

February 2023

# London Luton Airport Expansion

Planning Inspectorate Scheme Ref: TR020001

Volume 7 Other Documents

**7.02 Transport Assessment Appendices - Part 3 of 3  
(Appendices G - M)**

Application Document Ref: TR020001/APP/7.02

APFP Regulation: 5(2)(c)



**The Planning Act 2008**

**The Infrastructure Planning (Applications: Prescribed Forms and Procedure)  
Regulations 2009**

**London Luton Airport Expansion Development Consent  
Order 202x**

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**7.02 TRANSPORT ASSESSMENT APPENDICES –  
PART 3 OF 3 (APPENDICES G – M)**

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<b>Author:</b>	Luton Rising

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# VISSIM Modelling Report

Feb 2023



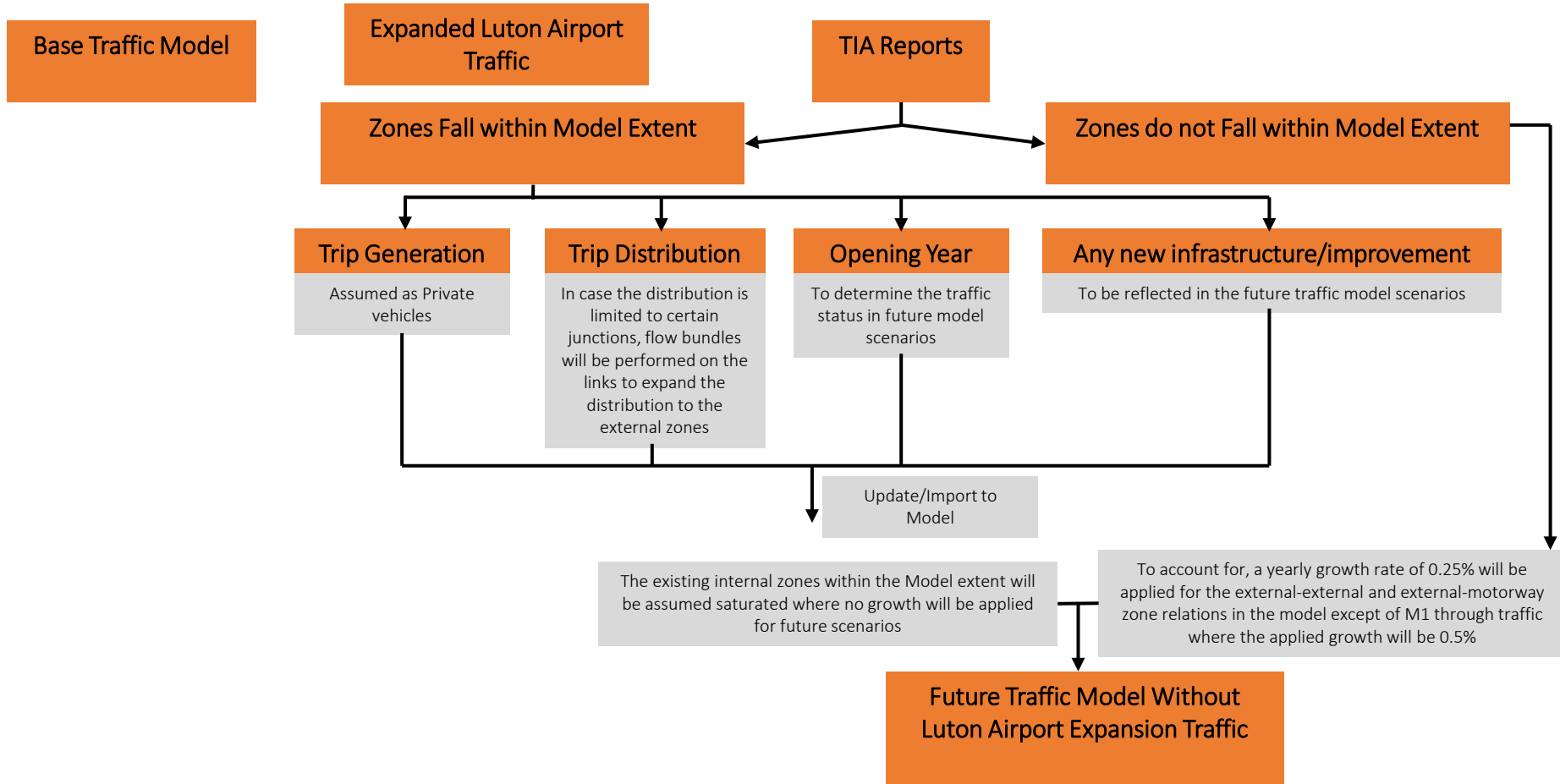
# Vissim modelling report - 2027

2027 With Airport Expansion (21.5mppa) and  
2027 Without Airport Expansion (18mppa) scenario.

# Vissim Modelling Report

- Methodology
- 2027 Future Year Model
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- Geometric Changes – Junctions and Roads
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# Luton Airport – Future Modelling Methodology





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# 2027 Future Year Model

- Two Modelling Scenarios
  - 2027 Without Airport Expansion – 18mppa
  - 2027 With Airport Expansion – 21.5mppa
- Two modelled periods
  - Morning Peak Hour (AM) – 08:00-09:00 (+1 hour warm-up and cool-off)
  - Evening Peak Hour (PM) –17:00-18:00 (+1 hour warm-up and cool-off)
- Two growth factors were applied to Base Model (2017) traffic
  - A yearly factor of 0.25% on the internal roads of the study area
  - A yearly factor of 0.5% for the through traffic on the M1

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# 2027 Future Year Model - Airport

- In year 2027, the airport is expected to serve 21.5 million passengers per year (mppa);
- Airport traffic (excluding Century Park development) in year 2027 is expected to increase (two-way) by 451 vehicles and 631 vehicles in the AM and PM peak hours when compared with the Base Model (2017); and
- Existing terminal will be serving the 21.5mppa at airport in year 2027.

# 2027 Future Year Vissim Model

- A Vissim micro-simulation model was developed for London Luton Airport Expansion Project;
- The study area is depicted by the red polygon.

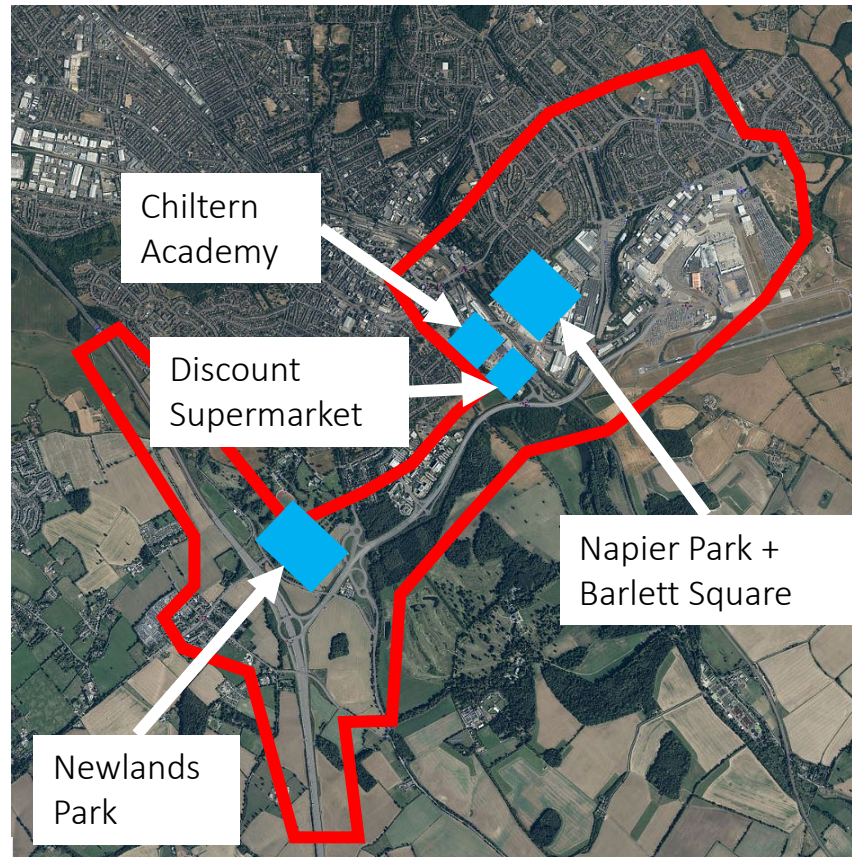


# 2027 Future Year Model – Without Expansion

The following future developments are included in the 2027 **Without Expansion 18mppa** scenario:

- Napier Park (including Barlett Square),
- Newlands Park,
- Chiltern Academy,
- Discount Supermarket.

These development are expected to add approx. 2,350 and approx 2,950 trips in the AM and PM peak hours respectively



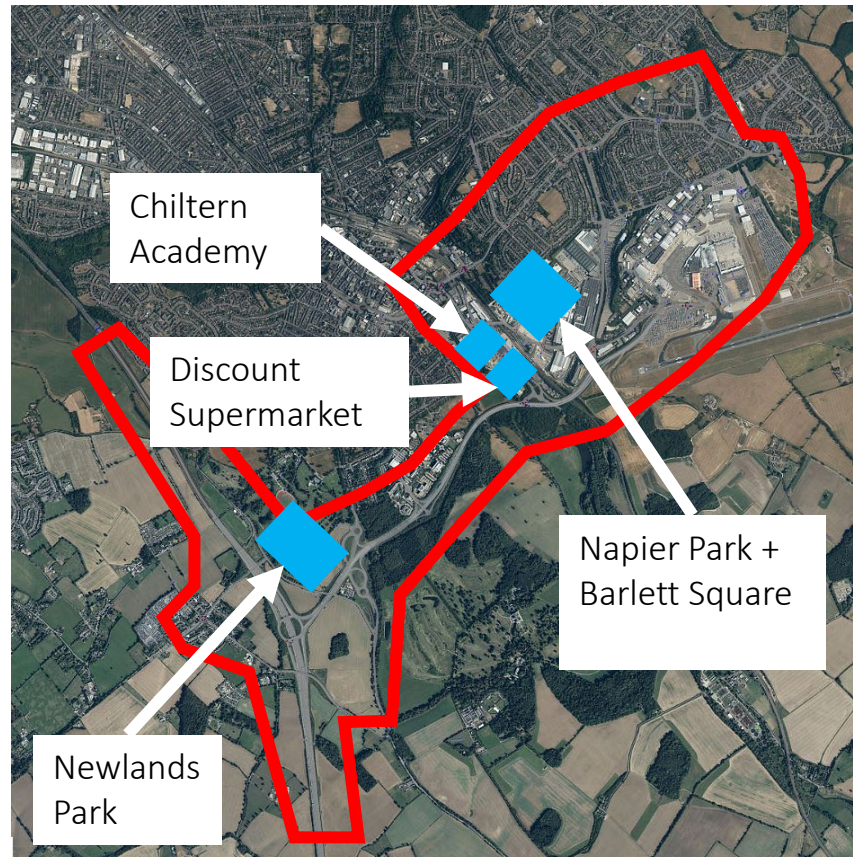
# 2027 Future Year Model – With Expansion

The following future committed developments are included in the 2027 **With Expansion 21.5mppa** scenario:

- Napier Park (including Barlett Square),
- Newlands Park,
- Chiltern Academy,
- Discount Supermarket.

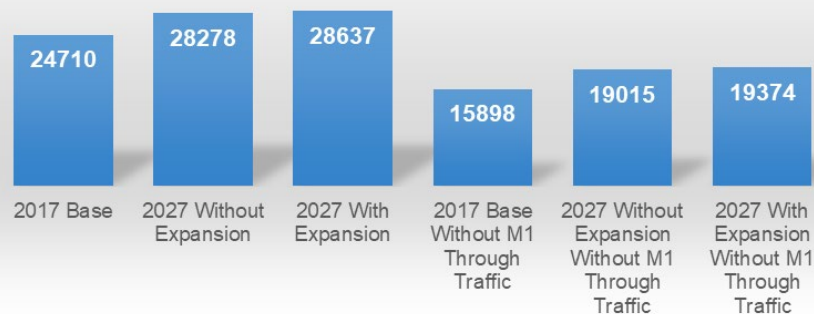
These development expected to add approx. 2,350 and approx 2,950 trips in the AM and PM peak hours respectively.

The Century Park development with the Airport Link Road (CPAR) is not developed in this scenario.



# 2027 Peak Hour Volumes

## AM Peak Hour Matrix Totals Comparison



## PM Peak Hour Matrix Totals Comparison

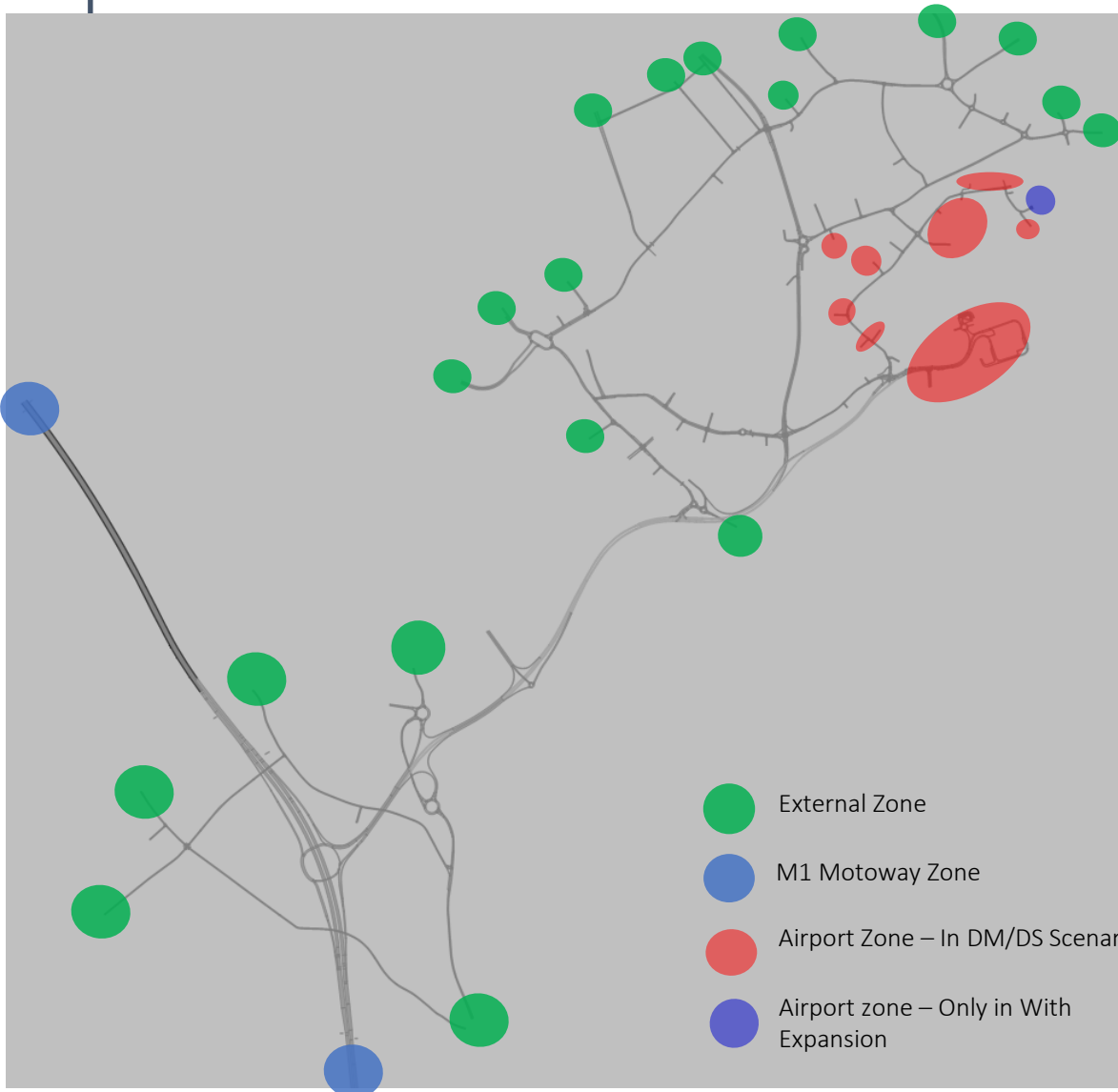


- An increase of approximately 350 vehicles was associated with the airport expansion during the AM peak
- The number of vehicles circulating within the study area without M1 through traffic increased from 15,900 to 19,350 between 2017 and 2027 (with Expansion) during the AM peak – approximately 3,500 vehicles increase

- An increase of approximately 500 vehicles was associated with the airport expansion during the PM peak
- The number of vehicles circulating within the study area without M1 through traffic increased from 16,700 to 20,400 between 2017 and 2027 (with Expansion) during the PM peak – approximately 3,850 vehicles increase



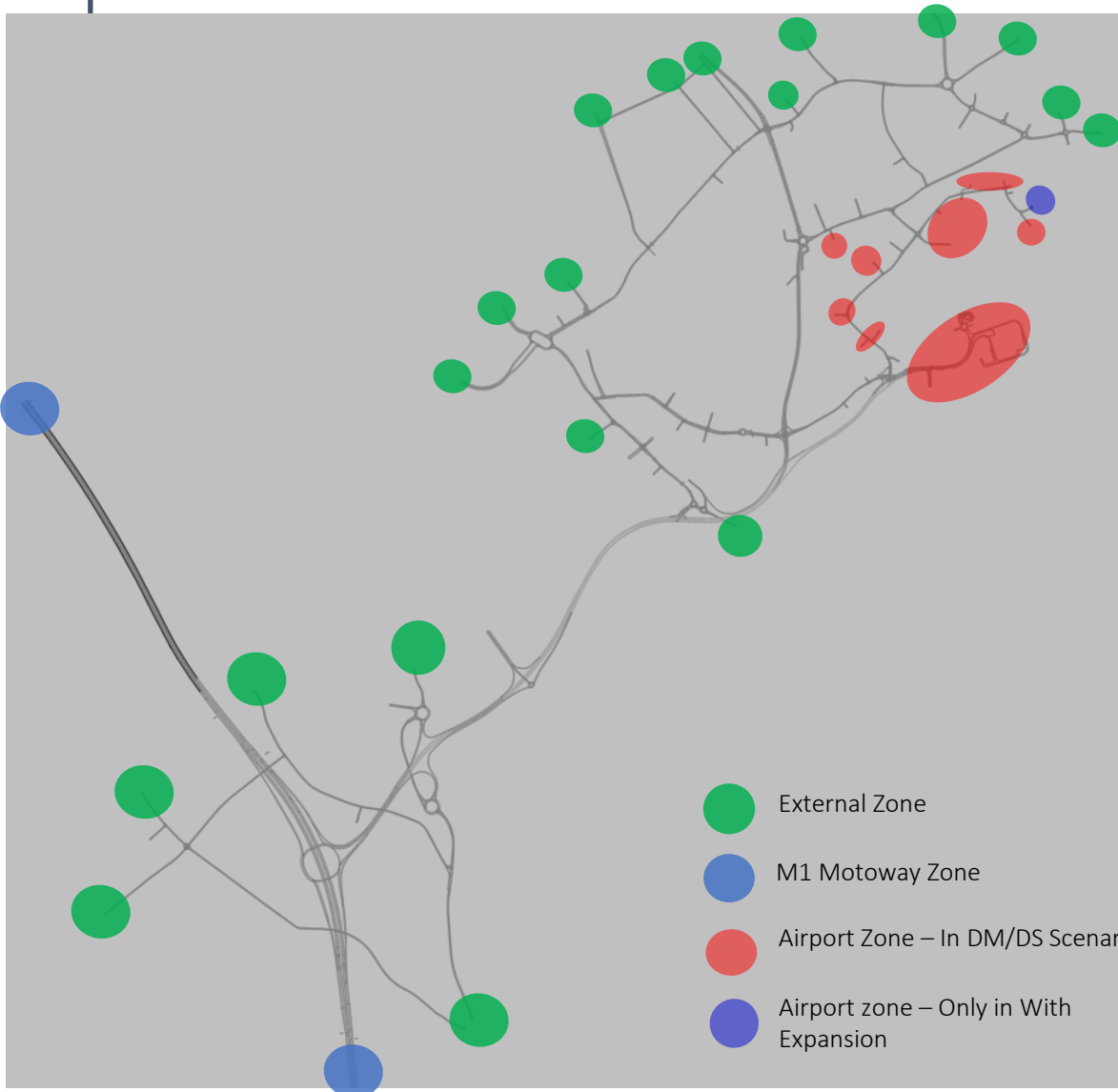
# 2027 Trip Ends – AM Peak Hour With and Without Expansion



Trip End	Without Expansion	With Expansion
M1 to M1	9,263	9,263
M1 to Airport	1,243	1,380
Airport to M1	970	1,068
External to Airport	814	888
Airport to External	342	380
M1 to External	1,393	1,393
External to M1	915	915
M1 to Internal	1,313	1,313
Internal to M1	532	532
Internal to Internal	1,025	1,025
Internal to External	2,445	2,445
External to Internal	3,731	3,731
External to External	3,926	3,926
Total Without Through M1	19,015	19,374
Total With Through M1	28,278	28,637

The zones that are not highlighted were assumed internal/development zones

# 2027 Trip Ends – PM Peak Hour With and Without Expansion



Trip End	Without Expansion	With Expansion
M1 to M1	10,366	10,366
M1 to Airport	860	1,025
Airport to M1	1,067	1,256
External to Airport	341	391
Airport to External	802	886
M1 to External	1,609	1,609
External to M1	1,539	1,539
M1 to Internal	969	969
Internal to M1	1,668	1,668
Internal to Internal	848	848
Internal to External	3,422	3,422
External to Internal	2,744	2,744
External to External	3,859	3,859
Total Without Through M1	20,075	20,574
Total With Through M1	30,441	30,940

The zones that are not highlighted were assumed internal/development zones

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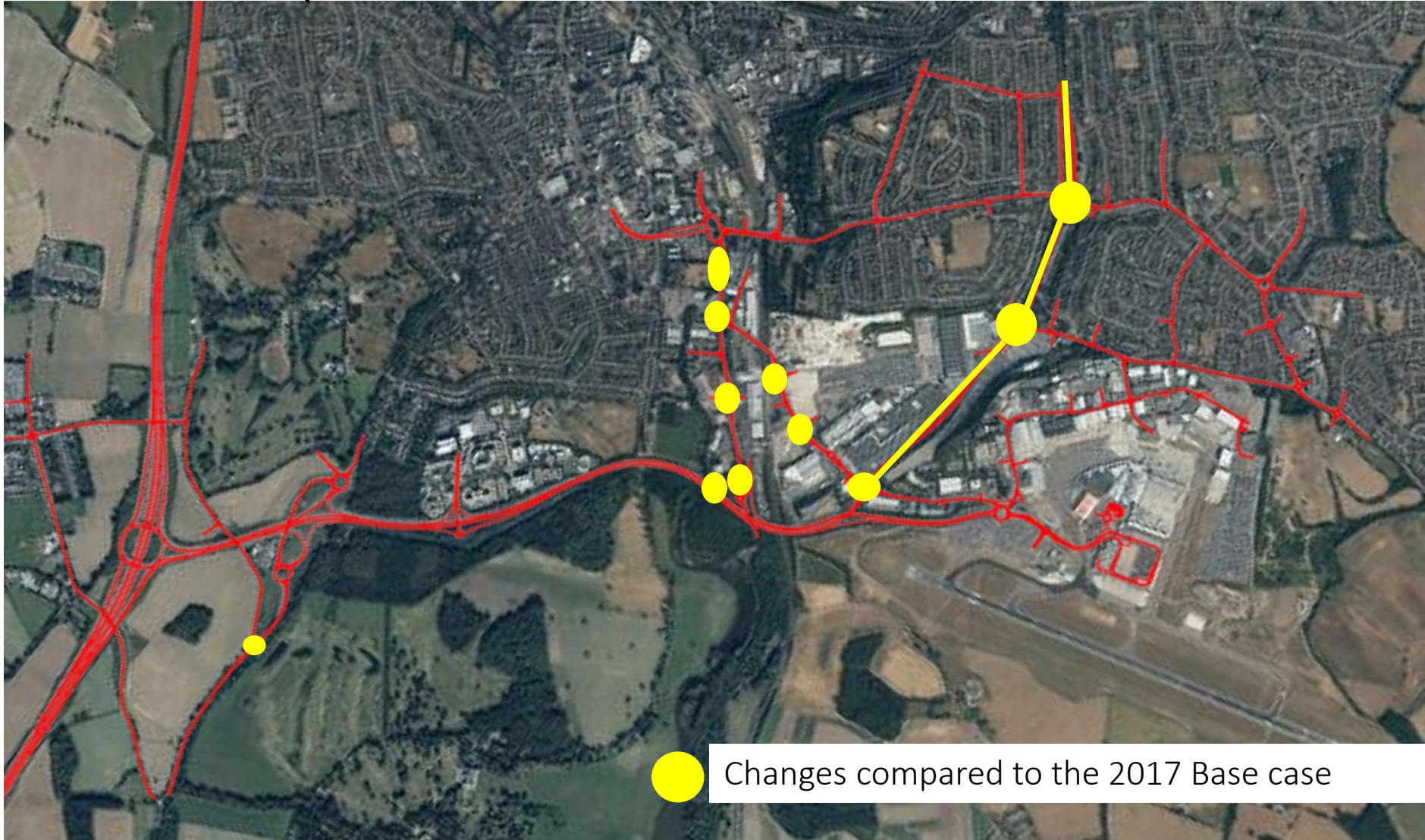
# Geometric Changes – Junctions and Roads

- Geometric changes were introduced to a number of junctions and roads in the road network of the modelled area for the 2027 Scenario;
- Some of these changes are only applicable for the 'With Expansion' Scenario, while others are applicable for both scenarios ('With Expansion' and 'Without Expansion');
- Signalised junctions within the model use Vap and fixed controls (phasing plan and green time depends on the traffic demand);
- The 21.5mppa M1 J10 mitigation layout is included only for the With Expansion scenario, the Without case uses the existing layout for J10 (No widening in either scenario)

# Geometric Changes – Junctions and Roads

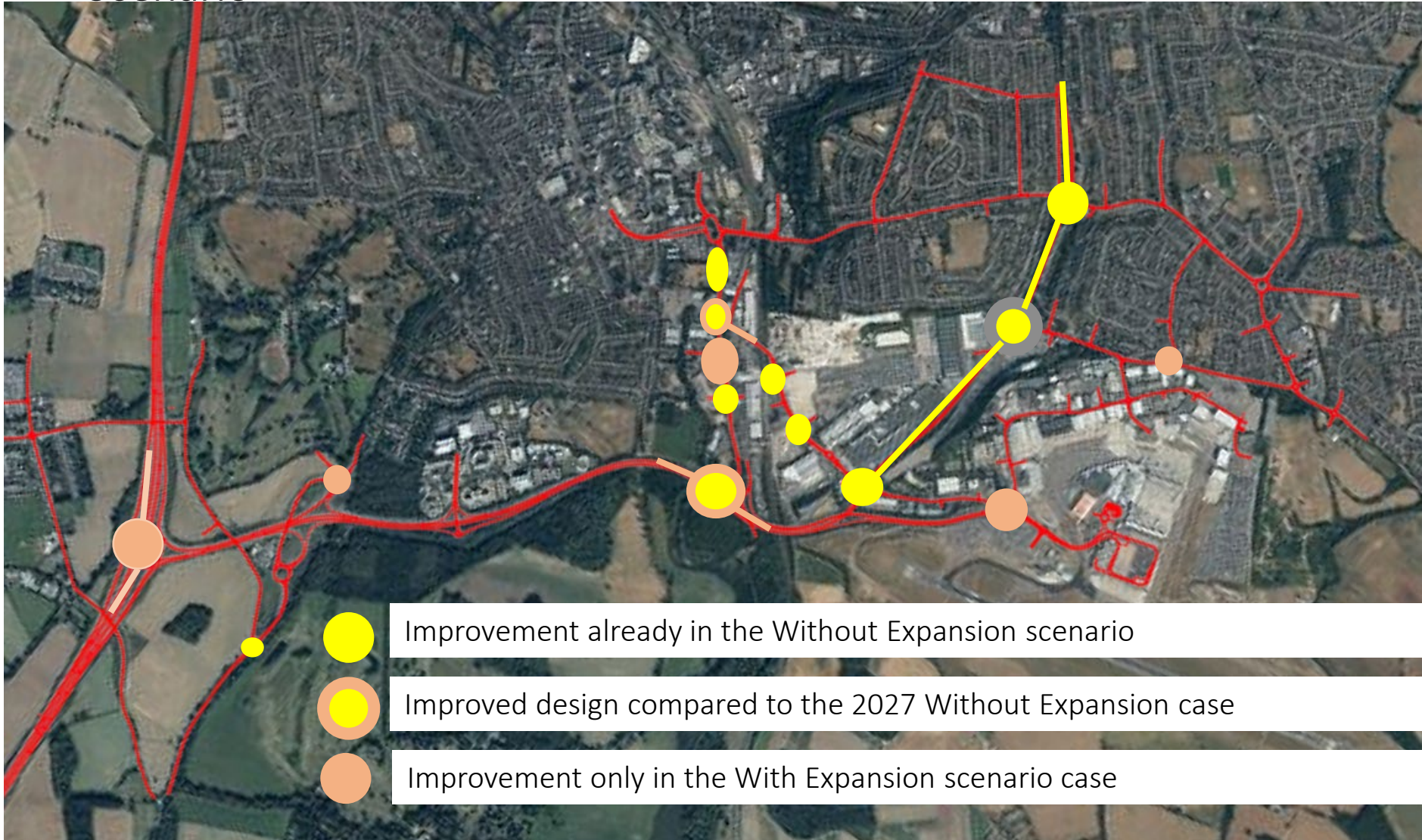
- Luton Borough Council schemes included in the Without and With Expansion case comprise:
  - Vauxhall Way Dualling;
  - Vauxhall Way junction improvements (Kimpton Rd, Eaton Green and Crawley Green Jct);
  - Kimpton Road/Windmill Road;
  - A1081/B653: Removing right turn Bus lane, and minor widening.
- The CPAR link (henceforth to be called Airport Link Road) now forms part of the DCO application, and is therefore excluded from the Without Expansion scenarios. In the 21.5mppa scenario however it is assumed that it is not developed yet;
- Junction improvements associated with Committed Developments were added to the Without and With Expansion cases;
- Vauxhall Way – Eaton Green Rd is signalised in the ‘With’ case;

# Luton Airport – 2027 Junction Changes – Without Expansion Scenario

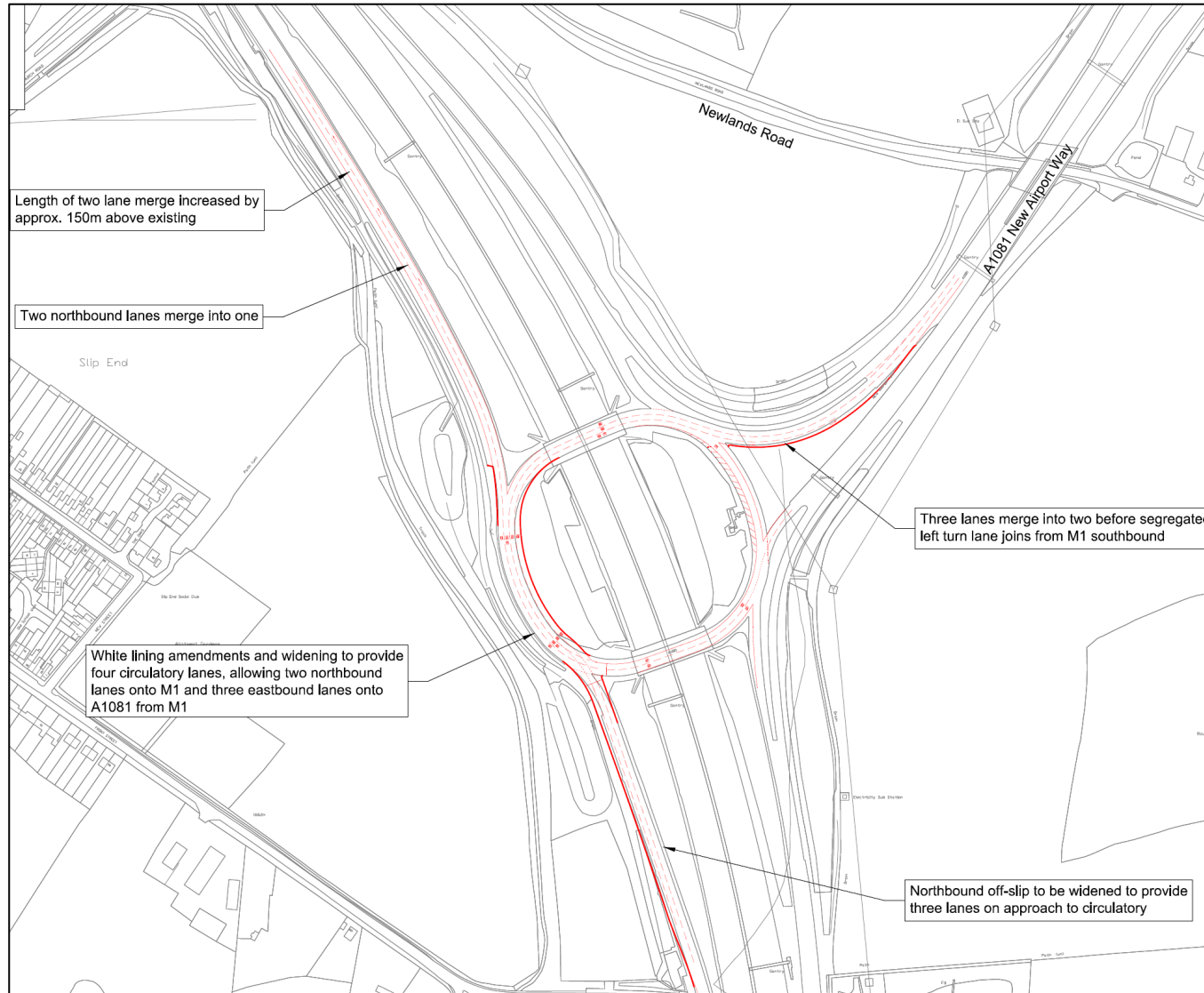




# Luton Airport – 2027 Junction Changes – With Expansion Scenario



# Luton Airport – M1 J10 Proposed Layout (21.5mppa)



Key changes proposed for the With Expansion scenario:

- Widening on slip roads
- Widening the gyratory
- No M1 widening considered



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# Driving Behaviour

- Vissim has default parameters that affect driving behaviour such as the lane change conditions of vehicles;
- Two main driving behaviour wet set, Motorised based on Wiedemann 99 for used on the motorway and Urban based on Wiedemann 74 for the use on the urban roads;
- Driving behaviour was set to 'cooperative' for all vehicles to facilitate the necessary lane change;
- A sub category of driving behaviour was defined for the Motorised and Urban based on a more cooperative lane change. This driving behaviour was mainly used in bottleneck location with a drop in number of lanes, at the entrance of the junctions in case vehicles want to change lane in a congested area, and on the motorway where vehicles merge from the on-ramp to the main line.
- All models, concluding the base year, future year With and Without Expansion scenarios use the same assumptions in terms of driving behaviour settings. No change has been made to the future models in this regard.

# Driving Behaviour (For All Models)

No.: 15 Name: Motorway (New)

Following Lane Change Lateral Signal Control Meso

General behavior: Free lane selection

Necessary lane change (route)

	Own	Trailing vehicle
Maximum deceleration:	-5.00 m/s <sup>2</sup>	-4.00 m/s <sup>2</sup>
- 1 m/s <sup>2</sup> per distance:	100.00 m	100.00 m
Accepted deceleration:	-2.00 m/s <sup>2</sup>	-2.00 m/s <sup>2</sup>

Waiting time before diffusion: 60.00 s  Overtake reduced speed areas

Min. headway (front/rear): 0.50 m  Advanced merging

To slower lane if collision time is above. 11.00 s  Vehicle routing decisions look ahead

Safety distance reduction factor: 0.40

Maximum deceleration for cooperative braking: -5.00 m/s<sup>2</sup>

Cooperative lane change

Maximum speed difference: 6.71 mph

Maximum collision time: 10.00 s

No.: 18 Name: Urban (New)

Following Lane Change Lateral Signal Control Meso

General behavior: Free lane selection

Necessary lane change (route)

	Own	Trailing vehicle
Maximum deceleration:	-5.00 m/s <sup>2</sup>	-4.00 m/s <sup>2</sup>
- 1 m/s <sup>2</sup> per distance:	100.00 m	100.00 m
Accepted deceleration:	-2.00 m/s <sup>2</sup>	-2.00 m/s <sup>2</sup>

Waiting time before diffusion: 60.00 s  Overtake reduced speed areas

Min. headway (front/rear): 0.50 m  Advanced merging

To slower lane if collision time is above. 11.00 s  Vehicle routing decisions look ahead

Safety distance reduction factor: 0.40

Maximum deceleration for cooperative braking: -5.00 m/s<sup>2</sup>

Cooperative lane change

Maximum speed difference: 6.71 mph

Maximum collision time: 10.00 s

No.: 16 Name: Motorway (Ramps)

Following Lane Change Lateral Signal Control Meso

General behavior: Free lane selection

Necessary lane change (route)

	Own	Trailing vehicle
Maximum deceleration:	-6.00 m/s <sup>2</sup>	-6.00 m/s <sup>2</sup>
- 1 m/s <sup>2</sup> per distance:	100.00 m	100.00 m
Accepted deceleration:	-4.00 m/s <sup>2</sup>	-4.00 m/s <sup>2</sup>

Waiting time before diffusion: 60.00 s  Overtake reduced speed areas

Min. headway (front/rear): 0.50 m  Advanced merging

To slower lane if collision time is above. 11.00 s  Vehicle routing decisions look ahead

Safety distance reduction factor: 0.25

Maximum deceleration for cooperative braking: -9.00 m/s<sup>2</sup>

Cooperative lane change

Maximum speed difference: 7.50 mph

Maximum collision time: 10.00 s

No.: 17 Name: Ramps

Following Lane Change Lateral Signal Control Meso

General behavior: Free lane selection

Necessary lane change (route)

	Own	Trailing vehicle
Maximum deceleration:	-6.00 m/s <sup>2</sup>	-6.00 m/s <sup>2</sup>
- 1 m/s <sup>2</sup> per distance:	100.00 m	100.00 m
Accepted deceleration:	-4.00 m/s <sup>2</sup>	-4.00 m/s <sup>2</sup>

Waiting time before diffusion: 60.00 s  Overtake reduced speed areas

Min. headway (front/rear): 0.40 m  Advanced merging

To slower lane if collision time is above. 11.00 s  Vehicle routing decisions look ahead

Safety distance reduction factor: 0.25

Maximum deceleration for cooperative braking: -9.00 m/s<sup>2</sup>

Cooperative lane change

Maximum speed difference: 7.50 mph

Maximum collision time: 10.00 s

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# Convergence

- Iterative simulation runs were conducted for each model to reach a state of convergence. In other words, travel times and volumes do not fluctuate significantly between the different runs of the same random seeds;
- Three convergence criteria are available in Vissim:
  - Travel time on paths;
  - Travel time on edges; and
  - Volume on edges.
- For the London Luton Airport Expansion the 'Travel time on paths' criteria was selected:
  - The long paths and the high number of edge forming each path make the 'travel time on edge' an unpractical choice for convergence in the defined study area
  - The traffic volume on the edges vary from a hundred vehicles to few thousands vehicles in the study area. Therefore, setting a convergence criteria based on a fixed variation in the number of vehicles on all the edges is not a good choice in this case;
- The study area is characterised by a high number of VAP controlled signals (variable timings). Therefore, the green time per phase is not constant and vary depending on traffic demand. For this reason it was decided to 'relax' the convergence criteria to no more than 20% variation in travel time on at least 80% of the paths.

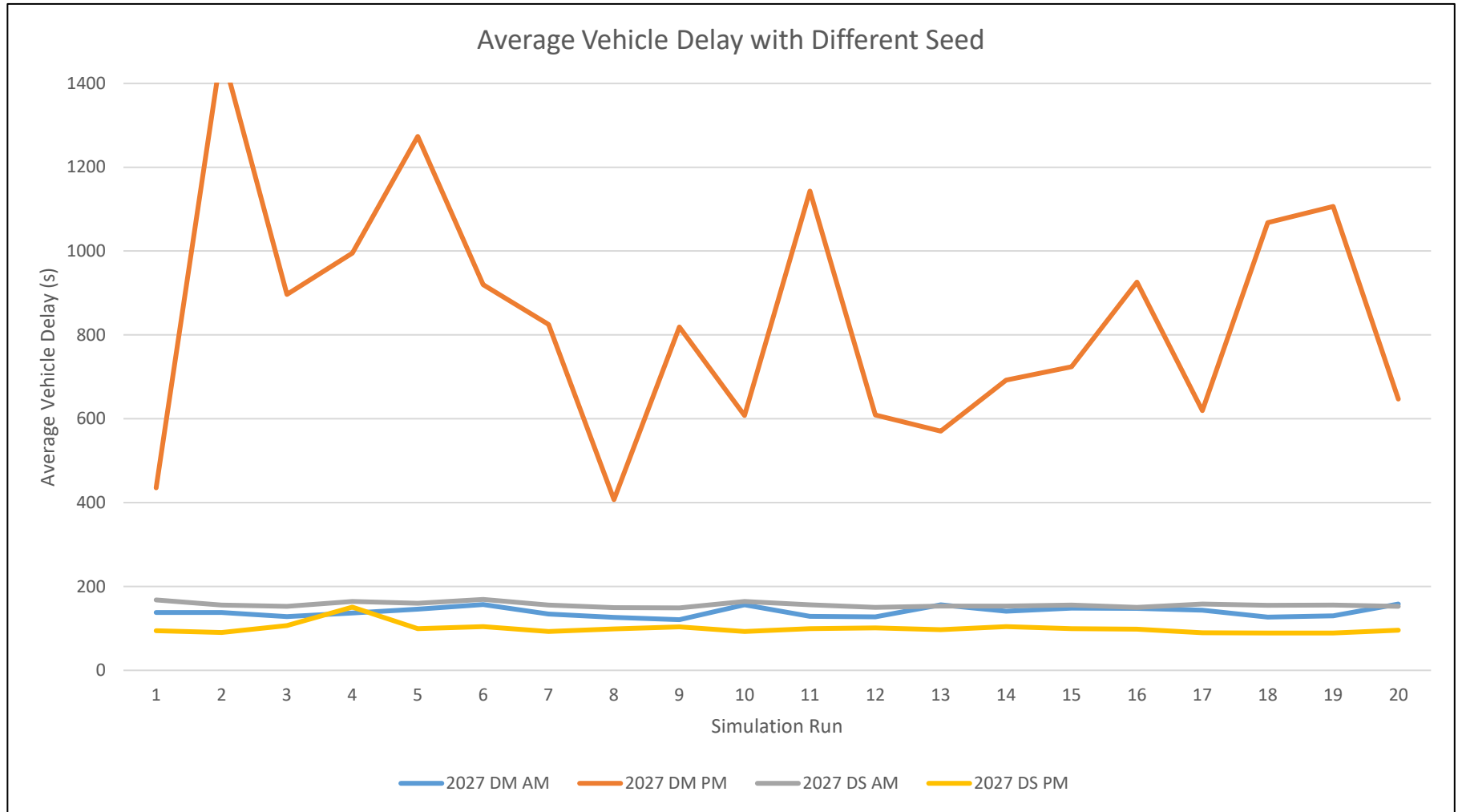
# Convergence

Similar convergence procedure was applied for both the AM & PM models:

1. Demonstrate level of convergence:
  - Each model has been run for at least 100 iterations,
  - All the iterations thoroughly checked,
  - Confirm iteration with achieved required convergence criteria, and
  - Check simulation visually for anomalies.
  
2. Confirm Convergence:
  - The selected iteration is run for 20 iterations,
  - Different random seeds were adopted,
  - Network Performance assessed in terms of Delays and Travel times, and
  - Report Average Outputs of the 20 runs.

\*The 2027 18mppa PM model did not reach convergence due to the significant congestion within the network

# Convergence Sample - Average Delay/Vehicle/Run



- The model did not indicate significant traffic problems in the AM Without Expansion case. The PM Without Expansion scenario showed breakdown in traffic condition. The average delay figures over simulation runs showed that the Without scenario models were less stable as they varied over the runs. The model showed stable results for With Expansion scenarios.
- Mainly the Without Expansion PM peak scenario shows instability over the 20 runs. This is caused by the congestion along the A1081.

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## Comparative Analysis of the two scenarios

- A Vissim micro-simulation model was developed for London Luton Airport Expansion Project;
- Comparison between the ‘Without Expansion’ and ‘With Expansion’ covered:
  - Network Performance;
  - Node Assessment;
  - Travel Time; and
  - Traffic Counts.



# Network Performance

- Network performance provides an assessment of all the vehicles within the study area;
- Network performance provides the average value of defined key performance indices (KPIs) by considering the data of all vehicles in the modelled network;
- These KPIs include average delays and the average speed of all vehicles within the study area.

# Network Performance

- **AM peak:** The model showed that the network operated slightly worse in the With Expansion case compared to the Without Expansion case, that did not show long delays or congestion. The average speed was comparative, and the delay increased by only 17 seconds as a result of the Airport Expansion. The proposed mitigation measures were able to maintain overall traffic conditions with some reduction in performance.
- **PM Peak:** The model indicated that the network experienced queuing and some delay in the Without Expansion case. The model showed that traffic is sensitive to break down in the Without case. The proposed expansion scheme includes additional mitigation which is particularly beneficial in the PM peak hour and which shows improved network performance and reduced breakdown inflow even with greater traffic flows in the With Expansion scenario.

2027 Scenario	Average Delay (sec)	Average Speed (mph)
AM - Without Expansion	2min 20s	22.9
AM - With Expansion	2min 37s	22.1
PM - Without Expansion	13min 58s	6.9
PM - With Expansion	1min 40s	28.5

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# Level Of Service Criteria – HCM 2010

- Level of service on junctions was assessed based on the below criteria of the Highway Capacity Manual (2010)
- Junction analysis performed used the built in Node Analysis in Vissim
- Node results compared between ‘Without Expansion’ and ‘With Expansion’ scenarios. Like for like comparison was adopted

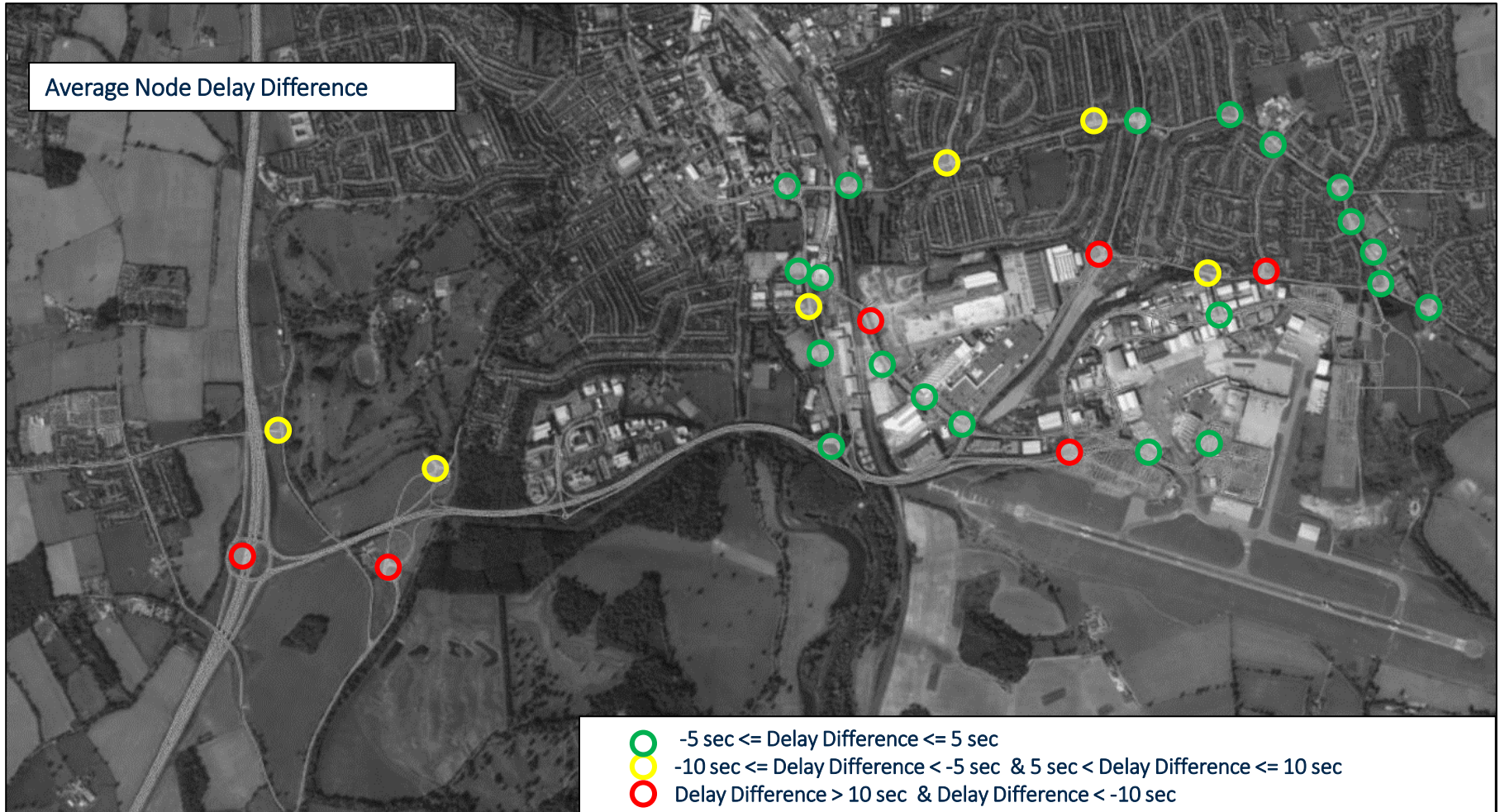
## Signalised Intersection

Average Vehicle Delay (sec)	Level Of Service
$\leq 10$	A
$> 10$ and $\leq 20$	B
$> 20$ and $\leq 35$	C
$> 35$ and $\leq 55$	D
$> 55$ and $\leq 80$	E
$> 80$	F

## Roundabout Intersection

Average Vehicle Delay (sec)	Level Of Service
$\leq 10$	A
$> 10$ and $\leq 15$	B
$> 15$ and $\leq 25$	C
$> 25$ and $\leq 35$	D
$> 35$ and $\leq 50$	E
$> 50$	F

# Junction Assessment – AM Peak hour



# Junction Assessment – AM Peak Hour



# Junction Assessment – AM Peak Hour

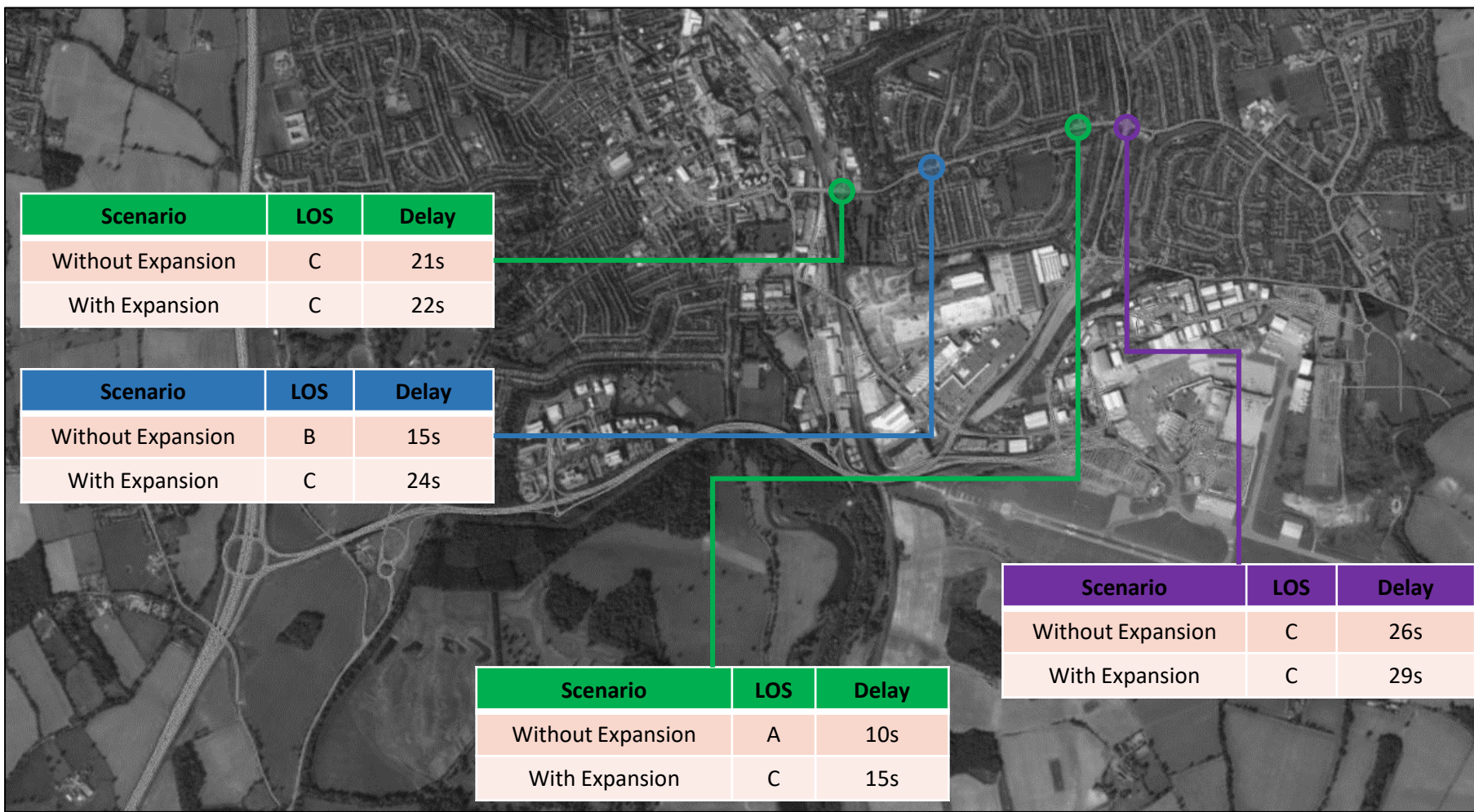




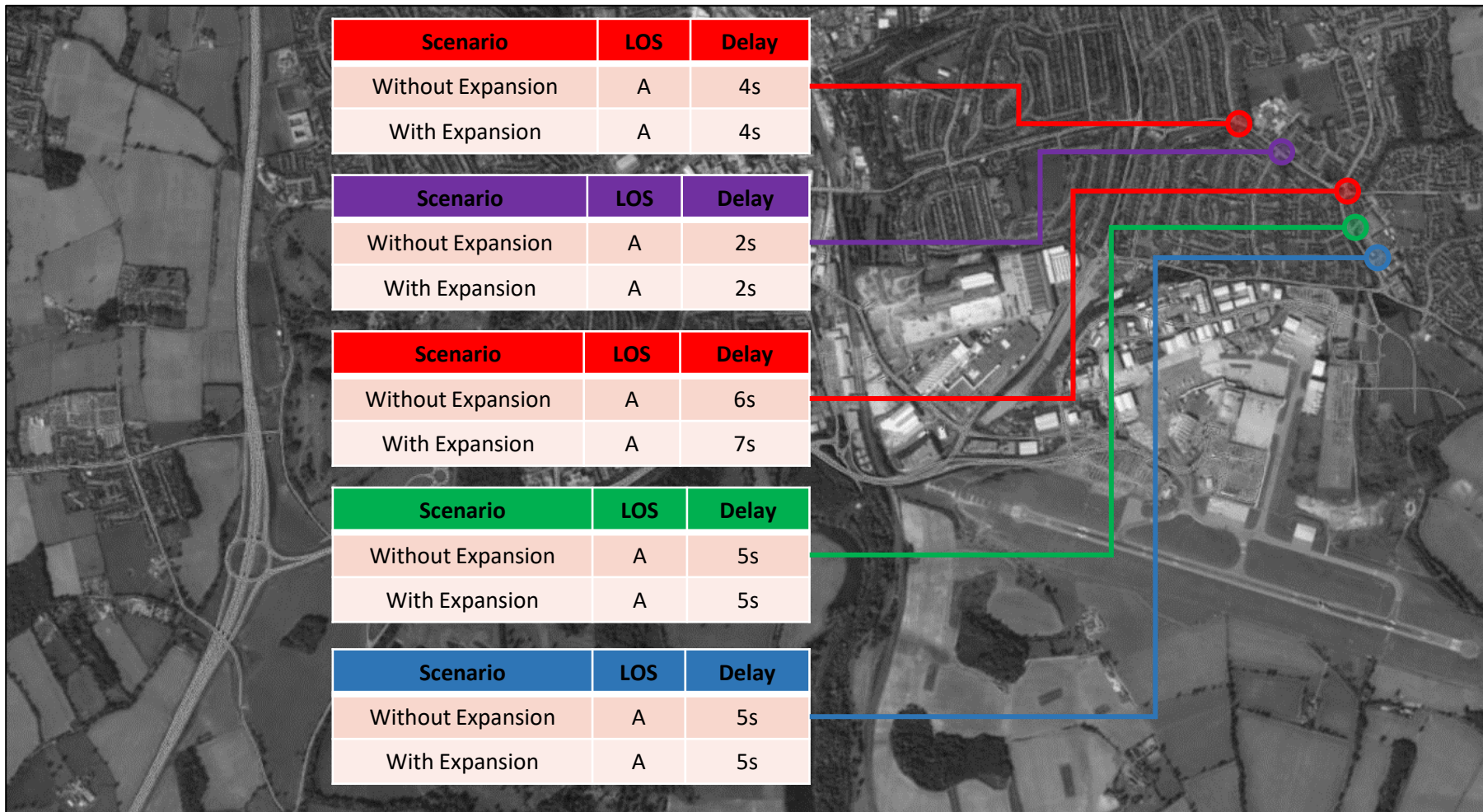
# Junction Assessment – AM Peak Hour



# Junction Assessment – AM Peak Hour



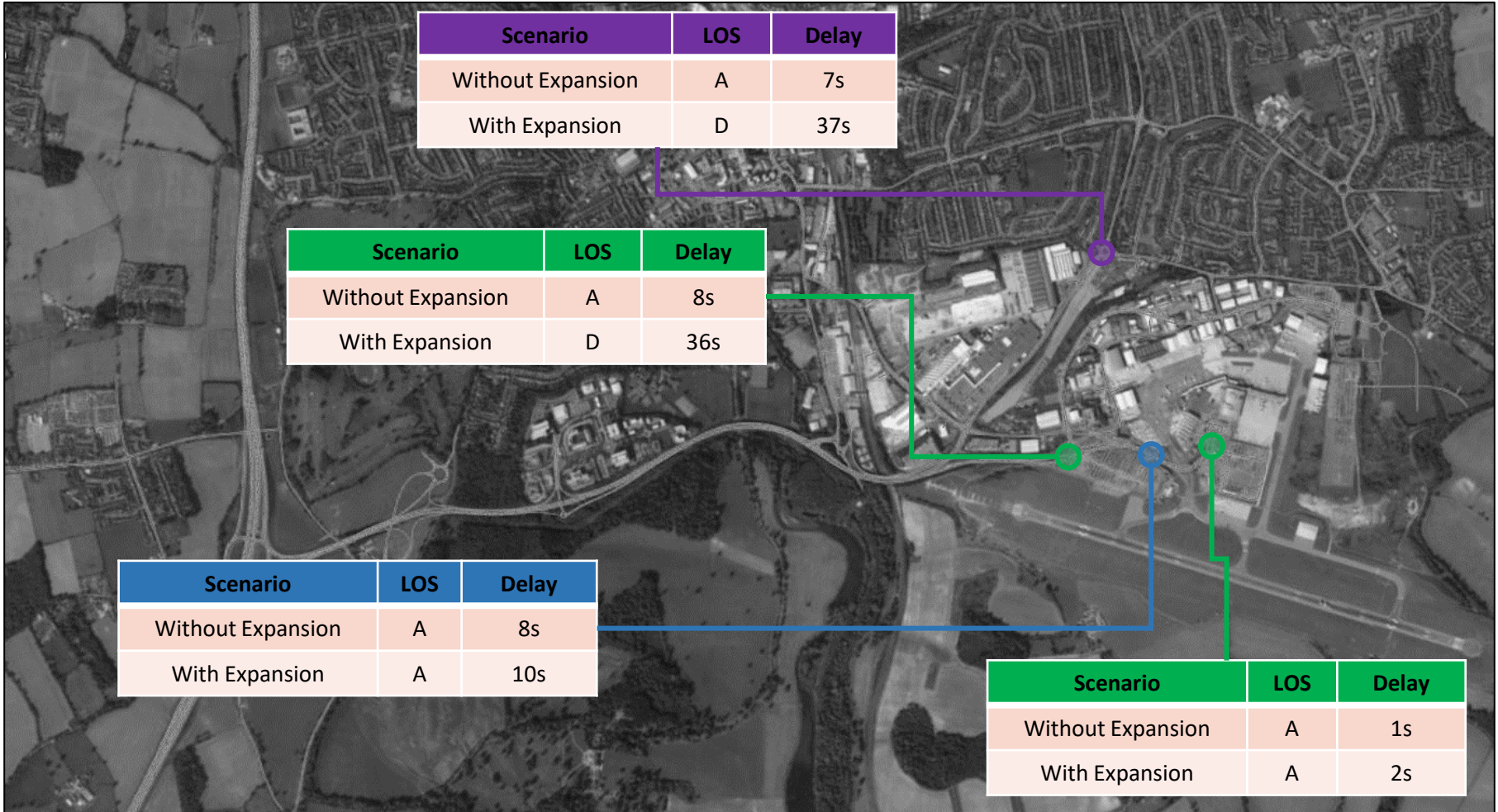
# Junction Assessment – AM Peak Hour



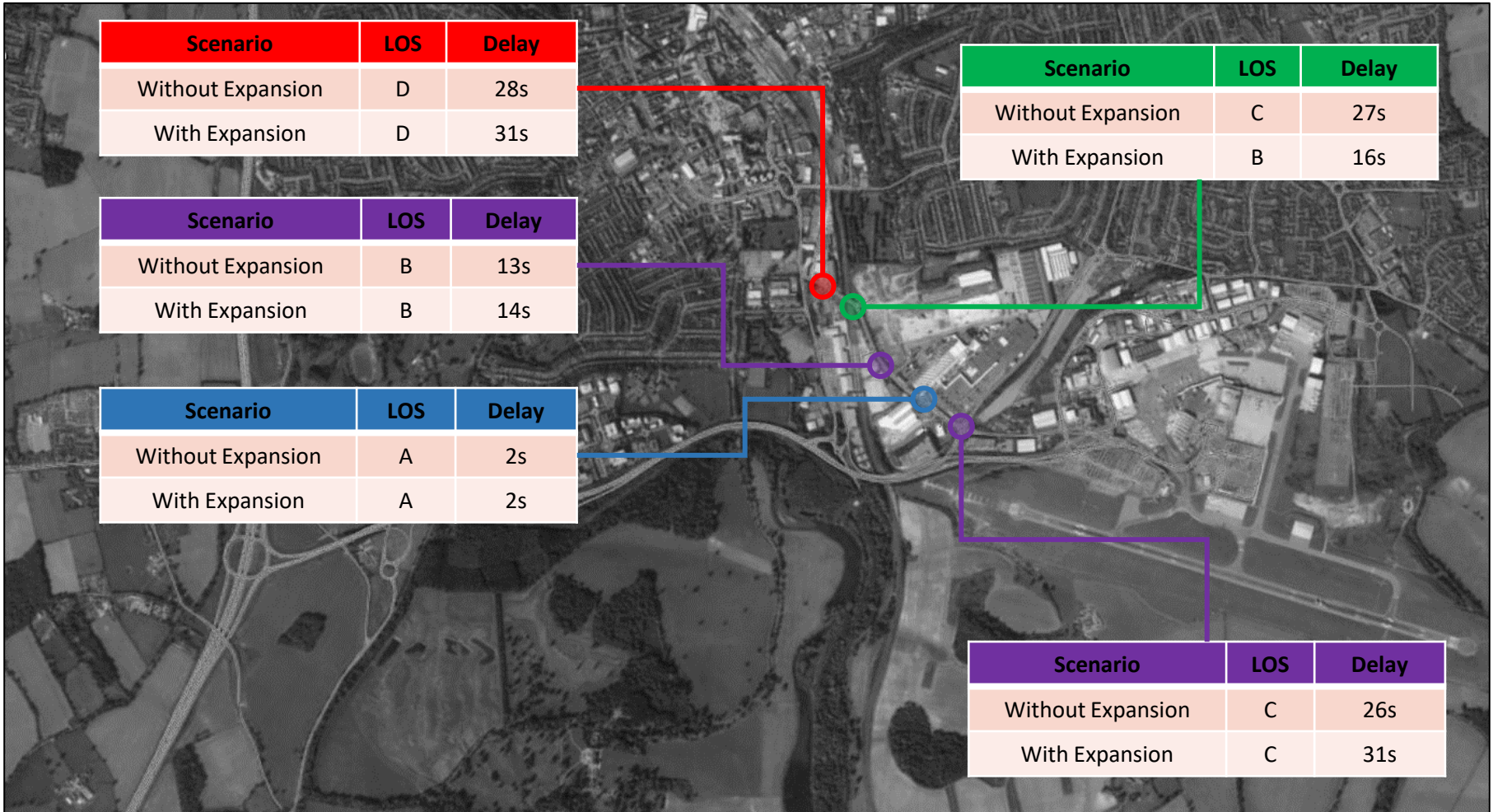
# Junction Assessment – AM Peak Hour



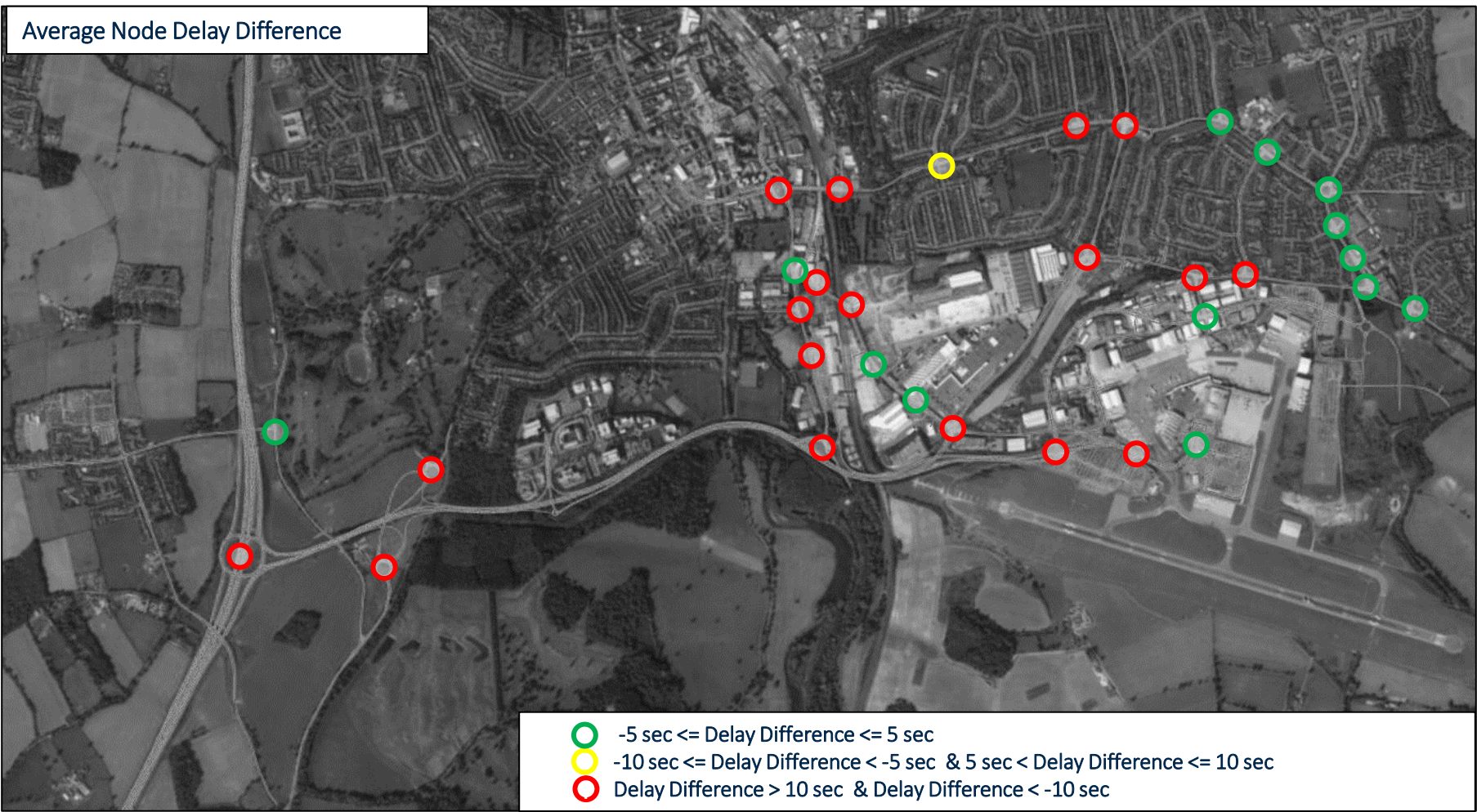
# Junction Assessment – AM Peak Hour



# Junction Assessment – AM Peak Hour



# Junction Assessment – PM Peak hour



# Junction Assessment – PM Peak Hour

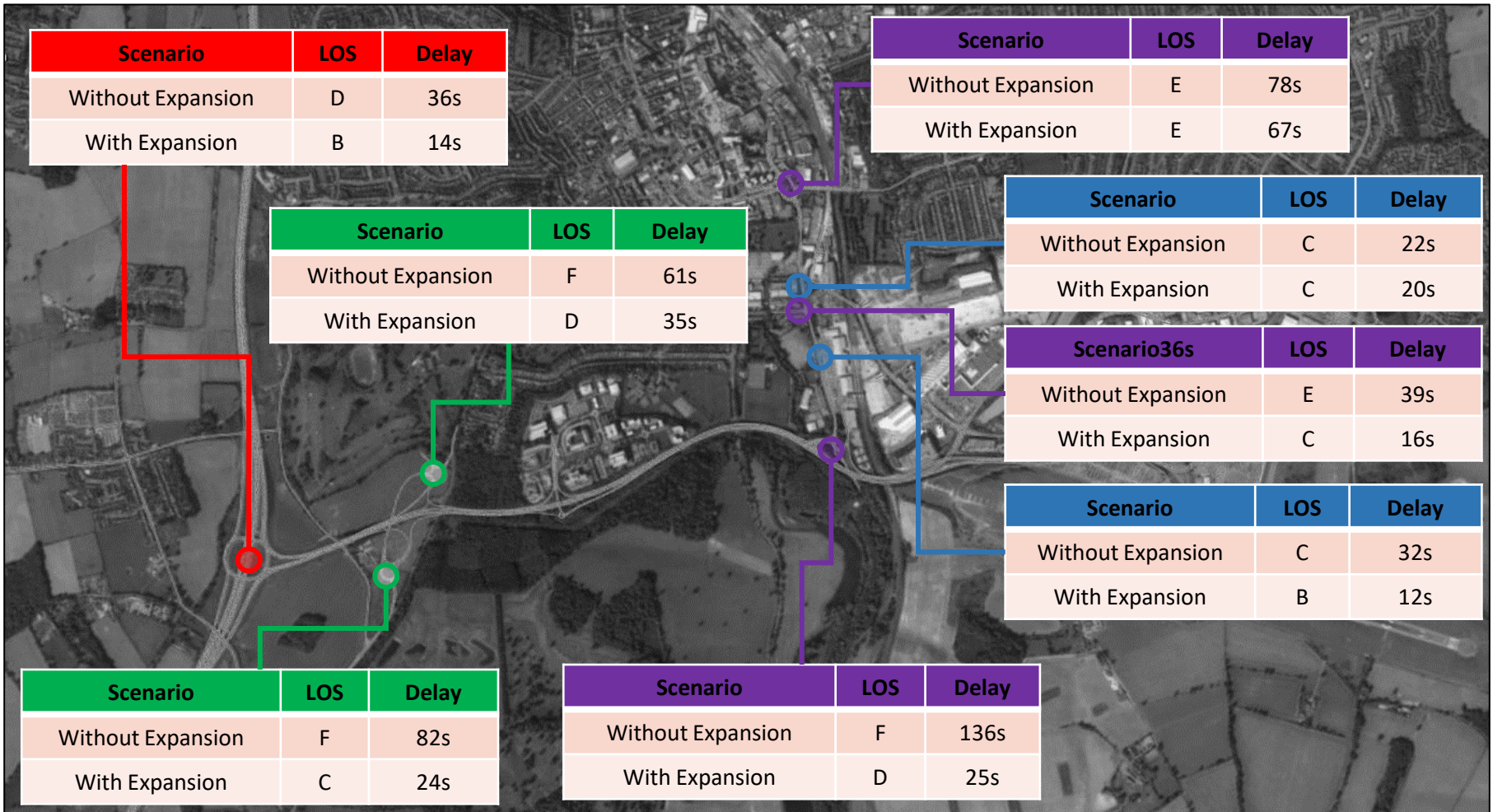




# Junction Assessment – PM Peak Hour



# Junction Assessment – PM Peak Hour



# Junction Assessment – PM Peak Hour



# Junction Assessment – PM Peak Hour



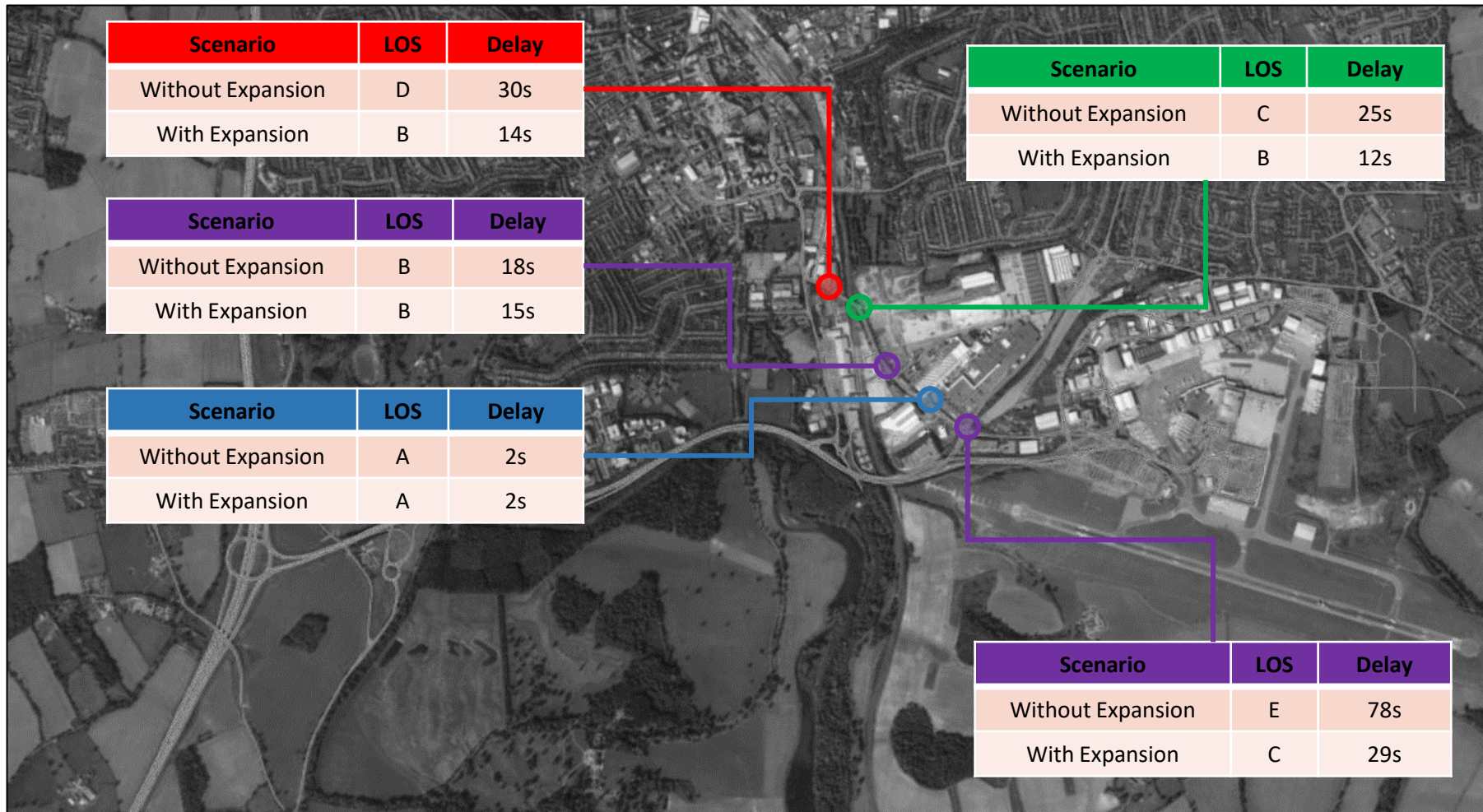
# Junction Assessment – PM Peak Hour



# Junction Assessment – PM Peak Hour



# Junction Assessment – PM Peak Hour



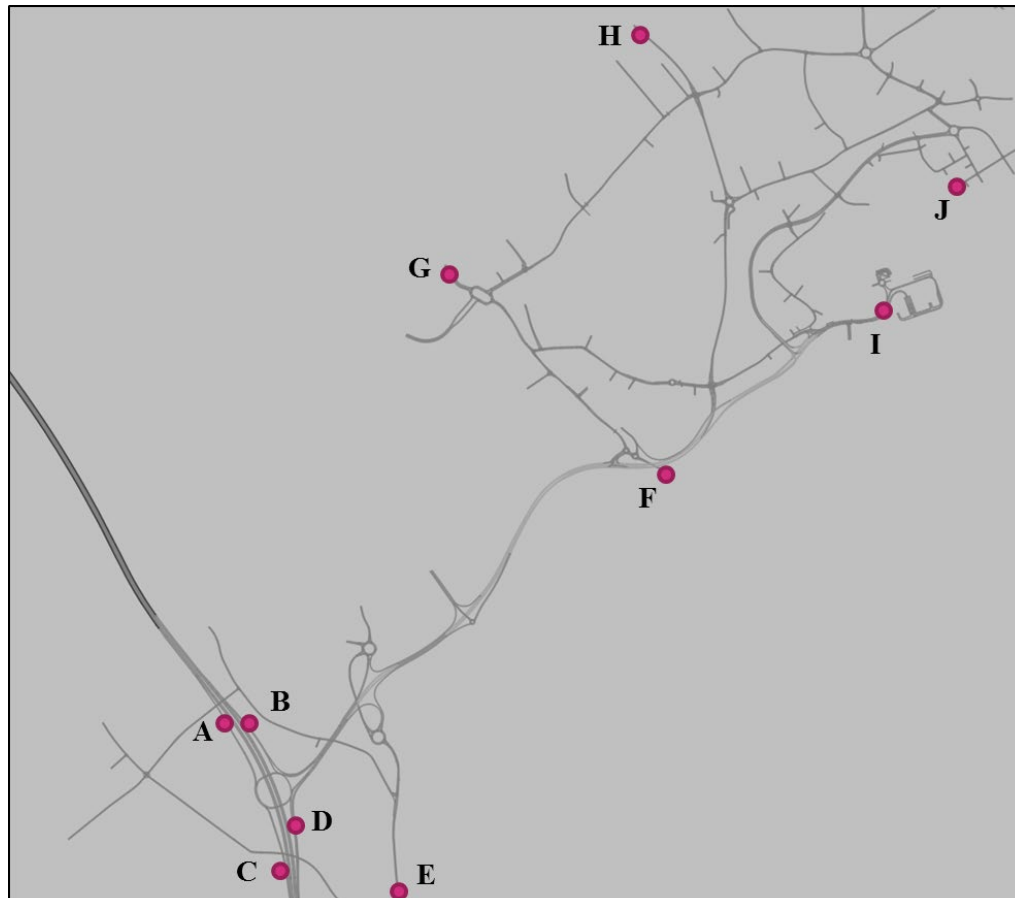
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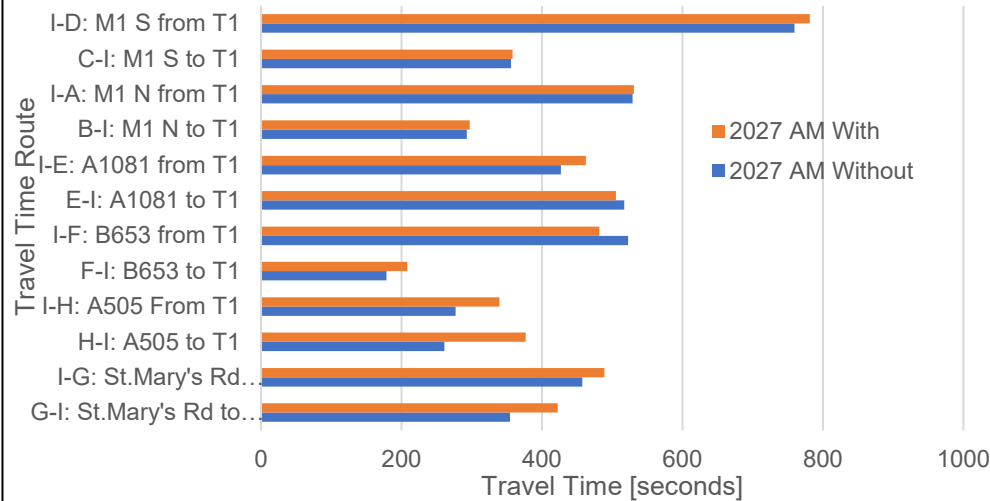
# Travel Time Assessment

- Travel time on defined paths were compared for the 'Without Expansion' and 'With Expansion' scenarios;
- Travel time segments between the highlighted points highlighted below:



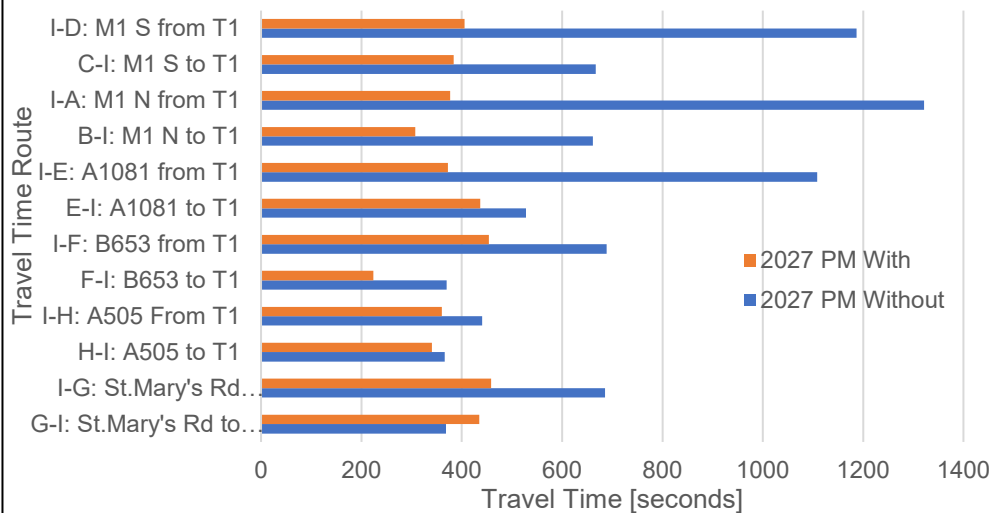
# Travel Time per Vehicle Comparison For Terminal 1

Terminal 1 Travel Time Comparison - AM Peak Hour



- In the AM peak the model showed similar journey times for the With and Without scenarios for most of the routes. It showed a decrease in journey time to B653 from the existing Terminal.

Terminal 1 Travel Time Comparison - PM Peak Hour

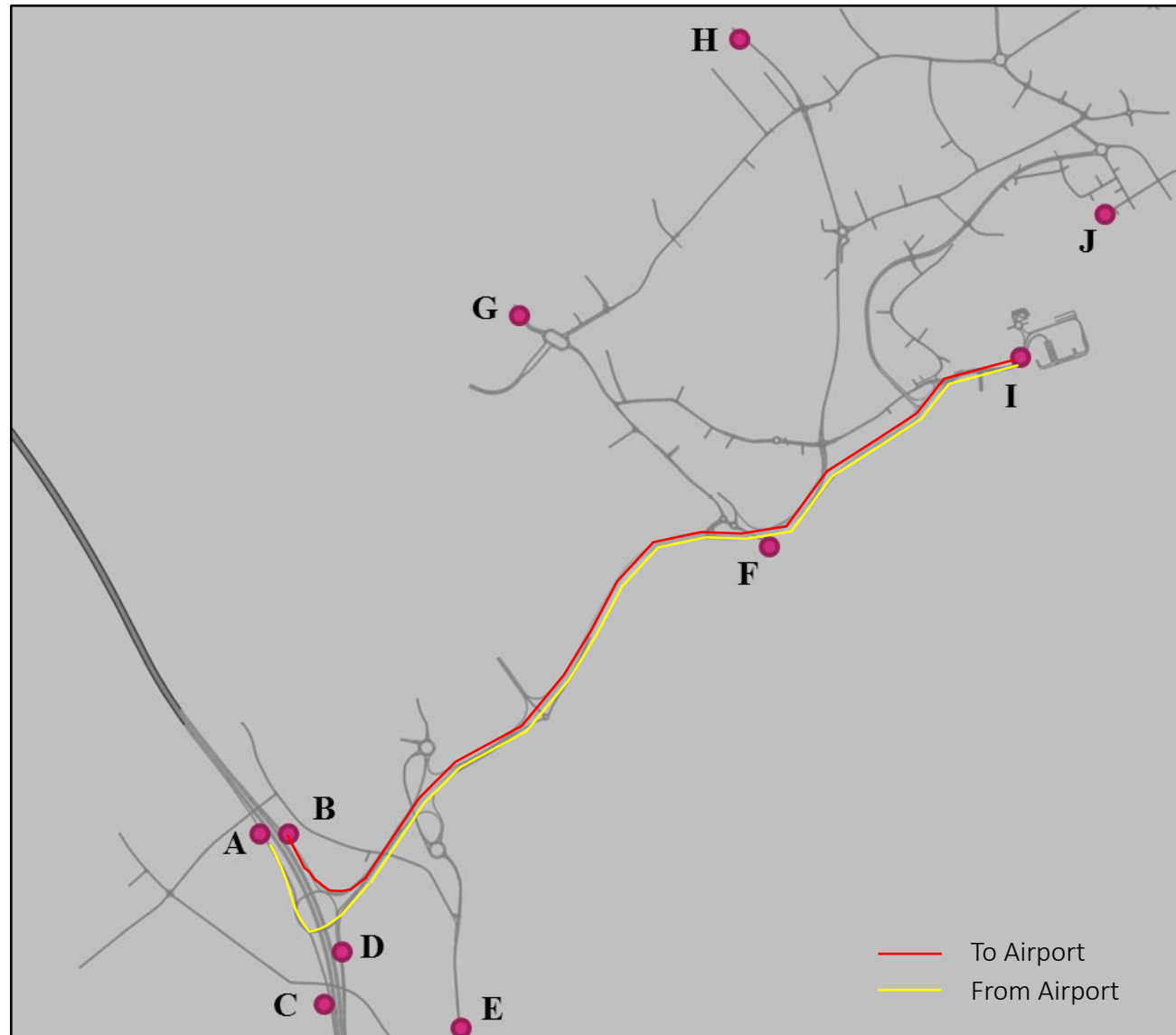


- In the PM peak the model showed significant journey time savings in the With Expansion scenario when compared to the Without case for most of the routes due to the heavy congestion in the Without scenario.

# Existing Terminal Travel Path from/to M1 North – AM Peak Hour

	<b>B → I (4462m)</b>	<b>I → A (4683m)</b>
Without Expansion	4min 53sec	8min 49sec
With Expansion	4min 57sec	8min 51sec
Difference	+4sec	+2sec

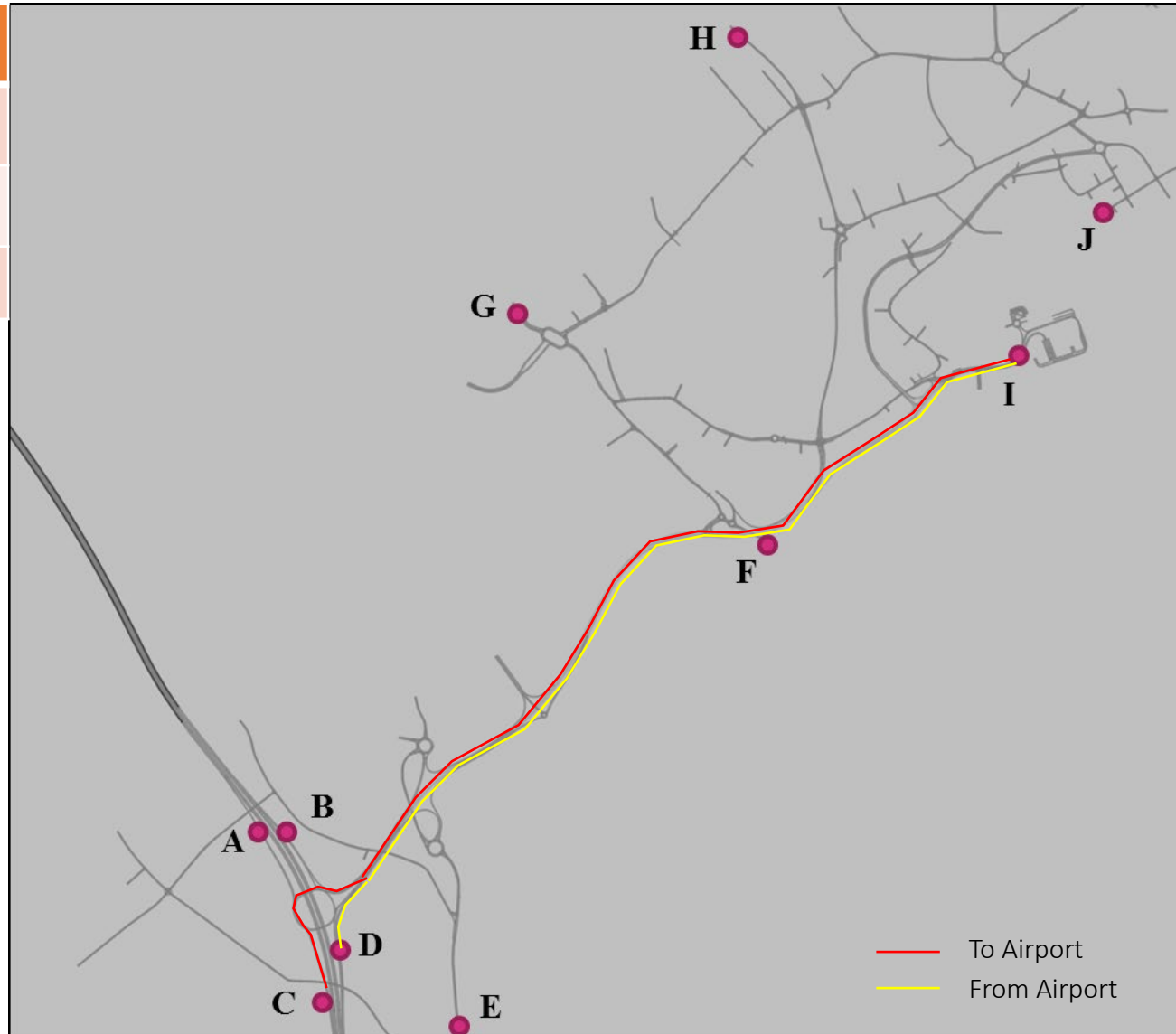
- Negligible increase in journey time to the Existing Terminal from M1 North;
- Negligible increase in journey time from the Existing Terminal to M1 North.



# Existing Terminal Travel Path from/to M1 South – AM Peak Hour

	C → I (4892m)	I → D (4391m)
Without Expansion	5min 55sec	12min 40sec
With Expansion	5min 58sec	13min 1sec
Difference	+3sec	+22sec

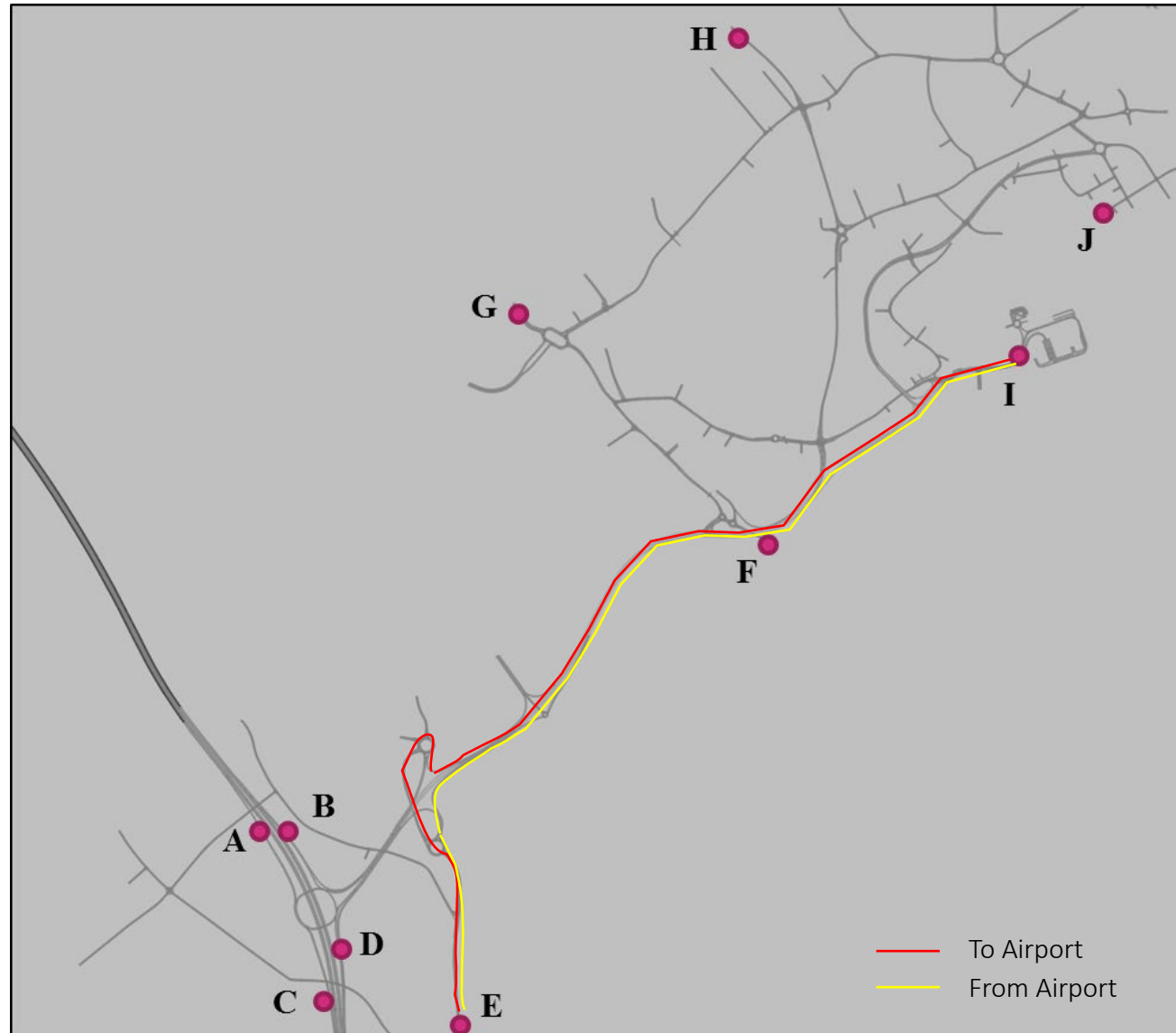
- Negligible increase in journey time to the Existing Terminal from M1 South;
- 22 second increase in journey time from the Existing Terminal to M1 South.



# Existing Terminal Travel Path from/to A1081 – AM Peak Hour

	<b>E → I (5328m)</b>	<b>I → E (4803m)</b>
Without Expansion	8min 37sec	7min 7sec
With Expansion	8min 25sec	7min 42sec
Difference	-11sec	+35sec

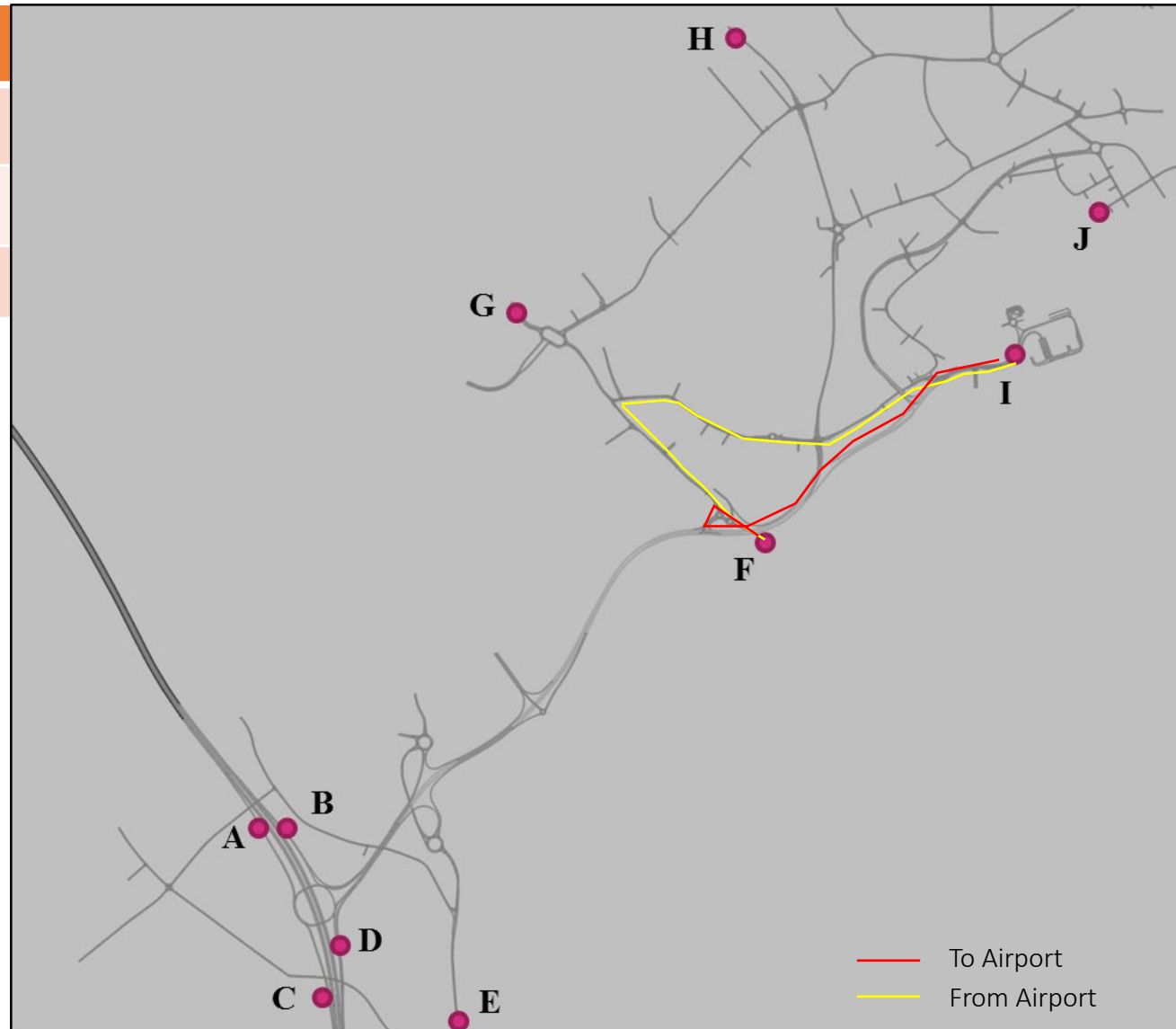
- Decrease of 11 seconds in journey time from the A1081 to the Existing Terminal;
- 35 seconds increase in journey time from the Existing Terminal to the A1081.



# Existing Terminal - Travel Path from/to B653 – AM Peak Hour

	F → I (1882m)	I → F (2857m)
Without Expansion	2min 58sec	8min 43sec
With Expansion	3min 28sec	8min 1sec
Difference	+30sec	-41sec

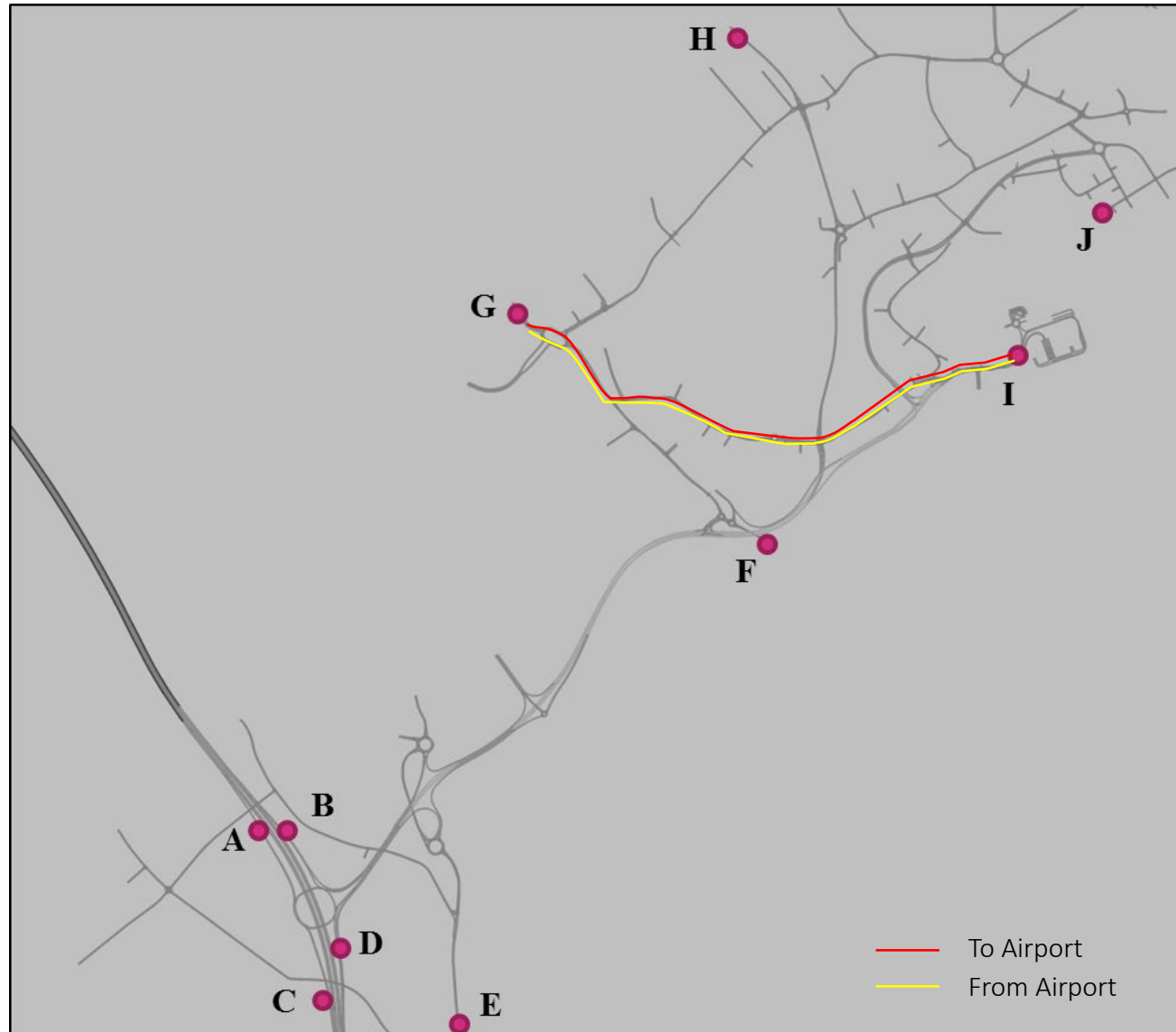
- 30 seconds increase in travel time for the 'With Expansion' scenario towards the Airport from the B653;
- 41 seconds decrease in journey time in the With Expansion scenario from the Airport to the B653.



# Existing Terminal - Travel Path from/to St Mary's Rd-AM Peak Hour

	<b>G → I (2492m)</b>	<b>I → G (2500m)</b>
Without Expansion	5min 54sec	7min 37sec
With Expansion	7min 2sec	8min 9sec
Difference	+1min 8sec	+32sec

- 1 minute 8 seconds increase in travel time for the 'With Expansion' scenario to the Airport from St. Mary's Rd;
- Increase of 32 seconds to St. Mary's Rd from the Existing Terminal.



# Existing Terminal - Travel Path from/to A505 – AM Peak Hour

	H → I (3006m)	I → H (3029m)
Without Expansion	4min 21sec	4min 37sec
With Expansion	6min 16sec	5min 39sec
Difference	+1min 55sec	+1min 3sec

- 1 minute 55 seconds increase in journey time to the Existing Terminal from the A505;
- 1-minute 3seconds increase in journey time from the Airport to the A505.

