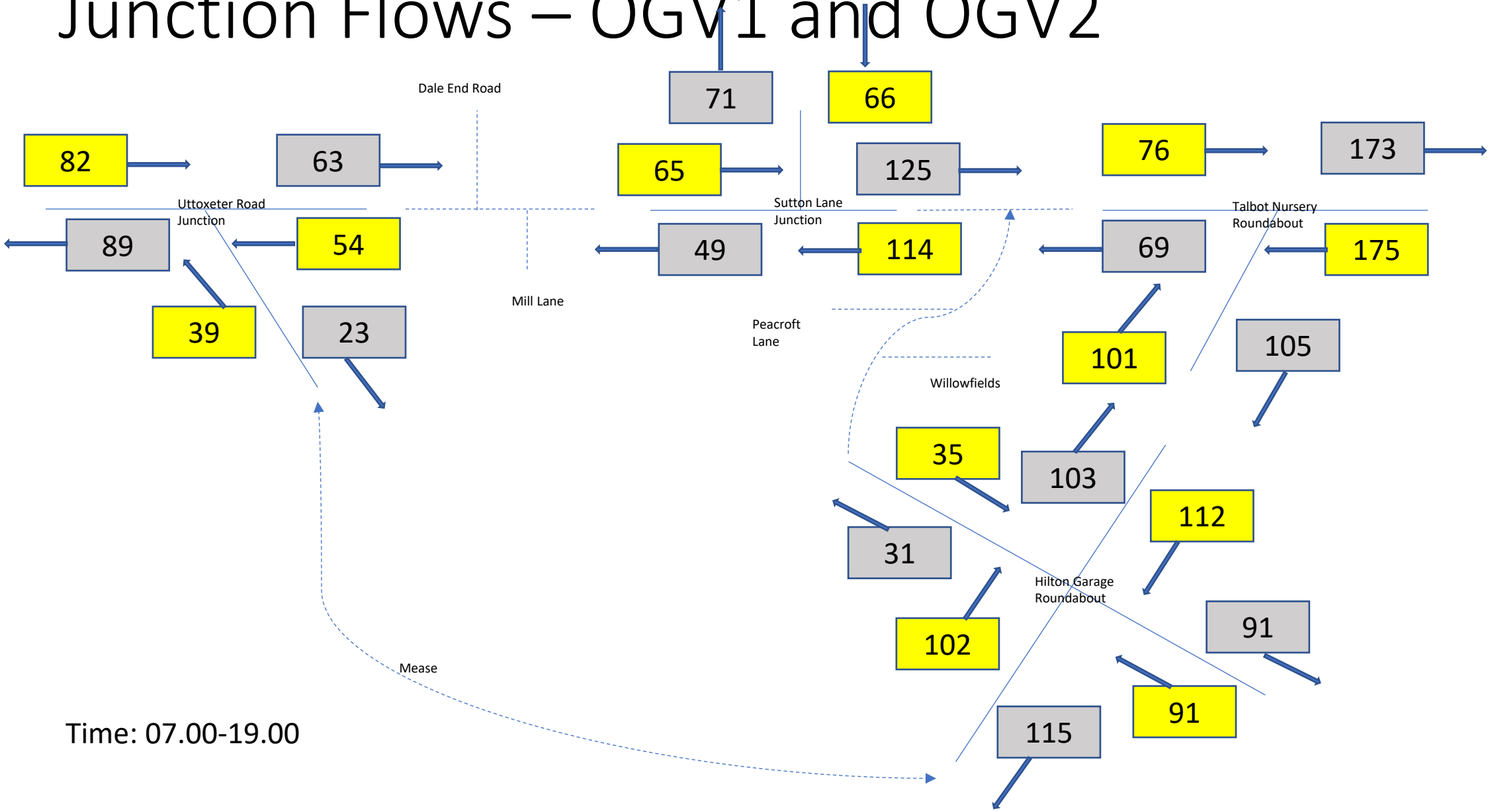
Afternoon peak traffic through Main Street

- As with the morning peak estimate, ‘Eyeballing’ the data seems to suggest that of the order of 800 vehicles pass through Main Street compared to approximately 300 going round the Mease. This a ratio of 2.7.
- The SDR data for this peak hour gives 743 vehicles using Main Street compared to 272 using the Mease, 2.7 times the traffic.
- The Bluetooth data is much less with 37 passing through Main Street v 9 going round the Mease i.e. 4 times.