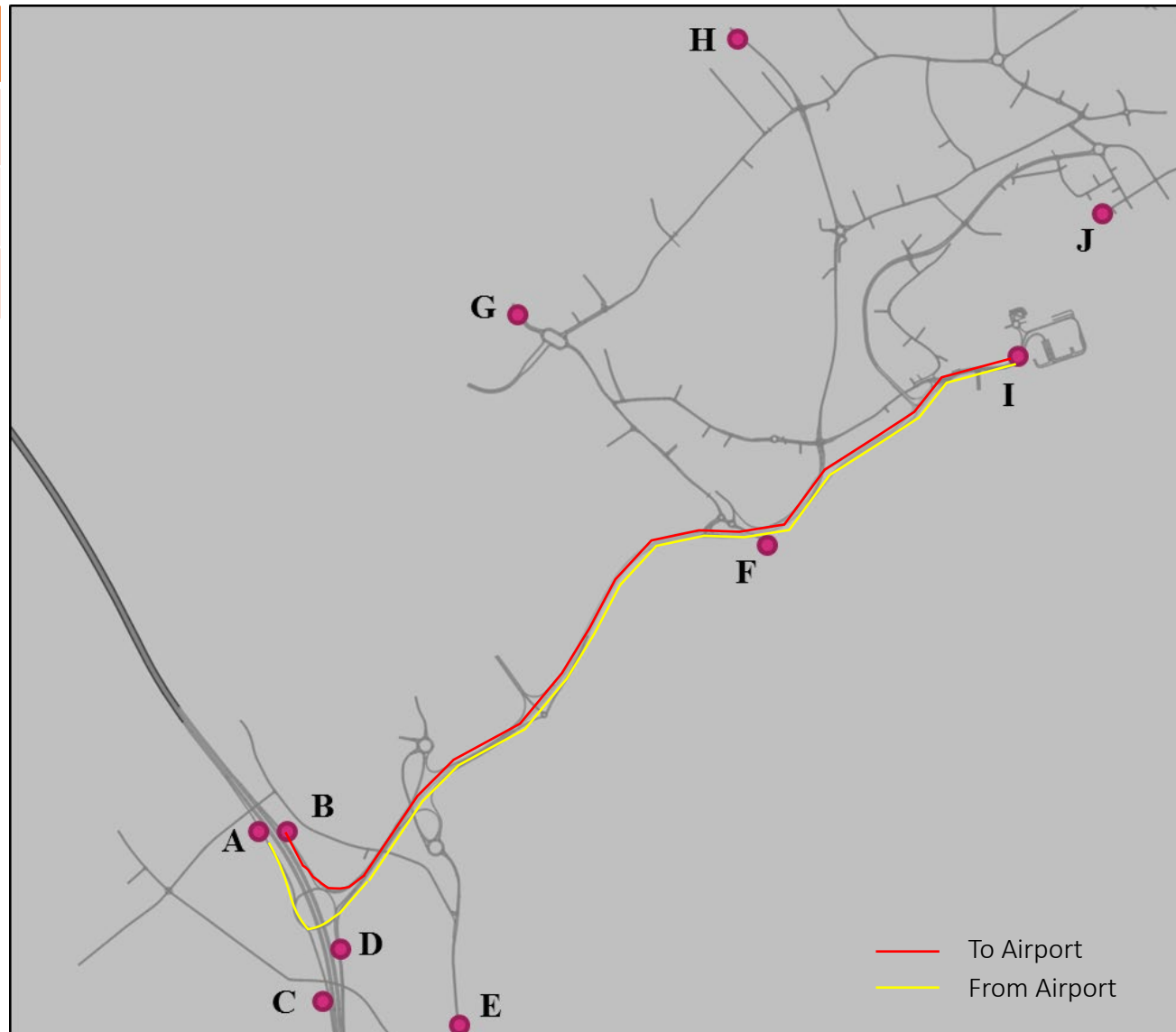




# Existing Terminal Travel Path from/to M1 North – PM Peak Hour

	<b>B → I (4462m)</b>	<b>I → A (4683m)</b>
Without Expansion	11min 1sec	22min 1sec
With Expansion	5min 7sec	6min 16sec
Difference	-5min 54sec	-15min 45sec

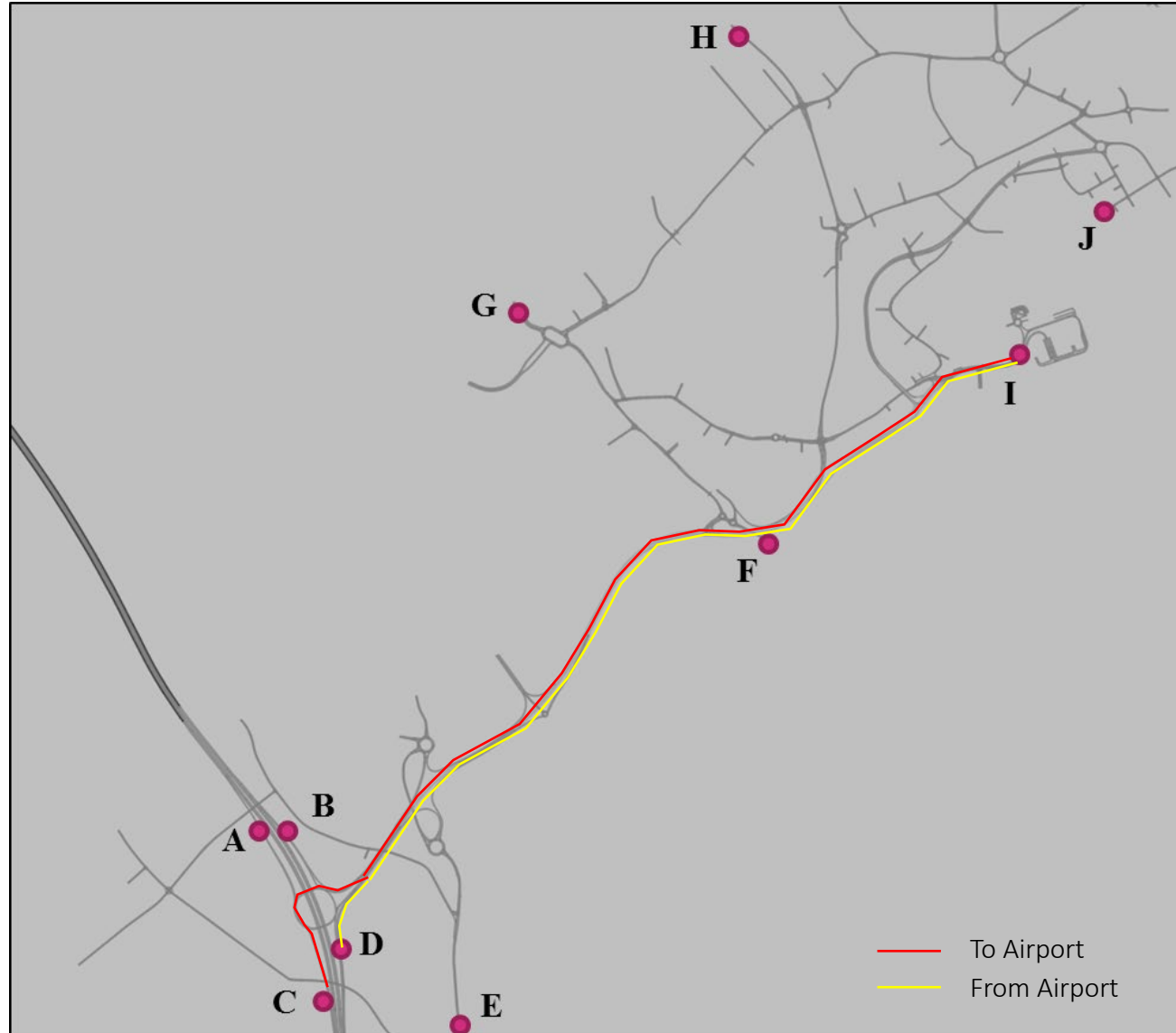
- Decrease of 5 minutes 54 seconds in travel time for the 'With Expansion' scenario from M1 North to the Airport existing Terminal;
- 15 minutes 45 seconds saving in journey time from the Existing Terminal towards M1 North



# Existing Terminal Travel Path from/to M1 South – PM Peak Hour

	C → I (4892m)	I → D (4391m)
Without Expansion	11min 7sec	19min 47sec
With Expansion	6min 24sec	6min 46sec
Difference	-4min 43sec	-13min 1sec

- Decrease of 4 minutes 43 seconds in travel time for the 'With Expansion' scenario from M1 South to the Existing Terminal;
- 13 minutes 1 second decrease in journey time from the Existing Terminal towards M1 South.

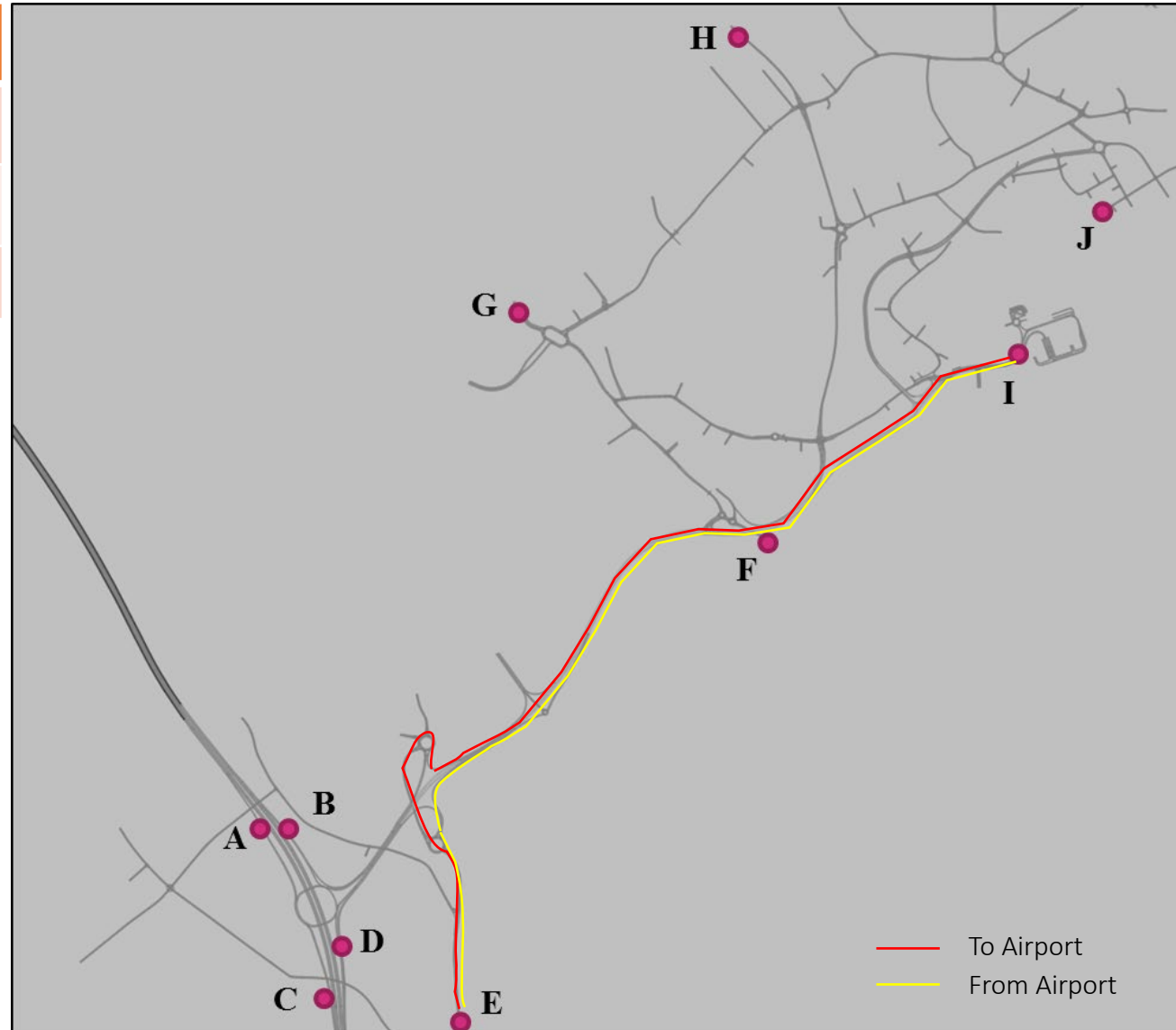


# Existing Terminal Travel Path from/to A1081 – PM

## Peak Hour

	E → I (5328m)	I → E (4803m)
Without Expansion	8min 48sec	18min 28sec
With Expansion	7min 17sec	6min 12sec
Difference	-1min 32sec	-12min 16sec

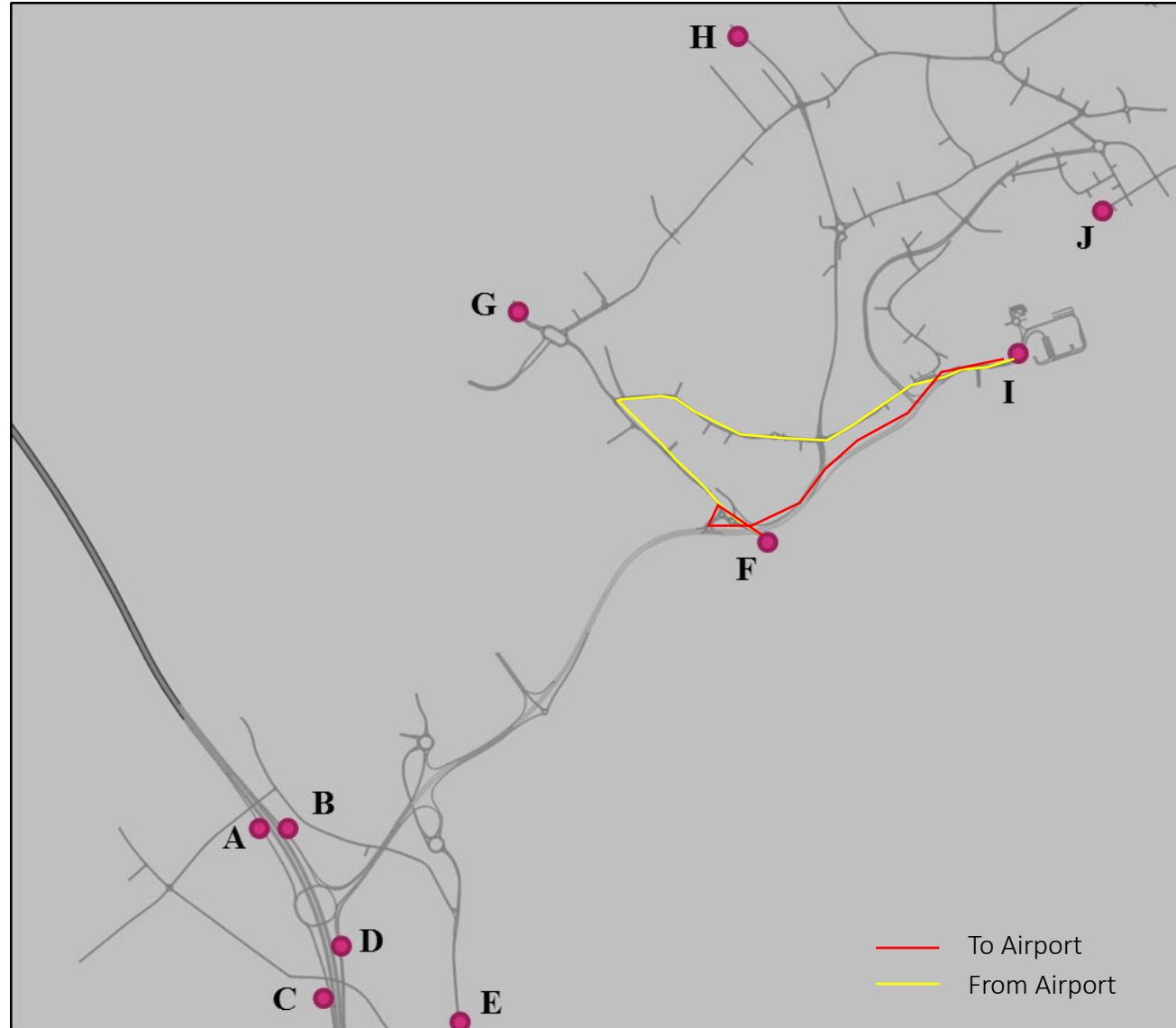
- 1 minutes 32 seconds decrease in journey time for the 'With Expansion' scenario from the A1081 to the Existing Terminal;
- 12 minutes 16 seconds decrease in travel time for the 'With Expansion' scenario to the A1081 from the Existing Terminal.



# Existing Terminal - Travel Path from/to B653 – PM Peak Hour

	<b>F → I (1882m)</b>	<b>I → F (2857m)</b>
Without Expansion	6min 10sec	11min 29sec
With Expansion	3min 44sec	7min 34sec
Difference	-2min 26sec	-3min 55sec

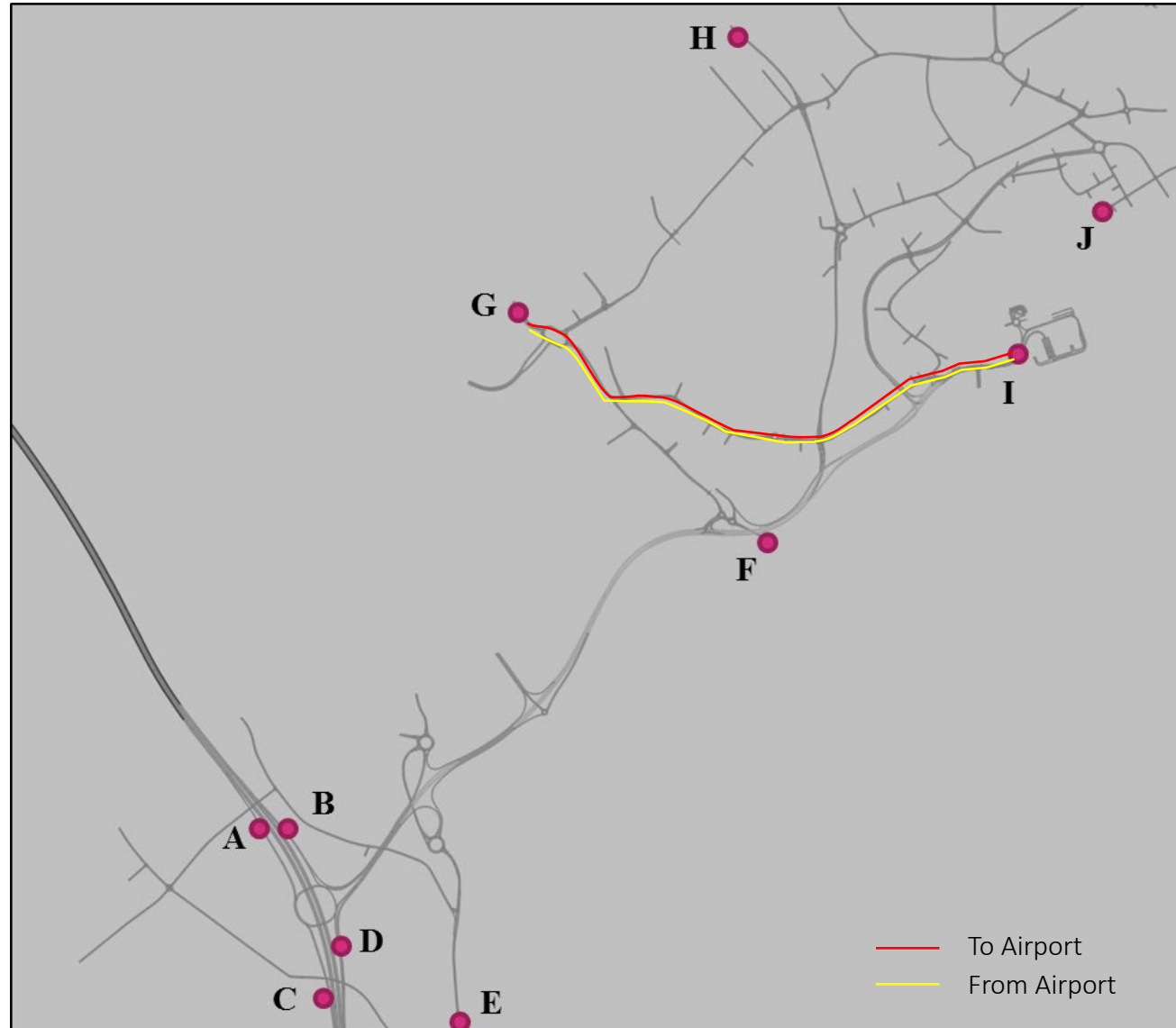
- Decrease of 2 minutes 26 seconds in journey time to the Existing Terminal from B653.
- Decrease of 3 minutes 55 seconds in journey time from the Existing Terminal to B653.



# Existing Terminal - Travel Path from/to St Mary's Rd - PM Peak Hour

	<b>G → I (2492m)</b>	<b>I → G (2500m)</b>
Without Expansion	6min 9sec	11min 25sec
With Expansion	7min 15sec	7min 39sec
Difference	+1min 6sec	-3min 47sec

- 1 minute 6 seconds increase in travel time for the 'With Expansion' scenario from St Mary's Rd to the Existing Terminal;
- 3 minutes 47 seconds decrease in journey time to St Mary's Rd from the Existing Terminal.



# Existing Terminal - Travel Path from/to A505 – PM Peak Hour

	H → I (3006m)	I → H (3029m)
Without Expansion	6min 6sec	7min 21sec
With Expansion	5min 41sec	6min 0sec
Difference	-26sec	-1min 20sec

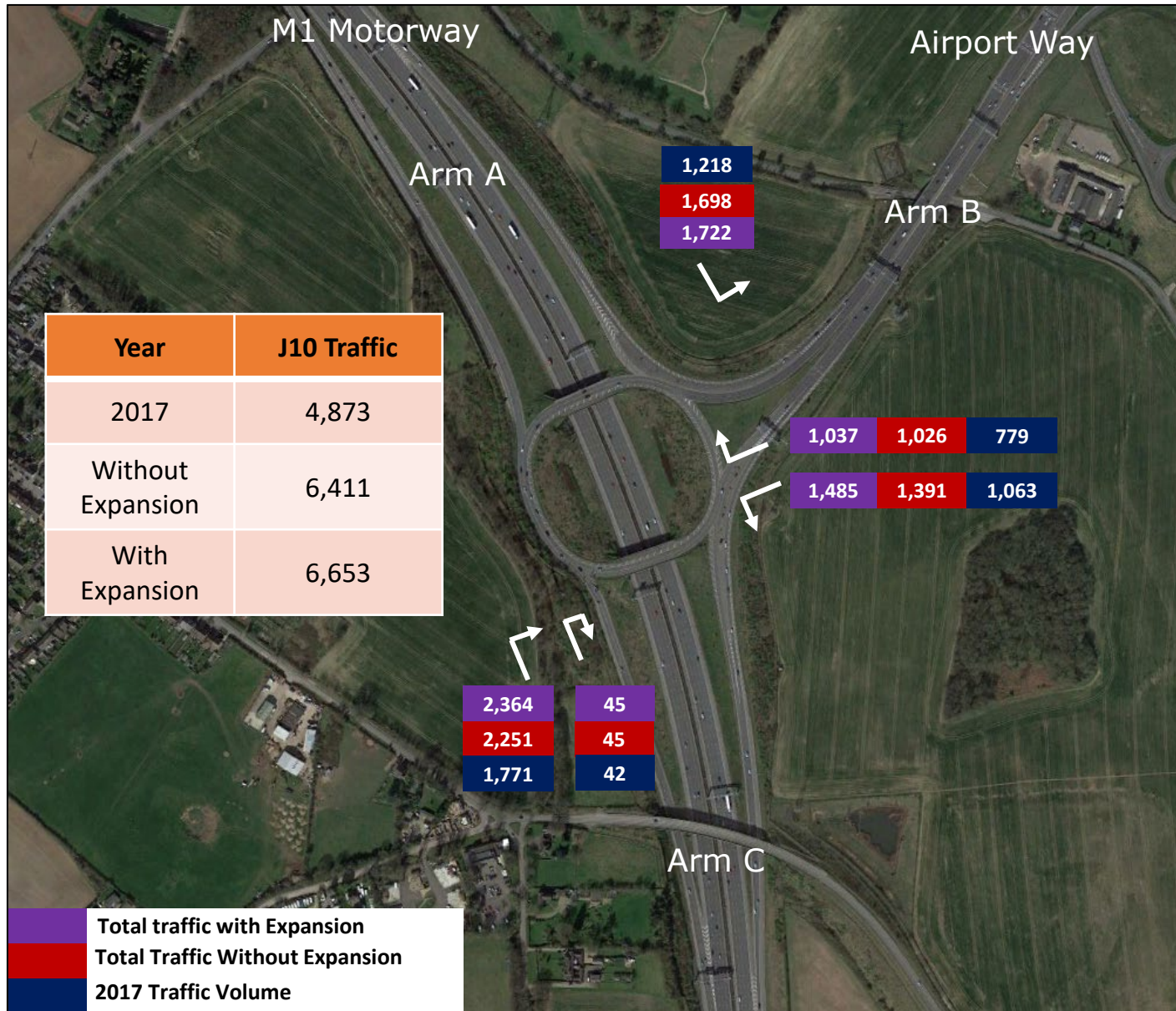
- 26 seconds decrease in journey time from the A505 to the Airport;
- 1 minute 20 seconds saving in travel time for the 'With Expansion' scenario from the Existing Terminal to the A505.



# Content

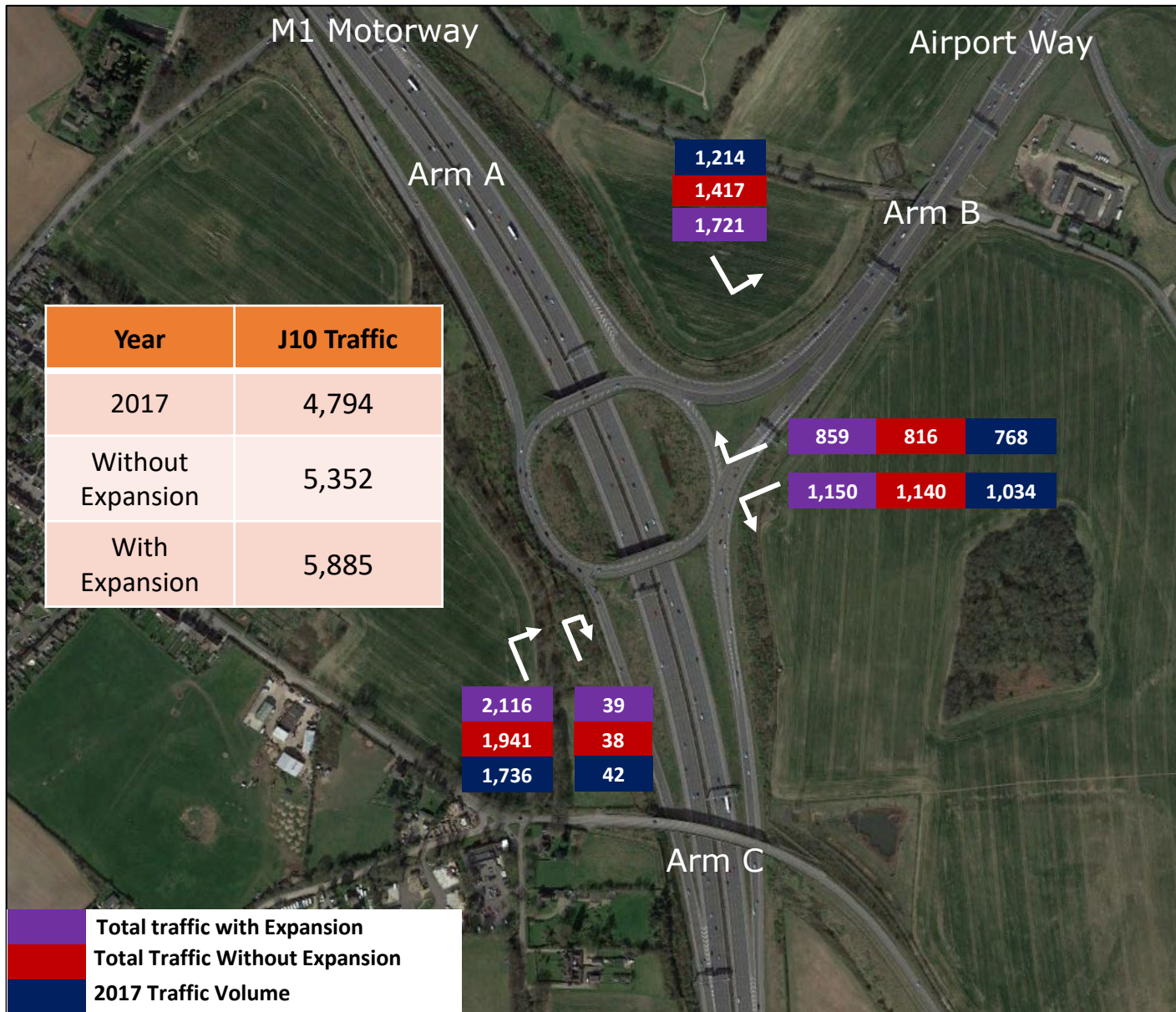
- Methodology
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# Junction 10 – AM Peak 2027 - Demand

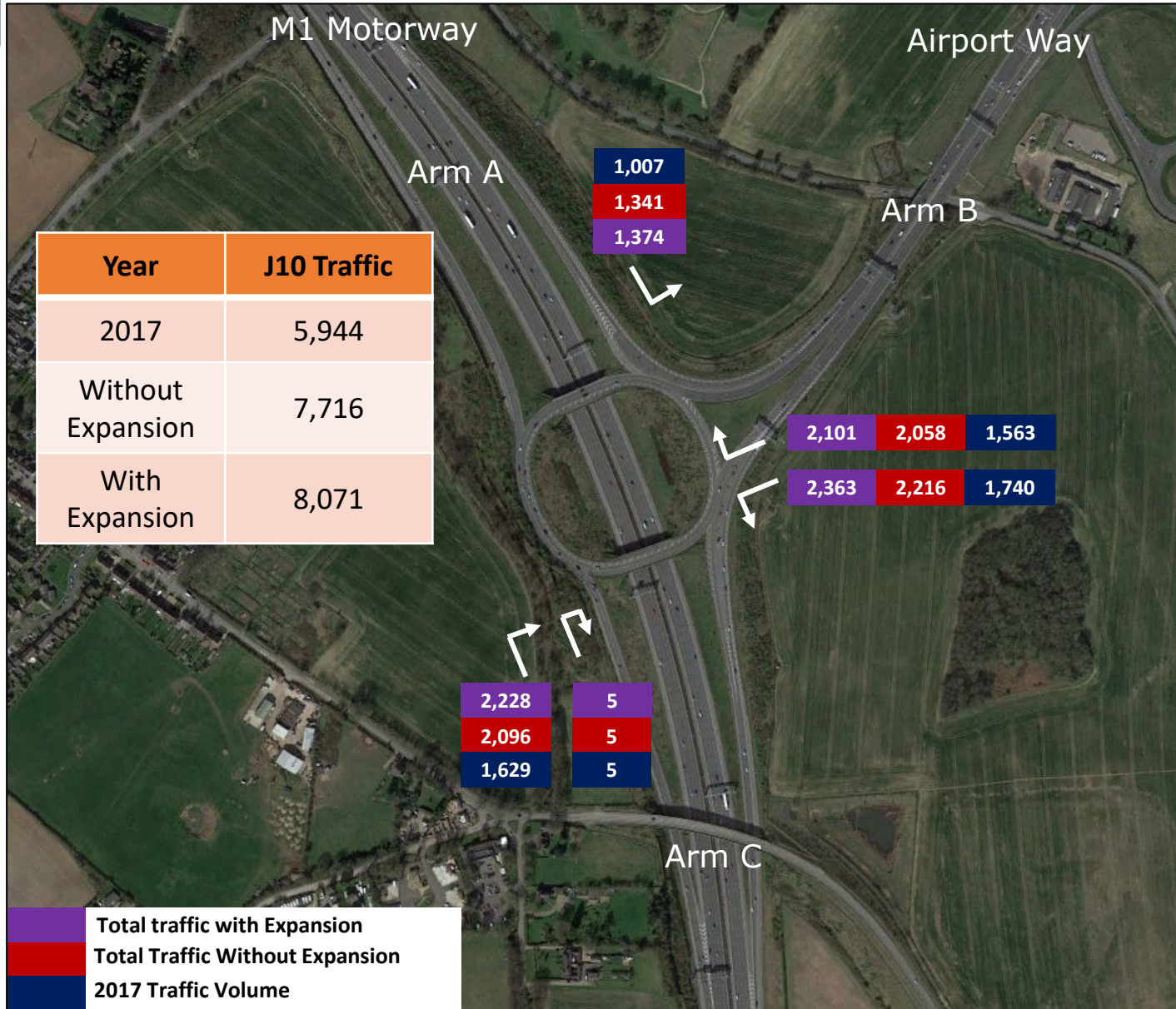




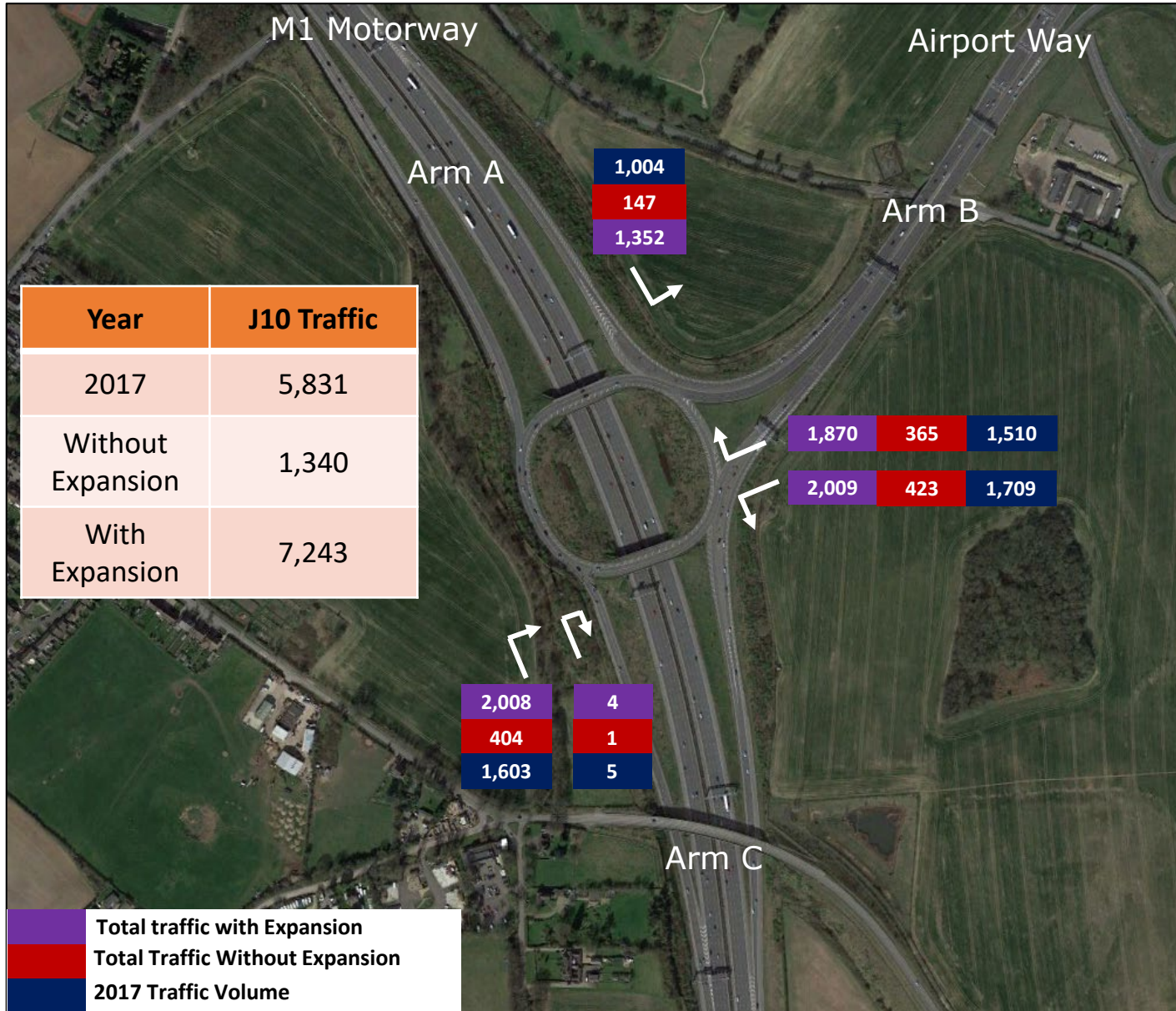
# Junction 10 – AM Peak 2027 – Supply (Vissim Output)



# Junction 10 – PM Peak 2027 - Demand



# Junction 10 – PM Peak 2027 – Supply (Vissim Output)



# Junction 10 – 2027 Demand VS Supply Comparison

Variable	AM Without	AM With	PM Without	PM With
Demand (A)	6,411	6,653	7,716	8,071
Supply (B)	5,352	5,885	1,340	7,243
Difference (B-A)	-1,059	-768	-6,376	-828
Percentage (Diff/A)	-17%	-12%	-83%	-10%

- The demand was derived from the OD matrix for Junction 10, which did not account for the travel times and delays of vehicles from the various origin points to reach Junction 10. Therefore, it is considered correct to have the supply as less than the demand in view of the size of the network
- For the Without Expansion scenario, the difference between demand and supply was 17% in the AM scenario and 83% in the PM peak. The model indicated that the motorway/J10 operated over capacity and created shockwaves / blocking back in the AM Without scenario due to the already existing slow traffic conditions on the mainline. The AM With case showed similar characteristics. The PM Without model showed heavy congestion and long delays. The PM With model showed that the proposed improvements reduced the congestion and delay in the network.
- In the With Expansion Scenario, the difference between demand and supply was not significant in the AM peak and dropped to 10% from 83% in the PM peak as a result of the proposed improvement and additional traffic flows.

# Junction 10 – Queuing

Average queue length	AM Without	AM With	PM Without	PM With
M1 NB approach (length: 457m)	129m (28%)	30m (6%)	1,410m (>100%)	55m (12%)
A1081 SB approach to M1	624m	376m	1196m	313m
M1 SB approach (length: 457m)	81m (18%)	3m (1%)	728m (>100%)	18m (4%)
Maximum queue length	AM Without	AM With	PM Without	PM With
M1 NB approach (length: 457m)	788m (>100%)	106m (23%)	2,010m (>100%)	161m (35%)
A1081 SB approach to M1	1219m	1103m	1219m	1105m
M1 SB approach (length: 457m)	1,452m (>100%)	60m (13%)	2,010m (>100%)	101m (22%)

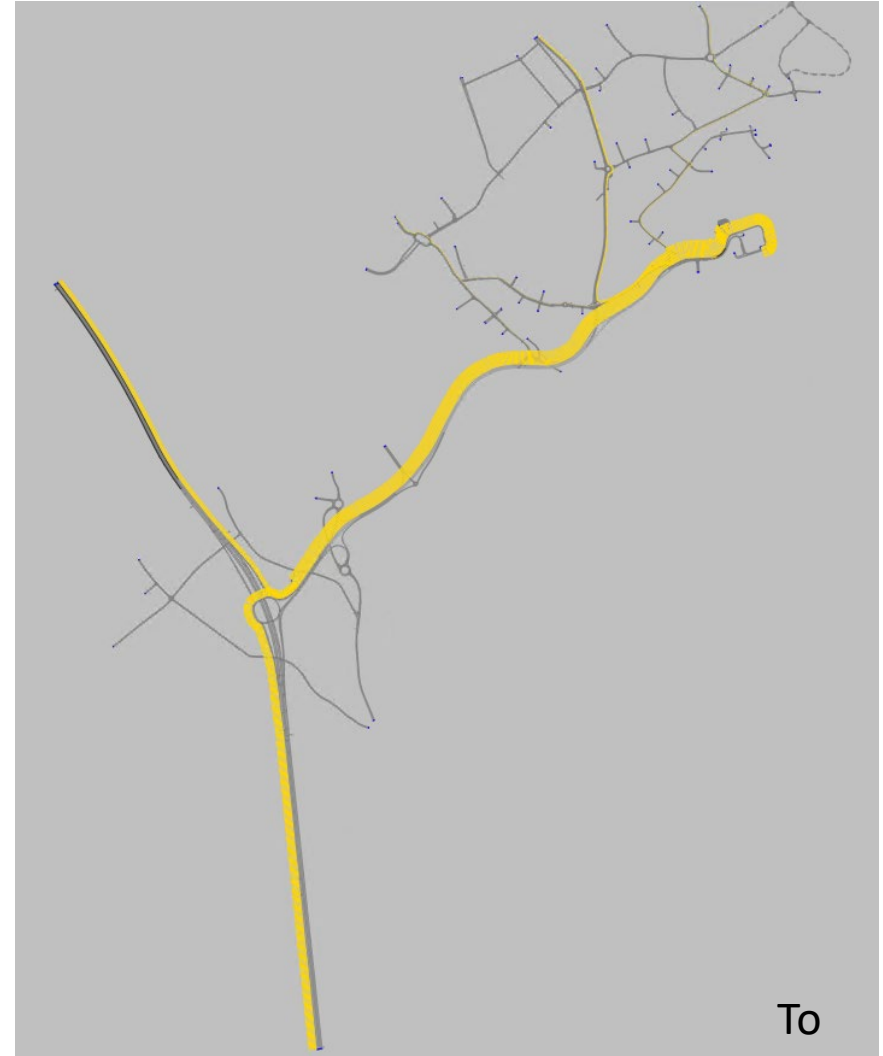
\* (queue length)/(slip road length) % shown in brackets

- In the AM peak the above table shows that in the Without Expansion scenario the junction operated over capacity, and the maximum queue lengths on both slips reached the mainline. Queues formed on the A1081 towards J10 too;
- In the PM peak the above table demonstrates that the motorway junction did not work in the Without Expansion case, long queues formed on all approaches;
- In both With Expansion cases the queues did not block back the mainline and they were shorter than in the 'Without' scenarios. However, due to existing mainline traffic issues, queues formed on the A1081.

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# Flow Path – Existing Terminal



# Airport Traffic – 2027 Demand VS Supply



## To Airport Terminal\*

Variable	AM Without	AM With	PM Without	PM With
Terminal	T1 (18mppa)	T1 (21.5mppa)	T1 (18mppa)	T1 (21.5mppa)
Demand (A)	918	1,008	799	956
Supply (B)	806	938	195	894
Difference (B-A)	-112	-70	-604	-62
% Difference (Diff/A)	-12%	-7%	-76%	-6%

## From Airport Terminal\*

Variable	AM Without	AM With	PM Without	PM With
Terminal	T1 (18mppa)	T1 (21.5mppa)	T1 (18mppa)	T1 (21.5mppa)
Demand (A)	934	1,017	816	978
Supply (B)	931	1,015	325	974
Difference (B-A)	-3	-2	-491	-4
% Difference (Diff/A)	0%	0%	-60%	0%

\*Drop-off, short-stay, terminal zones comprised in calculation



# Airport Traffic Analysis

- For the AM Without Expansion scenario, the model indicated that there were delays on the M1/A1081 and 12% the airport terminal traffic could not reach the Airport. In the PM peak hour however, the difference was to 76%, so more than two-thirds of airport traffic could not reach the terminal due to the congestion encountered on the road network;
- For the With Expansion scenario, the model showed similar network performance in the AM peak, where 7% of Airport traffic could not reach the airport, and showed significant improvement for the PM peak, where 6% of Airport traffic could not reach the Terminals in the With case. Taking into account the existing traffic conditions on the M1 these figures are considered acceptable;
- Despite the increase in traffic volumes due to the airport expansion, the percentage of vehicles not reaching the airport in both peak hours decreased or remained as per in the Without case as a result of the proposed mitigations of the 'With Expansion' scenario.

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# Conclusions

- With the proposed mitigation measures, the Vissim model indicates that the highway network is able to accommodate the 2027 background traffic volumes in addition to the traffic generated by London Luton Airport at 21.5mppa;
- The Airport Link Road (CPAR) and the Century Park development are excluded from all the 2027 scenarios as it is assumed they are not yet developed in this year;
- In the Without Expansion scenarios, the AM peak hour model showed some delay and queuing. However, in the PM peak hour scenario, around half of airport traffic was not able to reach the airport due to network congestion. In particular, long queues were demonstrated as occurring along A1081 New Airport Way which blocked back to M1 Junction 10. As such, non-airport traffic would experience long queues and delays in the PM peak hour;
- For the With Expansion scenarios, in the AM peak hour the proposed mitigation measures were able to maintain the overall network performance despite the additional traffic growth. In the PM peak hour the proposals significantly improved traffic conditions and reduced congestion when compared to the Without Expansion scenarios.



# VISSIM Modelling Report

Feb 2023



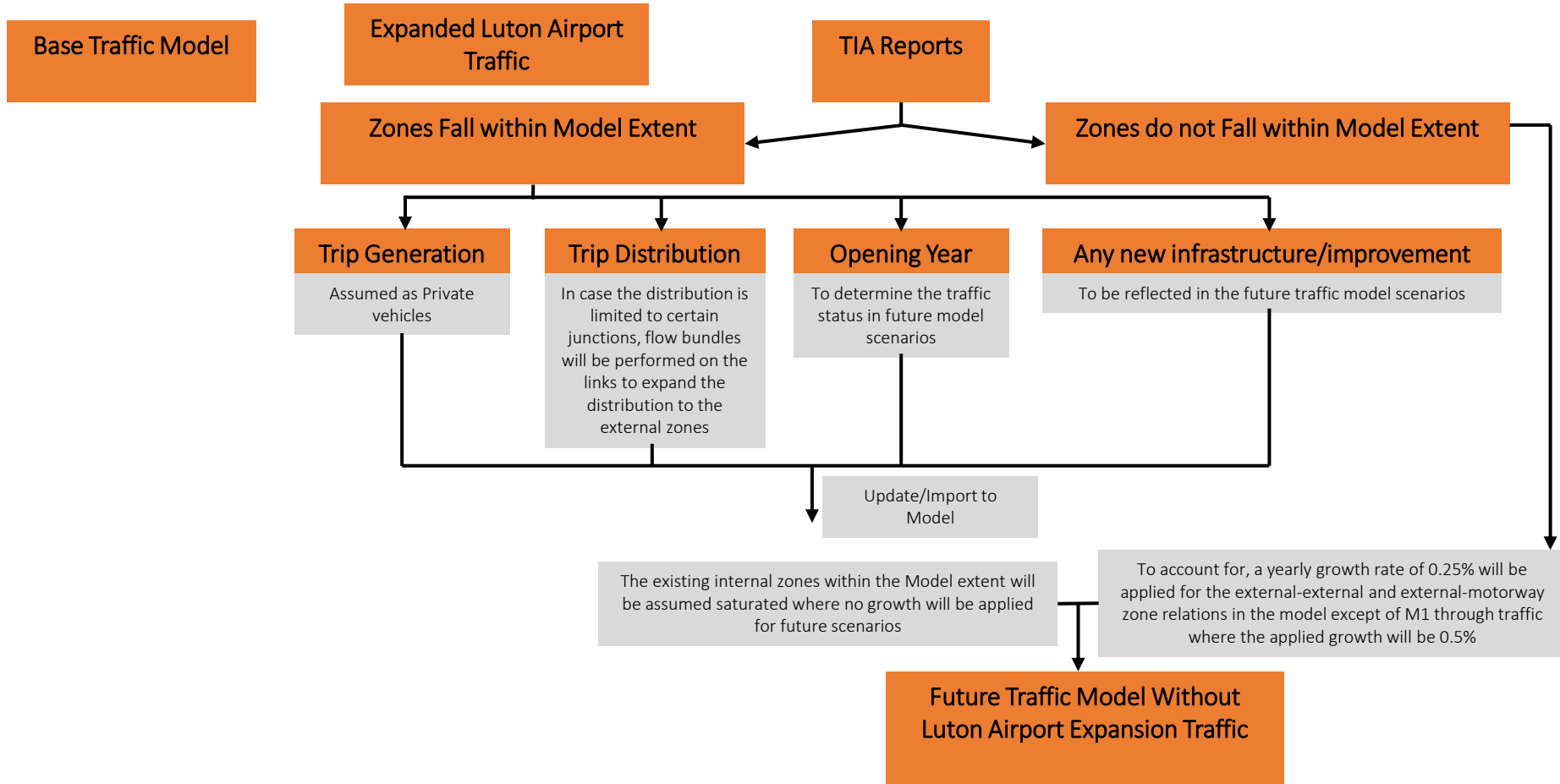
# Vissim modelling report - 2039

2039 With Airport Expansion (27mppa) and  
2039 Without Airport Expansion (18mppa) scenario.

# Vissim Modelling Report

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# Luton Airport – Future Modelling Methodology



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# 2039 Future Year Model

- Two Modelling Scenarios
  - 2039 Without Airport Expansion – 18mppa
  - 2039 With Airport Expansion – 27mppa
- Two modelled periods
  - Morning Peak Hour (AM) – 08:00-09:00 (+1 hour warm-up and cool-off)
  - Evening Peak Hour (PM) –17:00-18:00 (+1 hour warm-up and cool-off)
- Two growth factors were applied to Base Model (2017) traffic
  - A yearly factor of 0.25% on the internal roads of the study area
  - A yearly factor of 0.5% for the through traffic on the M1

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# 2039 Future Year Model - Airport

- In year 2039, the airport is expected to serve 27 million passengers per year (mppa);
- Airport traffic (excluding Century Park development) in year 2039 is expected to increase (two-way) by 883 vehicles and 868 vehicles in the AM and PM peak hours when compared with the Base Model (2017); and
- Two terminals will be serving the airport in year 2039 (the existing T1 at 20mppa and the proposed T2 at 7mppa).

# 2039 Future Year Vissim Model

- A Vissim micro-simulation model was developed for London Luton Airport Expansion Project;
- The study area is depicted by the red polygon.

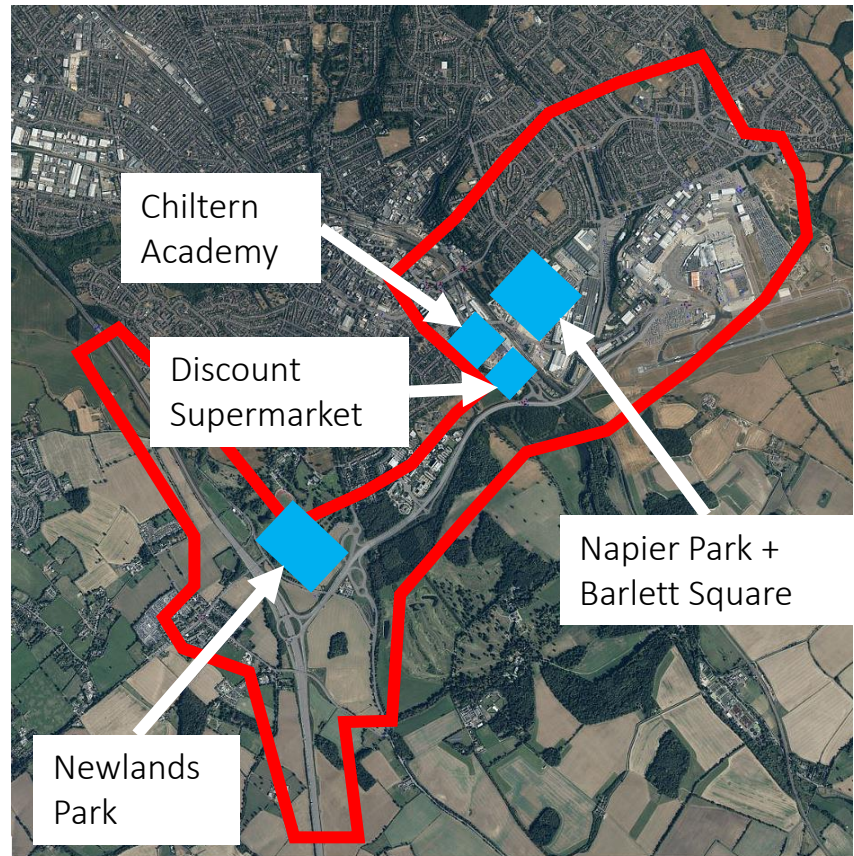


# 2039 Future Year Model – Without Expansion

The following future developments are included in the 2039 **Without Expansion 18mppa** scenario:

- Napier Park (including Barlett Square),
- Newlands Park,
- Chiltern Academy,
- Discount Supermarket.

These development are expected to add approx. 2,350 and approx 2,950 trips in the AM and PM peak hours respectively



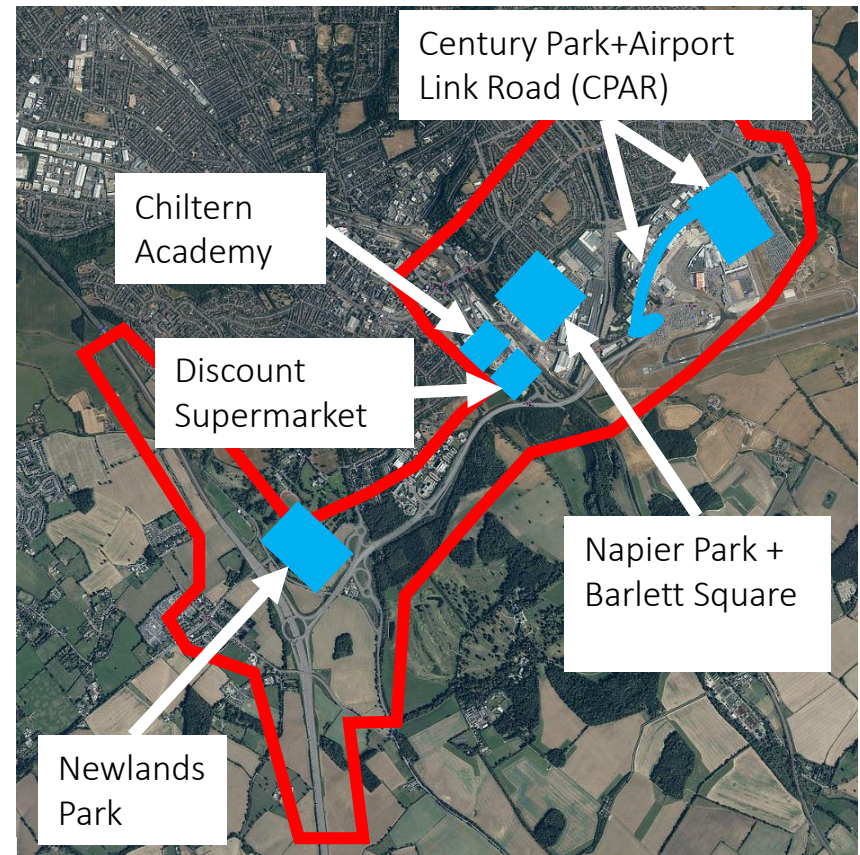
# 2039 Future Year Model – With Expansion

The following future committed developments are included in the 2039 **With Expansion 27mppa** scenario:

- Napier Park (including Barlett Square),
- Century Park and CPAR link (not full scheme in this scenario)
- Newlands Park,
- Chiltern Academy,
- Discount Supermarket.

These development are expected to add approx. 2,700 and approx 3,200 trips in the AM and PM peak hours respectively.

A new road will serve the Century Park development (CPAR) which also provides access to the new terminal. The link is not included in the Without Expansion case.

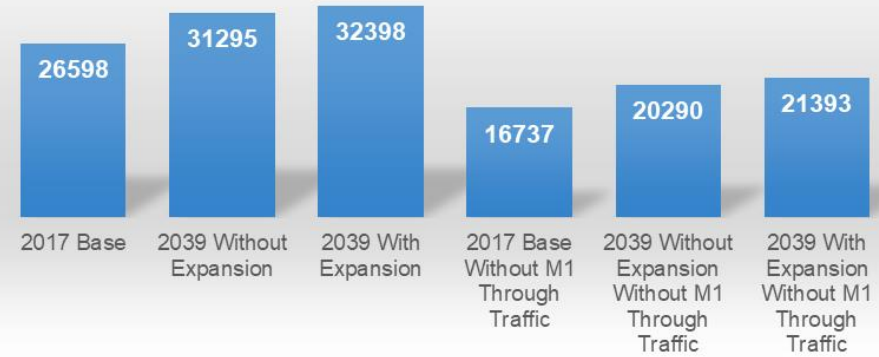


# 2039 Peak Hour Volumes

## AM Peak Hour Matrix Totals Comparison



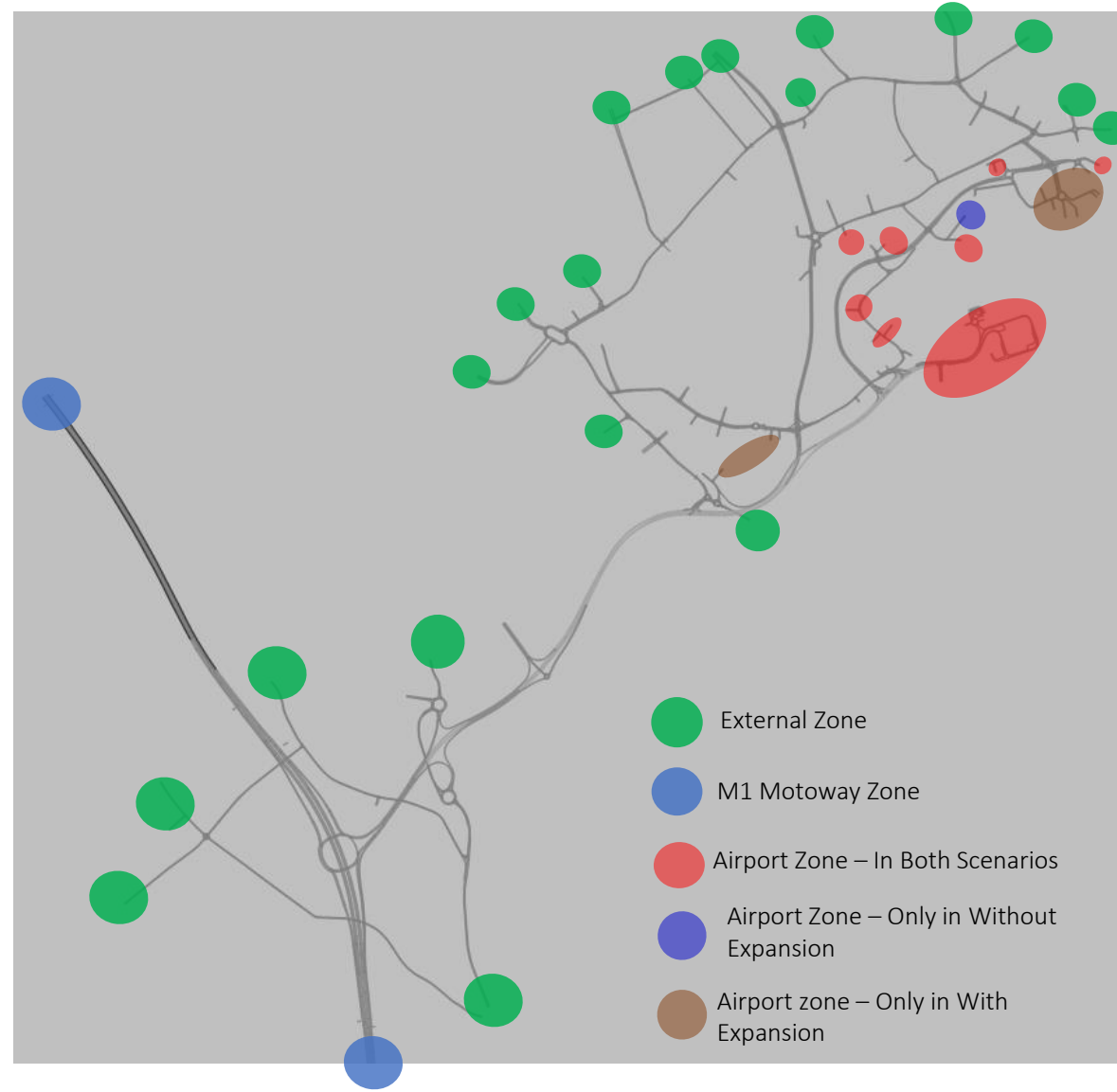
## PM Peak Hour Matrix Totals Comparison



- An increase of approximately 1,200 vehicles was associated with the airport expansion during the AM peak
- The number of vehicles circulating within the study area without M1 through traffic increased from 15,900 to 20,400 between 2017 and 2039 during the AM peak – approximately 4,550 vehicles increase

- Approximately an increase of 1,100 vehicles was associated with the airport expansion during the PM peak
- The number of vehicles circulating within the study area without M1 through traffic increased from 16,700 to 21,400 between 2017 and 2039 during the PM peak – approximately 4,650 vehicles increase

# 2039 Trip Ends – AM Peak Hour With and Without Expansion

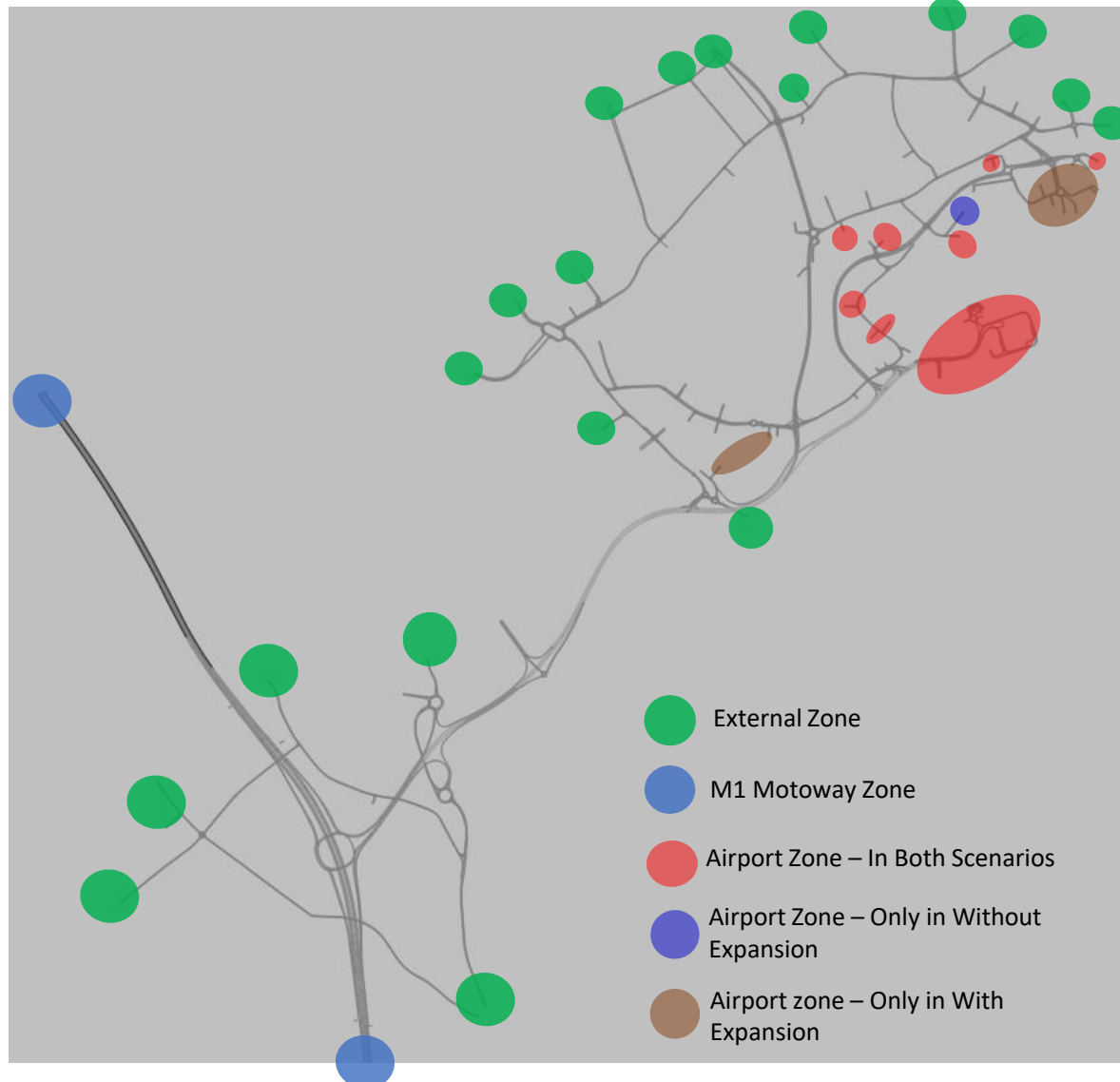


Trip End	Without Expansion	With Expansion
M1 to M1	9,834	9,834
M1 to Airport	1,243	1,576
Airport to M1	970	1,201
External to Airport	814	990
Airport to External	342	433
M1 to External	1,435	1,435
External to M1	943	943
M1 to Internal	1,313	1,412
Internal to M1	532	561
Internal to Internal	1,025	1,029
Internal to External	2,445	2,488
External to Internal	3,731	3,878
External to External	4,046	4,046
Total Without Through M1	19,205	20,424
Total With Through M1	29,039	30,259

The zones that are not highlighted were assumed internal/development zones



# 2039 Trip Ends – PM Peak Hour With and Without Expansion



Trip End	Without Expansion	With Expansion
M1 to M1	11,005	11,005
M1 to Airport	861	1,089
Airport to M1	1,067	1,349
External to Airport	342	431
Airport to External	802	970
M1 to External	1,658	1,658
External to M1	1,586	1,586
M1 to Internal	969	994
Internal to M1	1,668	1,756
Internal to Internal	848	852
Internal to External	3,422	3,550
External to Internal	2,744	2,781
External to External	3,977	3,977
Total Without Through M1	20,290	21,393
Total With Through M1	31,295	32,398

The zones that are not highlighted were assumed internal/development zones

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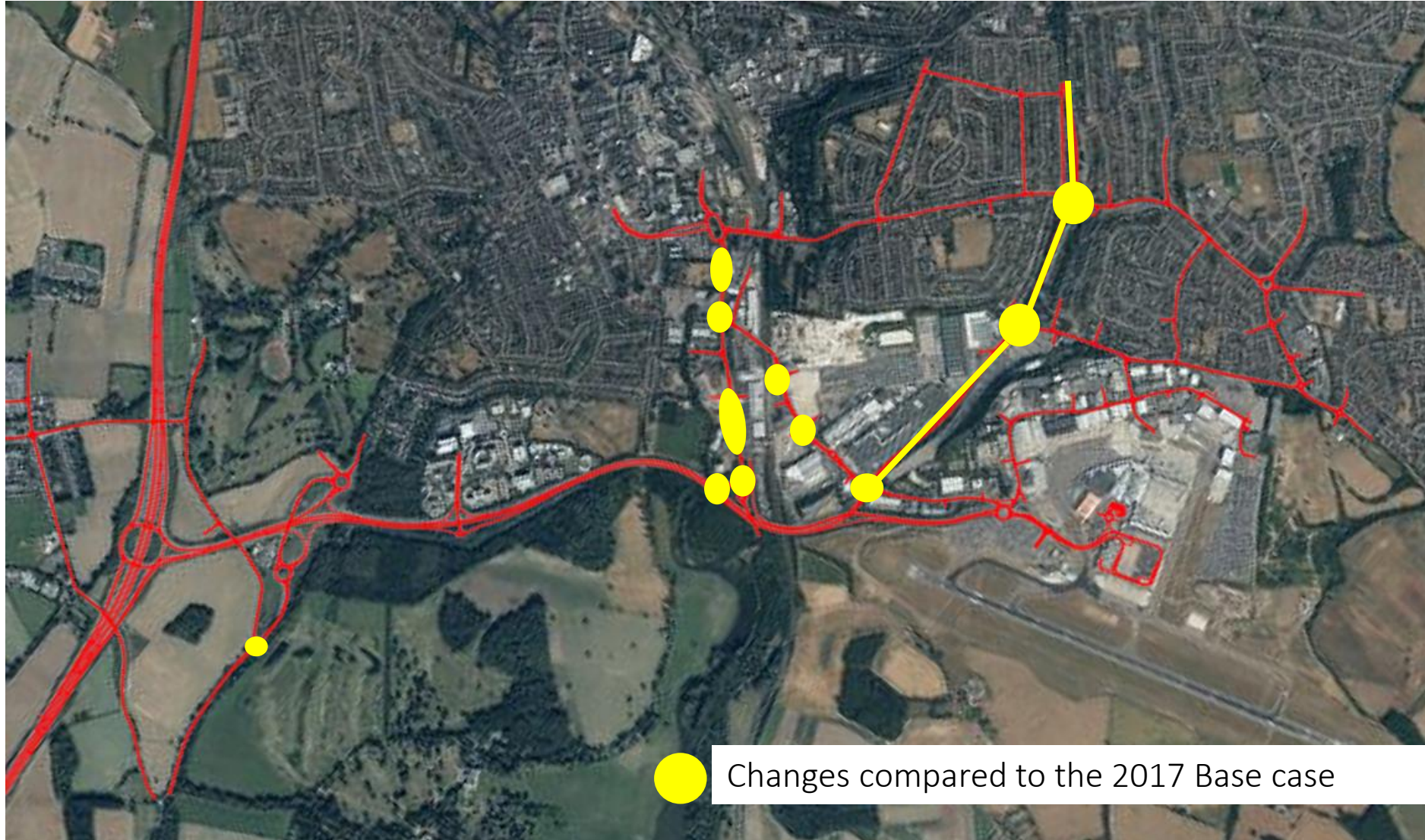
# Geometric Changes – Junctions and Roads

- Geometric changes were introduced to a number of junctions and roads in the road network of the modelled area for the 2039 Scenario;
- Some of these changes are only applicable for the 'With Expansion' Scenario, while others are applicable for both scenarios ('With Expansion' and 'Without Expansion');
- Signalised junctions within the model use Vap and fixed controls (phasing plan and green time depends on the traffic demand);
- The 27mppa M1 J10 mitigation layout is included in the With Expansion scenario only.

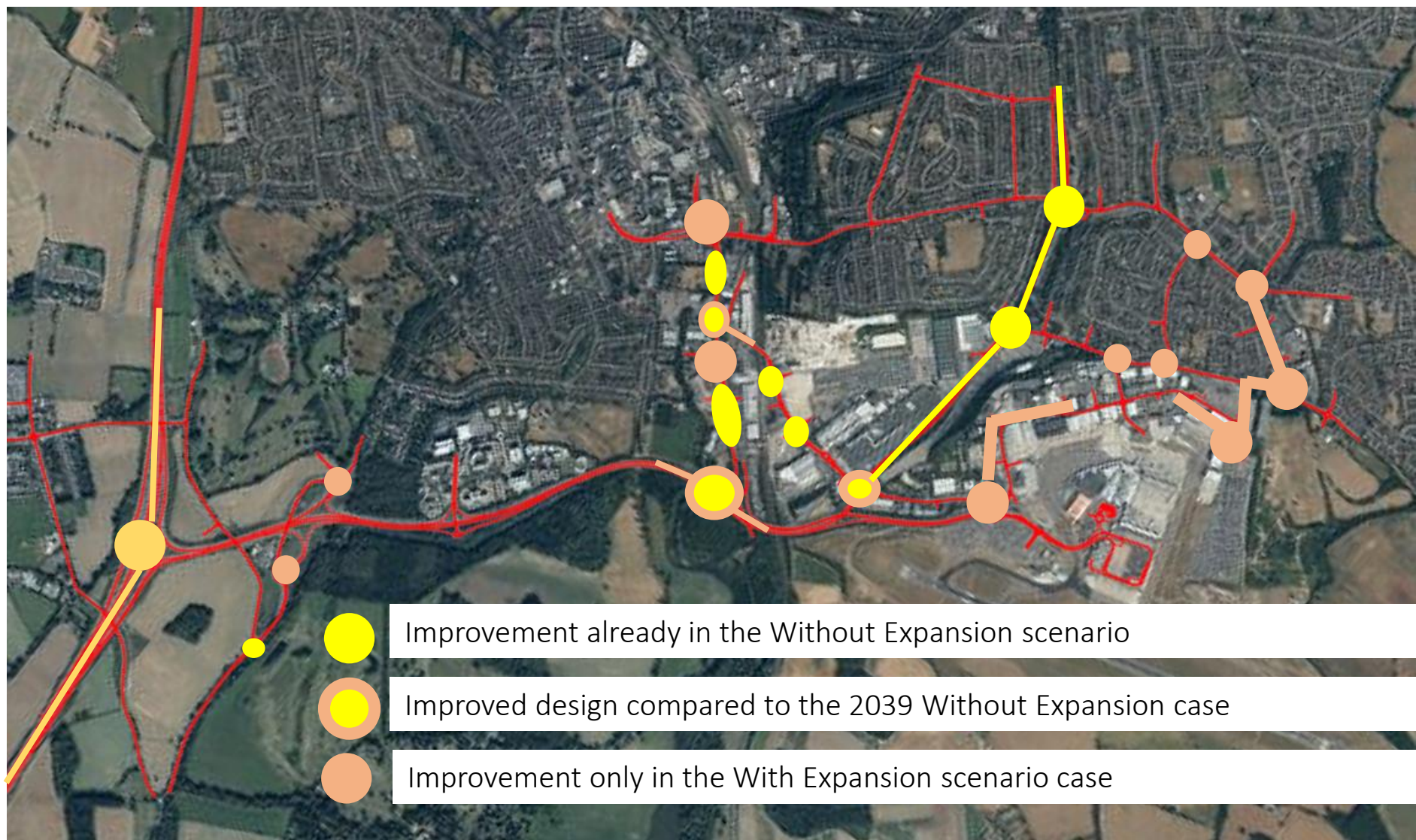
# Geometric Changes – Junctions and Roads

- Luton Borough Council schemes included in the Without and With Expansion case comprise:
  - Vauxhall Way Dualling;
  - Vauxhall Way junction improvements (Kimpton Rd, Eaton Green and Crawley Green Jct);
  - Kimpton Road/Windmill Road;
  - A1081/B653/Gipsy Lane: Removing right turn Bus lane, and minor widening.
- The CPAR link (henceforth to be called Airport Link Road) now forms part of the DCO application and is therefore excluded from the Without Expansion scenarios. In the 27mppa scenario it is assumed that only a partial scheme has been built up, leaving the GKN building in place;
- Junction improvements associated with Committed Developments were added to the Without and With Expansion cases

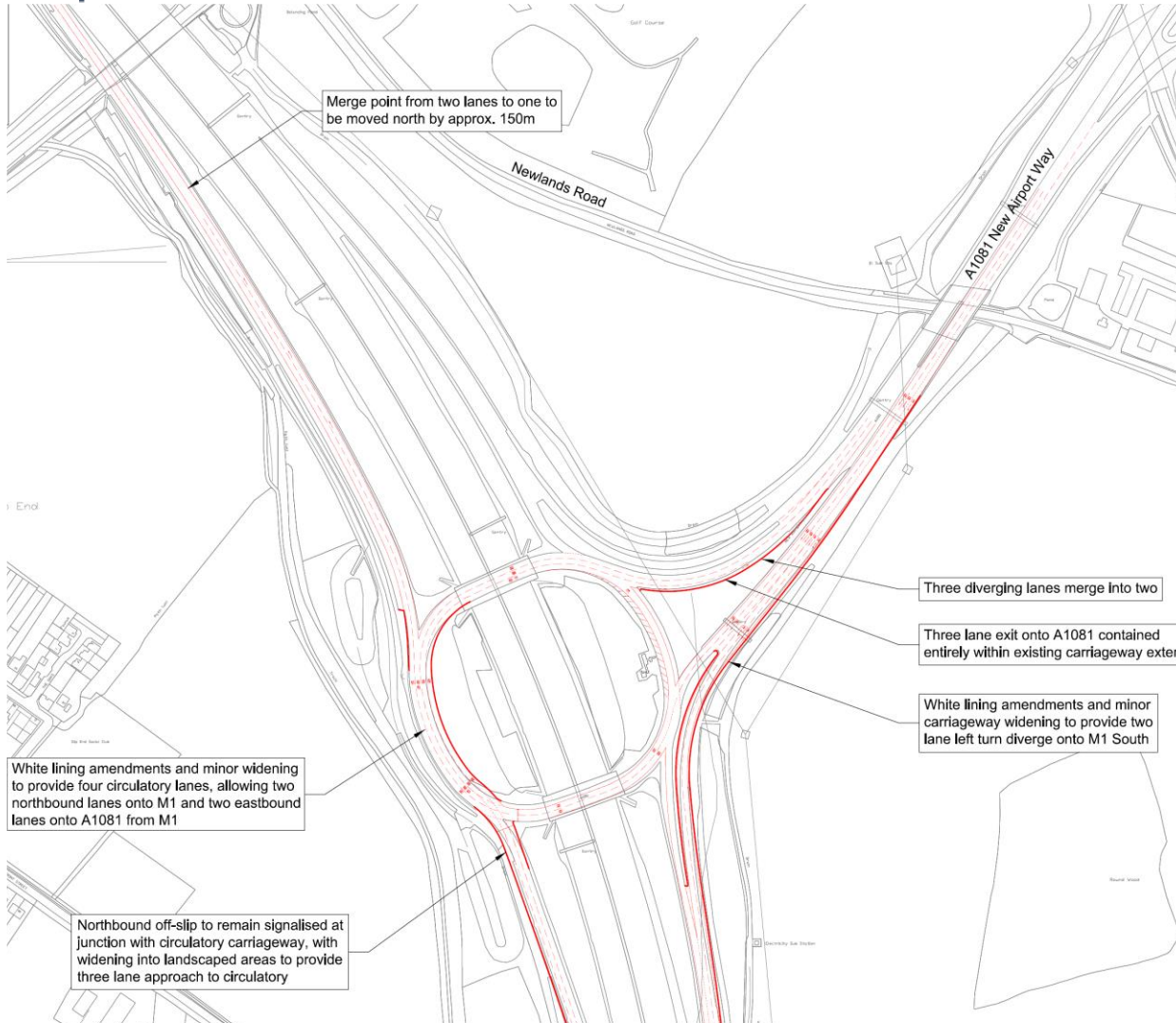
● ● ● | Luton Airport – 2039 Junction Changes Without Expansion Scenario



● ● ● | Luton Airport – 2039 Junction Changes – With Expansion Scenario



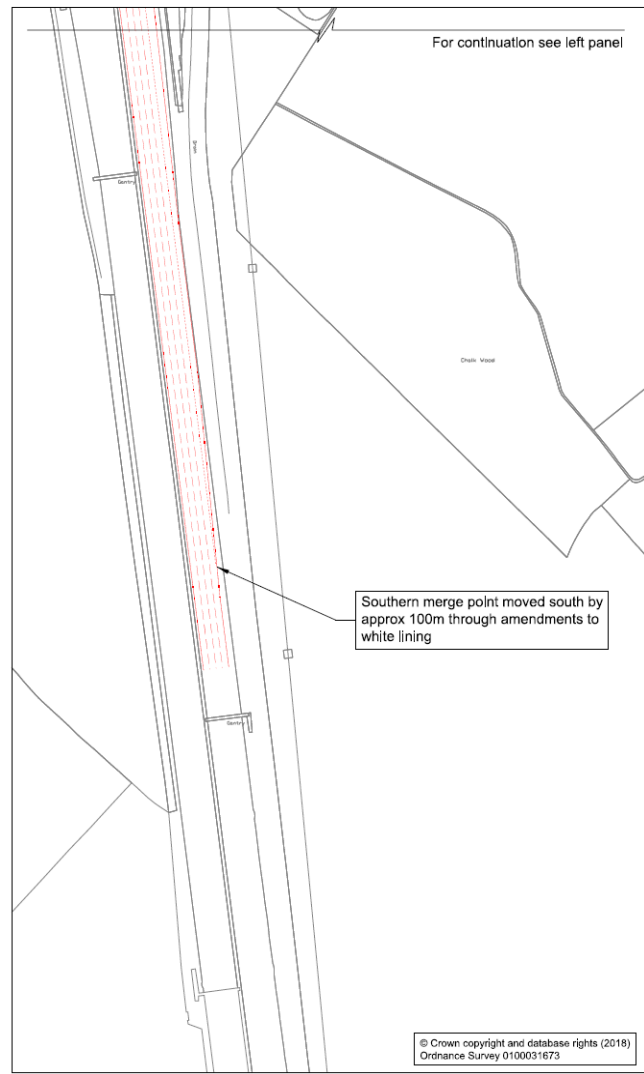
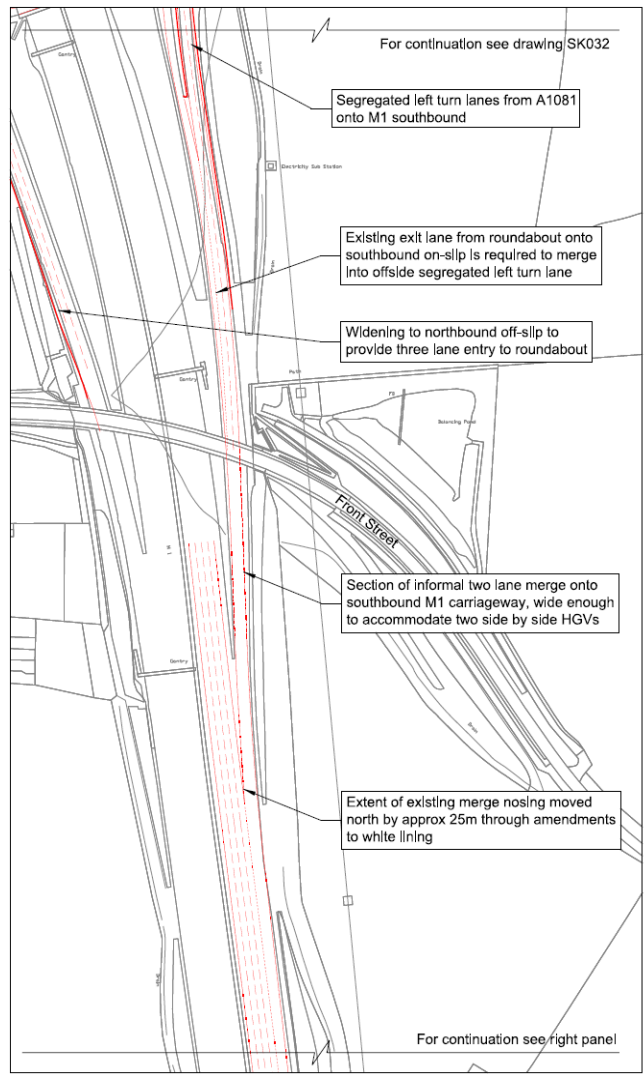
# Luton Airport – M1 J10 Proposed Layout (18 and 27mppa)



- Layout proposed for With Expansion 2039 scenario
- Widening on the SB on- and NB off-slip
- Merge section extended for the SB on-slip
- Extended 2-lane section on the NB on-slip
- Changes to the A1081 approach



# Luton Airport – M1 J10 Proposed Layout





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# Driving Behaviour

- Vissim has default parameters that affect driving behaviour such as the lane change conditions of vehicles;
- Two main driving behaviour wet set, Motorised based on Wiedemann 99 for used on the motorway and Urban based on Wiedemann 74 for the use on the urban roads;
- Driving behaviour was set to 'cooperative' for all vehicles to facilitate the necessary lane change;
- A sub category of driving behaviour was defined for the Motorised and Urban based on a more cooperative lane change. This driving behaviour was mainly used in bottleneck location with a drop in number of lanes, at the entrance of the junctions in case vehicles want to change lane in a congested area, and on the motorway where vehicles merge from the on-ramp to the main line.
- All models, concluding the base year, future year With and Without Expansion scenarios use the same assumptions in terms of driving behaviour settings. No change has been made to the future models in this regard.

# Driving Behaviour (For All Models)

No.: 15 Name: Motorway (New)

Following Lane Change Lateral Signal Control Meso

General behavior: Free lane selection

Necessary lane change (route)

	Own	Trailing vehicle
Maximum deceleration:	-5.00 m/s <sup>2</sup>	-4.00 m/s <sup>2</sup>
- 1 m/s <sup>2</sup> per distance:	100.00 m	100.00 m
Accepted deceleration:	-2.00 m/s <sup>2</sup>	-2.00 m/s <sup>2</sup>

Waiting time before diffusion: 60.00 s  Overtake reduced speed areas

Min. headway (front/rear): 0.50 m  Advanced merging

To slower lane if collision time is above. 11.00 s  Vehicle routing decisions look ahead

Safety distance reduction factor: 0.40

Maximum deceleration for cooperative braking: -5.00 m/s<sup>2</sup>

Cooperative lane change

Maximum speed difference: 6.71 mph

Maximum collision time: 10.00 s

No.: 18 Name: Urban (New)

Following Lane Change Lateral Signal Control Meso

General behavior: Free lane selection

Necessary lane change (route)

	Own	Trailing vehicle
Maximum deceleration:	-5.00 m/s <sup>2</sup>	-4.00 m/s <sup>2</sup>
- 1 m/s <sup>2</sup> per distance:	100.00 m	100.00 m
Accepted deceleration:	-2.00 m/s <sup>2</sup>	-2.00 m/s <sup>2</sup>

Waiting time before diffusion: 60.00 s  Overtake reduced speed areas

Min. headway (front/rear): 0.50 m  Advanced merging

To slower lane if collision time is above. 11.00 s  Vehicle routing decisions look ahead

Safety distance reduction factor: 0.40

Maximum deceleration for cooperative braking: -5.00 m/s<sup>2</sup>

Cooperative lane change

Maximum speed difference: 6.71 mph

Maximum collision time: 10.00 s

No.: 16 Name: Motorway (Ramps)

Following Lane Change Lateral Signal Control Meso

General behavior: Free lane selection

Necessary lane change (route)

	Own	Trailing vehicle
Maximum deceleration:	-6.00 m/s <sup>2</sup>	-6.00 m/s <sup>2</sup>
- 1 m/s <sup>2</sup> per distance:	100.00 m	100.00 m
Accepted deceleration:	-4.00 m/s <sup>2</sup>	-4.00 m/s <sup>2</sup>

Waiting time before diffusion: 60.00 s  Overtake reduced speed areas

Min. headway (front/rear): 0.50 m  Advanced merging

To slower lane if collision time is above. 11.00 s  Vehicle routing decisions look ahead

Safety distance reduction factor: 0.25

Maximum deceleration for cooperative braking: -9.00 m/s<sup>2</sup>

Cooperative lane change

Maximum speed difference: 7.50 mph

Maximum collision time: 10.00 s

No.: 17 Name: Ramps

Following Lane Change Lateral Signal Control Meso

General behavior: Free lane selection

Necessary lane change (route)

	Own	Trailing vehicle
Maximum deceleration:	-6.00 m/s <sup>2</sup>	-6.00 m/s <sup>2</sup>
- 1 m/s <sup>2</sup> per distance:	100.00 m	100.00 m
Accepted deceleration:	-4.00 m/s <sup>2</sup>	-4.00 m/s <sup>2</sup>

Waiting time before diffusion: 60.00 s  Overtake reduced speed areas

Min. headway (front/rear): 0.40 m  Advanced merging

To slower lane if collision time is above. 11.00 s  Vehicle routing decisions look ahead

Safety distance reduction factor: 0.25

Maximum deceleration for cooperative braking: -9.00 m/s<sup>2</sup>

Cooperative lane change

Maximum speed difference: 7.50 mph

Maximum collision time: 10.00 s

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# Convergence

- Iterative simulation runs were conducted for each model to reach a state of convergence. In other words, travel times and volumes do not fluctuate significantly between the different runs of the same random seeds;
- Three convergence criteria are available in Vissim:
  - Travel time on paths;
  - Travel time on edges; and
  - Volume on edges.
- For the London Luton Airport Expansion the 'Travel time on paths' criteria was selected:
  - The long paths and the high number of edge forming each path make the 'travel time on edge' an unpractical choice for convergence in the defined study area
  - The traffic volume on the edges vary from a hundred vehicles to few thousands vehicles in the study area. Therefore, setting a convergence criteria based on a fixed variation in the number of vehicles on all the edges is not a good choice in this case;
- The study area is characterised by a high number of VAP controlled signals (variable timings). Therefore, the green time per phase is not constant and vary depending on traffic demand. For this reason it was decided to 'relax' the convergence criteria to no more than 20% variation in travel time on at least 80% of the paths.

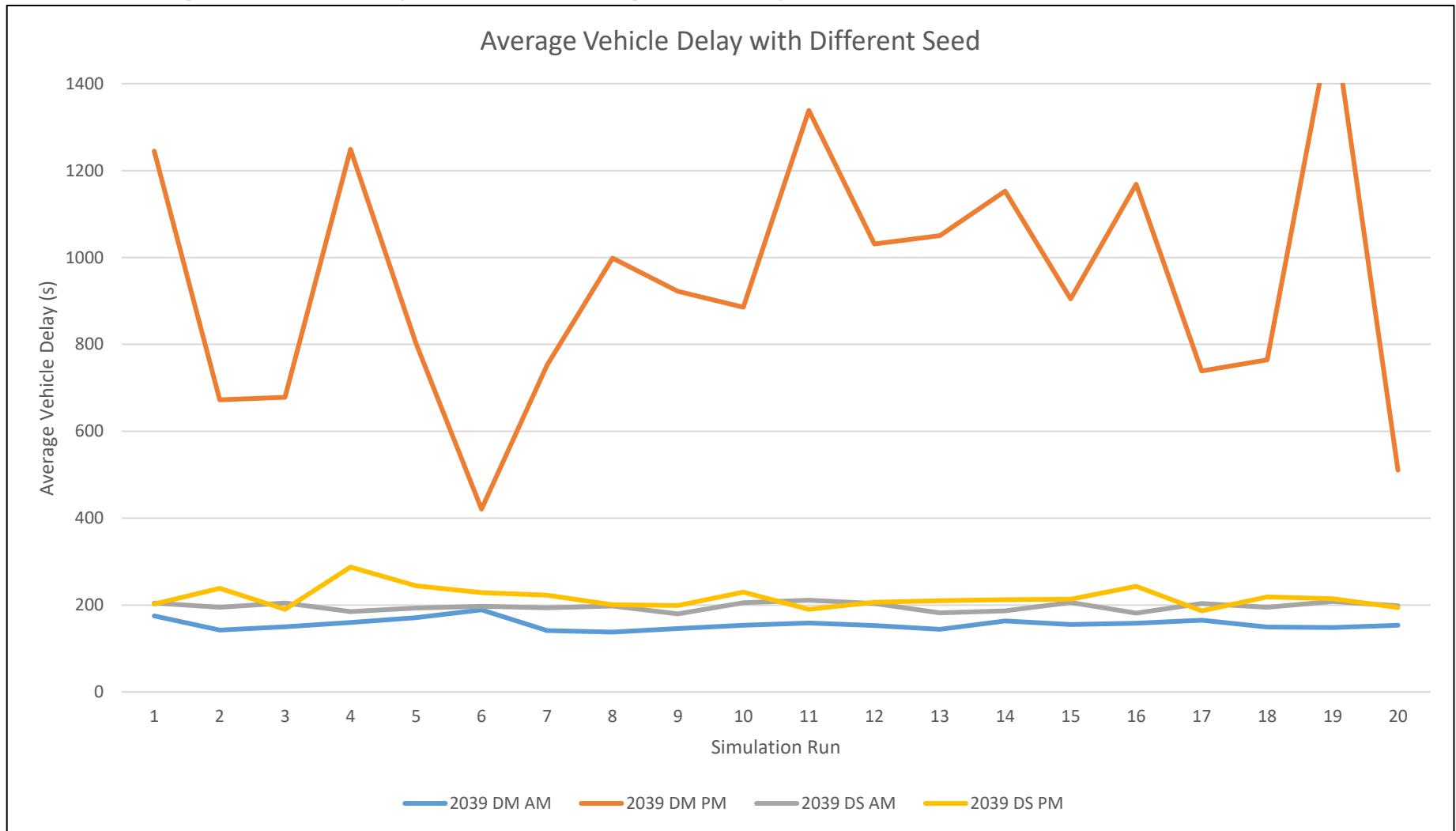
# Convergence

Similar convergence procedure was applied for both the AM & PM models:

1. Demonstrate level of convergence:
  - Each model has been run for at least 100 iterations,
  - All the iterations thoroughly checked,
  - Confirm iteration with achieved required convergence criteria, and
  - Check simulation visually for anomalies.
  
2. Confirm Convergence:
  - The selected iteration is run for 20 iterations,
  - Different random seeds were adopted,
  - Network Performance assessed in terms of Delays and Travel times, and
  - Report Average Outputs of the 20 runs.

\*The 2039 18mppa PM model did not reach convergence due to the significant congestion within the network

# Convergence Sample - Average Delay/Vehicle/Run



- The model indicated delays and some congestion in the AM Without Expansion case. The PM Without Expansion scenario showed breakdown in traffic condition from the peak hour. This was caused by queues building up over the peak hour.
- The average delay figures varied with different random seed in all cases, indicating a sensitive network.
- The AM With case showed slightly higher delays compared to the Without case, while it showed significant improvement in the PM peak in the With case.

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## Comparative Analysis of the two scenarios

- A Vissim micro-simulation model was developed for London Luton Airport Expansion Project;
- Comparison between the ‘Without Expansion’ and ‘With Expansion’ covered:
  - Network Performance;
  - Node Assessment;
  - Travel Time; and
  - Traffic Counts.



# Network Performance

- Network performance provides an assessment of all the vehicles within the study area;
- Network performance provides the average value of defined key performance indices (KPIs) by considering the data of all vehicles in the modelled network;
- These KPIs include average delays and the average speed of all vehicles within the study area.

# Network Performance

- **AM peak:** The model showed that the network operated slightly worse in the With Expansion case compared to the Without Expansion case, that did not show long delays or congestion. The average speed was comparative, and the delay increased by only 41 seconds as a result of the Airport Expansion. The proposed mitigation measures were able to maintain overall traffic conditions with some reduction in performance.
- **PM Peak:** The model indicated that the network experienced queuing and some delay in the Without Expansion case. The average delay was approximately 12 minutes lower in the With Case scenario compared to the Without case. This shows the proposed expansion scheme includes additional mitigation which is particularly beneficial in the PM peak hour and which shows improved network performance and reduced breakdown inflow even with greater traffic flows in the With Expansion scenario.

2039 Scenario	Average Delay (sec)	Average Speed (mph)
AM - Without Expansion	2min 36s	21.9
AM - With Expansion	3min 17s	19.9
PM - Without Expansion	15min 42s	5.8
PM - With Expansion	3min 37s	20.9

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# Level Of Service Criteria – HCM 2010

- Level of service on junctions was assessed based on the below criteria of the Highway Capacity Manual (2010)
- Junction analysis performed used the built in Node Analysis in Vissim
- Node results compared between ‘Without Expansion’ and ‘With Expansion’ scenarios. Like for like comparison was adopted

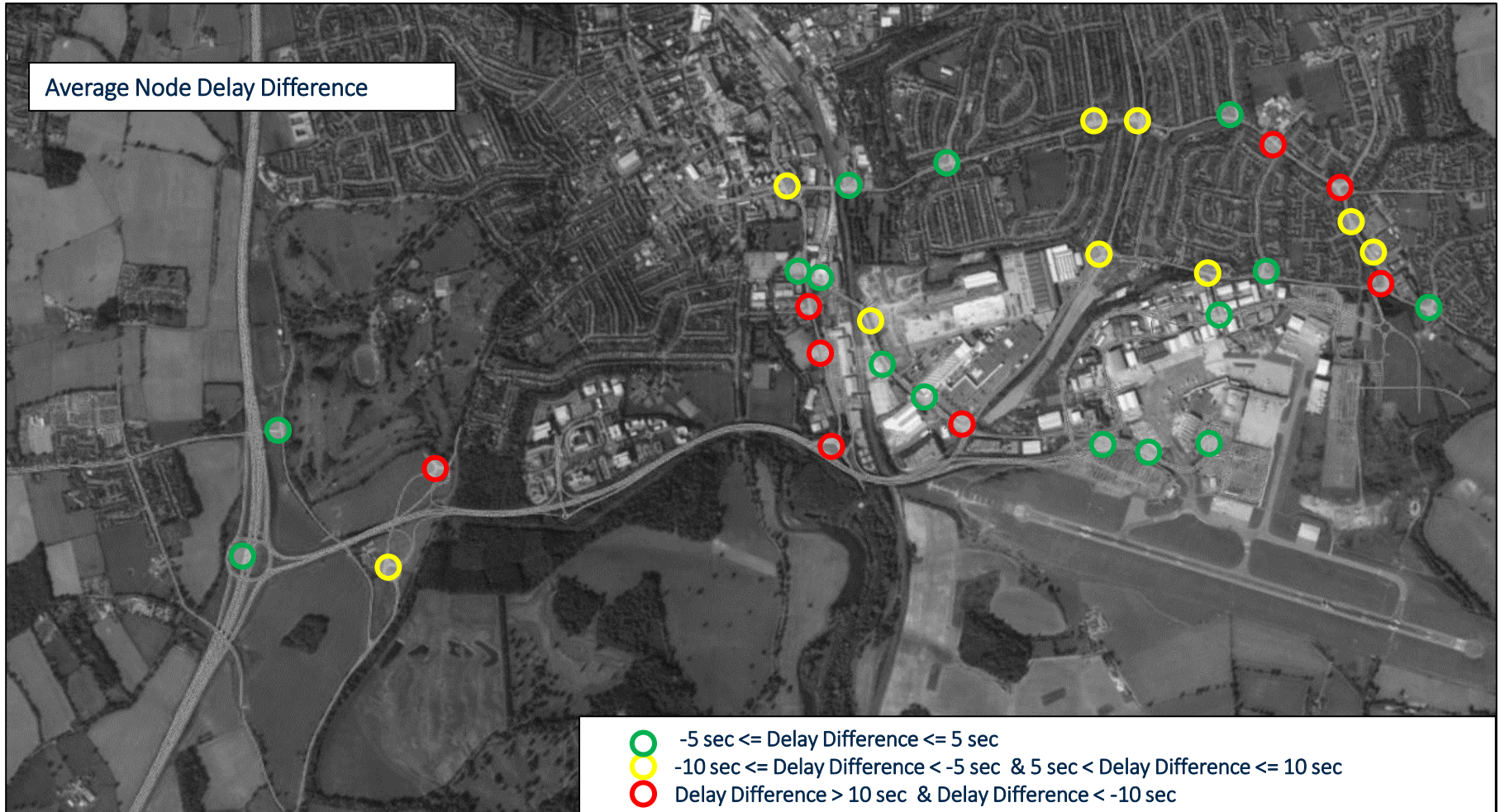
## Signalised Intersection

Average Vehicle Delay (sec)	Level Of Service
≤ 10	A
> 10 and ≤ 20	B
> 20 and ≤ 35	C
> 35 and ≤ 55	D
> 55 and ≤ 80	E
> 80	F

## Roundabout Intersection

Average Vehicle Delay (sec)	Level Of Service
≤ 10	A
> 10 and ≤ 15	B
> 15 and ≤ 25	C
> 25 and ≤ 35	D
> 35 and ≤ 50	E
> 50	F

# Junction Assessment – AM Peak hour



# Junction Assessment – AM Peak Hour



# Junction Assessment – AM Peak Hour





# Junction Assessment – AM Peak Hour

Scenario	LOS	Delay
Without Expansion	D	49s
With Expansion	D	47s

Scenario	LOS	Delay
Without Expansion	E	44s
With Expansion	E	67s

Scenario	LOS	Delay
Without Expansion	D	41s
With Expansion	C	32s

Scenario	LOS	Delay
Without Expansion	C	18s
With Expansion	C	23s

Scenario	LOS	Delay
Without Expansion	C	16s
With Expansion	D	26s

Scenario	LOS	Delay
Without Expansion	B	12s
With Expansion	C	23s

Scenario	LOS	Delay
Without Expansion	E	41s
With Expansion	E	49s

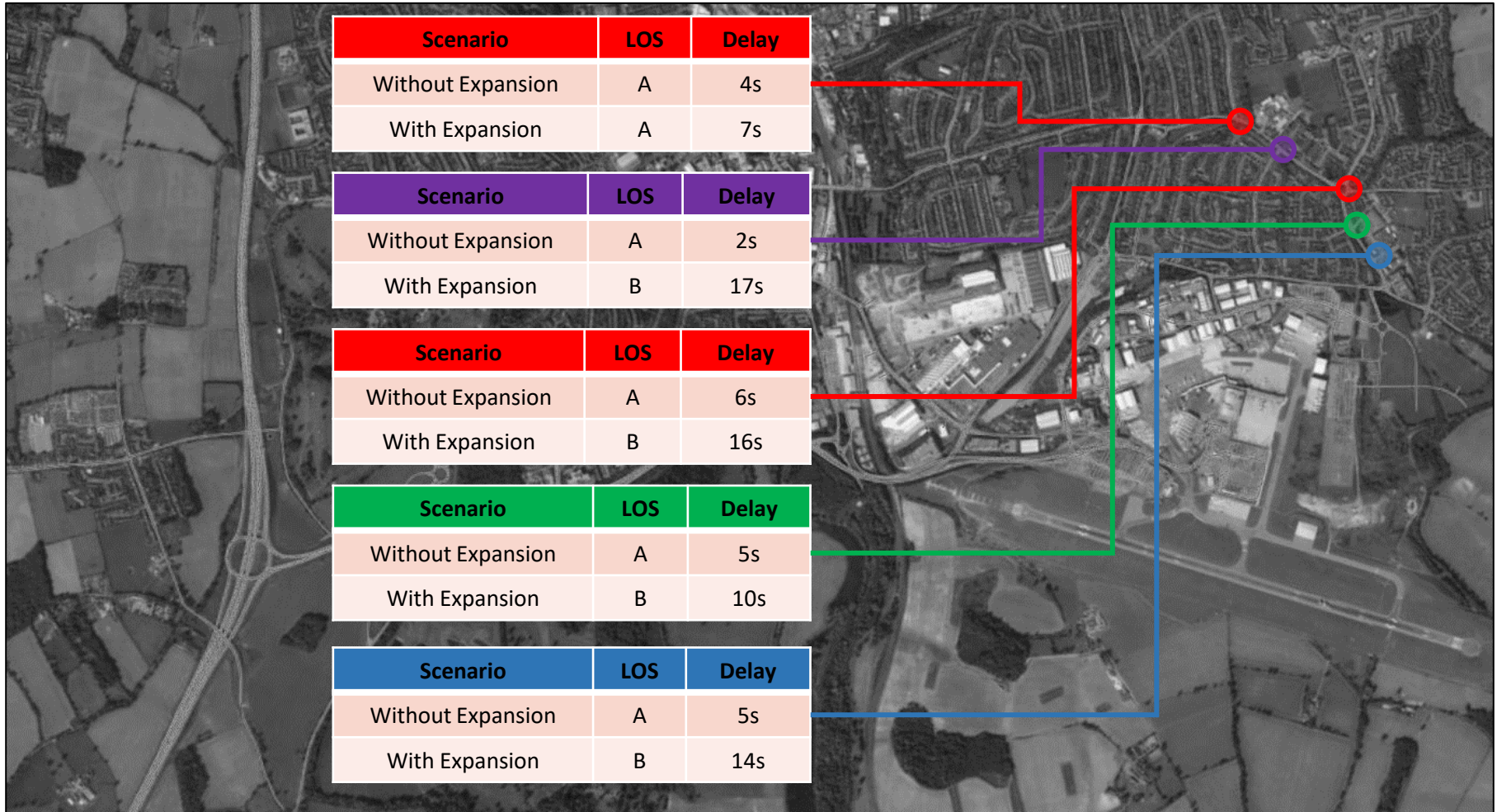
Scenario	LOS	Delay
Without Expansion	C	23s
With Expansion	D	49s



# Junction Assessment – AM Peak Hour



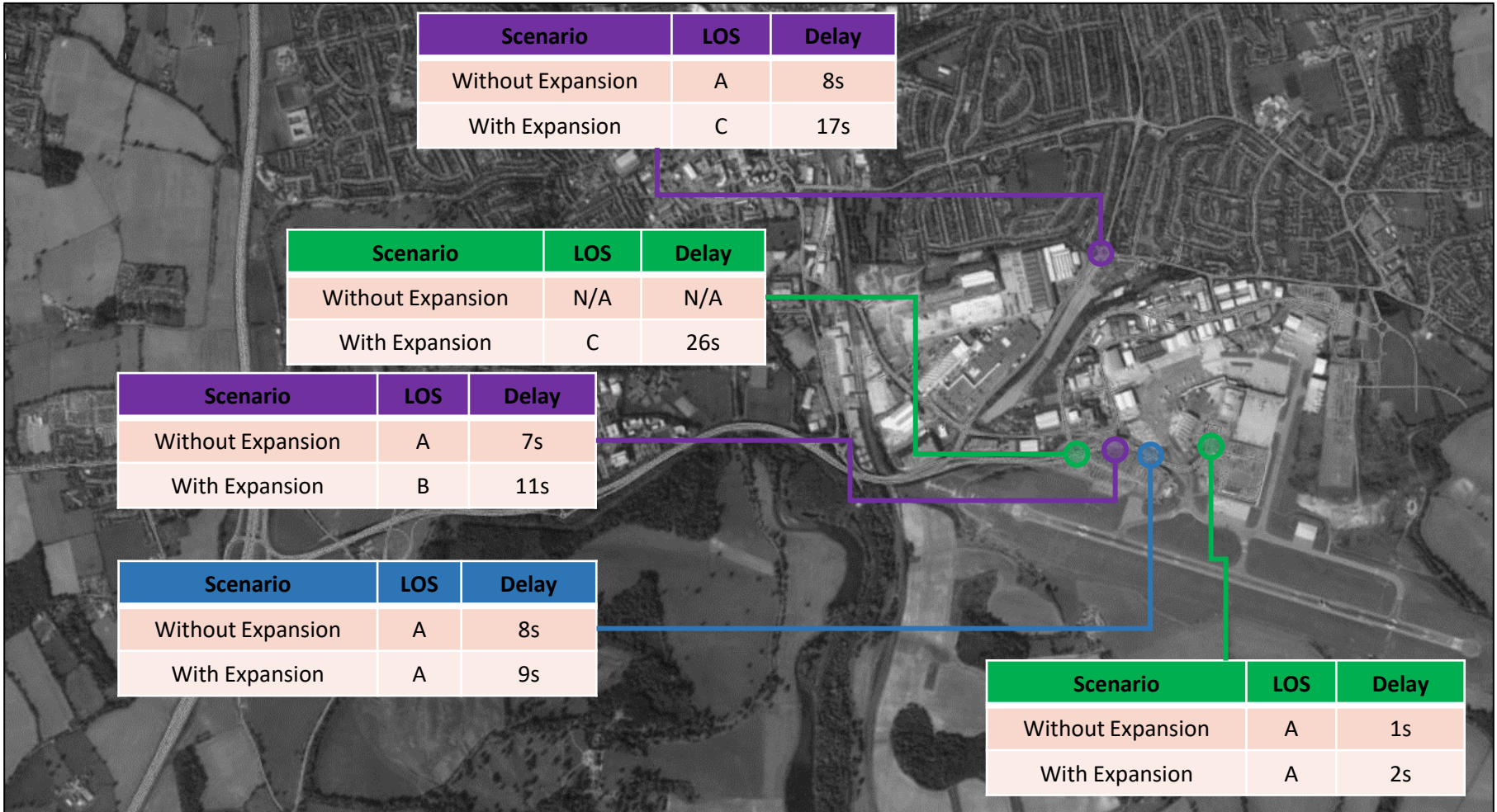
# Junction Assessment – AM Peak Hour



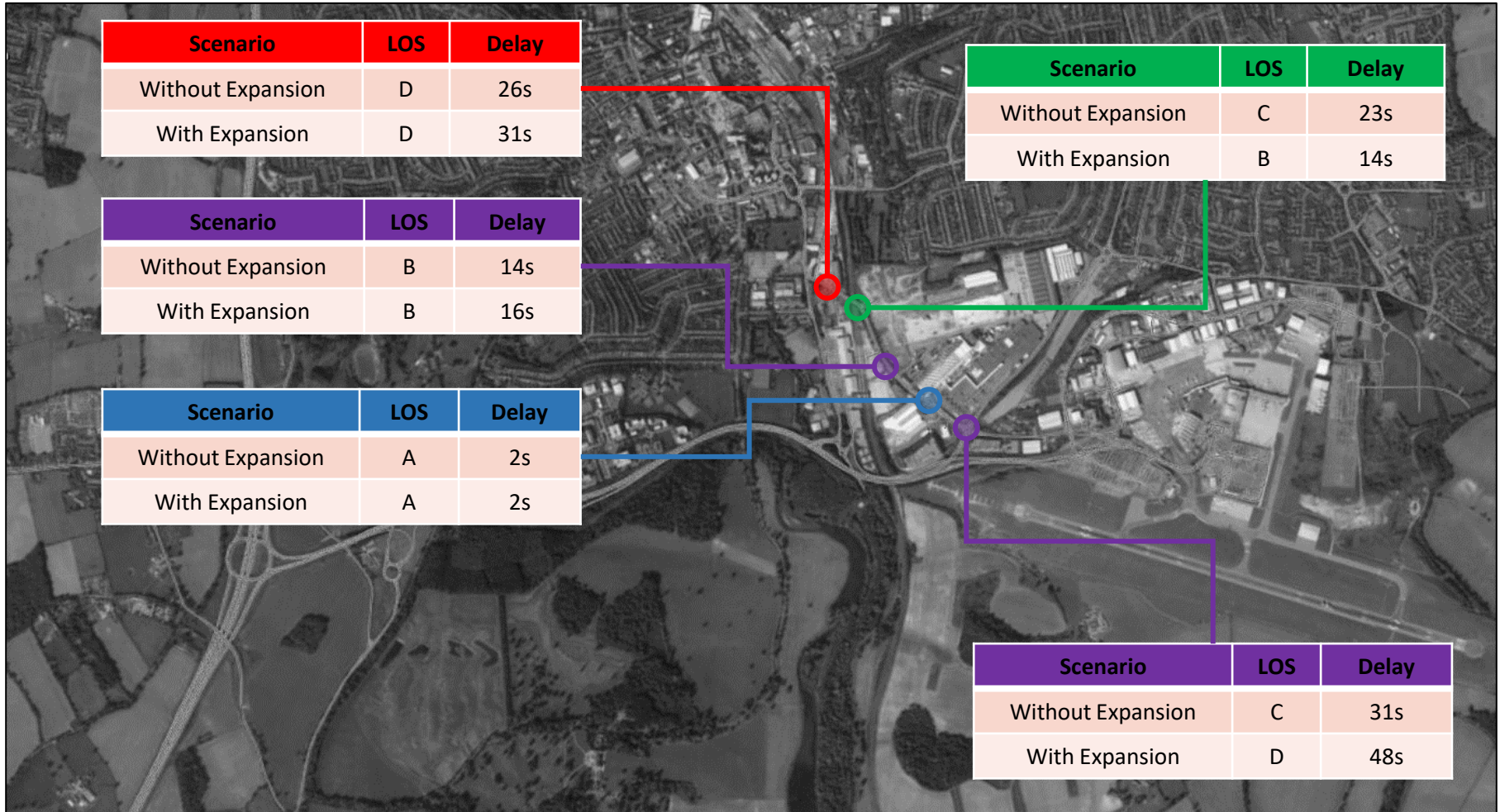
# Junction Assessment – AM Peak Hour



# Junction Assessment – AM Peak Hour

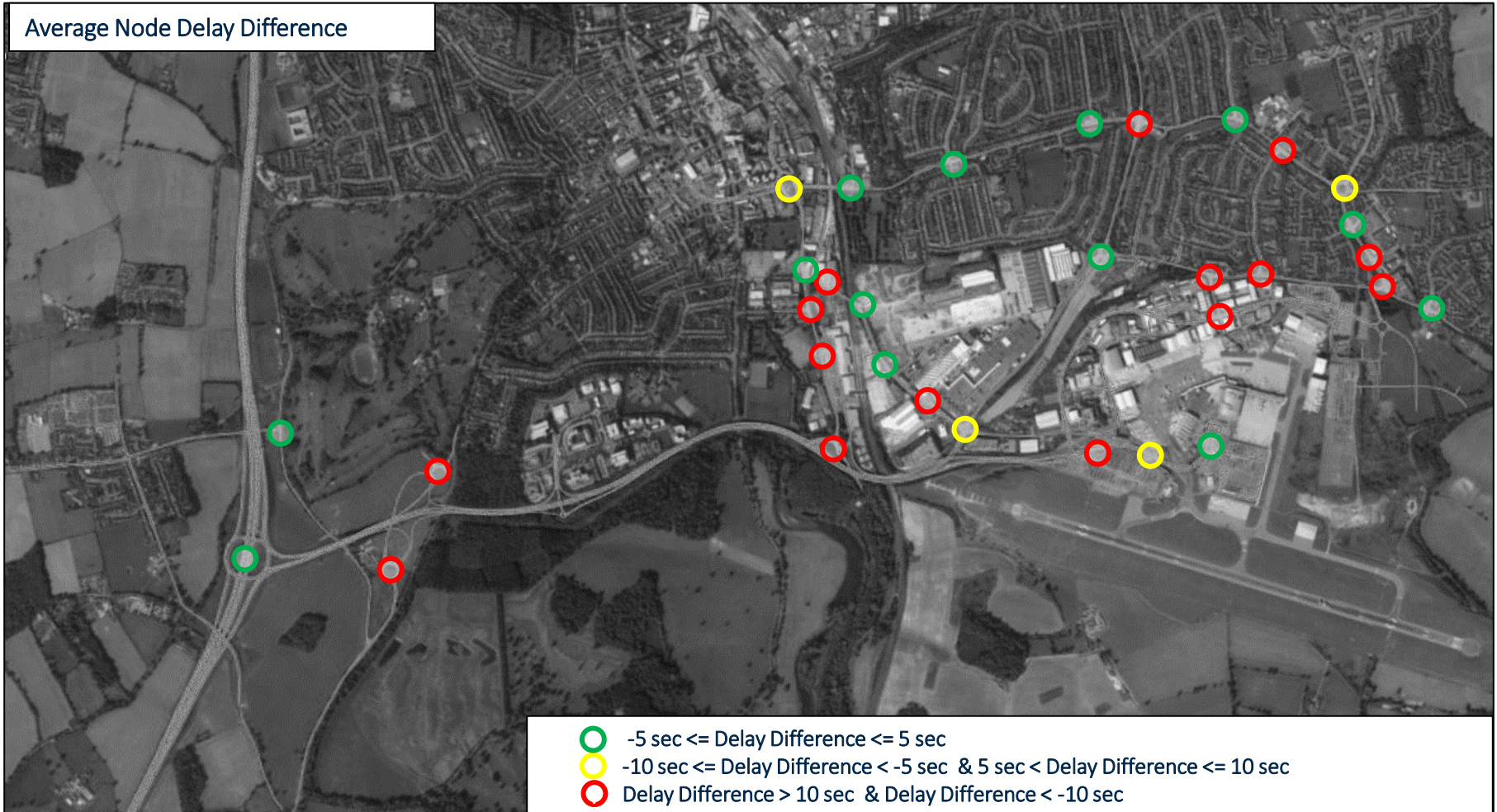


# Junction Assessment – AM Peak Hour

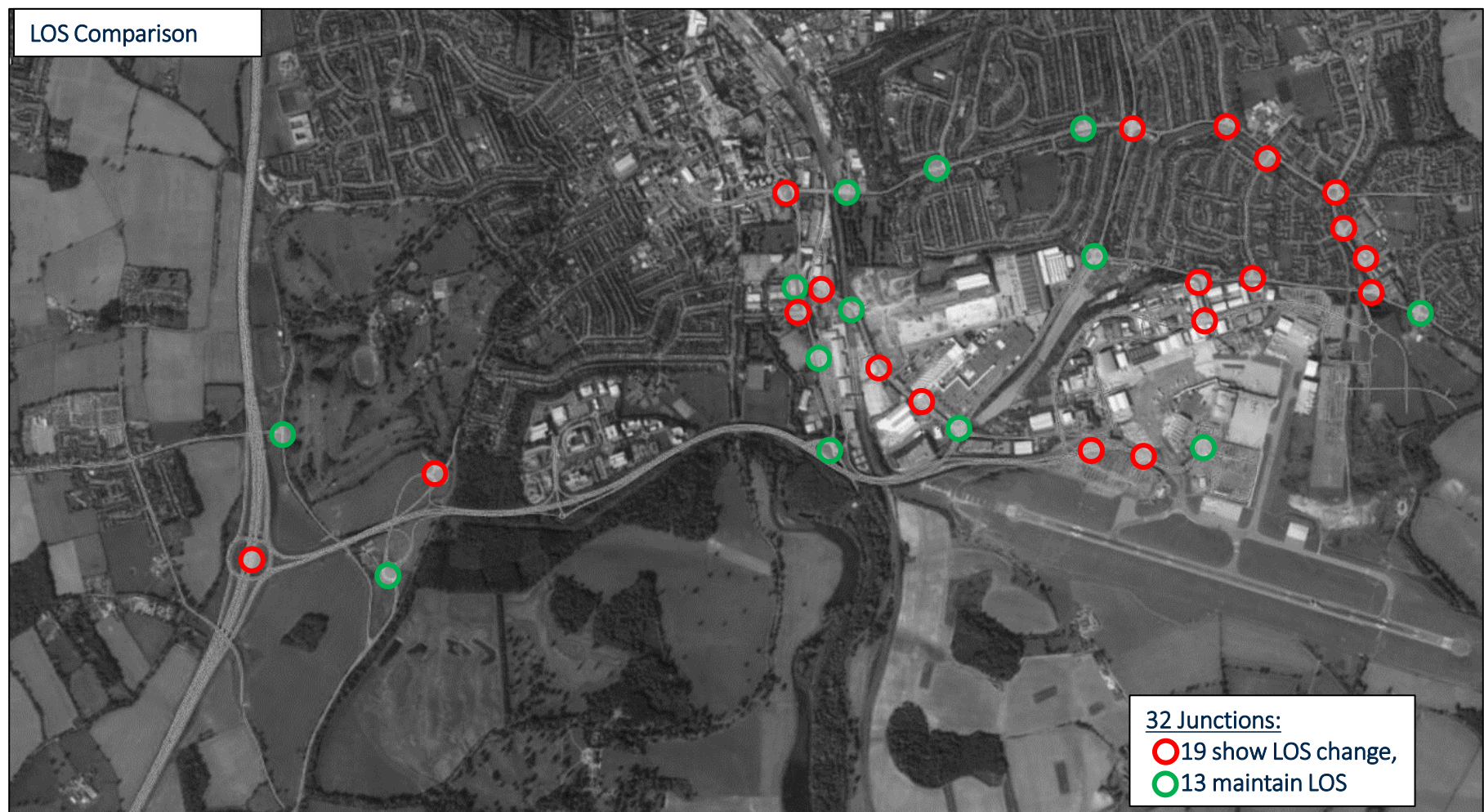


# Junction Assessment – PM Peak hour

Average Node Delay Difference



# Junction Assessment – PM Peak Hour

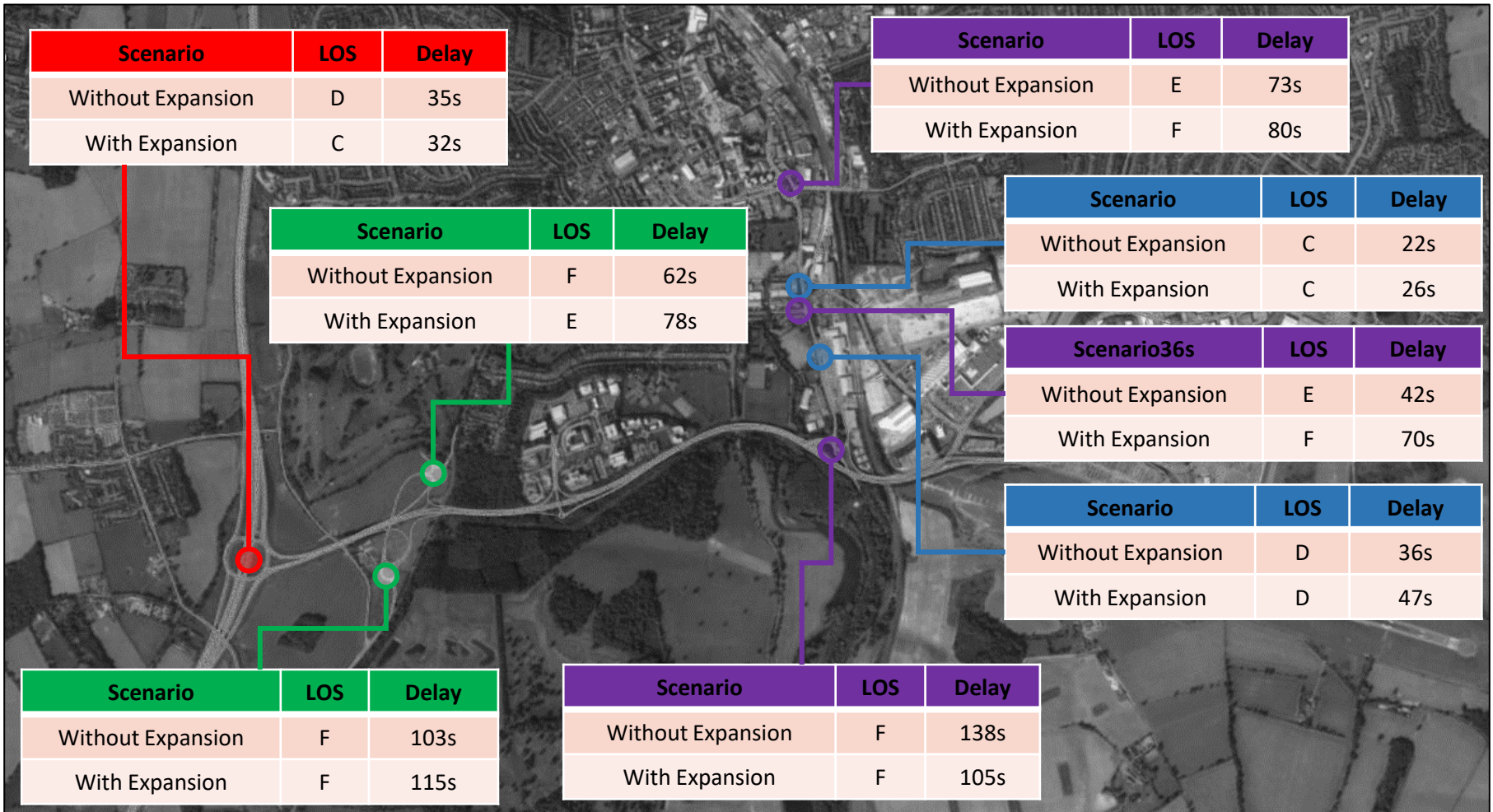




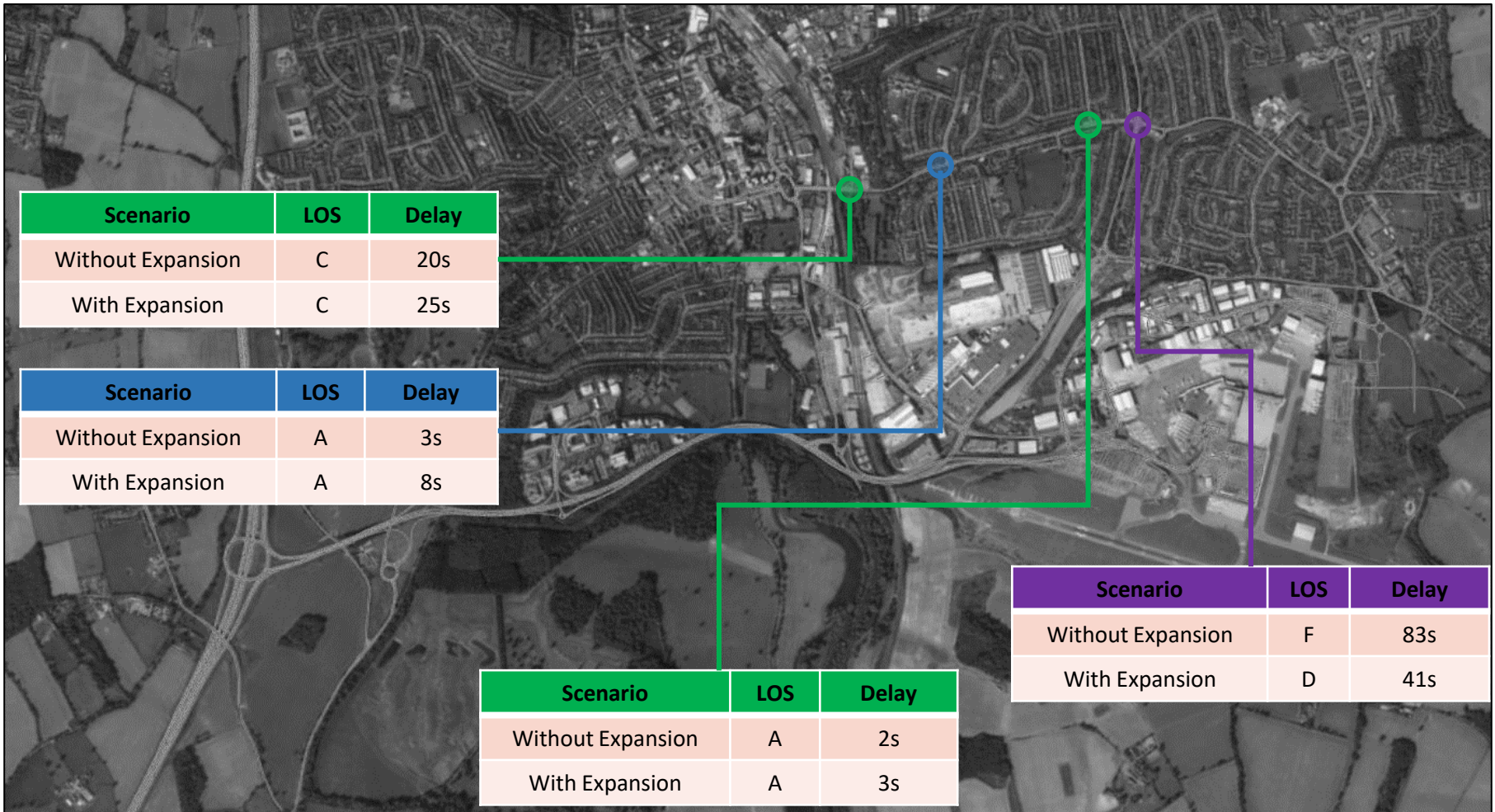
# Junction Assessment – PM Peak Hour



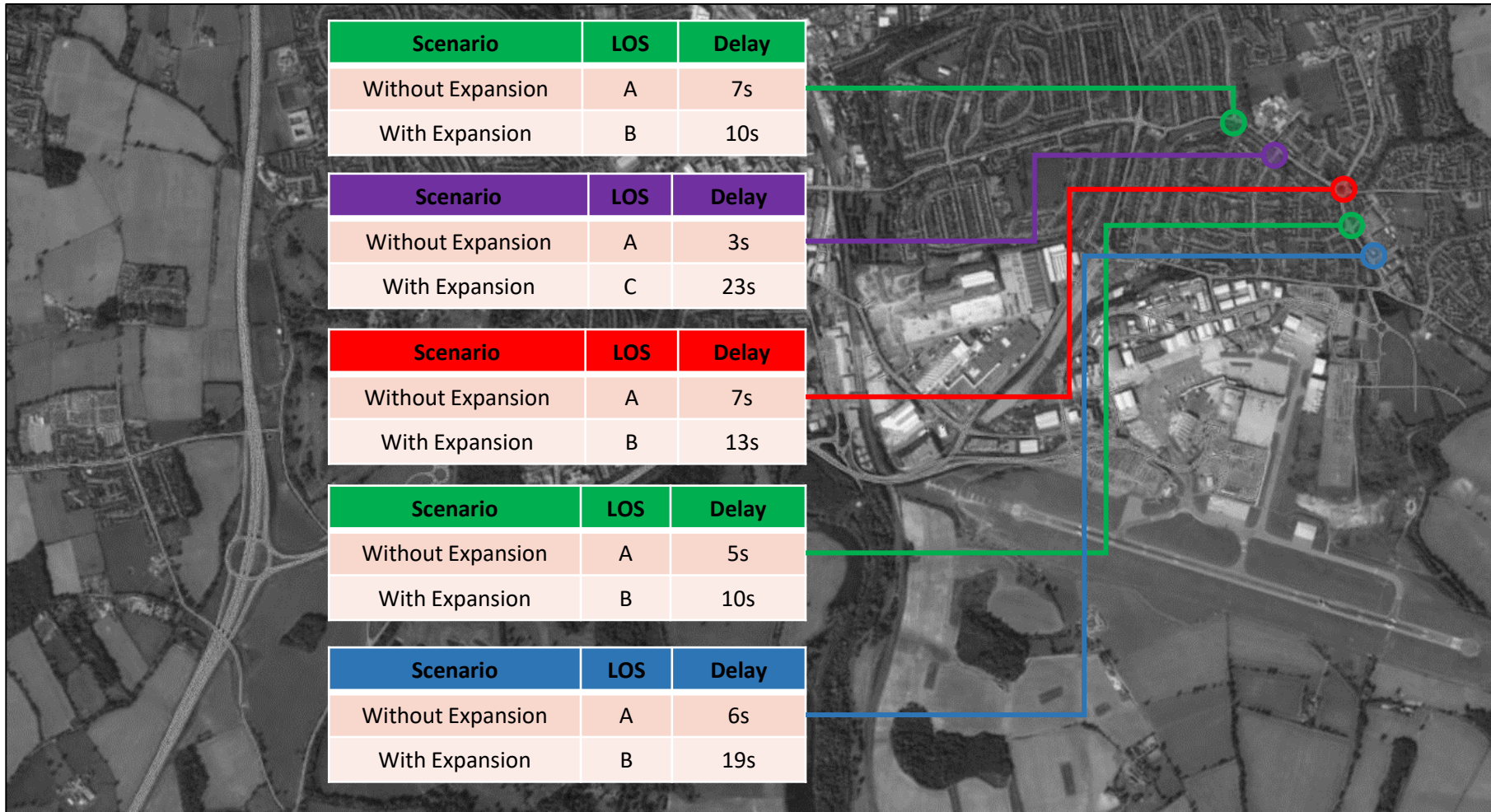
# Junction Assessment – PM Peak Hour



# Junction Assessment – PM Peak Hour



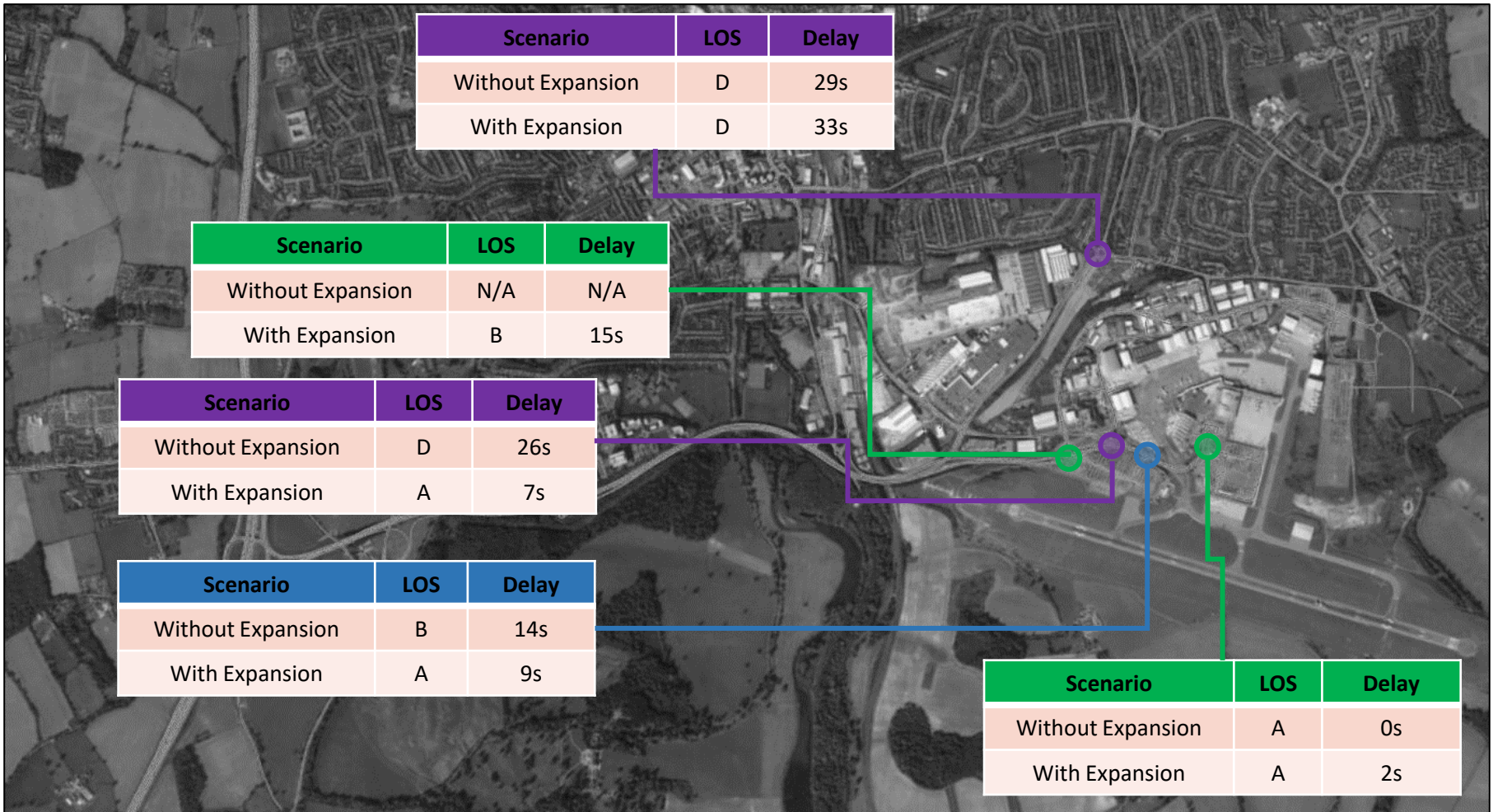
# Junction Assessment – PM Peak Hour



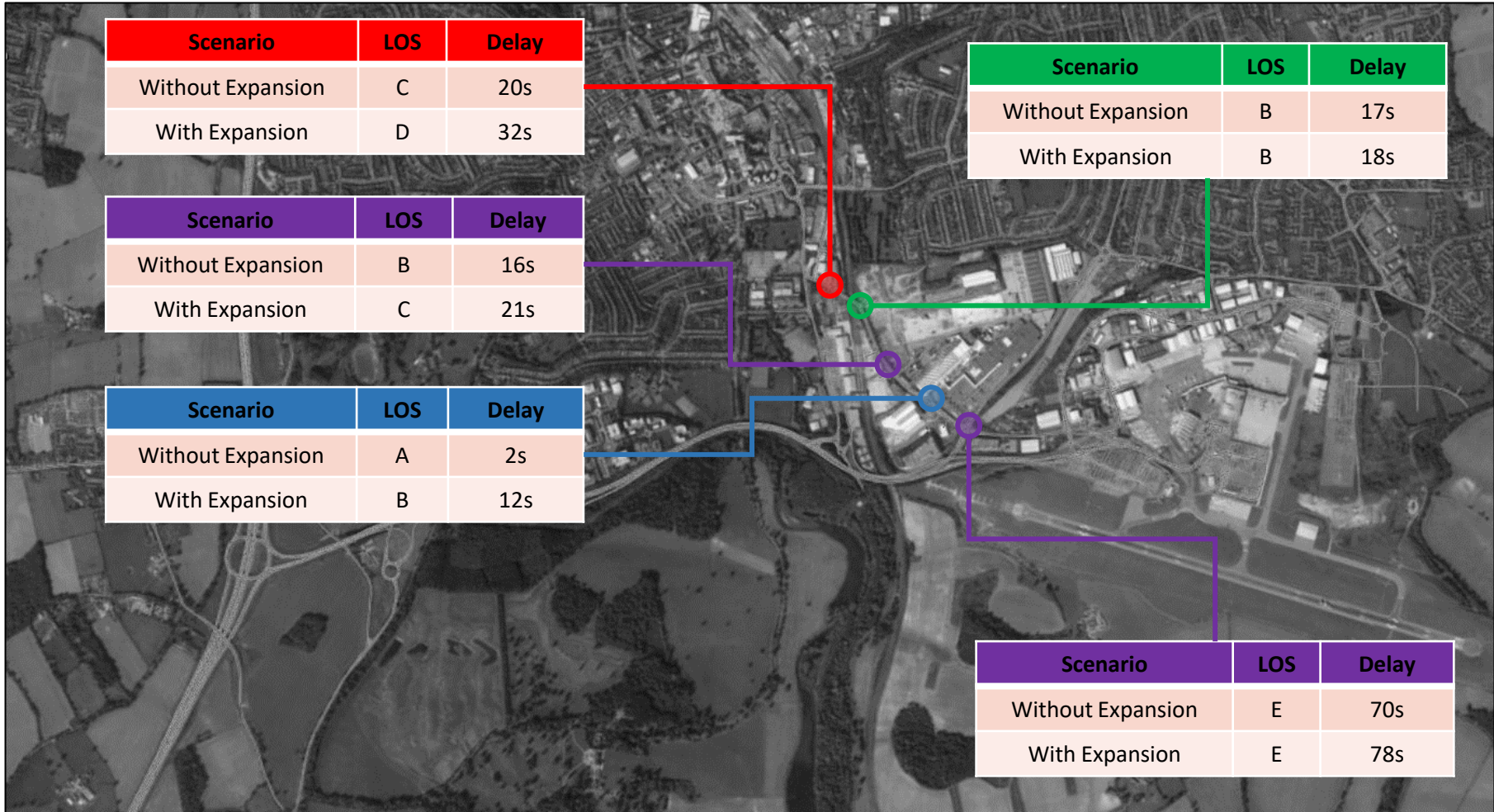
# Junction Assessment – PM Peak Hour



# Junction Assessment – PM Peak Hour



# Junction Assessment – PM Peak Hour



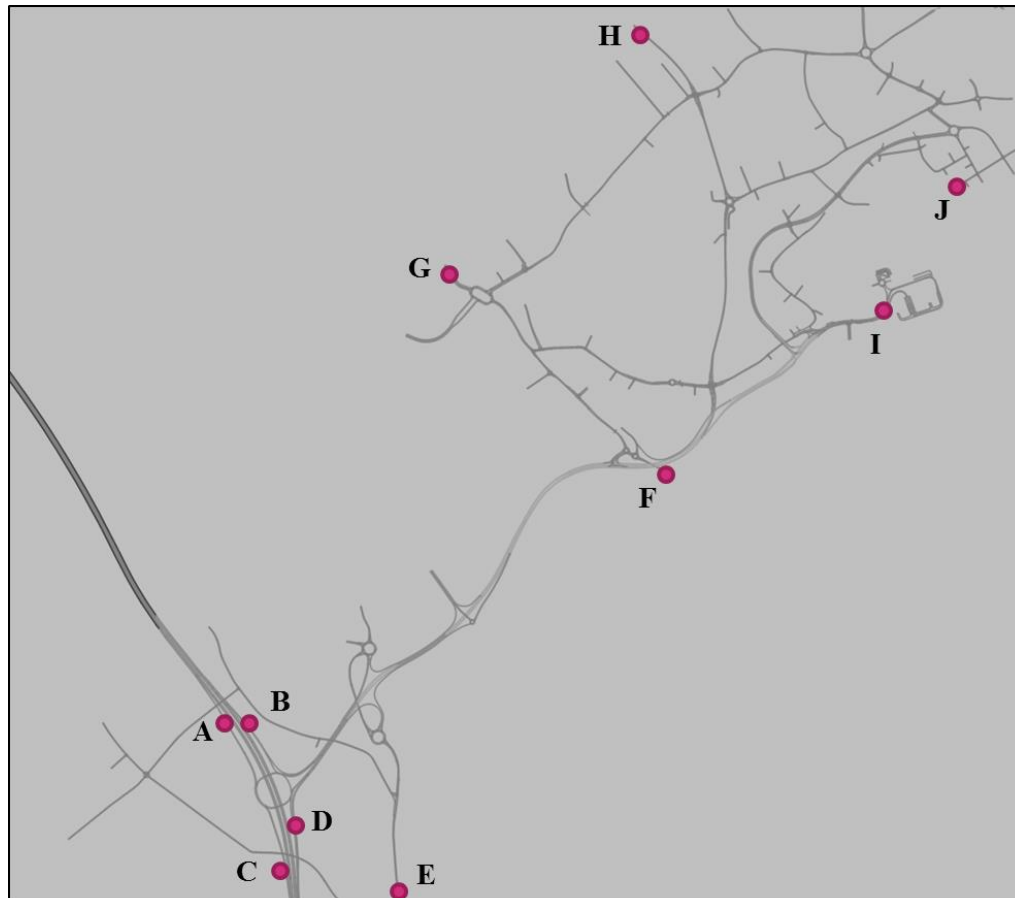
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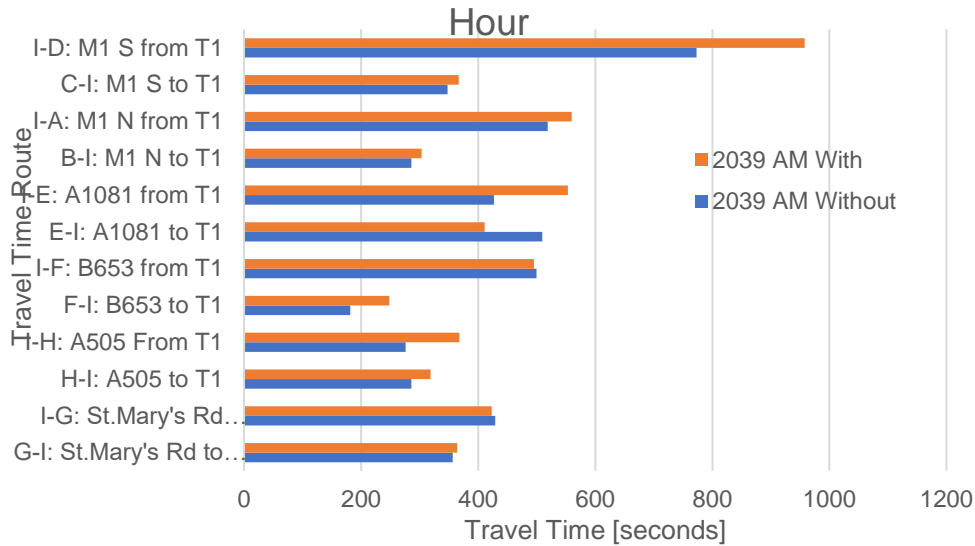
# Travel Time Assessment

- Travel time on defined paths were compared for the 'Without Expansion' and 'With Expansion' scenarios;
- Travel time segments between the highlighted points highlighted below:



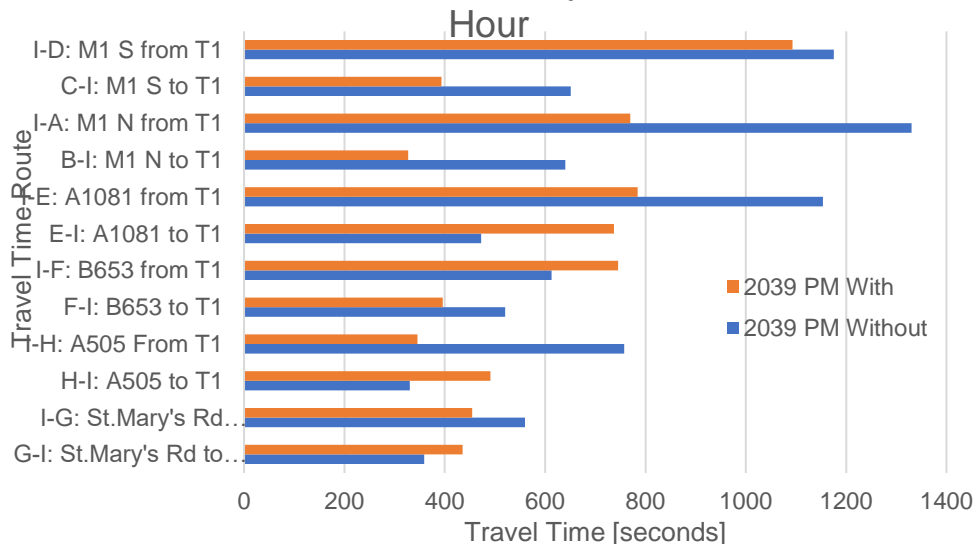
# Travel Time per Vehicle Comparison For Terminal 1

Terminal 1 Travel Time Comparison - AM Peak



- In the AM peak the model showed similar journey times for the With and Without scenarios for most of the routes. The highest increase in journey time was observed from the Airport to M1 South, while highest saving was observed for A1081 to existing terminal.

Terminal 1 Travel Time Comparison - PM Peak

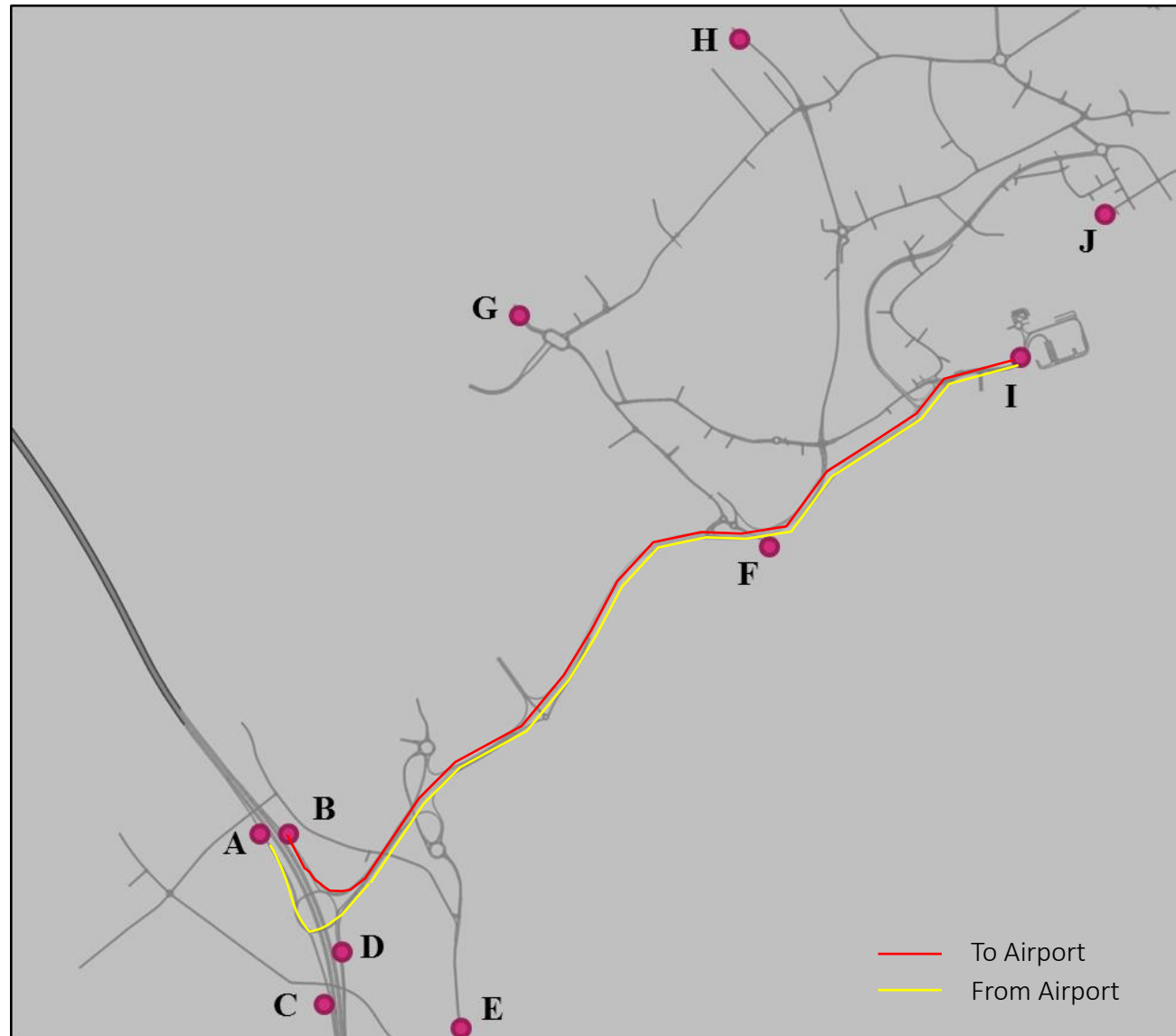


- In the PM peak the model showed significant journey time reductions for most routes for the With Expansion scenario. For certain routes (mainly along the A1081 and M1) the model indicated significant journey time savings.

# Existing Terminal Travel Path from/to M1 North – AM Peak Hour

	<b>B → I (4462m)</b>	<b>I → A (4683m)</b>
Without Expansion	4min 46sec	8min 39sec
With Expansion	5min 3sec	9min 20sec
Difference	+18sec	+41sec

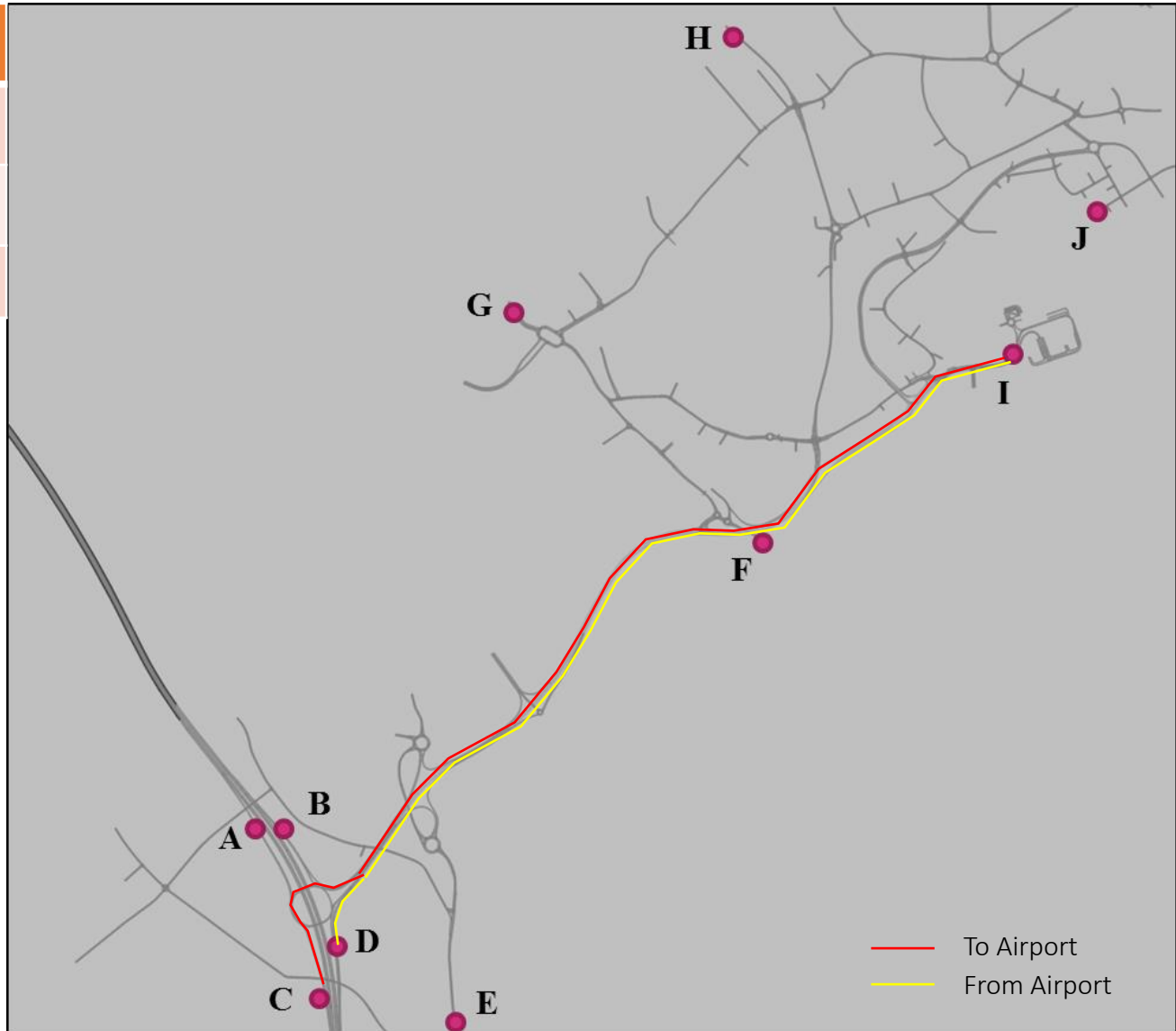
- Marginal increase in journey time to the Existing Terminal from M1 North;
- Increase of 41 seconds in journey time from the Existing Terminal to M1 North.



# Existing Terminal Travel Path from/to M1 South – AM Peak Hour

	C → I (4892m)	I → D (4391m)
Without Expansion	5min 48sec	12min 53sec
With Expansion	6min 6sec	15min 58sec
Difference	+19sec	+3min 5sec

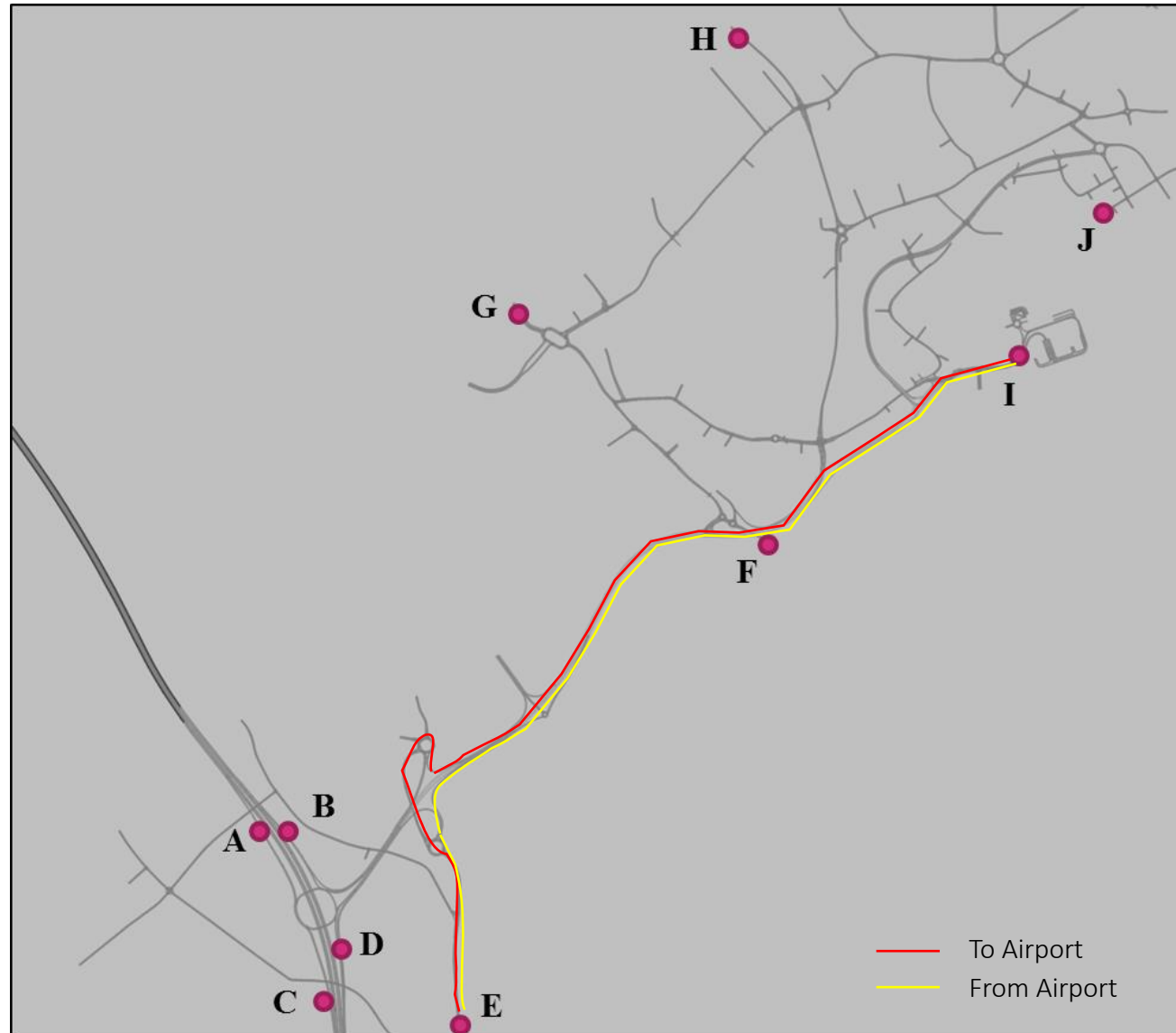
- Marginal increase of 19 seconds in journey time to the Existing Terminal from M1 South;
- 3 minute 5 second increase in journey time from the Existing Terminal to M1 South.



# Existing Terminal Travel Path from/to A1081 – AM Peak Hour

	<b>E → I (5328m)</b>	<b>I → E (4803m)</b>
Without Expansion	8min 29sec	7min 7sec
With Expansion	6min 51sec	9min 13sec
Difference	-1min 38sec	+2min 6sec

- Decrease of 1 minute 38 seconds in journey time from the A1081 to the Existing Terminal;
- 2 minute 6 seconds increase in journey time from the Existing Terminal to the A1081.

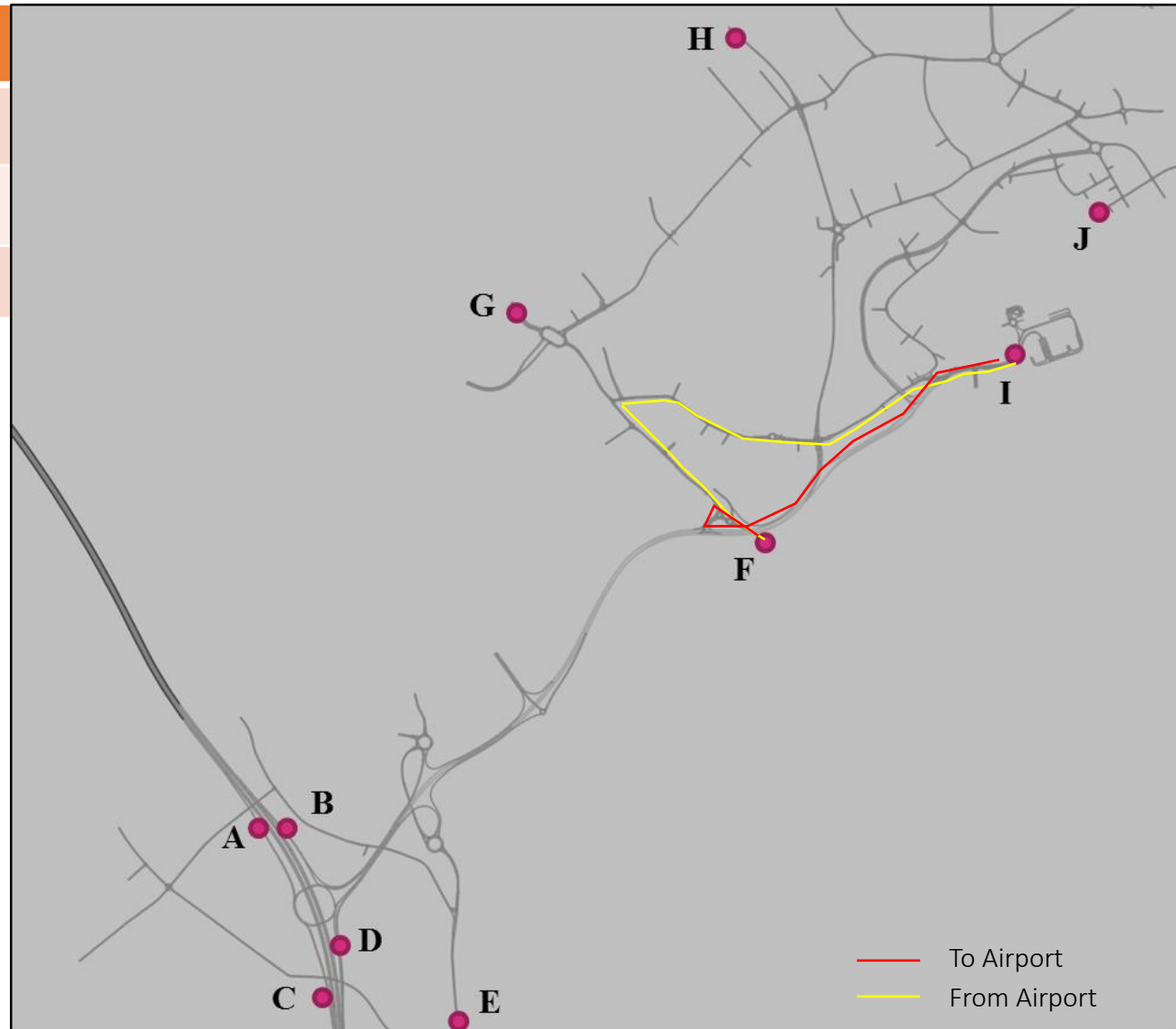


# Existing Terminal - Travel Path from/to B653 – AM

## Peak Hour

	F → I (1882m)	I → F (2857m)
Without Expansion	3min 1sec	8min 19sec
With Expansion	4min 8sec	8min 15sec
Difference	+1min 7sec	-4sec

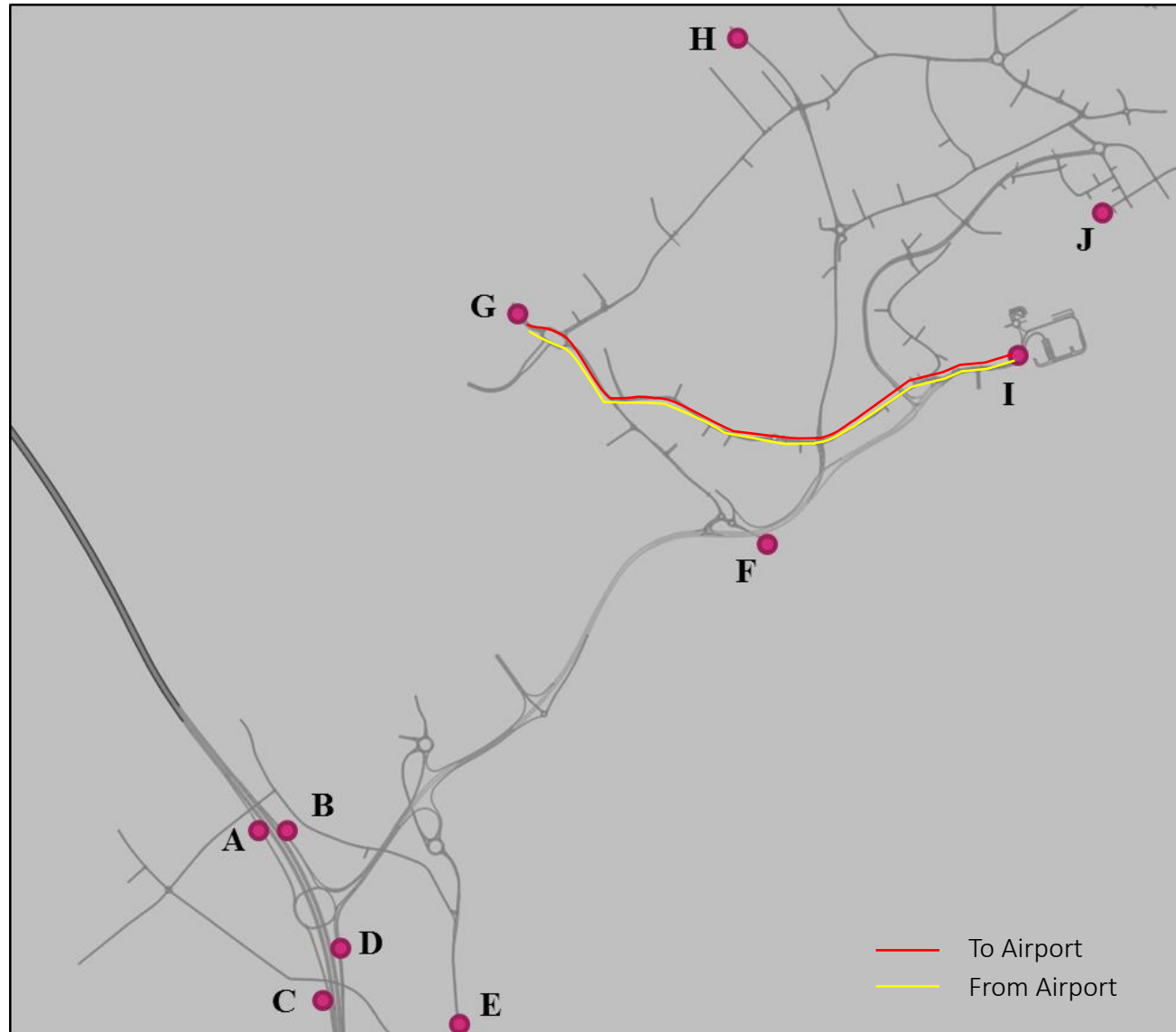
- Increase of 1 minute 7 seconds increase in travel time for the 'With Expansion' scenario towards the Airport from the B653;
- Negligible change of 4 seconds decrease in journey time in the With Expansion scenario from the Airport to the B653.



# Existing Terminal - Travel Path from/to St Mary's Rd-AM Peak Hour

	G → I (2492m)	I → G (2500m)
Without Expansion	5min 56sec	7min 9sec
With Expansion	6min 4sec	7min 3sec
Difference	+8sec	-6sec

- Negligible change of 8 seconds increase in travel time for the 'With Expansion' scenario to the Airport from St.Mary's Rd;
- Negligible decrease of 6 seconds to St. Mary's Rd from the Existing Terminal.



# Existing Terminal - Travel Path from/to A505 – AM Peak Hour

	H → I (3006m)	I → H (3029m)
Without Expansion	4min 46sec	4min 36sec
With Expansion	5min 19sec	6min 8sec
Difference	+33sec	+1min 32sec

- Marginal increase of 33 seconds in journey time to the Existing Terminal from the A505;
- 1 minute 32seconds increase in journey time from the Airport to the A505.

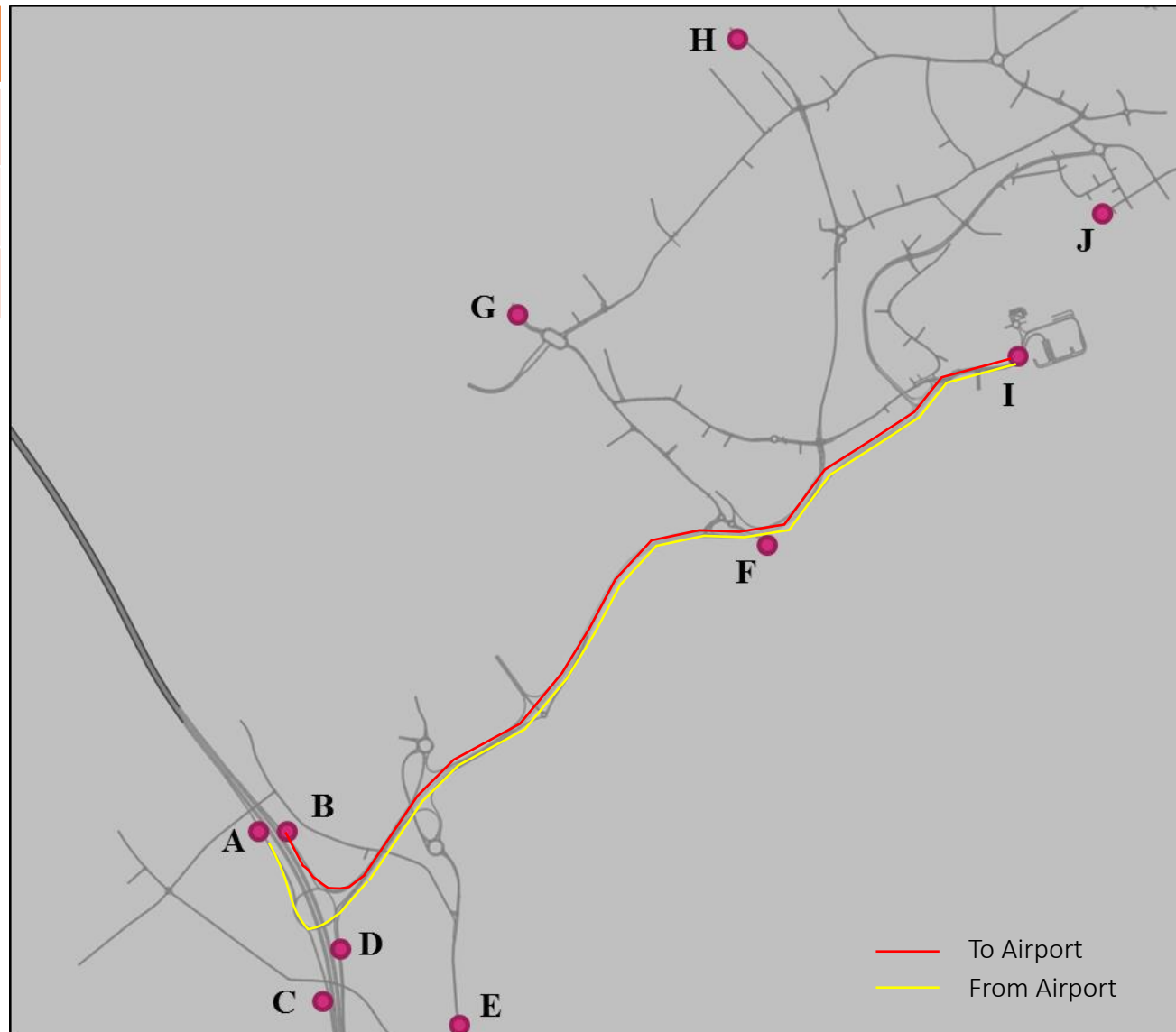




# Existing Terminal Travel Path from/to M1 North – PM Peak Hour

	<b>B → I (4462m)</b>	<b>I → A (4683m)</b>
Without Expansion	10min 40sec	22min 10sec
With Expansion	5min 27sec	12min 50sec
Difference	-5min 13sec	-9min 21sec

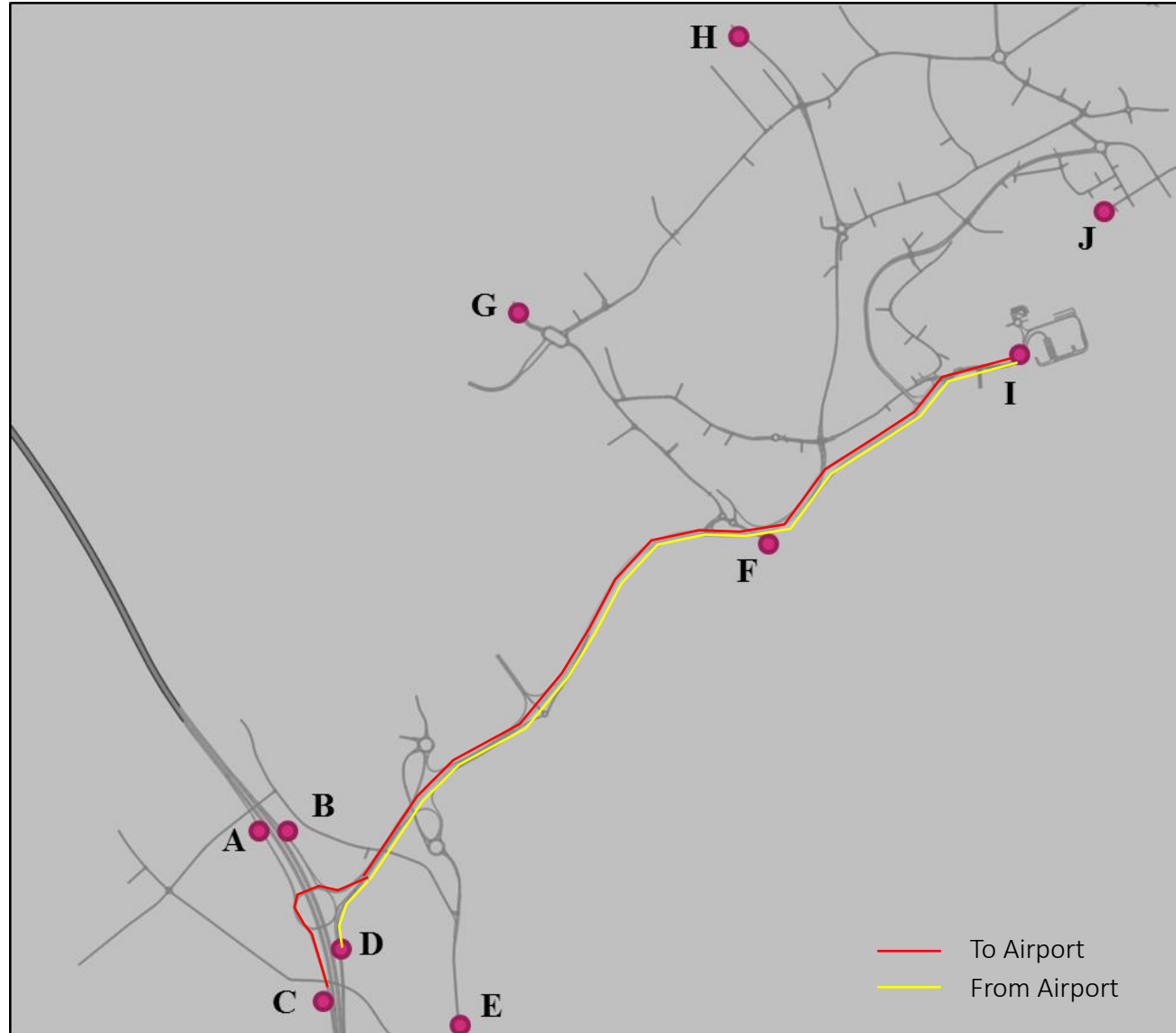
- Decrease of 5 minutes 13 seconds in travel time for the 'With Expansion' scenario from M1 North to the Airport existing Terminal;
- 9 minutes 21 seconds saving in journey time from the Existing Terminal towards M1 North



# Existing Terminal Travel Path from/to M1 South – PM Peak Hour

	C → I (4892m)	I → D (4391m)
Without Expansion	10min 51sec	19min 35sec
With Expansion	6min 34sec	18min 13sec
Difference	-4min 17sec	-1min 22sec

- Decrease of 4 minutes 17 seconds in travel time for the 'With Expansion' scenario from M1 South to the Existing Terminal;
- 1 minutes 22 second decrease in journey time from the Existing Terminal towards M1 South.

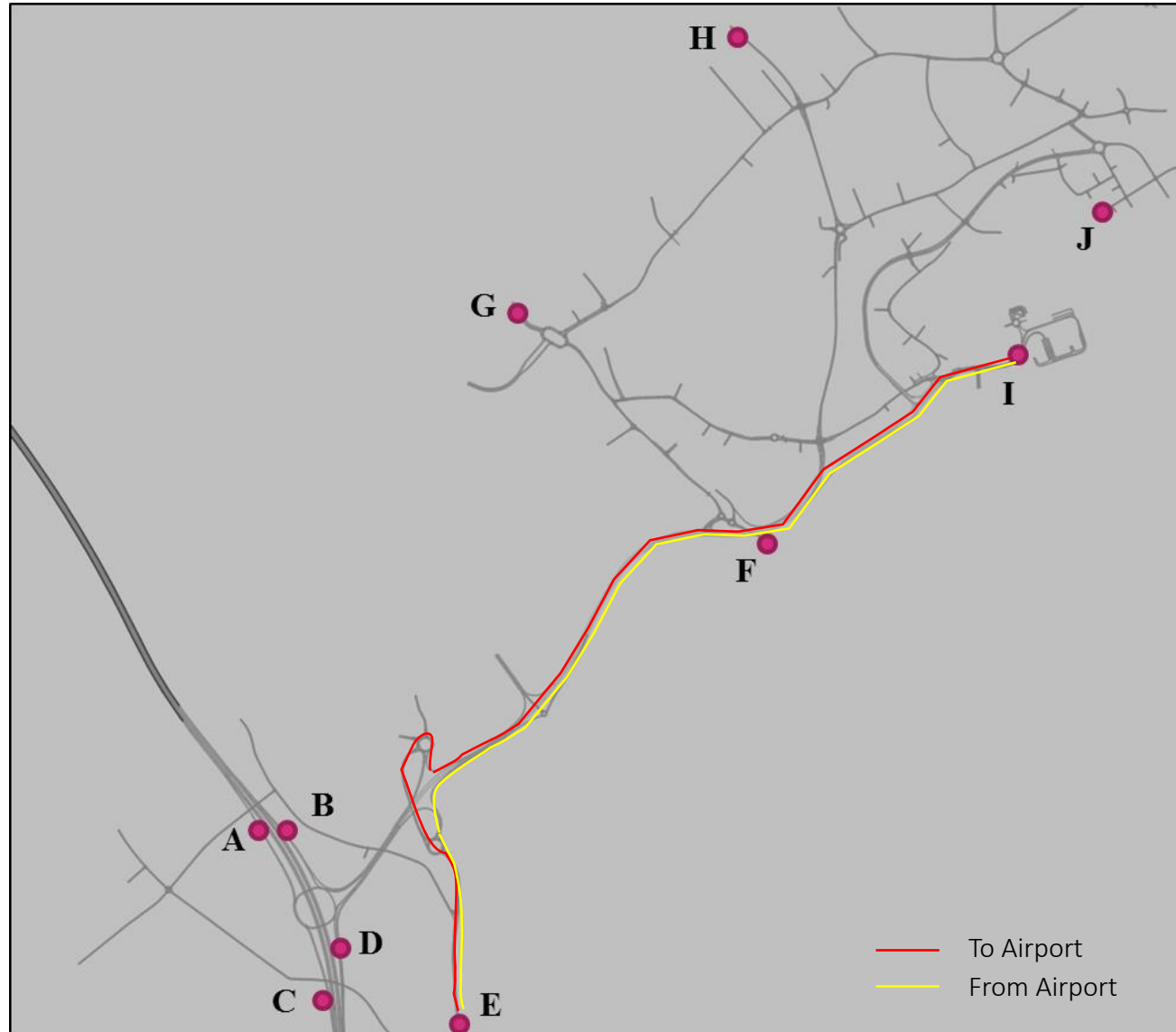


# Existing Terminal Travel Path from/to A1081 – PM

## Peak Hour

	E → I (5328m)	I → E (4803m)
Without Expansion	7min 52sec	19min 14sec
With Expansion	12min 17sec	13min 4sec
Difference	+4min 25sec	-6min 9sec

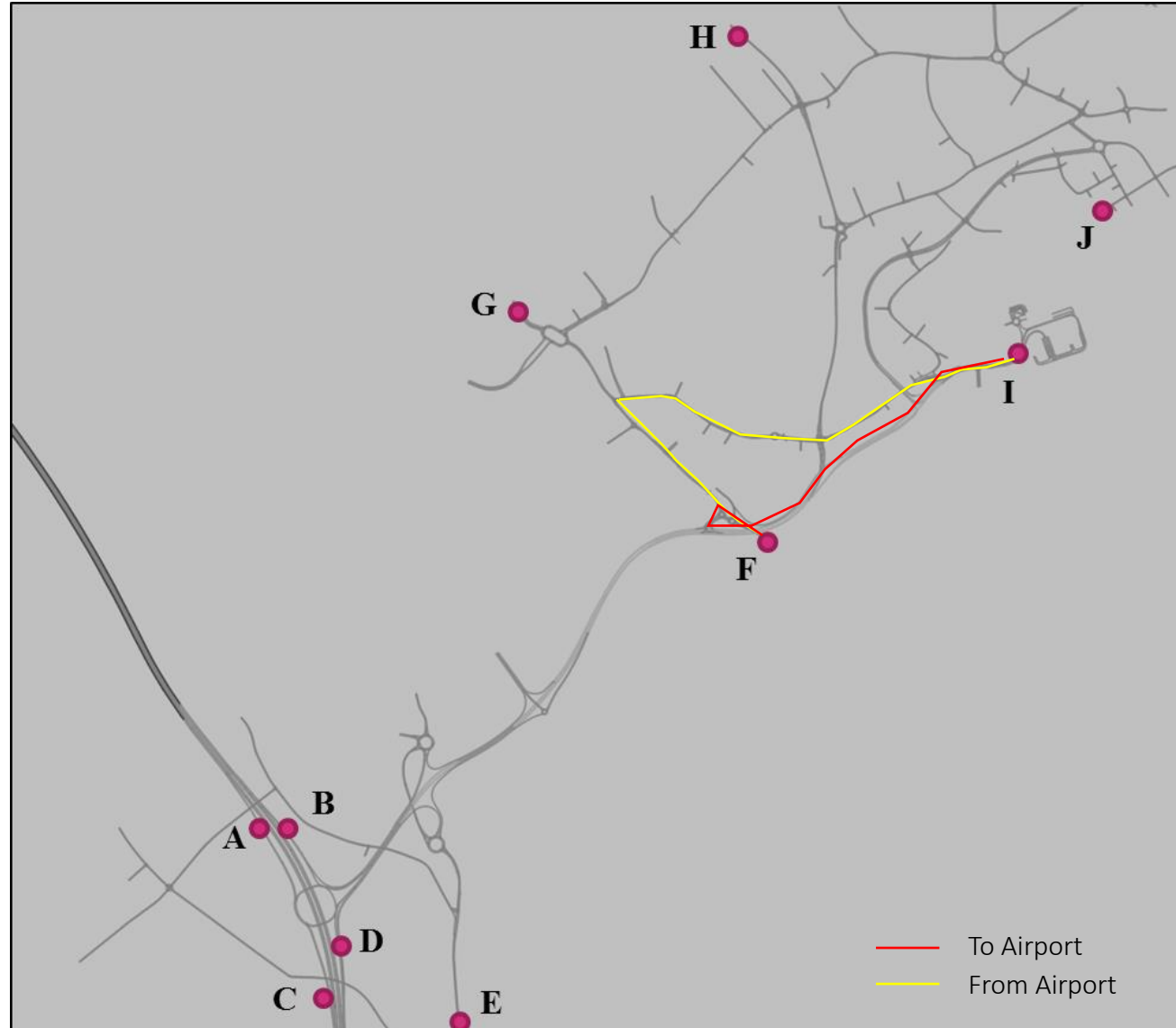
- 4 minutes 25 seconds increase in journey time for the 'With Expansion' scenario from the A1081 to the Existing Terminal;
- 6 minutes 9 seconds decrease in travel time for the 'With Expansion' scenario to the A1081 from the Existing Terminal.



# Existing Terminal - Travel Path from/to B653 – PM Peak Hour

	<b>F → I (1882m)</b>	<b>I → F (2857m)</b>
Without Expansion	8min 40sec	10min 13sec
With Expansion	6min 36sec	12min 25sec
Difference	-2min 4sec	+2min 12sec

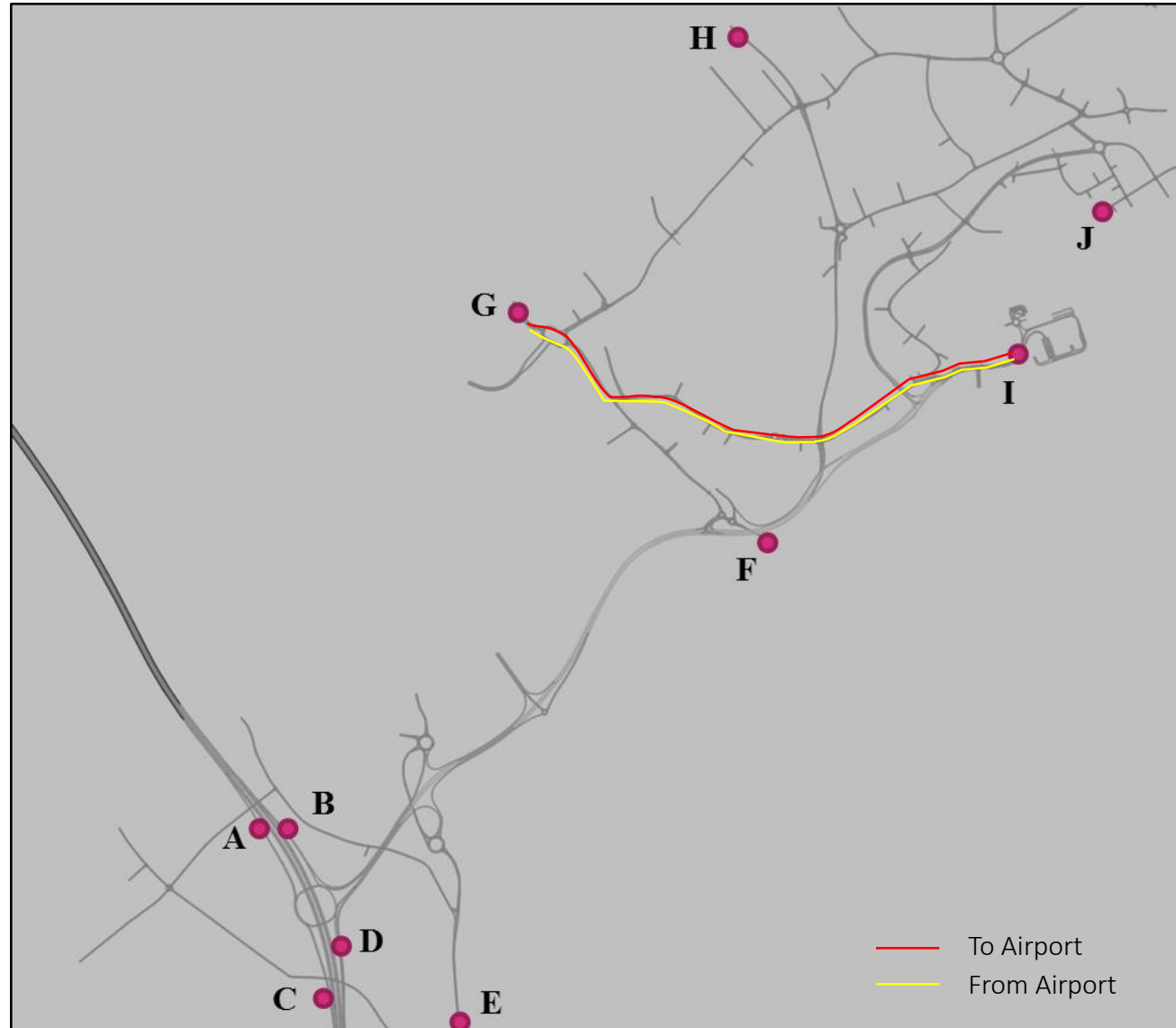
- Decrease of 2 minutes 4 seconds in journey time to the Existing Terminal from B653.
- Increase of 2 minutes 12 seconds in journey time from the Existing Terminal to B653.



# Existing Terminal - Travel Path from/to St Mary's Rd - PM Peak Hour

	<b>G → I (2492m)</b>	<b>I → G (2500m)</b>
Without Expansion	5min 59sec	9min 20sec
With Expansion	7min 15sec	7min 35sec
Difference	+1min 16sec	-1min 45sec

- 1 minute 16 seconds increase in travel time for the 'With Expansion' scenario from St Mary's Rd to the Existing Terminal;
- 1 minute 45 seconds decrease in journey time to St Mary's Rd from the Existing Terminal.



# Existing Terminal - Travel Path from/to A505 – PM Peak Hour

	H → I (3006m)	I → H (3029m)
Without Expansion	5min 30sec	12min 37sec
With Expansion	8min 11sec	5min 45sec
Difference	+2min 41sec	-6min 52sec

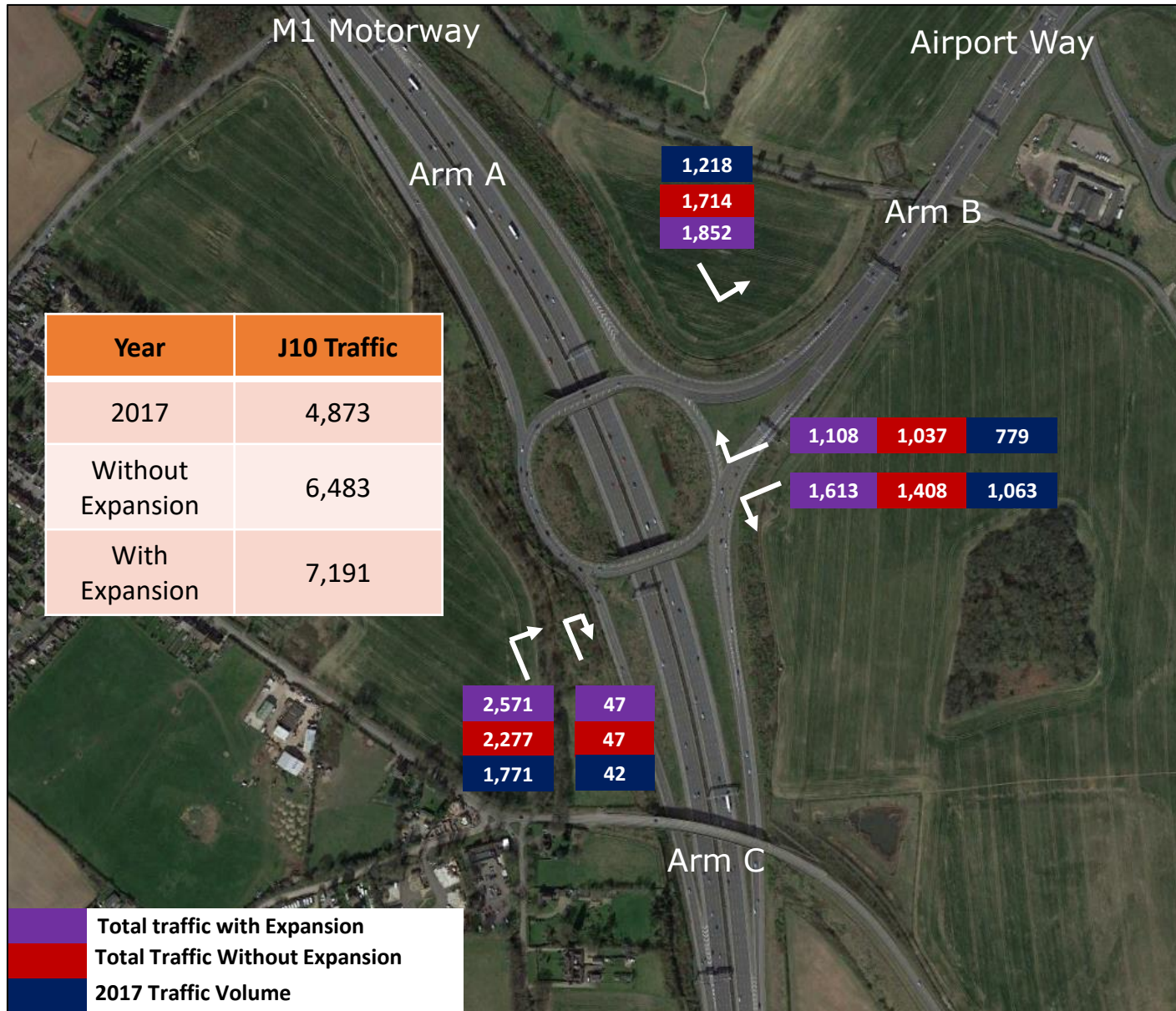
- 2 minutes 41 seconds increase in journey time from the A505 to the Airport;
- 6 minute 52 seconds saving in travel time for the 'With Expansion' scenario from the Existing Terminal to the A505.



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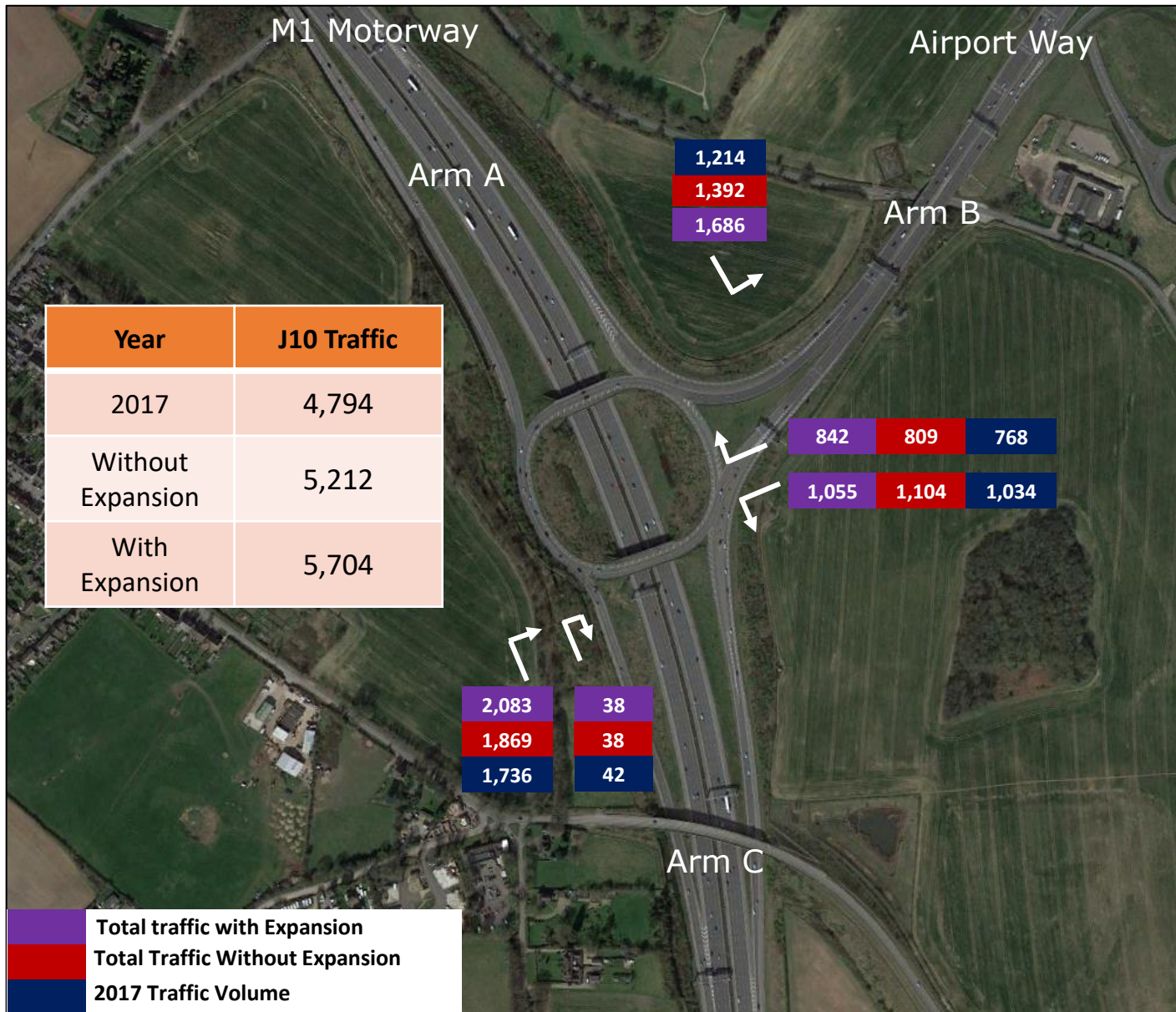
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# Junction 10 – AM Peak 2039 - Demand

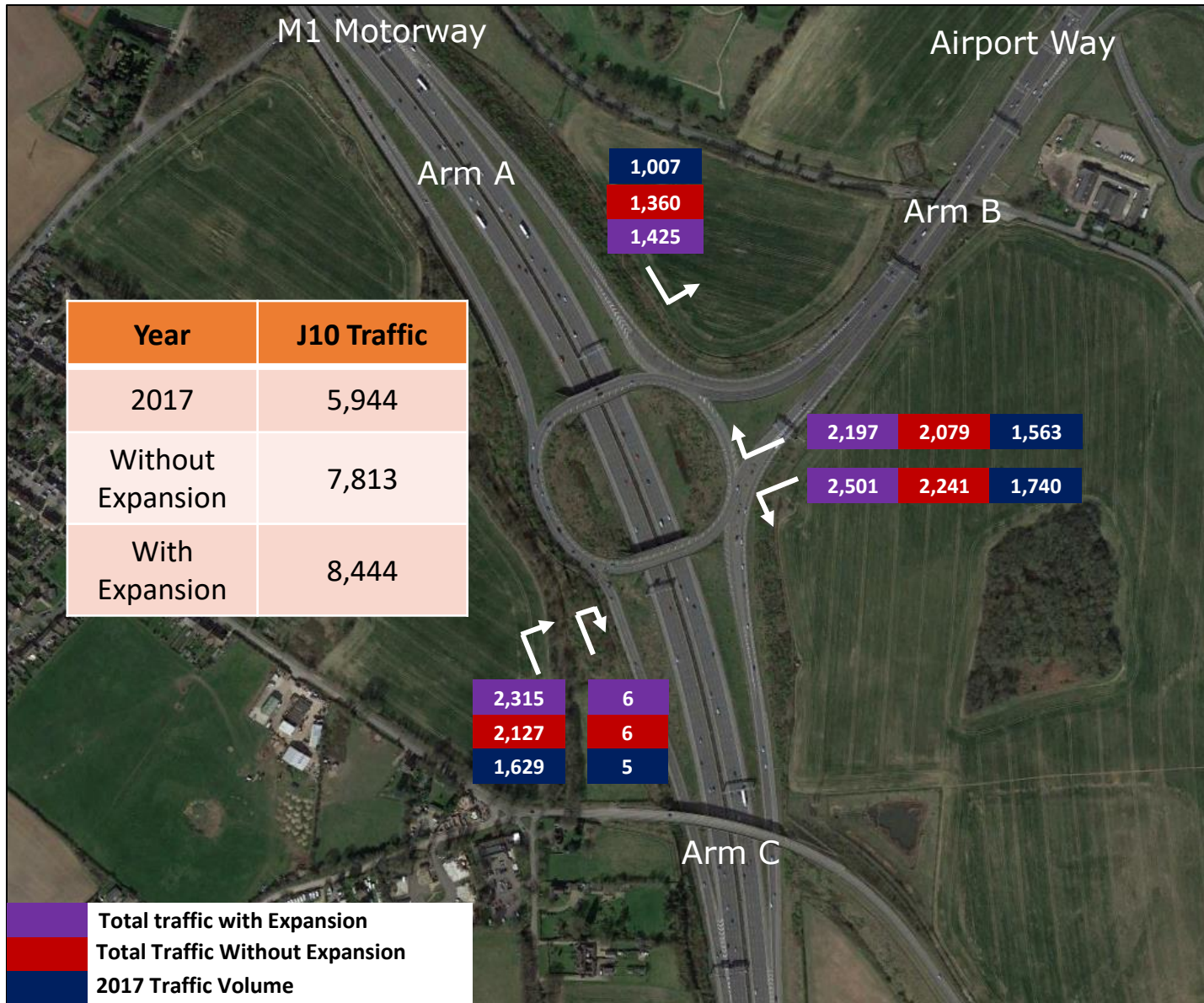




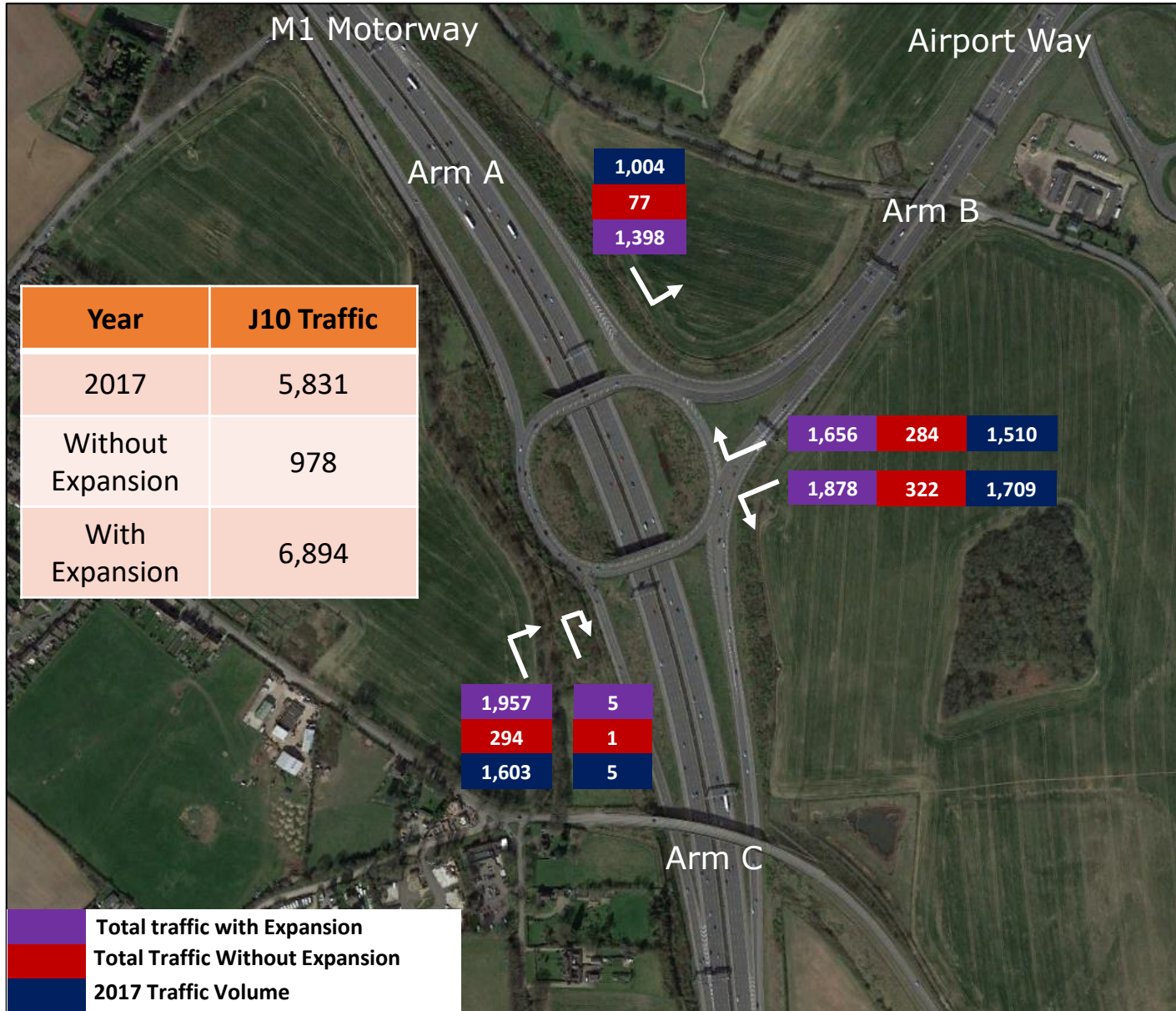
# Junction 10 – AM Peak 2039 – Supply (Vissim Output)



# Junction 10 – PM Peak 2039 - Demand



# Junction 10 – PM Peak 2039 – Supply (Vissim Output)



# Junction 10 – 2039 Demand VS Supply Comparison

Variable	AM Without	AM With	PM Without	PM With
Demand (A)	6,483	7,191	7,813	8,444
Supply (B)	5,212	5,704	978	6,894
Difference (B-A)	-1,271	-1,487	-6,835	-1,550
Percentage (Diff/A)	-20%	-21%	-87%	-18%

- The demand was derived from the OD matrix for Junction 10, which did not account for the travel times and delays of vehicles from the various origin points to reach Junction 10. Therefore, it is considered correct to have the supply as less than the demand in view of the size of the network
- For the Without Expansion scenario, the difference between demand and supply was 20% in the AM scenario, however it was 87% in the PM peak. The model indicated that J10 operated over capacity and caused congestion in J10A and along the A1081. In the AM peak it was mainly caused by the existing slow traffic on M1 SB, in the PM peak the signalized arms in J10 operated over capacity.
- For the With Expansion scenarios the difference between demand and supply slightly increased only slightly to 21% from 20%, however, in the PM it decreased to 18% from 87%.

# Junction 10 – Queuing

Average queue length	AM Without	AM With	PM Without	PM With
M1 NB approach (length: 457m)	103m (22%)	32m (7%)	1,562m (>100%)	31m (7%)
A1081 SB approach to M1	657m	652m	1199m	905m
M1 SB approach (length: 457m)	81m (18%)	24m (5%)	808m (>100%)	4m (1%)
Maximum queue length	AM Without	AM With	PM Without	PM With
M1 NB approach (length: 457m)	665m (>100%)	111m (24%)	2,010m (>100%)	128m (28%)
A1081 SB approach to M1	1220m	1074m	1219m	1075m
M1 SB approach (length: 457m)	1,477m (>100%)	592m (>100%)	2,010m (>100%)	71m (16%)

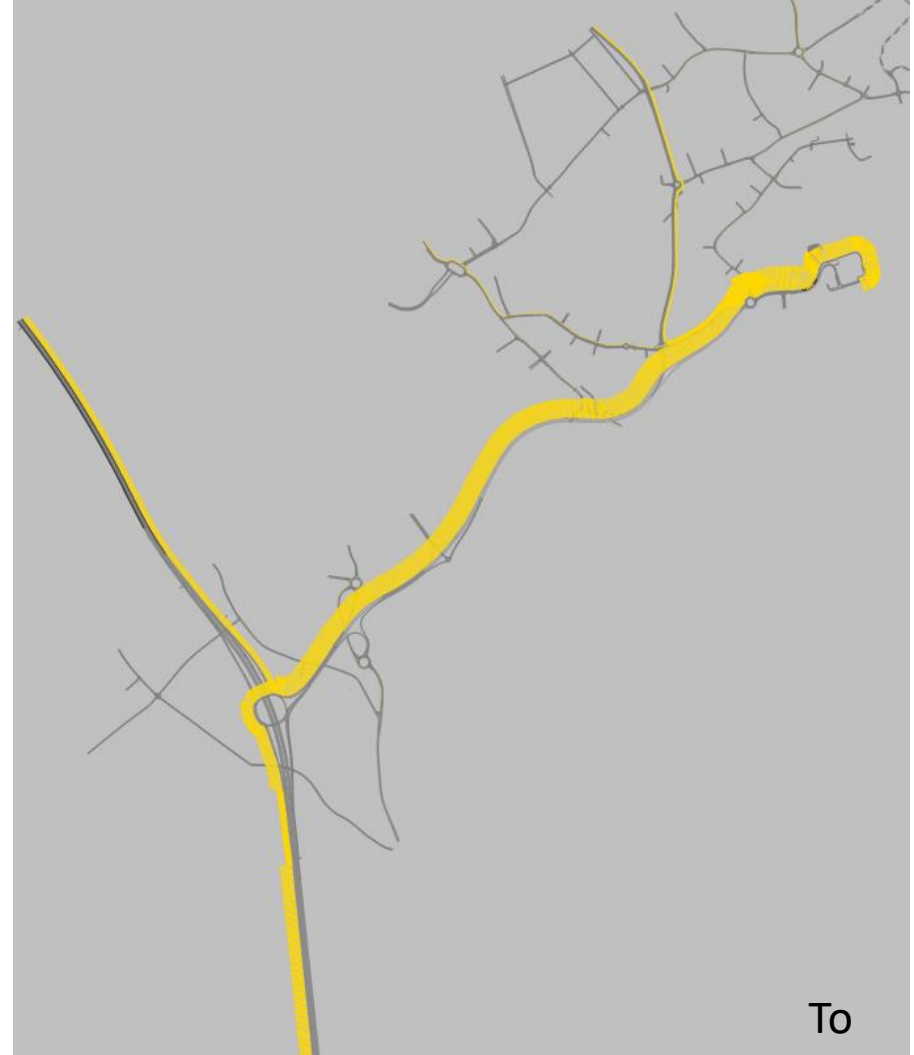
\* (queue length)/(slip road length) % shown in brackets

- In the Without Expansion scenario, in the AM peak the maximum queue lengths on each slip block back the mainline, and in the PM peak J10 caused very long queues and congestion. The A1081 experienced long queues in both cases;
- In both With Expansion scenarios the maximum queue lengths were shorter compared to the Without cases. A1081 experienced long queues in both cases, similarly to the Without cases.

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# Flow Path – Existing Terminal



# Airport Traffic – 2039 Demand VS Supply



## To Airport Terminal\*

Variable	AM Without	AM With	PM Without	PM With
Terminal	T1 (18mppa)	T1+T2 (27mppa)	T1 (18mppa)	T1+T2 (27mppa)
Demand (A)	918	1,155	799	1,007
Supply (B)	783	979	159	831
Difference (B-A)	-135	-176	-640	-176
% Difference (Diff/A)	-15%	-15%	-80%	-17%

## From Airport Terminal\*

Variable	AM Without	AM With	PM Without	PM With
Terminal	T1 (18mppa)	T1+T2 (27mppa)	T1 (18mppa)	T1+T2 (27mppa)
Demand (A)	934	1,150	816	1,041
Supply (B)	931	1,148	385	1,039
Difference (B-A)	-3	-2	-431	-2
% Difference (Diff/A)	0%	0%	-53%	0%

\*Drop-off, short-stay, terminal zones comprised in calculation



# Airport Traffic Analysis

- For the AM Without Expansion scenario, the model indicated that the network operated at capacity and 15% of the airport terminal traffic could not reach the Airport. In the PM peak hour however, approximately 80% of airport traffic could not reach the terminal due to the congestion encountered on the road network;
- For the With Expansion scenario, the model showed similar network performance in the AM peak, where 15% of Airport traffic could not reach the airport. In the PM peak 17% of Airport traffic was unable to arrive to the Terminals, significant improvement compared to the 80% in the Without case. These percentages were considered acceptable compared to the model size and existing conditions;
- Despite the increase in traffic volumes due to the airport expansion, the percentage of vehicles not reaching the airport did not increase significantly in the AM peak and decreased in the PM peak as a result of the proposed mitigations of the 'With Expansion' scenario.

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# Conclusions

- With the proposed mitigation measures, the Vissim model indicates that the highway network is able to accommodate the 2039 background traffic volumes in addition to the traffic generated by London Luton Airport at 27mppa;
- Similarly, the provision of Airport Link Road (CPAR) as part of the With Development only scenarios means that the benefit is not fully realised, as there are no flows associated with New Century Park in the Without Development model;
- In the Without Expansion scenarios, the AM peak hour model showed some congestions and indicated that the network is sensitive as it operated at capacity. However, in the PM peak hour scenario, the model showed network-wide congestion and long delays. In particular, long queues were demonstrated as occurring along A1081 New Airport Way which blocked back to M1 Junction 10. As such, non-airport traffic would experience long queues and delays in the PM peak hour;
- For the With Expansion scenarios, in the AM peak hour the proposed mitigation measures were able to maintain the overall network performance despite the additional traffic growth with some increase in delays. In the PM peak hour the proposals significantly improved traffic conditions and reduced congestion when compared to the Without Expansion scenarios.



# VISSIM Modelling Report

Sep 2022



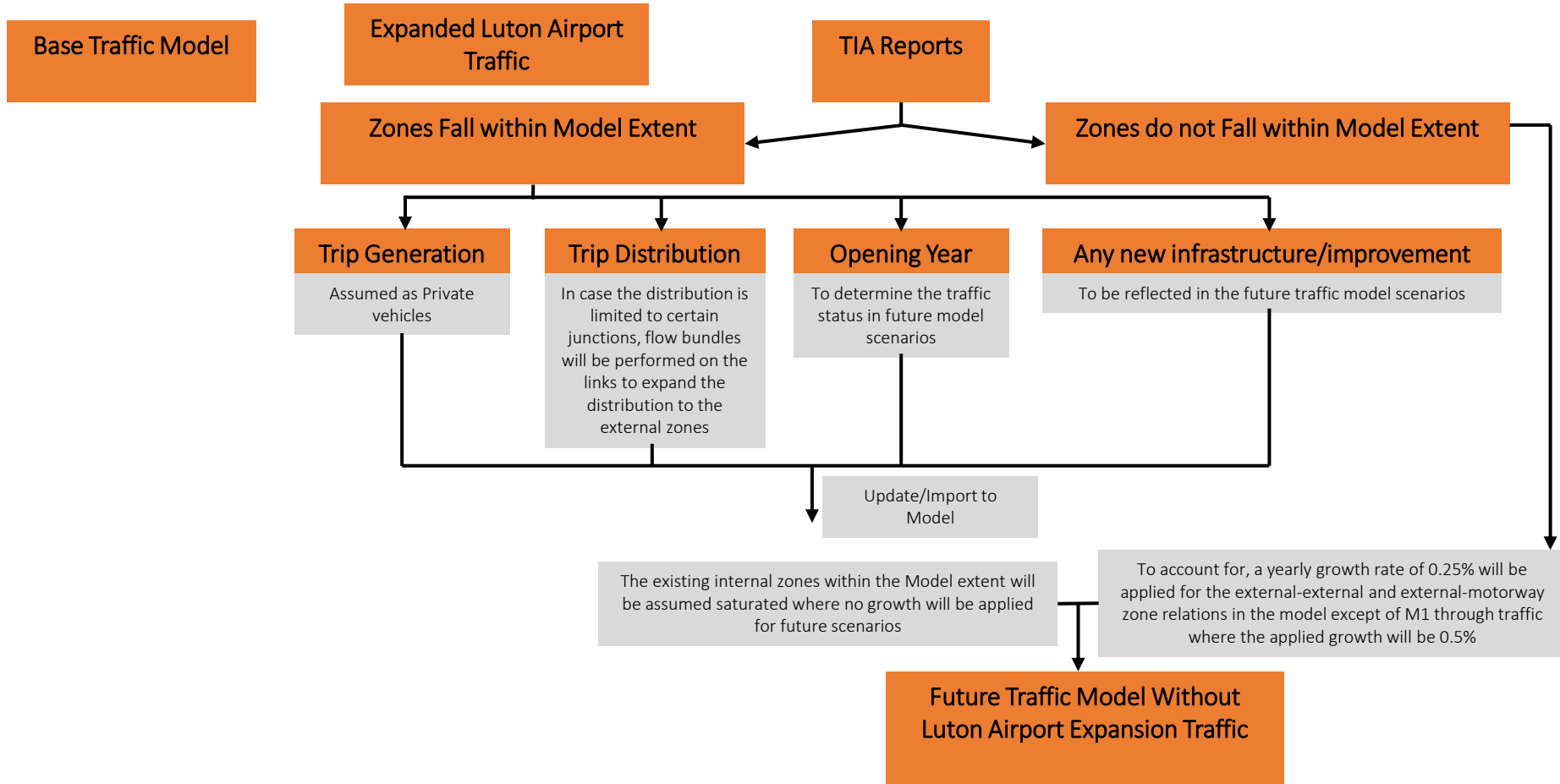
# Vissim modelling report - 2043

2043 With Airport Expansion (32mppa) and  
2043 Without Airport Expansion (18mppa) scenario.

# Vissim Modelling Report

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# Luton Airport – Future Modelling Methodology



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# 2043 Future Year Model

- Two Modelling Scenarios
  - 2043 Without Airport Expansion – 18mppa
  - 2043 With Airport Expansion – 32mppa
- Two modelled periods
  - Morning Peak Hour (AM) – 08:00-09:00 (+1 hour warm-up and cool-off)
  - Evening Peak Hour (PM) –17:00-18:00 (+1 hour warm-up and cool-off)
- Two growth factors were applied to Base Model (2017) traffic
  - A yearly factor of 0.25% on the internal roads of the study area
  - A yearly factor of 0.5% for the through traffic on the M1

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# 2043 Future Year Model - Airport

- In year 2043, the airport is expected to serve 32 million passengers per year (mppa);
- Airport traffic (excluding Century Park development) in year 2043 is expected to increase (two-way) by 1403 vehicles and 1286 vehicles in the AM and PM peak hours when compared with the Base Model (2017); and
- Two terminals will be serving the airport in year 2043 (the existing T1 at 20mppa and the proposed T2 at 12mppa).

# 2043 Future Year Vissim Model

- A Vissim micro-simulation model was developed for London Luton Airport Expansion Project;
- The study area is depicted by the red polygon.

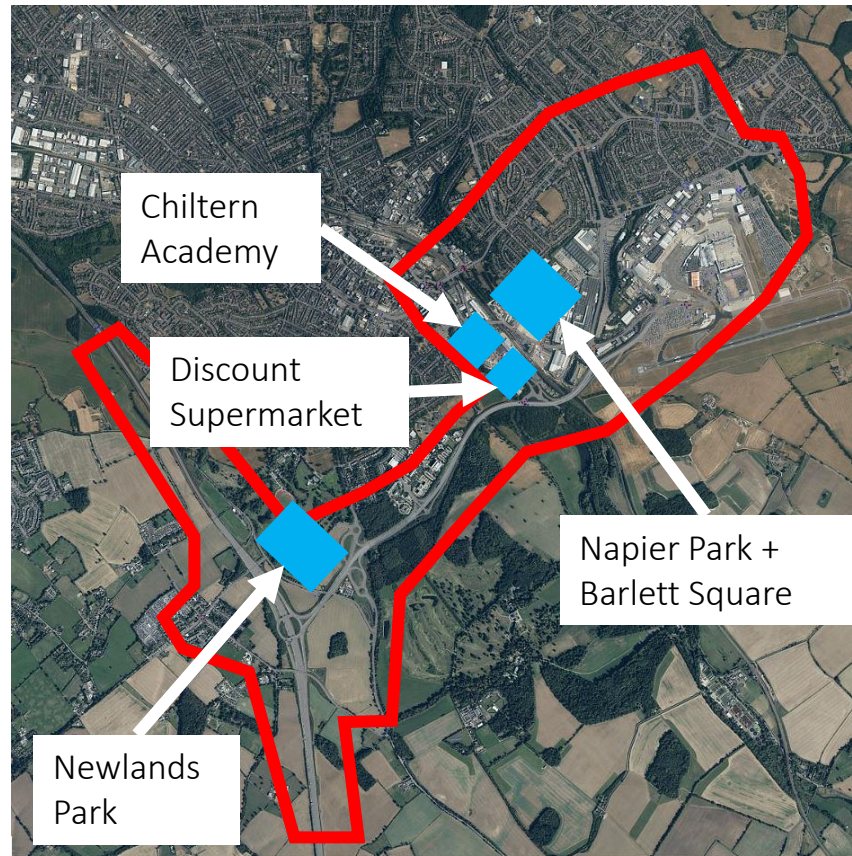


# 2043 Future Year Model – Without Expansion

The following future developments are included in the 2043 **Without Expansion 18mppa** scenario:

- Napier Park (including Barlett Square),
- Newlands Park,
- Chiltern Academy,
- Discount Supermarket.