How much of the HGV traffic is using Main Street rather than the Mease?

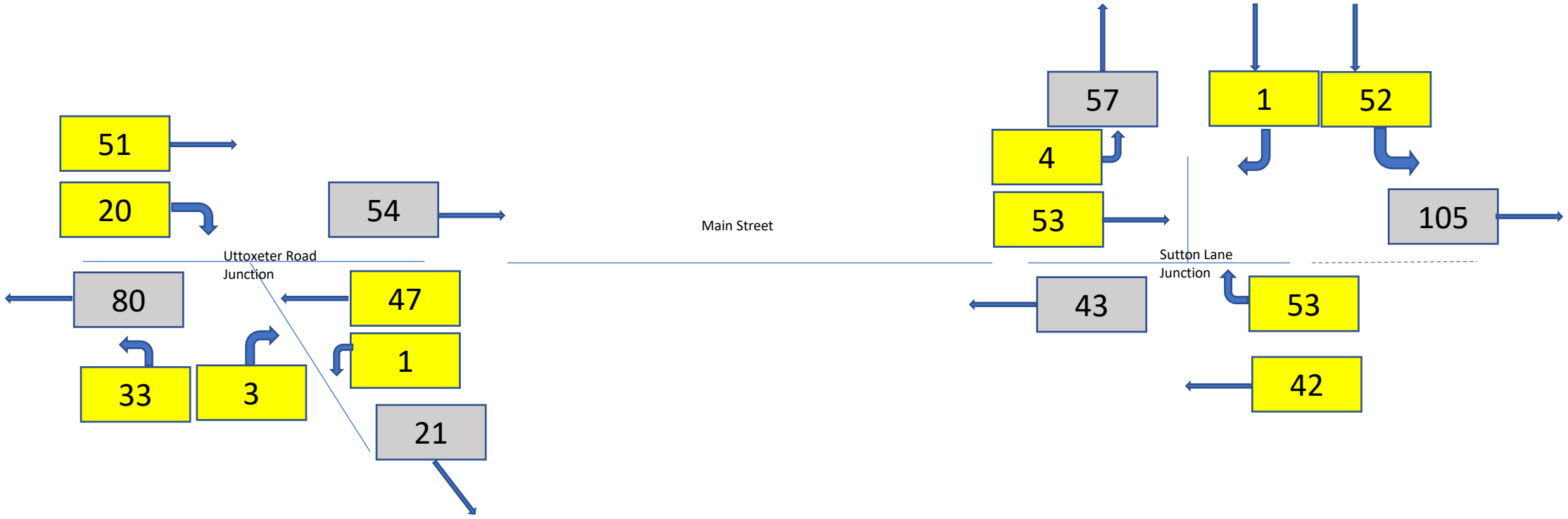
- The only data that can be used to estimate this is the video data.
- SDR and Bluetooth data do not distinguish between vehicles.
- A similar logic has been applied to the video data as was used for the total vehicle study
- There are HGVs based up Sutton Lane and at the Hilton Business Park off the Mease.
- The weight limit for Main Street is 7.5 tonnes, however the DCC classifications does not provide a split of the data at that weight.