These development are expected to add approx. 2350 and approx 2950 trips in the AM and PM peak hours respectively



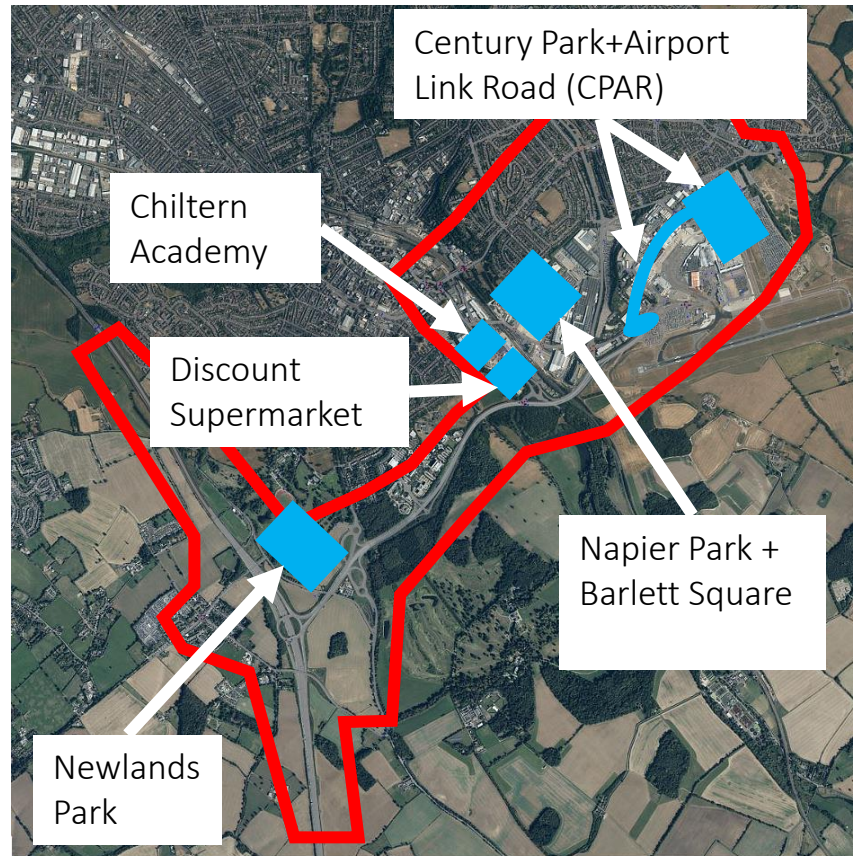
# 2043 Future Year Model – With Expansion

The following future committed developments are included in the 2043 **With Expansion 32mppa** scenario:

- Napier Park (including Barlett Square),
- Century Park and CPAR link,
- Newlands Park,
- Chiltern Academy,
- Discount Supermarket.

These development are expected to add approx. 3150 and approx 3600 trips in the AM and PM peak hours respectively.

A new road will serve the Century Park development (CPAR) which also provides access to the new terminal. The link is not included in the Without Expansion case.



# 2043 Peak Hour Volumes

## AM Peak Hour Matrix Totals Comparison



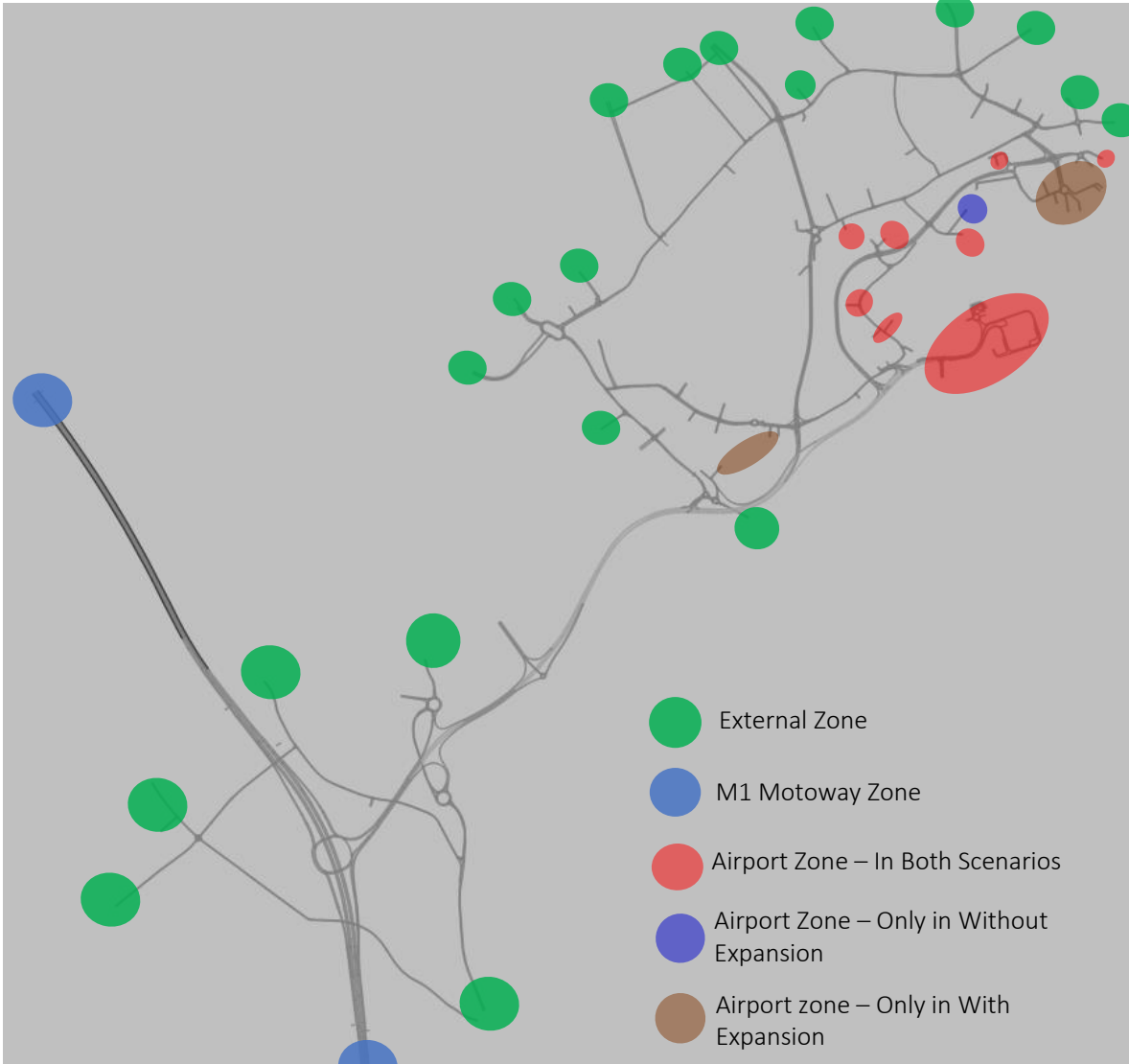
- An increase of approximately 2,300 vehicles was associated with the airport expansion during the AM peak
- The number of vehicles circulating within the study area without M1 through traffic increased from 15,900 to 21,600 between 2017 and 2043 during the AM peak – approximately 5,700 vehicles increase

## PM Peak Hour Matrix Totals Comparison



- Approximately an increase of 2,000 vehicles was associated with the airport expansion during the PM peak
- The number of vehicles circulating within the study area without M1 through traffic increased from 16,700 to 22,400 between 2017 and 2043 during the PM peak – approximately 5,600 vehicles increase

# 2043 Trip Ends – AM Peak Hour With and Without Expansion

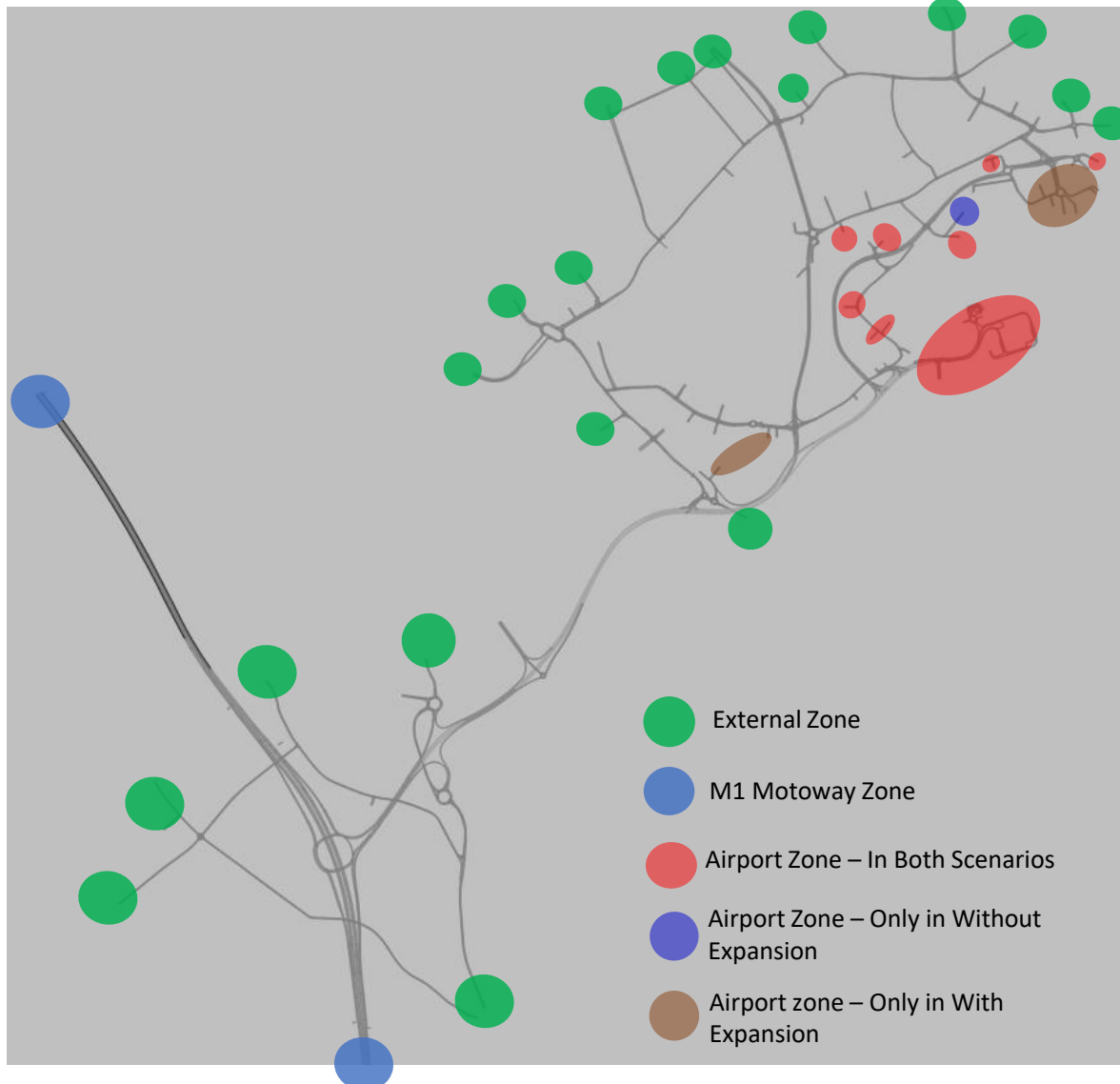


Trip End	Without Expansion	With Expansion
M1 to M1	10,033	10,033
M1 to Airport	1,243	1,800
Airport to M1	970	1,434
External to Airport	814	1,077
Airport to External	342	499
M1 to External	1,450	1,450
External to M1	952	952
M1 to Internal	1,313	1,583
Internal to M1	532	582
Internal to Internal	1,025	1,036
Internal to External	2,445	2,518
External to Internal	3,731	4,128
External to External	4,086	4,086
<b>Total Without Through M1</b>	<b>19,269</b>	<b>21,578</b>
<b>Total With Through M1</b>	<b>29,302</b>	<b>31,610</b>

The zones that are not highlighted were assumed internal/development zones



# 2043 Trip Ends – PM Peak Hour With and Without Expansion



Trip End	Without Expansion	With Expansion
M1 to M1	11,227	11,227
M1 to Airport	861	1,252
Airport to M1	1,067	1,533
External to Airport	342	483
Airport to External	802	1,050
M1 to External	1,674	1,674
External to M1	1,602	1,602
M1 to Internal	969	1,004
Internal to M1	1,668	1,906
Internal to Internal	848	857
Internal to External	3,422	3,772
External to Internal	2,744	2,795
External to External	4,018	4,018
Total Without Through M1	20,363	22,354
Total With Through M1	31,590	33,581

The zones that are not highlighted were assumed internal/development zones

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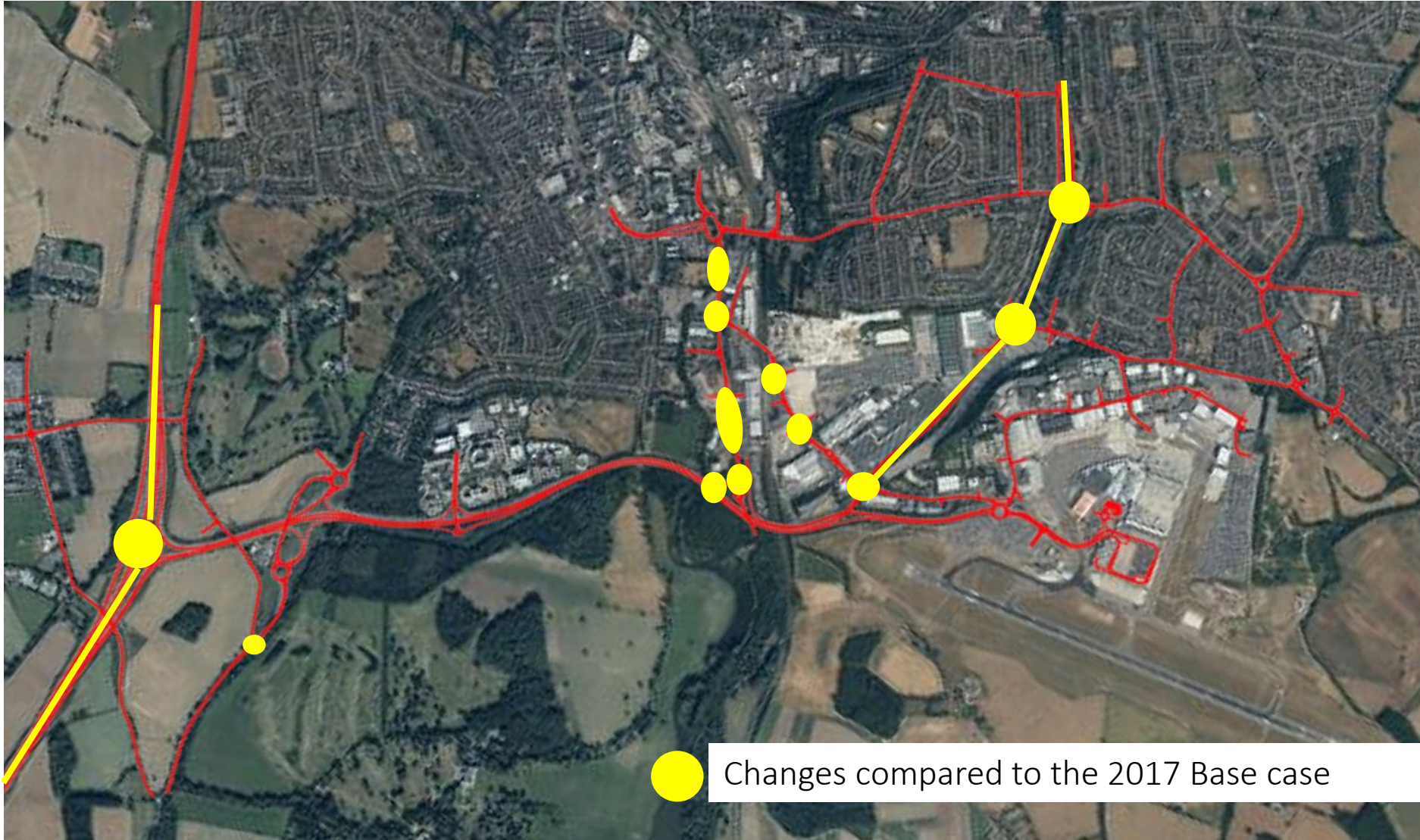
# Geometric Changes – Junctions and Roads

- Geometric changes were introduced to a number of junctions and roads in the road network of the modelled area for the 2043 Scenario;
- Some of these changes are only applicable for the 'With Expansion' Scenario, while others are applicable for both scenarios ('With Expansion' and 'Without Expansion');
- Signalised junctions within the model use Vap and fixed controls (phasing plan and green time depends on the traffic demand);
- The 32mppa M1 J10 mitigation layout is included in both the With and Without Expansion scenarios, as agreed by Highways England.

# Geometric Changes – Junctions and Roads

- Luton Borough Council schemes included in the Without and With Expansion case comprise:
  - Vauxhall Way Dualling;
  - Vauxhall Way junction improvements (Kimpton Rd, Eaton Green and Crawley Green Jct);
  - Kimpton Road/Windmill Road;
  - A1081/B653/Gipsy Lane: Removing right turn Bus lane, and minor widening.
- The CPAR link (henceforth to be called Airport Link Road) now forms part of the DCO application, and is therefore excluded from the Without Expansion scenarios;
- Junction improvements associated with Committed Developments were added to the Without and With Expansion cases

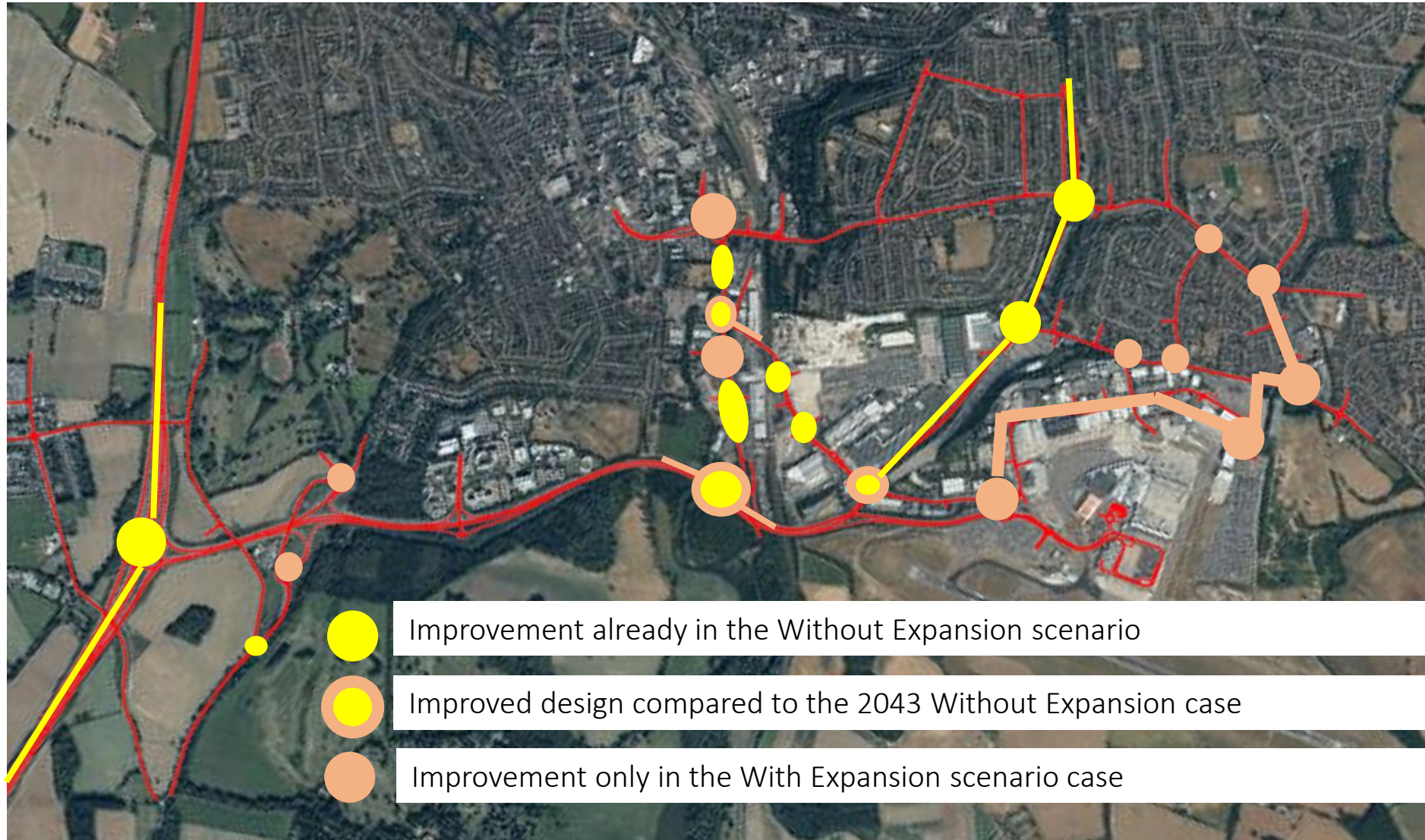
● ● ● | Luton Airport – 2043 Junction Changes Without Expansion Scenario



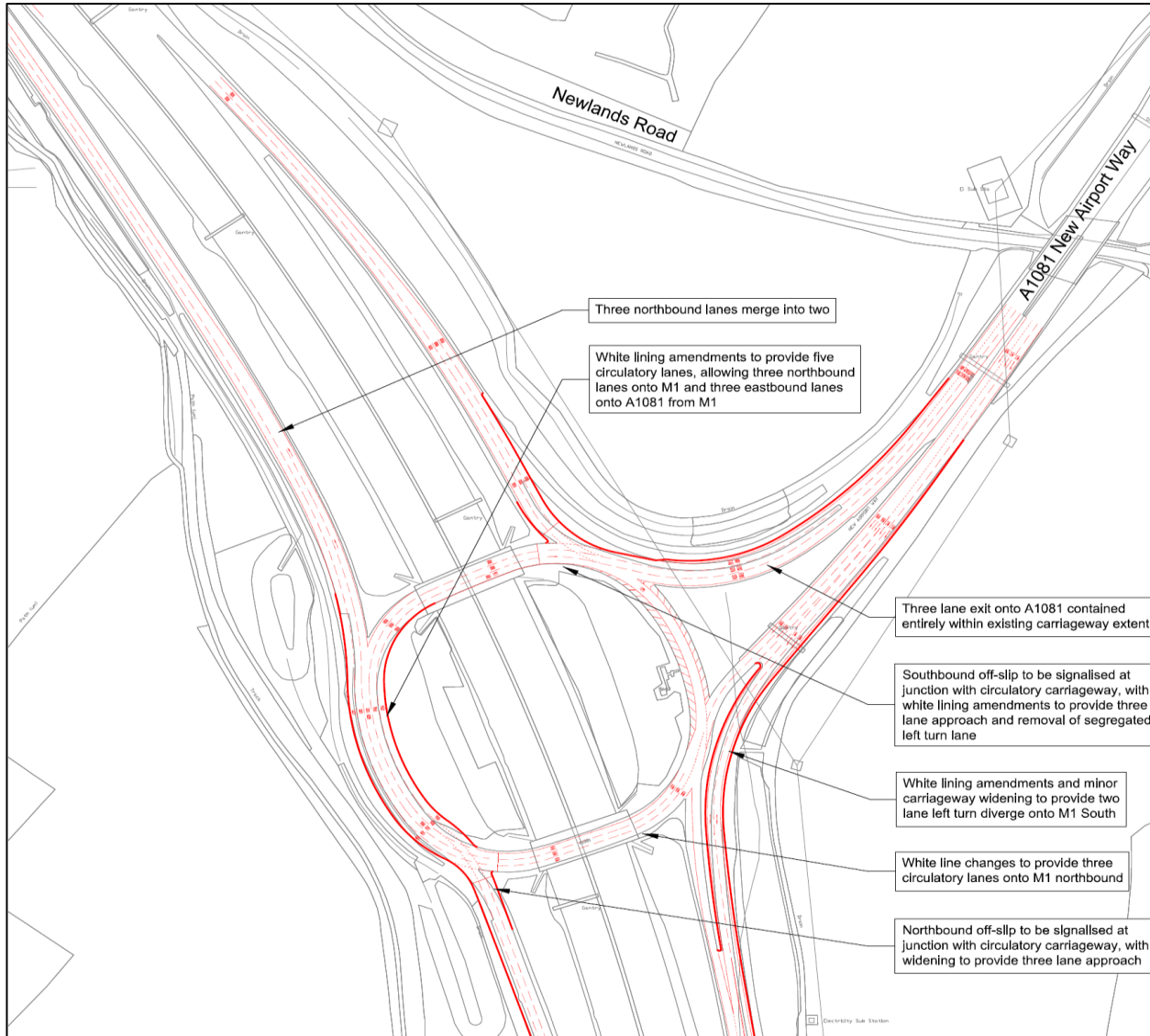
● Changes compared to the 2017 Base case

# Luton Airport – 2043 Junction Changes – With Expansion

## Scenario

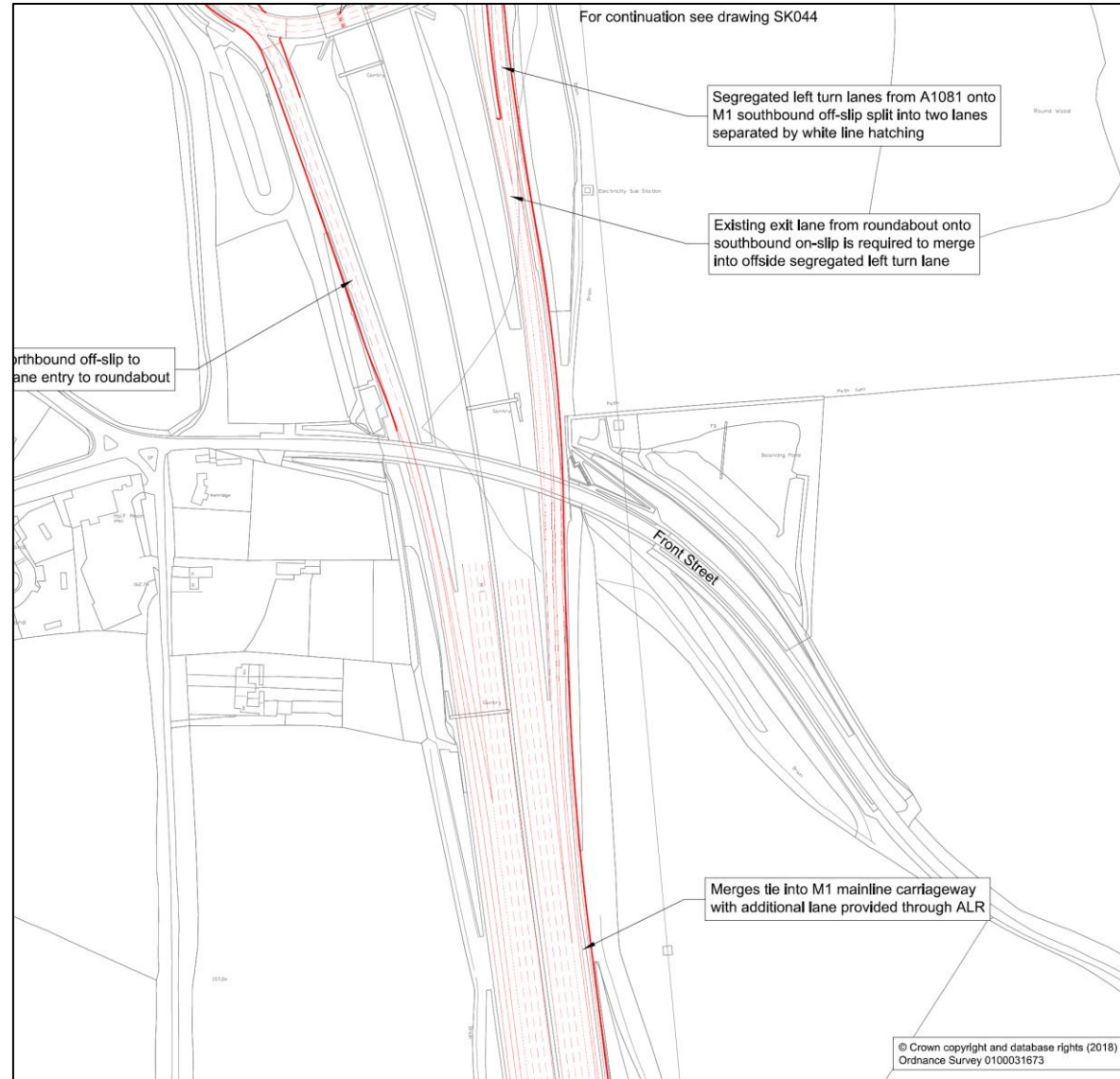
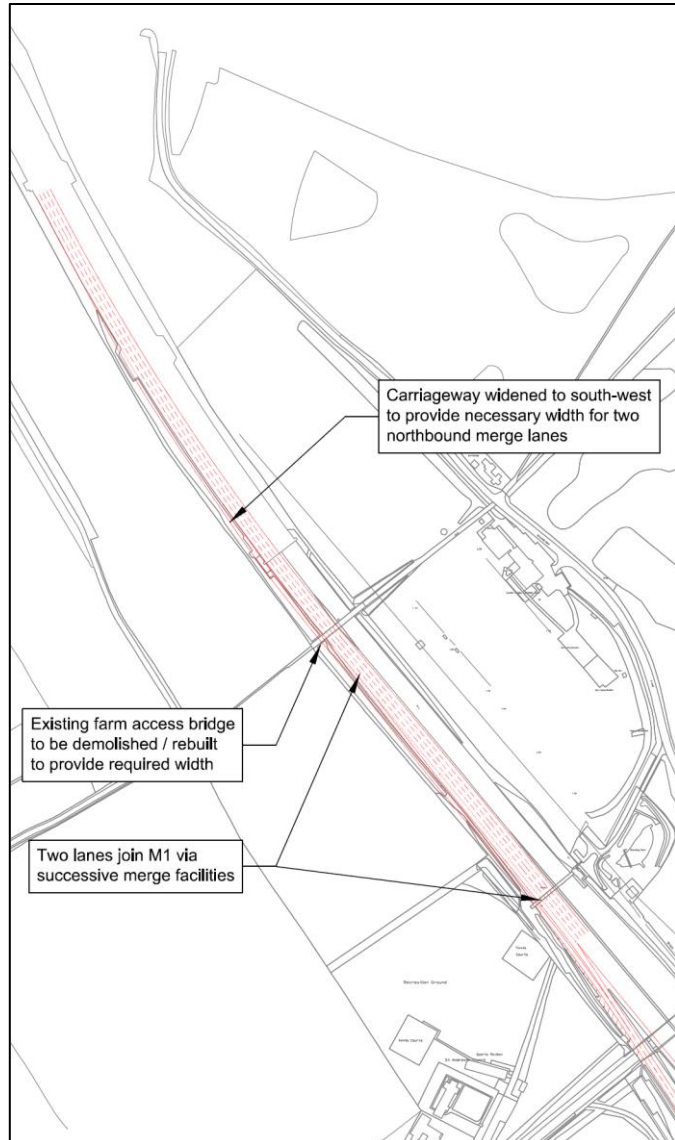


# Luton Airport – M1 J10 Proposed Layout (18 and 32mppa)



- Layout proposed for With and Without Expansion 2043 scenarios
- Signalised M1 SB approach
- Widening on all slip roads
- Double merge on the NB and SB on-slips
- Both carriageway widened to 5 lanes south of J10

# Luton Airport – M1 J10 Proposed Layout





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# Driving Behaviour

- Vissim has default parameters that affect driving behaviour such as the lane change conditions of vehicles;
- Two main driving behaviour wet set, Motorised based on Wiedemann 99 for used on the motorway and Urban based on Wiedemann 74 for the use on the urban roads;
- Driving behaviour was set to 'cooperative' for all vehicles to facilitate the necessary lane change;
- A sub category of driving behaviour was defined for the Motorised and Urban based on a more cooperative lane change. This driving behaviour was mainly used in bottleneck location with a drop in number of lanes, at the entrance of the junctions in case vehicles want to change lane in a congested area, and on the motorway where vehicles merge from the on-ramp to the main line.
- All models, concluding the base year, future year With and Without Expansion scenarios use the same assumptions in terms of driving behaviour settings. No change has been made to the future models in this regard.

# Driving Behaviour (For All Models)

No.: 15 Name: Motorway (New)

Following Lane Change Lateral Signal Control Meso

General behavior: Free lane selection

Necessary lane change (route)

	Own	Trailing vehicle
Maximum deceleration:	-5.00 m/s <sup>2</sup>	-4.00 m/s <sup>2</sup>
- 1 m/s <sup>2</sup> per distance:	100.00 m	100.00 m
Accepted deceleration:	-2.00 m/s <sup>2</sup>	-2.00 m/s <sup>2</sup>

Waiting time before diffusion: 60.00 s  Overtake reduced speed areas

Min. headway (front/rear): 0.50 m  Advanced merging

To slower lane if collision time is above. 11.00 s  Vehicle routing decisions look ahead

Safety distance reduction factor: 0.40

Maximum deceleration for cooperative braking: -5.00 m/s<sup>2</sup>

Cooperative lane change

Maximum speed difference: 6.71 mph

Maximum collision time: 10.00 s

No.: 18 Name: Urban (New)

Following Lane Change Lateral Signal Control Meso

General behavior: Free lane selection

Necessary lane change (route)

	Own	Trailing vehicle
Maximum deceleration:	-5.00 m/s <sup>2</sup>	-4.00 m/s <sup>2</sup>
- 1 m/s <sup>2</sup> per distance:	100.00 m	100.00 m
Accepted deceleration:	-2.00 m/s <sup>2</sup>	-2.00 m/s <sup>2</sup>

Waiting time before diffusion: 60.00 s  Overtake reduced speed areas

Min. headway (front/rear): 0.50 m  Advanced merging

To slower lane if collision time is above. 11.00 s  Vehicle routing decisions look ahead

Safety distance reduction factor: 0.40

Maximum deceleration for cooperative braking: -5.00 m/s<sup>2</sup>

Cooperative lane change

Maximum speed difference: 6.71 mph

Maximum collision time: 10.00 s

No.: 16 Name: Motorway (Ramps)

Following Lane Change Lateral Signal Control Meso

General behavior: Free lane selection

Necessary lane change (route)

	Own	Trailing vehicle
Maximum deceleration:	-6.00 m/s <sup>2</sup>	-6.00 m/s <sup>2</sup>
- 1 m/s <sup>2</sup> per distance:	100.00 m	100.00 m
Accepted deceleration:	-4.00 m/s <sup>2</sup>	-4.00 m/s <sup>2</sup>

Waiting time before diffusion: 60.00 s  Overtake reduced speed areas

Min. headway (front/rear): 0.50 m  Advanced merging

To slower lane if collision time is above. 11.00 s  Vehicle routing decisions look ahead

Safety distance reduction factor: 0.25

Maximum deceleration for cooperative braking: -9.00 m/s<sup>2</sup>

Cooperative lane change

Maximum speed difference: 7.50 mph

Maximum collision time: 10.00 s

No.: 17 Name: Ramps

Following Lane Change Lateral Signal Control Meso

General behavior: Free lane selection

Necessary lane change (route)

	Own	Trailing vehicle
Maximum deceleration:	-6.00 m/s <sup>2</sup>	-6.00 m/s <sup>2</sup>
- 1 m/s <sup>2</sup> per distance:	100.00 m	100.00 m
Accepted deceleration:	-4.00 m/s <sup>2</sup>	-4.00 m/s <sup>2</sup>

Waiting time before diffusion: 60.00 s  Overtake reduced speed areas

Min. headway (front/rear): 0.40 m  Advanced merging

To slower lane if collision time is above. 11.00 s  Vehicle routing decisions look ahead

Safety distance reduction factor: 0.25

Maximum deceleration for cooperative braking: -9.00 m/s<sup>2</sup>

Cooperative lane change

Maximum speed difference: 7.50 mph

Maximum collision time: 10.00 s

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# Convergence

- Iterative simulation runs were conducted for each model to reach a state of convergence. In other words, travel times and volumes do not fluctuate significantly between the different runs of the same random seeds;
- Three convergence criteria are available in Vissim:
  - Travel time on paths;
  - Travel time on edges; and
  - Volume on edges.
- For the London Luton Airport Expansion the 'Travel time on paths' criteria was selected:
  - The long paths and the high number of edge forming each path make the 'travel time on edge' an unpractical choice for convergence in the defined study area
  - The traffic volume on the edges vary from a hundred vehicles to few thousands vehicles in the study area. Therefore, setting a convergence criteria based on a fixed variation in the number of vehicles on all the edges is not a good choice in this case;

# Convergence

- It was decided to 'relax' the convergence criteria to no more than 20% variation in travel time on at least 80% of the paths for the following reasons:
  - The study area is characterised by a high number of VAP controlled signals (variable timings). Therefore, the green time per phase is not constant and vary depending on traffic demand
  - The network experiences heavy congestion, especially in the Without Expansion scenarios
  - Other solutions such as reducing and keeping demand at lower levels ('scaling matrix down') to reach convergence and then restore demand to 100% resulted in less stable assignments. The model is sensitive to blocking backs in certain locations, and when demand was lowered vehicles did not experience queues and therefore were not looking for alternative routes to balance out. When the model was run with full demand afterwards, these queues caused serious unrealistic blocking backs.

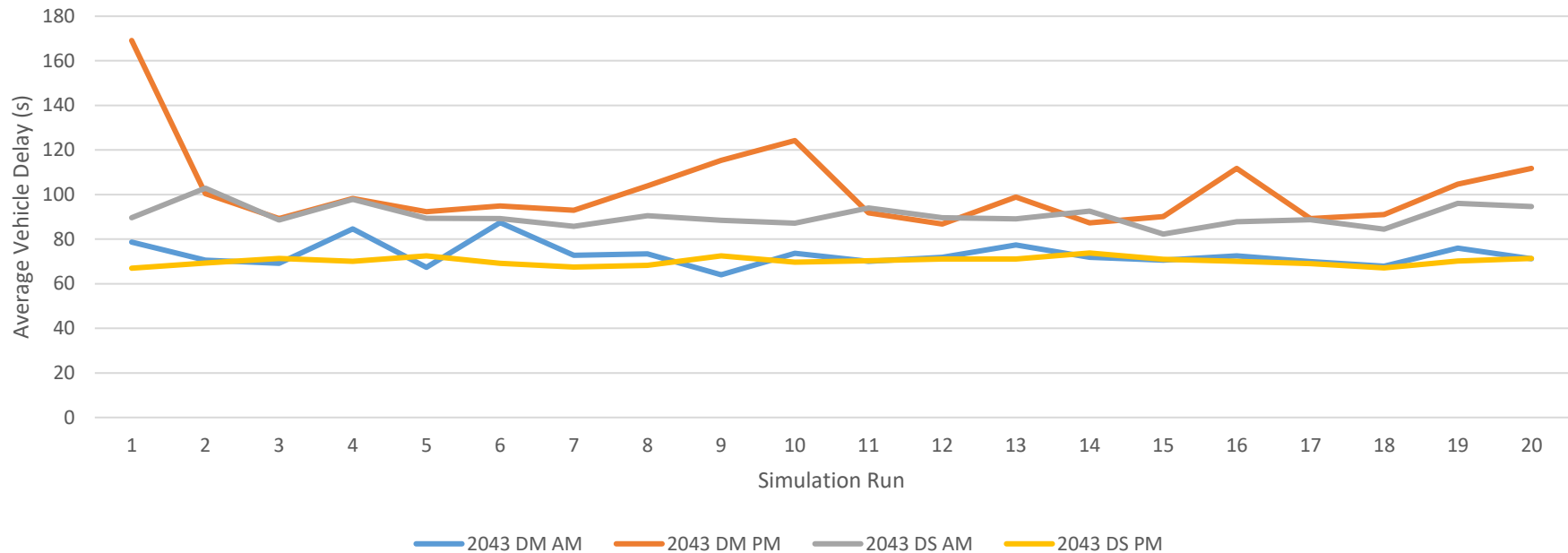
# Convergence

Similar convergence procedure was applied for both the AM & PM models:

1. Demonstrate level of convergence:
  - Each model has been run for at least 100 iterations,
  - All the iterations thoroughly checked,
  - Confirm iteration with achieved required convergence criteria, and
  - Check simulation visually for anomalies.
  
2. Confirm Convergence:
  - The selected iteration is run for 20 iterations,
  - Different random seeds were adopted,
  - Network Performance assessed in terms of Delays and Travel times, and
  - Report Average Outputs of the 20 runs.

# Convergence Sample - Average Delay/Vehicle/Run

Average Vehicle Delay with Different Seed



The model did not indicate significant traffic problems in the AM Without Expansion case. The PM Without Expansion scenario showed breakdown in traffic condition. The average delay figures over simulation runs showed that the Without scenario models were less stable as they varied over the runs. The model showed stable results for With Expansion scenarios.

Mainly the Without PM peak scenario shows instability over the 20 runs. This is caused by the congestion along the A1081. Small changes caused by different random seed values can influence the result greatly because the section of the road is at capacity and therefore a slightly longer delay at the junction creates a shockwave which struggles to clear out. This is confirmed by the relatively low chance of occurrence over 20 runs. Test has been undertaken to reduce this instability using a stricter convergence setting, but the model would not converge within 100 runs.



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## Comparative Analysis of the two scenarios

- A Vissim micro-simulation model was developed for London Luton Airport Expansion Project;
- Comparison between the ‘Without Expansion’ and ‘With Expansion’ covered:
  - Network Performance;
  - Node Assessment;
  - Travel Time; and
  - Traffic Counts.



# Network Performance

- Network performance provides an assessment of all the vehicles within the study area;
- Network performance provides the average value of defined key performance indices (KPIs) by considering the data of all vehicles in the modelled network;
- These KPIs include average delays and the average speed of all vehicles within the study area.

# Network Performance

- **AM peak:** The model showed that the network operated slightly worse in the With Expansion case compared to the Without Expansion case, that did not show long delays or congestion. The average speed dropped by less than 2mph and the delay increased by 17 seconds as a result of the Airport Expansion. The proposed mitigation measures were able to maintain overall traffic conditions with some reduction in performance.
- **PM Peak:** The model indicated that the network experienced queuing and some delay in the Without Expansion case. The model showed that traffic is sensitive to break down along the A1081 EB in the Without case. The proposed expansion scheme includes additional mitigation which is particularly beneficial in the PM peak hour and which shows improved network performance and reduced breakdown inflow even with greater traffic flows in the With Expansion scenario.

2043 Scenario	Average Delay (sec)	Average Speed (mph)
AM - Without Expansion	1min 13sec	34.7
AM - With Expansion	1min 30sec	32.9
PM - Without Expansion	1min 42sec	31.9
PM - With Expansion	1min 10sec	35.8

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# Level Of Service Criteria – HCM 2010

- Level of service on junctions was assessed based on the below criteria of the Highway Capacity Manual (2010)
- Junction analysis performed used the built in Node Analysis in Vissim
- Node results compared between ‘Without Expansion’ and ‘With Expansion’ scenarios. Like for like comparison was adopted

Signalised Intersection	
Average Vehicle Delay (sec)	Level Of Service
≤ 10	A
> 10 and ≤ 20	B
> 20 and ≤ 35	C
> 35 and ≤ 55	D
> 55 and ≤ 80	E
> 80	F

Roundabout Intersection	
Average Vehicle Delay (sec)	Level Of Service
≤ 10	A
> 10 and ≤ 15	B
> 15 and ≤ 25	C
> 25 and ≤ 35	D
> 35 and ≤ 50	E
> 50	F

# Junction Assessment – AM Peak hour



# Junction Assessment – AM Peak Hour





# Junction Assessment – AM Peak Hour

LOS "F" Comparison



# Junction Assessment – AM Peak Hour

Scenario	LOS	Delay
Without Expansion	A	7s
With Expansion	B	15s

Scenario	LOS	Delay
Without Expansion	C	24s
With Expansion	C	26s

Scenario	LOS	Delay
Without Expansion	D	43s
With Expansion	C	31s

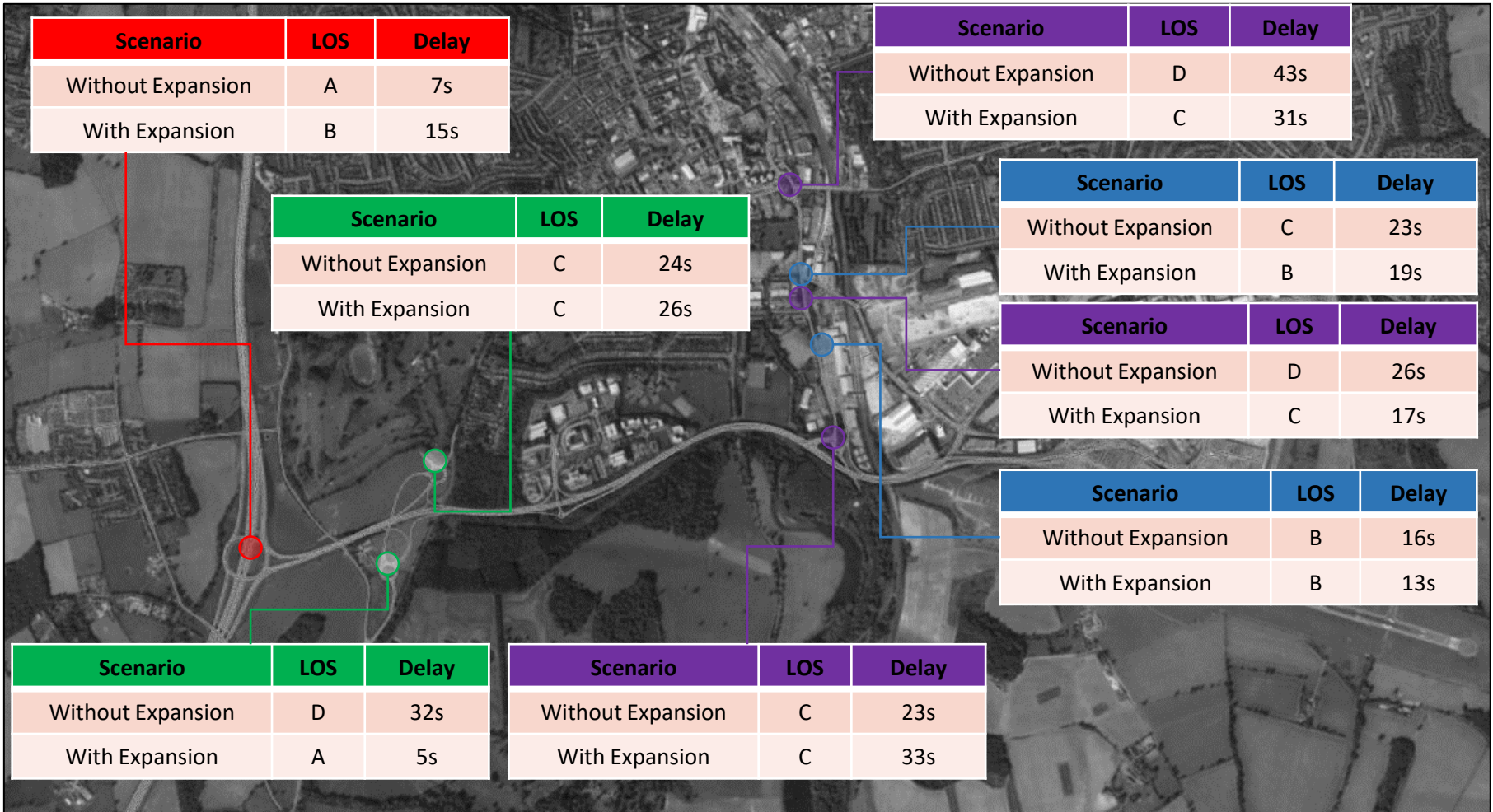
Scenario	LOS	Delay
Without Expansion	C	23s
With Expansion	B	19s

Scenario	LOS	Delay
Without Expansion	D	26s
With Expansion	C	17s

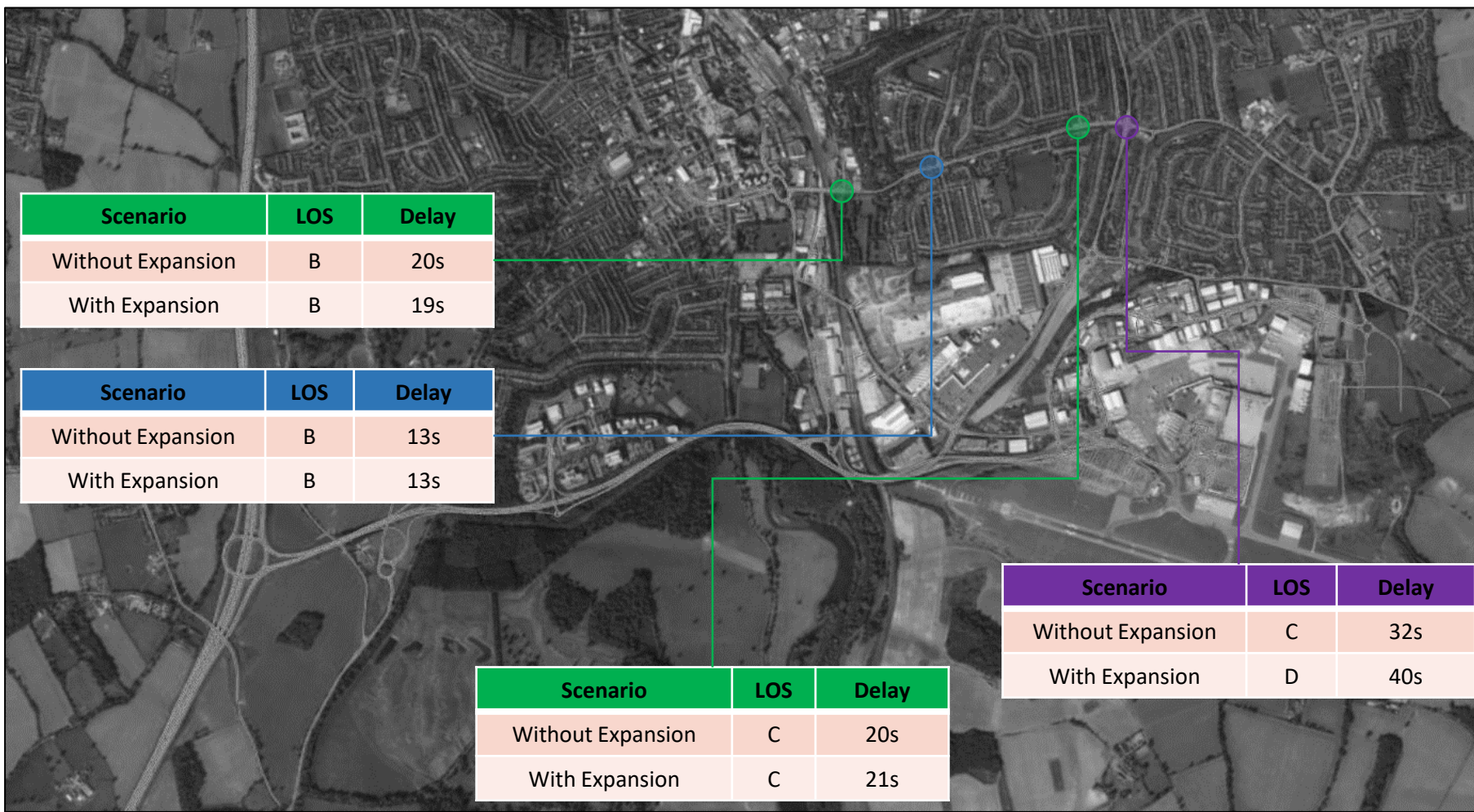
Scenario	LOS	Delay
Without Expansion	B	16s
With Expansion	B	13s

Scenario	LOS	Delay
Without Expansion	D	32s
With Expansion	A	5s

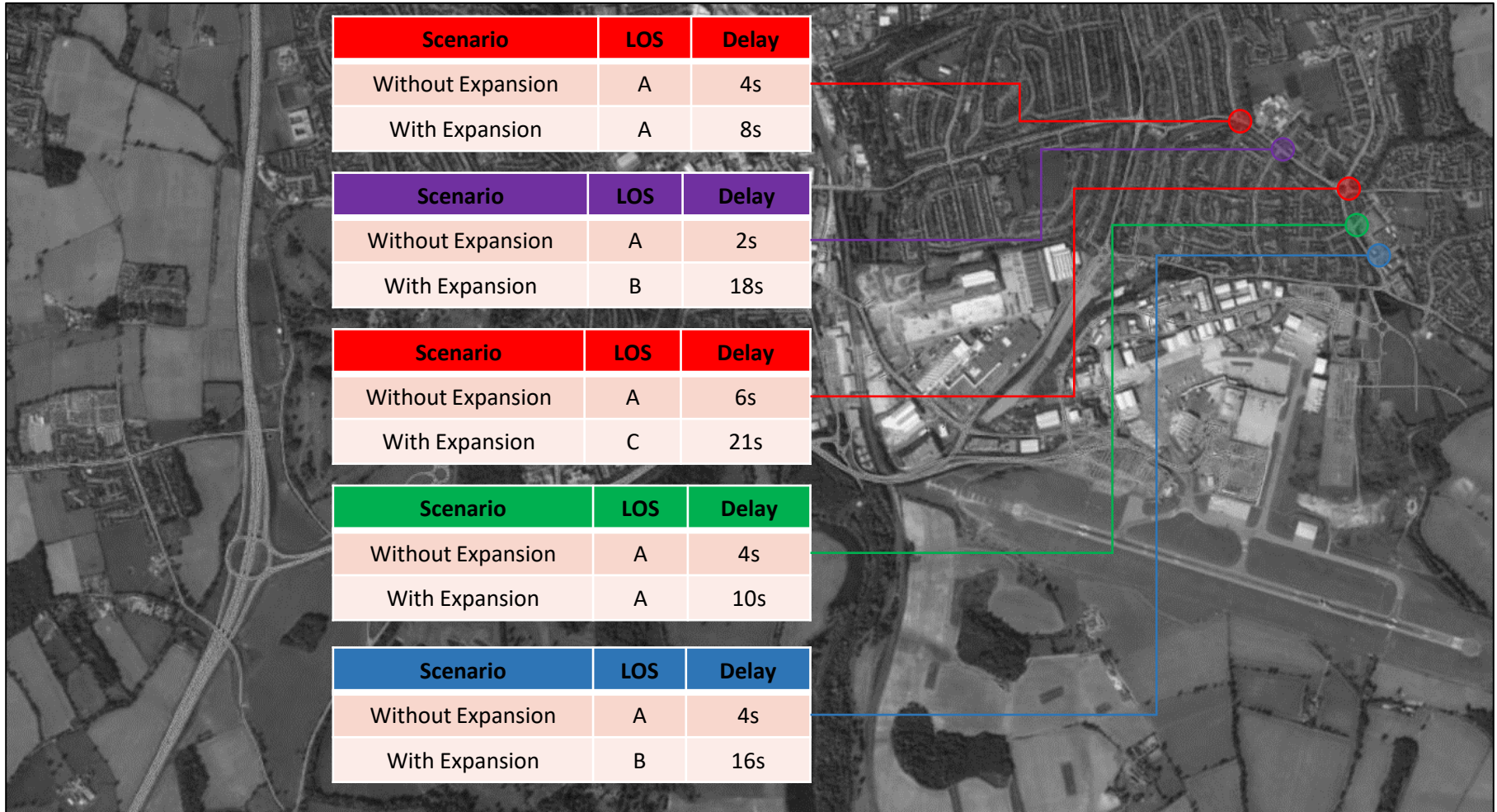
Scenario	LOS	Delay
Without Expansion	C	23s
With Expansion	C	33s



# Junction Assessment – AM Peak Hour



# Junction Assessment – AM Peak Hour



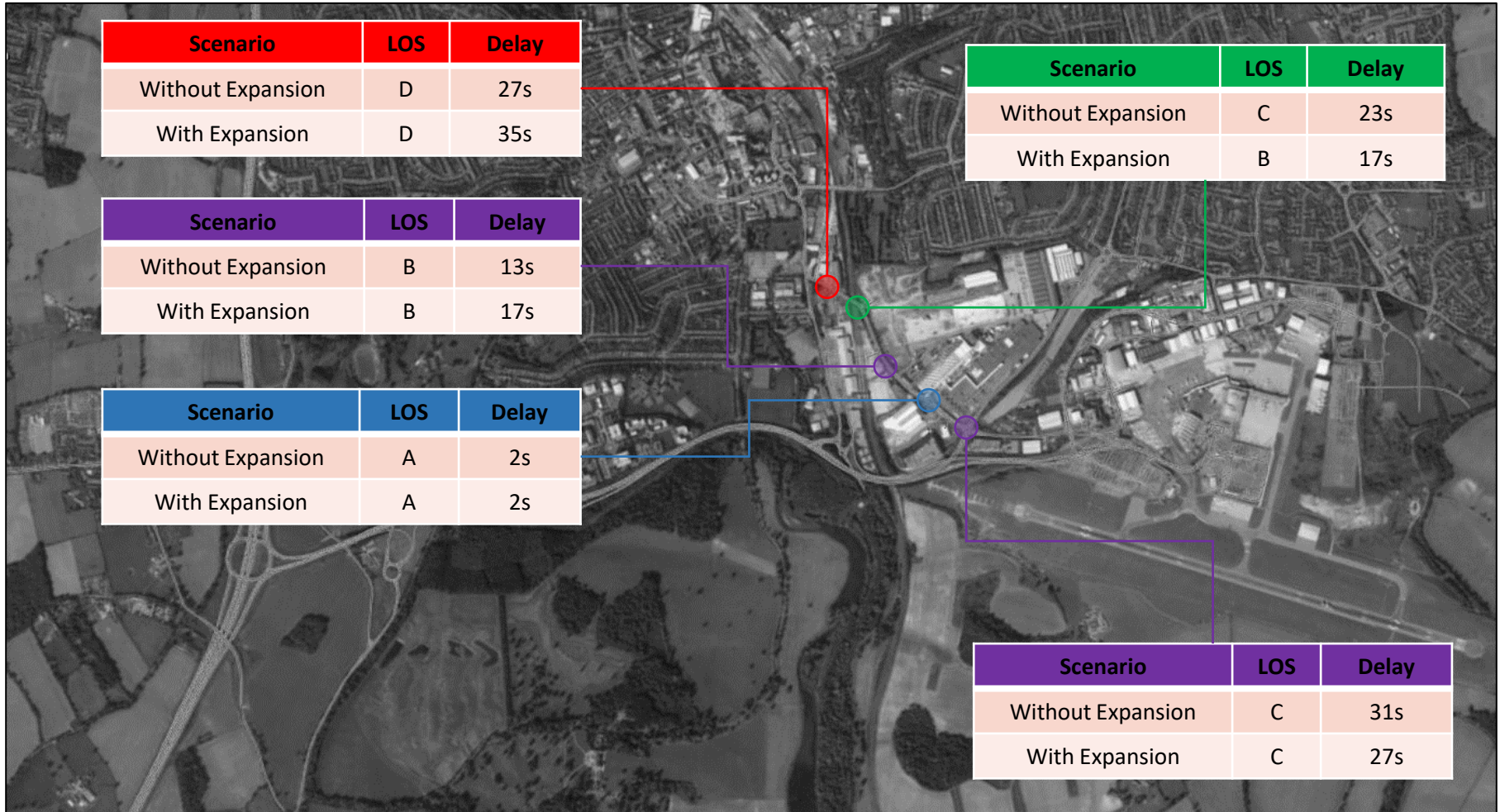
# Junction Assessment – AM Peak Hour



# Junction Assessment – AM Peak Hour

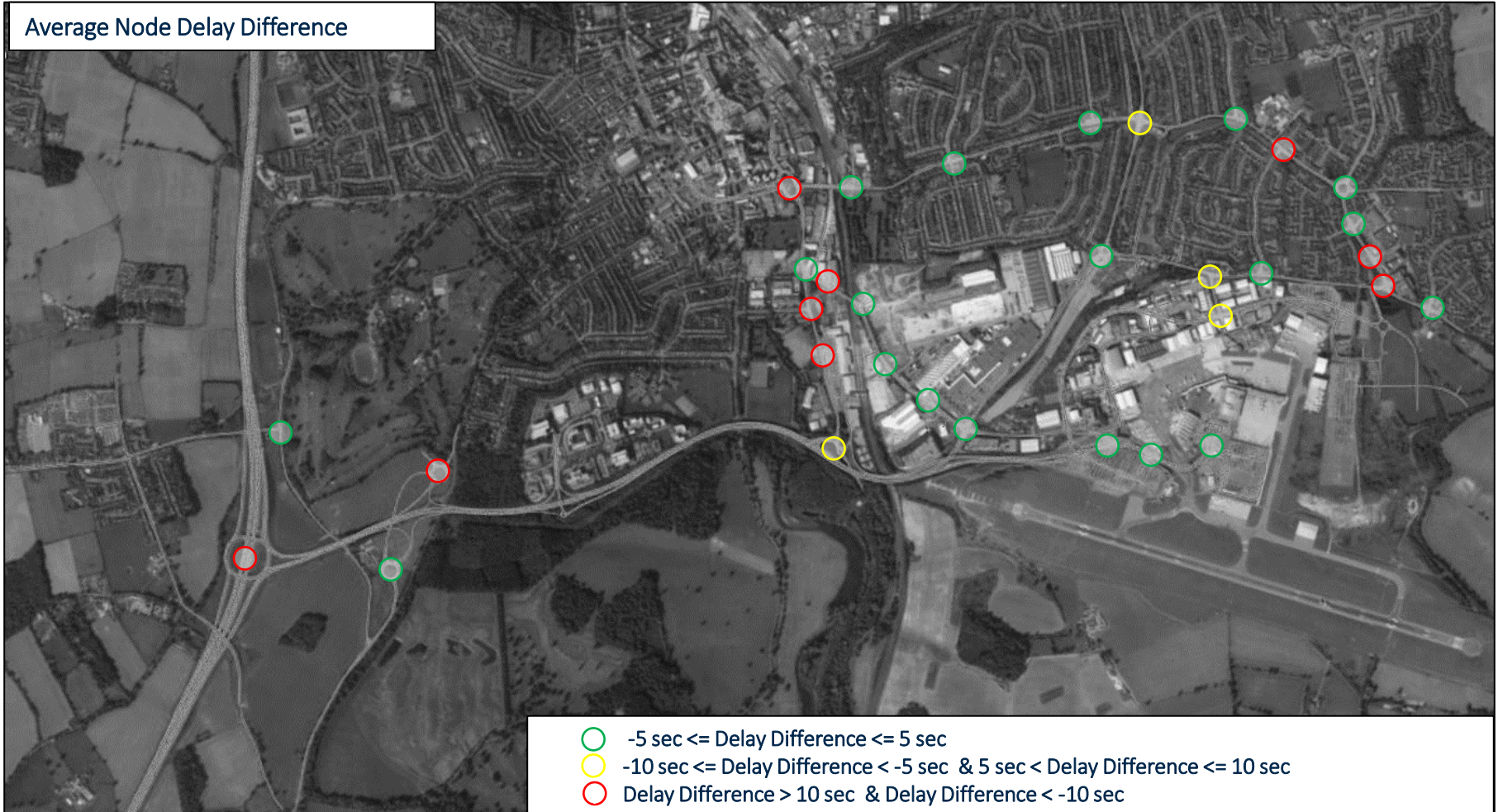


# Junction Assessment – AM Peak Hour



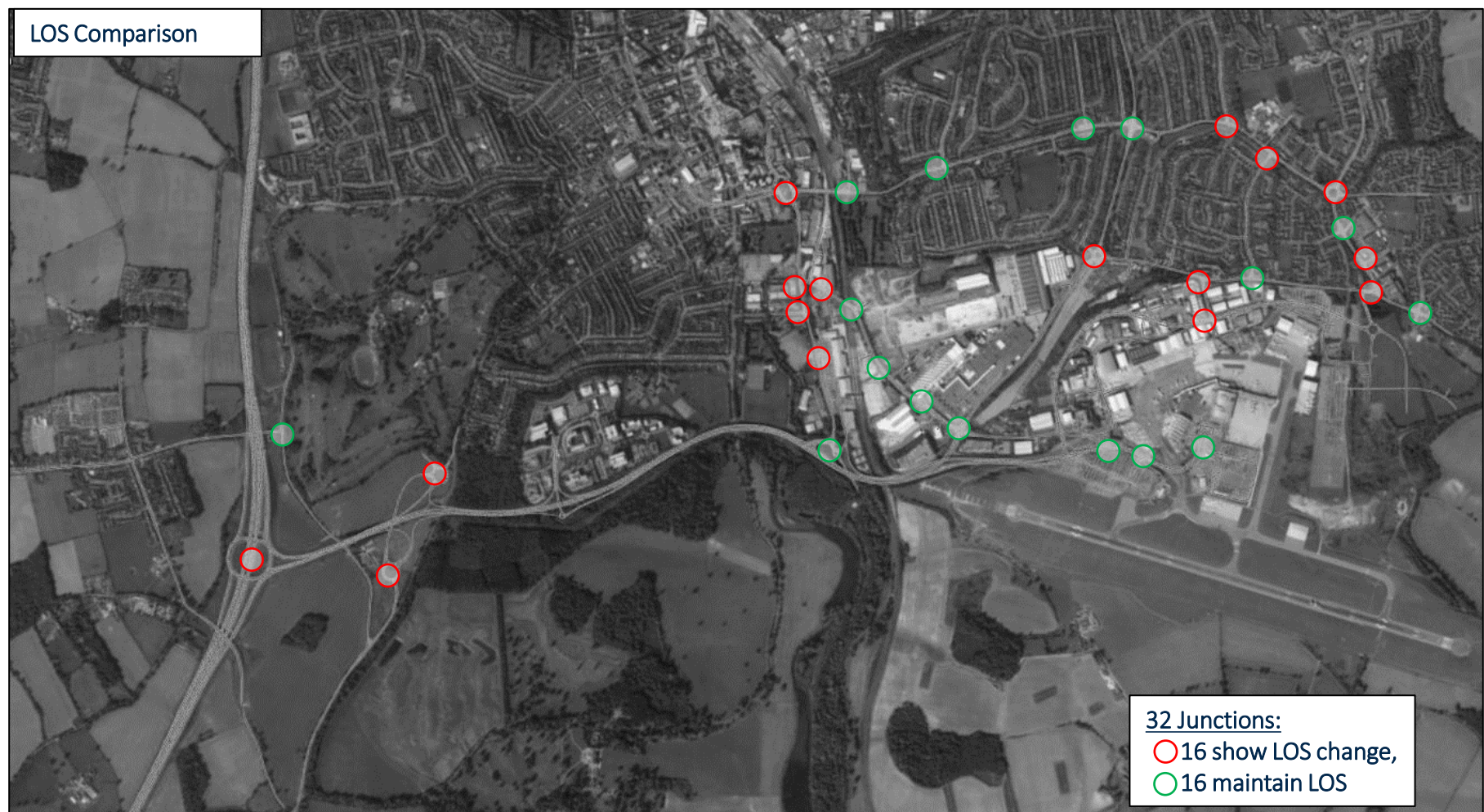
# Junction Assessment – PM Peak hour

Average Node Delay Difference





# Junction Assessment – PM Peak Hour

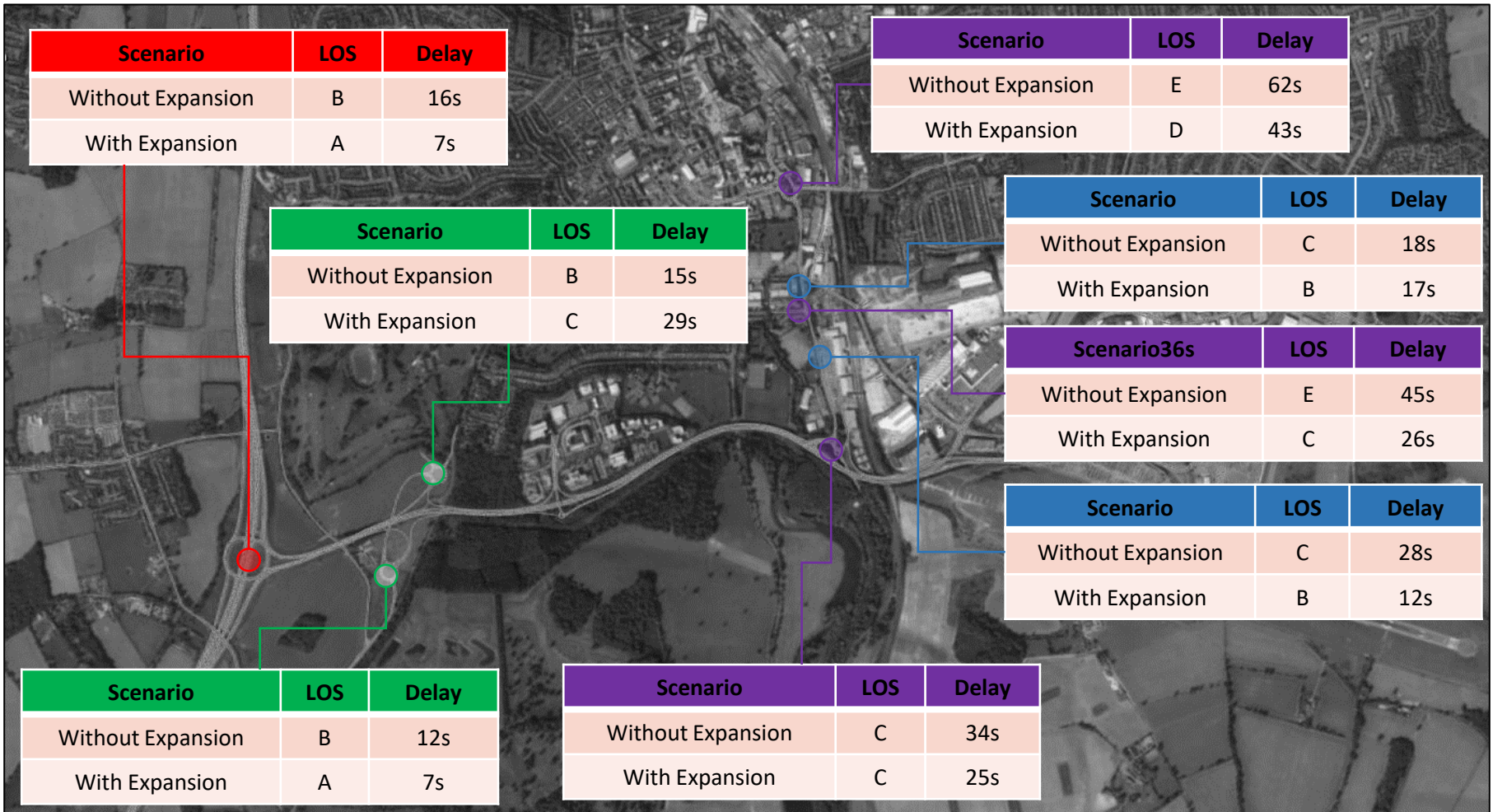


# Junction Assessment – PM Peak Hour

LOS "F" Comparison



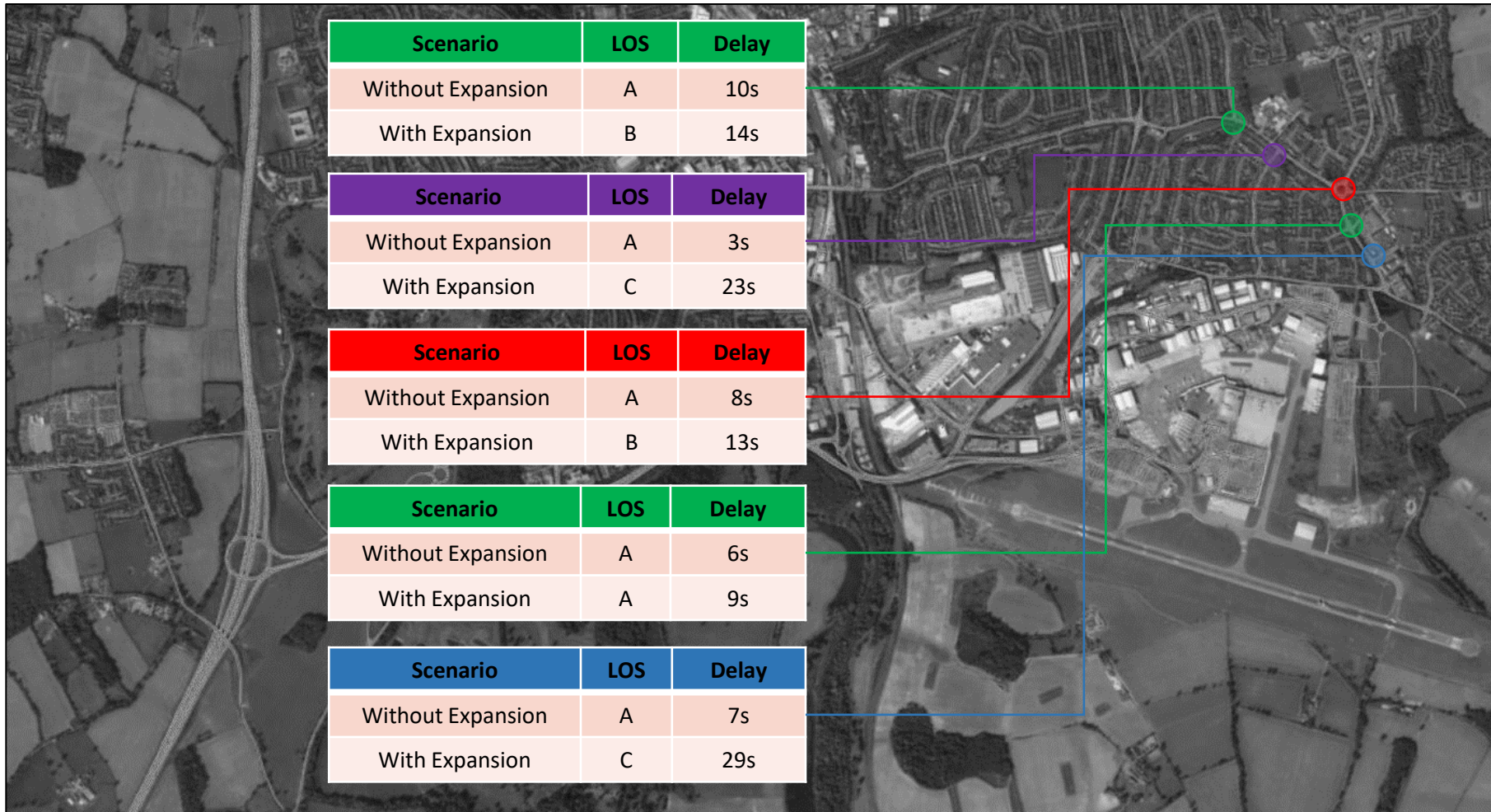
# Junction Assessment – PM Peak Hour



# Junction Assessment – PM Peak Hour



# Junction Assessment – PM Peak Hour



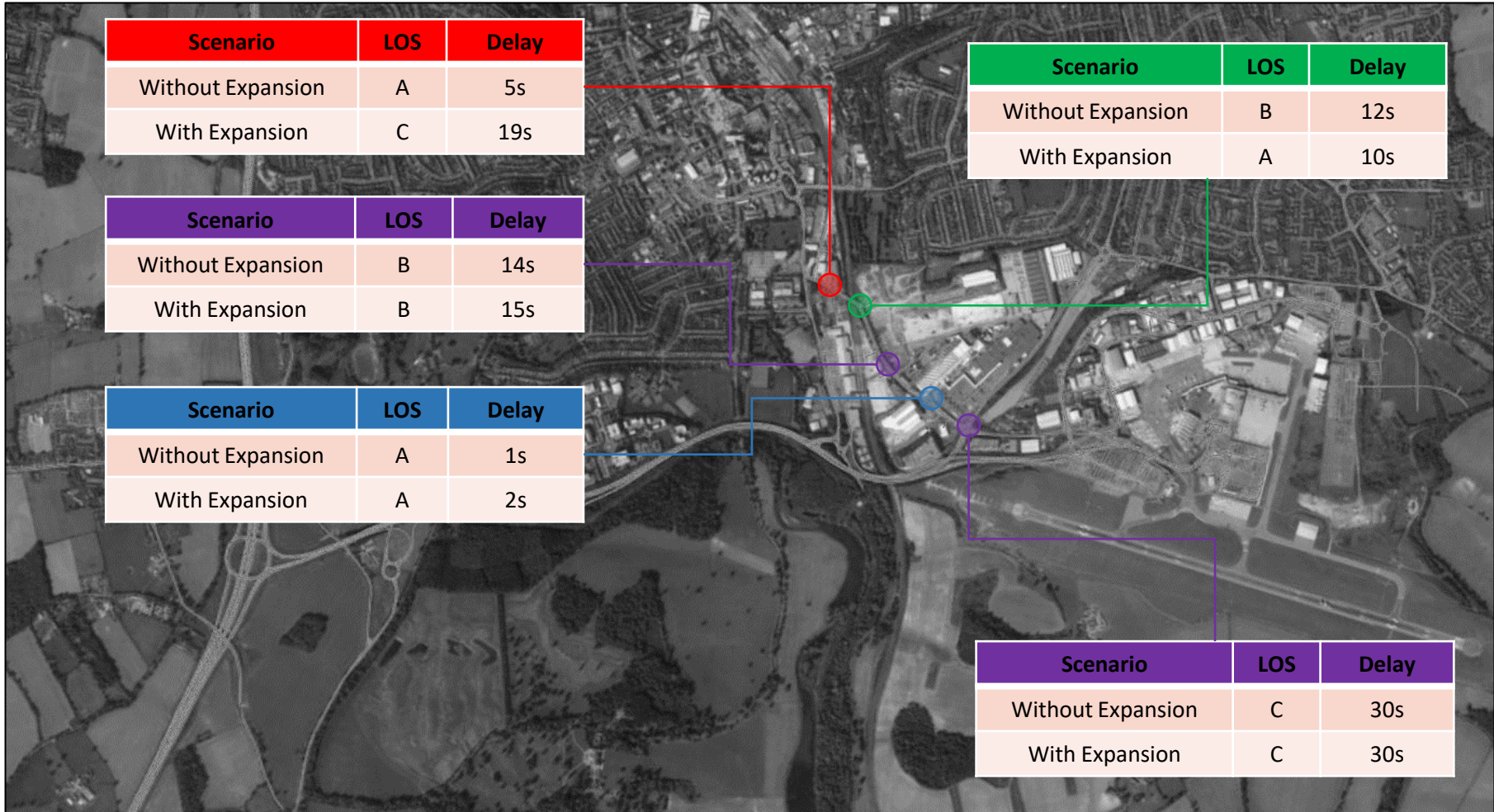
# Junction Assessment – PM Peak Hour



# Junction Assessment – PM Peak Hour



# Junction Assessment – PM Peak Hour



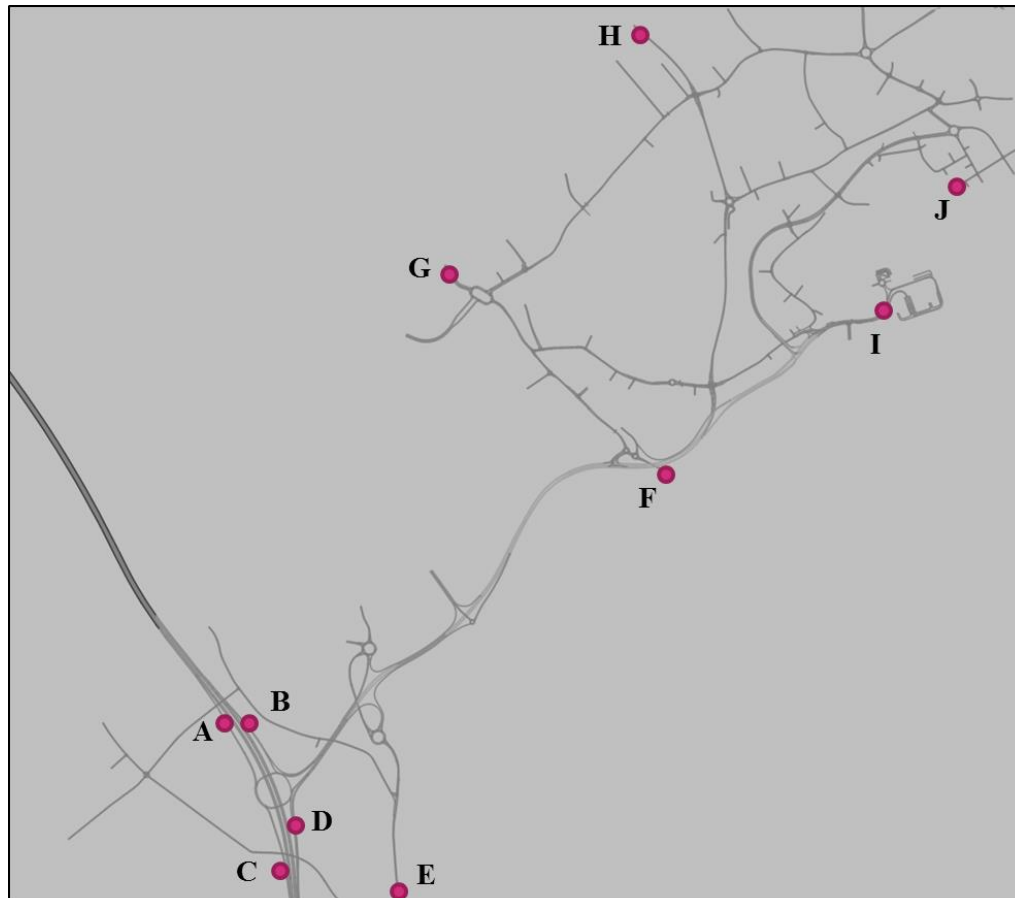


# Content

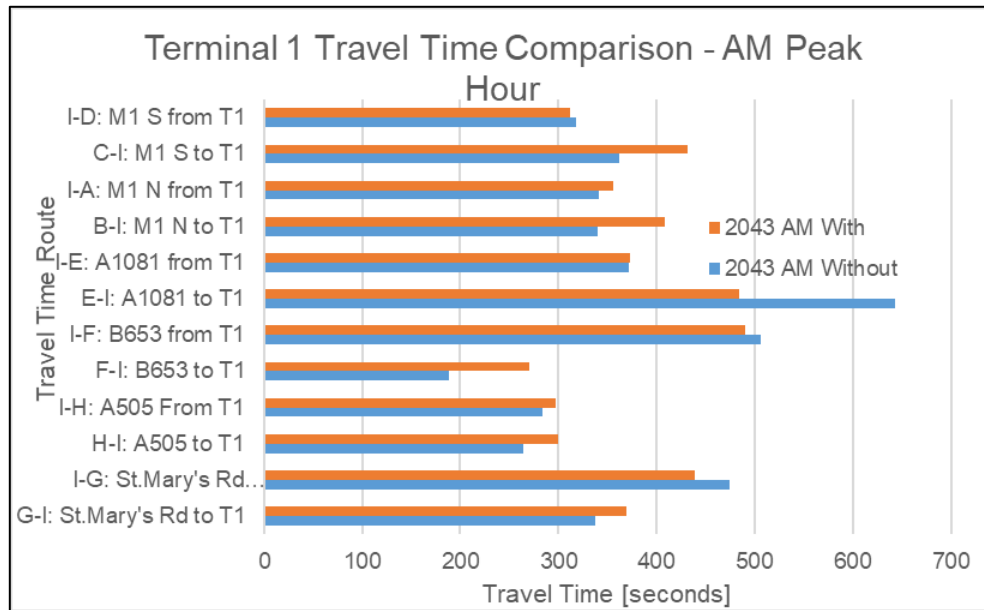
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# Travel Time Assessment

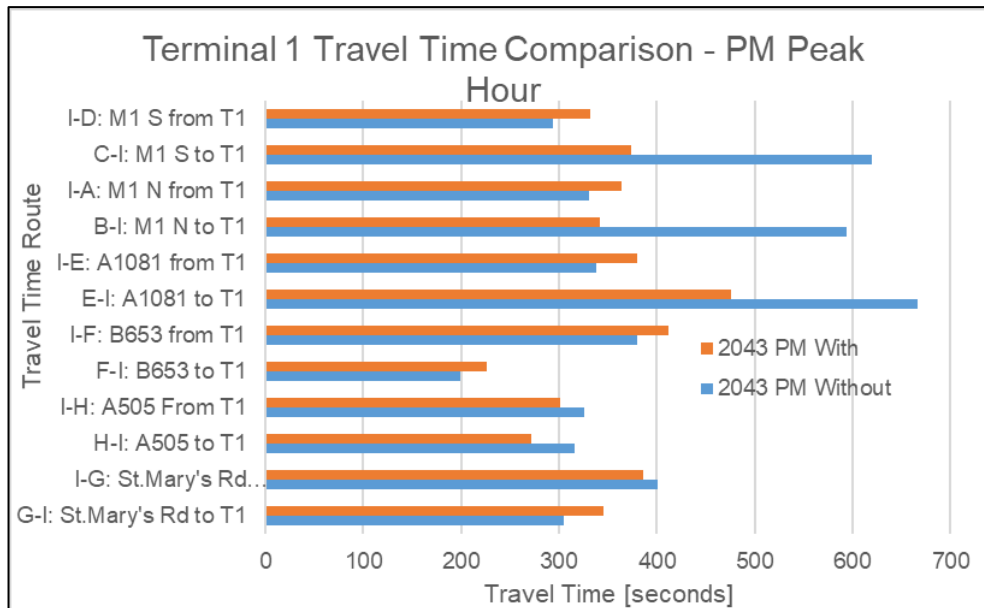
- Travel time on defined paths were compared for the 'Without Expansion' and 'With Expansion' scenarios;
- Travel time segments between the highlighted points highlighted below:



# Travel Time per Vehicle Comparison For Terminal 1



- In the AM peak the model showed similar journey times for the With and Without scenarios for most of the routes. It showed highest journey time saving to the Airport from the A1081 for the With Expansion case.

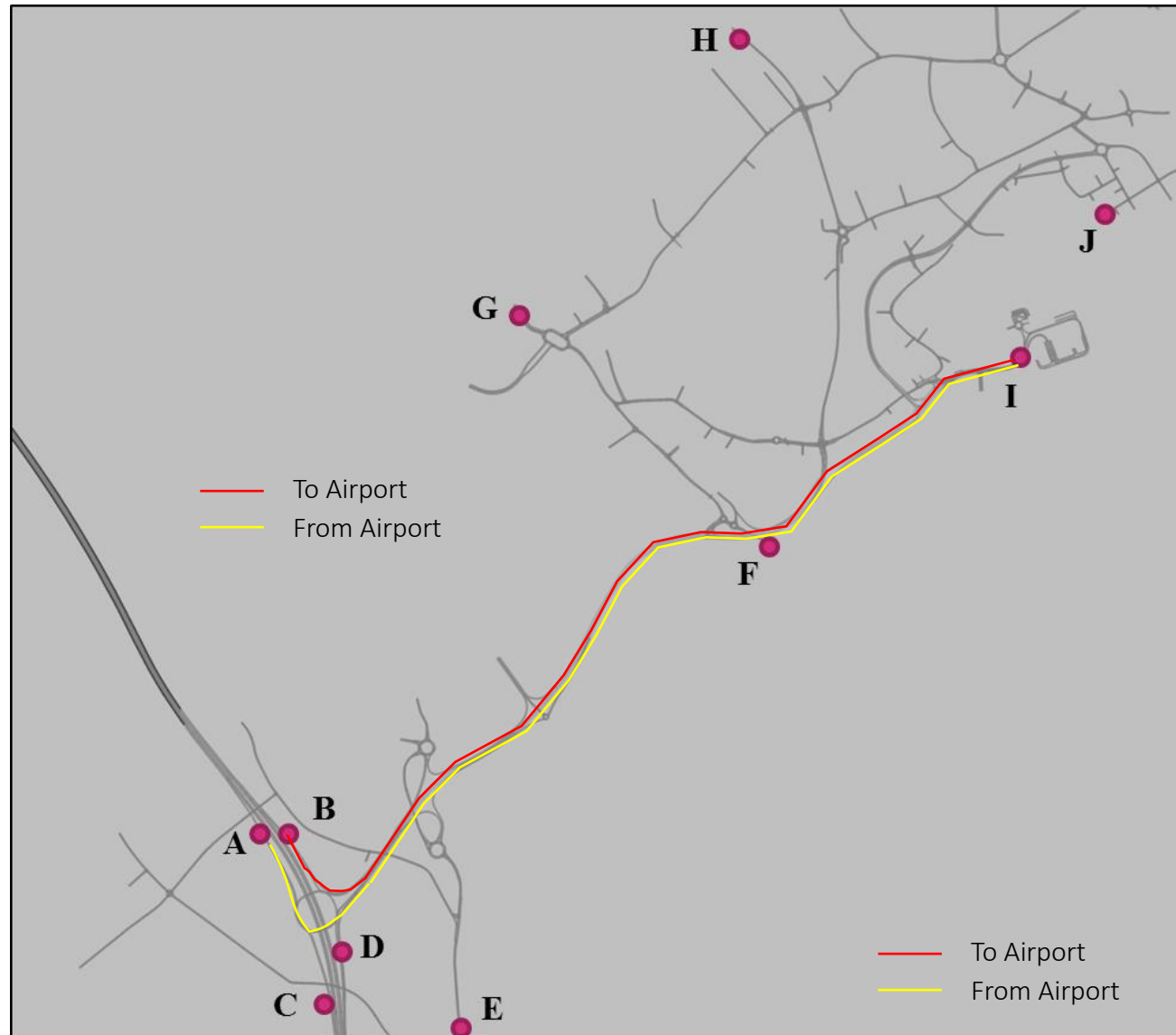


- In the PM peak the model showed similar journey times between the With and Without Expansion scenarios for most of the routes. For the certain routes (mainly along the A1081) the model indicated significant journey time savings.

# Existing Terminal Travel Path from/to M1 North – AM Peak Hour

	<b>B → I (4462m)</b>	<b>I → A (4683m)</b>
Without Expansion	5min 40sec	5min 41sec
With Expansion	6min 48sec	5min 56sec
Difference	+1min 8sec	+15sec

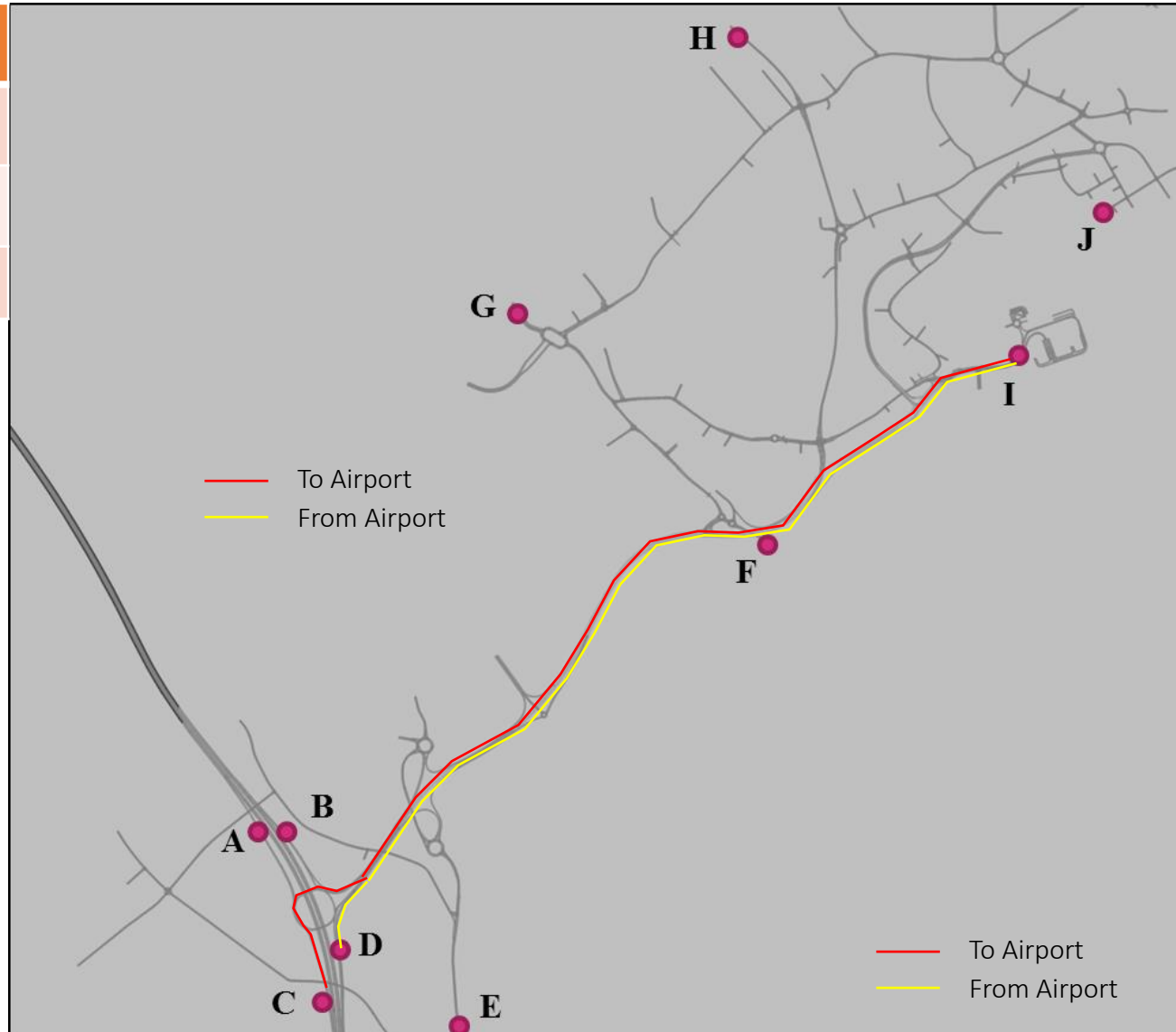
- 1min 8 second increase in journey time to the Existing Terminal from M1 North;
- Marginal increase in journey time from the Existing Terminal to M1 North.



# Existing Terminal Travel Path from/to M1 South – AM Peak Hour

	C → I (4892m)	I → D (4391m)
Without Expansion	6min 2sec	5min 18sec
With Expansion	7min 12sec	5min 12sec
Difference	+1min 10sec	-6sec

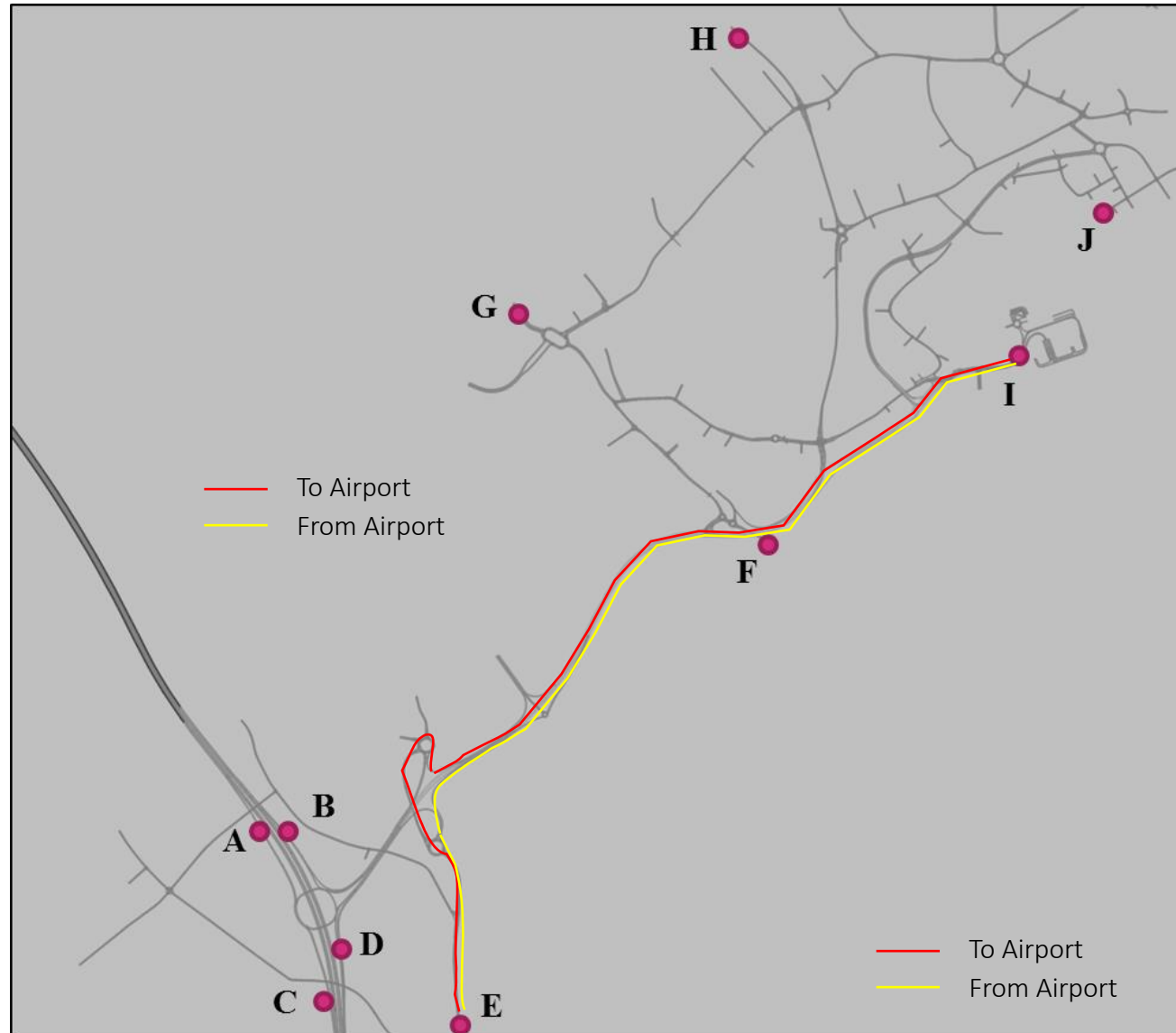
- 1 minute 10 seconds increase in journey time to the Existing Terminal from M1 South;
- Negligible decrease in journey time from the Existing Terminal to M1 South.



# Existing Terminal Travel Path from/to A1081 – AM Peak Hour

	E → I (5328m)	I → E (4803m)
Without Expansion	10min 43sec	6min 12sec
With Expansion	8min 5sec	6min 14sec
Difference	-2min 38sec	+2sec

- Decrease of 2 minutes 38 seconds in journey time from the A1081 to the Existing Terminal;
- Negligible increase in journey time from the Existing Terminal to the A1081.

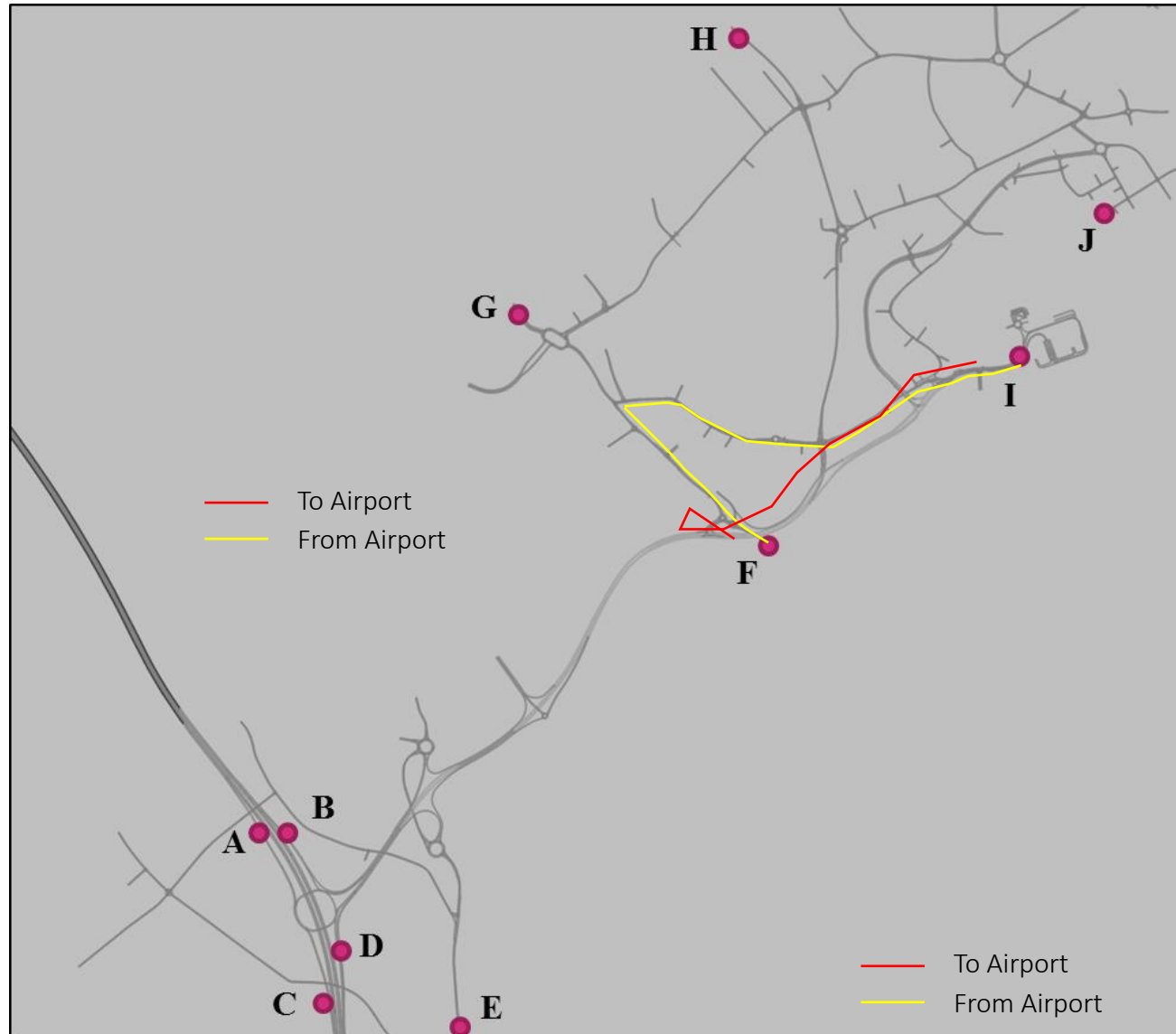


# Existing Terminal - Travel Path from/to B653 – AM

## Peak Hour

	F → I (1882m)	I → F (2857m)
Without Expansion	3min 8sec	8min 26sec
With Expansion	4min 31sec	8min 10sec
Difference	+1min 23sec	-16sec

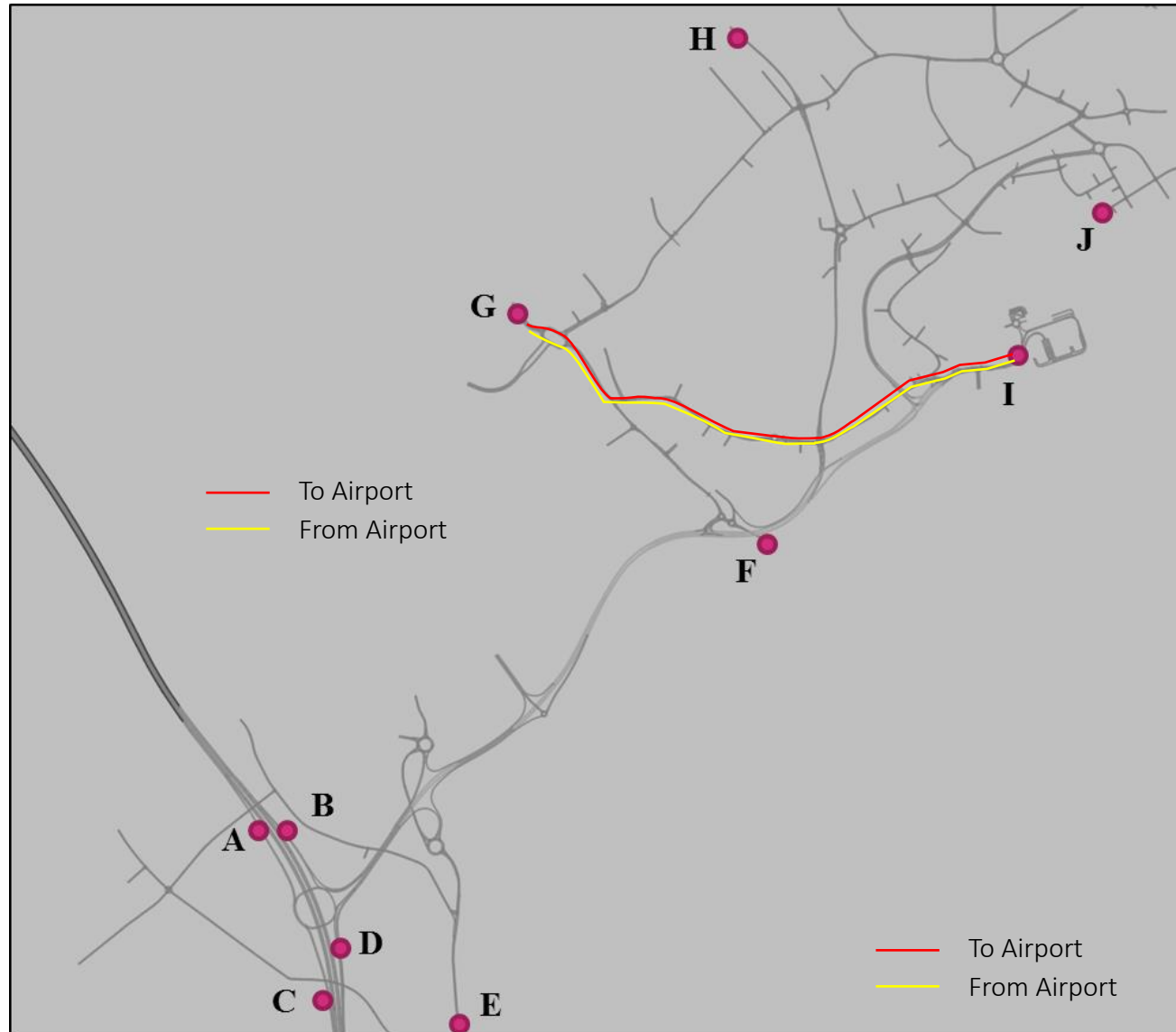
- Increase of 1 minute 23 seconds in travel time for the 'With Expansion' scenario towards the Airport from the B653;
- Marginal decrease in journey time in the With Expansion scenario from the Airport to the B653.



# Existing Terminal - Travel Path from/to St Mary's Rd-AM Peak Hour

	G → I (2492m)	I → G (2500m)
Without Expansion	5min 38sec	7min 55sec
With Expansion	6min 9sec	7min 19sec
Difference	+31sec	-36sec

- 31 seconds increase in travel time for the 'With Expansion' scenario to the Airport from St.Mary's Rd;
- Decrease of 36 seconds in journey time to St. Mary's Rd from the Existing Terminal.





# Existing Terminal - Travel Path from/to A505 – AM Peak Hour

	H → I (3006m)	I → H (3029m)
Without Expansion	4min 24sec	4min 44sec
With Expansion	4min 59sec	4min 58sec
Difference	+35sec	+14sec

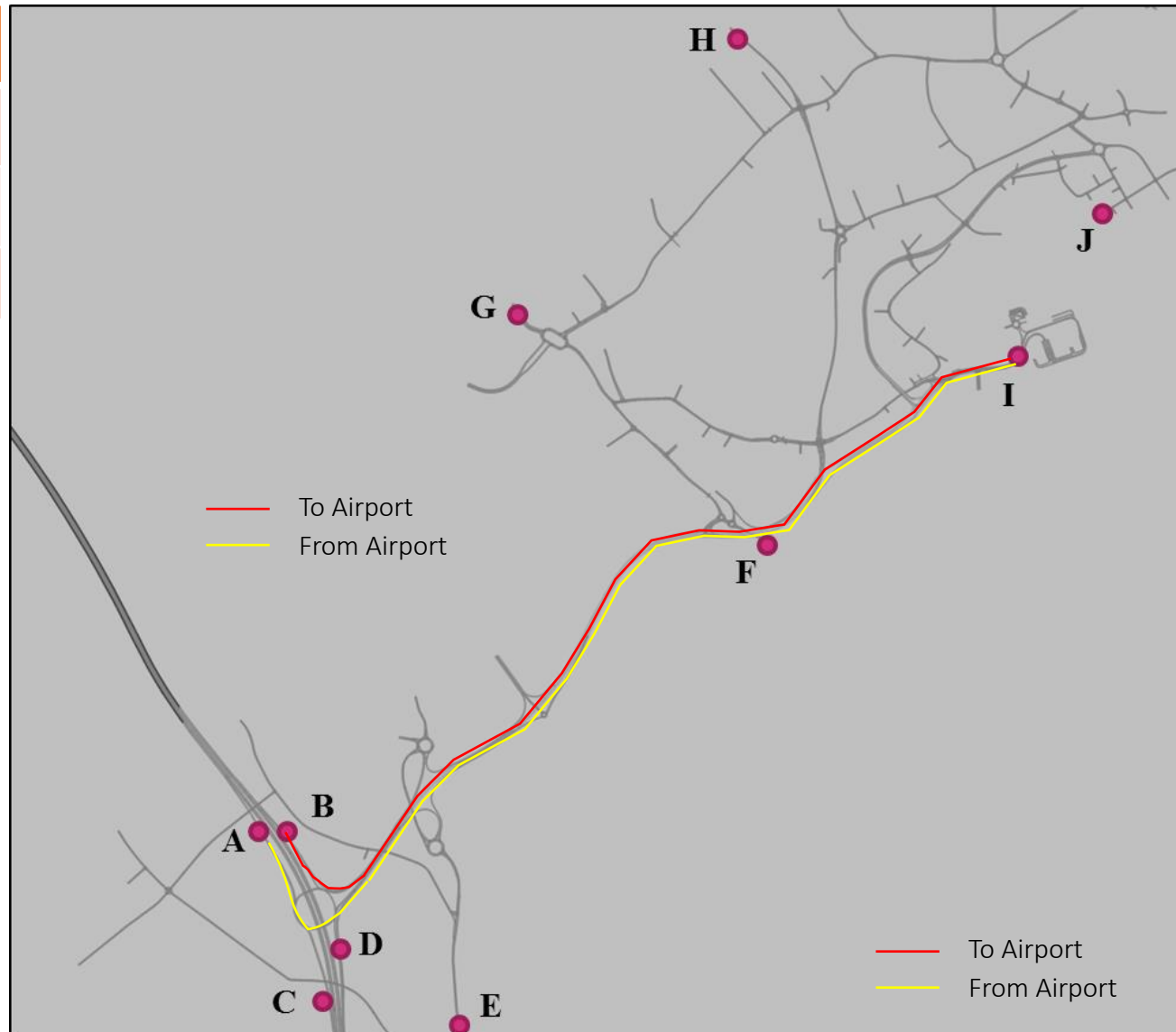
- 35 seconds increase in journey time to the Existing Terminal from the A505;
- Negligible change in journey time from the Airport to the A505.



# Existing Terminal Travel Path from/to M1 North – PM Peak Hour

	<b>B → I (4462m)</b>	<b>I → A (4683m)</b>
Without Expansion	9min 54sec	5min 31sec
With Expansion	5min 41sec	6min 4sec
Difference	-4min 13sec	+33sec

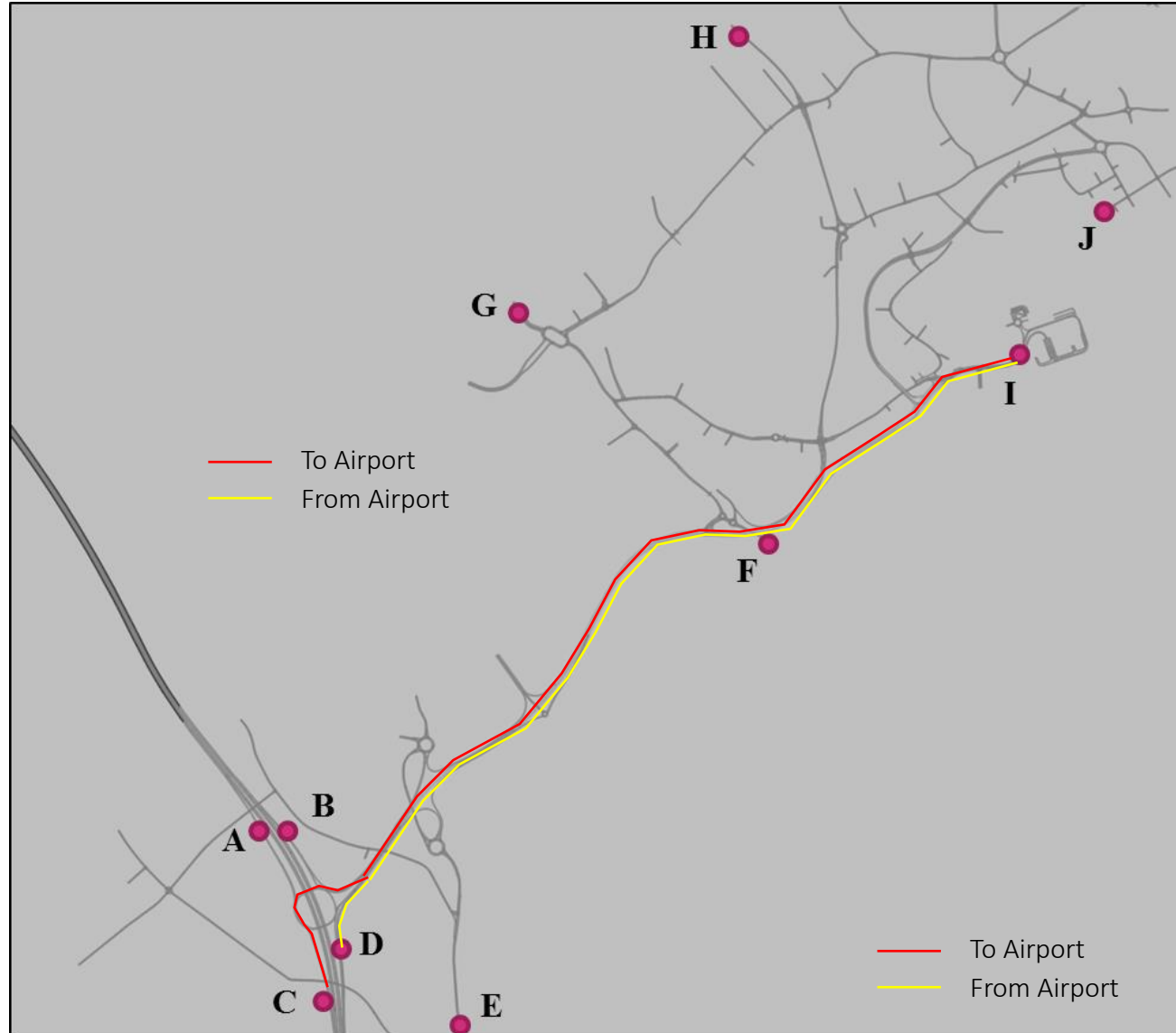
- Decrease of 4 minutes 13 seconds in travel time for the 'With Expansion' scenario from M1 North to the Airport existing Terminal;
- 33 seconds increase in journey time from the Existing Terminal towards M1 North



# Existing Terminal Travel Path from/to M1 South – PM Peak Hour

	C → I (4892m)	I → D (4391m)
Without Expansion	10min 20sec	4min 54sec
With Expansion	6min 14sec	5min 32sec
Difference	-4min 6sec	+38sec

- Decrease of 4 minutes 6 seconds in travel time for the 'With Expansion' scenario from M1 South to the Existing Terminal;
- 38 second increase in journey time from the Existing Terminal towards M1 South.

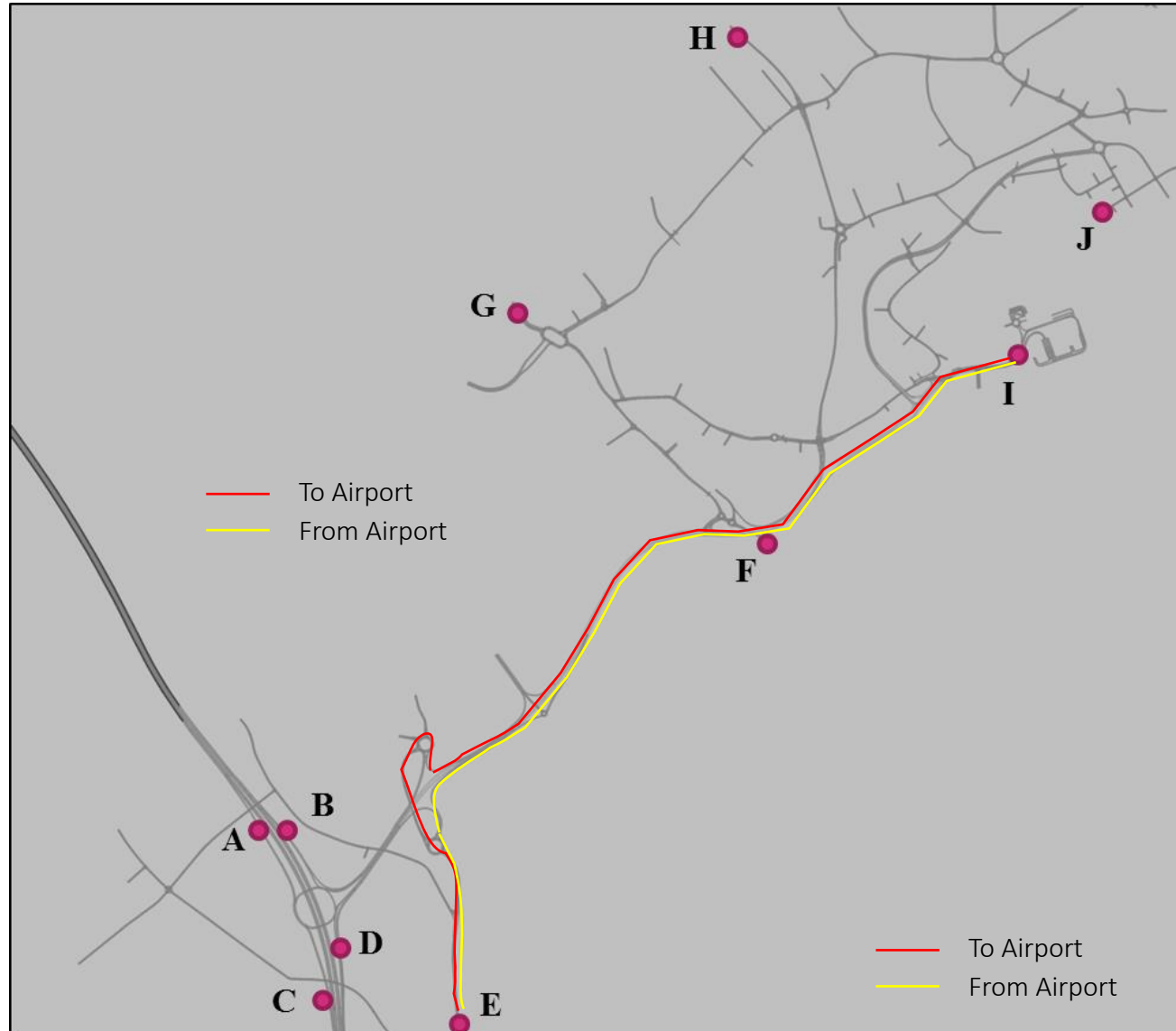


# Existing Terminal Travel Path from/to A1081 – PM

## Peak Hour

	E → I (5328m)	I → E (4803m)
Without Expansion	11min 7sec	5min 38sec
With Expansion	7min 56sec	6min 20sec
Difference	-3min 11sec	+42sec

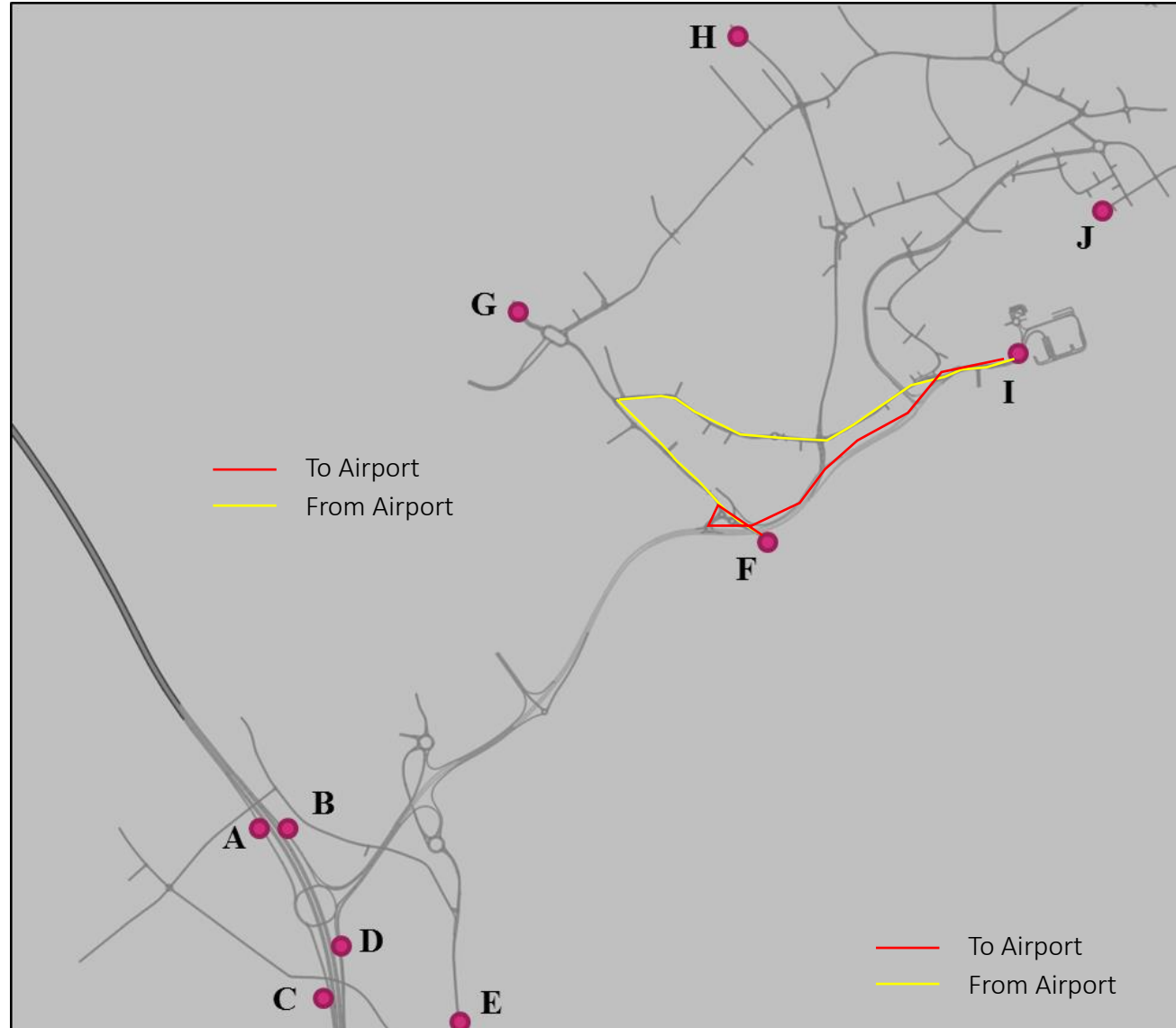
- 3 minutes and 11 seconds decrease in journey time for the 'With Expansion' scenario from the A1081 to the Existing Terminal;
- 42 seconds increase in travel time for the 'With Expansion' scenario to the A1081 from the Existing Terminal.



# Existing Terminal - Travel Path from/to B653 – PM Peak Hour

	<b>F → I (1882m)</b>	<b>I → F (2857m)</b>
Without Expansion	3min 19sec	6min 20sec
With Expansion	3min 46sec	6min 51sec
Difference	+27sec	+31sec

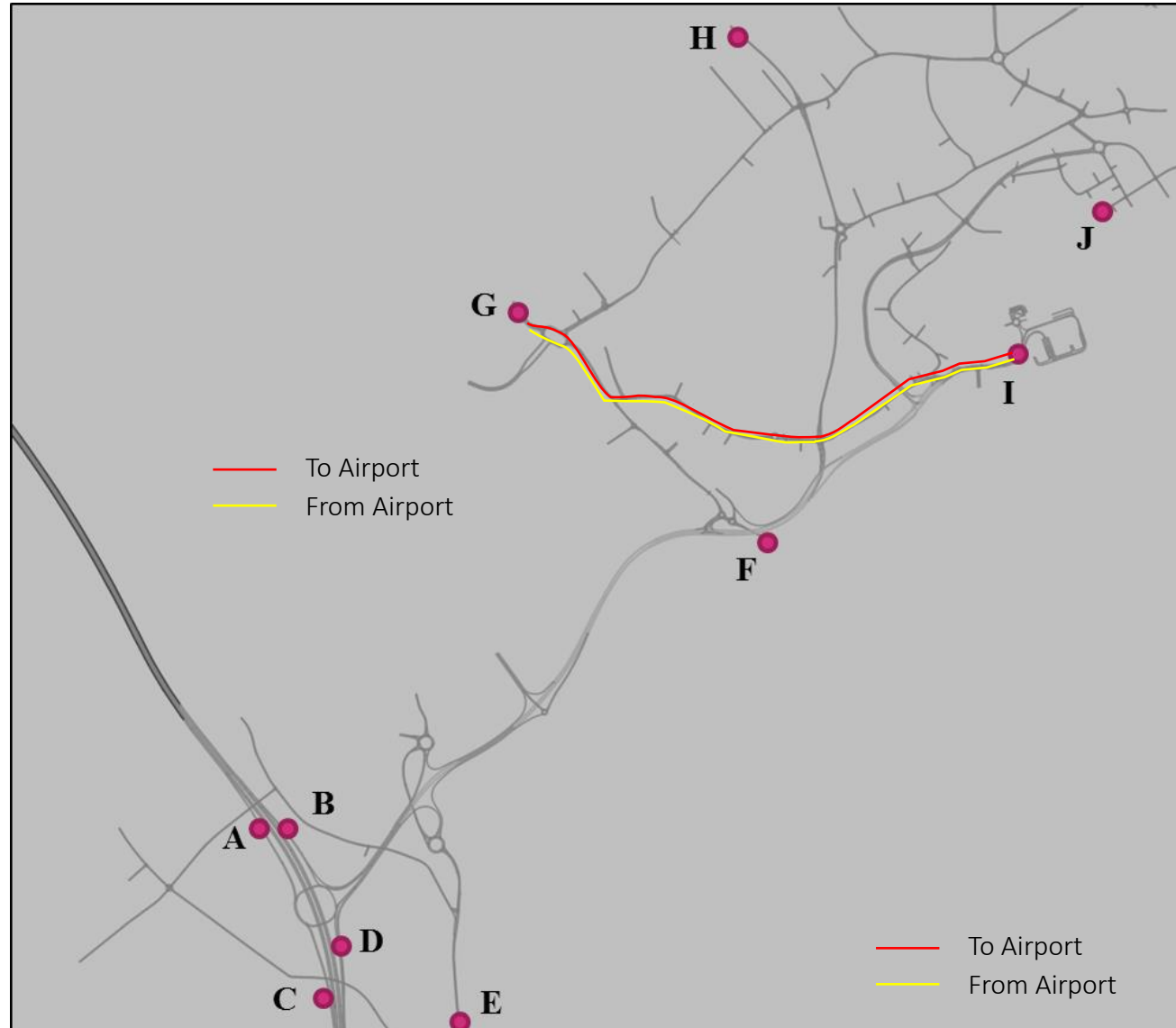
- Increase of 27 seconds in journey time to the Existing Terminal from B653.
- Increase of 31 seconds in journey time from the Existing Terminal to B653.



# Existing Terminal - Travel Path from/to St Mary's Rd - PM Peak Hour

	G → I (2492m)	I → G (2500m)
Without Expansion	5min 4sec	6min 41sec
With Expansion	5min 45sec	6min 26sec
Difference	+41sec	-15sec

- 41 seconds increase in travel time for the 'With Expansion' scenario from St Mary's Rd to the Existing Terminal;
- Marginal decrease in journey time to St Mary's Rd from the Existing Terminal.



# Existing Terminal - Travel Path from/to A505 – PM Peak Hour

	H → I (3006m)	I → H (3029m)
Without Expansion	5min 16sec	5min 26sec
With Expansion	4min 31sec	5min 1sec
Difference	-45sec	-25sec

- 45 second decrease in journey time from the A505 to the Airport;
- 25 seconds decrease in travel time for the 'With Expansion' scenario from the Existing Terminal to the A505.

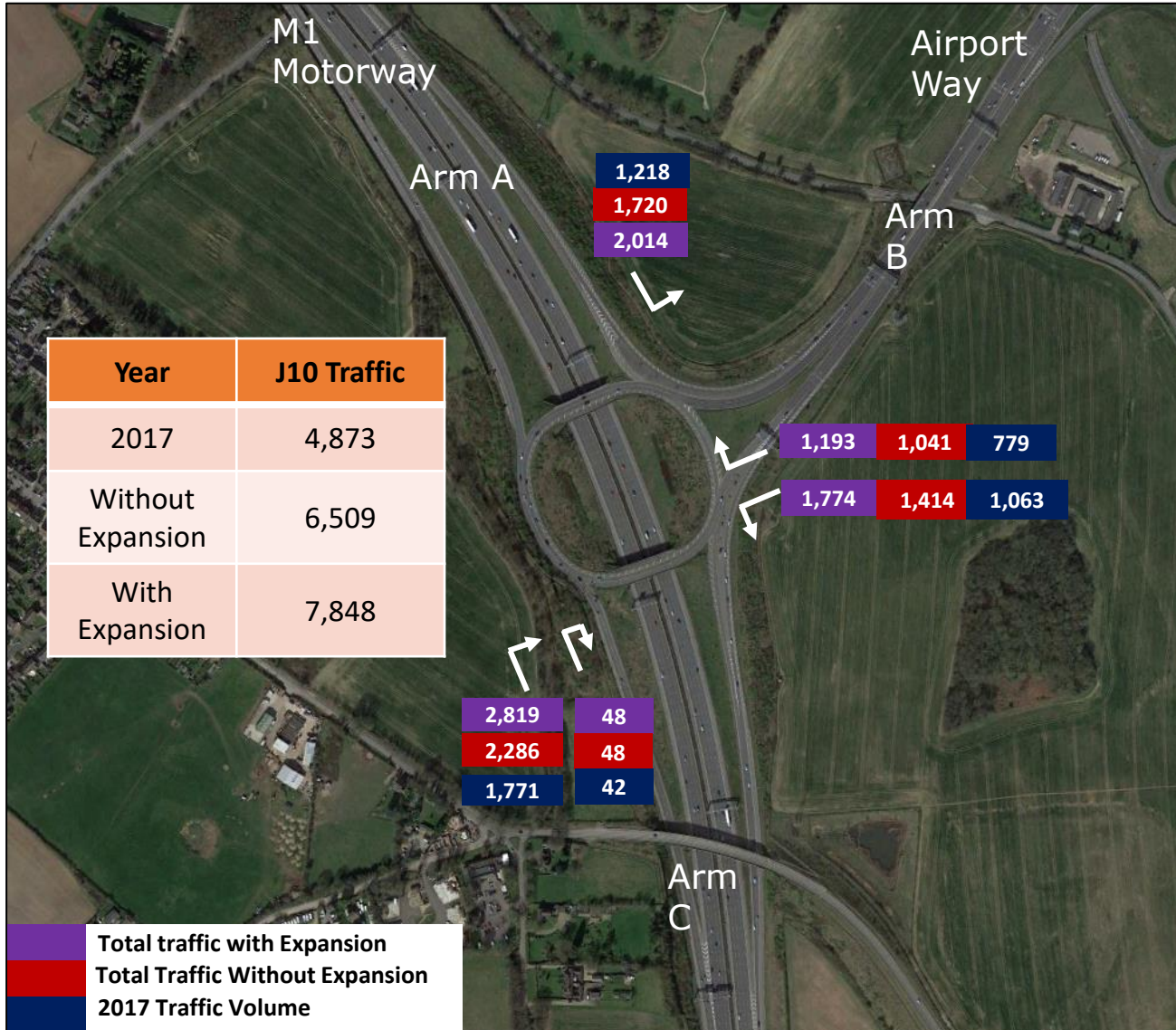


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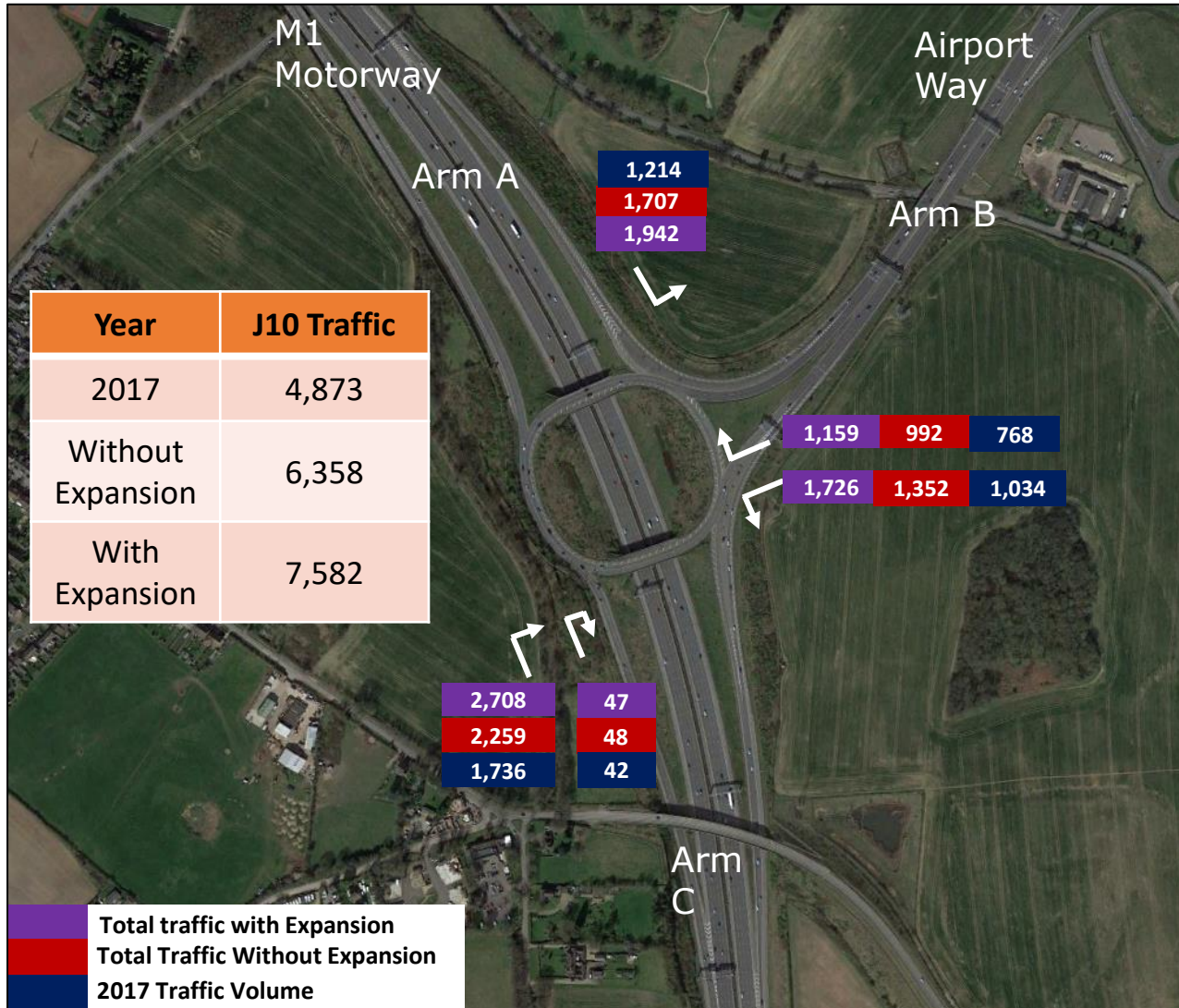
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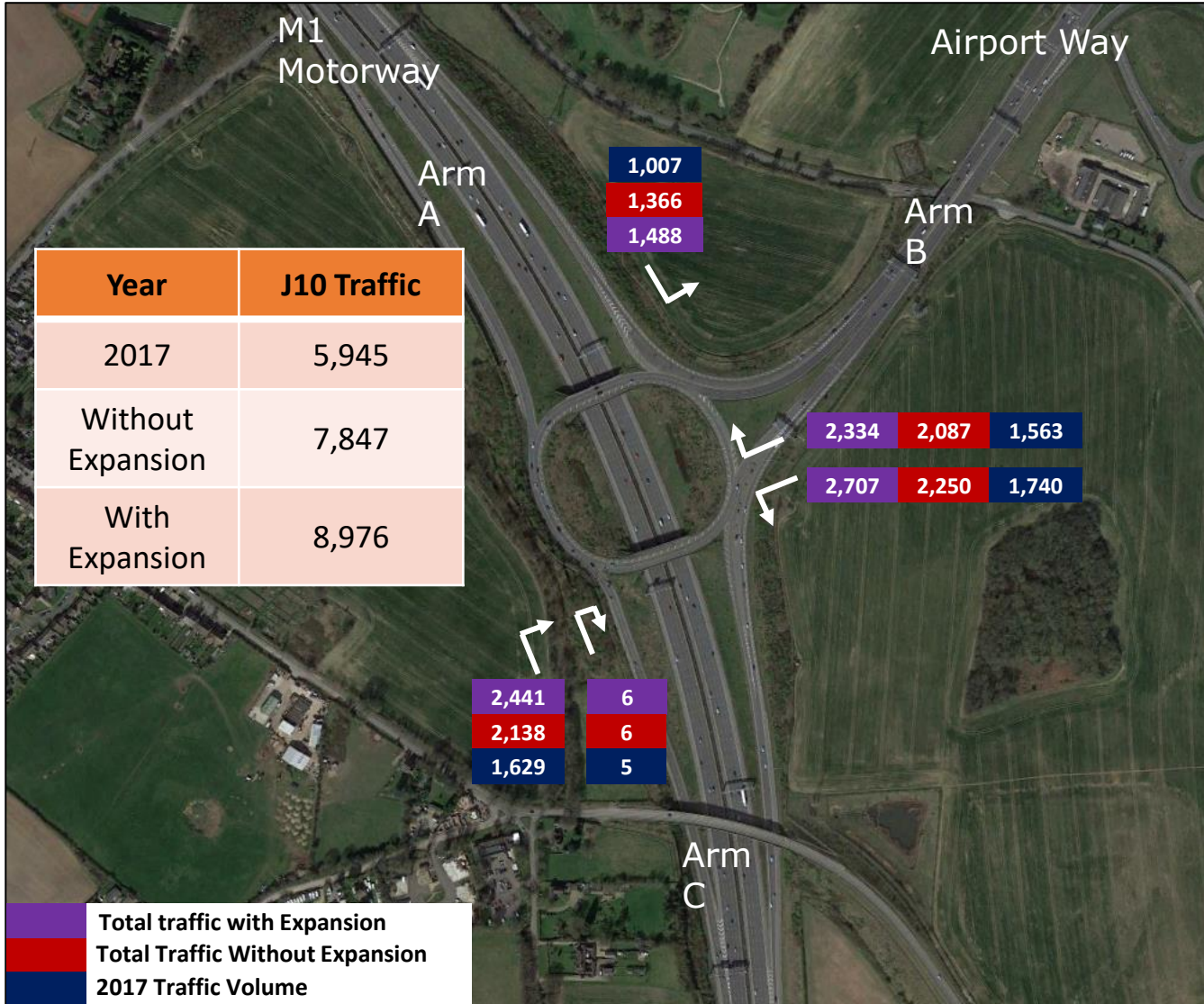
# Junction 10 – AM Peak 2043 - Demand



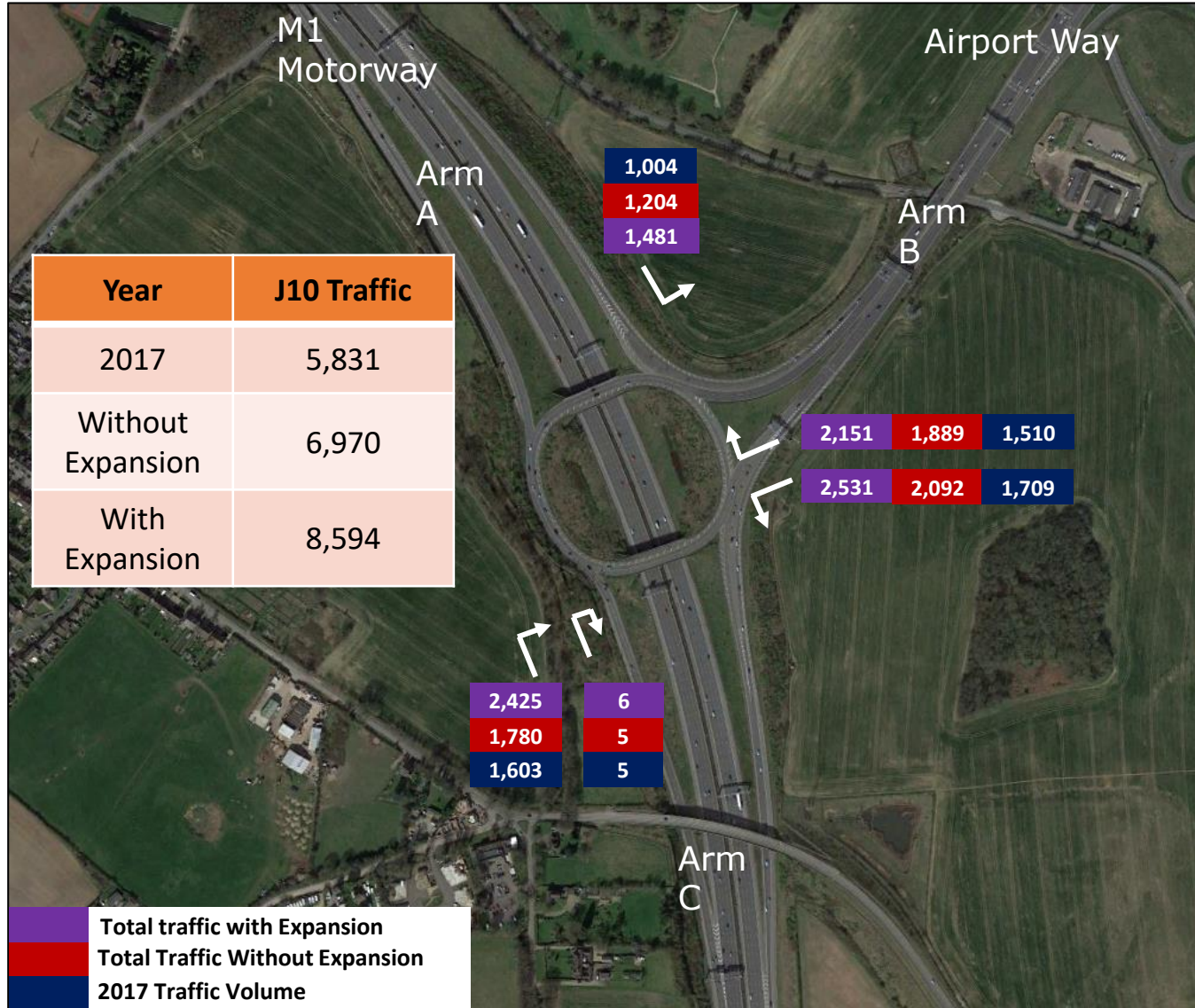
# Junction 10 – AM Peak 2043 – Supply (Vissim Output)



# Junction 10 – PM Peak 2043 - Demand



# Junction 10 – PM Peak 2043 – Supply (Vissim Output)



# Junction 10 – 2043 Demand VS Supply Comparison



Variable	AM Without	AM With	PM Without	PM With
Demand (A)	6,509	7,848	7,847	8,976
Supply (B)	6,358	7,582	6,970	8,594
Difference (B-A)	-151	-266	-877	-382
Percentage (Diff/A)	-2%	-3%	-11%	-4%

- The demand was derived from the OD matrix for Junction 10, which did not account for the travel times and delays of vehicles from the various origin points to reach Junction 10. Therefore, it is considered correct to have the supply as less than the demand in view of the size of the network
- For the Without Expansion scenario, the difference between demand and supply was negligible in the AM scenario, however it was 11% in the PM peak. The model indicated that the A1081 / Gypsy Lane and J10A North junctions operated over capacity and created shockwaves / blocking back. This occurred more predominantly in the PM peak hour.
- For the With Expansion scenarios the difference between demand and supply was less than 4%. This is considered acceptable in view of the size of the network.

# Junction 10 – Queuing

Average queue length	AM Without	AM With	PM Without	PM With
M1 NB approach (length: 457m)	39m (9%)	60m (13%)	156m (34%)	40m (9%)
A1081 SB approach to M1	-	-	14m	-
M1 SB approach (length: 457m)	17m (4%)	69m (15%)	90m (20%)	18m (4%)
Maximum queue length	AM Without	AM With	PM Without	PM With
M1 NB approach (length: 457m)	158m (35%)	368m (81%)	894m (>100%)	177m (39%)
A1081 SB approach to M1	5m	6m	158m	3m
M1 SB approach (length: 457m)	79m (17%)	302m (66%)	534m (>100%)	84m (18%)

\* (queue length)/(slip road length) % shown in brackets

- In the AM peak the above table shows that in the Without Expansion scenario the junction operated within capacity, and did not block back to the mainline. In the PM peak shockwaves reach back J10 from A1081/B653 and can cause blocking backs.
- In both With Expansion scenarios the maximum queue lengths on any slip road were less than the actual length of the slip, therefore the junction did not block back to the mainline.

# Junction 10 – Queuing – AM With

- The model indicated an average maximum queue length of 368m in the AM With case for the M1 NB approach, that is approximately 80% of the available length of the slip. The table shows that on some occasions (seeds) the queue was longer than the available slip length.
- The model also showed that in the Without PM case the queue reached the end of the slip in many runs, importantly this did not happen in the With PM case.
- While the Airport Expansion somewhat increased queue length in the AM peak, it significantly reduced it in the PM peak.
- In reality, MOVA control would be able to react quickly and dynamically to the actual demand and to the situation on the approaches, gyratory and exit link to provide greater capacity, therefore it is expected to reduce or potentially eliminate the occurrence of long queuing which occurs in a few runs. In the model M1 J10 operates with fixed signals.

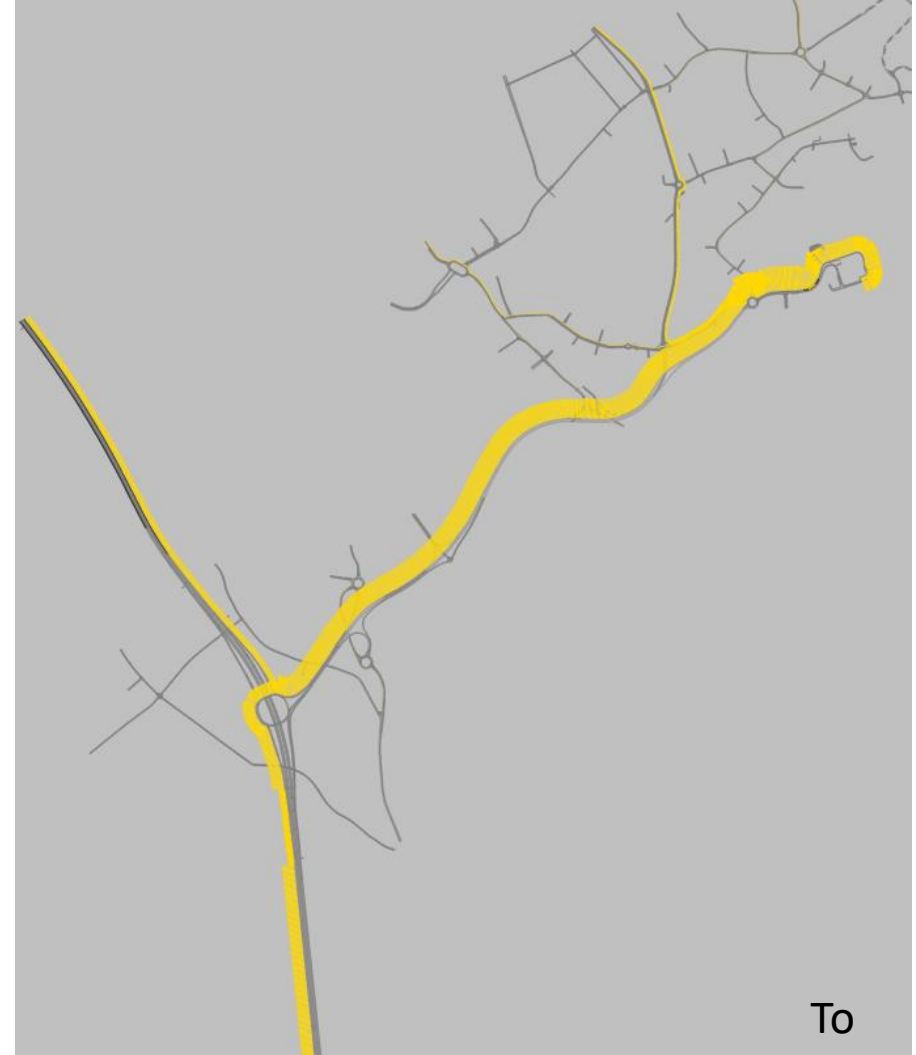
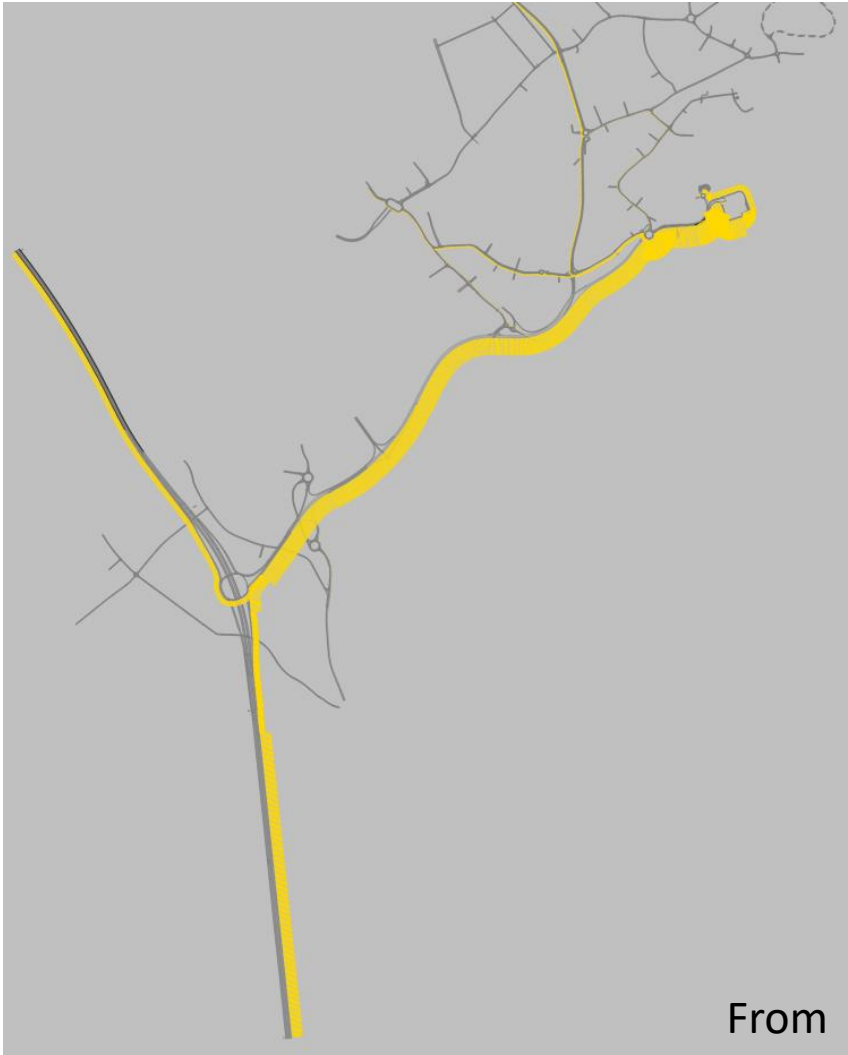
Maximum Queue Length (m)				
Run	2043 Without AM	2043 With AM	2043 Without PM	2043 With PM
1	178	420	2009	186
2	167	1381	1154	194
3	159	137	207	171
4	130	518	895	173
5	139	134	451	160
6	158	129	566	147
7	161	183	325	169
8	123	543	1486	151
9	145	475	1889	156
10	146	182	2005	183
11	178	1145	224	171
12	136	106	199	168
13	168	144	1017	278
14	171	231	177	154
15	166	132	112	185
16	151	266	1555	201
17	136	145	573	194
18	189	171	379	166
19	192	297	1242	174
20	168	615	1405	149
AVG	158	368	894	177

# Content

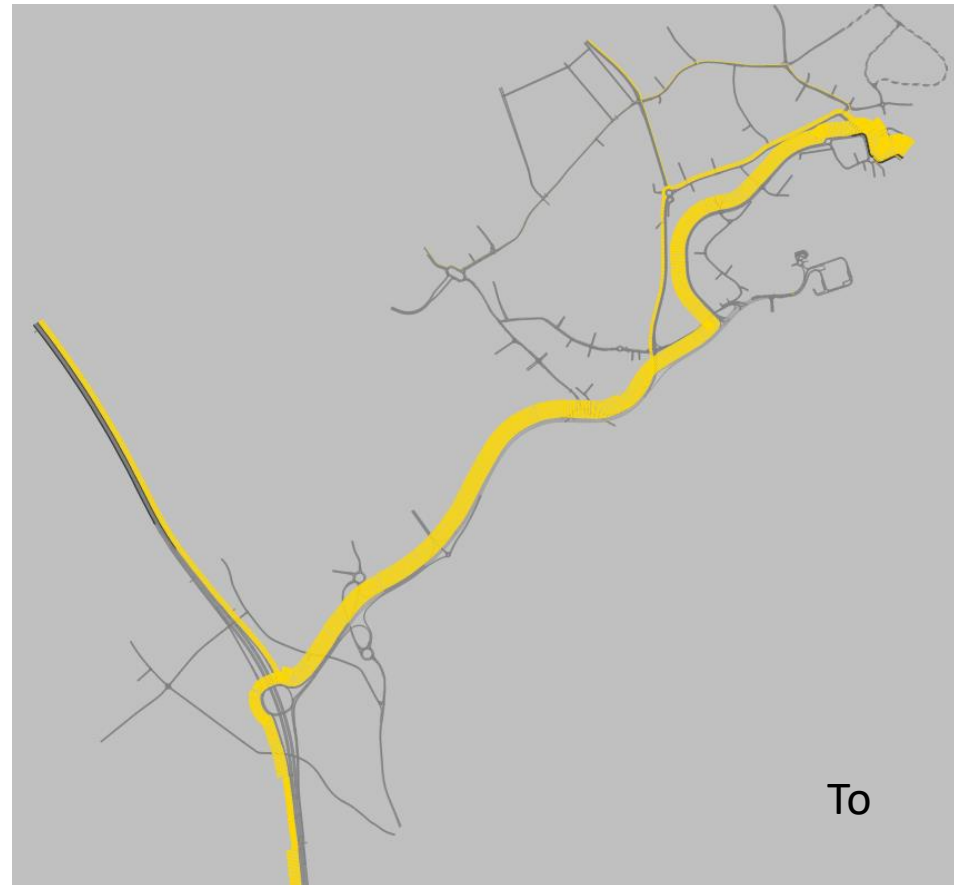
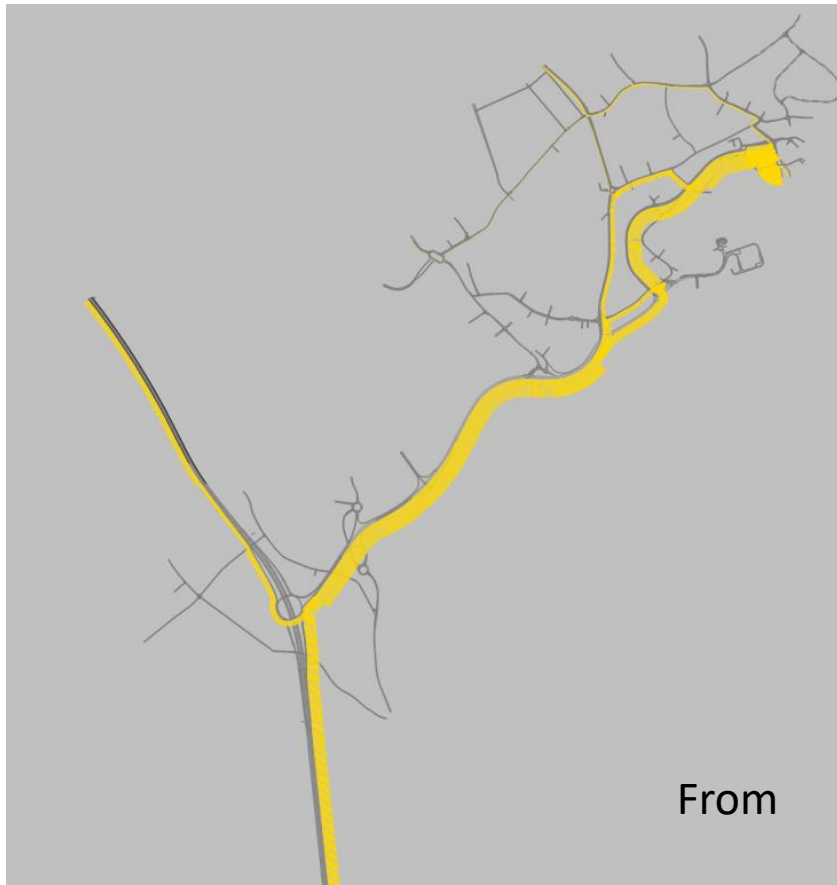
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# Flow Path – Existing Terminal



# Flow Path – New Terminal



# Airport Traffic – 2043 Demand VS Supply



## To Airport Terminal\*

Variable	AM Without	AM With	PM Without	PM With
Terminal	T1 (18mppa)	T1+T2 (32mppa)	T1 (18mppa)	T1+T2 (32mppa)
Demand (A)	918	1,375	804	1,194
Supply (B)	886	1,279	635	1,161
Difference (B-A)	-32	-96	-169	-33
% Difference (Diff/A)	-3%	-7%	-21%	-3%

## From Airport Terminal\*

Variable	AM Without	AM With	PM Without	PM With
Terminal	T1 (18mppa)	T1+T2 (32mppa)	T1 (18mppa)	T1+T2 (32mppa)
Demand (A)	934	1,396	816	1,223
Supply (B)	929	1,389	814	1,223
Difference (B-A)	-5	-7	-2	0
% Difference (Diff/A)	-1%	-1%	-1%	0%

\*Drop-off, short-stay, terminal zones comprised in calculation

# Airport Traffic Analysis

- For the AM Without Expansion scenario, the model indicated that the network operated well and only 3% of the airport terminal traffic could not reach the Airport. In the PM peak hour however, approximately 21% of airport traffic could not reach the terminal due to the congestion encountered on the road network;
- For the With Expansion scenario, the model showed good network performance, where only 7% and 3% of Airport traffic could not reach the airport in the AM and PM peak hour respectively. These percentages were considered acceptable compared to the model size;
- Despite the increase in traffic volumes due to the airport expansion, the percentage of vehicles not reaching the airport in both peak hours decreased or remained low as a result of the proposed mitigations of the 'With Expansion' scenario.

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# Conclusions

- With the proposed mitigation measures, the Vissim model indicates that the highway network is able to accommodate the 2043 background traffic volumes in addition to the traffic generated by London Luton Airport at 32mppa;
- Notably, the inclusion of the proposed improvements at M1 J10 in the Without Development scenario mean that the benefits of the mitigation within the With Development analysis are not fully realised;
- Similarly, the provision of Airport Link Road (CPAR) as part of the With Development only scenarios means that the benefit is not fully realised, as there are no flows associated with New Century Park in the Without Development model;
- In the Without Expansion scenarios, the AM peak hour model did not show significant issues with queuing or delay. However, in the PM peak hour scenario, around 21% of airport traffic was not able to reach the airport due to network congestion. In particular, long queues were demonstrated as occurring along A1081 New Airport Way which blocked back to M1 Junction 10. As such, non-airport traffic would experience long queues and delays in the PM peak hour;
- For the With Expansion scenarios, in the AM peak hour the proposed mitigation measures were able to maintain the overall network performance, since it was already performing without significant issues. However, the PM peak hour where the Without Expansion case showed longer delays, the proposal improved traffic conditions and reduced the congestion.

**Appendix H: Public Transport Strategy - Summary Report**



# London Luton Airport Expansion Development Consent Order

Appendix H: Public Transport Strategy - Summary Report

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27 February 2023

TR020001/APP/7.02 | Issue 1

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Figure 4.1: Distribution for bus/coach services to/from the airport and Stansted Airport

# 1 INTRODUCTION AND BACKGROUND

## 1.1 The purpose of this document

- 1.1.1 This Public Transport Strategy summary report outlines Luton Rising's (a trading name of London Luton Airport Limited), henceforth referred to as the 'Applicant', approach to achieving further growth in the Public Transport (PT) mode share as part of the proposed expansion to London Luton Airport ('the airport'). This document reports on the evolution of the passenger demand data and associated modal share up to and including 2019; the last year unaffected by the Covid-19 pandemic. This report also provides a brief update on post-pandemic travel patterns.
- 1.1.2 The Applicant's 2020 Annual Monitoring Report (AMR) indicated that demand at the airport dropped to 5.5 million passenger per annum (mppa) as a result of the Covid-19 pandemic; this is after having reached 18 mppa in 2019. The impact of Covid-19 is outside of the control of the Applicant or the operator of the airport, but it is assumed that surface access travel characteristics including passenger demand will return to pre-Covid-19 levels in due course. The application for development consent assumes that demand at the airport will return to an estimated 18 mppa by 2024 (see **Need Case [TR020001/APP/7.04]**) with or without the Proposed Development, and would reach 32 mppa by 2043 with the Proposed Development. In order to support this growth level, the Applicant is committed to encouraging growth across sustainable modes of travel.
- 1.1.3 Details of publicly available passenger mode share data for the airport are provided in the **Transport Assessment [TR020001/APP/7.02]**, to which this Public Transport Strategy Summary Report is appended. This includes:
- a. Civil Aviation Authority (CAA) reporting of the split between public and private access modes between 2012 and 2019;
  - b. CAA reporting of the Main Mode of travel where multiple modes were recorded between 2017 and 2019. This was based on a smaller sample size;
  - c. CAA based data reported in the airport's AMR, providing sub-mode data from 2012 to 2020, including the immediate impact of the pandemic.
- 1.1.4 Whilst there are some differences between the figures presented in the CAA reports and the AMR, the overall trend in increased public transport mode share for passengers is consistent up to 2019.
- 1.1.5 The PT mode share analysis has pivoted around the 2016 data reported in the AMR, and at that point in time the PT mode shares were reasonably well aligned across the various published datasets. The 2016 passenger mode share data for the airport is shown in Table 1.1 which for comparison includes the equivalent data for Gatwick Airport and Stansted Airport.

Table 1.1: Selected airports' mode share data (rounded, 2016)

CAA 2016 data	Bus/Coach share	Car/Taxi share	Rail share
Luton Airport	16%	68%	16%
Stansted Airport	23%	49%	28%
Gatwick Airport	6%	56%	37%

- 1.1.6 The AMR indicates that the PT mode share (Bus/Coach and Rail) has increased from 32% in 2016 to 38% in 2019. By comparison, the CAA public and private access modes split indicates an increase from 31.4% to 40.4% for the same period. The CAA Main Mode data for 2017 to 2019, which are based on a smaller sample size, indicated a higher PT mode share of 43.5% in 2019. Conservatively it can be assumed that the overall 2019 PT share at the airport was equal to 38%, the lower value of the range.
- 1.1.7 Among the five London airports the 2019 PT mode share places it on a par with Heathrow Airport (39%) but still behind Gatwick Airport (48%), London City Airport (52%) and Stansted Airport (52%) (Ref 1.1).

## 2 STUDY OBJECTIVES

2.1.1 The objectives of this study are summarised below:

- a. Benchmarking against comparable UK airports: assess the validity of a PT mode share of 40-50% by 2043 through the benchmarking of the PT mode share at comparable UK airports;
- b. Provide an evidence-based narrative as to how the above-mentioned PT mode share growth from 32% (2016) to 45-50% (2043) could be realised as a consequence of planned schemes (Thameslink timetable/network expansion, Luton Direct Air to Rail Transit (Luton DART), Elizabeth line, Corby-London EMR services) and other potential PT mode share drivers including highway congestion, and parking and drop-off prices; and
- c. Estimate Future Staff Mode Share: estimate the likely PT mode share for airport staff.

2.1.2 These objectives are supported by central and local Government policies to increase the use of PT and to reduce the use of cars. In particular:

- a. The Department for Transport (DfT) in its *Decarbonising Transport: Setting the Challenge* (Ref 2.1) in March 2021 “we must make public transport, cycling and walking the natural first choice for all who can take it”. In *Decarbonising Transport – A better, greener Britain* (Ref 2.2), the Government includes a series of commitments including delivering “the National Bus Strategy’s vision of a transformed bus industry and a green bus revolution” and to work with the rail “industry to modernise fares ticketing and retail to encourage a shift to rail” and includes “building extra capacity on our rail network to meet growing passenger and freight demand”.
- b. The adjacent authority Hertfordshire County Council’s *Local Transport Plan* (Ref 2.3) includes Policies 9 and 10 which will promote and support bus and rail services to encourage reduced car use.
- c. Luton Borough Council’s (LBC) *Local Plan’s* (Ref 2.4) policy LL6 relates to the London Luton Airport Strategic Allocation. This includes that proposals “incorporate sustainable transportation and surface access measures that, in particular, minimise use of the private car, maximise the use of sustainable transport modes”.

### 3 BENCHMARKING APPROACH

#### 3.1 Introduction

3.1.1 The purpose of the benchmarking exercise is to provide an indication of the levels of PT mode share that could reasonably be achieved at the airport by comparing demand and transport supply characteristics of similar UK airports.

3.1.2 The benchmarking process can be summarised as follows:

- a. carry out a comparative analysis of other UK airports against the airport in terms of demand and service characteristics. Develop an initial shortlist of comparable airports;
- b. refine the comparative analysis against the shortlisted airport(s) on the basis of known travel and transport trends, including demand composition, destinations served, PT accessibility and service provision. On this basis determine sensible PT mode shares based on the final shortlisted airport(s); and
- c. assess the predicted rail demand vs the forecast capacity along the St Pancras International to Bedford /Corby routes during commuting peak hours (pre-COVID19 situation) as this is the period where demand from non-airport-related passengers is at its highest in a normal pre-COVID19 situation and where it would be more challenging to add capacity into the system.

3.1.3 As a first step to determine which UK airports would be best to provide a comparator for the airport, a number of relevant indicators were collated, shown in Table 3.1. These indicators related to both the demand side (annual passenger volumes, passengers' income, operated air routes, etc.) and surface PT provision (rail and bus/coach service frequencies) at each airport for the base year 2016. For each airport, these indicators were compared against those at the airport and scored in terms of how similar (+ve score) or dissimilar (-ve score) the differences were.

Table 3.1: UK airports, comparative analysis to the airport

Airport comparator scores	2016 Annual Passengers	Air Route type proportions*	Air Passengers Trip Purpose split	2016 PT Mode split	Passengers Mean Income	Rail Connection Availability	No. of bus/coach services	London Influence / relative position	Comparator Score
Airport									
Luton	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Gatwick	--	-	++	-- (h)	--	-	++	+	-3
Heathrow	--	--	--	- (h)	--	-	-	+	-10
London City	--	-	--	-- (h)	--	--	-	+	-11
Stansted	-	++	++	-- (h)	++	-	+	++	+5
Birmingham	+	++	-	+	++	+	+	--	+5
Edinburgh	+	--	--	++	--	-	++	--	-4
Manchester	-	++	++	--	--	++	--	--	-3

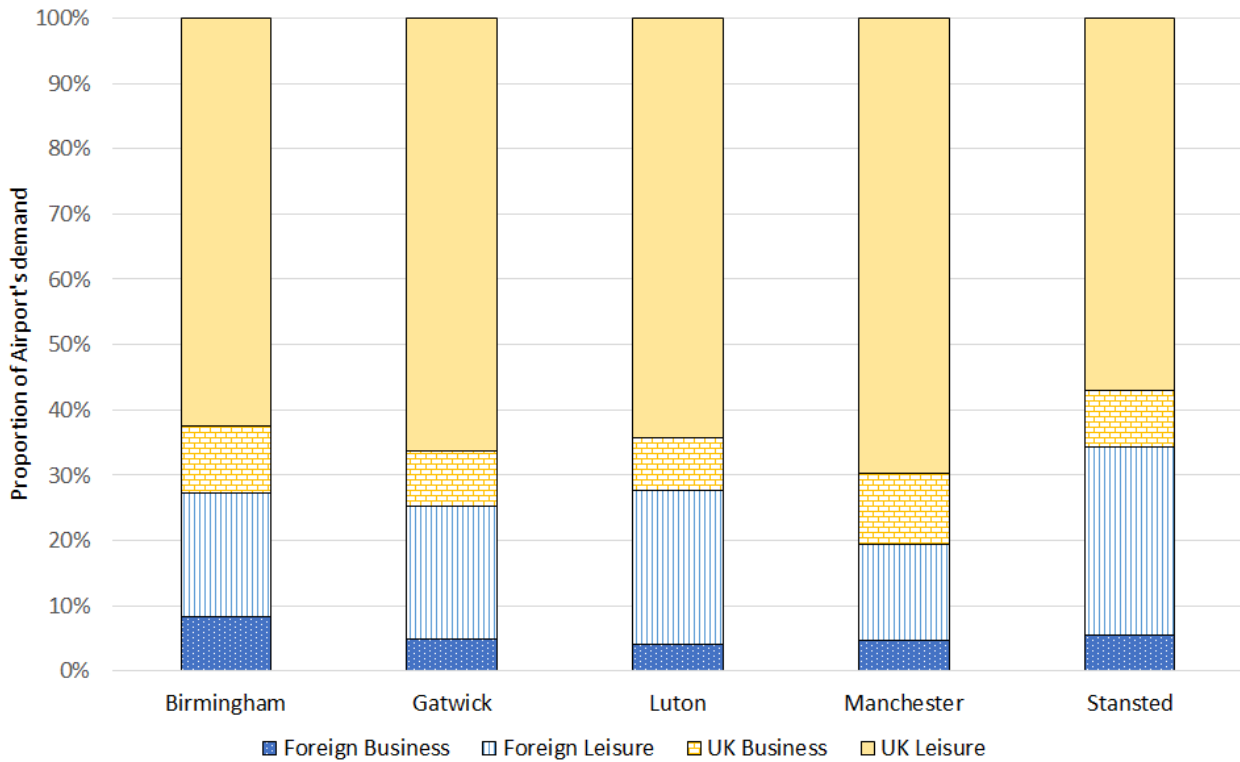
(h) PT mode share higher than at the airport  
 \*air routes available from airport e.g. long haul, short haul

**Key to Scores**  
 + similar / ++very similar / - dissimilar / -- very dissimilar

3.1.4 Through this process, the airports that provided the most suitable benchmarks were considered to be Gatwick, Stansted, Birmingham, Manchester and Edinburgh Airports. Heathrow Airport and London City Airport have been discounted based on their low comparator score.

3.1.5 For the refinement process, specific indicators such as typology of passengers, passengers' demand distribution and the airports' accessibility were used to determine the most appropriate benchmark airports. CAA data from 2016, in Figure 3.1, shows that the percentages of domestic (UK resident passengers) and foreign travellers (non-UK resident passengers), for business and leisure, using the airport were similar to that observed at Stansted Airport, and Stansted Airport was therefore retained for analysis purposes.

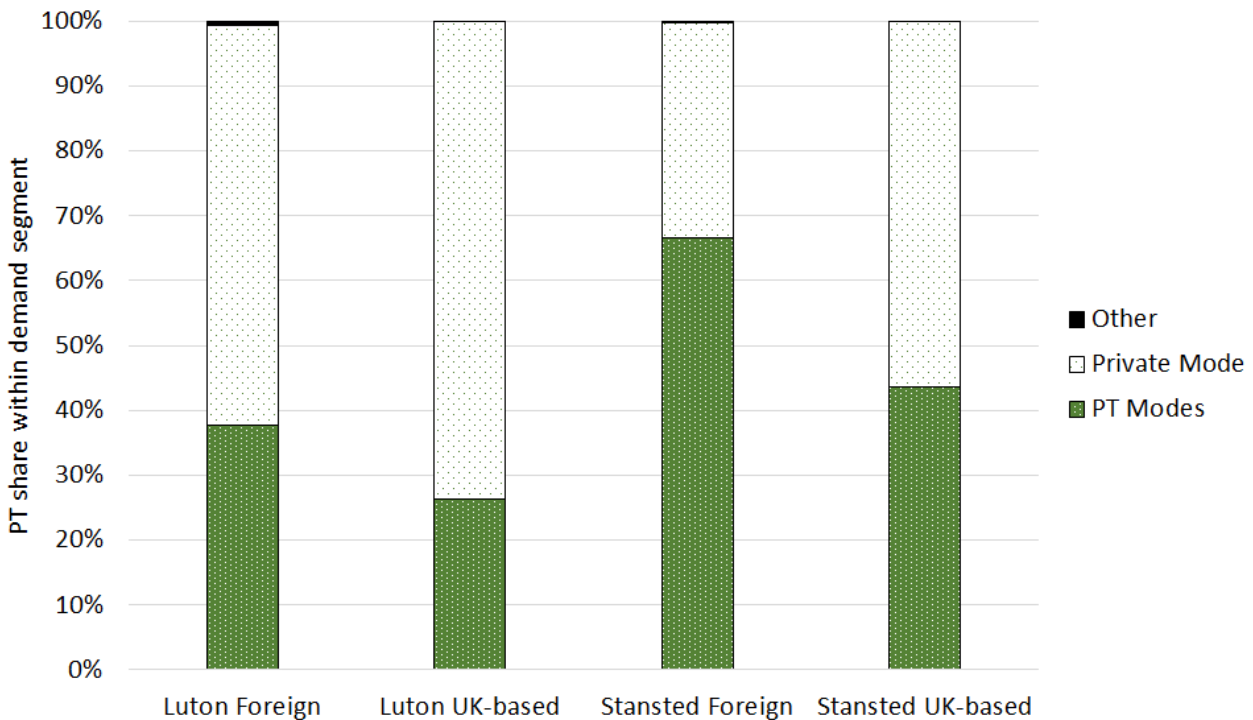
Figure 3.1: Selected UK airports (2016): trip purpose and passengers' place of residence split



3.1.6 Figure 3.2 compares the PT mode share achieved in 2016 at Stansted Airport and London Luton Airport by UK-based and foreign travellers demand segments. As the chart shows Stansted Airport has a higher proportion of non-UK residents. As these travellers are less likely to have a car available and more likely to travel to London then this would tend to push up the overall PT mode share.



Figure 3.2: London Luton Airport and Stansted Airport PT mode share by place of residence of air traveller



### 3.1.7 Of the initial airports' shortlisted the following observations were made:

- a. PT share vs demand growth at the airport is very similar to that of Stansted Airport;
- b. Manchester and Stansted Airports have similar passenger numbers; however, Stansted Airport has a more compact catchment area including Greater London and Cambridgeshire, with better public transport connections. Stansted Airport's catchment area and transport connections are significantly more aligned to the catchment area of the airport. Manchester Airport serves more UK-based leisure travellers. For these reasons, Manchester Airport was removed from the initial shortlist;
- c. Birmingham Airport has a wider catchment area not influenced by Greater London and a PT mode share lower than the airport's. For these reasons it was also removed from further analysis;
- d. Gatwick Airport is not comparable to the airport and Stansted Airport in terms of flight routes as it serves more long-haul destinations. Gatwick Airport was discounted due to the wider catchment area, the higher proportion of wealthier UK-based travellers, low emphasis on bus/coach travel and differences in rail network's reach and service frequencies; and
- e. in 2016, both Stansted and Gatwick Airports were found to have a higher demand proportion to/from Greater London, where demand is more reliant on PT, compared to the airport. By 2019, this share at the airport

increased from 32% to 38%, bringing it more in line with these comparators.

- 3.1.8 In conclusion, Stansted Airport was identified as the main comparator to benchmark against. The exercise was not seeking to identify an airport with identical or similar transport supply characteristics but was considered to be similar across a range of factors including passenger typology and air services.

## 4 EVOLUTION OF THE TRANSPORT OFFER AT THE AIRPORT

### 4.1 Rail Services

- 4.1.1 In March 2020, at the beginning of the Covid-19 pandemic, the UK rail franchises were replaced by Emergency Measure Agreements (EMAs) for a period of six months, and since September 2020, by Emergency Recovery Measures Agreements (ERMAs). These were expected to run for a period of 18 months (up to March 2022) and then replaced by National Rail Contracts (NRCs). As planned, on 25 March 2022 the Go-Ahead Group announced that the DfT had awarded a National Rail Contract (NRC) to Govia Thameslink Railway (GTR) to continue operating the Thameslink, Southern and Great Northern rail services. The new contract commenced on 1 April 2022 and will run until at least 1 April 2025, with up to a further three years at the Secretary of State's discretion (Ref 4.1). The NRC, like the ERMA contracts, is a management contract whereby GTR will earn a fixed annual management fee to deliver the contract and an additional performance fee subject to the achievement of performance targets set by the DfT. These agreements have been designed to bring the rail franchising system of the past 20 years to an end.
- 4.1.2 This process was intended to facilitate a transition to the new Rail Industry Structure outlined in the *Great British Railways – The William-Shapps Plan for Rail' White Paper* (Ref 4.2), published in May 2021. As part of this new rail industry structure:
- a. revenues and revenue risks will rest with Great British Railways (GBR) whilst operating companies will take the cost risks;
  - b. new open access services will also be explored 'where spare capacity exists';
  - c. attention will be paid to the modernisation and simplification of fares, including flexible season tickets;
  - d. attention will be paid to the integration of the rail system with different transport methods, including through ticketing options; and
  - e. GBR will consider specific passenger requirements of each region.
- 4.1.3 On balance, there is no reason to believe that the White Paper would introduce changes detrimental to the use of rail to/from the airport. It is possible that commuter demand may not reach pre-Covid-19 growth levels due to changes in work patterns, hence the train services may provide a better fit for the requirements of airport passengers.
- 4.1.4 The airport is currently accessed by rail via Luton Airport Parkway station, which is served by two rail operators, namely GTR and East Midlands Railway (EMR). A shuttle bus service is currently operating between Luton Airport Parkway and the airport, but it will soon be replaced by the new light-rail link known as Luton DART. An announcement of an official opening date will be made in early 2023.
- 4.1.5 The disruption experienced by passengers on the Thameslink network following the timetable changes of May 2018 resulted in the postponement of the

introduction of the Thameslink 20/20 timetable. The Thameslink 20/20 timetable was developed to provide 16 trains per hour per direction (tphpd) during peak times between St Albans and London St Pancras International and 12 trains per hour (tph) in the peak direction at Luton Airport Parkway. This timetable was planned for implementation from December 2018. Network Rail eventually opted for a phased introduction during 2019/20 which was itself disrupted in March 2020 by the COVID-19 pandemic, with the greatest service reductions occurring at peak times in the off-peak direction of travel to/from London.

- 4.1.6 Nonetheless, the number of 2019 daily GTR services to/from Luton Airport Parkway was higher than that observed in 2017 and in line with the pre-May 2018 timetable's disruption. Also, since May 2021, EMR has introduced the half-hourly Corby-London Connect service including new services in the early morning (06:00) and at night-time (23:00) hours. Currently the service reduces to an hourly frequency in the later part of the evening.
- 4.1.7 Relatively recent timetable analysis (September 2021) indicated that the average 2018/19 door-to-door rail journey times between London St Pancras International and the airport have remained broadly unchanged and therefore comparable with those of Stansted Airport, as shown in Table 4.1. As a consequence, total perceived journey times reflecting people's like/dislike of individual elements of the journey (e.g. walk time, wait-time, interchange between PT modes) remained slightly worse at the airport for the top end of the range (people with heavy luggage, families with young children, people with mobility impairments, etc.).
- 4.1.8 The benchmarking analysis found that rail prices at the airport and Stansted Airport were broadly comparable, except for larger groups (3+ people) which were found to be more expensive at the airport.

Table 4.1: London Luton Airport and Stansted Airport existing rail travel times to/from Central London, compared (2018/19)

London to/from Airport Travel Time	Airport	Wait Time (min) = ½ headway	Travel Time (min)	Actual Interchange Time (min)	Shuttle bus wait time (min) = ½ headway	Shuttle Travel Time (min)	Total Travel Time (min)	Total Perceived Travel Time (min)**
AM Peak (06.00-09.59)	From Luton*	4.3	38	2	5	8	57.3	65-79
	From Stansted	7.5	52	0	0	0	59.5	63-70
PM Peak (16.00-19.59)	To Luton*	4.1	38	2	5	8	57.1	65-79
	To Stansted	7.5	52	0	0	0	59.5	63-71

\*Note: excluding EMT services

London to/from Airport Travel Time	Airport	Wait Time (min) = 1/2 headway	Travel Time (min)	Actual Interchange Time (min)	Shuttle bus wait time (min) = 1/2 headway	Shuttle Travel Time (min)	Total Travel Time (min)	Total Perceived Travel Time (min)**
<p>**Note: typically, passengers dislike waiting and interchanging. WebTAG: “The various components of generalised cost of travel are weighted in order to reflect the ‘perceived time spent’ at each step of the public transport journey. IHT’s guidelines on Developing Urban Transport Strategies (May 1996) and ITS and John Bates’s review of value of time savings in the UK in 2003 suggest:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> value of walk time = 1.5 to 2.0 times in-vehicle time;</li> <li><input type="checkbox"/> value of wait time = 1.5 to 2.5 times in-vehicle time; and</li> <li><input type="checkbox"/> interchange penalty = 5 to 10 minutes of in-vehicle time per interchange”.</li> </ul>								

4.1.9 On balance, the observed similarity in PT access times (including rail) would suggest that the nature of the interchange facility at the airport (transfer bus/rail) may have a greater significance in terms of its perception rather than actual (and objective) time advantage considerations.

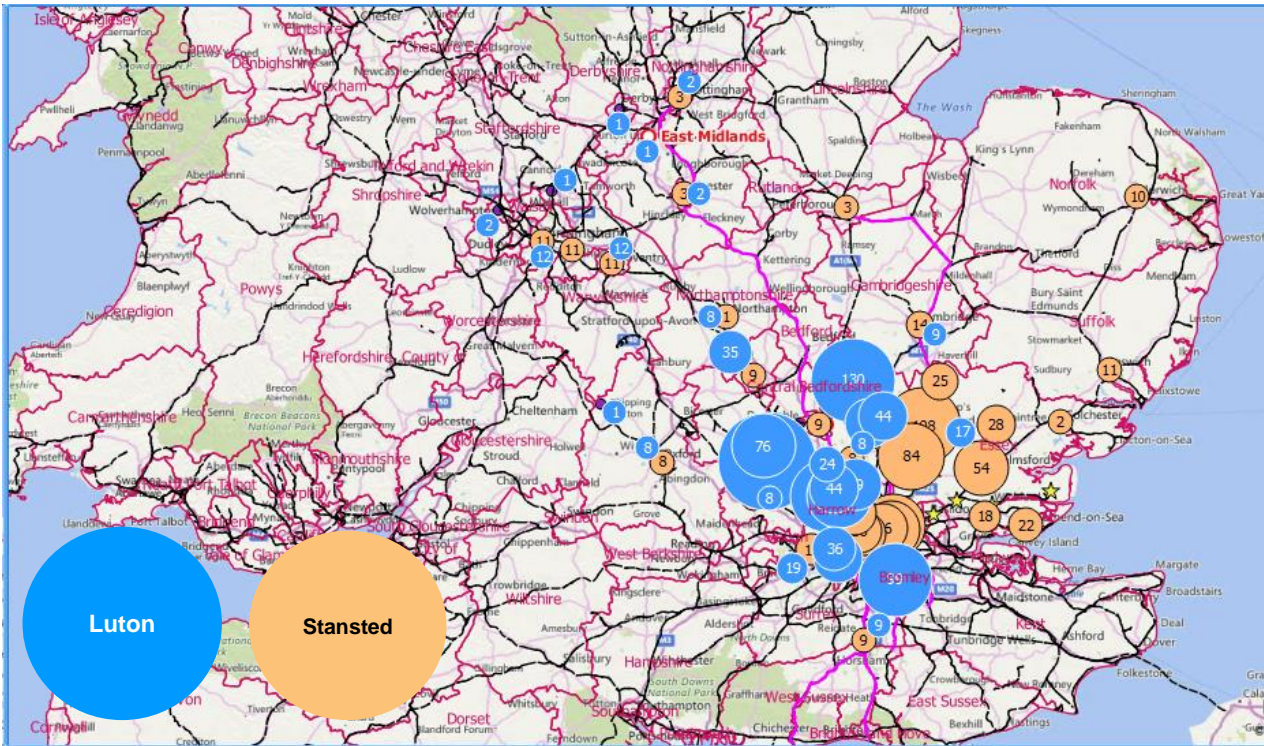
## 4.2 Bus and coach services

4.2.1 As of 2019, the airport was served by approximately 16 bus/coach routes in addition to the shuttle bus to Luton Airport Parkway. Frequencies and operating times varied considerably between services; however, the Luton Airport Parkway shuttle bus offered connections throughout the day, approximately every ten minutes with a total journey time of eight minutes.

4.2.2 With the exception of the shuttle bus service, the airport was served by approximately 300 buses/coaches per day per direction; 131 for London and 168 for the rest of the UK. This was lower than the provision at Stansted Airport which had a total of 454 daily one-way bus/coach services of which 233 travelled to and from London and 221 served the rest of the UK. This difference should be considered in the context of the provision of operational bus/coach bays, with the airport’s 18 compared to Stansted Airport’s 40.

4.2.3 Figure 4.1 shows the distribution and daily frequency of bus/coach services for both the airport and Stansted Airport for 2018/19. The size of the circles is proportional to the number of daily buses/coaches to and from a specific origin/destination. Services tend to overlap along the London-East Midlands-Manchester corridor. However, bus/coach services to and from Stansted Airport have a wider reach, especially in regard to East Anglia and East London. This suggests that bus/coach routes to/from the airport could potentially be expanded eastwards and westwards.

Figure 4.1: Distribution for bus/coach services to/from the airport and Stansted Airport



Key: London Luton Airport denoted by blue circles; Stansted Airport denoted by orange circles.

4.2.4 Strategies adopted at Stansted Airport could be mirrored at the airport, such as strengthening bus/coach services within the London market as well as along the east west corridor, integrating ticketing and ticket purchasing facilities, improved vehicles that integrate modern technologies, and real time timetable information at bus stops.

4.2.5 The 2016 bus/coach mode share differential between Stansted Airport and the airport was approximately 7%. This ‘differential share’ is in part due to the respective airport catchment areas and by adjusting for this the differential share would be reduced to 4%. This 4% difference could be gained through bus/coach network and service development strategies as outlined above.

### 4.3 Car parking provision

4.3.1 The traditional short/medium and long stay car parks at the airport provided a total of 10,550 spaces for passengers in 2019 when the airport served 18 mppa (586 spaces per million terminating passengers per annum). This capacity would increase to 16,000 spaces with an airport throughput of 32 mppa (or 500 spaces per million air passengers). Stansted Airport’s provision for traditional short/medium and long-term spaces in 2017 was a total of 26,800 or 1,107 spaces per million terminating passengers.

4.3.2 With a reduction of approximately 1,500 spaces since 2018/19 due to the new Luton DART scheme, recent parking levels at the airport remain considerably below those observed at Stansted Airport.

- 4.3.3 The number of additional off-site spaces at Stansted Airport (2019) would equate to approximately 4,300 units whilst at least 6,800 spaces are estimated around the airport. This means that the off-site car parking net contribution at the airport would only be equivalent to +2,500 spaces, i.e. not enough to offset the observed difference in on-site parking capacity.
- 4.3.4 Particularly worthy of note is the 2018 parking price differential for medium stay (up to one week) between the airport and Stansted Airport; the former being considerably cheaper and still comparable with rail and taxi prices. Passengers travelling between two and seven days were respectively estimated to account for 68% of the demand at London Luton Airport and 69% at Stansted Airport.

## 5 FUTURE RAIL OFFER

### 5.1 Rail

5.1.1 The data in the tables below show that the level of service before the start of the COVID-19 pandemic (March 2019) was approaching that planned for and set out in the Thameslink 20/20 timetable from GTR's Timetable Consultation Phase 2 in 2018. Luton Airport Parkway station was receiving 22 trains between 07.00 and 10.00, two fewer than the service frequency planned in the consultation. Between 16.00 and 19.00, the service frequency was level with that planned in the consultation.

Table 5.1: GTR's Thameslink 20/20 vs March 2019 timetable service frequency by station (Southbound Bedford to London, AM Peak Period)

<b>Southbound service pattern Arriving in St Pancras between 07.00 and 10.00 hours</b>	<b>Thameslink 20/20 total trains in 3 hr period</b>	<b>March 2019 timetable total trains in 3 hr period</b>
Bedford Midland	24	21
Flitwick	18	16
Harlington	12	12
Leagrave	18	12
Luton	36	32
<b>Luton Airport Parkway</b>	<b>24</b>	<b>22</b>
Harpenden	36	26
St. Albans City	48	44
Radlett	24	-
Elstree & Borehamwood	24	22
Mill Hill Broadway	24	-
Hendon	12	-
Cricklewood	12	-
West Hampstead Thameslink	24	23
Kentish Town	12	12

Table 5.2: GTR's Thameslink 20/20 vs March 2019 timetable service frequency by station (Northbound London to Bedford, PM Peak Period)

<b>Northbound service pattern Leaving St Pancras Intl between 16.00 and 19.00 hours</b>	<b>Thameslink 20/20 total trains in 3 hr period</b>	<b>March 2019 timetable total trains in 3 hr period</b>
Kentish Town	12	14
West Hampstead Thameslink	24	25



<b>Northbound service pattern Leaving St Pancras Intl between 16.00 and 19.00 hours</b>	<b>Thameslink 20/20 total trains in 3 hr period</b>	<b>March 2019 timetable total trains in 3 hr period</b>
Cricklewood	12	-
Hendon	12	-
Mill Hill Broadway	24	-
Elstree & Borehamwood	24	24
Radlett	24	-
St. Albans City	48	45
Harpenden	36	28
<b>Luton Airport Parkway</b>	<b>24</b>	<b>24</b>
Luton	36	33
Leagrave	18	12
Harlington	12	12
Flitwick	18	16
Bedford Midland	24	21

- 5.1.2 Despite the changes to commuting/working patterns as a result of the pandemic, it is expected that services will return to normal, especially in the medium to long term. Discussions with industry stakeholders has highlighted that there are currently no long-term plans to alter the frequency of rail services to/from London as a consequence of changing commuting patterns.
- 5.1.3 Since May 2021, EMR has introduced new regular half hourly train services between Corby and London between the hours of 05:00/06:00 (first service) and 01:00 (last service). These services stop at Luton Airport Parkway and provide interchange opportunities at Kettering with the intercity EMR services.
- 5.1.4 Schemes expected to attract more rail mode share to the airport, include:
- higher train frequencies on the GTR network at all stations, resulting in a further capacity relief effect on the line;
  - use of transferrable train ticket to/from 'London terminals' giving passengers the option to choose freely between GTR and EMR services;
  - the opening of the Luton DART (date to be announced in 2023) and its significance in reducing perceived travel times. This is an important consideration as a new integrated Luton DART terminal, supported by integrated ticketing option and more predictable journey times, should result in a transfer solution which is likely to be perceived as 'seamless' and more akin to transfer services seen throughout many other airports; and
  - the Elizabeth line having a positive impact on the airport's PT share due to the noticeable reduction in journey times into Central London, and the ability to interchange to GTR services at Farringdon.

5.1.5 Finally, the East West Rail scheme has been assumed not to make a significant contribution to the PT share at the airport. Should a frequency of 4tph per direction (instead of 2tph per direction) be implemented this may prove to be conservative.

## 5.2 Bus/coach

5.2.1 As part of the application for development consent, the number of operating bus/coach bays will approximately triple compared to the current provision of 18 bays. This would bring the capacity in line with that of Stansted Airport, allowing for the expansion of bus service frequencies and routes which would be the likely response from bus/coach operators to an increase in passenger levels.

5.2.2 The strategy adopted at Stansted Airport has been to work in close cooperation with the Local Authorities, bus/coach service providers and airlines to promote the introduction of:

- a. increased frequencies on historic routes;
- b. expansion of bus and coach routes (including terminals within London);
- c. integrated ticketing and ticket purchasing facilities;
- d. better vehicles (e.g. Wi-Fi provision);
- e. promoting route planning facilities for smart technology; and
- f. real time timetable information at bus stops.

5.2.3 Section 106 agreements have been at the core of sustainable development at Stansted Airport.

## 6 FORECASTING METHODOLOGY AND RESULTS

### 6.1 Introduction to Methodology

- 6.1.1 A benchmarking approach has been used to develop a forecasting methodology. The benchmarking process has led to the use of Stansted Airport as the most appropriate comparator. Stansted Airport's 2016 and 2017 PT mode share was 51%.
- 6.1.1 There are three main steps which have been taken to define the differences between Stansted Airport and the airport and which include elements which lead to increases in PT mode share, as explained below.
- 6.1.2 The first step in the analysis was to verify the need for an adjustment of the PT mode share at Stansted Airport, as this is based on the different typology (i.e. breakdown between UK and foreign travellers and between leisure and business) and distribution of these passengers in the UK. As Stansted Airport has higher proportions of foreign and London-based travellers, there is the greater propensity to use PT. The analysis of the typology and passenger distribution, based on 2016 data, suggested the need for an adjustment of the PT mode share of -7.5% points. The passenger typology (i.e. the split between Foreign/UK travel and leisure/business) accounts for 1.4% and the distribution of these passengers accounts for the remaining 6.1%.
- 6.1.3 The second step in the analysis was to identify the key differences in the provision of the supply of rail and bus services. In this regard an uplift in the PT mode share for the airport is considered realistic due to the implementation of: a) the Luton DART (opening date to be announced in 2023) and the new Thameslink 20/20 timetable (including new class 700 services), which has in part already occurred between 2016 and 2019, and b) a bus/coach growth strategy. In 2016, these two elements represented the main difference in surface access terms between the airport and Stansted Airport.
- 6.1.4 The third step was to consider other factors which would then contribute to a further growth in the airport's PT mode share in a nominal future year of 2043. These other factors include:
- a. the opening of the Elizabeth line, which increases accessibility to Thameslink services and thereby extending the London catchment area. This was estimated through a modelling exercise which derived the changes in travel times and costs reflecting the improvements in travel with the Elizabeth line;
  - b. increasing levels of road congestion. The effect of which was estimated through a modelling exercise which derived the changes in travel times and costs as a result of increasing congestion on the road network over time;
  - c. the approach to car park pricing; and
  - d. the new EMR services to Corby from St Pancras.

- 6.1.5 The potential future PT mode share analysis builds on the recorded increase in PT mode share between 2016 and 2019, which is predominately as a result of the step change in rail services. This analysis comprised a review of the existing and planned PT provision, and a combination of modelling and professional judgement to estimate the potential contribution from various components affecting mode share growth. Results from the analysis described above are summarised in Table 6.1, showing the potential contribution from each of the components.

Table 6.1: Luton Rising – Potential future PT mode share and their growth contributors

Mode		Component	2027	2039	2043
Rail	Do Minimum	Baseline	16%	16%	16%
		Elizabeth line	1.0%	1.1%	1.1%
		Road Congestion	0.0%	0.2%	1.1%
		Luton DART & Thameslink 20/20	5.6%	6.3%	6.3%
		EMR Corby-London service	2.5%	2.7%	2.7%
		<b>Sub-Total</b>	<b>25.1%</b>	<b>26.3%</b>	<b>27.2%</b>
	Do Something	Road Parking Costs & Taxi Fares	1.0%	1.1%	1.1%
		Bus / Coach Strategy	0.0%	0.0%	0.0%
		<b>Total</b>	<b>26.1%</b>	<b>27.3%</b>	<b>28.2%</b>
	Bus & Coach	Do Minimum	Baseline	16%	16%
Elizabeth line			0.0%	0.0%	0.0%
Road Congestion			0.0%	0.0%	0.0%
Luton DART & Thameslink 20/20			0.0%	0.0%	0.0%
EMR Corby-London service			0.0%	0.0%	0.0%
<b>Sub-Total</b>			<b>16%</b>	<b>16%</b>	<b>16%</b>
Do Something		Road Parking Costs & Taxi Fares	0.4%	0.4%	0.4%
		Bus / Coach Strategy	1.5%	2.0%	4.5%
		<b>Total</b>	<b>17.9%</b>	<b>18.4%</b>	<b>20.9%</b>
Public Transport	Do Minimum	Baseline	32%	32%	32%
		Elizabeth line	1.0%	1.1%	1.1%
		Road Congestion	0.0%	0.2%	1.1%
		Luton DART & Thameslink 20/20	5.6%	6.3%	6.3%
		EMR Corby-London service	2.5%	2.7%	2.7%
		<b>Sub-Total</b>	<b>41.1%</b>	<b>42.3%</b>	<b>43.2%</b>
	Do Something	Road Parking Costs & Taxi Fares	1.4%	1.4%	1.4%
		Bus / Coach Strategy	1.5%	2.0%	4.5%
		<b>Total</b>	<b>44.0%</b>	<b>45.7%</b>	<b>49.1%</b>

6.1.6 In summary, the analysis demonstrated that there are many individually 'small' contributors to PT share growth ranked from highest to lowest impact:

- a. Luton DART & Thameslink 20/20;
- b. Bus/Coach Strategy;
- c. EMR Connect Services;
- d. Elizabeth line;
- e. parking costs/differentials; and
- f. road congestion.

6.1.7 The assessment overall shows that PT mode share in the range of 43% to 50% can realistically be achieved.

## 7 RAIL CAPACITY ASSESSMENT

- 7.1.1 Although the analysis has demonstrated that there is potential for the airport's PT mode share to reach 49% by 2043 (32 mppa); both the traffic impact assessment and the rail capacity assessment have been based on a 45% PT mode share (27% rail + 18% bus/coach) in 2039/2043. This approach has been adopted specifically for modelling purposes and to ensure that the traffic related impacts on highway capacity are robustly tested.
- 7.1.2 The Applicant's rail capacity analysis has been based on the use of train loading data collected by GTR in 2018, in combination with the airport's passenger forecasts. The analysis assesses the time periods reflecting the morning and evening peak periods on the rail network. The analysis has estimated that with an average annual growth rate of approximately 3% per annum in rail passengers' demand along the entire line (pre-COVID-19 growth scenario based on 1999-2018 trends), the airport-related rail passenger demand (staff excluded) would represent 8-17% of the overall rail demand on board of the train services calling at Luton Airport Parkway by 2043, refer to Table 7.1. The analysis below, see Table 7.2, shows that these additional airport related passengers can be accommodated on trains serving Luton Airport Parkway station. The analysis has been undertaken for nominal future years 2027, 2039 and 2043.

Table 7.1: Air passengers as % of rail passengers northbound (N/B) / southbound (S/B) to / from London

Airport Annual Demand	Arriving Air Passengers*	PT Mode share	Rail Mode Share	Air Passengers travelling S/B	Arriving Air Passengers by Rail (S/B)**	LAP Services Overall Rail Demand (S/B)**	Proportion of S/B rail passengers that are also air passengers
18 mppa	3,480	38%	21%	80%	577	4,298	13%
21.5 mppa (2027)	3,712	40%	23%	80%	683	5,847	12%
27 mppa (2039)	5,396	45%	27%	80%	1,157	7,956	15%
32 mppa (2043)	7,261	45%	27%	80%	1,557	8,998	17%
<b>Annual growth 2019-2043</b>	<b>3.1%</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>4.2%</b>	<b>3.1%</b>	<b>n/a</b>
* (at Luton Airport Parkway station or on the airport's road network between 06.00-09.30)							
** arriving at London St Pancras between 07.00-10.00							

Airport Annual Demand	Departing Air Passengers +	PT Mode share	Rail Mode Share	Air Passengers travelling N/B	Departing Air Passengers by Rail (N/B) ++	London St Pancras (LAP Services) Overall Rail Demand (N/B departing between 16.00-19.00	Proportion of N/B rail passengers that are also air passengers
18 mppa	4,314	38%	21%	80%	715	9,109	8%
21.5 mppa (2027)	5,096	40%	23%	80%	938	12,393	8%
27 mppa (2039)	5,917	45%	27%	80%	1,269	16,862	8%
32 mppa (2043)	7,068	45%	27%	80%	1,515	19,072	8%
<b>Annual growth 2019-2043</b>	<b>2.1%</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>3.2%</b>	<b>3.1%</b>	<b>n/a</b>

+ (at LAP station or on the airport's road network between 16.30-19.30)  
 ++ departing from St Pancras between 16.00-19.00

- 7.1.3 Analysis of the seating capacity on GTR and EMR services under a 2043 'airport expansion scenario', see Table 7.2, shows that southbound services in the morning peak would have available seating capacity when trains call at Luton Airport Parkway.
- 7.1.4 In a northbound direction (during the evening peak period 16.00-19.00), the demand would outstrip the available seating capacity at London St Pancras. However, the overall capacity (i.e. including standing) would be sufficient to meet the forecast demand.
- 7.1.5 The EMR London-Corby half hourly services have been assumed to provide an element of extra spare capacity (over and above GTR) equivalent to one full eight car Class 360 train per direction or 556 seats + 112 standing places.

Table 7.2: Peak period train demand vs capacity including 50% of EMR Connect capacity

<b>Luton Airport Parkway 2043</b>						
<b>Thameslink services</b>	<b>S/B Train (time of arrival at St Pancras)</b>	<b>Trains Demand (pax)</b>	<b>Standard Seat Capacity (+50% EMR)</b>	<b>Overall Train Capacity (+50% EMR)</b>	<b>Demand as % of standard seat capacity</b>	<b>Demand % of total capacity</b>
Dec 2018 May 2019 Timetable	07.00-07.59	2,267	4,032	10,632	56%	21%
	08.00-08.59	4,239	5,932	15,964	71%	27%
	09.00-10.00	2,492	5,039	13,377	49%	19%
	07.00-10.00	8,998	15,003	39,973	60%	23%
<b>St Pancras (All Trains) 2043</b>						
<b>Thameslink services</b>	<b>N/B Train (time of dep. from St Pancras)</b>	<b>Trains Demand (pax)</b>	<b>Standard Seat Capacity (+50% EMR Connect)</b>	<b>Overall Train Capacity (+50% EMR Connect)</b>	<b>Demand as % of standard seat capacity</b>	<b>Demand % of total capacity</b>
Dec 2018 May 2019 Timetable	16.00-16.59	8,889	7,564	20,742	118%	43%
	17.00-17.59	16,211	8,737	24,054	186%	67%
	18.00-19.00	13,590	8,364	22,950	162%	59%
	16.00-19.00	38,690	24,665	67,746	157%	57%
<b>St Pancras (Only Trains Calling at Luton Airport Parkway) 2043</b>						
<b>Thameslink services</b>	<b>N/B Train (time of dep. from St Pancras)</b>	<b>Trains Demand (pax)</b>	<b>Standard Seat Capacity (+50% EMR Connect)</b>	<b>Overall Train Capacity (+50% EMR Connect)</b>	<b>Demand as % of standard seat capacity</b>	<b>Demand % of total capacity</b>
Dec 2018 May 2019 Timetable	16.00-16.59	5,835	5,087	13,639	115%	43%
	17.00-17.59	7,559	5,761	15,522	131%	49%
	18.00-19.00	5,678	5,241	14,037	108%	40%
	16.00-19.00	19,072	16,088	43,198	119%	44%



- 7.1.6 shows that in the AM peak there are available seats to accommodate passengers at Luton Airport Parkway station. In the PM peak seats are forecast to be occupied but standing capacity would be available. Seats would become available as passengers alighted at intermediate stations between London St Pancras and Luton Airport Parkway.
- 7.1.7 As a result of Covid-19, passenger levels since April 2020 have been significantly lower across the national rail network. ORR data collected between April 2020 and March 2021 showed that passenger levels fell to 23% of the previous year. This fall was also observed at stations between Bedford and London (excluding London stations).
- 7.1.8 For London, demand at stations including St Pancras International, Farringdon and City Thameslink fell as low as 16% of pre-COVID-19 levels, whilst national rail demand fell on average to 23% and 58% in 2020-2021 and 2021-2022 periods respectively. This can largely be attributed to a shift in service sector working patterns, where many were encouraged or required to work from home. As of June 2022, rail passenger levels across GB were reported to be around 80% of pre-COVID-19 levels (Ref 7.1).
- 7.1.9 Recent passenger levels and rail demand are slowly recovering. This is evident through Off Peak and Advance ticket sales being at or exceeding pre-COVID-19 levels. However, season ticket sales remain at only a third of pre-COVID-19 levels, and therefore reflect a change in demand whereby regular five-day commuting patterns are greatly reduced. This is resulting from a combination of home working or hybrid (office/home) working set-ups that have become widely accepted in a COVID-19 context. The DfT Rail Factsheet for 2021 (Ref 7.2) shows that travel is more evenly spread throughout the day in 2020-21 than it was in the previous year, with AM peak travel in particular being at a lower level. This observed fall in rail demand for regular commuters represents a significant rail capacity release for passengers travelling to and from the airport. It is likely that this trend represents a new normal for the short term, whilst it remains to be seen whether it will continue in the longer term. In the situation where travel is more evenly distributed over the day the peak hour available capacities are likely to increase for passengers travelling to/ from Luton Airport Parkway Station.

## 8 AIRPORT STAFF MODE SHARE FORECASTS

- 8.1.1 The Operator's Annual Monitoring Reports indicate that the PT mode share of employees at the airport increased from 16% in 2016 to 24% in 2018. The growth was primarily driven by bus demand as the demand share increased from 9% to 16%. Rail share increased from 7% to 8%. This is a significant increase and whilst it may vary over time, it does demonstrate a positive trend in PT usage. This increase in PT use was subsequently adversely affected due to Covid-19 impacting on travel behaviour. It is expected that levels of PT use will return to pre COVID-19 levels in due course.
- 8.1.2 Information from Stansted Airport suggests that a PT share of 30-40%, sourced from *Stansted 35+* planning application, is achievable through a number of initiatives. These initiatives for the airport include a staff travel plan which promotes and informs employees of transport initiatives containing staff travel discounts, public transport fares, route and timetables, cycle routes and car share schemes.
- 8.1.3 The **Framework Travel Plan (FTP) [TR020001/APP/7.13]** submitted as part of the application for development consent contains a longlist of interventions and measures, to encourage staff to travel to the airport sustainably. The longlist, or toolbox, will be deployed flexibly to respond to changing circumstances and the results of ongoing staff monitoring and stakeholder feedback, ensure Targets are achieved and have the greatest impact on staff travel behaviour and mode choice.

## GLOSSARY AND ABBREVIATIONS

<b>Term</b>	<b>Definition</b>
AECF	Airport Employers Community Forum
AMR	Annual Monitoring Report
ASAS	Airport Surface Access Strategy
ATF	Airport Transport Forum
CAA	Civil Aviation Authority
CBC	Central Bedfordshire Council
CoCP	Code of Construction Practice
DCO	Development Consent Order
DfT	Department for Transport
EIA	Environmental Impact Assessment
EMR	East Midlands Railway
ES	Environmental Statement
ESG	Environmental Scrutiny Group
EWR	East West Rail
FTP	Framework Travel Plan
GCG	Green Controlled Growth
GHG	Greenhouse Gases
LBC	Luton Borough Council
LLACC	London Luton Airport Consultative Committee
LLAOL	London Luton Airport Operations Limited
Luton DART	Luton Direct Air to Rail Transit
mppa	million passengers per annum
N/B	northbound
NH	National Highways (formerly Highways England)
NHDC	North Herts District Council
NPSNN	National Policy Statement for National Networks
NSIP	Nationally Significant Infrastructure Project
OTRIMMA	Outline Transport Related Impacts Monitoring and Mitigation Approach
PHV	Private Hire Vehicle
PT	Public Transport
SAS	Surface Access Strategy
S/B	Southbound
TP	Travel Plan
TPC	Travel Plan Coordinator
tph	trains per hour
tphpd	trains per hour per direction

## REFERENCES

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Ref 1.1 Civil Aviation Authority (2019) CAA Passenger Survey Report 2019 Table 6a. Available on the CAA website, accessed on 1 February 2023. ([https://www.caa.co.uk/media/2iybxqgw/t06\\_2019.pdf](https://www.caa.co.uk/media/2iybxqgw/t06_2019.pdf))

Ref 2.1 Department for Transport (2020) Decarbonising Transport: Setting the Challenge. London, United Kingdom

Ref 2.2 Department for Transport (2021) *Decarbonising Transport A Better, Greener Britain*. London, United Kingdom

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Ref 2.4 Luton Borough Council (2017) *Luton Local Plan 2011–2031*. London, United Kingdom

Ref 4.1 Go-Ahead Group PLC (2022) National Rail Contract Award Announcement. Available on the investigate website, accessed on 1 February 2023. (<https://investigate.co.uk/go-ahead-group-plc/rns/national-rail-contract-awarded-for-gtr/202203250700069854F/>)

Ref 4.2 Department for Transport (2021) *Great British Railways – The William-Shapps Plan for Rail' White Paper*. London, United Kingdom

Ref 7.1 Department for Transport (2020) *Daily domestic transport use by mode*. Available on the DfT website, accessed on 1 February 2023. (<https://www.gov.uk/government/statistics/transport-use-during-the-coronavirus-covid-19-pandemic>)

Ref 7.2 Department for London (2022) *Rail Factsheet 2021*. London, United Kingdom

**Appendix I:**

**Outline Transport Related Impacts Monitoring and Mitigation Approach**



# London Luton Airport Expansion Development Consent Order

Outline Transport Related Impacts Monitoring and  
Mitigation Approach

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27 February 2023

TR020001/APP/7.02 | Issue 1

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## Figures

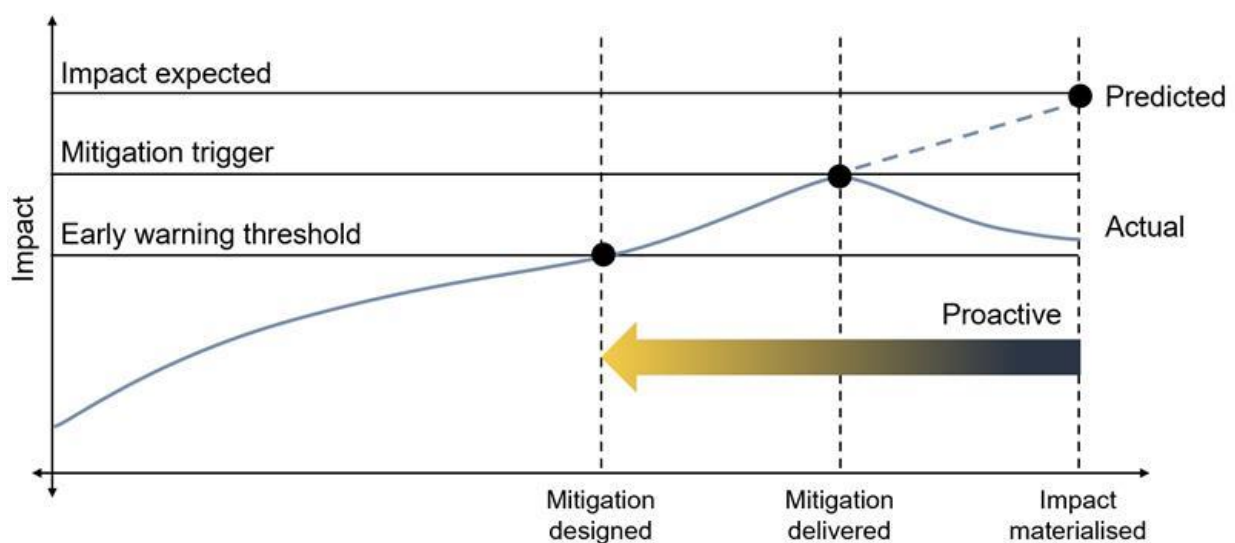
Figure 1.1 OTRIMMA Approach

Figure 2.1: TA monitoring process

# 1 INTRODUCTION

- 1.1.1 This document sets out the proposed approach to addressing the uncertainty, in terms of impact upon the highway network, brought about by the long-term nature of the proposed expansion of London Luton Airport (the airport), that is subject to an application for development consent (the Proposed Development). This Outline Transport Related Impacts Monitoring and Mitigation Approach (Outline TRIMMA) document sets out the indicative proposals to be followed and considered when developing the “Full TRIMMA” to be produced and approved post-consent of the Proposed Development. This is secured by a requirement to the **draft Development Consent Order [TR020001/APP/2.01]**.
- 1.1.2 This approach is proposed to enable the Applicant and the operator to proactively detect and prevent significant impacts on the highway network before they occur and respond to changing circumstances in the future, whilst also giving comfort and security that mitigation that is required will be delivered. It has also been developed in order to ensure that the delivery of highway infrastructure is only provided if the monitoring approach shows that they are necessary. This could be the case if there are significant changes to background traffic movements in future and/or the airport is unsuccessful in shifting passengers onto sustainable modes of transport for accessing the airport.
- 1.1.3 This Outline TRIMMA outlines the monitoring principles and indicative process for the approach for the ‘Minimum Monitoring Proposal’ to be developed as part of the Full TRIMMA post-consent, informed by the effects and impacts that are forecast within Transport Assessment (TA), of which this document forms an appendix.

Figure 1.1 Indicative Outline TRIMMA Approach





## 2 TRANSPORT ASSESSMENT MONITORING PRINCIPLES AND PROCESS

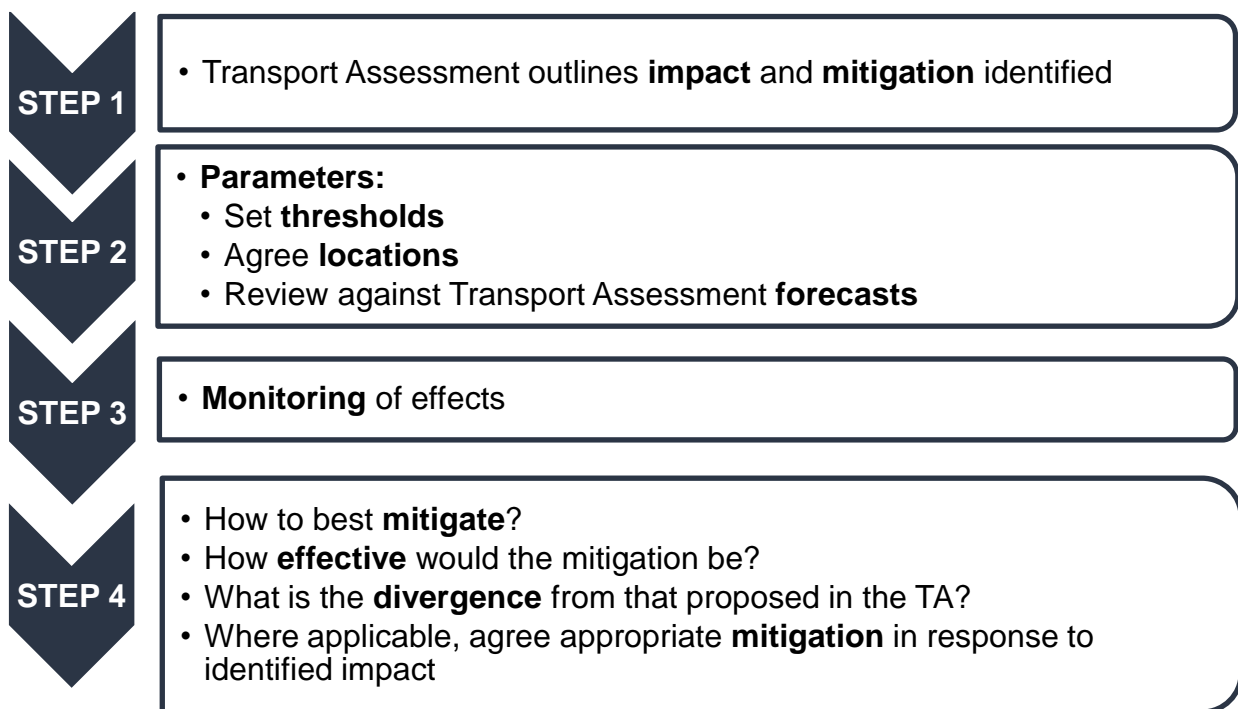
### 2.1 Monitoring

2.1.1 The aim of the monitoring and mitigation process to be developed from the Outline TRIMMA is to answer three key questions to inform decision making:

- a. How is the airport growth impacting on the highway network?
- b. Does the monitoring demonstrate that there is a need to implement a certain highway mitigation scheme to respond to the pattern of growth identified?
- c. Has reality diverged from what was observed in the TA which may change the need for mitigation, or the form of mitigation proposed?

2.1.2 Figure 2.1 outlines the proposed monitoring process (subject to development of the Full TRIMMA).

Figure 2.1: Proposed monitoring process



2.1.3 In order to effectively and consistently monitor the potential impacts of the Proposed Development, based on the size of the airport’s area of influence, committing to individually monitoring all locations, junctions and links identified in the TA is not considered realistic and a more proportionate approach is proposed.

2.1.4 Therefore, the Full TRIMMA will be developed to consider how various different locations, roads and junctions could be evaluated and monitored at levels of detail.