Junction Flows – OGV1 and OGV2



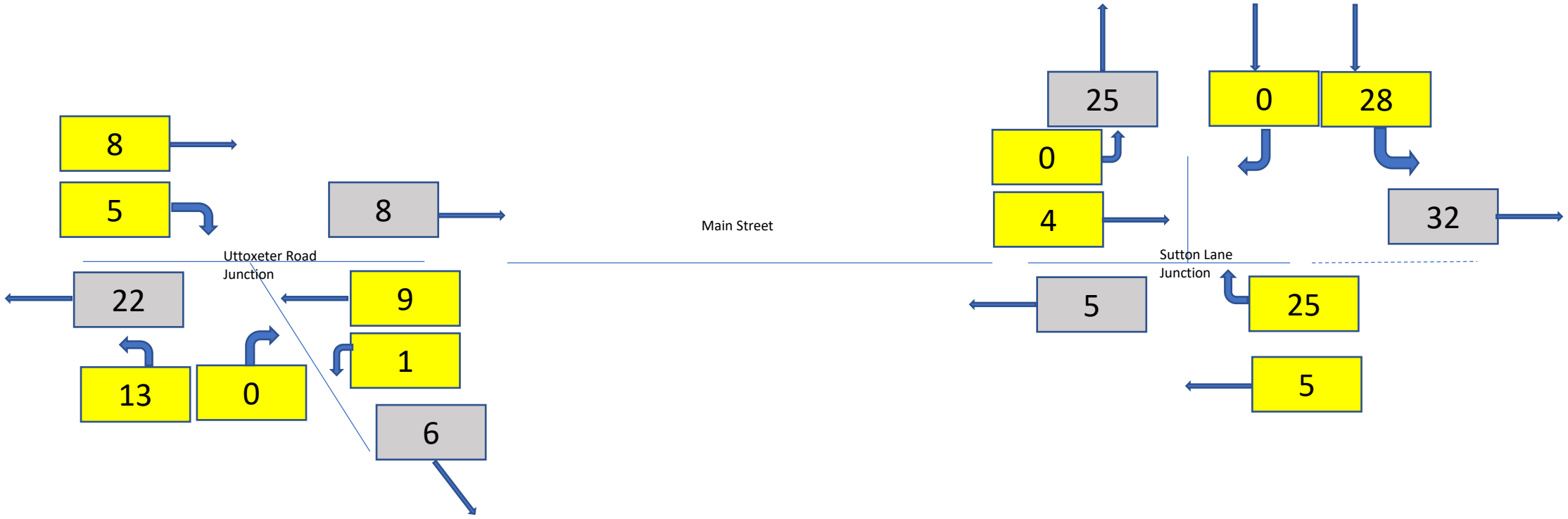
Time: 07.00-19.00

Junction Flows – HGVs over 3.5 tonnes



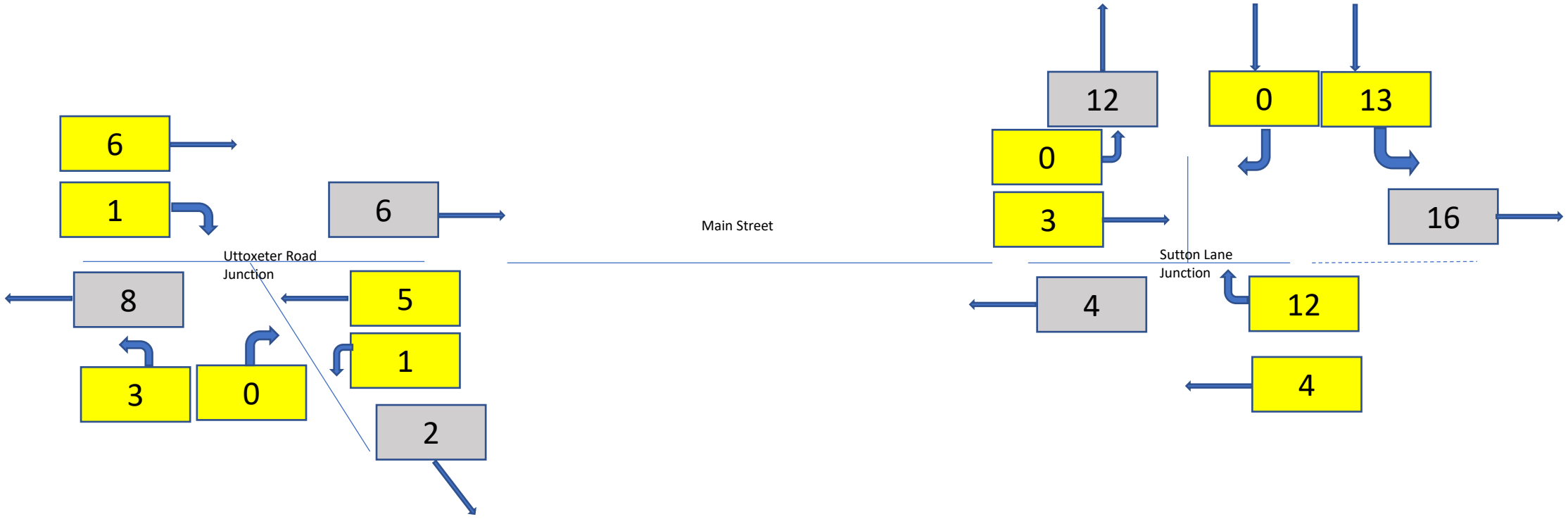
Time: 07.00-19.00

Junction Flows – OGV2 over 7.5 tonnes



Time: 07.00-19.00

Junction Flows – Tractors



Time: 07.00-19.00

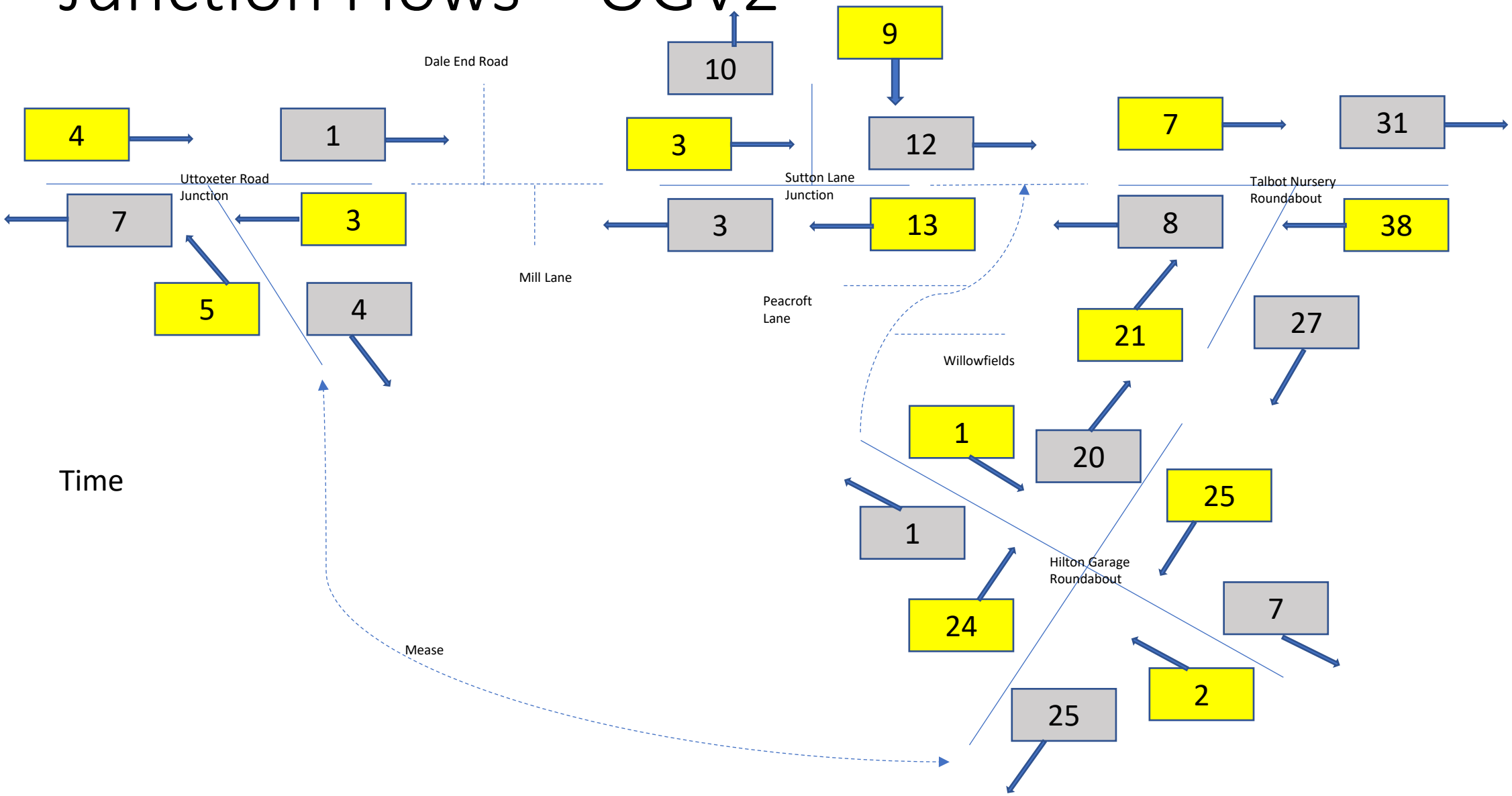
HGVs through Main Street

- On the day of the survey 97 vehicles went through Main Street (54+43).
- Some of this traffic would probably have been delivering to the King's Head, Post Office, Hilton House and maybe others.
- By comparison, the data implies that 57 vehicles went round the Mease (36+21).
- It is probably safe to conclude that approximately 2 times more HGVs go through Hilton rather than round.
- The vast majority will be breaking the weight limit

HGVs over 7.5 tonnes through Main Street

- On the day of the survey 7 vehicles went through Main Street (4+3).
- Some of this traffic would probably have been delivering to the King's Head, Post Office, Hilton House and maybe others.
- By comparison, the data implies that 5 vehicles went round the Mease (3+2).
- It is probably safe to conclude that approximately the same number of HGVs over 7.5 tonnes go through Hilton rather than round.
- The vast majority will be breaking the weight limit

Junction Flows – OGV2



Articulated Lorries going through Main Street and round the Mease

- This data will include tractors with trailers
- The data implies that 4 vehicles go through Main Street and at most 9 go round the Mease
- All vehicles using Sutton Lane used Derby Road on that day.
- Approximately 40 vehicles use the Hilton Business Park

Traffic Speeds through Main Street

- The speed data provided is based on the average for the 7 day period.
- The average speed during a 24 hour period is 22.3mph and for the 7.00am to 7.00pm period, the average is 21.8mph
- However, from the data provided it is possible to calculate the average percentage of traffic exceeding the speed limit.
- For the period 7.00am to 7.00pm, 5.4% of all vehicles are exceeding the speed limit.
- For the period 7.00pm to 7.00am, 17.8% of all vehicles are exceeding the speed limit.

Traffic Speeds through Main Street

- The data provided also enables the average speeds to be seen for Eastbound and Westbound traffic.
- For Eastbound traffic, 5.0% of all vehicles exceed the speed limit in the period 7.00am to 7.00pm, whereas 15.8% exceed the speed limit in the period 7.00pm to 7.00am.
- For Westbound traffic, 5.9% of all vehicles exceed the speed limit in the period 7.00am to 7.00pm, whereas 19.6% exceed the speed limit in the period 7.00pm to 7.00am.

Traffic Speeds on Derby Road

- The average speed during a 24 hour period is 36.6mph and for the 7.00am to 7.00pm period, the average is 36.4mph
- However, from the data provided it is possible to calculate the average percentage of traffic exceeding the speed limit.
- For the period 7.00am to 7.00pm, 25% of all vehicles are exceeding the speed limit.
- For the period 7.00pm to 7.00am, 34% of all vehicles are exceeding the speed limit.

Traffic Speeds on Derby Road

- The data provided also enables the average speeds to be seen for Eastbound and Westbound traffic.
- For Eastbound traffic, 29% of all vehicles exceed the speed limit in the period 7.00am to 7.00pm, whereas 37% exceed the speed limit in the period 7.00pm to 7.00am.
- For Westbound traffic, 21% of all vehicles exceed the speed limit in the period 7.00am to 7.00pm, whereas 31% exceed the speed limit in the period 7.00pm to 7.00am.

Traffic Speeds on the Mease

- The average speed during a 24 hour period is 39.9mph and for the 7.00am to 7.00pm period, the average is 40.0mph
- However, from the data provided it is possible to calculate the average percentage of traffic exceeding the speed limit.
- For the period 7.00am to 7.00pm, 55% of all vehicles are exceeding the speed limit.
- For the period 7.00pm to 7.00am, 52% of all vehicles are exceeding the speed limit.

Traffic Speeds on the Mease

- The data provided also enables the average speeds to be seen for Eastbound and Westbound traffic.
- For Eastbound traffic, 61% of all vehicles exceed the speed limit in the period 7.00am to 7.00pm, whereas 59% exceed the speed limit in the period 7.00pm to 7.00am.
- For Westbound traffic, 49% of all vehicles exceed the speed limit in the period 7.00am to 7.00pm, whereas 47% exceed the speed limit in the period 7.00pm to 7.00am.