## 2.2 Minimum Monitoring Proposal (MMP)

- 2.2.1 In order to implement an approach which enables monitoring to be undertaken over the life of the Proposed Development, monitoring of growth (in traffic volumes) due to increases in airport related vehicular traffic would be required at a number of physical locations both at the airport and externally on the highway network.
- 2.2.2 The proposed approach to be considered for the Full TRIMMA would enable airport related traffic to be identified and monitored on a regular basis on key routes where the forecast changes and proposed highway mitigation interventions are located.
- 2.2.3 As such, the Full TRIMMA will seek an approach to establish a Minimum Monitoring Proposal (MMP) for monitoring that supports being able to identify, manage and mitigate changes in levels of traffic due to airport growth.
- 2.2.4 The Full TRIMMA will consider the appropriate time to commence the MMP activities to measure the baseline monitoring position, which is only required once the airport signals the intent to grow above the extant planning consent.

## 2.3 Scale and detail

- 2.3.1 When the Full TRIMMA is developed, the monitoring approach should consider critical locations that are key traffic routes associated with airport related traffic. The monitoring points will be finalised at the point of creating the Full TRIMMA to assess which of the points below would be included in the approach:
- Airport entrance(s)
  - Key / strategic routes to airport:
    - A1081 New Airport Way
    - A505
    - A602
    - A6
    - Lower Harpenden Road
    - London Road
    - Slip End
- 2.3.2 There could also be further junction locations and road links that are required to be monitored where traffic modelling and air and noise assessments have forecast an intensification in use of a particular road, and specifically where road traffic noise levels are forecast to be above the Significant Observed Adverse Effect Level (SOAEL) with the Proposed Development in place, as identified in **Chapter 16 Noise and vibration** of the ES [TR020001/APP/5.01].
- 2.3.3 When moving into more detailed levels of monitoring, the pre-defined locations which are assessed in the TA will need to be reviewed, subject to agreement with the Local Highway Authorities. The locations are currently identified as the following, however ongoing discussions with the Local Highway Authorities in development of the Full TRIMMA will finalise this list but will not materially expand the scope:

- Windmill Road / Kimpton Road
- A1081 New Airport Way / B653 / Gipsy Lane
- A1081 New Airport Way / A505 Kimpton Road / Vauxhall Way
- Eaton Green Road / Lalleford Road
- Wigmore Lane / Crawley Green Road
- Eaton Green Road / Wigmore Lane
- A1081 / London Road (North)
- A1081 / London Road (South)
- Windmill Road / St. Mary's Road / Crawley Green Road
- Crawley Green Road / Lalleford Road
- A602 Park Way / A505 Upper Tilehouse Street
- A505 Moormead Hill / B655 Pirton Rd / Upper Tilehouse Street
- A602 Park Way / Stevenage Road
- M1 J10
- Eaton Green Road / Frank Lester Way
- A505 Vauxhall Way / Eaton Green Road

2.3.4 For the purposes of setting a framework of monitoring to be developed for the Full TRIMMA, it is suggested that something similar to the below is established, which would consider different monitoring approaches for the various road and junction locations which have been identified as being subject to potential impacts in the TA.

2.3.5 More detail on how the monitoring could work is set out below:

### **Airport Growth**

2.3.6 At this stage, monitoring could be undertaken at high level and could focus on the growth of the airport and passenger throughput, which could be informed by CAA surveys and Annual Monitoring as part of the GCG Framework [GC020001/APP/7.08], and this would enable a review of whether further investigation is necessary.

### **Identified Key Roads**

2.3.7 At a greater level of detail monitoring could focus in on key roads in and out of the airport and on key feeder routes. These could be monitored through the use of automatic traffic counters, ANPR or similar volumetric data collection techniques which can then be analysed in addition to airport growth.

## **Individual junction locations**

- 2.3.8 At an even finer level of detail, the monitoring could focus further on individual junctions for which mitigation in the TA has been proposed (if the forecast effects are realised).

## **Monitoring thresholds**

- 2.3.9 The Full TRIMMA will set out the defined monitoring and mitigation approach that will consider the process for setting and establishing thresholds for different levels of monitoring that will be required to respond to changes in traffic volumes over time.

# Appendix J: Hitchin Junction Modelling

<b>Junctions 10</b>
<b>ARCADY 10 - Roundabout Module</b>
Version: 10.0.2.1574 © Copyright TRL Software Limited, 2021
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Filename: 2022-10-07 Park Way - Stevenage Road\_LaneSim\_Existing.j10

Path: \\global.arup.com\europa\Midlands\jobs\259000\259393-10\4 Internal Project Data\4-04 Calculations\Junction Modelling\A602

Park Way - Stevenage Road\For Appendices

Report generation date: 14/02/2023 20:42:13

- »2027 Base, AM
- »2027 Base, PM
- »2039 Base, AM
- »2039 Base, PM
- »2043 Base, AM
- »2043 Base, PM
- »2027 Base + Dev, AM
- »2027 Base + Dev, PM

### Summary of junction performance

	AM						PM					
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
<b>[Lane Simulation] - 2027 Base</b>												
1 - Park Way	D1	289.9	878.26		F	686.68	D2	129.7	434.80		F	536.91
2 - Hitchin Hill		4.7	32.41		D			24.6	114.07		F	
3 - Stevenage Road		238.9	906.83		F			275.4	1069.70		F	
4 - London Road		0.5	5.99		A			0.7	7.86		A	
5 - Gosmore Road		0.3	9.10		A			0.2	9.00		A	
<b>[Lane Simulation] - 2039 Base</b>												
1 - Park Way	D3	342.2	1021.45		F	805.34	D4	157.3	510.88		F	570.10
2 - Hitchin Hill		4.3	29.56		D			15.2	74.12		F	
3 - Stevenage Road		292.3	1094.64		F			290.9	1112.69		F	
4 - London Road		0.5	6.27		A			1.0	9.20		A	
5 - Gosmore Road		0.3	8.88		A			0.3	9.11		A	
<b>[Lane Simulation] - 2043 Base</b>												
1 - Park Way	D5	354.4	1070.77		F	811.65	D6	185.2	603.75		F	625.12
2 - Hitchin Hill		4.7	33.72		D			11.7	61.28		F	
3 - Stevenage Road		288.7	1075.76		F			303.1	1152.15		F	
4 - London Road		0.6	6.64		A			0.9	8.43		A	
5 - Gosmore Road		0.4	9.50		A			0.2	8.62		A	
<b>[Lane Simulation] - 2027 Base + Dev</b>												
1 - Park Way	D7	287.1	863.31		F	686.36	D8	136.3	457.75		F	539.39
2 - Hitchin Hill		4.3	31.29		D			20.8	104.53		F	
3 - Stevenage Road		239.1	919.45		F			273.0	1048.15		F	
4 - London Road		0.4	5.86		A			0.8	7.78		A	
5 - Gosmore Road		0.4	8.78		A			0.2	8.62		A	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Arm and junction delays are averages for all movements, including movements with zero delay.

### File summary

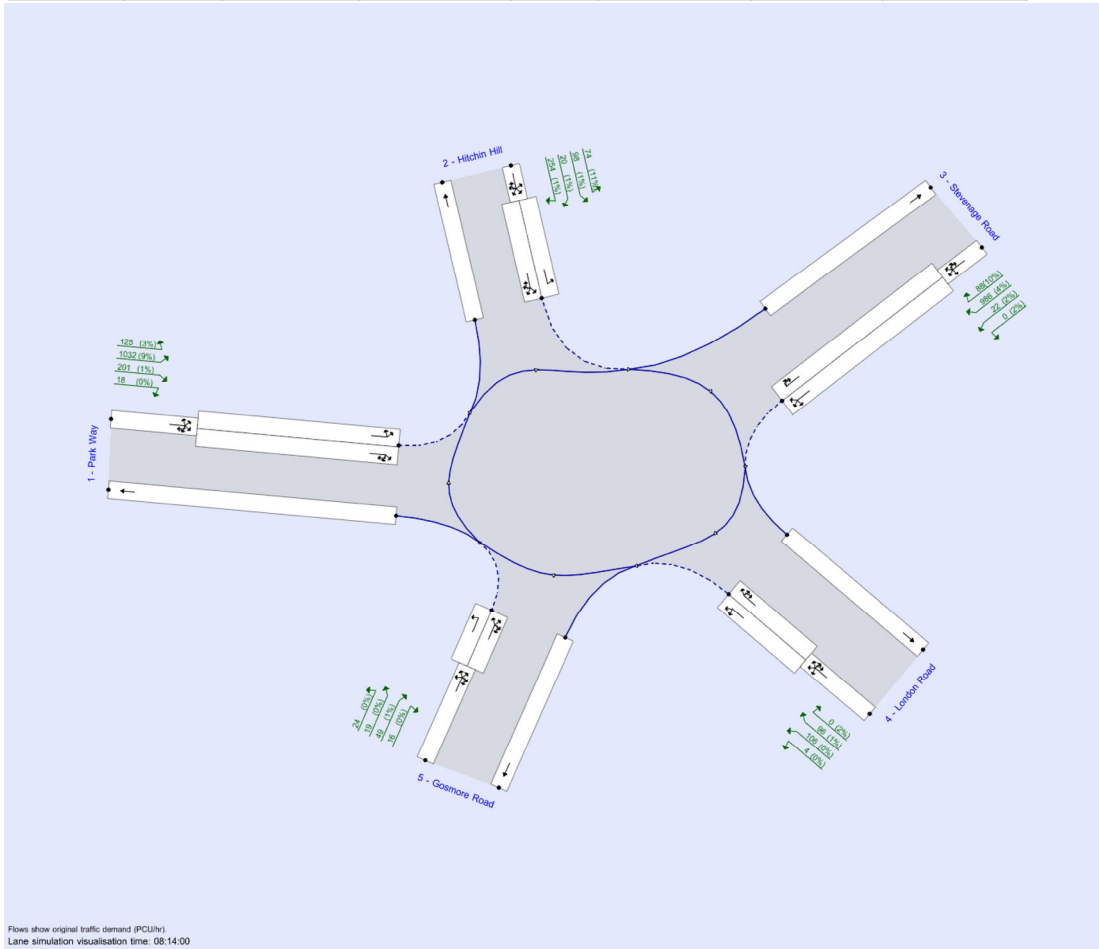
#### File Description

Title	
Location	
Site number	
Date	17/01/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\Paul.Dickens
Description	

### Units

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Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin



Flows show original traffic demand (PCU/hr)  
Lane simulation visualisation time: 06:14:00

The junction diagram reflects the last run of Junctions.

### Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75						0.85	36.00	20.00		500

### Lane Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Random seed	Results refresh speed (s)	Individual vehicle animation number of trials	Average animation capture interval (s)	Use quick response	Do flow sampling	Suppress automatic lane creation	Last run random seed	Last run number of trials	Last run time taken (s)
Delay	1.00	100000	100000	-1	3	1	60	✓			1408216036	144	27.36

### Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2027 Base	AM	ONE HOUR	07:45	09:15	15	✓
D2	2027 Base	PM	ONE HOUR	16:45	18:15	15	✓
D3	2039 Base	AM	ONE HOUR	07:45	09:15	15	✓
D4	2039 Base	PM	ONE HOUR	16:45	18:15	15	✓
D5	2043 Base	AM	ONE HOUR	07:45	09:15	15	✓
D6	2043 Base	PM	ONE HOUR	16:45	18:15	15	✓
D7	2027 Base + Dev	AM	ONE HOUR	07:45	09:15	15	✓
D8	2027 Base + Dev	PM	ONE HOUR	16:45	18:15	15	✓

### Analysis Set Details

ID	Use Lane Simulation	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	✓	100.000	100.000

# 2027 Base, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Last Run	Lane Simulation	1 - Park Way - Lane Simulation	Arm 1: Queue at end of modelled period is greater than 10 PCU. Delay is likely to have been underestimated.
Last Run	Lane Simulation	3 - Stevenage Road - Lane Simulation	Arm 3: Queue at end of modelled period is greater than 10 PCU. Delay is likely to have been underestimated.
Info	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. For detailed information on this mode, please see the User Guide.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Hitchin Hill Roundabout	Standard Roundabout		1, 2, 3, 4, 5	686.68	F

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	686.68	F

## Arms

### Arms

Arm	Name	Description	No give-way line
1	Park Way		
2	Hitchin Hill		
3	Stevenage Road		
4	London Road		
5	Gosmore Road		

### Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1 - Park Way	3.70	8.00	15.0	40.0	66.0	6.0		
2 - Hitchin Hill	3.50	7.00	15.0	18.0	66.0	44.0		
3 - Stevenage Road	4.75	7.00	20.0	20.0	66.0	36.0		
4 - London Road	3.65	8.00	24.0	400.0	66.0	6.0		
5 - Gosmore Road	3.65	7.00	15.0	20.0	66.0	32.0		

### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Park Way	0.599	1995
2 - Hitchin Hill	0.491	1578
3 - Stevenage Road	0.552	1900
4 - London Road	0.637	2192
5 - Gosmore Road	0.521	1686

The slope and intercept shown above include any corrections and adjustments.

### Lane Simulation: Arm options

Arm	Lane capacity source	Traffic considering secondary lanes (%)
1 - Park Way	Evenly split	10.00
2 - Hitchin Hill	Evenly split	10.00
3 - Stevenage Road	Evenly split	10.00
4 - London Road	Evenly split	10.00
5 - Gosmore Road	Evenly split	10.00

### Lanes

Arm	Side	Lane level	Lane	Destination arms	Has limited storage	Storage (PCU)	Has bottleneck	Has obstruction	Minimum capacity (PCU/hr)	Maximum capacity (PCU/hr)	Signalised
1 - Park Way	Entry	1	1	2, 3	✓	10.00			0	99999	
			2	1, 4, 5	✓	10.00			0	99999	
	Exit	1	1	(1, 2, 3, 4, 5)		Infinity					
			1	1		Infinity					
2 - Hitchin Hill	Entry	1	1	3	✓	5.00			0	99999	
			2	1, 2, 4, 5	✓	5.00			0	99999	
	Exit	1	1	(1, 2, 3, 4, 5)		Infinity					
			1	1		Infinity					
			1	1, 4, 5	✓	10.00			0	99999	



3 - Stevenage Road	Entry	1	2	2, 3	✓	10.00			0	99999
		2	1	(1, 2, 3, 4, 5)		Infinity				
	Exit	1	1			Infinity				
4 - London Road	Entry	1	1	1, 5	✓	5.00			0	99999
			2	2, 3, 4	✓	5.00			0	99999
		2	1	(1, 2, 3, 4, 5)		Infinity				
	Exit	1	1			Infinity				
5 - Gosmore Road	Entry	1	1	1	✓	3.00			0	99999
			2	2, 3, 4, 5	✓	3.00			0	99999
		2	1	(1, 2, 3, 4, 5)		Infinity				
	Exit	1	1			Infinity				

### Entry Lane slope and intercept

Arm	Side	Lane level	Lane	Final slope	Final intercept (PCU/hr)
1 - Park Way	Entry	1	1	0.300	997
			2	0.300	997
2 - Hitchin Hill	Entry	1	1	0.246	789
			2	0.246	789
3 - Stevenage Road	Entry	1	1	0.276	950
			2	0.276	950
4 - London Road	Entry	1	1	0.318	1096
			2	0.318	1096
5 - Gosmore Road	Entry	1	1	0.260	843
			2	0.260	843

### Summary of Entry Lane allowed movements

Arm	Lane Level	Lane	Destination arm				
			Park Way	Hitchin Hill	Stevenage Road	London Road	Gosmore Road
1 - Park Way	1	1		✓	✓		
		2	✓			✓	✓
2 - Hitchin Hill	1	1			✓		
		2	✓	✓		✓	✓
3 - Stevenage Road	1	1	✓			✓	✓
		2		✓	✓		
4 - London Road	1	1	✓				✓
		2		✓	✓	✓	✓
5 - Gosmore Road	1	1	✓				
		2		✓	✓	✓	✓
	2	1	✓	✓	✓	✓	✓

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2027 Base	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Park Way		ONE HOUR	✓	1376	100.000
2 - Hitchin Hill		ONE HOUR	✓	446	100.000
3 - Stevenage Road		ONE HOUR	✓	1096	100.000
4 - London Road		ONE HOUR	✓	206	100.000
5 - Gosmore Road		ONE HOUR	✓	108	100.000

## Origin-Destination Data

### Demand (PCU/hr)

From		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	0	125	1032	201	18
	2 - Hitchin Hill	254	0	74	98	20
	3 - Stevenage Road	986	88	0	0	22
	4 - London Road	106	96	0	0	4

### Proportions

From		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	0.00	0.09	0.75	0.15	0.01
	2 - Hitchin Hill	0.57	0.00	0.17	0.22	0.04
	3 - Stevenage Road	0.90	0.08	0.00	0.00	0.02
	4 - London Road	0.51	0.47	0.00	0.00	0.02

5 - Gosmore Road	24	19	49	16	0
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5 - Gosmore Road	0.22	0.18	0.45	0.15	0.00
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## Vehicle Mix

### Heavy Vehicle Percentages

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	0	3	9	1	0
	2 - Hitchin Hill	1	0	11	1	1
	3 - Stevenage Road	4	10	0	2	2
	4 - London Road	0	1	2	0	0
	5 - Gosmore Road	0	0	1	0	0

### Average PCU Per Veh

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	1.000	1.027	1.087	1.006	1.004
	2 - Hitchin Hill	1.012	1.000	1.105	1.008	1.005
	3 - Stevenage Road	1.038	1.105	1.000	1.025	1.017
	4 - London Road	1.002	1.007	1.021	1.000	1.001
	5 - Gosmore Road	1.001	1.004	1.011	1.001	1.000

## Detailed Demand Data

### Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:45-08:00	1 - Park Way	1036	1036
	2 - Hitchin Hill	336	336
	3 - Stevenage Road	825	825
	4 - London Road	155	155
	5 - Gosmore Road	81	81
08:00-08:15	1 - Park Way	1237	1237
	2 - Hitchin Hill	401	401
	3 - Stevenage Road	985	985
	4 - London Road	185	185
	5 - Gosmore Road	97	97
08:15-08:30	1 - Park Way	1515	1515
	2 - Hitchin Hill	491	491
	3 - Stevenage Road	1207	1207
	4 - London Road	227	227
	5 - Gosmore Road	119	119
08:30-08:45	1 - Park Way	1515	1515
	2 - Hitchin Hill	491	491
	3 - Stevenage Road	1207	1207
	4 - London Road	227	227
	5 - Gosmore Road	119	119
08:45-09:00	1 - Park Way	1237	1237
	2 - Hitchin Hill	401	401
	3 - Stevenage Road	985	985
	4 - London Road	185	185
	5 - Gosmore Road	97	97
09:00-09:15	1 - Park Way	1036	1036
	2 - Hitchin Hill	336	336
	3 - Stevenage Road	825	825
	4 - London Road	155	155
	5 - Gosmore Road	81	81

## Results

### Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Park Way	878.26	289.9	F	1265	1898
2 - Hitchin Hill	32.41	4.7	D	409	613
3 - Stevenage Road	906.83	238.9	F	1002	1502
4 - London Road	5.99	0.5	A	189	283
5 - Gosmore Road	9.10	0.3	A	99	149

### Main Results for each time segment

#### 07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1041	260	204	1007	981	1022	0.0	13.2	32.681	D
2 - Hitchin Hill	331	83	968	329	327	244	0.0	1.3	11.988	B
3 - Stevenage Road	826	207	448	820	792	849	0.0	9.3	33.257	D
4 - London Road	156	39	1036	157	156	232	0.0	0.2	5.194	A

5 - Gosmore Road	85	21	1141	86	83	52	0.0	0.2	7.168	A
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## 08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1241	310	233	1096	1099	1121	13.2	46.5	100.762	F
2 - Hitchin Hill	408	102	1054	405	394	275	1.3	2.1	17.145	C
3 - Stevenage Road	983	246	529	860	868	930	9.3	38.0	100.692	F
4 - London Road	183	46	1123	183	185	266	0.2	0.3	5.682	A
5 - Gosmore Road	95	24	1258	95	95	48	0.2	0.2	7.963	A

## 08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1515	379	259	1086	1105	1191	46.5	150.1	321.020	F
2 - Hitchin Hill	490	122	1061	491	485	285	2.1	3.6	27.635	D
3 - Stevenage Road	1203	301	600	847	849	951	38.0	125.6	347.164	F
4 - London Road	222	56	1163	221	223	284	0.3	0.5	5.916	A
5 - Gosmore Road	120	30	1331	120	118	53	0.2	0.3	8.712	A

## 08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1523	381	262	1092	1101	1198	150.1	255.0	663.458	F
2 - Hitchin Hill	490	122	1060	490	489	295	3.6	4.7	32.409	D
3 - Stevenage Road	1195	299	599	866	863	950	125.6	210.0	705.020	F
4 - London Road	221	55	1180	219	224	286	0.5	0.5	5.994	A
5 - Gosmore Road	117	29	1342	118	118	57	0.3	0.3	9.097	A

## 08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1233	308	234	1098	1102	1146	255.0	289.9	878.262	F
2 - Hitchin Hill	403	101	1059	400	410	273	4.7	2.0	21.127	C
3 - Stevenage Road	985	246	523	890	872	936	210.0	238.9	906.825	F
4 - London Road	188	47	1152	188	189	261	0.5	0.4	5.811	A
5 - Gosmore Road	96	24	1283	96	99	57	0.3	0.2	8.155	A

## 09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1039	260	209	1099	1107	1097	289.9	271.2	790.069	F
2 - Hitchin Hill	330	82	1047	329	339	261	2.0	1.3	14.539	B
3 - Stevenage Road	817	204	463	898	892	913	238.9	223.6	764.802	F
4 - London Road	162	40	1112	161	160	248	0.4	0.3	5.508	A
5 - Gosmore Road	81	20	1225	82	83	49	0.2	0.1	7.721	A

## Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

## Lanes: Main Results for each time segment

## 07:45 - 08:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	857	936	0.915	845	823	0.0	7.1	24.528	C
			2	1, 4, 5	162	936	0.173	162	157	0.0	0.2	4.777	A
	Exit	1	1	(1, 2, 3, 4, 5)	1041			1018	1010	0.0	5.8	11.239	B
			1		1022			1022	992	0.0	0.0	0.000	A
2 - Hitchin Hill	Entry	1	1	3	54	551	0.098	54	54	0.0	0.2	7.980	A
			2	1, 2, 4, 5	276	551	0.501	275	272	0.0	1.0	12.005	B
	Exit	1	1	(1, 2, 3, 4, 5)	331			331	331	0.0	0.1	0.577	A
			1		244			244	241	0.0	0.0	0.000	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	758	826	0.918	755	726	0.0	6.1	25.547	D
			2	2, 3	64	826	0.077	65	66	0.0	0.1	5.449	A
	Exit	1	1	(1, 2, 3, 4, 5)	826			822	816	0.0	3.1	9.005	A
			1		849			849	828	0.0	0.0	0.000	A
4 - London Road	Entry	1	1	1, 5	84	766	0.110	84	83	0.0	0.1	5.195	A
			2	2, 3, 4	72	766	0.094	73	73	0.0	0.1	5.194	A
	Exit	1	1	(1, 2, 3, 4, 5)	156			156	157	0.0	0.0	0.000	A
			1		232			232	228	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	19	546	0.034	19	20	0.0	0.0	6.949	A
			2	2, 3, 4, 5	67	546	0.122	67	64	0.0	0.2	7.224	A
	Exit	1	1	(1, 2, 3, 4, 5)	85			85	84	0.0	0.0	0.008	A
			1										

	Exit	1	1		52			52	49	0.0	0.0	0.000	A
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## 08:00 - 08:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	921	928	0.993	917	920	7.1	9.5	35.038	E
			2	1, 4, 5	179	928	0.193	179	179	0.2	0.3	5.322	A
	Exit	1	1	(1, 2, 3, 4, 5)	1241			1099	1109	5.8	36.8	70.409	F
2 - Hitchin Hill	Entry	1	1	3	68	530	0.129	68	67	0.2	0.2	8.374	A
			2	1, 2, 4, 5	339	530	0.640	337	327	1.0	1.6	16.098	C
	Exit	1	1	(1, 2, 3, 4, 5)	408			407	396	0.1	0.3	2.212	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	795	804	0.989	789	797	6.1	9.6	38.699	E
			2	2, 3	71	804	0.088	71	71	0.1	0.2	5.727	A
	Exit	1	1	(1, 2, 3, 4, 5)	983			866	882	3.1	28.2	63.738	F
4 - London Road	Entry	1	1	1, 5	94	738	0.128	95	99	0.1	0.1	5.644	A
			2	2, 3, 4	88	738	0.120	88	87	0.1	0.1	5.725	A
	Exit	1	1	(1, 2, 3, 4, 5)	183			183	186	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	21	515	0.041	21	21	0.0	0.0	7.601	A
			2	2, 3, 4, 5	74	515	0.143	74	73	0.2	0.2	8.060	A
	Exit	1	1	(1, 2, 3, 4, 5)	95			95	95	0.0	0.0	0.006	A

## 08:15 - 08:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	915	920	0.995	916	929	9.5	10.0	38.369	E
			2	1, 4, 5	169	920	0.184	170	176	0.3	0.2	5.449	A
	Exit	1	1	(1, 2, 3, 4, 5)	1515			1085	1107	36.8	139.9	288.204	F
2 - Hitchin Hill	Entry	1	1	3	81	528	0.154	80	80	0.2	0.2	8.935	A
			2	1, 2, 4, 5	410	528	0.776	411	405	1.6	2.4	21.807	C
	Exit	1	1	(1, 2, 3, 4, 5)	490			492	489	0.3	1.0	7.744	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	782	784	0.998	782	780	9.6	10.0	45.825	E
			2	2, 3	64	784	0.081	65	69	0.2	0.1	5.899	A
	Exit	1	1	(1, 2, 3, 4, 5)	1203			846	851	28.2	115.5	304.558	F
4 - London Road	Entry	1	1	1, 5	122	726	0.168	122	118	0.1	0.3	5.988	A
			2	2, 3, 4	100	726	0.138	100	105	0.1	0.2	5.834	A
	Exit	1	1	(1, 2, 3, 4, 5)	222			222	224	0.0	0.0	0.001	A
5 - Gosmore Road	Entry	1	1	1	24	497	0.049	25	25	0.0	0.0	7.890	A
			2	2, 3, 4, 5	96	497	0.193	95	93	0.2	0.3	8.857	A
	Exit	1	1	(1, 2, 3, 4, 5)	120			120	119	0.0	0.0	0.051	A

## 08:30 - 08:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	921	919	1.003	921	929	10.0	10.0	38.529	E
			2	1, 4, 5	170	919	0.185	171	172	0.2	0.2	5.289	A
	Exit	1	1	(1, 2, 3, 4, 5)	1523			1091	1101	139.9	244.8	630.454	F
2 - Hitchin Hill	Entry	1	1	3	80	528	0.151	79	79	0.2	0.3	9.131	A
			2	1, 2, 4, 5	409	528	0.773	410	410	2.4	2.6	22.873	C
	Exit	1	1	(1, 2, 3, 4, 5)	490			488	490	1.0	1.9	11.549	B
3 - Stevenage Road	Entry	1	1	1, 4, 5	799	785	1.019	799	794	10.0	10.0	45.293	E
			2	2, 3	67	785	0.085	67	69	0.1	0.1	5.852	A
	Exit	1	1	(1, 2, 3, 4, 5)	1195			866	864	115.5	199.8	662.864	F
4 - London Road	Entry	1	1	1, 5	118	720	0.164	117	120	0.3	0.3	6.090	A
			2	2, 3, 4	103	720	0.143	103	104	0.2	0.2	5.882	A
	Exit	1	1	(1, 2, 3, 4, 5)	221			221	224	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	24	494	0.049	25	26	0.0	0.0	7.867	A
			2	2, 3, 4, 5	93	494	0.188	92	92	0.3	0.2	9.323	A
	Exit	1	1	(1, 2, 3, 4, 5)	117			117	118	0.0	0.0	0.108	A

## 08:45 - 09:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
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1 - Park Way	Entry	1	1	2, 3	923	927	0.995	923	930	10.0	10.0	38.605	E
			2	1, 4, 5	176	927	0.190	175	173	0.2	0.3	5.370	A
	Exit	1	1	(1, 2, 3, 4, 5)	1233			1099	1103	244.8	279.6	848.171	F
			1	1		1146			1146	1139	0.0	0.0	0.000
2 - Hitchin Hill	Entry	1	1	3	66	529	0.124	67	67	0.3	0.2	8.881	A
			2	1, 2, 4, 5	336	529	0.635	334	344	2.6	1.6	18.673	C
	Exit	1	1	(1, 2, 3, 4, 5)	403			401	406	1.9	0.3	4.156	A
			1	1		273			273	275	0.0	0.0	0.000
3 - Stevenage Road	Entry	1	1	1, 4, 5	817	806	1.014	817	803	10.0	10.0	44.732	E
			2	2, 3	73	806	0.090	73	69	0.1	0.1	5.787	A
	Exit	1	1	(1, 2, 3, 4, 5)	985			890	872	199.8	228.8	870.385	F
			1	1		936			936	942	0.0	0.0	0.000
4 - London Road	Entry	1	1	1, 5	102	729	0.140	102	102	0.3	0.2	5.808	A
			2	2, 3, 4	87	729	0.119	87	87	0.2	0.2	5.812	A
	Exit	1	1	(1, 2, 3, 4, 5)	188			188	189	0.0	0.0	0.001	A
			1	1		261			261	262	0.0	0.0	0.000
5 - Gosmore Road	Entry	1	1	1	22	509	0.043	22	21	0.0	0.0	7.369	A
			2	2, 3, 4, 5	74	509	0.146	74	78	0.2	0.2	8.311	A
	Exit	1	1	(1, 2, 3, 4, 5)	96			96	99	0.0	0.0	0.045	A
			1	1		57			57	55	0.0	0.0	0.000

09:00 - 09:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	928	935	0.993	927	932	10.0	10.1	38.300	E
			2	1, 4, 5	172	935	0.184	172	175	0.3	0.3	5.276	A
	Exit	1	1	(1, 2, 3, 4, 5)	1039			1100	1107	279.6	260.9	770.190	F
			1	1		1097			1097	1095	0.0	0.0	0.000
2 - Hitchin Hill	Entry	1	1	3	50	532	0.094	50	55	0.2	0.1	8.016	A
			2	1, 2, 4, 5	279	532	0.525	279	284	1.6	1.1	14.374	B
	Exit	1	1	(1, 2, 3, 4, 5)	330			329	337	0.3	0.1	1.180	A
			1	1		261			261	264	0.0	0.0	0.000
3 - Stevenage Road	Entry	1	1	1, 4, 5	827	822	1.006	827	819	10.0	10.0	43.691	E
			2	2, 3	71	822	0.086	71	73	0.1	0.1	5.739	A
	Exit	1	1	(1, 2, 3, 4, 5)	817			898	892	228.8	213.4	743.244	F
			1	1		913			913	923	0.0	0.0	0.000
4 - London Road	Entry	1	1	1, 5	89	742	0.119	88	86	0.2	0.2	5.514	A
			2	2, 3, 4	73	742	0.099	73	75	0.2	0.1	5.500	A
	Exit	1	1	(1, 2, 3, 4, 5)	162			162	160	0.0	0.0	0.000	A
			1	1		248			248	249	0.0	0.0	0.000
5 - Gosmore Road	Entry	1	1	1	16	524	0.031	16	19	0.0	0.0	7.123	A
			2	2, 3, 4, 5	65	524	0.124	65	64	0.2	0.1	7.872	A
	Exit	1	1	(1, 2, 3, 4, 5)	81			81	82	0.0	0.0	0.018	A
			1	1		49			49	50	0.0	0.0	0.000

## Lane movements: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service		
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	92	23	997	937	0.098	91	88	0.0	0.7	24.236	C		
				3	764	191	997	936	0.817	754	736	0.0	6.3	24.564	C		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	1	1	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.0	0.000	A	
				4	149	37	997	936	0.159	149	143	0.0	0.2	4.787	A		
				5	13	3	977	916	0.014	13	14	0.0	0.0	4.671	A		
	2	1	1	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A	
			2	94	24	-	-	-	92	91	0.0	0.5	10.834	B			
			3	781	195	-	-	-	764	761	0.0	4.3	11.360	B			
			4	153	38	-	-	-	149	144	0.0	0.8	10.819	B			
			5	13	3	-	-	-	13	14	0.0	0.1	12.042	B			
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	54	14	789	551	0.099	54	54	0.0	0.2	7.980	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	1	1	187	47	789	551	0.339	187	184	0.0	0.6	12.132	B		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	73	18	789	553	0.132	72	73	0.0	0.3	11.494	B		
				5	16	4	783	547	0.029	16	15	0.0	0.1	12.943	B		
1	1	1	187	47	-	-	-	187	187	0.0	0.1	0.579	A				
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				

3 - Stevenage Road	Entry	2	1	3	54	14	-	-	-	54	55	0.0	0.0	0.379	A	
				4	74	18	-	-	-	73	74	0.0	0.0	0.600	A	
				5	16	4	-	-	-	16	15	0.0	0.0	1.066	A	
		1	1	1	739	185	950	826	0.894	736	709	0.0	5.9	25.530	D	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	20	5	924	805	0.024	19	17	0.0	0.1	26.285	D	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	64	16	950	827	0.077	65	66	0.0	0.1	5.449	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	742	185	-	-	-	739	733	0.0	2.8	9.096	A
					2	64	16	-	-	-	64	66	0.0	0.2	7.753	A
3	0	0			0	0	0.000	0	0	0.0	0.0	0.000	A			
4	0	0			0	0	0.000	0	0	0.0	0.0	0.000	A			
5	20	5			-	-	-	20	17	0.0	0.1	9.570	A			

4 - London Road	Entry	1	1	1	80	20	1096	767	0.104	80	79	0.0	0.1	5.177	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	4	1	586	415	0.010	4	3	0.0	0.0	5.636	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	72	18	1096	767	0.094	73	73	0.0	0.1	5.194	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	80	20	-	-	-	80	80	0.0	0.0	0.000	A
				2	72	18	-	-	-	72	74	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	4	1	-	-	-	4	3	0.0	0.0	0.000	A

5 - Gosmore Road	Entry	1	1	1	19	5	837	546	0.034	19	20	0.0	0.0	6.949	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	15	4	820	536	0.028	15	14	0.0	0.0	7.569	A
				3	41	10	843	552	0.073	41	38	0.0	0.1	7.260	A
				4	11	3	796	522	0.021	11	11	0.0	0.0	6.657	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	19	5	-	-	-	19	20	0.0	0.0	0.000	A
				2	15	4	-	-	-	15	14	0.0	0.0	0.017	A
				3	41	10	-	-	-	41	39	0.0	0.0	0.011	A
				4	11	3	-	-	-	11	11	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

08:00 - 08:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	100	25	997	929	0.108	99	98	0.7	1.0	34.950	D
				3	821	205	997	928	0.885	818	822	6.3	8.5	35.049	E
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	165	41	997	928	0.178	165	164	0.2	0.3	5.302	A
				5	14	3	956	890	0.015	14	15	0.0	0.0	5.544	A
		2	1	1	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	114	29	-	-	-	100	99	0.5	3.4	71.530	F
				3	927	232	-	-	-	821	831	4.3	27.6	70.509	F
				4	185	46	-	-	-	165	164	0.8	5.3	69.530	F
				5	15	4	-	-	-	14	15	0.1	0.4	67.510	F
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	68	17	789	532	0.128	68	67	0.2	0.2	8.374	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	235	59	789	531	0.442	233	224	0.6	1.1	16.159	C	
			2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			4	88	22	789	529	0.167	88	87	0.3	0.4	16.088	C	
			5	16	4	783	525	0.030	16	17	0.1	0.1	15.335	C	
2	1	1	235	59	-	-	-	235	226	0.1	0.2	2.389	A		
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		

3 - Stevenage Road	Entry	2	1	3	68	17	-	-	-	68	67	0.0	0.0	1.443	A
				4	88	22	-	-	-	88	87	0.0	0.0	2.341	A
				5	16	4	-	-	-	16	17	0.0	0.0	1.943	A
		1	1	1	779	195	950	804	0.969	774	780	5.9	9.4	38.692	E
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	16	4	937	794	0.020	15	17	0.1	0.2	39.024	E
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	71	18	950	804	0.088	71	71	0.1	0.2	5.727	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	882	220	-	-	-	779	794	2.8	25.3	63.900	F
				2	82	20	-	-	-	71	71	0.2	2.3	61.581	F
3	0			0	0	0	0.000	0	0	0.0	0.0	0.000	A		
4	0			0	0	0	0.000	0	0	0.0	0.0	0.000	A		
5	19			5	-	-	-	16	17	0.1	0.6	64.625	F		
4 - London Road	Entry	1	1	1	92	23	1096	738	0.124	92	96	0.1	0.1	5.616	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	3	0.71	616	411	0.007	3	3	0.0	0.0	6.489	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	88	22	1096	739	0.119	88	87	0.1	0.1	5.725	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	92	23	-	-	-	92	96	0.0	0.0	0.000	A
				2	88	22	-	-	-	88	87	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	3	0.71	-	-	-	3	3	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	21	5	820	500	0.042	21	21	0.0	0.0	7.601	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	17	4	808	492	0.034	17	16	0.0	0.1	7.925	A
				3	44	11	843	515	0.085	44	43	0.1	0.1	8.055	A
				4	13	3	837	510	0.026	13	14	0.0	0.0	8.225	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	21	5	-	-	-	21	21	0.0	0.0	0.000	A
				2	17	4	-	-	-	17	16	0.0	0.0	0.015	A
				3	44	11	-	-	-	44	43	0.0	0.0	0.006	A
				4	13	3	-	-	-	13	15	0.0	0.0	0.003	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

08:15 - 08:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	98	25	997	919	0.107	98	97	1.0	1.0	38.153	E
				3	817	204	997	920	0.888	818	831	8.5	9.0	38.396	E
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	157	39	997	920	0.171	158	162	0.3	0.2	5.448	A
				5	12	3	963	886	0.014	12	14	0.0	0.0	5.460	A
		2	1	1	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	135	34	-	-	-	98	98	3.4	12.5	291.503	F
				3	1138	284	-	-	-	817	833	27.6	105.3	288.575	F
				4	222	55	-	-	-	157	162	5.3	20.1	284.935	F
				5	20	5	-	-	-	12	14	0.4	1.9	283.150	F
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	81	20	789	528	0.154	80	80	0.2	0.2	8.935	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	283	71	789	528	0.536	283	279	1.1	1.7	21.862	C	
			2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			4	106	27	789	526	0.202	107	105	0.4	0.6	21.755	C	
			5	21	5	783	522	0.040	21	21	0.1	0.1	21.337	C	
				1	281	70	-	-	-	283	281	0.2	0.5	8.143	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

3 - Stevenage Road	Entry	2	1	3	81	20	-	-	-	81	80	0.0	0.1	6.125	A
				4	107	27	-	-	-	106	105	0.0	0.3	7.679	A
				5	20	5	-	-	-	21	21	0.0	0.0	8.429	A
		1	1	1	766	191	950	784	0.976	766	763	9.4	9.8	45.824	E
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	17	4	943	777	0.021	17	17	0.2	0.3	45.854	E
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	64	16	950	786	0.081	65	69	0.2	0.1	5.899	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	1078	270	-	-	-	766	765	25.3	103.6	304.660	F
				2	99	25	-	-	-	64	69	2.3	9.4	302.614	F
3	0			0	0	0	0.000	0	0	0.0	0.0	0.000	A		
4	0			0	0	0	0.000	0	0	0.0	0.0	0.000	A		
5	25			6	-	-	-	17	17	0.6	2.4	307.286	F		
4 - London Road	Entry	1	1	1	118	30	1096	724	0.163	118	113	0.1	0.3	5.988	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	4	1	738	493	0.008	4	4	0.0	0.0	5.974	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	100	25	1096	726	0.138	100	105	0.1	0.2	5.834	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	118	30	-	-	-	118	114	0.0	0.0	0.001	A
				2	100	25	-	-	-	100	106	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	4	1	-	-	-	4	4	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	24	6	843	496	0.049	25	25	0.0	0.0	7.890	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	22	6	843	500	0.045	23	22	0.1	0.0	8.601	A
				3	54	14	843	497	0.109	53	53	0.1	0.2	8.765	A
				4	19	5	831	489	0.040	19	18	0.0	0.1	9.433	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	24	6	-	-	-	24	25	0.0	0.0	0.000	A
				2	22	6	-	-	-	22	22	0.0	0.0	0.054	A
				3	54	14	-	-	-	54	53	0.0	0.0	0.057	A
				4	19	5	-	-	-	19	18	0.0	0.0	0.100	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

08:30 - 08:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	102	26	997	919	0.111	103	100	1.0	1.0	38.353	E
				3	819	205	997	919	0.892	818	830	9.0	9.0	38.551	E
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	157	39	997	919	0.171	158	158	0.2	0.2	5.308	A
				5	13	3	970	893	0.015	13	14	0.0	0.0	5.081	A
		2	1	1	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	138	35	-	-	-	102	100	12.5	22.4	629.254	F
				3	1148	287	-	-	-	819	829	105.3	184.3	631.013	F
				4	217	54	-	-	-	157	158	20.1	34.8	628.121	F
				5	20	5	-	-	-	13	14	1.9	3.3	634.447	F
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	80	20	789	529	0.151	79	79	0.2	0.3	9.131	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	277	69	789	530	0.522	280	278	1.7	1.6	22.914	C	
			2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			4	112	28	789	530	0.211	110	110	0.6	0.9	22.769	C	
			5	20	5	783	523	0.039	21	21	0.1	0.1	22.896	C	
				1	275	69	-	-	-	277	278	0.5	1.0	11.729	B
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A



3 - Stevenage Road	Entry	2	1	3	81	20	-	-	-	80	80	0.1	0.4	9.880	A	
				4	112	28	-	-	-	112	112	0.3	0.4	11.990	B	
				5	21	5	-	-	-	20	21	0.0	0.1	12.620	B	
		1	1	1	782	195	950	785	0.996	781	776	9.8	9.8	45.275	E	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	18	4	917	758	0.023	18	18	0.3	0.2	46.060	E	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	67	17	950	784	0.085	67	69	0.1	0.1	5.852	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				1	1	1078	269	-	-	-	782	777	103.6	180.1	662.890	F
					2	92	23	-	-	-	67	69	9.4	15.7	663.601	F
4 - London Road	Entry	1	1	1	113	28	1096	720	0.157	112	115	0.3	0.3	6.091	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	5	1	723	480	0.009	5	4	0.0	0.0	6.063	A	
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	103	26	1096	723	0.143	103	104	0.2	0.2	5.882	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			1	1	113	28	-	-	-	113	115	0.0	0.0	0.000	A	
				2	103	26	-	-	-	103	104	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	5	1	-	-	-	5	4	0.0	0.0	0.000	A	
5 - Gosmore Road	Entry	1	1	1	24	6	837	491	0.050	25	26	0.0	0.0	7.867	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	22	5	837	491	0.045	22	21	0.0	0.0	9.179	A	
				3	53	13	843	497	0.107	53	54	0.2	0.2	9.300	A	
				4	18	4	831	490	0.036	18	17	0.1	0.0	9.573	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			1	1	24	6	-	-	-	24	26	0.0	0.0	0.046	A	
				2	22	5	-	-	-	22	21	0.0	0.0	0.079	A	
				3	53	13	-	-	-	53	54	0.0	0.0	0.131	A	
				4	18	4	-	-	-	18	17	0.0	0.0	0.166	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	

08:45 - 09:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service		
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	100	25	997	927	0.108	97	100	1.0	1.3	38.535	E		
				3	823	206	997	927	0.888	826	829	9.0	8.8	38.614	E		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	1	1	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	161	40	997	927	0.174	160	158	0.2	0.3	5.411	A		
				5	15	4	990	922	0.016	15	15	0.0	0.0	4.943	A		
			1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	114	28	-	-	-	100	101	22.4	25.5	850.937	F		
				3	924	231	-	-	-	823	828	184.3	209.9	847.800	F		
				4	180	45	-	-	-	161	158	34.8	40.8	848.023	F		
				5	15	4	-	-	-	15	15	3.3	3.5	850.691	F		
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	66	16	789	529	0.124	67	67	0.3	0.2	8.881	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	1	229	57	789	529	0.433	228	235	1.6	1.1	18.483	C			
			2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
			3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
			4	87	22	789	527	0.165	87	90	0.9	0.4	18.844	C			
			5	19	5	789	528	0.036	19	19	0.1	0.1	20.203	C			
1	1	231	58	-	-	-	229	233	1.0	0.2	4.225	A					
	2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A					

3 - Stevenage Road	Entry	2	1	3	66	16	-	-	-	66	66	0.4	0.0	3.231	A
				4	88	22	-	-	-	87	88	0.4	0.1	4.573	A
				5	19	5	-	-	-	19	19	0.1	0.0	4.338	A
		1	1	1	799	200	950	806	0.991	798	785	9.8	9.8	44.730	E
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	19	5	937	795	0.023	19	18	0.2	0.2	44.798	E
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	73	18	950	805	0.090	73	69	0.1	0.1	5.787	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	886	221	-	-	-	799	785	180.1	205.5	870.762	F
				2	80	20	-	-	-	73	69	15.7	18.7	863.642	F
3	0			0	0	0	0.000	0	0	0.0	0.0	0.000	A		
4	0			0	0	0	0.000	0	0	0.0	0.0	0.000	A		
5	20			5	-	-	-	19	18	4.1	4.5	878.894	F		
4 - London Road	Entry	1	1	1	98	25	1096	732	0.134	98	98	0.3	0.2	5.818	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	4	0.96	677	452	0.008	4	4	0.0	0.0	5.569	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	87	22	1096	732	0.118	87	87	0.2	0.2	5.812	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	98	25	-	-	-	98	98	0.0	0.0	0.001	A
				2	87	22	-	-	-	87	87	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	4	0.96	-	-	-	4	4	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	22	6	843	513	0.043	22	21	0.0	0.0	7.369	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	17	4	843	511	0.032	17	18	0.0	0.0	8.271	A
				3	44	11	843	512	0.085	43	46	0.2	0.1	8.338	A
				4	14	4	820	497	0.028	14	15	0.0	0.0	8.274	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	22	6	-	-	-	22	21	0.0	0.0	0.000	A
				2	17	4	-	-	-	17	18	0.0	0.0	0.128	A
				3	44	11	-	-	-	44	46	0.0	0.0	0.014	A
				4	14	4	-	-	-	14	15	0.0	0.0	0.109	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

09:00 - 09:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	103	26	997	934	0.110	102	102	1.3	1.1	37.998	E
				3	825	206	997	934	0.883	825	831	8.8	8.9	38.338	E
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	159	40	997	934	0.170	160	162	0.3	0.2	5.253	A
				5	13	3	956	895	0.014	12	13	0.0	0.0	5.562	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	97	24	-	-	-	103	101	25.5	24.6	771.732	F
				3	780	195	-	-	-	825	832	209.9	194.5	769.347	F
				4	149	37	-	-	-	159	161	40.8	38.3	773.309	F
				5	13	3	-	-	-	13	13	3.5	3.5	759.745	F
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	50	12	789	533	0.093	50	55	0.2	0.1	8.016	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	187	47	789	531	0.352	187	193	1.1	0.8	14.369	B	
			2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			4	76	19	789	530	0.144	77	76	0.4	0.3	14.295	B	
			5	16	4	745	500	0.031	15	15	0.1	0.1	14.839	B	
2	1	1	187	47	-	-	-	187	192	0.2	0.0	1.212	A		
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		

		2	1	3	50	13	-	-	-	50	55	0.0	0.0	0.838	A
				4	77	19	-	-	-	76	76	0.1	0.0	1.178	A
				5	16	4	-	-	-	16	15	0.0	0.0	1.906	A
3 - Stevenage Road	Entry	1	1	1	809	202	950	822	0.984	809	801	9.8	9.8	43.704	E
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	18	4	937	807	0.022	18	17	0.2	0.2	43.090	E
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	71	18	950	820	0.087	71	73	0.1	0.1	5.739	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	737	184	-	-	-	809	801	205.5	192.4	743.450	F
				2	66	16	-	-	-	71	73	18.7	17.1	745.465	F
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	14	3	-	-	-	18	17	4.5	4.0	724.452	F
4 - London Road	Entry	1	1	1	85	21	1096	738	0.115	84	82	0.2	0.2	5.517	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	3	0.83	715	486	0.007	3	4	0.0	0.0	5.458	A
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	73	18	1096	738	0.099	73	75	0.2	0.1	5.500	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	85	21	-	-	-	85	82	0.0	0.0	0.000	A
				2	73	18	-	-	-	73	74	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	3	0.83	-	-	-	3	4	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	16	4	843	527	0.031	16	19	0.0	0.0	7.123	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	15	4	831	517	0.029	15	15	0.0	0.0	8.422	A
				3	38	10	843	523	0.073	38	38	0.1	0.1	7.648	A
				4	12	3	808	499	0.024	12	11	0.0	0.0	7.886	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	16	4	-	-	-	16	18	0.0	0.0	0.000	A
				2	15	4	-	-	-	15	15	0.0	0.0	0.000	A
				3	38	10	-	-	-	38	38	0.0	0.0	0.039	A
				4	12	3	-	-	-	12	11	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

# 2027 Base, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Last Run	Lane Simulation	1 - Park Way - Lane Simulation	Arm 1: Queue at end of modelled period is greater than 10 PCU. Delay is likely to have been underestimated.
Last Run	Lane Simulation	3 - Stevenage Road - Lane Simulation	Arm 3: Queue at end of modelled period is greater than 10 PCU. Delay is likely to have been underestimated.
Info	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. For detailed information on this mode, please see the User Guide.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Hitchin Hill Roundabout	Standard Roundabout		1, 2, 3, 4, 5	536.91	F

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	536.91	F

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2027 Base	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Park Way		ONE HOUR	✓	1180	100.000
2 - Hitchin Hill		ONE HOUR	✓	634	100.000
3 - Stevenage Road		ONE HOUR	✓	1082	100.000
4 - London Road		ONE HOUR	✓	284	100.000
5 - Gosmore Road		ONE HOUR	✓	71	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	0	99	951	110	20
	2 - Hitchin Hill	371	0	142	97	24
	3 - Stevenage Road	991	51	0	0	40
	4 - London Road	225	48	0	0	11
	5 - Gosmore Road	20	22	24	5	0

### Proportions

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	0.00	0.08	0.81	0.09	0.02
	2 - Hitchin Hill	0.59	0.00	0.22	0.15	0.04
	3 - Stevenage Road	0.92	0.05	0.00	0.00	0.04
	4 - London Road	0.79	0.17	0.00	0.00	0.04
	5 - Gosmore Road	0.28	0.31	0.34	0.07	0.00

## Vehicle Mix

### Heavy Vehicle Percentages

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	0	1	2	0	0
	2 - Hitchin Hill	1	0	5	0	0
	3 - Stevenage Road	3	15	0	2	1
	4 - London Road	0	1	1	0	0
	5 - Gosmore Road	0	1	1	0	0

### Average PCU Per Veh

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	1.000	1.013	1.019	1.001	1.001
	2 - Hitchin Hill	1.006	1.000	1.046	1.003	1.002
	3 - Stevenage Road	1.031	1.146	1.000	1.016	1.009
	4 - London Road	1.001	1.006	1.009	1.000	1.000
	5 - Gosmore Road	1.001	1.007	1.010	1.001	1.000

## Detailed Demand Data

### Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)

16:45-17:00	1 - Park Way	888	888
	2 - Hitchin Hill	477	477
	3 - Stevenage Road	815	815
	4 - London Road	214	214
	5 - Gosmore Road	53	53
17:00-17:15	1 - Park Way	1061	1061
	2 - Hitchin Hill	570	570
	3 - Stevenage Road	973	973
	4 - London Road	255	255
	5 - Gosmore Road	64	64
17:15-17:30	1 - Park Way	1299	1299
	2 - Hitchin Hill	698	698
	3 - Stevenage Road	1191	1191
	4 - London Road	313	313
	5 - Gosmore Road	78	78
17:30-17:45	1 - Park Way	1299	1299
	2 - Hitchin Hill	698	698
	3 - Stevenage Road	1191	1191
	4 - London Road	313	313
	5 - Gosmore Road	78	78
17:45-18:00	1 - Park Way	1061	1061
	2 - Hitchin Hill	570	570
	3 - Stevenage Road	973	973
	4 - London Road	255	255
	5 - Gosmore Road	64	64
18:00-18:15	1 - Park Way	888	888
	2 - Hitchin Hill	477	477
	3 - Stevenage Road	815	815
	4 - London Road	214	214
	5 - Gosmore Road	53	53

## Results

### Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Park Way	434.80	129.7	F	1081	1622
2 - Hitchin Hill	114.07	24.6	F	580	870
3 - Stevenage Road	1069.70	275.4	F	991	1486
4 - London Road	7.86	0.7	A	261	391
5 - Gosmore Road	9.00	0.2	A	65	97

### Main Results for each time segment

#### 16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	890	223	111	893	877	1190	0.0	4.6	16.870	C
2 - Hitchin Hill	478	119	841	473	468	163	0.0	2.1	14.314	B
3 - Stevenage Road	817	204	473	795	772	841	0.0	11.2	37.398	E
4 - London Road	212	53	1107	213	215	160	0.0	0.4	5.997	A
5 - Gosmore Road	53	13	1248	53	55	72	0.0	0.1	7.340	A

#### 17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1062	265	128	1027	1012	1313	4.6	16.8	43.560	E
2 - Hitchin Hill	564	141	965	566	557	189	2.1	4.4	25.806	D
3 - Stevenage Road	977	244	560	829	826	972	11.2	48.7	134.917	F
4 - London Road	258	64	1202	258	257	187	0.4	0.5	6.911	A
5 - Gosmore Road	63	16	1379	62	63	80	0.1	0.2	8.115	A

#### 17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1302	326	149	1069	1070	1399	16.8	74.4	156.222	F
2 - Hitchin Hill	696	174	1011	653	647	207	4.4	17.0	65.473	F
3 - Stevenage Road	1184	296	627	814	822	1036	48.7	140.4	421.607	F
4 - London Road	317	79	1237	317	316	204	0.5	0.6	7.861	A
5 - Gosmore Road	77	19	1470	77	76	84	0.2	0.2	8.609	A

#### 17:30 - 17:45

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Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1301	325	146	1086	1080	1412	74.4	129.7	345.103	F
2 - Hitchin Hill	706	177	1023	675	667	209	17.0	24.6	114.065	F
3 - Stevenage Road	1183	296	648	814	806	1050	140.4	236.6	842.273	F
4 - London Road	312	78	1252	312	310	210	0.6	0.7	7.594	A
5 - Gosmore Road	77	19	1481	77	78	83	0.2	0.2	9.000	A

## 17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1057	264	128	1080	1076	1311	129.7	127.8	434.805	F
2 - Hitchin Hill	564	141	1017	594	622	191	24.6	11.6	94.408	F
3 - Stevenage Road	973	243	589	815	817	1022	236.6	275.4	1069.703	F
4 - London Road	249	62	1206	250	255	198	0.7	0.5	7.103	A
5 - Gosmore Road	63	16	1375	64	65	81	0.2	0.1	8.238	A

## 18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	876	219	115	1069	1073	1257	127.8	80.2	337.968	F
2 - Hitchin Hill	472	118	1002	484	509	182	11.6	3.2	36.013	E
3 - Stevenage Road	811	203	498	856	841	988	275.4	269.1	855.443	F
4 - London Road	218	54	1175	218	215	180	0.5	0.4	6.417	A
5 - Gosmore Road	55	14	1318	54	54	75	0.1	0.1	7.822	A

## Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

## Lanes: Main Results for each time segment

## 16:45 - 17:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	791	964	0.821	793	778	0.0	3.9	16.418	C
			2	1, 4, 5	99	964	0.103	100	99	0.0	0.1	4.232	A
	Exit	1	1	(1, 2, 3, 4, 5)	890			891	893	0.0	0.6	1.775	A
			1		1190			1190	1167	0.0	0.0	0.000	A
2 - Hitchin Hill	Entry	1	1	3	103	582	0.177	104	105	0.0	0.2	7.895	A
			2	1, 2, 4, 5	373	582	0.641	369	363	0.0	1.6	14.285	B
	Exit	1	1	(1, 2, 3, 4, 5)	478			476	476	0.0	0.3	1.359	A
			1		163			163	163	0.0	0.0	0.000	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	764	820	0.932	758	735	0.0	6.8	27.603	D
			2	2, 3	37	820	0.045	36	37	0.0	0.1	5.139	A
	Exit	1	1	(1, 2, 3, 4, 5)	817			800	800	0.0	4.2	10.432	B
			1		841			841	829	0.0	0.0	0.000	A
4 - London Road	Entry	1	1	1, 5	175	743	0.236	176	178	0.0	0.3	6.181	A
			2	2, 3, 4	37	743	0.050	37	36	0.0	0.1	5.080	A
	Exit	1	1	(1, 2, 3, 4, 5)	212			212	216	0.0	0.0	0.003	A
			1		160			160	159	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	15	518	0.029	15	16	0.0	0.0	7.136	A
			2	2, 3, 4, 5	38	518	0.073	38	39	0.0	0.1	7.415	A
	Exit	1	1	(1, 2, 3, 4, 5)	53			53	56	0.0	0.0	0.008	A
			1		72			72	71	0.0	0.0	0.000	A

## 17:00 - 17:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	917	959	0.957	913	897	3.9	7.6	26.922	D
			2	1, 4, 5	115	959	0.119	114	115	0.1	0.2	4.383	A
	Exit	1	1	(1, 2, 3, 4, 5)	1062			1032	1027	0.6	9.1	18.923	C
			1		1313			1313	1304	0.0	0.0	0.000	A
2 - Hitchin Hill	Entry	1	1	3	124	552	0.226	125	124	0.2	0.3	8.892	A
			2	1, 2, 4, 5	438	552	0.794	442	433	1.6	2.5	20.553	C
	Exit	1	1	(1, 2, 3, 4, 5)	564			563	561	0.3	1.6	7.663	A
			1		189			189	190	0.0	0.0	0.000	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	793	796	0.996	791	787	6.8	9.8	41.754	E
			2	2, 3	38	796	0.047	38	39	0.1	0.1	5.564	A
	Exit	1	1	(1, 2, 3, 4, 5)	977			830	838	4.2	38.8	94.153	F
			1		972			972	956	0.0	0.0	0.000	A
4 - London Road	Entry	1	1	1, 5	212	713	0.298	212	212	0.3	0.4	7.195	A
			2	2, 3, 4	45	713	0.064	45	45	0.1	0.0	5.464	A
	Exit	1	1	(1, 2, 3, 4, 5)	258			258	258	0.0	0.0	0.016	A
			1		187			187	185	0.0	0.0	0.000	A
		1	1	1	18	484	0.036	18	18	0.0	0.0	8.083	A

5 - Gosmore Road	Entry		2	2, 3, 4, 5	45	484	0.093	45	45	0.1	0.1	8.122	A
		2	1	(1, 2, 3, 4, 5)	63			63	63	0.0	0.0	0.004	A
	Exit	1	1		80			80	80	0.0	0.0	0.000	A

## 17:15 - 17:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	955	953	1.002	954	952	7.6	10.0	36.187	E
			2	1, 4, 5	115	953	0.121	115	118	0.2	0.2	4.507	A
	Exit	2	1	(1, 2, 3, 4, 5)	1302			1070	1079	9.1	64.3	123.271	F
2 - Hitchin Hill	Entry	1	1	3	147	541	0.273	146	144	0.3	0.5	10.603	B
			2	1, 2, 4, 5	508	541	0.940	507	503	2.5	4.3	28.135	D
	Exit	2	1	(1, 2, 3, 4, 5)	696			655	655	1.6	12.2	40.865	E
3 - Stevenage Road	Entry	1	1	1, 4, 5	774	777	0.997	774	782	9.8	10.0	45.976	E
			2	2, 3	40	777	0.051	40	39	0.1	0.1	5.832	A
	Exit	2	1	(1, 2, 3, 4, 5)	1184			814	823	38.8	130.3	376.875	F
4 - London Road	Entry	1	1	1, 5	262	702	0.373	262	263	0.4	0.5	8.249	A
			2	2, 3, 4	55	702	0.078	55	53	0.0	0.1	5.615	A
	Exit	2	1	(1, 2, 3, 4, 5)	317			317	317	0.0	0.0	0.052	A
5 - Gosmore Road	Entry	1	1	1	23	460	0.050	23	22	0.0	0.1	8.163	A
			2	2, 3, 4, 5	55	460	0.118	54	55	0.1	0.2	8.781	A
	Exit	2	1	(1, 2, 3, 4, 5)	77			77	76	0.0	0.0	0.005	A
	Exit	1	1		84			84	86	0.0	0.0	0.000	A

## 17:30 - 17:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	965	953	1.012	965	960	10.0	10.0	37.349	E
			2	1, 4, 5	120	953	0.126	121	120	0.2	0.1	4.528	A
	Exit	2	1	(1, 2, 3, 4, 5)	1301			1085	1080	64.3	119.5	311.443	F
2 - Hitchin Hill	Entry	1	1	3	153	537	0.285	153	151	0.5	0.4	10.826	B
			2	1, 2, 4, 5	522	537	0.971	521	516	4.3	4.6	30.680	D
	Exit	2	1	(1, 2, 3, 4, 5)	706			675	668	12.2	19.6	87.618	F
3 - Stevenage Road	Entry	1	1	1, 4, 5	776	771	1.006	776	770	10.0	10.0	46.737	E
			2	2, 3	38	771	0.049	38	36	0.1	0.1	5.657	A
	Exit	2	1	(1, 2, 3, 4, 5)	1183			814	806	130.3	226.5	797.759	F
4 - London Road	Entry	1	1	1, 5	259	697	0.371	259	257	0.5	0.6	7.919	A
			2	2, 3, 4	53	697	0.076	53	54	0.1	0.1	5.714	A
	Exit	2	1	(1, 2, 3, 4, 5)	312			312	311	0.0	0.0	0.045	A
5 - Gosmore Road	Entry	1	1	1	22	458	0.048	22	22	0.1	0.1	8.280	A
			2	2, 3, 4, 5	56	458	0.122	56	55	0.2	0.1	9.239	A
	Exit	2	1	(1, 2, 3, 4, 5)	77			77	77	0.0	0.0	0.038	A
	Exit	1	1		83			83	84	0.0	0.0	0.000	A

## 17:45 - 18:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	960	959	1.001	960	957	10.0	9.9	37.448	E
			2	1, 4, 5	120	959	0.125	119	119	0.1	0.2	4.564	A
	Exit	2	1	(1, 2, 3, 4, 5)	1057			1080	1076	119.5	117.7	401.225	F
2 - Hitchin Hill	Entry	1	1	3	129	539	0.240	129	137	0.4	0.4	10.439	B
			2	1, 2, 4, 5	464	539	0.861	465	484	4.6	3.4	28.244	D
	Exit	2	1	(1, 2, 3, 4, 5)	564			593	617	19.6	7.7	70.326	F
3 - Stevenage Road	Entry	1	1	1, 4, 5	775	787	0.984	775	777	10.0	10.0	46.230	E
			2	2, 3	40	787	0.051	40	39	0.1	0.1	5.794	A
	Exit	2	1	(1, 2, 3, 4, 5)	973			815	817	226.5	265.3	1032.518	F
4 - London Road	Entry	1	1	1, 5	207	712	0.291	207	211	0.6	0.4	7.420	A
			2	2, 3, 4	42	712	0.060	43	44	0.1	0.1	5.518	A
	Exit	2	1	(1, 2, 3, 4, 5)	249			249	255	0.0	0.0	0.022	A
5 - Gosmore Road	Entry	1	1	1	18	485	0.037	18	18	0.1	0.0	7.662	A
			2	2, 3, 4, 5	45	485	0.093	46	47	0.1	0.1	8.441	A
	Exit	2	1	(1, 2, 3, 4, 5)	63			63	65	0.0	0.0	0.016	A
	Exit	1	1		81			81	82	0.0	0.0	0.000	A

## 18:00 - 18:15

					Total				Average	Start	End		
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Arm	Side	Lane level	Lane	Destination arms	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	throughput (PCU/hr)	queue (PCU)	queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	948	963	0.985	951	955	9.9	9.6	36.989	E
			2	1, 4, 5	118	963	0.123	118	118	0.2	0.1	4.459	A
	Exit	1	1	(1, 2, 3, 4, 5)	876			1066	1072	117.7	70.4	303.986	F
			1	1		1257			1257	1254	0.0	0.0	0.000
2 - Hitchin Hill	Entry	1	1	3	108	543	0.199	108	113	0.4	0.3	9.273	A
			2	1, 2, 4, 5	374	543	0.690	377	397	3.4	1.9	20.598	C
	Exit	1	1	(1, 2, 3, 4, 5)	472			482	503	7.7	1.0	18.491	C
			1	1		182			182	183	0.0	0.0	0.000
3 - Stevenage Road	Entry	1	1	1, 4, 5	816	812	1.004	816	802	10.0	10.0	44.679	E
			2	2, 3	41	812	0.050	40	39	0.1	0.1	5.583	A
	Exit	1	1	(1, 2, 3, 4, 5)	811			856	841	265.3	259.0	842.532	F
			1	1		988			988	996	0.0	0.0	0.000
4 - London Road	Entry	1	1	1, 5	181	722	0.251	181	178	0.4	0.4	6.652	A
			2	2, 3, 4	36	722	0.050	36	37	0.1	0.0	5.282	A
	Exit	1	1	(1, 2, 3, 4, 5)	218			218	215	0.0	0.0	0.001	A
			1	1		180			180	184	0.0	0.0	0.000
5 - Gosmore Road	Entry	1	1	1	16	500	0.031	15	16	0.0	0.0	7.411	A
			2	2, 3, 4, 5	39	500	0.079	39	39	0.1	0.1	7.989	A
	Exit	1	1	(1, 2, 3, 4, 5)	55			55	54	0.0	0.0	0.000	A
			1	1		75			75	76	0.0	0.0	0.000

Lane movements: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	75	19	997	964	0.078	75	73	0.0	0.3	16.503	C
				3	716	179	997	964	0.743	718	705	0.0	3.6	16.410	C
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	84	21	997	964	0.087	84	84	0.0	0.1	4.242	A
				5	15	4	973	941	0.016	16	16	0.0	0.0	4.181	A
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	75	19	-	-	-	75	74	0.0	0.0	1.741	A
				3	716	179	-	-	-	716	719	0.0	0.5	1.794	A
				4	84	21	-	-	-	84	84	0.0	0.1	1.632	A
				5	15	4	-	-	-	15	16	0.0	0.0	1.870	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	103	26	789	582	0.177	104	105	0.0	0.2	7.895	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
2	1	1	282	70	789	582	0.484	279	274	0.0	1.2	14.250	B		
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		4	73	18	789	583	0.126	72	71	0.0	0.3	14.316	B		
		5	18	5	774	575	0.032	18	18	0.0	0.1	14.699	B		
3 - Stevenage Road	Entry	1	1	1	734	184	950	820	0.896	729	707	0.0	6.6	27.573	D
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	29	7	947	818	0.036	29	29	0.0	0.3	28.313	D
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	37	9	950	819	0.045	36	37	0.0	0.1	5.139	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
2	1	1	749	187	-	-	-	734	733	0.0	3.8	10.450	B		
		2	38	9	-	-	-	37	37	0.0	0.2	9.633	A		
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		5	30	8	-	-	-	29	30	0.0	0.2	10.887	B		
5 - Gosmore Road	1	1	1	167	42	1096	743	0.224	167	170	0.0	0.3	6.190	A	
			2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			5	9	2	945	649	0.014	9	8	0.0	0.0	5.996	A	



4 - London Road	Entry	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	37	9	1096	742	0.050	37	36	0.0	0.1	5.080	A	
			3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
		2	1	1	167	42	-	-	-	167	171	0.0	0.0	0.003	A
				2	37	9	-	-	-	37	37	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	9	2	-	-	-	9	8	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	15	4	830	513	0.030	15	16	0.0	0.0	7.136	A	
			2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	15	4	830	517	0.029	15	16	0.0	0.0	7.320	A
				3	19	5	835	518	0.038	20	19	0.0	0.0	7.491	A
				4	4	0.89	535	336	0.011	4	4	0.0	0.0	7.462	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	15	4	-	-	-	15	17	0.0	0.0	0.000	A
				2	15	4	-	-	-	15	16	0.0	0.0	0.000	A
				3	19	5	-	-	-	19	19	0.0	0.0	0.025	A
				4	4	0.89	-	-	-	4	4	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

17:00 - 17:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service		
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	86	22	997	959	0.090	86	86	0.3	0.7	26.754	D		
				3	831	208	997	959	0.867	827	811	3.6	6.9	26.940	D		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	1	1	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				4	96	24	997	959	0.100	96	97	0.1	0.1	4.403	A		
				5	18	5	991	953	0.019	18	18	0.0	0.0	4.277	A		
		2	1	1	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				2	88	22	-	-	-	86	87	0.0	0.7	18.530	C		
				3	857	214	-	-	-	831	824	0.5	7.5	19.097	C		
				4	98	24	-	-	-	96	97	0.1	0.7	18.041	C		
				5	19	5	-	-	-	18	18	0.0	0.2	17.708	C		
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	124	31	789	552	0.225	125	124	0.2	0.3	8.892	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	1	1	332	83	789	552	0.602	334	328	1.2	1.9	20.522	C		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	85	21	789	552	0.155	87	84	0.3	0.4	20.709	C		
				5	21	5	782	548	0.038	21	21	0.1	0.1	20.427	C		
		2	1	1	333	83	-	-	-	332	331	0.2	1.0	7.949	A		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	124	31	-	-	-	124	125	0.0	0.3	6.785	A		
				4	86	21	-	-	-	85	84	0.0	0.2	7.854	A		
				5	21	5	-	-	-	21	21	0.0	0.1	7.390	A		
3 - Stevenage Road	Entry	1	1	1	761	190	950	795	0.957	760	756	6.6	9.4	41.780	E		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	31	8	950	796	0.039	31	31	0.3	0.4	41.141	E		
		2	1	1	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				2	38	9	950	796	0.047	38	39	0.1	0.1	5.564	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	1	1	895	224	-	-	-	761	767	3.8	35.6	94.256	F		
				2	45	11	-	-	-	38	39	0.2	1.8	92.950	F		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	37	9	-	-	-	31	32	0.2	1.4	93.028	F		
1	1	1	202	50	1096	713	0.283	201	202	0.3	0.4	7.212	A				
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
		5	11	3	1015	665	0.016	11	10	0.0	0.0	6.832	A				

4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	45	11	1096	715	0.064	45	45	0.1	0.0	5.464	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	202	50	-	-	-	202	203	0.0	0.0	0.019	A
				2	45	11	-	-	-	45	45	0.0	0.0	0.004	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	11	3	-	-	-	11	10	0.0	0.0	0.027	A
5 - Gosmore Road	Entry	1	1	1	18	4	825	472	0.037	18	18	0.0	0.0	8.083	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	20	5	835	479	0.043	20	20	0.0	0.1	8.027	A
				3	20	5	840	482	0.042	20	21	0.0	0.1	7.966	A
				4	4	1	574	333	0.013	4	4	0.0	0.0	9.324	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	18	4	-	-	-	18	18	0.0	0.0	0.000	A
				2	20	5	-	-	-	20	20	0.0	0.0	0.001	A
				3	20	5	-	-	-	20	21	0.0	0.0	0.010	A
				4	4	1	-	-	-	4	4	0.0	0.0	0.006	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

17:15 - 17:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service	
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	91	23	997	953	0.096	91	90	0.7	1.0	36.257	E	
				3	863	216	997	953	0.906	863	862	6.9	9.0	36.180	E	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	98	24	997	953	0.103	98	99	0.1	0.1	4.547	A
					5	17	4	985	942	0.018	17	19	0.0	0.0	4.293	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	109	27	-	-	-	91	91	0.7	5.3	123.318	F	
				3	1050	262	-	-	-	863	870	7.5	51.9	123.419	F	
				4	121	30	-	-	-	98	99	0.7	6.0	122.234	F	
				5	23	6	-	-	-	17	19	0.2	1.1	121.773	F	
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	147	37	789	540	0.273	146	144	0.3	0.5	10.603	B	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	382	95	789	541	0.706	382	380	1.9	3.1	28.132	D
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	102	25	789	541	0.189	101	98	0.4	0.9	28.280	D
					5	25	6	789	542	0.045	24	24	0.1	0.2	27.592	D
		2	1	1	404	101	-	-	-	382	385	1.0	7.1	41.101	E	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	158	39	-	-	-	147	145	0.3	2.7	39.432	E	
				4	109	27	-	-	-	102	100	0.2	1.9	41.949	E	
				5	26	7	-	-	-	25	24	0.1	0.5	40.892	E	
3 - Stevenage Road	Entry	1	1	1	743	186	950	777	0.956	744	751	9.4	9.6	45.974	E	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	31	8	947	773	0.040	31	31	0.4	0.4	46.014	E	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	40	10	950	777	0.051	40	39	0.1	0.1	5.832	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	1087	272	-	-	-	743	752	35.6	119.7	377.454	F	
				2	52	13	-	-	-	40	39	1.8	5.7	367.246	F	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	45	11	-	-	-	31	31	1.4	4.9	373.536	F	
1	1	1	250	62	1096	702	0.356	250	251	0.4	0.5	8.252	A			
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		5	12	3	1056	674	0.018	12	13	0.0	0.0	8.199	A			

4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	55	14	1096	699	0.079	55	53	0.0	0.1	5.615	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	250	62	-	-	-	250	251	0.0	0.0	0.056	A
				2	55	14	-	-	-	55	53	0.0	0.0	0.022	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	12	3	-	-	-	12	13	0.0	0.0	0.106	A

5 - Gosmore Road	Entry	1	1	1	23	6	843	460	0.050	23	22	0.0	0.1	8.163	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	22	5	843	461	0.047	21	23	0.1	0.1	8.562	A
					3	28	7	840	457	0.061	28	27	0.1	0.1	8.989	A
					4	5	1	613	334	0.015	5	5	0.0	0.0	8.692	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	23	6	-	-	-	23	22	0.0	0.0	0.007	A	
				2	22	5	-	-	-	22	23	0.0	0.0	0.000	A	
				3	28	7	-	-	-	28	27	0.0	0.0	0.009	A	
				4	5	1	-	-	-	5	5	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	

17:30 - 17:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service	
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	92	23	997	954	0.096	92	91	1.0	0.9	37.300	E	
				3	873	218	997	953	0.916	873	869	9.0	9.1	37.354	E	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	0	0	0	0	0.000	0	0.0	0.0	0.000	A	
					2	0	0	0	0	0.000	0	0.0	0.0	0.000	A	
					3	0	0	0	0	0.000	0	0.0	0.0	0.000	A	
					4	101	25	997	954	0.106	102	101	0.1	0.1	4.511	A
					5	19	5	988	945	0.020	19	19	0.0	0.0	4.622	A
		2	1	1	0	0	0	0	0.000	0	0.0	0.0	0.000	A		
				2	106	26	-	-	-	92	90	5.3	9.6	309.297	F	
				3	1050	262	-	-	-	873	870	51.9	96.6	311.737	F	
				4	122	31	-	-	-	101	101	6.0	11.2	311.429	F	
				5	23	6	-	-	-	19	19	1.1	2.1	308.231	F	
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	153	38	789	537	0.285	153	151	0.5	0.4	10.826	B	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	396	99	789	537	0.736	395	391	3.1	3.5	30.614	D
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	102	25	789	537	0.189	103	102	0.9	0.8	30.735	D
					5	25	6	786	538	0.046	24	24	0.2	0.3	31.515	D
		2	1	1	416	104	-	-	-	396	392	7.1	11.6	88.221	F	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	158	39	-	-	-	153	151	2.7	4.2	85.547	F	
				4	107	27	-	-	-	102	102	1.9	3.1	87.699	F	
				5	26	6	-	-	-	25	24	0.5	0.8	89.860	F	
3 - Stevenage Road	Entry	1	1	1	746	187	950	771	0.967	747	740	9.6	9.6	46.743	E	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	30	7	947	772	0.039	29	30	0.4	0.4	46.591	E	
			2	1	1	0	0	0	0	0.000	0	0.0	0.0	0.000	A	
					2	38	9	950	772	0.049	38	36	0.1	0.1	5.657	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	1081	270	-	-	-	746	740	119.7	207.4	797.936	F	
				2	58	14	-	-	-	38	36	5.7	10.9	794.063	F	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	45	11	-	-	-	30	30	4.9	8.2	797.689	F	
1	1	1	248	62	1096	697	0.356	248	245	0.5	0.6	7.916	A			
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		5	11	3	1042	667	0.016	11	12	0.0	0.0	7.975	A			

4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	53	13	1096	697	0.076	53	54	0.1	0.1	5.714	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	248	62	-	-	-	248	245	0.0	0.0	0.049	A
				2	53	13	-	-	-	53	54	0.0	0.0	0.021	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	11	3	-	-	-	11	12	0.0	0.0	0.064	A

5 - Gosmore Road	Entry	1	1	1	22	5	838	458	0.048	22	22	0.1	0.1	8.280	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	26	6	843	459	0.057	26	25	0.1	0.1	9.098	A
					3	24	6	840	460	0.052	24	25	0.1	0.0	9.270	A
					4	6	1	628	343	0.017	6	6	0.0	0.0	9.726	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	22	5	-	-	-	22	22	0.0	0.0	0.031	A	
				2	26	6	-	-	-	26	25	0.0	0.0	0.049	A	
				3	24	6	-	-	-	24	25	0.0	0.0	0.040	A	
				4	6	1	-	-	-	6	6	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	

17:45 - 18:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service	
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	89	22	997	959	0.093	90	89	0.9	1.0	37.418	E	
				3	871	218	997	959	0.908	870	868	9.1	9.0	37.452	E	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	102	25	997	959	0.106	101	100	0.1	0.1	4.578	A
					5	18	5	988	949	0.019	18	19	0.0	0.0	4.486	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	90	23	-	-	-	89	89	9.6	9.9	400.520	F	
				3	851	213	-	-	-	871	868	96.6	94.8	401.181	F	
				4	98	24	-	-	-	102	100	11.2	11.0	401.520	F	
				5	18	4	-	-	-	18	19	2.1	2.0	405.118	F	
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	129	32	789	540	0.240	129	137	0.4	0.4	10.439	B	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	350	87	789	539	0.649	350	364	3.5	2.6	28.192	D
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	92	23	789	540	0.170	92	96	0.8	0.7	28.209	D
					5	23	6	784	536	0.042	23	24	0.3	0.2	29.158	D
		2	1	1	331	83	-	-	-	350	360	11.6	4.6	70.338	F	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	124	31	-	-	-	129	137	4.2	1.7	68.558	F	
				4	88	22	-	-	-	92	96	3.1	1.2	72.064	F	
				5	21	5	-	-	-	23	24	0.8	0.3	72.948	F	
3 - Stevenage Road	Entry	1	1	1	745	186	950	787	0.946	745	748	9.6	9.6	46.250	E	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	30	7	950	784	0.038	29	29	0.4	0.4	45.738	E	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	40	10	950	785	0.051	40	39	0.1	0.1	5.794	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	891	223	-	-	-	745	748	207.4	243.1	1032.824	F	
				2	47	12	-	-	-	40	39	10.9	12.5	1025.480	F	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	35	9	-	-	-	30	30	8.2	9.7	1032.801	F	
1	1	1	197	49	1096	711	0.277	197	201	0.6	0.4	7.433	A			
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		5	10	3	1022	660	0.015	10	10	0.0	0.0	7.178	A			

4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	42	11	1096	709	0.060	43	44	0.1	0.1	5.518	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	197	49	-	-	-	197	200	0.0	0.0	0.024	A
				2	42	11	-	-	-	42	44	0.0	0.0	0.015	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	10	3	-	-	-	10	10	0.0	0.0	0.015	A

5 - Gosmore Road	Entry	1	1	1	18	5	840	482	0.038	18	18	0.1	0.0	7.662	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	18	5	838	480	0.038	18	20	0.1	0.0	8.238	A
					3	22	6	838	479	0.046	22	22	0.0	0.0	8.673	A
					4	5	1	579	328	0.014	5	5	0.0	0.0	8.228	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	18	5	-	-	-	18	18	0.0	0.0	0.008	A	
				2	18	5	-	-	-	18	20	0.0	0.0	0.019	A	
				3	22	6	-	-	-	22	22	0.0	0.0	0.024	A	
				4	5	1	-	-	-	5	5	0.0	0.0	0.005	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	

18:00 - 18:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service	
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	90	23	997	963	0.094	89	90	1.0	1.0	37.159	E	
				3	858	214	997	963	0.891	862	865	9.0	8.6	36.971	E	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	0	0	0	0	0.000	0	0.0	0.0	0.000	A	
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	101	25	997	963	0.105	100	101	0.1	0.1	4.454	A
					5	17	4	982	948	0.018	18	17	0.0	0.0	4.482	A
		2	1	1	0	0	0	0	0.000	0	0.0	0.0	0.000	A		
				2	72	18	-	-	-	90	90	9.9	5.8	304.605	F	
				3	705	176	-	-	-	858	863	94.8	56.8	304.153	F	
				4	84	21	-	-	-	101	101	11.0	6.6	302.783	F	
				5	15	4	-	-	-	17	17	2.0	1.2	299.534	F	
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	108	27	789	542	0.199	108	113	0.4	0.3	9.273	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	281	70	789	543	0.518	283	299	2.6	1.4	20.584	C
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	75	19	789	543	0.138	75	79	0.7	0.4	20.532	C
					5	18	5	782	537	0.034	18	19	0.2	0.1	21.088	C
		2	1	1	275	69	-	-	-	281	294	4.6	0.6	18.718	C	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	106	26	-	-	-	108	112	1.7	0.2	17.581	C	
				4	73	18	-	-	-	75	77	1.2	0.1	18.846	C	
				5	18	4	-	-	-	18	19	0.3	0.0	18.749	C	
3 - Stevenage Road	Entry	1	1	1	785	196	950	812	0.966	785	771	9.6	9.7	44.687	E	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	31	8	950	813	0.038	31	31	0.4	0.4	44.482	E	
			2	1	1	0	0	0	0	0.000	0	0.0	0.0	0.000	A	
					2	41	10	950	812	0.050	40	39	0.1	0.1	5.583	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	743	186	-	-	-	785	771	243.1	237.1	841.859	F	
				2	37	9	-	-	-	41	39	12.5	12.2	850.505	F	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	30	8	-	-	-	31	31	9.7	9.6	850.752	F	
1	1	1	173	43	1096	722	0.240	173	169	0.4	0.4	6.668	A			
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		5	9	2	945	621	0.014	8	8	0.0	0.0	6.335	A			

4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	36	9	1096	723	0.050	36	37	0.1	0.0	5.282	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	173	43	-	-	-	173	169	0.0	0.0	0.002	A
				2	36	9	-	-	-	36	37	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	9	2	-	-	-	9	8	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	16	4	833	493	0.032	15	16	0.0	0.0	7.411	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	17	4	830	496	0.035	17	17	0.0	0.0	7.904	A
				3	18	4	840	500	0.036	18	18	0.0	0.0	8.058	A
				4	4	1	525	311	0.013	4	4	0.0	0.0	8.029	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	16	4	-	-	-	16	16	0.0	0.0	0.000	A
				2	17	4	-	-	-	17	17	0.0	0.0	0.000	A
				3	18	4	-	-	-	18	18	0.0	0.0	0.000	A
				4	4	1	-	-	-	4	4	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

# 2039 Base, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Last Run	Lane Simulation	1 - Park Way - Lane Simulation	Arm 1: Queue at end of modelled period is greater than 10 PCU. Delay is likely to have been underestimated.
Last Run	Lane Simulation	3 - Stevenage Road - Lane Simulation	Arm 3: Queue at end of modelled period is greater than 10 PCU. Delay is likely to have been underestimated.
Info	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. For detailed information on this mode, please see the User Guide.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Hitchin Hill Roundabout	Standard Roundabout		1, 2, 3, 4, 5	805.34	F

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	805.34	F

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2039 Base	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Park Way		ONE HOUR	✓	1398	100.000
2 - Hitchin Hill		ONE HOUR	✓	423	100.000
3 - Stevenage Road		ONE HOUR	✓	1114	100.000
4 - London Road		ONE HOUR	✓	259	100.000
5 - Gosmore Road		ONE HOUR	✓	115	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	0	135	1070	174	19
	2 - Hitchin Hill	257	0	52	93	21
	3 - Stevenage Road	1042	48	0	0	24
	4 - London Road	151	102	0	0	6
	5 - Gosmore Road	26	20	54	15	0

### Proportions

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	0.00	0.10	0.77	0.12	0.01
	2 - Hitchin Hill	0.61	0.00	0.12	0.22	0.05
	3 - Stevenage Road	0.94	0.04	0.00	0.00	0.02
	4 - London Road	0.58	0.39	0.00	0.00	0.02
	5 - Gosmore Road	0.23	0.17	0.47	0.13	0.00

## Vehicle Mix

### Heavy Vehicle Percentages

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	0	3	8	1	0
	2 - Hitchin Hill	1	0	11	1	1
	3 - Stevenage Road	4	12	0	3	2
	4 - London Road	0	1	2	0	0
	5 - Gosmore Road	0	0	1	0	0

### Average PCU Per Veh

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	1.000	1.029	1.077	1.007	1.004
	2 - Hitchin Hill	1.013	1.000	1.111	1.010	1.006
	3 - Stevenage Road	1.038	1.120	1.000	1.029	1.018
	4 - London Road	1.003	1.009	1.023	1.000	1.001
	5 - Gosmore Road	1.001	1.004	1.011	1.001	1.000

## Detailed Demand Data

### Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)

07:45-08:00	1 - Park Way	1052	1052
	2 - Hitchin Hill	318	318
	3 - Stevenage Road	839	839
	4 - London Road	195	195
	5 - Gosmore Road	87	87
08:00-08:15	1 - Park Way	1257	1257
	2 - Hitchin Hill	380	380
	3 - Stevenage Road	1001	1001
	4 - London Road	233	233
	5 - Gosmore Road	103	103
08:15-08:30	1 - Park Way	1539	1539
	2 - Hitchin Hill	466	466
	3 - Stevenage Road	1227	1227
	4 - London Road	285	285
	5 - Gosmore Road	127	127
08:30-08:45	1 - Park Way	1539	1539
	2 - Hitchin Hill	466	466
	3 - Stevenage Road	1227	1227
	4 - London Road	285	285
	5 - Gosmore Road	127	127
08:45-09:00	1 - Park Way	1257	1257
	2 - Hitchin Hill	380	380
	3 - Stevenage Road	1001	1001
	4 - London Road	233	233
	5 - Gosmore Road	103	103
09:00-09:15	1 - Park Way	1052	1052
	2 - Hitchin Hill	318	318
	3 - Stevenage Road	839	839
	4 - London Road	195	195
	5 - Gosmore Road	87	87

## Results

### Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Park Way	1021.45	342.2	F	1277	1915
2 - Hitchin Hill	29.56	4.3	D	385	577
3 - Stevenage Road	1094.64	292.3	F	1023	1534
4 - London Road	6.27	0.5	A	235	353
5 - Gosmore Road	8.88	0.3	A	107	161

### Main Results for each time segment

#### 07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1047	262	178	1031	997	1069	0.0	15.1	38.530	E
2 - Hitchin Hill	311	78	980	309	315	230	0.0	1.2	12.069	B
3 - Stevenage Road	826	206	425	811	788	863	0.0	11.3	38.471	E
4 - London Road	193	48	1024	192	194	212	0.0	0.4	5.476	A
5 - Gosmore Road	85	21	1161	86	89	55	0.0	0.2	7.452	A

#### 08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1262	315	204	1091	1075	1181	15.1	61.7	136.366	F
2 - Hitchin Hill	379	95	1044	382	380	250	1.2	1.9	17.067	C
3 - Stevenage Road	1006	251	501	843	835	925	11.3	52.9	141.665	F
4 - London Road	231	58	1104	231	230	239	0.4	0.2	5.753	A
5 - Gosmore Road	102	26	1283	102	101	53	0.2	0.3	7.973	A

#### 08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1525	381	239	1072	1078	1256	61.7	176.5	404.878	F
2 - Hitchin Hill	458	114	1048	460	459	263	1.9	3.3	26.211	D
3 - Stevenage Road	1232	308	566	832	834	942	52.9	152.5	447.277	F
4 - London Road	282	71	1150	282	285	248	0.2	0.5	6.222	A
5 - Gosmore Road	125	31	1370	125	126	62	0.3	0.2	8.880	A

#### 08:30 - 08:45

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Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1526	381	249	1077	1069	1230	176.5	294.8	800.621	F
2 - Hitchin Hill	475	119	1054	469	469	272	3.3	4.3	29.564	D
3 - Stevenage Road	1229	307	575	808	830	948	152.5	251.9	873.529	F
4 - London Road	279	70	1134	281	283	249	0.5	0.5	6.271	A
5 - Gosmore Road	131	33	1349	130	128	66	0.2	0.3	8.761	A

## 08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1244	311	218	1065	1065	1176	294.8	342.2	1021.448	F
2 - Hitchin Hill	363	91	1024	365	384	259	4.3	1.8	19.041	C
3 - Stevenage Road	1020	255	475	858	845	913	251.9	292.3	1094.644	F
4 - London Road	234	58	1109	233	232	225	0.5	0.4	5.744	A
5 - Gosmore Road	107	27	1286	108	108	56	0.3	0.2	8.465	A

## 09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1057	264	187	1097	1110	1135	342.2	329.5	850.805	F
2 - Hitchin Hill	322	81	1048	321	319	236	1.8	1.4	13.832	B
3 - Stevenage Road	826	206	453	864	871	915	292.3	284.5	875.935	F
4 - London Road	192	48	1089	191	196	227	0.4	0.4	5.593	A
5 - Gosmore Road	93	23	1230	93	88	51	0.2	0.2	7.671	A

## Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

## Lanes: Main Results for each time segment

## 07:45 - 08:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	890	944	0.943	890	855	0.0	7.0	25.837	D
			2	1, 4, 5	140	944	0.149	141	142	0.0	0.1	4.680	A
		2	1	(1, 2, 3, 4, 5)	1047			1030	1026	0.0	8.0	15.440	C
	Exit	1	1		1069			1069	1060	0.0	0.0	0.000	A
2 - Hitchin Hill	Entry	1	1	3	38	548	0.069	38	39	0.0	0.1	7.568	A
			2	1, 2, 4, 5	272	548	0.496	271	276	0.0	1.1	12.128	B
		2	1	(1, 2, 3, 4, 5)	311			310	320	0.0	0.1	0.424	A
	Exit	1	1		230			230	223	0.0	0.0	0.000	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	768	833	0.922	773	752	0.0	6.3	27.330	D
			2	2, 3	37	833	0.045	38	36	0.0	0.1	5.092	A
		2	1	(1, 2, 3, 4, 5)	826			805	814	0.0	4.9	11.650	B
	Exit	1	1		863			863	839	0.0	0.0	0.000	A
4 - London Road	Entry	1	1	1, 5	117	770	0.153	116	118	0.0	0.2	5.668	A
			2	2, 3, 4	76	770	0.098	76	76	0.0	0.1	5.177	A
		2	1	(1, 2, 3, 4, 5)	193			193	196	0.0	0.0	0.000	A
	Exit	1	1		212			212	211	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	21	541	0.038	21	21	0.0	0.0	6.693	A
			2	2, 3, 4, 5	65	541	0.119	65	68	0.0	0.1	7.661	A
		2	1	(1, 2, 3, 4, 5)	85			85	89	0.0	0.0	0.016	A
	Exit	1	1		55			55	51	0.0	0.0	0.000	A

## 08:00 - 08:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	940	936	1.004	938	926	7.0	9.9	36.118	E
			2	1, 4, 5	153	936	0.164	152	149	0.1	0.2	5.012	A
		2	1	(1, 2, 3, 4, 5)	1262			1093	1087	8.0	51.6	104.485	F
	Exit	1	1		1181			1181	1169	0.0	0.0	0.000	A
2 - Hitchin Hill	Entry	1	1	3	46	532	0.086	46	47	0.1	0.2	8.254	A
			2	1, 2, 4, 5	334	532	0.628	336	333	1.1	1.5	15.959	C
		2	1	(1, 2, 3, 4, 5)	379			380	382	0.1	0.2	1.950	A
	Exit	1	1		250			250	243	0.0	0.0	0.000	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	808	812	0.995	808	800	6.3	9.8	40.925	E
			2	2, 3	35	812	0.043	35	34	0.1	0.1	5.149	A
		2	1	(1, 2, 3, 4, 5)	1006			843	849	4.9	43.0	101.588	F
	Exit	1	1		925			925	919	0.0	0.0	0.000	A
4 - London Road	Entry	1	1	1, 5	139	744	0.186	138	140	0.2	0.2	6.047	A
			2	2, 3, 4	92	744	0.124	93	90	0.1	0.0	5.288	A
		2	1	(1, 2, 3, 4, 5)	231			231	230	0.0	0.0	0.002	A
	Exit	1	1		239			239	235	0.0	0.0	0.000	A
		1	1	1	26	509	0.051	26	23	0.0	0.1	7.417	A

5 - Gosmore Road	Entry		2	2, 3, 4, 5	76	509	0.149	76	78	0.1	0.2	8.119	A
		2	1	(1, 2, 3, 4, 5)	102			102	101	0.0	0.0	0.017	A
	Exit	1	1		53			53	54	0.0	0.0	0.000	A

## 08:15 - 08:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	925	926	0.999	925	930	9.9	10.0	38.579	E
			2	1, 4, 5	147	926	0.158	147	148	0.2	0.2	5.091	A
	Exit	2	1	(1, 2, 3, 4, 5)	1525			1072	1078	51.6	166.3	370.969	F
2 - Hitchin Hill	Entry	1	1	3	58	531	0.108	58	57	0.2	0.1	8.873	A
			2	1, 2, 4, 5	403	531	0.759	402	402	1.5	2.2	20.633	C
	Exit	2	1	(1, 2, 3, 4, 5)	458			461	462	0.2	1.0	6.823	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	797	794	1.004	797	797	9.8	10.0	45.016	E
			2	2, 3	36	794	0.045	35	36	0.1	0.1	5.741	A
	Exit	2	1	(1, 2, 3, 4, 5)	1232			833	834	43.0	142.4	403.952	F
4 - London Road	Entry	1	1	1, 5	176	730	0.241	176	175	0.2	0.3	6.382	A
			2	2, 3, 4	106	730	0.146	106	110	0.0	0.2	5.960	A
	Exit	2	1	(1, 2, 3, 4, 5)	282			282	286	0.0	0.0	0.003	A
5 - Gosmore Road	Entry	1	1	1	28	487	0.057	28	29	0.1	0.0	7.719	A
			2	2, 3, 4, 5	98	487	0.201	97	98	0.2	0.2	9.097	A
	Exit	2	1	(1, 2, 3, 4, 5)	125			125	126	0.0	0.0	0.090	A
	Exit	1	1		62			62	62	0.0	0.0	0.000	A

## 08:30 - 08:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	929	923	1.007	929	924	10.0	10.0	38.780	E
			2	1, 4, 5	146	923	0.158	148	145	0.2	0.1	5.193	A
	Exit	2	1	(1, 2, 3, 4, 5)	1526			1075	1069	166.3	284.7	766.784	F
2 - Hitchin Hill	Entry	1	1	3	61	530	0.114	59	59	0.1	0.2	8.516	A
			2	1, 2, 4, 5	412	530	0.777	410	409	2.2	2.6	21.460	C
	Exit	2	1	(1, 2, 3, 4, 5)	475			473	470	1.0	1.5	9.578	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	771	791	0.975	772	794	10.0	10.0	45.363	E
			2	2, 3	37	791	0.046	36	36	0.1	0.1	5.761	A
	Exit	2	1	(1, 2, 3, 4, 5)	1229			808	830	142.4	241.8	830.345	F
4 - London Road	Entry	1	1	1, 5	167	735	0.227	167	169	0.3	0.3	6.459	A
			2	2, 3, 4	113	735	0.153	114	114	0.2	0.2	5.992	A
	Exit	2	1	(1, 2, 3, 4, 5)	279			279	283	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	31	492	0.063	31	28	0.0	0.1	7.503	A
			2	2, 3, 4, 5	100	492	0.203	99	99	0.2	0.2	9.050	A
	Exit	2	1	(1, 2, 3, 4, 5)	131			131	128	0.0	0.0	0.061	A
	Exit	1	1		66			66	63	0.0	0.0	0.000	A

## 08:45 - 09:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	920	932	0.987	921	920	10.0	9.9	38.969	E
			2	1, 4, 5	145	932	0.156	144	144	0.1	0.2	5.172	A
	Exit	2	1	(1, 2, 3, 4, 5)	1244			1065	1065	284.7	332.1	992.537	F
2 - Hitchin Hill	Entry	1	1	3	46	537	0.086	47	48	0.2	0.1	8.142	A
			2	1, 2, 4, 5	317	537	0.590	318	337	2.6	1.5	17.197	C
	Exit	2	1	(1, 2, 3, 4, 5)	363			363	380	1.5	0.2	3.080	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	821	819	1.003	821	808	10.0	10.0	44.510	E
			2	2, 3	38	819	0.046	38	37	0.1	0.1	5.455	A
	Exit	2	1	(1, 2, 3, 4, 5)	1020			859	845	241.8	282.2	1057.629	F
4 - London Road	Entry	1	1	1, 5	138	743	0.185	137	137	0.3	0.3	5.779	A
			2	2, 3, 4	96	743	0.130	95	95	0.2	0.2	5.694	A
	Exit	2	1	(1, 2, 3, 4, 5)	234			234	232	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	23	508	0.046	23	25	0.1	0.1	7.482	A
			2	2, 3, 4, 5	84	508	0.165	85	83	0.2	0.2	8.694	A
	Exit	2	1	(1, 2, 3, 4, 5)	107			107	107	0.0	0.0	0.055	A
	Exit	1	1		56			56	55	0.0	0.0	0.000	A

## 09:00 - 09:15

					Total				Average	Start	End		
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Arm	Side	Lane level	Lane	Destination arms	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	throughput (PCU/hr)	queue (PCU)	queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	939	941	0.997	939	954	9.9	10.0	37.491	E
			2	1, 4, 5	158	941	0.168	158	156	0.2	0.3	5.094	A
	Exit	1	1	(1, 2, 3, 4, 5)	1057			1097	1110	332.1	319.3	839.161	F
			1	1		1135			1135	1145	0.0	0.0	0.000
2 - Hitchin Hill	Entry	1	1	3	39	531	0.074	38	38	0.1	0.2	8.213	A
			2	1, 2, 4, 5	282	531	0.530	283	281	1.5	1.1	13.692	B
	Exit	1	1	(1, 2, 3, 4, 5)	322			321	318	0.2	0.1	0.833	A
			1	1		236			236	238	0.0	0.0	0.000
3 - Stevenage Road	Entry	1	1	1, 4, 5	824	825	0.999	825	833	10.0	10.0	43.021	E
			2	2, 3	39	825	0.048	39	38	0.1	0.1	5.336	A
	Exit	1	1	(1, 2, 3, 4, 5)	826			864	871	282.2	274.4	866.994	F
			1	1		915			915	925	0.0	0.0	0.000
4 - London Road	Entry	1	1	1, 5	114	749	0.152	112	118	0.3	0.2	5.761	A
			2	2, 3, 4	79	749	0.105	79	78	0.2	0.1	5.337	A
	Exit	1	1	(1, 2, 3, 4, 5)	192			192	196	0.0	0.0	0.000	A
			1	1		227			227	223	0.0	0.0	0.000
5 - Gosmore Road	Entry	1	1	1	23	523	0.044	23	21	0.1	0.1	7.119	A
			2	2, 3, 4, 5	70	523	0.134	70	67	0.2	0.2	7.781	A
	Exit	1	1	(1, 2, 3, 4, 5)	93			93	88	0.0	0.0	0.048	A
			1	1		51			51	53	0.0	0.0	0.000

Lane movements: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	101	25	997	944	0.107	102	96	0.0	0.6	25.687	D
				3	789	197	997	944	0.836	788	760	0.0	6.4	25.857	D
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	127	32	997	945	0.134	128	128	0.0	0.1	4.715	A
				5	13	3	967	915	0.015	13	13	0.0	0.0	4.349	A
	2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	102	26	-	-	-	101	98	0.0	0.8	16.063	C	
			3	801	200	-	-	-	789	785	0.0	6.1	15.573	C	
			4	130	33	-	-	-	127	129	0.0	1.0	14.260	B	
			5	13	3	-	-	-	13	13	0.0	0.1	15.040	C	
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	38	10	789	551	0.069	38	39	0.0	0.1	7.568	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
	2	1	1	184	46	789	548	0.336	182	190	0.0	0.8	12.105	B	
			2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			4	71	18	789	550	0.129	71	70	0.0	0.2	12.223	B	
			5	17	4	777	543	0.031	18	16	0.0	0.0	11.995	B	
2	1	1	184	46	-	-	-	184	193	0.0	0.1	0.476	A		
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		3	38	10	-	-	-	38	39	0.0	0.0	0.248	A		
		4	71	18	-	-	-	71	71	0.0	0.0	0.368	A		
		5	17	4	-	-	-	17	16	0.0	0.0	0.436	A		
3 - Stevenage Road	Entry	1	1	1	750	187	950	833	0.901	755	736	0.0	6.2	27.320	D
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	18	4	929	813	0.022	18	16	0.0	0.1	27.782	D
	2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	37	9	950	831	0.045	38	36	0.0	0.1	5.092	A	
			3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
1	1	1	771	193	-	-	-	750	761	0.0	4.6	11.654	B		
		2	38	9	-	-	-	37	36	0.0	0.2	10.885	B		
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		5	17	4	-	-	-	18	17	0.0	0.1	12.999	B		
1	1	1	112	28	1096	771	0.145	111	113	0.0	0.2	5.687	A		
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		5	6	1	832	589	0.010	6	5	0.0	0.0	5.253	A		

4 - London Road	Entry	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	76	19	1096	769	0.098	76	76	0.0	0.1	5.177	A	
			3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
		2	1	1	112	28	-	-	-	112	114	0.0	0.0	0.000	A
				2	76	19	-	-	-	76	77	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	6	1	-	-	-	6	5	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	21	5	830	533	0.039	21	21	0.0	0.0	6.693	A	
			2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	15	4	811	518	0.028	15	15	0.0	0.0	7.873	A
				3	37	9	843	540	0.069	37	41	0.0	0.1	7.499	A
				4	13	3	811	524	0.024	13	12	0.0	0.0	7.932	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	21	5	-	-	-	21	21	0.0	0.0	0.000	A
				2	15	4	-	-	-	15	15	0.0	0.0	0.046	A
				3	37	9	-	-	-	37	41	0.0	0.0	0.005	A
				4	13	3	-	-	-	13	12	0.0	0.0	0.045	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

08:00 - 08:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service		
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	105	26	997	936	0.112	105	101	0.6	1.0	35.904	E		
				3	835	209	997	936	0.891	833	825	6.4	8.8	36.145	E		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	2	1	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.0	0.0	0.000	A
				4	141	35	997	936	0.151	140	136	0.1	0.2	5.021	A		
				5	12	3	915	858	0.014	12	13	0.0	0.0	4.912	A		
2	1	1	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A		
		2	119	30	-	-	-	105	103	0.8	4.9	103.719	F				
		3	964	241	-	-	-	835	835	6.1	39.7	104.992	F				
		4	163	41	-	-	-	141	136	1.0	6.4	102.342	F				
		5	15	4	-	-	-	12	13	0.1	0.6	102.413	F				
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	46	11	789	532	0.086	46	47	0.1	0.2	8.254	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	2	1	229	57	789	532	0.431	230	228	0.8	1.0	16.039	C		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	87	22	789	531	0.163	87	85	0.2	0.4	15.791	C		
				5	19	5	777	528	0.035	19	20	0.0	0.1	15.762	C		
2	1	1	229	57	-	-	-	229	229	0.1	0.2	2.069	A				
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
		3	45	11	-	-	-	46	47	0.0	0.0	1.562	A				
		4	86	22	-	-	-	87	86	0.0	0.0	1.852	A				
		5	18	5	-	-	-	19	20	0.0	0.0	1.831	A				
3 - Stevenage Road	Entry	1	1	1	791	198	950	812	0.974	791	783	6.2	9.6	40.929	E		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	17	4	929	794	0.021	17	17	0.1	0.2	40.740	E		
		2	2	1	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				2	35	9	950	814	0.043	35	34	0.1	0.1	5.149	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
2	1	1	942	235	-	-	-	791	796	4.6	40.3	101.598	F				
		2	43	11	-	-	-	35	34	0.2	1.8	102.588	F				
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
		5	21	5	-	-	-	17	18	0.1	0.9	99.395	F				
1	1	1	134	33	1096	743	0.180	133	135	0.2	0.2	6.062	A				
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
		5	5	1	824	564	0.009	5	5	0.0	0.0	5.633	A				

4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	92	23	1096	742	0.124	93	90	0.1	0.0	5.288	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	134	33	-	-	-	134	135	0.0	0.0	0.004	A
				2	92	23	-	-	-	92	90	0.0	0.0	0.001	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	5	1	-	-	-	5	5	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	26	7	843	509	0.051	26	23	0.0	0.1	7.417	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	17	4	837	507	0.034	17	17	0.0	0.0	8.066	A
				3	46	11	843	508	0.090	46	47	0.1	0.1	8.176	A
				4	13	3	837	511	0.026	12	14	0.0	0.1	7.995	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	26	7	-	-	-	26	23	0.0	0.0	0.000	A
				2	17	4	-	-	-	17	17	0.0	0.0	0.036	A
				3	46	11	-	-	-	46	47	0.0	0.0	0.015	A
				4	13	3	-	-	-	13	14	0.0	0.0	0.029	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

08:15 - 08:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service	
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	99	25	997	926	0.107	99	101	1.0	1.0	37.888	E	
				3	826	207	997	926	0.893	826	828	8.8	9.0	38.668	E	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	131	33	997	926	0.142	131	133	0.2	0.2	5.099	A
					5	15	4	982	911	0.017	15	15	0.0	0.0	5.018	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	152	38	-	-	-	99	102	4.9	16.7	373.128	F	
				3	1163	291	-	-	-	826	829	39.7	126.9	370.722	F	
				4	191	48	-	-	-	131	133	6.4	20.5	371.843	F	
				5	20	5	-	-	-	15	15	0.6	2.2	361.185	F	
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	58	14	789	530	0.109	58	57	0.2	0.1	8.873	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	281	70	789	531	0.529	279	278	1.0	1.6	20.664	C
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	99	25	789	533	0.187	100	100	0.4	0.5	20.655	C
					5	23	6	789	530	0.044	24	24	0.1	0.1	20.167	C
		2	1	1	278	70	-	-	-	281	280	0.2	0.6	6.974	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	57	14	-	-	-	58	57	0.0	0.2	5.974	A	
				4	99	25	-	-	-	99	101	0.0	0.2	7.068	A	
				5	24	6	-	-	-	23	24	0.0	0.0	5.867	A	
3 - Stevenage Road	Entry	1	1	1	781	195	950	794	0.983	780	780	9.6	9.9	45.019	E	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	17	4	943	786	0.021	17	17	0.2	0.2	44.894	E	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	36	9	950	793	0.045	35	36	0.1	0.1	5.741	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	1150	288	-	-	-	781	781	40.3	133.2	403.868	F	
				2	56	14	-	-	-	36	36	1.8	6.2	401.797	F	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	26	6	-	-	-	17	17	0.9	3.0	411.771	F	
1	1	1	170	42	1096	731	0.232	169	169	0.2	0.3	6.414	A			
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		5	6	2	857	568	0.011	6	6	0.0	0.0	5.515	A			

4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	106	27	1096	731	0.145	106	110	0.0	0.2	5.960	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	170	42	-	-	-	170	169	0.0	0.0	0.002	A
				2	106	27	-	-	-	106	111	0.0	0.0	0.004	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	6	2	-	-	-	6	6	0.0	0.0	0.045	A

08:30 - 08:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service		
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	100	25	997	923	0.109	100	104	1.0	1.0	38.636	E		
				3	829	207	997	923	0.899	829	820	9.0	9.0	38.800	E		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
			2	1	1	0	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
					4	131	33	997	924	0.142	133	131	0.2	0.1	5.190	A	
					5	15	4	982	911	0.016	15	14	0.0	0.0	5.226	A	
		2	1	1	0	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	149	37	-	-	-	100	104	16.7	28.4	768.993	F		
				3	1169	292	-	-	-	829	821	126.9	217.3	766.453	F		
				4	188	47	-	-	-	131	131	20.5	35.5	768.332	F		
				5	20	5	-	-	-	15	14	2.2	3.5	753.635	F		
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	61	15	789	529	0.115	59	59	0.1	0.2	8.516	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
			2	1	1	287	72	789	529	0.543	286	286	1.6	1.7	21.518	C	
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
					4	99	25	789	530	0.187	99	100	0.5	0.7	21.327	C	
					5	25	6	777	524	0.049	25	24	0.1	0.2	21.316	C	
		2	1	1	288	72	-	-	-	287	286	0.6	0.9	9.656	A		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	61	15	-	-	-	61	60	0.2	0.2	8.604	A		
				4	100	25	-	-	-	99	100	0.2	0.3	9.718	A		
				5	26	6	-	-	-	25	24	0.0	0.1	10.232	B		
3 - Stevenage Road	Entry	1	1	1	753	188	950	791	0.952	753	776	9.9	9.8	45.340	E		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	19	5	936	780	0.024	18	17	0.2	0.3	46.348	E		
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
					2	37	9	950	787	0.046	36	36	0.1	0.1	5.761	A	
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
					4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
		2	1	1	1148	287	-	-	-	753	776	133.2	225.9	830.380	F		
				2	52	13	-	-	-	37	36	6.2	10.6	830.284	F		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	28	7	-	-	-	19	18	3.0	5.3	829.010	F		
1	1	1	160	40	1096	732	0.218	160	162	0.3	0.3	6.468	A				
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
		5	7	2	865	569	0.013	7	7	0.0	0.0	6.251	A				

4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	113	28	1096	732	0.154	114	114	0.2	0.2	5.992	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	160	40	-	-	-	160	162	0.0	0.0	0.000	A
				2	113	28	-	-	-	113	114	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	7	2	-	-	-	7	7	0.0	0.0	0.000	A

08:45 - 09:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service		
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	102	26	997	932	0.110	106	107	1.0	1.2	39.016	E		
				3	818	204	997	932	0.877	815	814	9.0	8.8	38.963	E		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	2	1	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	132	33	997	933	0.141	131	132	0.1	0.2	5.117	A		
				5	13	3	952	893	0.015	13	13	0.0	0.0	5.737	A		
		2	1	1	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				2	117	29	-	-	-	102	107	28.4	32.2	988.730	F		
				3	957	239	-	-	-	818	813	217.3	253.8	992.766	F		
				4	155	39	-	-	-	132	132	35.5	41.6	994.532	F		
				5	15	4	-	-	-	13	13	3.5	4.4	988.717	F		
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	46	12	789	538	0.086	47	48	0.2	0.1	8.142	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	2	1	219	55	789	538	0.408	220	233	1.7	1.0	17.106	C		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	81	20	789	538	0.150	81	86	0.7	0.4	17.306	C		
				5	17	4	783	533	0.032	17	18	0.2	0.1	17.842	C		
		2	1	1	219	55	-	-	-	219	230	0.9	0.2	3.146	A		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	46	11	-	-	-	46	47	0.2	0.0	2.455	A		
				4	80	20	-	-	-	81	85	0.3	0.0	3.333	A		
				5	17	4	-	-	-	17	18	0.1	0.0	2.520	A		
3 - Stevenage Road	Entry	1	1	1	801	200	950	819	0.979	802	789	9.8	9.8	44.498	E		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	20	5	943	811	0.024	19	19	0.3	0.2	44.989	E		
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	38	9	950	817	0.046	38	37	0.1	0.1	5.455	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	1	1	955	239	-	-	-	801	789	225.9	264.0	1057.470	F		
				2	44	11	-	-	-	38	37	10.6	12.2	1059.193	F		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	21	5	-	-	-	20	19	5.3	6.0	1061.590	F		
1	1	1	132	33	1096	741	0.178	131	131	0.3	0.3	5.793	A				
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
		5	6	1	865	588	0.010	6	6	0.0	0.0	5.463	A				

4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	96	24	1096	743	0.129	95	95	0.2	0.2	5.694	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	132	33	-	-	-	132	131	0.0	0.0	0.000	A
				2	96	24	-	-	-	96	95	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	6	1	-	-	-	6	6	0.0	0.0	0.000	A

5 - Gosmore Road	Entry	1	1	1	23	6	843	510	0.046	23	25	0.1	0.1	7.482	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	21	5	837	503	0.041	21	18	0.1	0.0	8.487	A
					3	51	13	843	511	0.099	51	51	0.1	0.1	8.674	A
					4	12	3	824	500	0.025	12	13	0.0	0.0	9.070	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	23	6	-	-	-	23	25	0.0	0.0	0.000	A	
				2	21	5	-	-	-	21	18	0.0	0.0	0.097	A	
				3	51	13	-	-	-	51	51	0.0	0.0	0.079	A	
				4	12	3	-	-	-	12	13	0.0	0.0	0.008	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	

09:00 - 09:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	104	26	997	941	0.110	103	108	1.2	1.2	37.212	E
				3	835	209	997	941	0.887	836	846	8.8	8.8	37.528	E
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	145	36	997	940	0.154	145	141	0.2	0.2	5.073	A
				5	13	3	982	927	0.014	13	14	0.0	0.0	5.292	A
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	39	10	789	530	0.074	38	38	0.1	0.2	8.213	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	196	49	789	532	0.368	197	196	1.0	0.7	13.542	B
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	70	17	789	533	0.131	69	69	0.4	0.3	13.956	B
				5	16	4	783	526	0.031	17	16	0.1	0.1	14.402	B
3 - Stevenage Road	Entry	1	1	1	196	49	-	-	-	196	195	0.2	0.1	0.822	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	39	10	-	-	-	39	38	0.0	0.0	0.850	A
				4	70	18	-	-	-	70	69	0.0	0.0	0.906	A
				5	16	4	-	-	-	16	16	0.0	0.0	0.610	A
		2	1	1	808	202	950	825	0.980	808	815	9.8	9.8	43.035	E
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	16	4	943	822	0.019	17	18	0.2	0.2	42.432	E
2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	39	10	950	826	0.048	39	38	0.1	0.1	5.336	A		
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
2	1	1	773	193	-	-	-	808	815	264.0	256.7	867.113	F		
		2	35	9	-	-	-	39	38	12.2	12.0	870.728	F		
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		5	17	4	-	-	-	16	18	6.0	5.7	860.407	F		
1	1	1	109	27	1096	750	0.145	108	113	0.3	0.2	5.737	A		
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		5	5	1	799	545	0.009	5	5	0.0	0.0	6.327	A		



4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	79	20	1096	749	0.105	79	78	0.2	0.1	5.337	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
		2	1	1	109	27	-	-	-	109	113	0.0	0.0	0.000	A	
				2	79	20	-	-	-	79	78	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	5	1	-	-	-	5	5	0.0	0.0	0.000	A	
5 - Gosmore Road	Entry	1	1	1	23	6	843	525	0.044	23	21	0.1	0.1	7.119	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	16	4	818	505	0.033	16	15	0.0	0.1	7.962	A
					3	40	10	843	524	0.077	41	40	0.1	0.1	7.726	A
					4	13	3	792	491	0.027	13	12	0.0	0.0	7.740	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	23	6	-	-	-	23	21	0.0	0.0	0.029	A	
				2	16	4	-	-	-	16	15	0.0	0.0	0.070	A	
				3	40	10	-	-	-	40	40	0.0	0.0	0.049	A	
				4	13	3	-	-	-	13	12	0.0	0.0	0.049	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	

# 2039 Base, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Last Run	Lane Simulation	1 - Park Way - Lane Simulation	Arm 1: Queue at end of modelled period is greater than 10 PCU. Delay is likely to have been underestimated.
Last Run	Lane Simulation	3 - Stevenage Road - Lane Simulation	Arm 3: Queue at end of modelled period is greater than 10 PCU. Delay is likely to have been underestimated.
Info	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. For detailed information on this mode, please see the User Guide.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Hitchin Hill Roundabout	Standard Roundabout		1, 2, 3, 4, 5	570.10	F

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	570.10	F

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2039 Base	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Park Way		ONE HOUR	✓	1241	100.000
2 - Hitchin Hill		ONE HOUR	✓	578	100.000
3 - Stevenage Road		ONE HOUR	✓	1090	100.000
4 - London Road		ONE HOUR	✓	337	100.000
5 - Gosmore Road		ONE HOUR	✓	75	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	0	108	975	137	21
	2 - Hitchin Hill	313	0	124	118	23
	3 - Stevenage Road	1007	41	0	0	42
	4 - London Road	290	33	0	0	14
	5 - Gosmore Road	21	22	24	8	0

### Proportions

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	0.00	0.09	0.79	0.11	0.02
	2 - Hitchin Hill	0.54	0.00	0.21	0.20	0.04
	3 - Stevenage Road	0.92	0.04	0.00	0.00	0.04
	4 - London Road	0.86	0.10	0.00	0.00	0.04
	5 - Gosmore Road	0.28	0.29	0.32	0.11	0.00

## Vehicle Mix

### Heavy Vehicle Percentages

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	0	1	2	0	0
	2 - Hitchin Hill	1	0	5	0	0
	3 - Stevenage Road	3	16	0	2	1
	4 - London Road	0	1	1	0	0
	5 - Gosmore Road	0	1	1	0	0

### Average PCU Per Veh

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	1.000	1.012	1.020	1.001	1.001
	2 - Hitchin Hill	1.006	1.000	1.049	1.003	1.002
	3 - Stevenage Road	1.032	1.156	1.000	1.018	1.009
	4 - London Road	1.001	1.006	1.011	1.000	1.000
	5 - Gosmore Road	1.001	1.006	1.011	1.001	1.000

## Detailed Demand Data

### Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
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16:45-17:00	1 - Park Way	934	934
	2 - Hitchin Hill	435	435
	3 - Stevenage Road	821	821
	4 - London Road	254	254
	5 - Gosmore Road	56	56
17:00-17:15	1 - Park Way	1116	1116
	2 - Hitchin Hill	520	520
	3 - Stevenage Road	980	980
	4 - London Road	303	303
	5 - Gosmore Road	67	67
17:15-17:30	1 - Park Way	1366	1366
	2 - Hitchin Hill	636	636
	3 - Stevenage Road	1200	1200
	4 - London Road	371	371
	5 - Gosmore Road	83	83
17:30-17:45	1 - Park Way	1366	1366
	2 - Hitchin Hill	636	636
	3 - Stevenage Road	1200	1200
	4 - London Road	371	371
	5 - Gosmore Road	83	83
17:45-18:00	1 - Park Way	1116	1116
	2 - Hitchin Hill	520	520
	3 - Stevenage Road	980	980
	4 - London Road	303	303
	5 - Gosmore Road	67	67
18:00-18:15	1 - Park Way	934	934
	2 - Hitchin Hill	435	435
	3 - Stevenage Road	821	821
	4 - London Road	254	254
	5 - Gosmore Road	56	56

## Results

### Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Park Way	510.88	157.3	F	1142	1713
2 - Hitchin Hill	74.12	15.2	F	531	797
3 - Stevenage Road	1112.69	290.9	F	1003	1504
4 - London Road	9.20	1.0	A	310	465
5 - Gosmore Road	9.11	0.3	A	69	104

### Main Results for each time segment

#### 16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	941	235	96	936	919	1213	0.0	5.9	18.660	C
2 - Hitchin Hill	431	108	881	434	432	152	0.0	1.5	13.085	B
3 - Stevenage Road	819	205	462	805	775	853	0.0	12.1	41.198	E
4 - London Road	253	63	1072	252	254	196	0.0	0.5	6.499	A
5 - Gosmore Road	60	15	1250	59	60	74	0.0	0.2	7.390	A

#### 17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1107	277	115	1072	1052	1324	5.9	20.7	51.911	F
2 - Hitchin Hill	527	132	1006	526	512	181	1.5	3.4	22.151	C
3 - Stevenage Road	984	246	549	824	824	982	12.1	50.0	138.665	F
4 - London Road	312	78	1144	310	303	229	0.5	0.7	7.574	A
5 - Gosmore Road	69	17	1369	70	68	85	0.2	0.2	8.068	A

#### 17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1351	338	125	1104	1095	1417	20.7	85.3	179.727	F
2 - Hitchin Hill	626	157	1046	612	599	184	3.4	9.4	43.989	E
3 - Stevenage Road	1197	299	628	807	816	1030	50.0	147.0	442.360	F
4 - London Road	368	92	1180	369	370	255	0.7	1.0	9.203	A
5 - Gosmore Road	83	21	1461	82	80	89	0.2	0.3	8.812	A

#### 17:30 - 17:45

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Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1384	346	121	1080	1099	1419	85.3	152.8	390.919	F
2 - Hitchin Hill	634	158	1025	615	617	176	9.4	15.2	74.118	F
3 - Stevenage Road	1212	303	634	801	800	1006	147.0	247.9	889.810	F
4 - London Road	369	92	1182	369	371	254	1.0	0.9	8.822	A
5 - Gosmore Road	82	20	1458	81	83	92	0.3	0.2	9.106	A

## 17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1116	279	106	1091	1099	1329	152.8	157.3	510.876	F
2 - Hitchin Hill	530	133	1022	532	555	175	15.2	5.6	47.987	E
3 - Stevenage Road	985	246	563	825	809	992	247.9	290.9	1112.685	F
4 - London Road	301	75	1157	301	303	230	0.9	0.6	7.573	A
5 - Gosmore Road	65	16	1371	65	68	87	0.2	0.2	8.351	A

## 18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	952	238	101	1106	1104	1263	157.3	115.9	422.721	F
2 - Hitchin Hill	441	110	1039	439	448	167	5.6	2.4	20.755	C
3 - Stevenage Road	820	205	481	857	852	997	290.9	283.2	865.253	F
4 - London Road	258	65	1127	258	256	211	0.6	0.5	7.020	A
5 - Gosmore Road	57	14	1306	57	57	80	0.2	0.1	7.846	A

## Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

## Lanes: Main Results for each time segment

## 16:45 - 17:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	816	968	0.843	818	802	0.0	4.4	17.697	C
			2	1, 4, 5	118	968	0.121	119	117	0.0	0.1	4.300	A
	Exit	1	1	(1, 2, 3, 4, 5)	941			934	937	0.0	1.3	2.547	A
			1		1213			1213	1183	0.0	0.0	0.000	A
2 - Hitchin Hill	Entry	1	1	3	98	572	0.171	97	95	0.0	0.3	8.095	A
			2	1, 2, 4, 5	334	572	0.583	337	338	0.0	1.1	13.446	B
	Exit	1	1	(1, 2, 3, 4, 5)	431			432	438	0.0	0.1	0.755	A
			1		152			152	152	0.0	0.0	0.000	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	775	822	0.942	775	744	0.0	6.9	27.930	D
			2	2, 3	31	822	0.038	31	31	0.0	0.0	5.175	A
	Exit	1	1	(1, 2, 3, 4, 5)	819			806	803	0.0	5.1	13.547	B
			1		853			853	837	0.0	0.0	0.000	A
4 - London Road	Entry	1	1	1, 5	228	755	0.303	228	229	0.0	0.5	6.679	A
			2	2, 3, 4	25	755	0.033	24	25	0.0	0.0	4.732	A
	Exit	1	1	(1, 2, 3, 4, 5)	253			253	256	0.0	0.0	0.010	A
			1		196			196	197	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	18	518	0.035	18	17	0.0	0.1	7.073	A
			2	2, 3, 4, 5	42	518	0.081	41	43	0.0	0.1	7.488	A
	Exit	1	1	(1, 2, 3, 4, 5)	60			60	61	0.0	0.0	0.022	A
			1		74			74	72	0.0	0.0	0.000	A

## 17:00 - 17:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	942	963	0.978	938	917	4.4	8.6	29.930	D
			2	1, 4, 5	135	963	0.141	134	135	0.1	0.3	4.606	A
	Exit	1	1	(1, 2, 3, 4, 5)	1107			1077	1070	1.3	11.8	25.039	D
			1		1324			1324	1315	0.0	0.0	0.000	A
2 - Hitchin Hill	Entry	1	1	3	117	542	0.217	119	114	0.3	0.2	8.945	A
			2	1, 2, 4, 5	409	542	0.756	407	399	1.1	2.4	19.316	C
	Exit	1	1	(1, 2, 3, 4, 5)	527			527	517	0.1	0.8	4.962	A
			1		181			181	173	0.0	0.0	0.000	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	795	798	0.996	792	794	6.9	10.0	42.216	E
			2	2, 3	31	798	0.039	32	31	0.0	0.0	5.423	A
	Exit	1	1	(1, 2, 3, 4, 5)	984			827	837	5.1	40.0	97.191	F
			1		982			982	961	0.0	0.0	0.000	A
4 - London Road	Entry	1	1	1, 5	280	732	0.383	279	273	0.5	0.7	7.804	A
			2	2, 3, 4	32	732	0.043	31	30	0.0	0.0	5.159	A
	Exit	1	1	(1, 2, 3, 4, 5)	312			312	304	0.0	0.0	0.031	A
			1		229			229	228	0.0	0.0	0.000	A
		1	1	1	18	487	0.038	18	19	0.1	0.0	7.369	A

5 - Gosmore Road	Entry		2	2, 3, 4, 5	51	487	0.105	52	49	0.1	0.1	8.338	A
		2	1	(1, 2, 3, 4, 5)	69			69	68	0.0	0.0	0.003	A
	Exit	1	1		85			85	84	0.0	0.0	0.000	A

## 17:15 - 17:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	963	960	1.003	963	954	8.6	10.0	36.667	E
			2	1, 4, 5	138	960	0.144	141	141	0.3	0.1	4.755	A
	Exit	2	1	(1, 2, 3, 4, 5)	1351			1101	1099	11.8	75.3	147.035	F
2 - Hitchin Hill	Entry	1	1	3	133	532	0.251	133	129	0.2	0.4	10.146	B
			2	1, 2, 4, 5	483	532	0.909	479	470	2.4	3.9	25.707	D
	Exit	2	1	(1, 2, 3, 4, 5)	626			617	605	0.8	5.1	21.317	C
3 - Stevenage Road	Entry	1	1	1, 4, 5	778	777	1.001	777	785	10.0	10.0	45.906	E
			2	2, 3	30	777	0.038	30	32	0.0	0.0	5.763	A
	Exit	2	1	(1, 2, 3, 4, 5)	1197			807	816	40.0	137.0	397.365	F
4 - London Road	Entry	1	1	1, 5	332	720	0.461	333	334	0.7	0.9	9.256	A
			2	2, 3, 4	37	720	0.051	36	36	0.0	0.1	5.509	A
	Exit	2	1	(1, 2, 3, 4, 5)	368			368	371	0.0	0.0	0.307	A
5 - Gosmore Road	Entry	1	1	1	23	463	0.049	23	23	0.0	0.1	8.496	A
			2	2, 3, 4, 5	60	463	0.129	59	58	0.1	0.2	8.883	A
	Exit	2	1	(1, 2, 3, 4, 5)	83			83	81	0.0	0.0	0.038	A
	Exit	1	1		89			89	90	0.0	0.0	0.000	A

## 17:30 - 17:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	943	961	0.982	943	960	10.0	10.0	37.450	E
			2	1, 4, 5	137	961	0.143	137	139	0.1	0.2	4.654	A
	Exit	2	1	(1, 2, 3, 4, 5)	1384			1080	1099	75.3	142.6	357.756	F
2 - Hitchin Hill	Entry	1	1	3	128	537	0.239	127	130	0.4	0.4	10.552	B
			2	1, 2, 4, 5	486	537	0.906	488	487	3.9	4.0	29.361	D
	Exit	2	1	(1, 2, 3, 4, 5)	634			614	618	5.1	10.8	48.472	E
3 - Stevenage Road	Entry	1	1	1, 4, 5	774	775	0.999	774	771	10.0	10.0	46.622	E
			2	2, 3	27	775	0.035	27	29	0.0	0.0	5.808	A
	Exit	2	1	(1, 2, 3, 4, 5)	1212			801	800	137.0	237.8	845.204	F
4 - London Road	Entry	1	1	1, 5	335	720	0.466	335	334	0.9	0.9	9.045	A
			2	2, 3, 4	34	720	0.047	34	37	0.1	0.1	5.365	A
	Exit	2	1	(1, 2, 3, 4, 5)	369			369	371	0.0	0.0	0.144	A
5 - Gosmore Road	Entry	1	1	1	22	463	0.048	21	22	0.1	0.1	8.651	A
			2	2, 3, 4, 5	60	463	0.128	60	61	0.2	0.1	9.243	A
	Exit	2	1	(1, 2, 3, 4, 5)	82			82	82	0.0	0.0	0.022	A
	Exit	1	1		92			92	90	0.0	0.0	0.000	A

## 17:45 - 18:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	954	966	0.988	954	960	10.0	10.0	37.413	E
			2	1, 4, 5	137	966	0.142	137	139	0.2	0.2	4.742	A
	Exit	2	1	(1, 2, 3, 4, 5)	1116			1091	1099	142.6	147.2	477.708	F
2 - Hitchin Hill	Entry	1	1	3	112	538	0.208	112	117	0.4	0.3	9.688	A
			2	1, 2, 4, 5	420	538	0.781	420	437	4.0	2.9	24.879	C
	Exit	2	1	(1, 2, 3, 4, 5)	530			532	549	10.8	2.5	26.666	D
3 - Stevenage Road	Entry	1	1	1, 4, 5	793	795	0.997	793	778	10.0	10.0	46.177	E
			2	2, 3	32	795	0.040	32	31	0.0	0.1	5.770	A
	Exit	2	1	(1, 2, 3, 4, 5)	985			824	809	237.8	280.8	1075.923	F
4 - London Road	Entry	1	1	1, 5	272	727	0.374	272	274	0.9	0.6	7.765	A
			2	2, 3, 4	29	727	0.040	29	29	0.1	0.1	5.192	A
	Exit	2	1	(1, 2, 3, 4, 5)	301			301	302	0.0	0.0	0.055	A
5 - Gosmore Road	Entry	1	1	1	19	486	0.039	20	20	0.1	0.0	7.889	A
			2	2, 3, 4, 5	46	486	0.095	45	48	0.1	0.2	8.529	A
	Exit	2	1	(1, 2, 3, 4, 5)	65			65	68	0.0	0.0	0.005	A
	Exit	1	1		87			87	86	0.0	0.0	0.000	A

## 18:00 - 18:15

					Total				Average	Start	End		
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Arm	Side	Lane level	Lane	Destination arms	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	throughput (PCU/hr)	queue (PCU)	queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	974	967	1.007	975	966	10.0	9.9	36.996	E
			2	1, 4, 5	132	967	0.136	131	138	0.2	0.2	4.577	A
	Exit	1	1	(1, 2, 3, 4, 5)	952			1106	1104	147.2	105.8	390.205	F
			1		1263			1263	1265	0.0	0.0	0.000	A
2 - Hitchin Hill	Entry	1	1	3	94	534	0.176	94	95	0.3	0.2	9.017	A
			2	1, 2, 4, 5	346	534	0.649	345	353	2.9	1.8	18.104	C
	Exit	1	1	(1, 2, 3, 4, 5)	441			440	444	2.5	0.4	4.863	A
			1		167			167	170	0.0	0.0	0.000	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	823	817	1.007	823	819	10.0	10.0	43.854	E
			2	2, 3	33	817	0.040	34	33	0.1	0.0	5.451	A
	Exit	1	1	(1, 2, 3, 4, 5)	820			856	852	280.8	273.2	852.433	F
			1		997			997	985	0.0	0.0	0.000	A
4 - London Road	Entry	1	1	1, 5	233	737	0.316	232	230	0.6	0.5	7.181	A
			2	2, 3, 4	26	737	0.035	26	26	0.1	0.0	5.384	A
	Exit	1	1	(1, 2, 3, 4, 5)	258			258	255	0.0	0.0	0.021	A
			1		211			211	217	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	16	503	0.033	16	16	0.0	0.0	7.643	A
			2	2, 3, 4, 5	41	503	0.081	41	41	0.2	0.1	7.925	A
	Exit	1	1	(1, 2, 3, 4, 5)	57			57	57	0.0	0.0	0.004	A
			1		80			80	80	0.0	0.0	0.000	A

Lane movements: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	82	20	997	969	0.084	81	79	0.0	0.5	17.953	C
				3	734	184	997	969	0.758	737	723	0.0	3.9	17.669	C
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	102	25	997	969	0.105	103	101	0.0	0.1	4.298	A
				5	16	4	959	930	0.017	16	15	0.0	0.0	4.314	A
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	82	21	-	-	-	82	81	0.0	0.1	2.740	A
				3	740	185	-	-	-	734	738	0.0	1.0	2.556	A
				4	102	26	-	-	-	102	102	0.0	0.1	2.375	A
				5	16	4	-	-	-	16	16	0.0	0.0	2.262	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	98	24	789	572	0.171	97	95	0.0	0.3	8.095	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
3 - Stevenage Road	Entry	1	1	1	230	58	789	572	0.403	233	231	0.0	0.7	13.504	B
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	86	21	789	571	0.150	87	89	0.0	0.3	13.357	B
				5	17	4	784	569	0.031	18	17	0.0	0.1	13.127	B
		2	1	1	230	58	-	-	-	230	234	0.0	0.0	0.819	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	98	24	-	-	-	98	96	0.0	0.0	0.521	A
				4	86	21	-	-	-	86	91	0.0	0.0	0.806	A
				5	17	4	-	-	-	17	17	0.0	0.0	0.862	A
4 - London Road	Entry	1	1	1	744	186	950	822	0.905	744	715	0.0	6.7	27.961	D
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	31	8	950	822	0.037	31	30	0.0	0.3	27.190	D
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	31	8	950	824	0.038	31	31	0.0	0.0	5.175	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	756	189	-	-	-	744	741	0.0	4.7	13.666	B
				2	32	8	-	-	-	31	31	0.0	0.2	11.212	B
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	31	8	-	-	-	31	31	0.0	0.2	12.750	B
		2	1	1	219	55	1096	755	0.289	218	219	0.0	0.4	6.675	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	10	2	1004	700	0.014	10	10	0.0	0.0	6.747	A

4 - London Road	Entry	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	25	6	1096	755	0.032	24	25	0.0	0.0	4.732	A	
			3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
		2	1	1	219	55	-	-	-	219	221	0.0	0.0	0.012	A
				2	25	6	-	-	-	25	25	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	10	2	-	-	-	10	10	0.0	0.0	0.000	A

5 - Gosmore Road	Entry	1	1	1	18	5	838	516	0.035	18	17	0.0	0.1	7.073	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	16	4	843	522	0.030	16	17	0.0	0.0	7.372	A
				3	20	5	832	514	0.039	20	19	0.0	0.1	7.514	A
				4	6	2	680	428	0.014	6	6	0.0	0.0	7.735	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	18	5	-	-	-	18	18	0.0	0.0	0.018	A
				2	16	4	-	-	-	16	18	0.0	0.0	0.007	A
				3	20	5	-	-	-	20	20	0.0	0.0	0.047	A
				4	6	2	-	-	-	6	6	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

17:00 - 17:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service		
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	96	24	997	963	0.100	97	93	0.5	0.8	29.845	D		
				3	846	211	997	963	0.878	841	824	3.9	7.8	29.939	D		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	1	1	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				4	117	29	997	963	0.122	116	118	0.1	0.2	4.627	A		
				5	18	5	978	946	0.019	18	18	0.0	0.0	4.464	A		
		2	1	1	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				2	97	24	-	-	-	96	94	0.1	1.0	25.283	D		
				3	871	218	-	-	-	846	840	1.0	9.4	25.089	D		
				4	121	30	-	-	-	117	118	0.1	1.2	24.556	C		
				5	19	5	-	-	-	18	18	0.0	0.2	24.654	C		
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				3	117	29	789	543	0.216	119	114	0.3	0.2	8.945	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	1	1	281	70	789	542	0.519	281	273	0.7	1.6	19.311	C		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	106	27	789	543	0.195	105	104	0.3	0.7	19.307	C		
				5	22	5	789	544	0.040	21	21	0.1	0.1	19.412	C		
		2	1	1	282	71	-	-	-	281	277	0.0	0.4	5.180	A		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	117	29	-	-	-	117	113	0.0	0.1	4.335	A		
				4	106	26	-	-	-	106	105	0.0	0.2	5.002	A		
				5	22	6	-	-	-	22	22	0.0	0.1	5.103	A		
3 - Stevenage Road	Entry	1	1	1	764	191	950	798	0.957	761	762	6.7	9.6	42.226	E		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	32	8	950	800	0.039	31	32	0.3	0.4	41.965	E		
		2	1	1	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				2	31	8	950	800	0.039	32	31	0.0	0.0	5.423	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	1	1	911	228	-	-	-	764	774	4.7	36.9	97.190	F		
				2	37	9	-	-	-	31	31	0.2	1.5	96.181	F		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	36	9	-	-	-	32	32	0.2	1.5	98.065	F		
1	1	1	266	66	1096	731	0.364	265	260	0.4	0.6	7.827	A				
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
		5	14	4	1075	719	0.020	14	13	0.0	0.1	7.349	A				

4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	32	8	1096	729	0.043	31	30	0.0	0.0	5.159	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	266	66	-	-	-	266	261	0.0	0.0	0.031	A
				2	32	8	-	-	-	32	30	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	14	4	-	-	-	14	13	0.0	0.0	0.098	A
5 - Gosmore Road	Entry	1	1	1	18	5	843	486	0.038	18	19	0.1	0.0	7.369	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	21	5	827	474	0.044	21	19	0.0	0.0	8.828	A
				3	22	6	843	489	0.045	22	23	0.1	0.1	7.946	A
				4	8	2	707	414	0.019	8	7	0.0	0.0	8.289	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	18	5	-	-	-	18	19	0.0	0.0	0.000	A
				2	21	5	-	-	-	21	19	0.0	0.0	0.002	A
				3	22	6	-	-	-	22	23	0.0	0.0	0.008	A
				4	8	2	-	-	-	8	7	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

17:15 - 17:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service	
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	94	23	997	960	0.097	94	92	0.8	1.0	36.924	E	
				3	869	217	997	960	0.906	869	861	7.8	9.0	36.640	E	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	118	30	997	960	0.123	122	122	0.2	0.1	4.797	A
					5	20	5	991	954	0.021	19	19	0.0	0.0	4.488	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	118	29	-	-	-	94	93	1.0	6.6	149.503	F	
				3	1062	266	-	-	-	869	866	9.4	59.2	147.094	F	
				4	147	37	-	-	-	118	122	1.2	8.2	145.343	F	
				5	24	6	-	-	-	20	19	0.2	1.3	143.055	F	
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	133	33	789	532	0.251	133	129	0.2	0.4	10.146	B	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	331	83	789	533	0.622	329	323	1.6	2.7	25.786	D
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	128	32	789	531	0.240	126	123	0.7	1.0	25.519	D
					5	24	6	784	530	0.046	25	25	0.1	0.2	25.606	D
		2	1	1	340	85	-	-	-	331	327	0.4	3.0	21.800	C	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	136	34	-	-	-	133	130	0.1	1.1	19.979	C	
				4	126	32	-	-	-	128	124	0.2	0.9	21.198	C	
				5	24	6	-	-	-	24	25	0.1	0.2	22.255	C	
3 - Stevenage Road	Entry	1	1	1	747	187	950	777	0.961	747	754	9.6	9.6	45.935	E	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	31	8	950	779	0.040	30	31	0.4	0.5	45.221	E	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	30	7	950	778	0.038	30	32	0.0	0.0	5.763	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	1110	277	-	-	-	747	754	36.9	126.6	397.237	F	
				2	41	10	-	-	-	30	31	1.5	5.0	392.147	F	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	46	11	-	-	-	31	31	1.5	5.5	404.752	F	
		1		1	317	79	1096	721	0.439	318	318	0.6	0.8	9.285	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	15	4	1089	719	0.021	15	16	0.1	0.1	8.676	A	



4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	37	9	1096	722	0.051	36	36	0.0	0.1	5.509	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	316	79	-	-	-	317	318	0.0	0.0	0.324	A
				2	37	9	-	-	-	37	37	0.0	0.0	0.153	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	15	4	-	-	-	15	16	0.0	0.0	0.326	A

17:30 - 17:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	93	23	997	961	0.097	92	96	1.0	1.0	37.177	E
				3	851	213	997	961	0.885	851	864	9.0	9.0	37.481	E
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	119	30	997	961	0.124	119	121	0.1	0.2	4.687	A
				5	18	4	984	948	0.019	18	18	0.0	0.0	4.433	A
2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	119	30	-	-	-	93	96	6.6	12.3	359.055	F		
		3	1085	271	-	-	-	851	864	59.2	111.9	357.559	F		
		4	157	39	-	-	-	119	121	8.2	16.0	359.135	F		
		5	23	6	-	-	-	18	18	1.3	2.3	350.906	F		
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	128	32	789	536	0.239	127	130	0.4	0.4	10.552	B
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	2	1	338	84	789	537	0.629	337	336	2.7	2.9	29.348	D
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	125	31	789	536	0.233	126	127	1.0	1.0	29.442	D
				5	24	6	789	535	0.044	25	24	0.2	0.1	29.114	D
2	1	1	343	86	-	-	-	338	337	3.0	5.7	48.833	E		
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		3	135	34	-	-	-	128	130	1.1	2.3	45.575	E		
		4	129	32	-	-	-	125	127	0.9	2.3	49.875	E		
		5	26	6	-	-	-	24	23	0.2	0.5	50.990	F		
3 - Stevenage Road	Entry	1	1	1	742	185	950	775	0.958	743	739	9.6	9.6	46.634	E
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	32	8	950	776	0.041	32	32	0.5	0.4	46.358	E
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	27	7	938	765	0.036	27	29	0.0	0.0	5.808	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
2	1	1	1121	280	-	-	-	742	739	126.6	219.9	845.337	F		
		2	48	12	-	-	-	27	29	5.0	9.1	844.564	F		
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		5	43	11	-	-	-	32	32	5.5	8.9	842.569	F		
		1	1	1	318	80	1096	719	0.442	318	319	0.8	0.8	9.054	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	17	4	1089	717	0.024	17	16	0.1	0.0	8.862	A

4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	34	8	1096	718	0.047	34	37	0.1	0.1	5.365	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	318	80	-	-	-	318	319	0.0	0.0	0.148	A
				2	34	8	-	-	-	34	37	0.0	0.0	0.079	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	17	4	-	-	-	17	16	0.0	0.0	0.211	A

5 - Gosmore Road	Entry	1	1	1	22	6	827	452	0.049	21	22	0.1	0.1	8.651	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	23	6	843	462	0.050	23	26	0.1	0.1	8.864	A
					3	28	7	843	465	0.059	28	26	0.1	0.0	9.606	A
					4	9	2	745	407	0.022	9	9	0.0	0.0	9.266	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	22	6	-	-	-	22	22	0.0	0.0	0.010	A	
				2	23	6	-	-	-	23	25	0.0	0.0	0.039	A	
				3	28	7	-	-	-	28	26	0.0	0.0	0.006	A	
				4	9	2	-	-	-	9	9	0.0	0.0	0.047	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	

17:45 - 18:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service	
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	94	23	997	966	0.097	94	94	1.0	0.9	37.381	E	
				3	860	215	997	966	0.891	860	866	9.0	9.1	37.416	E	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	117	29	997	965	0.122	117	121	0.2	0.2	4.784	A
					5	20	5	997	965	0.020	20	19	0.0	0.0	4.465	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	95	24	-	-	-	94	94	12.3	12.6	477.404	F	
				3	879	220	-	-	-	860	866	111.9	115.8	477.662	F	
				4	122	31	-	-	-	117	121	16.0	16.1	478.814	F	
				5	20	5	-	-	-	20	19	2.3	2.7	474.419	F	
1	2			1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	107	27	789	537	0.198	107	114	1.0	0.7	24.903	C	
				5	24	6	789	539	0.044	24	23	0.1	0.1	25.287	D	
2	1	1	289	72	-	-	-	290	297	5.7	1.4	27.805	D			
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		3	111	28	-	-	-	112	117	2.3	0.5	24.754	C			
		4	107	27	-	-	-	107	113	2.3	0.5	25.336	D			
		5	23	6	-	-	-	24	23	0.5	0.2	27.726	D			
3 - Stevenage Road	Entry	1	1	1	764	191	950	795	0.961	762	747	9.6	9.7	46.166	E	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	29	7	950	793	0.036	31	31	0.4	0.3	46.451	E	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	32	8	950	794	0.040	32	31	0.0	0.1	5.770	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	907	227	-	-	-	764	748	219.9	259.0	1075.732	F	
				2	39	10	-	-	-	32	31	9.1	11.0	1079.507	F	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	39	10	-	-	-	29	31	8.9	10.8	1077.417	F	
1	1	1	260	65	1096	727	0.357	259	261	0.8	0.6	7.758	A			
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		5	12	3	1039	693	0.017	13	13	0.0	0.0	7.900	A			

4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	29	7	1096	726	0.040	29	29	0.1	0.1	5.192	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	260	65	-	-	-	260	260	0.0	0.0	0.058	A
				2	29	7	-	-	-	29	29	0.0	0.0	0.022	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	12	3	-	-	-	12	13	0.0	0.0	0.086	A

18:00 - 18:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	89	22	997	967	0.092	90	93	0.9	0.9	37.260	E
				3	885	221	997	967	0.915	885	872	9.1	9.0	36.968	E
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	2	1	0	0	0	0	0.000	0	0.0	0.0	0.000	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	114	29	997	967	0.118	113	119	0.2	0.2	4.554	A
				5	18	4	984	954	0.019	18	20	0.0	0.0	4.718	A
2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	82	21	-	-	-	89	93	12.6	9.1	384.313	F		
		3	752	188	-	-	-	885	872	115.8	82.9	389.771	F		
		4	103	26	-	-	-	114	119	16.1	12.0	397.287	F		
		5	15	4	-	-	-	18	20	2.7	1.7	392.099	F		
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	94	23	789	534	0.176	94	95	0.3	0.2	9.017	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	2	1	237	59	789	534	0.443	235	242	2.0	1.2	18.253	C
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	92	23	789	533	0.173	92	93	0.7	0.5	17.752	C
				5	17	4	774	520	0.033	18	19	0.1	0.1	17.932	C
2	1	1	237	59	-	-	-	237	239	1.4	0.2	5.175	A		
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		3	95	24	-	-	-	94	95	0.5	0.1	4.047	A		
		4	93	23	-	-	-	92	91	0.5	0.1	4.872	A		
		5	17	4	-	-	-	17	19	0.2	0.0	4.833	A		
3 - Stevenage Road	Entry	1	1	1	789	197	950	817	0.966	790	787	9.7	9.6	43.864	E
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	34	8	950	816	0.041	33	32	0.3	0.4	43.614	E
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	33	8	950	815	0.041	34	33	0.1	0.0	5.451	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
2	1	1	758	190	-	-	-	789	786	259.0	252.4	852.614	F		
		2	31	8	-	-	-	33	33	11.0	10.0	851.223	F		
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		5	31	8	-	-	-	34	32	10.8	10.8	852.013	F		
		1		1	222	56	1096	739	0.301	222	220	0.6	0.5	7.204	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	10	3	1039	699	0.015	10	10	0.0	0.0	6.686	A

4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	26	6	1096	736	0.035	26	26	0.1	0.0	5.384	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	222	56	-	-	-	222	219	0.0	0.0	0.022	A
				2	26	6	-	-	-	26	26	0.0	0.0	0.007	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	10	3	-	-	-	10	10	0.0	0.0	0.030	A
5 - Gosmore Road	Entry	1	1	1	16	4	821	492	0.034	16	16	0.0	0.0	7.643	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	18	5	827	497	0.036	18	17	0.1	0.1	7.925	A
				3	17	4	838	501	0.035	18	18	0.1	0.0	8.207	A
				4	5	1	664	395	0.014	5	6	0.0	0.0	7.114	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	16	4	-	-	-	16	16	0.0	0.0	0.000	A
				2	18	5	-	-	-	18	17	0.0	0.0	0.000	A
				3	17	4	-	-	-	17	17	0.0	0.0	0.012	A
				4	5	1	-	-	-	5	6	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

# 2043 Base, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Last Run	Lane Simulation	1 - Park Way - Lane Simulation	Arm 1: Queue at end of modelled period is greater than 10 PCU. Delay is likely to have been underestimated.
Last Run	Lane Simulation	3 - Stevenage Road - Lane Simulation	Arm 3: Queue at end of modelled period is greater than 10 PCU. Delay is likely to have been underestimated.
Info	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. For detailed information on this mode, please see the User Guide.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Hitchin Hill Roundabout	Standard Roundabout		1, 2, 3, 4, 5	811.65	F

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	811.65	F

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2043 Base	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Park Way		ONE HOUR	✓	1397	100.000
2 - Hitchin Hill		ONE HOUR	✓	433	100.000
3 - Stevenage Road		ONE HOUR	✓	1126	100.000
4 - London Road		ONE HOUR	✓	283	100.000
5 - Gosmore Road		ONE HOUR	✓	119	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	0	137	1082	158	20
	2 - Hitchin Hill	255	0	49	107	22
	3 - Stevenage Road	1038	64	0	0	24
	4 - London Road	174	103	0	0	6
	5 - Gosmore Road	27	21	57	14	0

### Proportions

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	0.00	0.10	0.77	0.11	0.01
	2 - Hitchin Hill	0.59	0.00	0.11	0.25	0.05
	3 - Stevenage Road	0.92	0.06	0.00	0.00	0.02
	4 - London Road	0.61	0.36	0.00	0.00	0.02
	5 - Gosmore Road	0.23	0.18	0.48	0.12	0.00

## Vehicle Mix

### Heavy Vehicle Percentages

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	0	3	8	1	0
	2 - Hitchin Hill	1	0	11	1	1
	3 - Stevenage Road	4	12	0	3	2
	4 - London Road	0	1	2	0	0
	5 - Gosmore Road	0	0	1	0	0

### Average PCU Per Veh

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	1.000	1.029	1.077	1.007	1.004
	2 - Hitchin Hill	1.013	1.000	1.111	1.010	1.006
	3 - Stevenage Road	1.038	1.120	1.000	1.029	1.018
	4 - London Road	1.003	1.009	1.023	1.000	1.001
	5 - Gosmore Road	1.001	1.004	1.011	1.001	1.000

## Detailed Demand Data

### Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
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07:45-08:00	1 - Park Way	1052	1052
	2 - Hitchin Hill	326	326
	3 - Stevenage Road	848	848
	4 - London Road	213	213
	5 - Gosmore Road	90	90
08:00-08:15	1 - Park Way	1256	1256
	2 - Hitchin Hill	389	389
	3 - Stevenage Road	1012	1012
	4 - London Road	254	254
	5 - Gosmore Road	107	107
08:15-08:30	1 - Park Way	1538	1538
	2 - Hitchin Hill	477	477
	3 - Stevenage Road	1240	1240
	4 - London Road	312	312
	5 - Gosmore Road	131	131
08:30-08:45	1 - Park Way	1538	1538
	2 - Hitchin Hill	477	477
	3 - Stevenage Road	1240	1240
	4 - London Road	312	312
	5 - Gosmore Road	131	131
08:45-09:00	1 - Park Way	1256	1256
	2 - Hitchin Hill	389	389
	3 - Stevenage Road	1012	1012
	4 - London Road	254	254
	5 - Gosmore Road	107	107
09:00-09:15	1 - Park Way	1052	1052
	2 - Hitchin Hill	326	326
	3 - Stevenage Road	848	848
	4 - London Road	213	213
	5 - Gosmore Road	90	90

## Results

### Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Park Way	1070.77	354.4	F	1285	1927
2 - Hitchin Hill	33.72	4.7	D	398	597
3 - Stevenage Road	1075.76	288.7	F	1037	1555
4 - London Road	6.64	0.6	A	260	390
5 - Gosmore Road	9.50	0.4	A	110	165

### Main Results for each time segment

#### 07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1052	263	192	1016	985	1095	0.0	17.3	42.454	E
2 - Hitchin Hill	324	81	969	327	323	240	0.0	1.1	12.686	B
3 - Stevenage Road	849	212	430	819	794	865	0.0	13.6	42.441	E
4 - London Road	211	53	1043	209	214	207	0.0	0.4	5.496	A
5 - Gosmore Road	89	22	1198	89	91	54	0.0	0.2	7.476	A

#### 08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1252	313	224	1079	1065	1207	17.3	65.0	143.375	F
2 - Hitchin Hill	385	96	1036	389	380	268	1.1	1.9	17.175	C
3 - Stevenage Road	1024	256	493	868	859	932	13.6	51.9	141.678	F
4 - London Road	256	64	1129	257	255	232	0.4	0.4	6.022	A
5 - Gosmore Road	105	26	1326	106	105	60	0.2	0.2	8.523	A

#### 08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1552	388	261	1061	1064	1290	65.0	185.0	429.162	F
2 - Hitchin Hill	473	118	1038	477	468	284	1.9	4.4	30.480	D
3 - Stevenage Road	1243	311	577	849	849	938	51.9	148.2	430.985	F
4 - London Road	312	78	1171	312	308	255	0.4	0.6	6.639	A
5 - Gosmore Road	131	33	1421	131	129	63	0.2	0.4	9.209	A

#### 08:30 - 08:45

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Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1551	388	267	1060	1053	1275	185.0	306.6	839.049	F
2 - Hitchin Hill	484	121	1036	482	475	291	4.4	4.7	33.718	D
3 - Stevenage Road	1230	307	575	837	836	942	148.2	248.1	850.566	F
4 - London Road	313	78	1161	314	313	251	0.6	0.6	6.475	A
5 - Gosmore Road	131	33	1411	132	131	65	0.4	0.3	9.496	A

## 08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1253	313	224	1070	1067	1206	306.6	354.4	1070.766	F
2 - Hitchin Hill	394	98	1030	388	397	264	4.7	2.3	21.356	C
3 - Stevenage Road	1020	255	498	865	854	920	248.1	288.7	1075.758	F
4 - London Road	253	63	1127	253	255	235	0.6	0.4	6.128	A
5 - Gosmore Road	111	28	1319	111	108	61	0.3	0.3	8.798	A

## 09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1048	262	199	1072	1070	1151	354.4	348.5	838.098	F
2 - Hitchin Hill	327	82	1025	325	331	246	2.3	1.4	14.646	B
3 - Stevenage Road	856	214	436	874	873	913	288.7	283.6	857.479	F
4 - London Road	215	54	1098	216	214	213	0.4	0.3	5.820	A
5 - Gosmore Road	91	23	1259	90	91	54	0.3	0.2	7.963	A

## Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

## Lanes: Main Results for each time segment

## 07:45 - 08:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	891	940	0.948	887	857	0.0	7.8	27.085	D
			2	1, 4, 5	131	940	0.139	129	128	0.0	0.2	4.742	A
		2	1	(1, 2, 3, 4, 5)	1052			1021	1017	0.0	9.3	18.025	C
	Exit	1	1		1095			1095	1071	0.0	0.0	0.000	A
2 - Hitchin Hill	Entry	1	1	3	36	551	0.065	36	36	0.0	0.1	7.710	A
			2	1, 2, 4, 5	288	551	0.522	291	286	0.0	0.9	12.792	B
		2	1	(1, 2, 3, 4, 5)	324			324	327	0.0	0.1	0.416	A
	Exit	1	1		240			240	239	0.0	0.0	0.000	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	778	831	0.936	772	747	0.0	7.3	28.776	D
			2	2, 3	47	831	0.057	47	47	0.0	0.1	5.290	A
		2	1	(1, 2, 3, 4, 5)	849			825	824	0.0	6.2	14.547	B
	Exit	1	1		865			865	840	0.0	0.0	0.000	A
4 - London Road	Entry	1	1	1, 5	134	764	0.176	133	135	0.0	0.3	5.688	A
			2	2, 3, 4	76	764	0.100	76	78	0.0	0.1	5.154	A
		2	1	(1, 2, 3, 4, 5)	211			211	215	0.0	0.0	0.003	A
	Exit	1	1		207			207	204	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	20	531	0.037	20	20	0.0	0.0	6.824	A
			2	2, 3, 4, 5	69	531	0.130	69	70	0.0	0.1	7.647	A
		2	1	(1, 2, 3, 4, 5)	89			89	91	0.0	0.0	0.015	A
	Exit	1	1		54			54	52	0.0	0.0	0.000	A

## 08:00 - 08:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	942	930	1.013	942	928	7.8	9.9	36.286	E
			2	1, 4, 5	137	930	0.147	137	137	0.2	0.2	4.922	A
		2	1	(1, 2, 3, 4, 5)	1252			1079	1073	9.3	54.9	110.969	F
	Exit	1	1		1207			1207	1194	0.0	0.0	0.000	A
2 - Hitchin Hill	Entry	1	1	3	45	534	0.085	46	44	0.1	0.1	8.156	A
			2	1, 2, 4, 5	341	534	0.638	344	336	0.9	1.6	16.273	C
		2	1	(1, 2, 3, 4, 5)	385			386	383	0.1	0.2	1.736	A
	Exit	1	1		268			268	265	0.0	0.0	0.000	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	821	814	1.009	818	809	7.3	9.9	41.164	E
			2	2, 3	50	814	0.062	50	51	0.1	0.1	5.419	A
		2	1	(1, 2, 3, 4, 5)	1024			872	869	6.2	41.9	101.843	F
	Exit	1	1		932			932	919	0.0	0.0	0.000	A
4 - London Road	Entry	1	1	1, 5	162	736	0.220	163	162	0.3	0.2	6.261	A
			2	2, 3, 4	94	736	0.128	94	93	0.1	0.2	5.599	A
		2	1	(1, 2, 3, 4, 5)	256			256	255	0.0	0.0	0.001	A
	Exit	1	1		232			232	230	0.0	0.0	0.000	A
		1	1	1	25	498	0.051	25	24	0.0	0.1	7.147	A

5 - Gosmore Road	Entry		2	2, 3, 4, 5	80	498	0.161	81	81	0.1	0.2	8.835	A
		2	1	(1, 2, 3, 4, 5)	105			105	106	0.0	0.0	0.076	A
	Exit	1	1		60			60	57	0.0	0.0	0.000	A

## 08:15 - 08:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	922	919	1.004	922	927	9.9	10.0	38.687	E
			2	1, 4, 5	139	919	0.151	139	137	0.2	0.2	5.012	A
	Exit	2	1	(1, 2, 3, 4, 5)	1552			1061	1064	54.9	174.8	394.844	F
2 - Hitchin Hill	Entry	1	1	3	54	534	0.101	55	53	0.1	0.1	8.511	A
			2	1, 2, 4, 5	421	534	0.789	423	415	1.6	2.7	22.122	C
	Exit	2	1	(1, 2, 3, 4, 5)	473			475	472	0.2	1.5	9.646	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	802	791	1.014	802	802	9.9	10.0	44.897	E
			2	2, 3	47	791	0.059	47	47	0.1	0.1	5.737	A
	Exit	2	1	(1, 2, 3, 4, 5)	1243			849	849	41.9	138.1	387.827	F
4 - London Road	Entry	1	1	1, 5	199	723	0.276	200	196	0.2	0.4	7.016	A
			2	2, 3, 4	113	723	0.156	112	112	0.2	0.2	5.955	A
	Exit	2	1	(1, 2, 3, 4, 5)	312			312	309	0.0	0.0	0.007	A
5 - Gosmore Road	Entry	1	1	1	29	473	0.061	29	29	0.1	0.0	7.761	A
			2	2, 3, 4, 5	103	473	0.217	102	101	0.2	0.3	9.501	A
	Exit	2	1	(1, 2, 3, 4, 5)	131			131	130	0.0	0.0	0.096	A
	Exit	1	1		63			63	63	0.0	0.0	0.000	A

## 08:30 - 08:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	928	917	1.012	928	918	10.0	10.0	39.099	E
			2	1, 4, 5	132	917	0.144	132	134	0.2	0.2	4.940	A
	Exit	2	1	(1, 2, 3, 4, 5)	1551			1060	1053	174.8	296.4	805.015	F
2 - Hitchin Hill	Entry	1	1	3	54	534	0.101	54	53	0.1	0.1	8.589	A
			2	1, 2, 4, 5	428	534	0.802	428	422	2.7	2.9	22.964	C
	Exit	2	1	(1, 2, 3, 4, 5)	484			482	476	1.5	1.7	12.169	B
3 - Stevenage Road	Entry	1	1	1, 4, 5	791	791	1.000	791	790	10.0	10.0	45.513	E
			2	2, 3	46	791	0.058	46	46	0.1	0.1	5.645	A
	Exit	2	1	(1, 2, 3, 4, 5)	1230			837	836	138.1	238.0	807.836	F
4 - London Road	Entry	1	1	1, 5	196	726	0.270	197	196	0.4	0.4	6.697	A
			2	2, 3, 4	117	726	0.162	118	117	0.2	0.2	6.080	A
	Exit	2	1	(1, 2, 3, 4, 5)	313			313	312	0.0	0.0	0.007	A
5 - Gosmore Road	Entry	1	1	1	27	476	0.057	27	30	0.0	0.1	8.126	A
			2	2, 3, 4, 5	104	476	0.218	104	102	0.3	0.3	9.759	A
	Exit	2	1	(1, 2, 3, 4, 5)	131			131	131	0.0	0.0	0.110	A
	Exit	1	1		65			65	63	0.0	0.0	0.000	A

## 08:45 - 09:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	930	930	1.000	930	931	10.0	10.0	38.533	E
			2	1, 4, 5	140	930	0.151	140	136	0.2	0.2	4.975	A
	Exit	2	1	(1, 2, 3, 4, 5)	1253			1070	1067	296.4	344.2	1041.552	F
2 - Hitchin Hill	Entry	1	1	3	43	536	0.081	43	44	0.1	0.1	8.241	A
			2	1, 2, 4, 5	347	536	0.648	345	353	2.9	1.7	17.826	C
	Exit	2	1	(1, 2, 3, 4, 5)	394			391	392	1.7	0.5	4.729	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	817	813	1.005	816	806	10.0	10.0	44.601	E
			2	2, 3	48	813	0.059	48	48	0.1	0.1	5.617	A
	Exit	2	1	(1, 2, 3, 4, 5)	1020			865	854	238.0	278.6	1039.748	F
4 - London Road	Entry	1	1	1, 5	163	737	0.221	162	163	0.4	0.3	6.362	A
			2	2, 3, 4	90	737	0.122	90	92	0.2	0.2	5.707	A
	Exit	2	1	(1, 2, 3, 4, 5)	253			253	254	0.0	0.0	0.002	A
5 - Gosmore Road	Entry	1	1	1	25	500	0.051	26	25	0.1	0.1	7.724	A
			2	2, 3, 4, 5	86	500	0.172	85	84	0.3	0.2	8.988	A
	Exit	2	1	(1, 2, 3, 4, 5)	111			111	108	0.0	0.0	0.098	A
	Exit	1	1		61			61	59	0.0	0.0	0.000	A

## 09:00 - 09:15

					Total				Average	Start	End		
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Arm	Side	Lane level	Lane	Destination arms	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	throughput (PCU/hr)	queue (PCU)	queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	934	938	0.996	934	931	10.0	10.1	38.402	E
			2	1, 4, 5	137	938	0.146	138	138	0.2	0.1	4.965	A
	Exit	1	1	(1, 2, 3, 4, 5)	1048			1071	1070	344.2	338.3	829.555	F
			1	1		1151			1151	1153	0.0	0.0	0.000
2 - Hitchin Hill	Entry	1	1	3	38	537	0.070	38	37	0.1	0.1	7.845	A
			2	1, 2, 4, 5	289	537	0.538	287	294	1.7	1.3	14.267	B
	Exit	1	1	(1, 2, 3, 4, 5)	327			327	329	0.5	0.1	1.183	A
			1	1		246			246	245	0.0	0.0	0.000
3 - Stevenage Road	Entry	1	1	1, 4, 5	827	830	0.997	827	825	10.0	10.0	43.483	E
			2	2, 3	47	830	0.057	48	48	0.1	0.1	5.147	A
	Exit	1	1	(1, 2, 3, 4, 5)	856			874	873	278.6	273.5	846.395	F
			1	1		913			913	910	0.0	0.0	0.000
4 - London Road	Entry	1	1	1, 5	135	746	0.182	135	136	0.3	0.2	6.034	A
			2	2, 3, 4	80	746	0.107	80	78	0.2	0.1	5.445	A
	Exit	1	1	(1, 2, 3, 4, 5)	215			215	214	0.0	0.0	0.000	A
			1	1		213			213	217	0.0	0.0	0.000
5 - Gosmore Road	Entry	1	1	1	19	515	0.038	19	20	0.1	0.0	7.105	A
			2	2, 3, 4, 5	71	515	0.138	71	71	0.2	0.2	8.193	A
	Exit	1	1	(1, 2, 3, 4, 5)	91			91	91	0.0	0.0	0.012	A
			1	1		54			54	54	0.0	0.0	0.000

## Lane movements: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	100	25	997	939	0.106	101	97	0.0	0.8	26.617	D
				3	791	198	997	940	0.842	787	760	0.0	7.0	27.147	D
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	116	29	997	940	0.123	114	114	0.0	0.2	4.745	A
				5	15	4	937	883	0.016	15	14	0.0	0.0	4.718	A
	2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	102	26	-	-	-	100	100	0.0	0.9	17.792	C	
			3	815	204	-	-	-	791	787	0.0	7.1	18.063	C	
			4	120	30	-	-	-	116	115	0.0	1.1	17.953	C	
			5	15	4	-	-	-	15	14	0.0	0.1	18.201	C	
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	36	9	789	552	0.065	36	36	0.0	0.1	7.710	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
	2	1	1	190	47	789	551	0.345	192	191	0.0	0.6	12.797	B	
			2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			4	81	20	789	550	0.147	82	79	0.0	0.2	12.750	B	
			5	17	4	769	541	0.032	17	16	0.0	0.1	12.932	B	
2	1	1	190	47	-	-	-	190	194	0.0	0.0	0.433	A		
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		3	36	9	-	-	-	36	37	0.0	0.0	0.286	A		
		4	81	20	-	-	-	81	80	0.0	0.0	0.417	A		
		5	17	4	-	-	-	17	17	0.0	0.0	0.473	A		
3 - Stevenage Road	Entry	1	1	1	760	190	950	831	0.914	755	729	0.0	7.2	28.792	D
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	18	4	937	819	0.022	18	17	0.0	0.1	28.111	D
	2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	47	12	950	831	0.057	47	47	0.0	0.1	5.290	A	
			3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
2	1	1	781	195	-	-	-	760	758	0.0	5.7	14.634	B		
		2	49	12	-	-	-	47	48	0.0	0.3	13.373	B		
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		5	19	5	-	-	-	18	18	0.0	0.1	13.746	B		
1	1	1	130	32	1096	764	0.170	128	131	0.0	0.3	5.670	A		
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		5	5	1	736	520	0.009	5	5	0.0	0.0	6.191	A		

4 - London Road	Entry	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	76	19	1096	765	0.100	76	78	0.0	0.1	5.154	A	
			3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
		2	1	1	130	32	-	-	-	130	132	0.0	0.0	0.005	A
				2	76	19	-	-	-	76	79	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	5	1	-	-	-	5	5	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	20	5	840	531	0.037	20	20	0.0	0.0	6.824	A	
			2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	16	4	837	531	0.030	16	16	0.0	0.0	7.343	A
				3	43	11	843	533	0.080	43	44	0.0	0.1	7.619	A
				4	10	3	798	508	0.020	10	10	0.0	0.0	8.237	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	20	5	-	-	-	20	20	0.0	0.0	0.000	A
				2	16	4	-	-	-	16	16	0.0	0.0	0.023	A
				3	43	11	-	-	-	43	44	0.0	0.0	0.018	A
				4	10	3	-	-	-	10	10	0.0	0.0	0.016	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

08:00 - 08:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service		
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	106	27	997	929	0.114	106	103	0.8	1.1	36.107	E		
				3	836	209	997	930	0.899	836	825	7.0	8.8	36.310	E		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	1	1	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	122	31	997	929	0.132	123	122	0.2	0.1	4.947	A		
				5	14	4	983	916	0.016	14	15	0.0	0.0	4.724	A		
		2	1	1	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				2	122	30	-	-	-	106	104	0.9	5.3	112.094	F		
				3	975	244	-	-	-	836	833	7.1	42.8	111.148	F		
				4	139	35	-	-	-	122	122	1.1	6.0	109.197	F		
				5	17	4	-	-	-	14	15	0.1	0.8	108.222	F		
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	45	11	789	535	0.085	46	44	0.1	0.1	8.156	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	1	1	225	56	789	535	0.420	226	223	0.6	1.1	16.253	C		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	95	24	789	534	0.179	97	95	0.2	0.4	16.209	C		
				5	21	5	783	532	0.039	21	19	0.1	0.1	16.843	C		
		2	1	1	224	56	-	-	-	225	224	0.0	0.1	1.750	A		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	45	11	-	-	-	45	44	0.0	0.0	1.145	A		
				4	95	24	-	-	-	95	96	0.0	0.0	1.925	A		
				5	21	5	-	-	-	21	19	0.0	0.0	1.864	A		
3 - Stevenage Road	Entry	1	1	1	801	200	950	814	0.984	798	790	7.2	9.7	41.150	E		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	20	5	943	809	0.025	20	18	0.1	0.2	41.743	E		
		2	1	1	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				2	50	13	950	814	0.062	50	51	0.1	0.1	5.419	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	1	1	943	236	-	-	-	801	800	5.7	38.7	102.016	F		
				2	57	14	-	-	-	50	51	0.3	2.3	97.945	F		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	24	6	-	-	-	20	19	0.1	1.0	104.001	F		
1	1	1	157	39	1096	736	0.214	158	157	0.3	0.2	6.276	A				
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
		5	5	1	775	523	0.010	5	5	0.0	0.0	5.808	A				

4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	94	24	1096	736	0.128	94	93	0.1	0.2	5.599	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	157	39	-	-	-	157	157	0.0	0.0	0.002	A
				2	94	24	-	-	-	94	93	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	5	1	-	-	-	5	5	0.0	0.0	0.000	A

5 - Gosmore Road	Entry	1	1	1	25	6	840	497	0.051	25	24	0.0	0.1	7.147	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	18	4	834	493	0.036	18	18	0.0	0.0	8.826	A
					3	50	13	843	498	0.101	50	50	0.1	0.1	8.906	A
					4	12	3	816	487	0.025	13	13	0.0	0.0	8.572	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	25	6	-	-	-	25	24	0.0	0.0	0.007	A	
				2	17	4	-	-	-	18	18	0.0	0.0	0.116	A	
				3	50	13	-	-	-	50	50	0.0	0.0	0.095	A	
				4	12	3	-	-	-	12	13	0.0	0.0	0.075	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	

08:15 - 08:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service	
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	105	26	997	919	0.114	103	104	1.1	1.2	38.578	E	
				3	818	204	997	919	0.889	820	823	8.8	8.9	38.702	E	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	124	31	997	919	0.135	124	121	0.1	0.2	5.048	A
					5	15	4	969	893	0.016	15	15	0.0	0.0	4.726	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	154	39	-	-	-	105	104	5.3	17.4	394.317	F	
				3	1201	300	-	-	-	818	823	42.8	135.0	395.152	F	
				4	177	44	-	-	-	124	121	6.0	19.9	393.786	F	
				5	21	5	-	-	-	15	15	0.8	2.4	391.310	F	
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	54	13	789	535	0.100	55	53	0.1	0.1	8.511	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	283	71	789	534	0.529	284	276	1.1	1.8	22.250	C
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	115	29	789	533	0.216	116	116	0.4	0.7	21.847	C
					5	23	6	789	536	0.044	23	24	0.1	0.1	21.996	C
		2	1	1	281	70	-	-	-	283	279	0.1	0.9	9.759	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	54	13	-	-	-	54	53	0.0	0.2	8.808	A	
				4	115	29	-	-	-	115	117	0.0	0.4	9.927	A	
				5	23	6	-	-	-	23	24	0.0	0.0	8.650	A	
3 - Stevenage Road	Entry	1	1	1	785	196	950	791	0.992	784	784	9.7	9.8	44.899	E	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	17	4	930	775	0.022	18	18	0.2	0.2	44.790	E	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	47	12	950	792	0.059	47	47	0.1	0.1	5.737	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	1146	286	-	-	-	785	784	38.7	127.4	387.924	F	
				2	71	18	-	-	-	47	47	2.3	7.6	385.790	F	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	27	7	-	-	-	17	18	1.0	3.0	388.488	F	
1	1	1	192	48	1096	723	0.266	193	189	0.2	0.4	7.004	A			
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		5	7	2	906	599	0.012	7	7	0.0	0.0	7.359	A			

4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	113	28	1096	724	0.156	112	112	0.2	0.2	5.955	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	192	48	-	-	-	192	190	0.0	0.0	0.008	A
				2	113	28	-	-	-	113	112	0.0	0.0	0.004	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	7	2	-	-	-	7	7	0.0	0.0	0.012	A

08:30 - 08:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service	
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	105	26	997	917	0.115	105	105	1.2	1.1	38.887	E	
				3	822	206	997	917	0.897	823	813	8.9	8.9	39.127	E	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	0	0	0	0	0.000	0	0.0	0.0	0.000	A	
					2	0	0	0	0	0.000	0	0.0	0.0	0.000	A	
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	118	29	997	917	0.128	117	119	0.2	0.2	4.934	A
					5	15	4	973	894	0.017	15	15	0.0	0.0	4.984	A
		2	1	1	0	0	0	0	0.000	0	0.0	0.0	0.000	A		
				2	152	38	-	-	-	105	105	17.4	29.2	804.136	F	
				3	1196	299	-	-	-	822	813	135.0	229.2	805.245	F	
				4	181	45	-	-	-	118	119	19.9	33.9	804.995	F	
				5	21	5	-	-	-	15	15	2.4	4.0	799.316	F	
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	54	13	789	534	0.101	54	53	0.1	0.1	8.589	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	283	71	789	535	0.530	284	281	1.8	1.9	23.069	C
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	120	30	789	534	0.224	118	118	0.7	0.8	22.779	C
					5	25	6	789	537	0.047	25	23	0.1	0.1	22.646	C
		2	1	1	283	71	-	-	-	283	281	0.9	0.9	12.371	B	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	55	14	-	-	-	54	53	0.2	0.2	11.200	B	
				4	120	30	-	-	-	120	119	0.4	0.4	12.145	B	
				5	26	6	-	-	-	25	23	0.0	0.1	11.881	B	
3 - Stevenage Road	Entry	1	1	1	773	193	950	791	0.977	773	772	9.8	9.8	45.521	E	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	18	4	933	779	0.023	18	19	0.2	0.2	45.183	E	
			2	1	1	0	0	0	0	0.000	0	0.0	0.0	0.000	A	
					2	46	11	950	791	0.058	46	46	0.1	0.1	5.645	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	1132	283	-	-	-	773	772	127.4	219.4	808.043	F	
				2	71	18	-	-	-	46	46	7.6	13.4	807.061	F	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	26	7	-	-	-	18	18	3.0	5.1	801.040	F	
		1		1	189	47	1096	726	0.261	190	189	0.4	0.4	6.705	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	7	2	875	583	0.012	7	7	0.0	0.0	6.462	A	

4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	117	29	1096	727	0.161	118	117	0.2	0.2	6.080	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	189	47	-	-	-	189	189	0.0	0.0	0.011	A
				2	117	29	-	-	-	117	116	0.0	0.0	0.001	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	7	2	-	-	-	7	7	0.0	0.0	0.000	A

5 - Gosmore Road	Entry	1	1	1	27	7	843	475	0.057	27	30	0.0	0.1	8.126	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	23	6	837	475	0.049	23	22	0.1	0.1	9.504	A
					3	65	16	843	476	0.136	65	63	0.2	0.1	9.907	A
					4	16	4	819	465	0.034	16	16	0.0	0.0	9.537	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	27	7	-	-	-	27	30	0.0	0.0	0.022	A	
				2	23	6	-	-	-	23	22	0.0	0.0	0.121	A	
				3	65	16	-	-	-	65	63	0.0	0.0	0.102	A	
				4	16	4	-	-	-	16	16	0.0	0.0	0.285	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	

08:45 - 09:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service	
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	106	26	997	930	0.114	106	105	1.1	1.1	38.059	E	
				3	824	206	997	930	0.886	824	825	8.9	8.9	38.596	E	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	125	31	997	930	0.135	125	122	0.2	0.2	4.983	A
					5	15	4	966	901	0.017	15	14	0.0	0.0	4.911	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	120	30	-	-	-	106	105	29.2	33.0	1042.644	F	
				3	974	244	-	-	-	824	825	229.2	267.0	1041.746	F	
				4	140	35	-	-	-	125	122	33.9	39.4	1039.703	F	
				5	18	5	-	-	-	15	14	4.0	4.8	1039.069	F	
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	43	11	789	533	0.081	43	44	0.1	0.1	8.241	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	229	57	789	536	0.427	227	232	1.9	1.1	17.823	C
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	99	25	789	535	0.184	97	100	0.8	0.5	17.797	C
					5	20	5	789	537	0.037	20	21	0.1	0.1	18.009	C
		2	1	1	230	58	-	-	-	229	229	0.9	0.3	4.870	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	44	11	-	-	-	43	44	0.2	0.0	4.249	A	
				4	99	25	-	-	-	99	99	0.4	0.1	4.706	A	
				5	20	5	-	-	-	20	21	0.1	0.0	4.184	A	
3 - Stevenage Road	Entry	1	1	1	798	200	950	813	0.982	797	787	9.8	9.8	44.593	E	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	19	5	947	811	0.023	19	19	0.2	0.2	44.924	E	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	48	12	950	814	0.059	48	48	0.1	0.1	5.617	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	939	235	-	-	-	798	787	219.4	257.4	1040.104	F	
				2	60	15	-	-	-	48	48	13.4	15.6	1035.899	F	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	21	5	-	-	-	19	19	5.1	5.6	1033.266	F	
1	1	1	157	39	1096	737	0.213	156	157	0.4	0.3	6.358	A			
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		5	6	2	805	543	0.011	6	6	0.0	0.0	6.474	A			

4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	90	23	1096	737	0.122	90	92	0.2	0.2	5.707	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	157	39	-	-	-	157	157	0.0	0.0	0.002	A
				2	90	23	-	-	-	90	92	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	6	2	-	-	-	6	6	0.0	0.0	0.011	A

5 - Gosmore Road	Entry	1	1	1	25	6	843	500	0.051	26	25	0.1	0.1	7.724	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	19	5	834	493	0.039	19	19	0.1	0.0	8.814	A
					3	53	13	843	499	0.107	53	52	0.1	0.1	9.045	A
					4	14	3	798	471	0.029	13	13	0.0	0.0	9.013	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	25	6	-	-	-	25	25	0.0	0.0	0.013	A	
				2	19	5	-	-	-	19	19	0.0	0.0	0.096	A	
				3	53	13	-	-	-	53	52	0.0	0.0	0.114	A	
				4	14	3	-	-	-	14	13	0.0	0.0	0.204	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	

09:00 - 09:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service	
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	101	25	997	938	0.108	102	102	1.1	1.0	38.126	E	
				3	833	208	997	938	0.888	832	829	8.9	9.1	38.438	E	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	122	31	997	938	0.131	123	123	0.2	0.1	4.925	A
					5	15	4	990	930	0.016	15	15	0.0	0.0	5.295	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	102	26	-	-	-	101	102	33.0	32.9	836.599	F	
				3	815	204	-	-	-	833	830	267.0	262.6	828.826	F	
				4	117	29	-	-	-	122	123	39.4	38.0	827.356	F	
				5	14	4	-	-	-	15	15	4.8	4.8	827.857	F	
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	38	9	789	538	0.070	38	37	0.1	0.1	7.845	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	194	48	789	537	0.361	192	195	1.1	0.9	14.174	B
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	79	20	789	537	0.147	79	82	0.5	0.3	14.536	B
					5	16	4	766	522	0.031	16	17	0.1	0.1	14.026	B
		2	1	1	194	49	-	-	-	194	194	0.3	0.0	1.143	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	38	9	-	-	-	38	37	0.0	0.0	0.991	A	
				4	79	20	-	-	-	79	81	0.1	0.0	1.394	A	
				5	16	4	-	-	-	16	17	0.0	0.0	1.015	A	
3 - Stevenage Road	Entry	1	1	1	809	202	950	830	0.975	809	807	9.8	9.8	43.483	E	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	18	5	937	816	0.022	18	18	0.2	0.2	43.495	E	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	47	12	950	830	0.057	48	48	0.1	0.1	5.147	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	786	197	-	-	-	809	807	257.4	252.1	846.703	F	
				2	50	12	-	-	-	47	48	15.6	15.7	838.500	F	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	19	5	-	-	-	18	18	5.6	5.7	850.252	F	
1	1	1	130	33	1096	745	0.175	130	131	0.3	0.2	6.029	A			
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		5	5	1	759	516	0.010	5	5	0.0	0.0	6.152	A			

4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	80	20	1096	746	0.107	80	78	0.2	0.1	5.445	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	130	33	-	-	-	130	131	0.0	0.0	0.000	A
				2	80	20	-	-	-	80	78	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	5	1	-	-	-	5	5	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	19	5	840	513	0.038	19	20	0.1	0.0	7.105	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	17	4	831	505	0.033	17	16	0.0	0.0	8.339	A
				3	43	11	843	516	0.084	43	43	0.1	0.1	8.171	A
				4	11	3	801	491	0.023	11	11	0.0	0.0	8.064	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	19	5	-	-	-	19	20	0.0	0.0	0.000	A
				2	17	4	-	-	-	17	16	0.0	0.0	0.008	A
				3	43	11	-	-	-	43	43	0.0	0.0	0.022	A
				4	11	3	-	-	-	11	11	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

# 2043 Base, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Last Run	Lane Simulation	1 - Park Way - Lane Simulation	Arm 1: Queue at end of modelled period is greater than 10 PCU. Delay is likely to have been underestimated.
Last Run	Lane Simulation	3 - Stevenage Road - Lane Simulation	Arm 3: Queue at end of modelled period is greater than 10 PCU. Delay is likely to have been underestimated.
Info	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. For detailed information on this mode, please see the User Guide.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Hitchin Hill Roundabout	Standard Roundabout		1, 2, 3, 4, 5	625.12	F

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	625.12	F

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2043 Base	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Park Way		ONE HOUR	✓	1249	100.000
2 - Hitchin Hill		ONE HOUR	✓	578	100.000
3 - Stevenage Road		ONE HOUR	✓	1114	100.000
4 - London Road		ONE HOUR	✓	303	100.000
5 - Gosmore Road		ONE HOUR	✓	78	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	0	114	995	118	22
	2 - Hitchin Hill	322	0	132	101	23
	3 - Stevenage Road	1024	46	0	0	44
	4 - London Road	261	29	0	0	13
	5 - Gosmore Road	24	23	25	6	0

### Proportions

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	0.00	0.09	0.80	0.09	0.02
	2 - Hitchin Hill	0.56	0.00	0.23	0.17	0.04
	3 - Stevenage Road	0.92	0.04	0.00	0.00	0.04
	4 - London Road	0.86	0.10	0.00	0.00	0.04
	5 - Gosmore Road	0.31	0.29	0.32	0.08	0.00

## Vehicle Mix

### Heavy Vehicle Percentages

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	0	1	2	0	0
	2 - Hitchin Hill	1	0	5	0	0
	3 - Stevenage Road	3	16	0	2	1
	4 - London Road	0	1	1	0	0
	5 - Gosmore Road	0	1	1	0	0

### Average PCU Per Veh

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	1.000	1.012	1.020	1.001	1.001
	2 - Hitchin Hill	1.006	1.000	1.049	1.003	1.002
	3 - Stevenage Road	1.032	1.156	1.000	1.018	1.009
	4 - London Road	1.001	1.006	1.011	1.000	1.000
	5 - Gosmore Road	1.001	1.006	1.011	1.001	1.000

## Detailed Demand Data

### Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)



16:45-17:00	1 - Park Way	940	940
	2 - Hitchin Hill	435	435
	3 - Stevenage Road	839	839
	4 - London Road	228	228
	5 - Gosmore Road	59	59
17:00-17:15	1 - Park Way	1123	1123
	2 - Hitchin Hill	520	520
	3 - Stevenage Road	1001	1001
	4 - London Road	272	272
	5 - Gosmore Road	70	70
17:15-17:30	1 - Park Way	1375	1375
	2 - Hitchin Hill	636	636
	3 - Stevenage Road	1227	1227
	4 - London Road	334	334
	5 - Gosmore Road	86	86
17:30-17:45	1 - Park Way	1375	1375
	2 - Hitchin Hill	636	636
	3 - Stevenage Road	1227	1227
	4 - London Road	334	334
	5 - Gosmore Road	86	86
17:45-18:00	1 - Park Way	1123	1123
	2 - Hitchin Hill	520	520
	3 - Stevenage Road	1001	1001
	4 - London Road	272	272
	5 - Gosmore Road	70	70
18:00-18:15	1 - Park Way	940	940
	2 - Hitchin Hill	435	435
	3 - Stevenage Road	839	839
	4 - London Road	228	228
	5 - Gosmore Road	59	59

## Results

### Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Park Way	603.75	185.2	F	1147	1721
2 - Hitchin Hill	61.28	11.7	F	530	794
3 - Stevenage Road	1152.15	303.1	F	1021	1532
4 - London Road	8.43	0.9	A	278	417
5 - Gosmore Road	8.62	0.2	A	71	107

### Main Results for each time segment

#### 16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	940	235	94	943	914	1187	0.0	6.2	21.150	C
2 - Hitchin Hill	427	107	880	424	430	156	0.0	1.9	13.044	B
3 - Stevenage Road	824	206	439	802	781	865	0.0	13.7	43.344	E
4 - London Road	233	58	1071	234	230	170	0.0	0.4	6.410	A
5 - Gosmore Road	55	14	1226	55	60	79	0.0	0.1	7.354	A

#### 17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1124	281	106	1059	1044	1319	6.2	24.8	58.912	F
2 - Hitchin Hill	515	129	990	514	519	175	1.9	3.0	20.857	C
3 - Stevenage Road	991	248	524	840	836	979	13.7	54.7	152.778	F
4 - London Road	271	68	1171	271	270	193	0.4	0.5	7.254	A
5 - Gosmore Road	69	17	1356	69	69	85	0.1	0.2	7.901	A

#### 17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1378	344	124	1090	1076	1404	24.8	101.9	218.417	F
2 - Hitchin Hill	642	161	1023	621	611	191	3.0	9.7	43.512	E
3 - Stevenage Road	1245	311	607	812	822	1037	54.7	157.4	470.860	F
4 - London Road	330	83	1200	331	329	219	0.5	0.9	8.311	A
5 - Gosmore Road	86	22	1441	87	84	90	0.2	0.1	8.599	A

#### 17:30 - 17:45

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Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1375	344	130	1059	1078	1430	101.9	176.4	463.630	F
2 - Hitchin Hill	633	158	1001	630	627	188	9.7	11.7	61.283	F
3 - Stevenage Road	1223	306	609	836	813	1023	157.4	260.6	917.729	F
4 - London Road	332	83	1227	331	334	218	0.9	0.9	8.427	A
5 - Gosmore Road	88	22	1472	88	87	86	0.1	0.2	8.624	A

## 17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1123	281	108	1088	1092	1330	176.4	185.2	603.749	F
2 - Hitchin Hill	519	130	1015	524	547	181	11.7	4.9	42.380	E
3 - Stevenage Road	1008	252	533	843	834	1006	260.6	303.1	1152.154	F
4 - London Road	275	69	1176	276	276	199	0.9	0.5	7.683	A
5 - Gosmore Road	69	17	1370	69	71	82	0.2	0.1	8.332	A

## 18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	942	235	101	1076	1078	1255	185.2	150.1	531.134	F
2 - Hitchin Hill	440	110	1002	444	446	175	4.9	1.9	19.429	C
3 - Stevenage Road	838	210	466	867	853	980	303.1	298.5	875.065	F
4 - London Road	225	56	1149	227	226	183	0.5	0.4	6.627	A
5 - Gosmore Road	59	15	1297	59	60	79	0.1	0.1	7.646	A

## Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

## Lanes: Main Results for each time segment

## 16:45 - 17:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	831	969	0.857	835	809	0.0	4.6	18.990	C
			2	1, 4, 5	107	969	0.111	108	105	0.0	0.1	4.276	A
	Exit	1	1	(1, 2, 3, 4, 5)	940			939	933	0.0	1.5	3.736	A
			1		1187			1187	1173	0.0	0.0	0.000	A
2 - Hitchin Hill	Entry	1	1	3	96	573	0.168	97	98	0.0	0.2	7.827	A
			2	1, 2, 4, 5	330	573	0.576	327	332	0.0	1.5	13.560	B
	Exit	1	1	(1, 2, 3, 4, 5)	427			426	437	0.0	0.2	0.705	A
			1		156			156	157	0.0	0.0	0.000	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	770	829	0.930	769	748	0.0	7.2	28.655	D
			2	2, 3	33	829	0.039	33	33	0.0	0.0	5.337	A
	Exit	1	1	(1, 2, 3, 4, 5)	824			803	810	0.0	6.5	15.069	C
			1		865			865	842	0.0	0.0	0.000	A
4 - London Road	Entry	1	1	1, 5	210	755	0.279	211	209	0.0	0.4	6.524	A
			2	2, 3, 4	23	755	0.030	23	21	0.0	0.0	5.149	A
	Exit	1	1	(1, 2, 3, 4, 5)	233			233	232	0.0	0.0	0.014	A
			1		170			170	168	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	17	524	0.032	17	18	0.0	0.0	7.460	A
			2	2, 3, 4, 5	39	524	0.074	38	41	0.0	0.1	7.305	A
	Exit	1	1	(1, 2, 3, 4, 5)	55			55	60	0.0	0.0	0.001	A
			1		79			79	75	0.0	0.0	0.000	A

## 17:00 - 17:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	944	965	0.978	941	925	4.6	8.4	29.474	D
			2	1, 4, 5	117	965	0.121	118	119	0.1	0.1	4.350	A
	Exit	1	1	(1, 2, 3, 4, 5)	1124			1061	1059	1.5	16.3	31.902	D
			1		1319			1319	1315	0.0	0.0	0.000	A
2 - Hitchin Hill	Entry	1	1	3	112	546	0.206	112	118	0.2	0.3	9.002	A
			2	1, 2, 4, 5	401	546	0.736	401	401	1.5	1.9	18.538	C
	Exit	1	1	(1, 2, 3, 4, 5)	515			514	522	0.2	0.8	4.350	A
			1		175			175	176	0.0	0.0	0.000	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	809	805	1.005	807	803	7.2	10.0	41.929	E
			2	2, 3	33	805	0.041	33	33	0.0	0.0	5.588	A
	Exit	1	1	(1, 2, 3, 4, 5)	991			843	847	6.5	44.7	111.608	F
			1		979			979	967	0.0	0.0	0.000	A
4 - London Road	Entry	1	1	1, 5	246	723	0.340	245	244	0.4	0.5	7.456	A
			2	2, 3, 4	25	723	0.035	26	26	0.0	0.0	4.934	A
	Exit	1	1	(1, 2, 3, 4, 5)	271			271	271	0.0	0.0	0.041	A
			1		193			193	197	0.0	0.0	0.000	A
		1	1	1	22	490	0.044	21	22	0.0	0.0	7.511	A

5 - Gosmore Road	Entry		2	2, 3, 4, 5	48	490	0.098	48	47	0.1	0.1	8.079	A
		2	1	(1, 2, 3, 4, 5)	69			69	69	0.0	0.0	0.002	A
	Exit	1	1		85			85	83	0.0	0.0	0.000	A

## 17:15 - 17:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	965	960	1.005	966	953	8.4	10.0	36.968	E
			2	1, 4, 5	124	960	0.129	124	123	0.1	0.2	4.550	A
	Exit	2	1	(1, 2, 3, 4, 5)	1378			1090	1083	16.3	91.7	185.176	F
2 - Hitchin Hill	Entry	1	1	3	145	538	0.269	145	144	0.3	0.4	10.617	B
			2	1, 2, 4, 5	480	538	0.893	476	466	1.9	3.7	25.407	D
	Exit	2	1	(1, 2, 3, 4, 5)	642			625	618	0.8	5.6	21.249	C
3 - Stevenage Road	Entry	1	1	1, 4, 5	780	782	0.997	780	789	10.0	10.0	45.661	E
			2	2, 3	31	782	0.040	31	33	0.0	0.0	5.645	A
	Exit	2	1	(1, 2, 3, 4, 5)	1245			811	822	44.7	147.3	426.159	F
4 - London Road	Entry	1	1	1, 5	297	714	0.416	298	297	0.5	0.8	8.557	A
			2	2, 3, 4	33	714	0.047	33	32	0.0	0.0	5.178	A
	Exit	2	1	(1, 2, 3, 4, 5)	330			330	331	0.0	0.0	0.077	A
5 - Gosmore Road	Entry	1	1	1	28	468	0.060	28	25	0.0	0.0	8.092	A
			2	2, 3, 4, 5	58	468	0.125	59	59	0.1	0.1	8.807	A
	Exit	2	1	(1, 2, 3, 4, 5)	86			86	84	0.0	0.0	0.009	A
	Exit	1	1		90			90	89	0.0	0.0	0.000	A

## 17:30 - 17:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	943	958	0.984	943	957	10.0	10.0	37.488	E
			2	1, 4, 5	118	958	0.123	117	121	0.2	0.2	4.620	A
	Exit	2	1	(1, 2, 3, 4, 5)	1375			1061	1079	91.7	166.1	430.015	F
2 - Hitchin Hill	Entry	1	1	3	143	543	0.263	144	142	0.4	0.4	10.305	B
			2	1, 2, 4, 5	485	543	0.894	486	485	3.7	3.8	27.892	D
	Exit	2	1	(1, 2, 3, 4, 5)	633			628	628	5.6	7.4	37.132	E
3 - Stevenage Road	Entry	1	1	1, 4, 5	799	782	1.021	799	780	10.0	10.0	46.094	E
			2	2, 3	37	782	0.048	37	33	0.0	0.1	5.847	A
	Exit	2	1	(1, 2, 3, 4, 5)	1223			836	813	147.3	250.5	874.319	F
4 - London Road	Entry	1	1	1, 5	302	705	0.428	300	302	0.8	0.9	8.629	A
			2	2, 3, 4	30	705	0.043	31	32	0.0	0.0	5.186	A
	Exit	2	1	(1, 2, 3, 4, 5)	332			332	334	0.0	0.0	0.128	A
5 - Gosmore Road	Entry	1	1	1	26	460	0.057	27	27	0.0	0.0	8.081	A
			2	2, 3, 4, 5	62	460	0.135	62	60	0.1	0.1	8.844	A
	Exit	2	1	(1, 2, 3, 4, 5)	88			88	87	0.0	0.0	0.014	A
	Exit	1	1		86			86	87	0.0	0.0	0.000	A

## 17:45 - 18:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	967	965	1.002	967	970	10.0	10.0	37.057	E
			2	1, 4, 5	120	965	0.125	121	122	0.2	0.2	4.809	A
	Exit	2	1	(1, 2, 3, 4, 5)	1123			1087	1092	166.1	175.0	570.185	F
2 - Hitchin Hill	Entry	1	1	3	117	539	0.218	118	120	0.4	0.3	9.510	A
			2	1, 2, 4, 5	409	539	0.758	406	427	3.8	2.7	23.918	C
	Exit	2	1	(1, 2, 3, 4, 5)	519			527	542	7.4	1.9	21.939	C
3 - Stevenage Road	Entry	1	1	1, 4, 5	807	803	1.005	807	799	10.0	10.0	45.038	E
			2	2, 3	35	803	0.044	36	35	0.1	0.0	5.549	A
	Exit	2	1	(1, 2, 3, 4, 5)	1008			842	834	250.5	293.1	1114.821	F
4 - London Road	Entry	1	1	1, 5	249	721	0.345	250	249	0.9	0.4	7.879	A
			2	2, 3, 4	26	721	0.036	26	27	0.0	0.0	5.113	A
	Exit	2	1	(1, 2, 3, 4, 5)	275			275	275	0.0	0.0	0.078	A
5 - Gosmore Road	Entry	1	1	1	23	487	0.046	22	21	0.0	0.1	7.832	A
			2	2, 3, 4, 5	46	487	0.095	47	50	0.1	0.1	8.497	A
	Exit	2	1	(1, 2, 3, 4, 5)	69			69	71	0.0	0.0	0.031	A
	Exit	1	1		82			82	87	0.0	0.0	0.000	A

## 18:00 - 18:15

					Total				Average	Start	End		
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Arm	Side	Lane level	Lane	Destination arms	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	throughput (PCU/hr)	queue (PCU)	queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	954	967	0.987	955	955	10.0	10.0	37.433	E
			2	1, 4, 5	121	967	0.125	121	123	0.2	0.1	4.665	A
	Exit	1	1	(1, 2, 3, 4, 5)	942			1075	1078	175.0	140.0	500.132	F
			1		1255			1255	1244	0.0	0.0	0.000	A
2 - Hitchin Hill	Entry	1	1	3	103	543	0.190	104	103	0.3	0.2	8.934	A
			2	1, 2, 4, 5	339	543	0.625	340	344	2.7	1.5	17.394	C
	Exit	1	1	(1, 2, 3, 4, 5)	440			442	441	1.9	0.2	4.169	A
			1		175			175	177	0.0	0.0	0.000	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	830	821	1.010	829	816	10.0	10.0	43.853	E
			2	2, 3	38	821	0.046	37	37	0.0	0.1	5.764	A
	Exit	1	1	(1, 2, 3, 4, 5)	838			868	854	293.1	288.4	870.456	F
			1		980			980	978	0.0	0.0	0.000	A
4 - London Road	Entry	1	1	1, 5	202	730	0.277	204	203	0.4	0.3	6.761	A
			2	2, 3, 4	23	730	0.032	23	22	0.0	0.0	5.266	A
	Exit	1	1	(1, 2, 3, 4, 5)	225			225	225	0.0	0.0	0.014	A
			1		183			183	185	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	18	505	0.036	18	18	0.1	0.0	7.214	A
			2	2, 3, 4, 5	41	505	0.082	41	42	0.1	0.1	7.834	A
	Exit	1	1	(1, 2, 3, 4, 5)	59			59	60	0.0	0.0	0.000	A
			1		79			79	79	0.0	0.0	0.000	A

Lane movements: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service		
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	84	21	997	969	0.087	83	84	0.0	0.5	19.168	C		
				3	747	187	997	969	0.771	751	725	0.0	4.1	18.969	C		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	1	1	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.0	0.0	0.000	A
				4	89	22	997	969	0.092	90	88	0.0	0.1	4.270	A		
				5	18	5	973	945	0.019	18	17	0.0	0.0	4.306	A		
	2	1	1	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A	
			2	84	21	-	-	-	84	87	0.0	0.1	3.541	A			
			3	748	187	-	-	-	747	741	0.0	1.2	3.812	A			
			4	90	22	-	-	-	89	88	0.0	0.1	3.216	A			
			5	19	5	-	-	-	18	17	0.0	0.0	4.153	A			
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	96	24	789	572	0.168	97	98	0.0	0.2	7.827	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	1	1	235	59	789	573	0.410	233	240	0.0	1.1	13.585	B		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	77	19	789	574	0.134	77	75	0.0	0.3	13.486	B		
				5	18	5	781	568	0.032	18	17	0.0	0.1	13.548	B		
	2	1	1	236	59	-	-	-	235	244	0.0	0.1	0.774	A			
			2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
			3	96	24	-	-	-	96	99	0.0	0.0	0.439	A			
			4	77	19	-	-	-	77	77	0.0	0.0	0.738	A			
			5	18	5	-	-	-	18	17	0.0	0.0	1.040	A			
3 - Stevenage Road	Entry	1	1	1	739	185	950	829	0.891	737	716	0.0	6.9	28.670	D		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	32	8	950	829	0.039	32	32	0.0	0.3	28.326	D		
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	33	8	945	823	0.040	33	33	0.0	0.0	5.337	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
	2	1	1	757	189	-	-	-	739	744	0.0	5.9	15.030	C			
			2	34	8	-	-	-	33	33	0.0	0.3	14.161	B			
			3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
			4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
			5	33	8	-	-	-	32	33	0.0	0.3	16.702	C			
1	1	1	200	50	1096	755	0.264	200	198	0.0	0.3	6.509	A				
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
		5	11	3	1031	708	0.015	11	10	0.0	0.0	6.804	A				

4 - London Road	Entry	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	23	6	1090	748	0.031	23	21	0.0	0.0	5.149	A	
			3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
		2	1	1	200	50	-	-	-	200	200	0.0	0.0	0.016	A
				2	23	6	-	-	-	23	22	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	11	3	-	-	-	11	10	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	17	4	835	519	0.032	17	18	0.0	0.0	7.460	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	18	4	835	519	0.034	17	18	0.0	0.1	7.645	A
				3	17	4	835	517	0.032	17	19	0.0	0.0	6.924	A
				4	4	1	579	369	0.011	4	4	0.0	0.0	7.510	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	17	4	-	-	-	17	19	0.0	0.0	0.000	A
				2	18	4	-	-	-	18	18	0.0	0.0	0.000	A
				3	17	4	-	-	-	17	19	0.0	0.0	0.000	A
				4	4	1	-	-	-	4	4	0.0	0.0	0.016	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

17:00 - 17:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service		
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	99	25	997	965	0.102	96	97	0.5	0.9	29.295	D		
				3	845	211	997	965	0.875	844	828	4.1	7.5	29.495	D		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	1	1	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.0	0.0	0.000	A
				4	99	25	997	965	0.102	99	100	0.1	0.1	4.285	A		
				5	19	5	992	961	0.020	19	20	0.0	0.0	4.677	A		
		2	1	1	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				2	105	26	-	-	-	99	99	0.1	1.5	31.282	D		
				3	895	224	-	-	-	845	841	1.2	12.9	32.136	D		
				4	105	26	-	-	-	99	99	0.1	1.6	31.014	D		
				5	20	5	-	-	-	19	20	0.0	0.3	29.643	D		
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	112	28	789	546	0.206	112	118	0.2	0.3	9.002	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	1	1	291	73	789	546	0.533	291	290	1.1	1.4	18.477	C		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	90	22	789	547	0.164	89	91	0.3	0.5	18.680	C		
				5	21	5	781	541	0.038	21	20	0.1	0.1	18.783	C		
		2	1	1	293	73	-	-	-	291	291	0.1	0.5	4.577	A		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	112	28	-	-	-	112	118	0.0	0.1	3.565	A		
				4	90	22	-	-	-	90	92	0.0	0.1	4.382	A		
				5	21	5	-	-	-	21	20	0.0	0.0	5.322	A		
3 - Stevenage Road	Entry	1	1	1	776	194	950	805	0.963	773	770	6.9	9.6	41.912	E		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	34	8	950	805	0.042	34	32	0.3	0.4	42.312	E		
		2	1	1	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				2	33	8	950	804	0.041	33	33	0.0	0.0	5.588	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	1	1	912	228	-	-	-	776	781	5.9	41.1	111.645	F		
				2	40	10	-	-	-	33	33	0.3	1.8	111.555	F		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	39	10	-	-	-	34	32	0.3	1.7	110.806	F		
1	1	1	234	59	1096	723	0.324	233	234	0.3	0.4	7.469	A				
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
		5	12	3	1058	704	0.016	12	11	0.0	0.0	7.178	A				

4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	25	6	1085	718	0.036	26	26	0.0	0.0	4.934	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	234	59	-	-	-	234	234	0.0	0.0	0.038	A
				2	25	6	-	-	-	25	26	0.0	0.0	0.051	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	12	3	-	-	-	12	11	0.0	0.0	0.063	A
5 - Gosmore Road	Entry	1	1	1	22	5	835	485	0.044	21	22	0.0	0.0	7.511	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	20	5	826	478	0.042	20	20	0.1	0.1	8.240	A
				3	22	6	839	487	0.046	22	22	0.0	0.0	8.087	A
				4	5	1	608	355	0.015	5	6	0.0	0.0	7.490	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	22	5	-	-	-	22	22	0.0	0.0	0.000	A
				2	20	5	-	-	-	20	20	0.0	0.0	0.006	A
				3	22	6	-	-	-	22	22	0.0	0.0	0.000	A
				4	5	1	-	-	-	5	6	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

17:15 - 17:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	101	25	997	960	0.105	100	99	0.9	1.0	36.636	E
				3	864	216	997	960	0.900	865	854	7.5	9.0	37.006	E
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	105	26	997	960	0.109	105	104	0.1	0.1	4.548	A
				5	19	5	982	946	0.021	20	19	0.0	0.0	4.564	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	131	33	-	-	-	101	99	1.5	8.7	187.420	F
				3	1090	272	-	-	-	864	860	12.9	72.6	185.083	F
				4	133	33	-	-	-	105	104	1.6	8.8	184.143	F
				5	24	6	-	-	-	19	19	0.3	1.6	183.310	F
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	145	36	789	538	0.269	145	144	0.3	0.4	10.617	B
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	347	87	789	538	0.646	344	337	1.4	2.7	25.559	D
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	110	27	789	537	0.204	108	106	0.5	0.8	25.006	D
				5	23	6	789	541	0.042	24	23	0.1	0.1	25.038	D
		2	1	1	357	89	-	-	-	347	342	0.5	3.2	21.505	C
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	149	37	-	-	-	145	145	0.1	1.1	19.633	C
				4	113	28	-	-	-	110	108	0.1	1.0	22.137	C
				5	24	6	-	-	-	23	24	0.0	0.2	22.906	C
3 - Stevenage Road	Entry	1	1	1	750	187	950	782	0.958	747	757	9.6	9.7	45.662	E
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	31	8	950	782	0.039	33	32	0.4	0.3	45.628	E
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	31	8	950	786	0.039	31	33	0.0	0.0	5.645	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	1148	287	-	-	-	750	757	41.1	136.0	426.329	F
				2	49	12	-	-	-	31	33	1.8	5.8	421.724	F
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	48	12	-	-	-	31	32	1.7	5.5	426.149	F
1	1	1	284	71	1096	713	0.398	284	284	0.4	0.8	8.555	A		
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		5	13	3	1069	693	0.019	13	14	0.0	0.0	8.578	A		

4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	33	8	1096	712	0.047	33	32	0.0	0.0	5.178	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	284	71	-	-	-	284	285	0.0	0.0	0.081	A
				2	33	8	-	-	-	33	32	0.0	0.0	0.016	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	13	3	-	-	-	13	14	0.0	0.0	0.142	A

17:30 - 17:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service	
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	93	23	997	958	0.097	93	98	1.0	0.9	37.229	E	
				3	850	212	997	958	0.887	850	859	9.0	9.1	37.518	E	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	0	0	0	0	0.000	0	0.0	0.0	0.000	A	
					2	0	0	0	0	0.000	0	0.0	0.0	0.000	A	
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	102	25	997	959	0.106	100	103	0.1	0.2	4.621	A
					5	16	4	982	944	0.017	16	18	0.0	0.0	4.617	A
		2	1	1	0	0	0	0	0.000	0	0.0	0.0	0.000	A		
				2	126	31	-	-	-	93	97	8.7	15.1	432.814	F	
				3	1093	273	-	-	-	850	860	72.6	132.3	429.800	F	
				4	131	33	-	-	-	102	103	8.8	15.8	429.755	F	
				5	25	6	-	-	-	16	18	1.6	2.9	426.763	F	
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	143	36	789	542	0.263	144	142	0.4	0.4	10.305	B	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	350	88	789	543	0.646	350	350	2.7	2.8	27.842	D
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	111	28	789	541	0.204	112	110	0.8	0.9	27.984	D
					5	24	6	789	542	0.045	24	25	0.1	0.2	28.187	D
		2	1	1	354	89	-	-	-	350	350	3.2	4.3	37.430	E	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	142	36	-	-	-	143	142	1.1	1.5	35.522	E	
				4	111	28	-	-	-	111	110	1.0	1.2	37.916	E	
				5	25	6	-	-	-	24	25	0.2	0.4	38.258	E	
3 - Stevenage Road	Entry	1	1	1	766	191	950	782	0.979	768	750	9.7	9.5	46.096	E	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	33	8	950	783	0.042	31	30	0.3	0.5	46.045	E	
			2	1	1	0	0	0	0	0.000	0	0.0	0.0	0.000	A	
					2	37	9	950	781	0.048	37	33	0.0	0.1	5.847	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	1119	280	-	-	-	766	750	136.0	229.8	874.255	F	
				2	53	13	-	-	-	37	33	5.8	10.6	875.425	F	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	51	13	-	-	-	33	30	5.5	10.2	874.720	F	
1	1	1	288	72	1096	706	0.408	286	288	0.8	0.8	8.590	A			
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		5	14	4	1074	699	0.020	14	14	0.0	0.0	9.398	A			

4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	30	8	1096	710	0.043	31	32	0.0	0.0	5.186	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	288	72	-	-	-	288	288	0.0	0.0	0.138	A
				2	30	8	-	-	-	30	32	0.0	0.0	0.029	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	14	4	-	-	-	14	14	0.0	0.0	0.140	A

17:45 - 18:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	99	25	997	965	0.103	99	99	0.9	1.1	37.202	E
				3	868	217	997	965	0.900	868	871	9.1	8.9	37.040	E
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	103	26	997	965	0.107	104	103	0.2	0.1	4.773	A
				5	17	4	982	950	0.018	17	19	0.0	0.0	5.001	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	106	27	-	-	-	99	100	15.1	16.2	568.252	F
				3	891	223	-	-	-	868	870	132.3	139.0	570.457	F
				4	108	27	-	-	-	103	103	15.8	16.7	569.534	F
				5	19	5	-	-	-	17	19	2.9	3.1	571.706	F
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	117	29	789	540	0.217	118	120	0.4	0.3	9.510	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	2	1	300	75	789	540	0.555	297	310	2.8	2.0	23.988	C
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	90	22	789	539	0.167	90	95	0.9	0.6	23.816	C
				5	20	5	781	535	0.037	20	22	0.2	0.1	23.385	C
		2	1	1	296	74	-	-	-	300	307	4.3	1.1	22.569	C
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	115	29	-	-	-	117	119	1.5	0.4	20.307	C
				4	89	22	-	-	-	90	93	1.2	0.3	22.245	C
				5	19	5	-	-	-	20	22	0.4	0.0	20.404	C
3 - Stevenage Road	Entry	1	1	1	772	193	950	803	0.962	774	765	9.5	9.5	45.059	E
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	35	9	950	803	0.043	33	34	0.5	0.5	44.562	E
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	35	9	950	802	0.044	36	35	0.1	0.0	5.549	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	930	233	-	-	-	772	765	229.8	269.2	1114.708	F
				2	41	10	-	-	-	35	35	10.6	12.7	1116.113	F
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	36	9	-	-	-	35	34	10.2	11.3	1116.193	F
1	1	1	236	59	1096	721	0.328	237	237	0.8	0.4	7.872	A		
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		5	12	3	1036	681	0.018	12	12	0.0	0.0	8.017	A		



4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	26	7	1096	720	0.037	26	27	0.0	0.0	5.113	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	236	59	-	-	-	236	236	0.0	0.0	0.082	A
				2	26	7	-	-	-	26	27	0.0	0.0	0.057	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	12	3	-	-	-	12	12	0.0	0.0	0.064	A

5 - Gosmore Road	Entry	1	1	1	23	6	830	478	0.047	22	21	0.0	0.1	7.832	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	21	5	843	488	0.042	21	22	0.1	0.0	8.364	A
					3	20	5	839	484	0.042	20	23	0.1	0.0	8.336	A
					4	5	1	617	354	0.015	6	5	0.0	0.0	9.832	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	23	6	-	-	-	23	21	0.0	0.0	0.006	A	
				2	21	5	-	-	-	21	22	0.0	0.0	0.024	A	
				3	20	5	-	-	-	20	23	0.0	0.0	0.064	A	
				4	5	1	-	-	-	5	5	0.0	0.0	0.016	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	

18:00 - 18:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service	
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	95	24	997	967	0.098	97	99	1.1	1.0	37.299	E	
				3	859	215	997	967	0.889	858	856	8.9	9.0	37.449	E	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	102	26	997	967	0.106	102	103	0.1	0.1	4.677	A
					5	19	5	992	962	0.019	19	20	0.0	0.0	4.597	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	84	21	-	-	-	95	99	16.2	12.8	503.267	F	
				3	750	187	-	-	-	859	856	139.0	111.2	499.845	F	
				4	91	23	-	-	-	102	103	16.7	13.3	501.205	F	
				5	17	4	-	-	-	19	20	3.1	2.6	490.743	F	
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	103	26	789	543	0.190	104	103	0.3	0.2	8.934	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	246	61	789	542	0.453	246	249	2.0	1.1	17.260	C
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	76	19	789	543	0.140	76	77	0.6	0.3	17.931	C
					5	18	4	781	540	0.033	18	18	0.1	0.1	16.934	C
		2	1	1	245	61	-	-	-	246	245	1.1	0.1	4.346	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	103	26	-	-	-	103	102	0.4	0.0	3.354	A	
				4	75	19	-	-	-	76	76	0.3	0.0	4.644	A	
				5	18	4	-	-	-	18	17	0.0	0.0	4.182	A	
3 - Stevenage Road	Entry	1	1	1	797	199	950	821	0.970	796	782	9.5	9.7	43.839	E	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	33	8	950	824	0.040	33	34	0.5	0.4	44.176	E	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	38	9	950	822	0.046	37	37	0.0	0.1	5.764	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	773	193	-	-	-	797	783	269.2	265.6	870.094	F	
				2	31	8	-	-	-	38	38	12.7	11.5	873.721	F	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	34	9	-	-	-	33	33	11.3	11.4	880.944	F	
1	1	1	194	48	1096	730	0.266	195	195	0.4	0.3	6.764	A			
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		5	8	2	943	631	0.013	8	9	0.0	0.0	6.695	A			

4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	23	6	1096	727	0.032	23	22	0.0	0.0	5.266	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	194	48	-	-	-	194	194	0.0	0.0	0.015	A
				2	23	6	-	-	-	23	22	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	8	2	-	-	-	8	9	0.0	0.0	0.009	A
5 - Gosmore Road	Entry	1	1	1	18	5	839	507	0.036	18	18	0.1	0.0	7.214	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	18	4	830	500	0.036	18	18	0.0	0.0	7.823	A
				3	18	5	835	501	0.037	18	19	0.0	0.1	7.996	A
				4	5	1	587	354	0.015	5	4	0.0	0.0	7.195	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	18	5	-	-	-	18	18	0.0	0.0	0.000	A
				2	18	4	-	-	-	18	18	0.0	0.0	0.000	A
				3	18	5	-	-	-	18	19	0.0	0.0	0.000	A
				4	5	1	-	-	-	5	4	0.0	0.0	0.005	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

# 2027 Base + Dev, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Last Run	Lane Simulation	1 - Park Way - Lane Simulation	Arm 1: Queue at end of modelled period is greater than 10 PCU. Delay is likely to have been underestimated.
Last Run	Lane Simulation	3 - Stevenage Road - Lane Simulation	Arm 3: Queue at end of modelled period is greater than 10 PCU. Delay is likely to have been underestimated.
Info	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. For detailed information on this mode, please see the User Guide.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Hitchin Hill Roundabout	Standard Roundabout		1, 2, 3, 4, 5	686.36	F

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	686.36	F

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2027 Base + Dev	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Park Way		ONE HOUR	✓	1375	100.000
2 - Hitchin Hill		ONE HOUR	✓	437	100.000
3 - Stevenage Road		ONE HOUR	✓	1087	100.000
4 - London Road		ONE HOUR	✓	204	100.000
5 - Gosmore Road		ONE HOUR	✓	108	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	0	124	1027	205	19
	2 - Hitchin Hill	246	0	68	103	20
	3 - Stevenage Road	988	76	0	0	23
	4 - London Road	105	95	0	0	4
	5 - Gosmore Road	24	19	49	16	0

### Proportions

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	0.00	0.09	0.75	0.15	0.01
	2 - Hitchin Hill	0.56	0.00	0.16	0.24	0.05
	3 - Stevenage Road	0.91	0.07	0.00	0.00	0.02
	4 - London Road	0.51	0.47	0.00	0.00	0.02
	5 - Gosmore Road	0.22	0.18	0.45	0.15	0.00

## Vehicle Mix

### Heavy Vehicle Percentages

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	0	3	9	1	0
	2 - Hitchin Hill	1	0	11	1	1
	3 - Stevenage Road	4	10	0	2	2
	4 - London Road	0	1	2	0	0
	5 - Gosmore Road	0	0	1	0	0

### Average PCU Per Veh

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	1.000	1.027	1.087	1.006	1.004
	2 - Hitchin Hill	1.012	1.000	1.105	1.008	1.005
	3 - Stevenage Road	1.038	1.105	1.000	1.025	1.017
	4 - London Road	1.002	1.007	1.021	1.000	1.001
	5 - Gosmore Road	1.001	1.004	1.011	1.001	1.000

## Detailed Demand Data

### Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
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07:45-08:00	1 - Park Way	1035	1035
	2 - Hitchin Hill	329	329
	3 - Stevenage Road	818	818
	4 - London Road	154	154
	5 - Gosmore Road	81	81
08:00-08:15	1 - Park Way	1236	1236
	2 - Hitchin Hill	393	393
	3 - Stevenage Road	977	977
	4 - London Road	183	183
	5 - Gosmore Road	97	97
08:15-08:30	1 - Park Way	1514	1514
	2 - Hitchin Hill	481	481
	3 - Stevenage Road	1197	1197
	4 - London Road	225	225
	5 - Gosmore Road	119	119
08:30-08:45	1 - Park Way	1514	1514
	2 - Hitchin Hill	481	481
	3 - Stevenage Road	1197	1197
	4 - London Road	225	225
	5 - Gosmore Road	119	119
08:45-09:00	1 - Park Way	1236	1236
	2 - Hitchin Hill	393	393
	3 - Stevenage Road	977	977
	4 - London Road	183	183
	5 - Gosmore Road	97	97
09:00-09:15	1 - Park Way	1035	1035
	2 - Hitchin Hill	329	329
	3 - Stevenage Road	818	818
	4 - London Road	154	154
	5 - Gosmore Road	81	81

## Results

### Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Park Way	863.31	287.1	F	1267	1900
2 - Hitchin Hill	31.29	4.3	D	398	597
3 - Stevenage Road	919.45	239.1	F	992	1488
4 - London Road	5.86	0.4	A	186	279
5 - Gosmore Road	8.78	0.4	A	101	151

### Main Results for each time segment

#### 07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1020	255	192	1008	987	996	0.0	12.1	32.971	D
2 - Hitchin Hill	330	83	968	330	327	232	0.0	1.3	12.760	B
3 - Stevenage Road	821	205	461	792	776	837	0.0	9.8	30.469	D
4 - London Road	148	37	1005	149	155	248	0.0	0.2	5.060	A
5 - Gosmore Road	81	20	1106	82	80	47	0.0	0.1	7.010	A

#### 08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1259	315	221	1105	1094	1120	12.1	49.9	106.360	F
2 - Hitchin Hill	383	96	1063	387	383	262	1.3	1.7	16.198	C
3 - Stevenage Road	958	239	519	863	850	931	9.8	40.6	116.050	F
4 - London Road	181	45	1117	181	184	266	0.2	0.3	5.590	A
5 - Gosmore Road	97	24	1245	96	96	53	0.1	0.2	7.832	A

#### 08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1516	379	259	1109	1109	1173	49.9	151.8	334.470	F
2 - Hitchin Hill	478	119	1085	471	472	283	1.7	4.3	27.650	D
3 - Stevenage Road	1202	300	601	833	841	955	40.6	127.9	364.327	F
4 - London Road	223	56	1141	224	227	293	0.3	0.3	5.862	A
5 - Gosmore Road	127	32	1306	126	120	59	0.2	0.4	8.761	A

#### 08:30 - 08:45

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Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1525	381	251	1118	1106	1185	151.8	253.8	659.225	F
2 - Hitchin Hill	484	121	1085	486	485	283	4.3	4.3	31.290	D
3 - Stevenage Road	1169	292	605	838	834	966	127.9	214.9	732.867	F
4 - London Road	232	58	1152	232	228	291	0.3	0.4	5.824	A
5 - Gosmore Road	113	28	1323	113	118	61	0.4	0.3	8.775	A

## 08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1246	311	225	1105	1114	1147	253.8	287.1	863.315	F
2 - Hitchin Hill	381	95	1068	386	395	263	4.3	1.9	20.647	C
3 - Stevenage Road	980	245	522	886	870	932	214.9	239.1	919.450	F
4 - London Road	180	45	1143	179	190	266	0.4	0.3	5.741	A
5 - Gosmore Road	105	26	1267	105	102	55	0.3	0.2	8.217	A

## 09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1033	258	194	1128	1128	1084	287.1	266.1	748.759	F
2 - Hitchin Hill	332	83	1069	329	332	253	1.9	1.5	14.397	B
3 - Stevenage Road	824	206	475	884	885	923	239.1	223.6	751.989	F
4 - London Road	150	38	1103	149	152	256	0.3	0.3	5.539	A
5 - Gosmore Road	81	20	1198	80	80	54	0.2	0.2	7.778	A

## Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

## Lanes: Main Results for each time segment

## 07:45 - 08:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	853	940	0.908	844	820	0.0	6.9	24.208	C
			2	1, 4, 5	165	940	0.175	165	167	0.0	0.3	4.706	A
	Exit	1	1	(1, 2, 3, 4, 5)	1020			1018	1016	0.0	5.0	11.973	B
2 - Hitchin Hill	Entry	1	1	3	48	551	0.087	48	51	0.0	0.1	7.348	A
			2	1, 2, 4, 5	282	551	0.511	282	276	0.0	1.1	13.098	B
	Exit	1	1	(1, 2, 3, 4, 5)	330			329	332	0.0	0.1	0.471	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	748	823	0.910	734	722	0.0	6.6	24.406	C
			2	2, 3	58	823	0.070	58	55	0.0	0.1	5.340	A
	Exit	1	1	(1, 2, 3, 4, 5)	821			806	803	0.0	3.1	6.929	A
4 - London Road	Entry	1	1	1, 5	80	776	0.103	80	83	0.0	0.1	5.185	A
			2	2, 3, 4	69	776	0.088	69	71	0.0	0.1	4.915	A
	Exit	1	1	(1, 2, 3, 4, 5)	148			148	156	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	16	555	0.029	16	17	0.0	0.0	6.670	A
			2	2, 3, 4, 5	65	555	0.118	66	63	0.0	0.1	7.092	A
	Exit	1	1	(1, 2, 3, 4, 5)	81			81	81	0.0	0.0	0.007	A

## 08:00 - 08:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	934	931	1.003	928	918	6.9	9.6	35.269	E
			2	1, 4, 5	177	931	0.190	176	176	0.3	0.3	5.007	A
	Exit	1	1	(1, 2, 3, 4, 5)	1259			1111	1104	5.0	40.0	75.821	F
2 - Hitchin Hill	Entry	1	1	3	57	528	0.108	57	58	0.1	0.2	8.813	A
			2	1, 2, 4, 5	326	528	0.618	330	325	1.1	1.4	15.815	C
	Exit	1	1	(1, 2, 3, 4, 5)	383			384	385	0.1	0.1	1.361	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	802	807	0.994	800	789	6.6	9.5	40.214	E
			2	2, 3	63	807	0.078	63	61	0.1	0.1	5.622	A
	Exit	1	1	(1, 2, 3, 4, 5)	958			864	862	3.1	31.0	77.820	F
4 - London Road	Entry	1	1	1, 5	97	740	0.132	97	98	0.1	0.2	5.795	A
			2	2, 3, 4	84	740	0.113	84	86	0.1	0.1	5.354	A
	Exit	1	1	(1, 2, 3, 4, 5)	181			181	185	0.0	0.0	0.000	A
		1	1	1	23	519	0.044	23	22	0.0	0.0	7.101	A

5 - Gosmore Road	Entry		2	2, 3, 4, 5	74	519	0.142	73	74	0.1	0.1	8.001	A
		2	1	(1, 2, 3, 4, 5)	97			97	96	0.0	0.0	0.035	A
	Exit	1	1		53			53	53	0.0	0.0	0.000	A

## 08:15 - 08:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	928	920	1.009	928	929	9.6	10.0	38.520	E
			2	1, 4, 5	179	920	0.195	180	180	0.3	0.2	5.310	A
	Exit	2	1	(1, 2, 3, 4, 5)	1516			1107	1111	40.0	141.6	301.621	F
2 - Hitchin Hill	Entry	1	1	3	69	522	0.131	68	70	0.2	0.2	9.260	A
			2	1, 2, 4, 5	402	522	0.770	403	402	1.4	2.6	21.371	C
	Exit	2	1	(1, 2, 3, 4, 5)	478			471	477	0.1	1.5	7.805	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	777	784	0.990	777	781	9.5	10.0	45.728	E
			2	2, 3	56	784	0.071	56	60	0.1	0.1	5.612	A
	Exit	2	1	(1, 2, 3, 4, 5)	1202			832	843	31.0	117.8	320.957	F
4 - London Road	Entry	1	1	1, 5	118	733	0.161	118	118	0.2	0.1	6.005	A
			2	2, 3, 4	105	733	0.144	106	109	0.1	0.1	5.706	A
	Exit	2	1	(1, 2, 3, 4, 5)	223			223	227	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	29	503	0.057	28	26	0.0	0.1	7.738	A
			2	2, 3, 4, 5	99	503	0.196	98	94	0.1	0.3	8.966	A
	Exit	2	1	(1, 2, 3, 4, 5)	127			127	121	0.0	0.0	0.063	A
	Exit	1	1		59			59	59	0.0	0.0	0.000	A

## 08:30 - 08:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	934	922	1.013	933	927	10.0	10.1	38.575	E
			2	1, 4, 5	183	922	0.198	184	179	0.2	0.2	5.430	A
	Exit	2	1	(1, 2, 3, 4, 5)	1525			1118	1106	141.6	243.5	626.529	F
2 - Hitchin Hill	Entry	1	1	3	81	522	0.155	80	77	0.2	0.2	9.497	A
			2	1, 2, 4, 5	404	522	0.774	405	408	2.6	2.7	22.730	C
	Exit	2	1	(1, 2, 3, 4, 5)	484			485	485	1.5	1.4	10.511	B
3 - Stevenage Road	Entry	1	1	1, 4, 5	782	783	0.999	783	780	10.0	10.0	46.117	E
			2	2, 3	56	783	0.072	55	55	0.1	0.1	5.710	A
	Exit	2	1	(1, 2, 3, 4, 5)	1169			839	834	117.8	204.7	690.259	F
4 - London Road	Entry	1	1	1, 5	125	729	0.171	125	124	0.1	0.2	5.916	A
			2	2, 3, 4	107	729	0.147	107	104	0.1	0.2	5.712	A
	Exit	2	1	(1, 2, 3, 4, 5)	232			232	228	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	24	499	0.048	24	25	0.1	0.0	7.694	A
			2	2, 3, 4, 5	89	499	0.178	89	93	0.3	0.2	9.014	A
	Exit	2	1	(1, 2, 3, 4, 5)	113			113	118	0.0	0.0	0.041	A
	Exit	1	1		61			61	63	0.0	0.0	0.000	A

## 08:45 - 09:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	923	930	0.993	924	931	10.1	10.0	38.562	E
			2	1, 4, 5	182	930	0.195	182	183	0.2	0.2	5.442	A
	Exit	2	1	(1, 2, 3, 4, 5)	1246			1105	1114	243.5	276.8	833.574	F
2 - Hitchin Hill	Entry	1	1	3	60	527	0.115	59	62	0.2	0.2	9.183	A
			2	1, 2, 4, 5	325	527	0.617	326	333	2.7	1.6	18.295	C
	Exit	2	1	(1, 2, 3, 4, 5)	381			385	391	1.4	0.1	3.859	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	826	806	1.026	827	809	10.0	10.0	44.494	E
			2	2, 3	59	806	0.073	59	61	0.1	0.1	5.349	A
	Exit	2	1	(1, 2, 3, 4, 5)	980			886	869	204.7	229.0	883.072	F
4 - London Road	Entry	1	1	1, 5	96	732	0.131	96	102	0.2	0.2	5.978	A
			2	2, 3, 4	84	732	0.115	84	88	0.2	0.1	5.463	A
	Exit	2	1	(1, 2, 3, 4, 5)	180			180	189	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	23	513	0.045	23	23	0.0	0.0	7.469	A
			2	2, 3, 4, 5	82	513	0.159	82	79	0.2	0.2	8.405	A
	Exit	2	1	(1, 2, 3, 4, 5)	105			105	101	0.0	0.0	0.021	A
	Exit	1	1		55			55	58	0.0	0.0	0.000	A

## 09:00 - 09:15

					Total				Average	Start	End		
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Arm	Side	Lane level	Lane	Destination arms	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	throughput (PCU/hr)	queue (PCU)	queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	946	939	1.007	946	942	10.0	10.0	37.788	E
			2	1, 4, 5	182	939	0.194	182	186	0.2	0.3	5.469	A
	Exit	1	1	(1, 2, 3, 4, 5)	1033			1128	1128	276.8	256.8	729.173	F
			1	1		1084			1084	1087	0.0	0.0	0.000
2 - Hitchin Hill	Entry	1	1	3	47	526	0.089	47	49	0.2	0.1	8.183	A
			2	1, 2, 4, 5	284	526	0.539	282	283	1.6	1.2	14.422	B
	Exit	1	1	(1, 2, 3, 4, 5)	332			331	331	0.1	0.2	0.891	A
			1	1		253			253	253	0.0	0.0	0.000
3 - Stevenage Road	Entry	1	1	1, 4, 5	820	819	1.002	820	822	10.0	10.0	43.480	E
			2	2, 3	64	819	0.078	64	63	0.1	0.2	5.144	A
	Exit	1	1	(1, 2, 3, 4, 5)	824			884	885	229.0	213.4	732.984	F
			1	1		923			923	922	0.0	0.0	0.000
4 - London Road	Entry	1	1	1, 5	81	745	0.108	80	82	0.2	0.1	5.577	A
			2	2, 3, 4	70	745	0.094	69	70	0.1	0.1	5.494	A
	Exit	1	1	(1, 2, 3, 4, 5)	150			150	152	0.0	0.0	0.000	A
			1	1		256			256	260	0.0	0.0	0.000
5 - Gosmore Road	Entry	1	1	1	18	531	0.035	18	18	0.0	0.0	7.002	A
			2	2, 3, 4, 5	62	531	0.117	61	61	0.2	0.2	7.996	A
	Exit	1	1	(1, 2, 3, 4, 5)	81			81	80	0.0	0.0	0.011	A
			1	1		54			54	55	0.0	0.0	0.000

Lane movements: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service		
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	94	23	997	940	0.100	91	89	0.0	0.8	23.580	C		
				3	759	190	997	940	0.808	752	732	0.0	6.1	24.288	C		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	2	1	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.0	0.0	0.000	A
				4	151	38	997	939	0.161	151	155	0.0	0.2	4.703	A		
				5	13	3	968	912	0.015	13	12	0.0	0.0	4.745	A		
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	95	24	-	-	-	94	92	0.0	0.5	11.601	B		
				3	759	190	-	-	-	759	756	0.0	3.6	12.070	B		
				4	152	38	-	-	-	151	155	0.0	0.7	11.762	B		
				5	13	3	-	-	-	13	13	0.0	0.1	11.889	B		
		2	2	1	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.0	0.0	0.000	A
				4	81	20	789	550	0.148	82	80	0.0	0.3	12.989	B		
				5	15	4	773	543	0.027	15	15	0.0	0.0	12.663	B		
3 - Stevenage Road	Entry	1	1	1	732	183	950	823	0.890	718	706	0.0	6.5	24.409	C		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	16	4	950	823	0.019	16	16	0.0	0.1	24.275	C		
		2	2	1	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
				2	58	14	950	825	0.070	58	55	0.0	0.1	5.340	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
5 - Gosmore Road	Entry	1	1	1	747	187	-	-	-	732	732	0.0	2.9	6.992	A		
				2	58	15	-	-	-	58	55	0.0	0.1	5.933	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	16	4	-	-	-	16	16	0.0	0.1	7.225	A		
		1	1	1	77	19	1096	777	0.098	77	80	0.0	0.1	5.169	A		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	3	0.76	638	456	0.007	3	3	0.0	0.0	5.549	A		

4 - London Road	Entry	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	69	17	1096	775	0.088	69	71	0.0	0.1	4.915	A	
			3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
		2	1	1	77	19	-	-	-	77	80	0.0	0.0	0.000	A
				2	69	17	-	-	-	69	72	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	3	0.76	-	-	-	3	3	0.0	0.0	0.000	A

08:00 - 08:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service	
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	99	25	997	930	0.106	98	100	0.8	1.0	35.194	E	
				3	835	209	997	931	0.897	831	818	6.1	8.5	35.279	E	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	164	41	997	931	0.176	163	161	0.2	0.3	4.956	A
					5	12	3	968	904	0.014	13	15	0.0	0.0	5.578	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	111	28	-	-	-	99	101	0.5	3.6	76.665	F	
				3	949	237	-	-	-	835	828	3.6	30.1	75.939	F	
				4	183	46	-	-	-	164	161	0.7	5.8	75.059	F	
				5	15	4	-	-	-	12	14	0.1	0.5	72.283	F	
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	57	14	789	528	0.108	57	58	0.1	0.2	8.813	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	219	55	789	528	0.415	223	218	0.8	0.9	15.808	C
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	89	22	789	527	0.169	89	90	0.3	0.4	16.001	C
					5	18	4	781	528	0.034	17	17	0.0	0.1	14.954	B
		2	1	1	219	55	-	-	-	219	219	0.1	0.1	1.493	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	57	14	-	-	-	57	58	0.0	0.0	0.819	A	
				4	89	22	-	-	-	89	90	0.0	0.0	1.391	A	
				5	18	4	-	-	-	18	17	0.0	0.0	1.232	A	
3 - Stevenage Road	Entry	1	1	1	783	196	950	807	0.970	781	772	6.5	9.3	40.212	E	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	19	5	941	799	0.024	19	17	0.1	0.3	40.265	E	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	63	16	950	807	0.078	63	61	0.1	0.1	5.622	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	866	217	-	-	-	783	783	2.9	28.0	77.983	F	
				2	70	18	-	-	-	63	61	0.1	2.4	76.086	F	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	21	5	-	-	-	19	18	0.1	0.6	76.382	F	
1	1	1	93	23	1096	741	0.125	93	94	0.1	0.2	5.803	A			
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		5	4	1	681	464	0.010	4	4	0.0	0.0	5.618	A			



4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	84	21	1096	740	0.113	84	86	0.1	0.1	5.354	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	93	23	-	-	-	93	95	0.0	0.0	0.000	A
				2	84	21	-	-	-	84	86	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	4	1	-	-	-	4	4	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	23	6	843	518	0.045	23	22	0.0	0.0	7.101	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	17	4	827	507	0.034	17	16	0.0	0.0	7.439	A
				3	43	11	843	516	0.084	43	44	0.1	0.1	8.053	A
				4	14	3	794	488	0.028	13	14	0.0	0.0	8.497	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	23	6	-	-	-	23	22	0.0	0.0	0.038	A
				2	17	4	-	-	-	17	17	0.0	0.0	0.076	A
				3	43	11	-	-	-	43	44	0.0	0.0	0.021	A
				4	14	3	-	-	-	14	14	0.0	0.0	0.026	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

08:15 - 08:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service	
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	99	25	997	918	0.108	99	98	1.0	1.0	38.610	E	
				3	829	207	997	920	0.901	830	831	8.5	9.0	38.508	E	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	163	41	997	918	0.177	164	164	0.3	0.2	5.332	A
					5	17	4	988	909	0.018	16	16	0.0	0.1	5.084	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	143	36	-	-	-	99	98	3.6	13.2	303.585	F	
				3	1131	283	-	-	-	829	833	30.1	105.9	301.279	F	
				4	220	55	-	-	-	163	164	5.8	20.4	302.531	F	
				5	23	6	-	-	-	17	16	0.5	2.1	296.984	F	
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	69	17	789	525	0.131	68	70	0.2	0.2	9.260	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	270	67	789	522	0.517	271	268	0.9	1.5	21.435	C
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	110	28	789	523	0.211	111	113	0.4	0.8	21.258	C
					5	22	6	789	526	0.042	21	22	0.1	0.3	21.186	C
		2	1	1	273	68	-	-	-	270	270	0.1	0.9	8.175	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	70	18	-	-	-	69	70	0.0	0.2	6.338	A	
				4	112	28	-	-	-	110	114	0.0	0.3	7.590	A	
				5	22	6	-	-	-	22	23	0.0	0.0	8.630	A	
3 - Stevenage Road	Entry	1	1	1	759	190	950	784	0.968	760	764	9.3	9.7	45.732	E	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	17	4	932	768	0.023	17	17	0.3	0.3	45.573	E	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	56	14	950	785	0.071	56	60	0.1	0.1	5.612	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	1097	274	-	-	-	759	766	28.0	107.5	321.066	F	
				2	78	19	-	-	-	56	60	2.4	7.8	317.313	F	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	27	7	-	-	-	17	17	0.6	2.6	327.308	F	
		1	1	1	114	28	1096	734	0.155	114	114	0.2	0.1	6.016	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	4	1	713	476	0.009	4	4	0.0	0.0	5.693	A	

4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	105	26	1096	734	0.144	106	109	0.1	0.1	5.706	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	114	28	-	-	-	114	114	0.0	0.0	0.000	A
				2	105	26	-	-	-	105	109	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	4	1	-	-	-	4	4	0.0	0.0	0.000	A

08:30 - 08:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service	
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	100	25	997	922	0.109	99	101	1.0	1.1	38.484	E	
				3	834	209	997	922	0.904	834	826	9.0	9.0	38.587	E	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	165	41	997	923	0.178	166	162	0.2	0.1	5.455	A
					5	18	5	997	924	0.020	18	17	0.1	0.0	5.179	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	136	34	-	-	-	100	102	13.2	21.8	626.109	F	
				3	1141	285	-	-	-	834	826	105.9	181.7	626.910	F	
				4	226	57	-	-	-	165	162	20.4	36.5	624.619	F	
				5	22	5	-	-	-	18	17	2.1	3.5	630.612	F	
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	81	20	789	521	0.155	80	77	0.2	0.2	9.497	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	272	68	789	521	0.521	275	270	1.5	1.7	22.848	C
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	111	28	789	521	0.212	109	114	0.8	0.8	22.342	C
					5	22	5	789	521	0.042	22	24	0.3	0.2	23.263	C
		2	1	1	270	68	-	-	-	272	271	0.9	0.8	10.418	B	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	81	20	-	-	-	81	77	0.2	0.2	10.378	B	
				4	111	28	-	-	-	111	114	0.3	0.3	10.362	B	
				5	22	5	-	-	-	22	23	0.0	0.1	12.675	B	
3 - Stevenage Road	Entry	1	1	1	765	191	950	783	0.977	766	761	9.7	9.8	46.114	E	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	17	4	941	776	0.022	17	18	0.3	0.3	46.222	E	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	56	14	950	783	0.072	55	55	0.1	0.1	5.710	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	1064	266	-	-	-	765	762	107.5	186.1	690.399	F	
				2	81	20	-	-	-	56	55	7.8	14.3	686.422	F	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	25	6	-	-	-	17	18	2.6	4.3	695.809	F	
1	1	1	121	30	1096	728	0.166	121	120	0.1	0.2	5.897	A			
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		5	4	1	734	491	0.009	4	5	0.0	0.0	6.421	A			

4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	107	27	1096	733	0.146	107	104	0.1	0.2	5.712	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	121	30	-	-	-	121	120	0.0	0.0	0.000	A
				2	107	27	-	-	-	107	104	0.0	0.0	0.001	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	4	1	-	-	-	4	5	0.0	0.0	0.000	A

5 - Gosmore Road	Entry	1	1	1	24	6	843	499	0.048	24	25	0.1	0.0	7.694	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	21	5	843	499	0.043	22	22	0.1	0.1	9.311	A
					3	51	13	843	501	0.102	52	55	0.2	0.1	9.046	A
					4	16	4	835	495	0.033	16	17	0.1	0.1	8.523	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	24	6	-	-	-	24	25	0.0	0.0	0.004	A	
				2	21	5	-	-	-	21	22	0.0	0.0	0.087	A	
				3	51	13	-	-	-	51	54	0.0	0.0	0.028	A	
				4	16	4	-	-	-	16	17	0.0	0.0	0.080	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	

08:45 - 09:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service	
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	100	25	997	930	0.107	101	100	1.1	1.1	38.657	E	
				3	823	206	997	930	0.886	822	831	9.0	8.9	38.550	E	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	0	0	0	0	0.000	0	0.0	0.0	0.000	A	
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	166	42	997	930	0.179	166	167	0.1	0.2	5.422	A
					5	15	4	997	930	0.017	16	16	0.0	0.0	5.654	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	114	29	-	-	-	100	100	21.8	25.8	836.861	F	
				3	934	234	-	-	-	823	831	181.7	205.7	833.668	F	
				4	180	45	-	-	-	166	167	36.5	41.2	830.390	F	
				5	17	4	-	-	-	15	16	3.5	4.1	841.052	F	
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	60	15	789	526	0.115	59	62	0.2	0.2	9.183	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	221	55	789	526	0.420	223	223	1.7	1.0	18.252	C
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	87	22	789	528	0.165	86	91	0.8	0.5	18.343	C
					5	17	4	781	522	0.032	17	19	0.2	0.0	18.570	C
		2	1	1	218	55	-	-	-	221	220	0.8	0.1	4.114	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	60	15	-	-	-	60	62	0.2	0.0	3.055	A	
				4	86	22	-	-	-	87	89	0.3	0.0	3.534	A	
				5	16	4	-	-	-	17	19	0.1	0.0	4.814	A	
3 - Stevenage Road	Entry	1	1	1	807	202	950	806	1.002	808	791	9.8	9.7	44.488	E	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	19	5	932	791	0.024	19	18	0.3	0.3	44.773	E	
			2	1	1	0	0	0	0	0.000	0	0.0	0.0	0.000	A	
					2	59	15	950	806	0.073	59	61	0.1	0.1	5.349	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	890	222	-	-	-	807	790	186.1	207.9	883.095	F	
				2	70	18	-	-	-	59	61	14.3	16.1	885.894	F	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	19	5	-	-	-	19	18	4.3	5.0	873.678	F	
1	1	1	92	23	1096	735	0.126	92	98	0.2	0.1	5.963	A			
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		5	3	0.87	713	478	0.007	3	4	0.0	0.0	6.327	A			

4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	84	21	1096	734	0.114	84	88	0.2	0.1	5.463	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	92	23	-	-	-	92	98	0.0	0.0	0.001	A
				2	84	21	-	-	-	84	87	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	3	0.87	-	-	-	3	4	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	23	6	843	516	0.045	23	23	0.0	0.0	7.469	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	19	5	802	489	0.039	19	18	0.1	0.0	8.619	A
				3	49	12	843	516	0.094	48	46	0.1	0.1	8.509	A
				4	14	4	810	496	0.029	14	15	0.1	0.0	7.832	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	23	6	-	-	-	23	23	0.0	0.0	0.000	A
				2	19	5	-	-	-	19	18	0.0	0.0	0.013	A
				3	49	12	-	-	-	49	46	0.0	0.0	0.036	A
				4	14	4	-	-	-	14	15	0.0	0.0	0.018	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

09:00 - 09:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	105	26	997	939	0.112	106	106	1.1	1.0	37.927	E
				3	841	210	997	939	0.896	840	836	8.9	9.0	37.769	E
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	166	41	997	939	0.177	165	170	0.2	0.3	5.473	A
				5	17	4	997	939	0.018	17	17	0.0	0.0	5.427	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	93	23	-	-	-	105	106	25.8	23.5	728.870	F
				3	771	193	-	-	-	841	836	205.7	190.4	729.676	F
				4	157	39	-	-	-	166	170	41.2	38.6	728.333	F
				5	12	3	-	-	-	17	17	4.1	3.3	714.760	F
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	47	12	789	525	0.089	47	49	0.2	0.1	8.183	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	189	47	789	526	0.359	187	188	1.0	0.8	14.465	B
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	80	20	789	522	0.154	80	80	0.5	0.3	14.250	B
				5	15	4	766	510	0.029	15	15	0.0	0.1	14.781	B
		2	1	1	190	47	-	-	-	189	187	0.1	0.1	0.870	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	47	12	-	-	-	47	49	0.0	0.0	0.604	A
				4	81	20	-	-	-	80	79	0.0	0.0	1.094	A
				5	15	4	-	-	-	15	16	0.0	0.0	0.944	A
3 - Stevenage Road	Entry	1	1	1	800	200	950	819	0.977	802	803	9.7	9.8	43.494	E
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	20	5	941	812	0.025	19	19	0.3	0.3	42.922	E
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	64	16	950	819	0.078	64	63	0.1	0.2	5.144	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	743	186	-	-	-	800	803	207.9	193.7	734.832	F
				2	64	16	-	-	-	64	63	16.1	15.4	713.776	F
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	16	4	-	-	-	20	19	5.0	4.3	713.983	F
1	1	1	77	19	1096	745	0.104	76	79	0.1	0.1	5.545	A		
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		5	3	0.84	596	406	0.008	3	3	0.0	0.0	6.316	A		

4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	70	17	1096	748	0.093	69	70	0.1	0.1	5.494	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	77	19	-	-	-	77	79	0.0	0.0	0.000	A
				2	70	17	-	-	-	70	70	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	3	0.84	-	-	-	3	3	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	18	5	819	514	0.036	18	18	0.0	0.0	7.002	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	14	3	819	511	0.027	14	13	0.0	0.0	8.018	A
				3	38	9	843	532	0.071	37	37	0.1	0.1	7.994	A
				4	11	3	778	488	0.022	10	11	0.0	0.1	7.976	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	18	5	-	-	-	18	18	0.0	0.0	0.000	A
				2	14	3	-	-	-	14	13	0.0	0.0	0.038	A
				3	38	9	-	-	-	38	37	0.0	0.0	0.010	A
				4	11	3	-	-	-	11	11	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

# 2027 Base + Dev, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Last Run	Lane Simulation	1 - Park Way - Lane Simulation	Arm 1: Queue at end of modelled period is greater than 10 PCU. Delay is likely to have been underestimated.
Last Run	Lane Simulation	3 - Stevenage Road - Lane Simulation	Arm 3: Queue at end of modelled period is greater than 10 PCU. Delay is likely to have been underestimated.
Info	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. For detailed information on this mode, please see the User Guide.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Hitchin Hill Roundabout	Standard Roundabout		1, 2, 3, 4, 5	539.39	F

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	539.39	F

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2027 Base + Dev	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Park Way		ONE HOUR	✓	1189	100.000
2 - Hitchin Hill		ONE HOUR	✓	611	100.000
3 - Stevenage Road		ONE HOUR	✓	1084	100.000
4 - London Road		ONE HOUR	✓	287	100.000
5 - Gosmore Road		ONE HOUR	✓	71	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	0	99	959	111	20
	2 - Hitchin Hill	360	0	130	97	24
	3 - Stevenage Road	994	50	0	0	40
	4 - London Road	228	48	0	0	11
	5 - Gosmore Road	20	22	24	5	0

### Proportions

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	0.00	0.08	0.81	0.09	0.02
	2 - Hitchin Hill	0.59	0.00	0.21	0.16	0.04
	3 - Stevenage Road	0.92	0.05	0.00	0.00	0.04
	4 - London Road	0.79	0.17	0.00	0.00	0.04
	5 - Gosmore Road	0.28	0.31	0.34	0.07	0.00

## Vehicle Mix

### Heavy Vehicle Percentages

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	0	1	2	0	0
	2 - Hitchin Hill	1	0	5	0	0
	3 - Stevenage Road	3	15	0	2	1
	4 - London Road	0	1	1	0	0
	5 - Gosmore Road	0	1	1	0	0

### Average PCU Per Veh

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	1.000	1.013	1.019	1.001	1.001
	2 - Hitchin Hill	1.006	1.000	1.046	1.003	1.002
	3 - Stevenage Road	1.031	1.146	1.000	1.016	1.009
	4 - London Road	1.001	1.006	1.009	1.000	1.000
	5 - Gosmore Road	1.001	1.007	1.010	1.001	1.000

## Detailed Demand Data

### Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)

16:45-17:00	1 - Park Way	895	895
	2 - Hitchin Hill	460	460
	3 - Stevenage Road	816	816
	4 - London Road	216	216
	5 - Gosmore Road	53	53
17:00-17:15	1 - Park Way	1069	1069
	2 - Hitchin Hill	549	549
	3 - Stevenage Road	974	974
	4 - London Road	258	258
	5 - Gosmore Road	64	64
17:15-17:30	1 - Park Way	1309	1309
	2 - Hitchin Hill	673	673
	3 - Stevenage Road	1194	1194
	4 - London Road	316	316
	5 - Gosmore Road	78	78
17:30-17:45	1 - Park Way	1309	1309
	2 - Hitchin Hill	673	673
	3 - Stevenage Road	1194	1194
	4 - London Road	316	316
	5 - Gosmore Road	78	78
17:45-18:00	1 - Park Way	1069	1069
	2 - Hitchin Hill	549	549
	3 - Stevenage Road	974	974
	4 - London Road	258	258
	5 - Gosmore Road	64	64
18:00-18:15	1 - Park Way	895	895
	2 - Hitchin Hill	460	460
	3 - Stevenage Road	816	816
	4 - London Road	216	216
	5 - Gosmore Road	53	53

## Results

### Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Park Way	457.75	136.3	F	1093	1639
2 - Hitchin Hill	104.53	20.8	F	559	838
3 - Stevenage Road	1048.15	273.0	F	994	1491
4 - London Road	7.78	0.8	A	262	393
5 - Gosmore Road	8.62	0.2	A	64	96

### Main Results for each time segment

#### 16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	897	224	112	886	876	1185	0.0	5.2	17.781	C
2 - Hitchin Hill	457	114	831	457	457	167	0.0	1.8	14.339	B
3 - Stevenage Road	823	206	461	795	771	828	0.0	12.7	40.478	E
4 - London Road	216	54	1096	217	216	160	0.0	0.4	6.022	A
5 - Gosmore Road	54	13	1244	54	56	69	0.0	0.1	7.355	A

#### 17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1081	270	124	1043	1020	1317	5.2	18.4	46.572	E
2 - Hitchin Hill	549	137	981	553	539	186	1.8	3.8	24.407	C
3 - Stevenage Road	969	242	558	837	837	977	12.7	47.2	133.817	F
4 - London Road	257	64	1203	256	257	192	0.4	0.5	6.902	A
5 - Gosmore Road	62	16	1379	62	62	80	0.1	0.1	8.176	A

#### 17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1314	329	145	1076	1072	1397	18.4	77.3	163.297	F
2 - Hitchin Hill	677	169	1016	641	629	205	3.8	15.4	61.768	F
3 - Stevenage Road	1186	296	631	814	820	1026	47.2	139.9	416.709	F
4 - London Road	319	80	1236	318	316	210	0.5	0.7	7.783	A
5 - Gosmore Road	77	19	1465	77	78	89	0.1	0.2	8.603	A

#### 17:30 - 17:45

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Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1307	327	143	1081	1071	1399	77.3	136.3	363.398	F
2 - Hitchin Hill	665	166	1021	657	653	203	15.4	20.8	104.527	F
3 - Stevenage Road	1191	298	640	801	811	1038	139.9	234.7	831.083	F
4 - London Road	316	79	1238	315	316	204	0.7	0.8	7.781	A
5 - Gosmore Road	75	19	1468	75	78	85	0.2	0.2	8.622	A

## 17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1069	267	123	1097	1081	1319	136.3	134.7	457.751	F
2 - Hitchin Hill	549	137	1032	581	599	187	20.8	9.3	79.305	F
3 - Stevenage Road	975	244	584	823	822	1029	234.7	273.0	1048.154	F
4 - London Road	254	64	1207	254	259	200	0.8	0.5	7.069	A
5 - Gosmore Road	64	16	1377	65	66	84	0.2	0.1	8.089	A

## 18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	888	222	112	1077	1076	1253	134.7	88.8	360.577	F
2 - Hitchin Hill	455	114	1012	460	486	177	9.3	2.9	30.006	D
3 - Stevenage Road	821	205	484	866	854	987	273.0	263.8	831.241	F
4 - London Road	212	53	1175	212	215	175	0.5	0.4	6.371	A
5 - Gosmore Road	53	13	1312	53	54	74	0.1	0.1	7.833	A

## Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

## Lanes: Main Results for each time segment

## 16:45 - 17:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	796	964	0.826	790	778	0.0	4.2	17.117	C
			2	1, 4, 5	97	964	0.100	97	98	0.0	0.1	4.141	A
	Exit	1	1	(1, 2, 3, 4, 5)	897			892	893	0.0	0.8	2.060	A
			1		1185			1185	1161	0.0	0.0	0.000	A
2 - Hitchin Hill	Entry	1	1	3	96	585	0.165	97	97	0.0	0.2	7.765	A
			2	1, 2, 4, 5	360	585	0.615	360	360	0.0	1.5	14.498	B
	Exit	1	1	(1, 2, 3, 4, 5)	457			456	464	0.0	0.2	1.193	A
			1		167			167	164	0.0	0.0	0.000	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	767	823	0.931	758	735	0.0	7.1	27.713	D
			2	2, 3	37	823	0.045	37	36	0.0	0.1	5.559	A
	Exit	1	1	(1, 2, 3, 4, 5)	823			804	799	0.0	5.5	13.259	B
			1		828			828	820	0.0	0.0	0.000	A
4 - London Road	Entry	1	1	1, 5	179	747	0.239	180	179	0.0	0.3	6.270	A
			2	2, 3, 4	37	747	0.050	37	37	0.0	0.0	4.775	A
	Exit	1	1	(1, 2, 3, 4, 5)	216			216	217	0.0	0.0	0.004	A
			1		160			160	160	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	16	519	0.031	16	16	0.0	0.0	7.271	A
			2	2, 3, 4, 5	38	519	0.073	38	40	0.0	0.1	7.389	A
	Exit	1	1	(1, 2, 3, 4, 5)	54			54	56	0.0	0.0	0.000	A
			1		69			69	70	0.0	0.0	0.000	A

## 17:00 - 17:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	934	960	0.973	926	903	4.2	8.3	28.098	D
			2	1, 4, 5	119	960	0.124	118	116	0.1	0.2	4.384	A
	Exit	1	1	(1, 2, 3, 4, 5)	1081			1053	1036	0.8	9.9	20.883	C
			1		1317			1317	1306	0.0	0.0	0.000	A
2 - Hitchin Hill	Entry	1	1	3	118	548	0.215	118	116	0.2	0.3	8.978	A
			2	1, 2, 4, 5	434	548	0.792	436	423	1.5	2.5	20.206	C
	Exit	1	1	(1, 2, 3, 4, 5)	549			552	543	0.2	1.0	6.487	A
			1		186			186	184	0.0	0.0	0.000	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	803	796	1.008	799	799	7.1	10.0	41.376	E
			2	2, 3	38	796	0.048	38	38	0.1	0.1	5.588	A
	Exit	1	1	(1, 2, 3, 4, 5)	969			841	848	5.5	37.1	93.275	F
			1		977			977	955	0.0	0.0	0.000	A
4 - London Road	Entry	1	1	1, 5	214	713	0.300	213	214	0.3	0.4	7.158	A
			2	2, 3, 4	43	713	0.061	43	43	0.0	0.1	5.449	A
	Exit	1	1	(1, 2, 3, 4, 5)	257			257	258	0.0	0.0	0.029	A
			1		192			192	188	0.0	0.0	0.000	A
		1	1	1	19	484	0.040	19	18	0.0	0.0	7.496	A



5 - Gosmore Road	Entry		2	2, 3, 4, 5	43	484	0.088	43	44	0.1	0.1	8.453	A
		2	1	(1, 2, 3, 4, 5)	62			62	62	0.0	0.0	0.007	A
	Exit	1	1		80			80	81	0.0	0.0	0.000	A

## 17:15 - 17:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	955	954	1.001	954	954	8.3	10.0	36.418	E
			2	1, 4, 5	122	954	0.128	122	119	0.2	0.2	4.524	A
	Exit	2	1	(1, 2, 3, 4, 5)	1314			1076	1079	9.9	67.1	130.224	F
2 - Hitchin Hill	Entry	1	1	3	137	539	0.254	136	136	0.3	0.4	10.420	B
			2	1, 2, 4, 5	507	539	0.941	504	493	2.5	4.3	27.719	D
	Exit	2	1	(1, 2, 3, 4, 5)	677			644	637	1.0	10.6	37.354	E
3 - Stevenage Road	Entry	1	1	1, 4, 5	777	776	1.001	777	782	10.0	10.0	45.923	E
			2	2, 3	38	776	0.049	38	38	0.1	0.1	5.655	A
	Exit	2	1	(1, 2, 3, 4, 5)	1186			815	820	37.1	129.8	372.208	F
4 - London Road	Entry	1	1	1, 5	266	702	0.379	266	263	0.4	0.6	8.168	A
			2	2, 3, 4	52	702	0.075	52	53	0.1	0.1	5.618	A
	Exit	2	1	(1, 2, 3, 4, 5)	319			319	317	0.0	0.0	0.044	A
5 - Gosmore Road	Entry	1	1	1	21	462	0.046	22	22	0.0	0.0	8.406	A
			2	2, 3, 4, 5	55	462	0.120	55	56	0.1	0.1	8.665	A
	Exit	2	1	(1, 2, 3, 4, 5)	77			77	78	0.0	0.0	0.010	A
	Exit	1	1		89			89	85	0.0	0.0	0.000	A

## 17:30 - 17:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	964	954	1.010	964	954	10.0	10.0	37.581	E
			2	1, 4, 5	117	954	0.123	117	117	0.2	0.2	4.681	A
	Exit	2	1	(1, 2, 3, 4, 5)	1307			1081	1071	67.1	126.1	329.525	F
2 - Hitchin Hill	Entry	1	1	3	140	538	0.260	140	139	0.4	0.4	10.628	B
			2	1, 2, 4, 5	519	538	0.964	518	514	4.3	4.4	30.412	D
	Exit	2	1	(1, 2, 3, 4, 5)	665			659	654	10.6	16.0	78.131	F
3 - Stevenage Road	Entry	1	1	1, 4, 5	764	773	0.988	764	773	10.0	10.0	46.806	E
			2	2, 3	36	773	0.047	37	38	0.1	0.1	5.599	A
	Exit	2	1	(1, 2, 3, 4, 5)	1191			801	811	129.8	224.6	786.820	F
4 - London Road	Entry	1	1	1, 5	264	702	0.376	263	263	0.6	0.7	8.161	A
			2	2, 3, 4	52	702	0.075	53	53	0.1	0.1	5.563	A
	Exit	2	1	(1, 2, 3, 4, 5)	316			316	316	0.0	0.0	0.047	A
5 - Gosmore Road	Entry	1	1	1	21	461	0.046	21	22	0.0	0.0	8.424	A
			2	2, 3, 4, 5	54	461	0.118	54	56	0.1	0.1	8.692	A
	Exit	2	1	(1, 2, 3, 4, 5)	75			75	78	0.0	0.0	0.006	A
	Exit	1	1		85			85	87	0.0	0.0	0.000	A

## 17:45 - 18:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	976	961	1.016	976	961	10.0	10.0	37.379	E
			2	1, 4, 5	121	961	0.126	121	120	0.2	0.1	4.617	A
	Exit	2	1	(1, 2, 3, 4, 5)	1069			1097	1081	126.1	124.6	424.161	F
2 - Hitchin Hill	Entry	1	1	3	123	535	0.229	123	127	0.4	0.4	10.124	B
			2	1, 2, 4, 5	457	535	0.853	458	458	4.4	3.4	27.824	D
	Exit	2	1	(1, 2, 3, 4, 5)	549			580	595	16.0	5.6	55.462	F
3 - Stevenage Road	Entry	1	1	1, 4, 5	787	789	0.997	787	784	10.0	10.0	45.784	E
			2	2, 3	36	789	0.046	36	38	0.1	0.1	5.749	A
	Exit	2	1	(1, 2, 3, 4, 5)	975			823	822	224.6	262.9	1011.473	F
4 - London Road	Entry	1	1	1, 5	213	712	0.300	213	217	0.7	0.4	7.367	A
			2	2, 3, 4	41	712	0.058	41	42	0.1	0.1	5.467	A
	Exit	2	1	(1, 2, 3, 4, 5)	254			254	258	0.0	0.0	0.015	A
5 - Gosmore Road	Entry	1	1	1	19	485	0.039	19	19	0.0	0.0	7.685	A
			2	2, 3, 4, 5	45	485	0.094	46	47	0.1	0.1	8.246	A
	Exit	2	1	(1, 2, 3, 4, 5)	64			64	66	0.0	0.0	0.006	A
	Exit	1	1		84			84	83	0.0	0.0	0.000	A

## 18:00 - 18:15

					Total				Average	Start	End		
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Arm	Side	Lane level	Lane	Destination arms	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	throughput (PCU/hr)	queue (PCU)	queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	957	964	0.993	958	958	10.0	9.7	36.915	E
			2	1, 4, 5	120	964	0.124	119	118	0.1	0.2	4.656	A
	Exit	1	1	(1, 2, 3, 4, 5)	888			1076	1075	124.6	78.9	327.114	F
			1		1253			1253	1258	0.0	0.0	0.000	A
2 - Hitchin Hill	Entry	1	1	3	98	540	0.181	98	102	0.4	0.3	9.047	A
			2	1, 2, 4, 5	362	540	0.669	362	383	3.4	1.9	20.614	C
	Exit	1	1	(1, 2, 3, 4, 5)	455			459	479	5.6	0.7	12.275	B
			1		177			177	178	0.0	0.0	0.000	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	824	816	1.010	825	815	10.0	10.0	44.012	E
			2	2, 3	41	816	0.050	41	40	0.1	0.1	5.262	A
	Exit	1	1	(1, 2, 3, 4, 5)	821			865	854	262.9	253.8	816.830	F
			1		987			987	993	0.0	0.0	0.000	A
4 - London Road	Entry	1	1	1, 5	178	722	0.247	178	180	0.4	0.3	6.581	A
			2	2, 3, 4	34	722	0.047	34	36	0.1	0.1	5.283	A
	Exit	1	1	(1, 2, 3, 4, 5)	212			212	215	0.0	0.0	0.003	A
			1		175			175	181	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	15	502	0.030	15	15	0.0	0.0	7.546	A
			2	2, 3, 4, 5	38	502	0.075	37	39	0.1	0.1	7.941	A
	Exit	1	1	(1, 2, 3, 4, 5)	53			53	54	0.0	0.0	0.005	A
			1		74			74	75	0.0	0.0	0.000	A

Lane movements: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service	
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	77	19	997	964	0.080	77	74	0.0	0.4	17.216	C	
				3	718	180	997	964	0.745	712	703	0.0	3.8	17.106	C	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.0	0.000	A
				4	82	21	997	964	0.085	82	83	0.0	0.1	4.110	A	
				5	15	4	965	933	0.016	14	15	0.0	0.0	4.310	A	
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.0	0.000	A
				2	78	19	-	-	-	77	76	0.0	0.1	2.126	A	
				3	722	180	-	-	-	718	719	0.0	0.7	2.053	A	
				4	82	21	-	-	-	82	84	0.0	0.1	2.032	A	
				5	15	4	-	-	-	15	15	0.0	0.0	2.197	A	
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	96	24	789	585	0.165	97	97	0.0	0.2	7.765	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	269	67	789	584	0.460	269	269	0.0	1.1	14.493	B	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	74	18	789	585	0.126	74	73	0.0	0.3	14.427	B	
				5	17	4	789	587	0.029	17	18	0.0	0.1	14.849	B	
		2	1	1	270	67	-	-	-	269	273	0.0	0.1	1.301	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	96	24	-	-	-	96	98	0.0	0.0	0.840	A	
				4	74	18	-	-	-	74	74	0.0	0.0	1.242	A	
				5	17	4	-	-	-	17	18	0.0	0.0	1.212	A	
3 - Stevenage Road	Entry	1	1	1	737	184	950	823	0.896	729	706	0.0	6.8	27.711	D	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	29	7	950	822	0.036	29	29	0.0	0.3	27.766	D	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	37	9	950	823	0.045	37	36	0.0	0.1	5.559	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
		2	1	1	755	189	-	-	-	737	733	0.0	5.0	13.280	B	
				2	38	10	-	-	-	37	36	0.0	0.3	13.303	B	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	30	8	-	-	-	29	30	0.0	0.2	12.728	B	
1	1	1	170	43	1096	749	0.227	171	171	0.0	0.3	6.271	A			
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		5	9	2	963	661	0.013	8	8	0.0	0.0	6.251	A			

4 - London Road	Entry	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	37	9	1096	748	0.050	37	37	0.0	0.0	4.775	A	
			3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
		2	1	1	170	43	-	-	-	170	172	0.0	0.0	0.005	A
				2	37	9	-	-	-	37	37	0.0	0.0	0.001	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	9	2	-	-	-	9	8	0.0	0.0	0.013	A
5 - Gosmore Road	Entry	1	1	1	16	4	827	510	0.031	16	16	0.0	0.0	7.271	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	15	4	825	512	0.030	15	17	0.0	0.0	7.503	A
				3	19	5	834	515	0.036	19	19	0.0	0.0	7.273	A
				4	4	0.95	543	344	0.011	4	4	0.0	0.0	7.464	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	16	4	-	-	-	16	16	0.0	0.0	0.000	A
				2	15	4	-	-	-	15	17	0.0	0.0	0.000	A
				3	19	5	-	-	-	19	19	0.0	0.0	0.000	A
				4	4	0.95	-	-	-	4	4	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

17:00 - 17:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service		
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	87	22	997	960	0.091	87	85	0.4	0.7	28.047	D		
				3	847	212	997	960	0.882	838	818	3.8	7.6	28.104	D		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	1	1	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				4	100	25	997	960	0.105	100	98	0.1	0.2	4.391	A		
				5	18	5	987	950	0.019	18	18	0.0	0.0	4.348	A		
		2	1	1	0	0	0	0	0.000	0	-	0	0	0.0	0.0	0.000	A
				2	88	22	-	-	-	87	86	0.1	0.8	20.642	C		
				3	872	218	-	-	-	847	833	0.7	8.1	21.049	C		
				4	103	26	-	-	-	100	99	0.1	0.8	20.111	C		
				5	19	5	-	-	-	18	18	0.0	0.1	18.700	C		
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				3	118	29	789	549	0.215	118	116	0.2	0.3	8.978	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	1	1	324	81	789	548	0.591	326	315	1.1	1.8	20.235	C		
				2	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				4	89	22	789	548	0.162	88	85	0.3	0.5	20.069	C		
				5	22	5	785	548	0.040	22	22	0.1	0.1	20.326	C		
		2	1	1	322	81	-	-	-	324	318	0.1	0.6	6.663	A		
				2	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				3	117	29	-	-	-	118	117	0.0	0.2	5.697	A		
				4	88	22	-	-	-	89	86	0.0	0.1	6.663	A		
				5	22	5	-	-	-	22	22	0.0	0.0	7.284	A		
3 - Stevenage Road	Entry	1	1	1	773	193	950	796	0.971	769	768	6.8	9.6	41.387	E		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	29	7	950	798	0.037	29	31	0.3	0.4	41.108	E		
		2	1	1	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				2	38	9	950	796	0.048	38	38	0.1	0.1	5.588	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	1	1	893	223	-	-	-	773	779	5.0	34.2	93.354	F		
				2	43	11	-	-	-	38	38	0.3	1.7	93.222	F		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	33	8	-	-	-	29	31	0.2	1.2	91.353	F		
		1	1	1	203	51	1096	713	0.285	203	204	0.3	0.4	7.167	A		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	11	3	1004	659	0.016	10	11	0.0	0.0	6.975	A		

4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	43	11	1096	714	0.061	43	43	0.0	0.1	5.449	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	203	51	-	-	-	203	204	0.0	0.0	0.030	A
				2	43	11	-	-	-	43	43	0.0	0.0	0.015	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	11	3	-	-	-	11	11	0.0	0.0	0.051	A
5 - Gosmore Road	Entry	1	1	1	19	5	836	481	0.040	19	18	0.0	0.0	7.496	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	18	4	827	476	0.037	18	18	0.0	0.0	8.315	A
				3	21	5	836	480	0.044	21	21	0.0	0.0	8.464	A
				4	4	1	584	341	0.012	4	5	0.0	0.0	8.939	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	19	5	-	-	-	19	18	0.0	0.0	0.000	A
				2	18	4	-	-	-	18	18	0.0	0.0	0.020	A
				3	21	5	-	-	-	21	21	0.0	0.0	0.005	A
				4	4	1	-	-	-	4	5	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

17:15 - 17:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service		
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	91	23	997	954	0.096	91	89	0.7	0.9	36.272	E		
				3	863	216	997	954	0.905	863	864	7.6	9.1	36.433	E		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	1	1	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	102	26	997	954	0.107	102	100	0.2	0.1	4.523	A		
				5	20	5	989	946	0.021	20	19	0.0	0.0	4.532	A		
		2	1	1	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				2	111	28	-	-	-	91	90	0.8	5.7	129.846	F		
				3	1054	263	-	-	-	863	870	8.1	53.9	130.296	F		
				4	126	31	-	-	-	102	100	0.8	6.4	129.865	F		
				5	23	6	-	-	-	20	19	0.1	1.2	130.677	F		
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	137	34	789	539	0.254	136	136	0.3	0.4	10.420	B		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	1	1	377	94	789	539	0.698	375	369	1.8	3.2	27.748	D		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	103	26	789	540	0.191	102	99	0.5	0.8	27.547	D		
				5	28	7	789	541	0.051	27	25	0.1	0.3	27.975	D		
		2	1	1	398	99	-	-	-	377	375	0.6	6.5	38.096	E		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	143	36	-	-	-	137	136	0.2	2.0	34.643	D		
				4	109	27	-	-	-	103	100	0.1	1.8	37.887	E		
				5	28	7	-	-	-	28	26	0.0	0.4	38.191	E		
3 - Stevenage Road	Entry	1	1	1	745	186	950	776	0.961	746	752	9.6	9.6	45.926	E		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	32	8	950	778	0.041	31	30	0.4	0.4	45.836	E		
		2	1	1	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				2	38	9	950	778	0.049	38	38	0.1	0.1	5.655	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	1	1	1086	271	-	-	-	745	752	34.2	118.7	371.991	F		
				2	57	14	-	-	-	38	38	1.7	6.3	378.229	F		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	43	11	-	-	-	32	30	1.2	4.8	370.819	F		
1	1	1	254	64	1096	703	0.362	254	251	0.4	0.6	8.165	A				
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
		5	12	3	1031	660	0.018	12	12	0.0	0.0	8.225	A				

4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	52	13	1096	702	0.075	52	53	0.1	0.1	5.618	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	254	64	-	-	-	254	252	0.0	0.0	0.052	A
				2	52	13	-	-	-	52	53	0.0	0.0	0.011	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	12	3	-	-	-	12	12	0.0	0.0	0.027	A

17:30 - 17:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service	
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	91	23	997	954	0.096	91	90	0.9	0.9	37.572	E	
				3	872	218	997	954	0.914	873	864	9.1	9.1	37.582	E	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	0	0	0	0	0.000	0	0.0	0.0	0.000	A	
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	98	24	997	954	0.102	97	99	0.1	0.1	4.704	A
					5	20	5	989	945	0.021	20	19	0.0	0.0	4.557	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	109	27	-	-	-	91	90	5.7	10.5	329.710	F	
				3	1052	263	-	-	-	872	864	53.9	101.5	329.381	F	
				4	123	31	-	-	-	98	99	6.4	11.9	330.443	F	
				5	22	6	-	-	-	20	19	1.2	2.1	330.324	F	
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	140	35	789	538	0.260	140	139	0.4	0.4	10.628	B	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	392	98	789	538	0.730	392	384	3.2	3.3	30.446	D
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	101	25	789	538	0.188	101	104	0.8	0.9	30.340	D
					5	25	6	787	538	0.046	25	26	0.3	0.2	30.185	D
		2	1	1	399	100	-	-	-	392	384	6.5	9.7	79.265	F	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	139	35	-	-	-	140	139	2.0	3.2	75.098	F	
				4	102	25	-	-	-	101	104	1.8	2.5	78.282	F	
				5	24	6	-	-	-	25	26	0.4	0.6	76.402	F	
3 - Stevenage Road	Entry	1	1	1	736	184	950	773	0.952	736	743	9.6	9.7	46.609	E	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	28	7	950	773	0.036	28	30	0.4	0.4	46.552	E	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	36	9	950	774	0.047	37	38	0.1	0.1	5.599	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	1095	274	-	-	-	736	743	118.7	206.3	787.241	F	
				2	52	13	-	-	-	36	38	6.3	10.2	777.606	F	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	44	11	-	-	-	28	29	4.8	8.1	786.516	F	
		1		1	251	63	1096	702	0.358	251	251	0.6	0.6	8.184	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	12	3	1028	658	0.019	12	12	0.0	0.0	7.682	A	

4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	52	13	1096	701	0.075	53	53	0.1	0.1	5.563	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	252	63	-	-	-	251	251	0.0	0.0	0.052	A
				2	53	13	-	-	-	52	53	0.0	0.0	0.026	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	12	3	-	-	-	12	12	0.0	0.0	0.029	A

17:45 - 18:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service	
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	90	23	997	960	0.094	91	90	0.9	0.9	37.476	E	
				3	886	221	997	960	0.922	885	871	9.1	9.1	37.369	E	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	102	25	997	960	0.106	102	102	0.1	0.1	4.620	A
					5	19	5	989	951	0.020	19	19	0.0	0.0	4.599	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	85	21	-	-	-	90	90	10.5	9.9	424.246	F	
				3	865	216	-	-	-	886	871	101.5	101.0	424.443	F	
				4	103	26	-	-	-	102	102	11.9	11.7	422.847	F	
				5	17	4	-	-	-	19	19	2.1	2.0	417.807	F	
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	123	31	789	536	0.229	123	127	0.4	0.4	10.124	B	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	340	85	789	536	0.635	340	352	3.3	2.6	27.780	D
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	93	23	789	536	0.173	93	96	0.9	0.7	27.890	D
					5	24	6	787	536	0.045	24	24	0.2	0.2	28.203	D
		2	1	1	322	80	-	-	-	340	349	9.7	3.2	56.089	F	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	117	29	-	-	-	123	126	3.2	1.2	53.676	F	
				4	88	22	-	-	-	93	96	2.5	0.9	55.516	F	
				5	22	6	-	-	-	24	24	0.6	0.2	55.304	F	
3 - Stevenage Road	Entry	1	1	1	756	189	950	789	0.958	757	755	9.7	9.7	45.780	E	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	30	8	950	789	0.039	30	30	0.4	0.3	45.875	E	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	36	9	948	786	0.046	36	38	0.1	0.1	5.749	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	894	223	-	-	-	756	755	206.3	241.2	1011.794	F	
				2	47	12	-	-	-	36	38	10.2	12.2	1004.626	F	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	34	9	-	-	-	30	30	8.1	9.4	1011.153	F	
1	1	1	203	51	1096	711	0.285	203	207	0.6	0.4	7.364	A			
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		5	11	3	1001	649	0.016	10	10	0.0	0.0	7.429	A			

4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	41	10	1096	709	0.058	41	42	0.1	0.1	5.467	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	203	51	-	-	-	203	206	0.0	0.0	0.017	A
				2	41	10	-	-	-	41	42	0.0	0.0	0.004	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	11	3	-	-	-	11	10	0.0	0.0	0.018	A

18:00 - 18:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service	
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	89	22	997	963	0.093	88	87	0.9	0.9	36.747	E	
				3	867	217	997	964	0.900	870	871	9.1	8.7	36.932	E	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	0	0	0	0	0.000	0	0.0	0.0	0.000	A	
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	100	25	997	964	0.104	99	100	0.1	0.1	4.666	A
					5	20	5	984	951	0.021	20	18	0.0	0.0	4.599	A
		2	1	1	0	0	0	0	0.000	0	0.0	0.0	0.000	A		
				2	73	18	-	-	-	89	87	9.9	6.4	324.224	F	
				3	718	179	-	-	-	867	870	101.0	64.0	327.367	F	
				4	83	21	-	-	-	100	100	11.7	7.3	327.101	F	
				5	14	4	-	-	-	20	18	2.0	1.2	329.113	F	
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	98	24	789	540	0.181	98	102	0.4	0.3	9.047	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	1	272	68	789	541	0.504	273	288	2.6	1.4	20.651	C
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	72	18	789	541	0.134	73	78	0.7	0.4	20.695	C
					5	17	4	785	536	0.031	17	18	0.2	0.1	19.677	C
		2	1	1	270	67	-	-	-	272	283	3.2	0.5	12.499	B	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	97	24	-	-	-	98	102	1.2	0.1	11.242	B	
				4	71	18	-	-	-	72	76	0.9	0.1	13.040	B	
				5	17	4	-	-	-	17	18	0.2	0.0	11.133	B	
3 - Stevenage Road	Entry	1	1	1	794	199	950	816	0.973	794	784	9.7	9.7	44.021	E	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	30	8	950	817	0.037	31	31	0.3	0.4	43.786	E	
			2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	41	10	950	816	0.050	41	40	0.1	0.1	5.262	A
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	755	189	-	-	-	794	784	241.2	232.9	816.617	F	
				2	36	9	-	-	-	41	39	12.2	11.7	822.231	F	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	29	7	-	-	-	30	31	9.4	9.1	815.159	F	
1	1	1	171	43	1096	721	0.237	171	171	0.4	0.3	6.593	A			
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A			
		5	7	2	981	647	0.011	7	8	0.0	0.0	6.341	A			

4 - London Road	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	34	8	1096	724	0.046	34	36	0.1	0.1	5.283	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	171	43	-	-	-	171	171	0.0	0.0	0.004	A
				2	34	8	-	-	-	34	36	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	7	2	-	-	-	7	8	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	15	4	829	495	0.031	15	15	0.0	0.0	7.546	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	15	4	823	491	0.031	15	16	0.0	0.1	7.895	A
				3	19	5	836	497	0.039	19	19	0.0	0.0	8.072	A
				4	3	0.80	507	302	0.011	3	4	0.0	0.0	7.488	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	15	4	-	-	-	15	15	0.0	0.0	0.000	A
				2	15	4	-	-	-	15	16	0.0	0.0	0.000	A
				3	19	5	-	-	-	19	19	0.0	0.0	0.014	A
				4	3	0.80	-	-	-	3	4	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A



<b>Junctions 10</b>
<b>ARCADY 10 - Roundabout Module</b>
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**Filename:** 2022-10-07 Park Way - Stevenage Road\_LaneSim.j10  
**Path:** \\global.arup.com\europa\Midlands\jobs\259000\259393-10\4 Internal Project Data\4-04 Calculations\Junction Modelling\A602 Park Way - Stevenage Road\For Appendices  
**Report generation date:** 13/02/2023 16:40:40

- »2039 Base + Dev, AM
- »2039 Base + Dev, PM
- »2043 Base + Dev, AM
- »2043 Base + Dev, PM

**Summary of junction performance**

	AM					PM						
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
<b>[Lane Simulation] - 2039 Base + Dev</b>												
1 - Park Way	D9	118.7	298.33		F	273.11	D10	63.1	138.26		F	346.42
2 - Hitchin Hill		4.2	26.56		D			4.8	27.64		D	
3 - Stevenage Road		128.2	438.17		F			236.5	846.13		F	
4 - London Road		0.6	6.78		A			0.9	9.34		A	
5 - Gosmore Road		0.4	9.60		A			0.3	9.40		A	
<b>[Lane Simulation] - 2043 Base + Dev</b>												
1 - Park Way	D11	136.0	375.56		F	345.32	D12	73.1	160.23		F	354.83
2 - Hitchin Hill		3.4	22.38		C			4.3	25.25		D	
3 - Stevenage Road		161.3	565.85		F			237.1	845.43		F	
4 - London Road		0.7	7.05		A			1.2	9.81		A	
5 - Gosmore Road		0.5	10.35		B			0.2	9.00		A	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Am and junction delays are averages for all movements, including movements with zero delay.

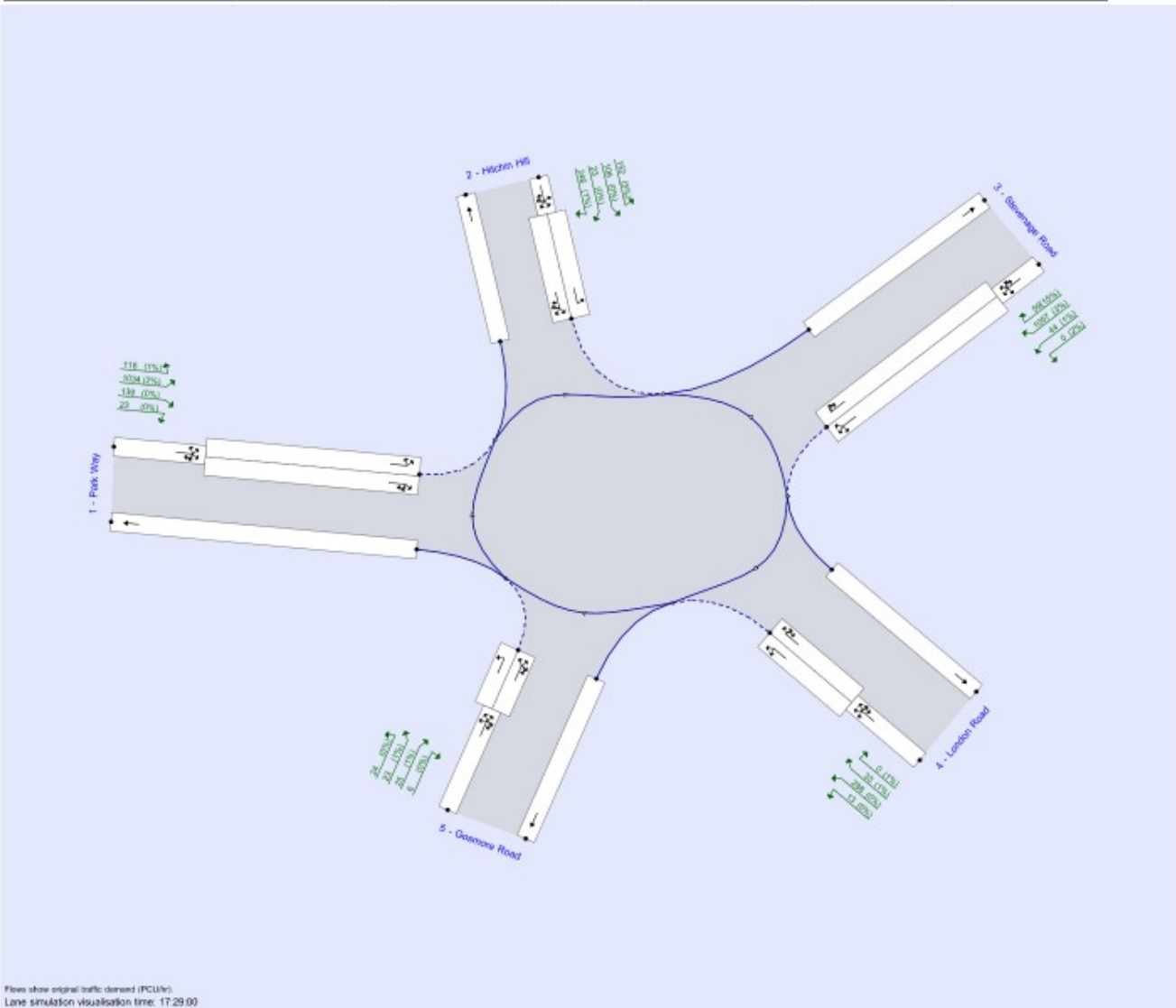
## File summary

### File Description

Title	
Location	
Site number	
Date	17/01/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\Paul.Dickens
Description	

## Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin



The junction diagram reflects the last run of Junctions.

### Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75						0.85	38.00	20.00		500

### Lane Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Random seed	Results refresh speed (s)	Individual vehicle animation number of trials	Average animation capture interval (s)	Use quick response	Do flow sampling	Suppress automatic lane creation	Last run random seed	Last run number of trials	Last run time taken (s)
Delay	1.00	100000	100000	-1	3	1	60	✓			987111423	150	32.01

### Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D9	2039 Base + Dev	AM	ONE HOUR	08:00	09:30	15	✓	✓
D10	2039 Base + Dev	PM	ONE HOUR	17:00	18:30	15	✓	✓
D11	2043 Base + Dev	AM	ONE HOUR	08:00	09:30	15	✓	✓
D12	2043 Base + Dev	PM	ONE HOUR	17:00	18:30	15	✓	✓

### Analysis Set Details

ID	Use Lane Simulation	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	✓	100.000	100.000

# 2039 Base + Dev, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Last Run	Lane Simulation	1 - Park Way - Lane Simulation	Arm 1: Queue at end of modelled period is greater than 10 PCU. Delay is likely to have been underestimated.
Last Run	Lane Simulation	3 - Stevenage Road - Lane Simulation	Arm 3: Queue at end of modelled period is greater than 10 PCU. Delay is likely to have been underestimated.
Warning	Geometry	1 - Park Way - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	2 - Hitchin Hill - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	3 - Stevenage Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D9 - 2039 Base + Dev, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Info	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. For detailed information on this mode, please see the User Guide.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Hitchin Hill Roundabout	Standard Roundabout		1, 2, 3, 4, 5	273.11	F

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	273.11	F

## Arms

### Arms

Arm	Name	Description	No give-way line
1	Park Way		
2	Hitchin Hill		
3	Stevenage Road		
4	London Road		
5	Gosmore Road		

### Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1 - Park Way	3.70	8.60	40.0	40.0	66.0	6.0		
2 - Hitchin Hill	3.50	7.00	32.0	15.0	66.0	44.0		
3 - Stevenage Road	4.75	7.65	35.0	20.0	66.0	36.0		
4 - London Road	3.65	8.00	24.0	400.0	66.0	6.0		
5 - Gosmore Road	3.65	7.00	15.0	20.0	66.0	32.0		

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Park Way	0.889	2423
2 - Hitchin Hill	0.513	1726
3 - Stevenage Road	0.583	2089
4 - London Road	0.637	2192
5 - Gosmore Road	0.521	1686

The slope and intercept shown above include any corrections and adjustments.

### Lane Simulation: Arm options

Arm	Lane capacity source	Traffic considering secondary lanes (%)
1 - Park Way	Evenly split	10.00
2 - Hitchin Hill	Evenly split	10.00
3 - Stevenage Road	Evenly split	10.00
4 - London Road	Evenly split	10.00
5 - Gosmore Road	Evenly split	10.00

### Lanes

Arm	Side	Lane level	Lane	Destination arms	Has limited storage	Storage (PCU)	Has bottleneck	Has obstruction	Minimum capacity (PCU/hr)	Maximum capacity (PCU/hr)	Signalised
1 - Park Way	Entry	1	1	2, 3	✓	10.00			0	99999	
			2	1, 4, 5	✓	10.00			0	99999	
	Exit	1	1	(1, 2, 3, 4, 5)		Infinity					
2 - Hitchin Hill	Entry	1	1	3	✓	5.00			0	99999	
			2	1, 2, 4, 5	✓	5.00			0	99999	
	Exit	1	1	(1, 2, 3, 4, 5)		Infinity					
3 - Stevenage Road	Entry	1	1	1, 4, 5	✓	10.00			0	99999	
			2	2, 3	✓	10.00			0	99999	
	Exit	1	1	(1, 2, 3, 4, 5)		Infinity					
4 - London Road	Entry	1	1	1, 5	✓	5.00			0	99999	
			2	2, 3, 4	✓	5.00			0	99999	
	Exit	1	1	(1, 2, 3, 4, 5)		Infinity					
5 - Gosmore Road	Entry	1	1	1	✓	3.00			0	99999	
			2	2, 3, 4, 5	✓	3.00			0	99999	
	Exit	1	1	(1, 2, 3, 4, 5)		Infinity					

### Entry Lane slope and intercept

Arm	Side	Lane level	Lane	Final slope	Final intercept (PCU/hr)
1 - Park Way	Entry	1	1	0.335	1212
			2	0.335	1212
2 - Hitchin Hill	Entry	1	1	0.256	863
			2	0.256	863
3 - Stevenage Road	Entry	1	1	0.291	1045
			2	0.291	1045
4 - London Road	Entry	1	1	0.318	1096
			2	0.318	1096
5 - Gosmore Road	Entry	1	1	0.260	843
			2	0.260	843

### Summary of Entry Lane allowed movements

Arm	Lane Level	Lane	Destination arm				
			Park Way	Hitchin Hill	Stevenage Road	London Road	Gosmore Road
1 - Park Way	1	1		✓	✓		
		2	✓			✓	✓
2 - Hitchin Hill	1	1			✓		
		2	✓	✓		✓	✓
2 - Hitchin Hill	2	1	✓	✓	✓	✓	✓
		1	✓			✓	✓
3 - Stevenage Road	1	1	✓			✓	✓
		2		✓	✓		
2 - Hitchin Hill	2	1	✓	✓	✓	✓	✓
		1	✓	✓	✓	✓	✓
4 - London Road	1	1	✓				✓
		2		✓	✓	✓	
2 - Hitchin Hill	2	1	✓	✓	✓	✓	✓
		1	✓	✓	✓	✓	✓
5 - Gosmore Road	1	1	✓				
		2		✓	✓	✓	✓
2 - Hitchin Hill	2	1	✓	✓	✓	✓	✓
		1	✓	✓	✓	✓	✓

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D9	2039 Base + Dev	AM	ONE HOUR	08:00	09:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Park Way		ONE HOUR	✓	1343	100.000
2 - Hitchin Hill		ONE HOUR	✓	468	100.000
3 - Stevenage Road		ONE HOUR	✓	1119	100.000
4 - London Road		ONE HOUR	✓	263	100.000
5 - Gosmore Road		ONE HOUR	✓	115	100.000

## Origin-Destination Data

### Demand (PCU/hr)

From		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	0	102	1039	182	20
	2 - Hitchin Hill	181	0	104	159	24
	3 - Stevenage Road	938	159	0	0	22
	4 - London Road	147	110	0	0	6
	5 - Gosmore Road	27	20	53	15	0

### Proportions

From		To			
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road
From	1 - Park Way	0.00	0.08	0.77	0.14
	2 - Hitchin Hill	0.39	0.00	0.22	0.34
	3 - Stevenage Road	0.84	0.14	0.00	0.00
	4 - London Road	0.56	0.42	0.00	0.00
	5 - Gosmore Road	0.23	0.17	0.46	0.13

## Vehicle Mix

### Heavy Vehicle Percentages

From		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	0	3	9	1	0
	2 - Hitchin Hill	1	0	11	1	1
	3 - Stevenage Road	4	10	0	2	2
	4 - London Road	0	1	2	0	0
	5 - Gosmore Road	0	0	1	0	0

### Average PCU Per Veh

From		To			
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road
From	1 - Park Way	1.000	1.027	1.087	1.008
	2 - Hitchin Hill	1.012	1.000	1.105	1.008
	3 - Stevenage Road	1.038	1.105	1.000	1.025
	4 - London Road	1.002	1.007	1.021	1.000
	5 - Gosmore Road	1.001	1.004	1.011	1.001

## Detailed Demand Data

### Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
08:00-08:15	1 - Park Way	1011	1011
	2 - Hitchin Hill	352	352
	3 - Stevenage Road	842	842
	4 - London Road	198	198
	5 - Gosmore Road	87	87
08:15-08:30	1 - Park Way	1207	1207
	2 - Hitchin Hill	421	421
	3 - Stevenage Road	1006	1006
	4 - London Road	236	236
	5 - Gosmore Road	103	103
08:30-08:45	1 - Park Way	1479	1479
	2 - Hitchin Hill	515	515
	3 - Stevenage Road	1232	1232
	4 - London Road	290	290
	5 - Gosmore Road	127	127
08:45-09:00	1 - Park Way	1479	1479
	2 - Hitchin Hill	515	515
	3 - Stevenage Road	1232	1232
	4 - London Road	290	290
	5 - Gosmore Road	127	127
09:00-09:15	1 - Park Way	1207	1207
	2 - Hitchin Hill	421	421
	3 - Stevenage Road	1006	1006
	4 - London Road	236	236
	5 - Gosmore Road	103	103
09:15-09:30	1 - Park Way	1011	1011
	2 - Hitchin Hill	352	352
	3 - Stevenage Road	842	842
	4 - London Road	198	198
	5 - Gosmore Road	87	87

## Results

### Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Park Way	298.33	116.7	F	1341	1341
2 - Hitchin Hill	26.56	4.2	D	474	474
3 - Stevenage Road	438.17	128.2	F	1121	1121
4 - London Road	6.78	0.6	A	267	267
5 - Gosmore Road	9.60	0.4	A	117	117

## Main Results for each time segment

### 08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1205	301	313	1175	1165	1123	4.0	13.7	29.809	D
2 - Hitchin Hill	423	106	1149	421	420	339	1.0	1.7	12.862	B
3 - Stevenage Road	988	247	520	956	956	1050	3.4	13.9	37.497	E
4 - London Road	241	60	1153	241	239	322	0.3	0.4	5.947	A
5 - Gosmore Road	105	26	1331	105	101	63	0.1	0.3	8.291	A

### 08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1473	368	360	1275	1285	1250	13.7	66.3	116.965	F
2 - Hitchin Hill	524	131	1254	515	504	380	1.7	3.6	20.649	C
3 - Stevenage Road	1251	313	611	1019	1013	1158	13.9	71.6	156.764	F
4 - London Road	293	73	1267	293	294	364	0.4	0.6	6.464	A
5 - Gosmore Road	124	31	1485	124	122	75	0.3	0.4	9.597	A

### 08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1491	373	367	1281	1286	1242	66.3	116.7	257.726	F
2 - Hitchin Hill	520	130	1270	516	510	378	3.6	4.2	26.556	D
3 - Stevenage Road	1226	307	609	1007	1004	1177	71.6	128.2	361.333	F
4 - London Road	292	73	1252	293	293	363	0.6	0.4	6.783	A
5 - Gosmore Road	133	33	1475	134	130	70	0.4	0.4	9.301	A

### 09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1195	299	332	1271	1289	1204	116.7	95.8	296.325	F
2 - Hitchin Hill	430	108	1241	423	434	362	4.2	2.2	17.857	C
3 - Stevenage Road	1018	255	529	1051	1035	1134	128.2	121.9	438.169	F
4 - London Road	241	60	1256	240	236	325	0.4	0.4	6.287	A
5 - Gosmore Road	107	27	1430	107	106	67	0.4	0.3	8.910	A



## Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

### Lanes: Main Results for each time segment

#### 08:15 - 08:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	1001	1107	0.905	994	988	3.5	6.7	20.893	C
			2	1, 4, 5	181	1107	0.164	181	177	0.1	0.2	3.972	A
	Exit	1	1	(1, 2, 3, 4, 5)	1205			1183	1178	0.4	6.8	11.398	B
			1	1		1123			1123	1116	0.0	0.0	0.000
2 - Hitchin Hill	Entry	1	1	3	94	569	0.166	95	94	0.2	0.2	8.659	A
			2	1, 2, 4, 5	328	569	0.577	326	326	0.8	1.4	13.112	B
	Exit	1	1	(1, 2, 3, 4, 5)	423			422	423	0.0	0.1	0.872	A
			1	1		339			339	346	0.0	0.0	0.000
3 - Stevenage Road	Entry	1	1	1, 4, 5	827	893	0.925	820	816	3.1	7.1	26.740	D
			2	2, 3	135	893	0.152	136	140	0.1	0.2	5.451	A
	Exit	1	1	(1, 2, 3, 4, 5)	988			982	972	0.2	6.7	13.285	B
			1	1		1050			1050	1039	0.0	0.0	0.000
4 - London Road	Entry	1	1	1, 5	143	729	0.197	143	140	0.2	0.3	6.028	A
			2	2, 3, 4	98	729	0.134	98	98	0.1	0.2	5.830	A
	Exit	1	1	(1, 2, 3, 4, 5)	241			241	239	0.0	0.0	0.000	A
			1	1		322			322	316	0.0	0.0	0.000
5 - Gosmore Road	Entry	1	1	1	25	497	0.051	25	24	0.0	0.1	7.291	A
			2	2, 3, 4, 5	80	497	0.160	79	77	0.1	0.2	8.563	A
	Exit	1	1	(1, 2, 3, 4, 5)	105			105	102	0.0	0.0	0.032	A
			1	1		63			63	64	0.0	0.0	0.000

#### 08:30 - 08:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	1078	1091	0.988	1077	1070	6.7	9.9	30.916	D
			2	1, 4, 5	197	1091	0.181	198	194	0.2	0.2	4.350	A
	Exit	1	1	(1, 2, 3, 4, 5)	1473			1275	1277	6.8	56.2	90.159	F
			1	1		1250			1250	1233	0.0	0.0	0.000
2 - Hitchin Hill	Entry	1	1	3	119	542	0.219	119	115	0.2	0.3	9.330	A
			2	1, 2, 4, 5	399	542	0.736	396	389	1.4	2.2	18.453	C
	Exit	1	1	(1, 2, 3, 4, 5)	524			517	508	0.1	1.0	4.035	A
			1	1		380			380	382	0.0	0.0	0.000
3 - Stevenage Road	Entry	1	1	1, 4, 5	878	887	1.013	875	866	7.1	10.0	39.056	E
			2	2, 3	145	887	0.167	145	147	0.2	0.2	5.957	A
	Exit	1	1	(1, 2, 3, 4, 5)	1251			1023	1025	6.7	61.3	121.795	F
			1	1		1158			1158	1148	0.0	0.0	0.000
4 - London Road	Entry	1	1	1, 5	173	692	0.250	174	174	0.3	0.3	6.659	A
			2	2, 3, 4	120	692	0.173	120	120	0.2	0.2	6.171	A
	Exit	1	1	(1, 2, 3, 4, 5)	293			293	295	0.0	0.0	0.004	A
			1	1		364			364	361	0.0	0.0	0.000
5 - Gosmore Road	Entry	1	1	1	28	456	0.062	29	29	0.1	0.1	8.243	A
			2	2, 3, 4, 5	96	456	0.210	95	93	0.2	0.3	9.867	A
	Exit	1	1	(1, 2, 3, 4, 5)	124			124	122	0.0	0.0	0.114	A
			1	1		75			75	74	0.0	0.0	0.000

**08:45 - 09:00**

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	1094	1089	1.004	1093	1092	9.9	10.1	32.644	D
			2	1, 4, 5	188	1089	0.173	189	194	0.2	0.3	4.556	A
	Exit	1	1	(1, 2, 3, 4, 5)	1491			1282	1287	56.2	106.4	229.631	F
			1		1242			1242	1235	0.0	0.0	0.000	A
2 - Hitchin Hill	Entry	1	1	3	115	537	0.213	114	112	0.3	0.4	9.737	A
			2	1, 2, 4, 5	402	537	0.748	401	399	2.2	2.4	20.760	C
	Exit	1	1	(1, 2, 3, 4, 5)	520			517	511	1.0	1.5	8.036	A
			1		378			378	386	0.0	0.0	0.000	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	866	867	0.999	866	861	10.0	10.0	41.583	E
			2	2, 3	140	867	0.162	141	143	0.2	0.3	5.968	A
	Exit	1	1	(1, 2, 3, 4, 5)	1226			1007	1004	61.3	118.0	324.862	F
			1		1177			1177	1166	0.0	0.0	0.000	A
4 - London Road	Entry	1	1	1, 5	171	697	0.245	171	171	0.3	0.3	7.138	A
			2	2, 3, 4	121	697	0.174	121	122	0.2	0.2	6.275	A
	Exit	1	1	(1, 2, 3, 4, 5)	292			292	293	0.0	0.0	0.003	A
			1		363			363	366	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	29	459	0.063	29	30	0.1	0.0	8.338	A
			2	2, 3, 4, 5	104	459	0.227	105	100	0.3	0.3	9.541	A
	Exit	1	1	(1, 2, 3, 4, 5)	133			133	130	0.0	0.0	0.037	A
			1		70			70	70	0.0	0.0	0.000	A

**09:00 - 09:15**

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	1082	1101	0.983	1084	1098	10.1	9.9	32.494	D
			2	1, 4, 5	188	1101	0.171	187	191	0.3	0.3	4.280	A
	Exit	1	1	(1, 2, 3, 4, 5)	1195			1270	1289	106.4	85.6	270.348	F
			1		1204			1204	1194	0.0	0.0	0.000	A
2 - Hitchin Hill	Entry	1	1	3	94	545	0.173	94	96	0.4	0.3	9.371	A
			2	1, 2, 4, 5	333	545	0.611	329	339	2.4	1.6	16.759	C
	Exit	1	1	(1, 2, 3, 4, 5)	430			427	431	1.5	0.3	2.759	A
			1		362			362	364	0.0	0.0	0.000	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	902	890	1.013	902	887	10.0	10.0	40.320	E
			2	2, 3	149	890	0.167	149	149	0.3	0.2	6.060	A
	Exit	1	1	(1, 2, 3, 4, 5)	1018			1051	1036	118.0	111.6	402.686	F
			1		1134			1134	1146	0.0	0.0	0.000	A
4 - London Road	Entry	1	1	1, 5	139	696	0.200	139	137	0.3	0.3	6.355	A
			2	2, 3, 4	102	696	0.146	102	99	0.2	0.1	6.153	A
	Exit	1	1	(1, 2, 3, 4, 5)	241			241	236	0.0	0.0	0.016	A
			1		325			325	332	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	25	471	0.054	25	25	0.0	0.0	7.862	A
			2	2, 3, 4, 5	81	471	0.173	81	82	0.3	0.2	9.190	A
	Exit	1	1	(1, 2, 3, 4, 5)	107			107	106	0.0	0.0	0.029	A
			1		67			67	66	0.0	0.0	0.000	A

**Lane movements: Main Results for each time segment**

## 08:15 - 08:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalise level of service	
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	87	22	1212	1107	0.079	88	90	0.3	0.6	21.046	C	
				3	914	229	1212	1107	0.826	906	898	3.2	6.1	20.877	C	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.0	0.000	A
				4	165	41	1212	1107	0.149	164	161	0.1	0.2	3.973	A	
				5	16	4	1212	1107	0.015	16	17	0.0	0.0	3.963	A	
		2	1	1	0	0	0	0.000	0	0	0.0	0.0	0.0	0.000	A	
				2	88	22	-	-	-	87	91	0.0	0.5	11.398	B	
				3	934	233	-	-	-	914	910	0.3	5.3	11.441	B	
				4	166	42	-	-	-	165	161	0.0	0.8	11.237	B	
				5	18	4	-	-	-	16	17	0.0	0.1	10.805	B	
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	94	24	863	569	0.166	95	94	0.2	0.2	8.659	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	1	160	40	863	568	0.283	160	161	0.4	0.6	12.966	B	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	145	38	863	570	0.255	145	143	0.3	0.6	13.367	B	
				5	22	6	863	572	0.039	21	22	0.1	0.1	12.393	B	
		2	1	1	161	40	-	-	-	160	162	0.0	0.0	0.690	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	95	24	-	-	-	94	95	0.0	0.0	0.545	A	
				4	145	38	-	-	-	145	144	0.0	0.0	0.717	A	
				5	22	6	-	-	-	22	22	0.0	0.0	0.749	A	
3 - Stevenage Road	Entry	1	1	1	807	202	1045	893	0.903	800	797	3.0	6.9	26.744	D	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	20	5	1017	868	0.023	20	20	0.0	0.2	26.573	D	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.0	0.000	A
				2	135	34	1045	893	0.152	136	140	0.1	0.2	5.451	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
		2	1	1	830	208	-	-	-	807	812	0.1	5.7	13.384	B	
				2	137	34	-	-	-	135	140	0.1	0.8	12.743	B	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	20	5	-	-	-	20	20	0.0	0.1	12.795	B	
4 - London Road	Entry	1	1	1	138	34	1096	728	0.189	137	135	0.2	0.3	6.015	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	6	1	848	565	0.010	6	5	0.0	0.0	6.387	A	
		2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.0	0.000	A	
			2	98	24	1096	729	0.134	98	98	0.1	0.2	5.830	A		
			3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
			4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
			5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		

		2	1	5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
				1	138	34	-	-	-	138	135	0.0	0.0	0.000	A				
				2	98	24	-	-	-	98	99	0.0	0.0	0.000	A				
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				
				5	6	1	-	-	-	6	5	0.0	0.0	0.000	A				
				5 - Gosmore Road	Entry	1	1	1	25	6	837	490	0.052	25	24	0.0	0.1	7.291	A
								2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
								3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
								4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
5	0	0	0					0	0.000	0	0	0.0	0.0	0.000	A				
2	1	0	0				0	0	0.000	0	0	0.0	0.0	0.000	A				
	2	18	4				837	495	0.035	18	18	0.0	0.1	8.495	A				
	3	49	12				843	493	0.100	49	46	0.1	0.1	8.675	A				
	4	13	3				826	486	0.028	13	13	0.0	0.0	8.252	A				
	5	0	0				0	0	0.000	0	0	0.0	0.0	0.000	A				
		2	1	1	25	6	-	-	-	25	24	0.0	0.0	0.000	A				
				2	18	4	-	-	-	18	18	0.0	0.0	0.002	A				
				3	49	12	-	-	-	49	46	0.0	0.0	0.070	A				
				4	13	3	-	-	-	13	13	0.0	0.0	0.001	A				
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A				

## 08:30 - 08:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalis level of service		
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	95	24	1212	1091	0.087	96	95	0.6	0.9	30.744	D		
				3	983	246	1212	1091	0.901	981	976	6.1	9.1	30.934	D		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	177	44	1212	1091	0.163	178	175	0.2	0.2	4.369	A		
				5	20	5	1204	1084	0.019	20	19	0.0	0.0	4.172	A		
		2	1	1	0	0	0	0	0.000	0	0.000	0	0	0.0	0.0	0.000	A
				2	110	27	-	-	-	95	96	0.5	4.4	91.266	F		
				3	1139	285	-	-	-	983	988	5.3	43.5	90.109	F		
				4	201	50	-	-	-	177	175	0.8	7.5	89.786	F		
				5	22	6	-	-	-	20	19	0.1	0.8	90.478	F		
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	119	30	863	543	0.219	119	115	0.2	0.3	9.330	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
			2	1	201	50	863	543	0.370	200	193	0.6	1.1	18.714	C		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	170	43	863	541	0.314	169	170	0.6	1.0	18.174	C		
				5	28	7	863	542	0.051	28	27	0.1	0.2	18.352	C		
		2	1	1	203	51	-	-	-	201	195	0.0	0.3	4.264	A		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	120	30	-	-	-	119	115	0.0	0.2	3.404	A		
				4	173	43	-	-	-	170	171	0.0	0.4	4.115	A		
				5	28	7	-	-	-	28	27	0.0	0.1	4.359	A		
			1	1	856	214	1045	867	0.988	853	845	6.9	9.8	39.059	E		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		

3 - Stevenage Road	Entry	1	4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			5	22	5	1038	864	0.025	22	22	0.2	0.2	38.949	E	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	145	38	1045	867	0.167	145	147	0.2	0.2	5.957	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		4		0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
		5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	1	1	1045	261	-	-	-	856	856	5.7	51.2	122.348	F
				2	181	45	-	-	-	145	147	0.8	8.9	119.073	F
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
4	0			0	0	0	0.000	0	0	0.0	0.0	0.000	A		
5	25			6	-	-	-	22	22	0.1	1.1	117.439	F		
4 - London Road	Entry	1	1	168	42	1096	693	0.242	169	167	0.3	0.3	6.654	A	
			2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			5	5	1	869	553	0.009	5	7	0.0	0.0	6.793	A	
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	120	30	1096	692	0.173	120	120	0.2	0.2	6.171	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
2	1	1	168	42	-	-	-	168	168	0.0	0.0	0.004	A		
		2	120	30	-	-	-	120	121	0.0	0.0	0.003	A		
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		5	5	1	-	-	-	5	7	0.0	0.0	0.000	A		
5 - Gosmore Road	Entry	1	1	28	7	843	459	0.062	29	29	0.1	0.1	8.243	A	
			2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	21	5	832	459	0.046	21	20	0.1	0.1	9.369	A
				3	58	14	843	456	0.126	58	57	0.1	0.2	10.044	B
				4	18	4	832	450	0.039	17	16	0.0	0.1	9.889	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
2	1	1	28	7	-	-	-	28	29	0.0	0.0	0.039	A		
		2	21	5	-	-	-	21	20	0.0	0.0	0.221	A		
		3	58	14	-	-	-	58	57	0.0	0.0	0.129	A		
		4	18	4	-	-	-	18	16	0.0	0.0	0.056	A		
		5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		

## 08:45 - 09:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalis level of service	
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	94	23	1212	1089	0.088	93	99	0.9	0.8	32.425	D	
				3	1000	250	1212	1089	0.918	999	994	9.1	9.2	32.667	D	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
		2	1	1	0	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	171	43	1212	1089	0.157	171	175	0.2	0.2	4.543	A	
				5	17	4	1204	1082	0.016	18	19	0.0	0.0	4.677	A	
2	1	1	0	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	110	28	-	-	-	94	98	4.4	8.1	230.446	F			

		2	1	3	1180	290	-	-	-	1000	994	43.5	82.5	229.837	F
				4	200	50	-	-	-	171	175	7.5	14.3	228.689	F
				5	21	5	-	-	-	17	19	0.8	1.5	224.207	F
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	115	29	883	537	0.214	114	112	0.3	0.4	9.737	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	202	51	883	538	0.378	202	198	1.1	1.3	20.968	C
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	174	44	883	538	0.325	174	174	1.0	0.9	20.587	C
				5	28	8	857	538	0.048	28	28	0.2	0.2	20.353	C
		2	1	1	204	51	-	-	-	202	199	0.3	0.8	8.482	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	115	29	-	-	-	115	112	0.2	0.3	7.332	A
				4	176	44	-	-	-	174	174	0.4	0.8	7.983	A
				5	25	8	-	-	-	28	28	0.1	0.0	7.935	A
3 - Stevenage Road	Entry	1	1	1	848	212	1045	887	0.977	847	842	9.8	9.8	41.588	E
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	19	5	1031	854	0.022	19	19	0.2	0.2	41.443	E
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	140	35	1045	887	0.182	141	143	0.2	0.3	5.988	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	1024	258	-	-	-	848	842	51.2	98.8	325.388	F
				2	177	44	-	-	-	140	143	8.9	16.9	321.825	F
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	25	8	-	-	-	19	19	1.1	2.3	323.282	F
4 - London Road	Entry	1	1	1	164	41	1096	694	0.238	164	165	0.3	0.3	7.163	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	7	2	889	552	0.013	7	7	0.0	0.0	8.511	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	121	30	1096	698	0.173	121	122	0.2	0.2	8.275	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	164	41	-	-	-	164	165	0.0	0.0	0.004	A
				2	121	30	-	-	-	121	122	0.0	0.0	0.002	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	7	2	-	-	-	7	8	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	29	7	843	459	0.083	29	30	0.1	0.0	8.338	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	23	8	837	457	0.050	23	23	0.1	0.1	9.095	A	
			3	63	18	843	480	0.137	64	61	0.2	0.2	9.787	A	
			4	18	5	821	449	0.041	18	17	0.1	0.1	9.252	A	
			5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	

		2	1	1	23	6	-	-	-	23	22	0.0	0.0	0.000	A
				2	23	6	-	-	-	23	22	0.0	0.0	0.024	A
				3	63	16	-	-	-	63	61	0.0	0.0	0.046	A
				4	18	5	-	-	-	18	17	0.0	0.0	0.089	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

09:00 - 09:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalis level of service
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	92	23	1212	1101	0.083	91	97	0.8	0.8	32.594	D
				3	991	248	1212	1101	0.900	993	1001	9.2	9.0	32.484	D
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	169	42	1212	1102	0.154	169	172	0.2	0.3	4.310	A
				5	18	5	1196	1086	0.017	18	19	0.0	0.0	4.004	A
		2	1	1	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	87	22	-	-	-	92	97	8.1	6.3	271.211	F
				3	927	232	-	-	-	991	1000	82.6	66.6	270.881	F
				4	163	41	-	-	-	169	173	14.3	11.4	287.968	F
				5	18	4	-	-	-	18	19	1.5	1.3	281.856	F
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	94	24	863	543	0.173	94	96	0.4	0.3	9.371	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	167	42	863	545	0.307	166	171	1.3	0.8	16.495	C
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	145	38	863	543	0.267	143	146	0.9	0.7	17.112	C
				5	21	5	857	539	0.038	21	21	0.2	0.1	16.418	C
		2	1	1	168	42	-	-	-	167	169	0.6	0.1	2.498	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	95	24	-	-	-	94	95	0.3	0.1	2.464	A
				4	146	37	-	-	-	145	146	0.6	0.1	3.050	A
				5	21	5	-	-	-	21	21	0.0	0.0	4.004	A
3 - Stevenage Road	Entry	1	1	1	880	220	1045	890	0.988	880	867	9.8	9.8	40.327	E
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	22	6	1045	890	0.025	23	20	0.2	0.2	40.006	E
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	149	37	1045	890	0.167	149	149	0.3	0.2	6.060	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	880	215	-	-	-	880	867	98.8	94.6	403.485	F
				2	139	35	-	-	-	149	149	16.9	15.1	398.958	F
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	18	5	-	-	-	22	20	2.3	2.0	408.790	F
		1	1	134	34	1096	696	0.193	134	132	0.3	0.3	6.362	A	
			2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	

4 - London Road	Entry	1	5	0	1	848	537	0.009	0	0	0.0	0.0	6.185	A	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	102	25	1096	696	0.146	102	99	0.2	0.1	6.153	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	1	1	134	34	-	-	-	134	132	0.0	0.0	0.028	A
				2	102	25	-	-	-	102	98	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
5	5			1	-	-	-	5	5	0.0	0.0	0.017	A		
5 - Gosmore Road	Entry	1	1	1	25	6	837	470	0.054	25	25	0.0	0.0	7.862	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	21	5	837	471	0.044	20	19	0.1	0.1	8.837	A
				3	48	12	843	472	0.101	47	50	0.2	0.2	9.179	A
				4	13	3	826	467	0.028	13	13	0.1	0.0	9.757	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	25	6	-	-	-	25	25	0.0	0.0	0.000	A
				2	21	5	-	-	-	21	19	0.0	0.0	0.061	A
				3	48	12	-	-	-	48	49	0.0	0.0	0.031	A
				4	13	3	-	-	-	13	13	0.0	0.0	0.033	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A



# 2039 Base + Dev, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Last Run	Lane Simulation	3 - Stevenage Road - Lane Simulation	Arm 3: Queue at end of modelled period is greater than 10 PCU. Delay is likely to have been underestimated.
Warning	Geometry	1 - Park Way - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	2 - Hitchin Hill - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	3 - Stevenage Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D10 - 2039 Base + Dev, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Info	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. For detailed information on this mode, please see the User Guide.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Hitchin Hill Roundabout	Standard Roundabout		1, 2, 3, 4, 5	346.42	F

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	346.42	F

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D10	2039 Base + Dev	PM	ONE HOUR	17:00	18:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Park Way		ONE HOUR	✓	1281	100.000
2 - Hitchin Hill		ONE HOUR	✓	549	100.000
3 - Stevenage Road		ONE HOUR	✓	1156	100.000
4 - London Road		ONE HOUR	✓	319	100.000
5 - Gosmore Road		ONE HOUR	✓	77	100.000

## Origin-Destination Data

### Demand (PCU/hr)

	To					
	1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road	
From						
1 - Park Way	0	111	1018	130	22	
2 - Hitchin Hill	270	0	154	102	23	
3 - Stevenage Road	1052	82	0	0	42	
4 - London Road	273	34	0	0	12	
5 - Gosmore Road	23	23	25	8	0	

### Proportions

	To					
	1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road	
From						
1 - Park Way	0.00	0.09	0.79	0.10		
2 - Hitchin Hill	0.49	0.00	0.28	0.19		
3 - Stevenage Road	0.91	0.05	0.00	0.00		
4 - London Road	0.88	0.11	0.00	0.00		
5 - Gosmore Road	0.30	0.30	0.32	0.08		

## Vehicle Mix

### Heavy Vehicle Percentages

	To					
	1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road	
From						
1 - Park Way	0	1	2	0	0	
2 - Hitchin Hill	1	0	5	0	0	
3 - Stevenage Road	3	15	0	2	1	
4 - London Road	0	1	1	0	0	
5 - Gosmore Road	0	1	1	0	0	

### Average PCU Per Veh

	To					
	1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road	
From						
1 - Park Way	1.000	1.013	1.019	1.001		
2 - Hitchin Hill	1.008	1.000	1.046	1.003		
3 - Stevenage Road	1.031	1.146	1.000	1.016		
4 - London Road	1.001	1.008	1.009	1.000		
5 - Gosmore Road	1.001	1.007	1.010	1.001		

## Detailed Demand Data

### Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
17:00-17:15	1 - Park Way	964	964
	2 - Hitchin Hill	413	413
	3 - Stevenage Road	870	870
	4 - London Road	240	240
	5 - Gosmore Road	58	58
17:15-17:30	1 - Park Way	1152	1152
	2 - Hitchin Hill	494	494
	3 - Stevenage Road	1039	1039
	4 - London Road	287	287
	5 - Gosmore Road	69	69
17:30-17:45	1 - Park Way	1410	1410
	2 - Hitchin Hill	604	604
	3 - Stevenage Road	1273	1273
	4 - London Road	351	351
	5 - Gosmore Road	85	85
17:45-18:00	1 - Park Way	1410	1410
	2 - Hitchin Hill	604	604
	3 - Stevenage Road	1273	1273
	4 - London Road	351	351
	5 - Gosmore Road	85	85
18:00-18:15	1 - Park Way	1152	1152
	2 - Hitchin Hill	494	494
	3 - Stevenage Road	1039	1039
	4 - London Road	287	287
	5 - Gosmore Road	69	69
18:15-18:30	1 - Park Way	964	964
	2 - Hitchin Hill	413	413
	3 - Stevenage Road	870	870
	4 - London Road	240	240
	5 - Gosmore Road	58	58

## Results

### Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Park Way	138.26	63.1	F	1280	1280
2 - Hitchin Hill	27.64	4.8	D	550	550
3 - Stevenage Road	846.13	236.5	F	1153	1153
4 - London Road	9.34	0.9	A	320	320
5 - Gosmore Road	9.40	0.3	A	79	79

**Main Results for each time segment**

**17:15 - 17:30**

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1136	284	131	1134	1134	1362	2.7	6.9	19.178	C
2 - ...	499	122	1081	491	491	204	1.2	2.0	12.388	B

				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	27	7	-	-	-	20	20	1.5	3.1	411.754	F
4 - London Road	Entry	1	1	1	199	50	1096	698	0.285	200	199	0.4	0.3	7.410	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	7	2	879	562	0.012	7	7	0.0	0.0	7.401	A
			2	1	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	2	133	33	1096	698	0.191	133	130	0.2	0.3	6.446	A
			3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
		2	1	198	50	-	-	-	199	199	0.0	0.0	0.021	A	
		2	2	133	33	-	-	-	133	130	0.0	0.0	0.005	A	
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		5	7	2	-	-	-	7	7	0.0	0.0	0.000	A		
5 - Gosmore Road	Entry	1	1	1	31	8	843	445	0.069	31	31	0.1	0.1	8.801	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	2	21	5	843	447	0.048	21	22	0.1	0.1	11.051	B	
		3	63	16	843	448	0.140	63	62	0.2	0.1	10.384	B		
		4	17	4	834	442	0.037	17	16	0.1	0.0	10.356	B		
		5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	31	8	-	-	-	31	31	0.0	0.0	0.052	A

				1	31	0	-	-	-	31	31	0.0	0.0	0.002	A
				2	21	5	-	-	-	21	22	0.0	0.0	0.048	A
				3	62	18	-	-	-	63	61	0.0	0.0	0.167	A
				4	17	4	-	-	-	17	16	0.0	0.0	0.146	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

09:00 - 09:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalis level of service
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	92	23	1212	1108	0.083	93	92	0.9	0.8	32.234	D
				3	1019	255	1212	1108	0.919	1019	1008	9.1	9.2	32.548	D
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	151	38	1212	1108	0.137	151	149	0.2	0.2	4.092	A
				5	19	5	1205	1104	0.017	18	18	0.0	0.0	4.312	A
		2	1	1	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	88	22	-	-	-	92	92	9.0	8.2	346.780	F
				3	975	244	-	-	-	1019	1008	100.0	91.2	347.949	F
				4	143	38	-	-	-	151	149	14.8	13.2	342.572	F
				5	18	4	-	-	-	19	19	1.9	1.7	347.799	F
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	90	23	863	543	0.166	90	90	0.3	0.3	9.317	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	166	41	863	543	0.305	163	168	1.0	0.9	15.766	C
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	138	34	863	542	0.254	139	140	0.9	0.6	15.895	C
				5	20	5	858	543	0.038	20	21	0.1	0.1	16.497	C
		2	1	1	166	41	-	-	-	166	167	0.3	0.1	2.161	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	90	22	-	-	-	90	90	0.1	0.0	1.795	A
				4	138	35	-	-	-	138	139	0.4	0.1	2.274	A
				5	20	5	-	-	-	20	21	0.1	0.0	2.701	A
3 - Stevenage Road	Entry	1	1	1	875	219	1045	898	0.975	876	869	9.7	9.7	40.238	E
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	22	5	1045	898	0.024	22	21	0.3	0.2	41.238	E
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	122	30	1045	899	0.135	122	124	0.2	0.3	5.805	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	890	223	-	-	-	875	869	124.3	130.0	530.224	F
				2	121	30	-	-	-	122	124	17.9	17.9	529.776	F
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	22	6	-	-	-	22	21	3.1	3.2	526.746	F
		1	1	167	42	1096	709	0.236	168	164	0.3	0.3	6.534	A	
			2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	

4 - London Road	Entry	1	5	0	1	771	497	0.009	0	0	0.0	0.0	0.820	A	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	105	28	1096	707	0.148	104	107	0.3	0.2	5.989	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	1	1	167	42	-	-	-	167	164	0.0	0.0	0.001	A
				2	105	28	-	-	-	105	106	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
5	5			1	-	-	-	5	5	0.0	0.0	0.000	A		
5 - Gosmore Road	Entry	1	1	1	26	7	843	471	0.058	27	25	0.1	0.1	8.446	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	18	5	838	469	0.039	19	19	0.1	0.0	9.891	A
				3	51	13	843	471	0.108	51	51	0.1	0.1	9.204	A
				4	12	3	801	451	0.027	13	12	0.0	0.0	8.828	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	26	7	-	-	-	26	25	0.0	0.0	0.013	A
				2	18	5	-	-	-	18	19	0.0	0.0	0.053	A
				3	51	13	-	-	-	51	51	0.0	0.0	0.015	A
				4	12	3	-	-	-	12	12	0.0	0.0	0.025	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

# 2043 Base + Dev, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Last Run	Lane Simulation	3 - Stevenage Road - Lane Simulation	Arm 3: Queue at end of modelled period is greater than 10 PCU. Delay is likely to have been underestimated.
Warning	Geometry	1 - Park Way - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	2 - Hitchin Hill - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	3 - Stevenage Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D12 - 2043 Base + Dev, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Info	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. For detailed information on this mode, please see the User Guide.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Hitchin Hill Roundabout	Standard Roundabout		1, 2, 3, 4, 5	354.83	F

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	354.83	F

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D12	2043 Base + Dev	PM	ONE HOUR	17:00	18:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Park Way		ONE HOUR	✓	1312	100.000
2 - Hitchin Hill		ONE HOUR	✓	527	100.000
3 - Stevenage Road		ONE HOUR	✓	1160	100.000
4 - London Road		ONE HOUR	✓	334	100.000
5 - Gosmore Road		ONE HOUR	✓	78	100.000

## Origin-Destination Data



### Demand (PCU/hr)

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	0	116	1034	139	23
	2 - Hitchin Hill	246	0	152	106	23
	3 - Stevenage Road	1057	59	0	0	44
	4 - London Road	288	33	0	0	13
	5 - Gosmore Road	24	23	25	6	0

### Proportions

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	0.00	0.09	0.79	0.11	
	2 - Hitchin Hill	0.47	0.00	0.29	0.20	
	3 - Stevenage Road	0.91	0.05	0.00	0.00	
	4 - London Road	0.88	0.10	0.00	0.00	
	5 - Gosmore Road	0.31	0.29	0.32	0.08	

## Vehicle Mix

### Heavy Vehicle Percentages

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	0	1	2	0	0
	2 - Hitchin Hill	1	0	5	0	0
	3 - Stevenage Road	3	15	0	2	1
	4 - London Road	0	1	1	0	0
	5 - Gosmore Road	0	1	1	0	0

### Average PCU Per Veh

		To				
		1 - Park Way	2 - Hitchin Hill	3 - Stevenage Road	4 - London Road	5 - Gosmore Road
From	1 - Park Way	1.000	1.013	1.019	1.001	
	2 - Hitchin Hill	1.006	1.000	1.046	1.003	
	3 - Stevenage Road	1.031	1.146	1.000	1.016	
	4 - London Road	1.001	1.006	1.009	1.000	
	5 - Gosmore Road	1.001	1.007	1.010	1.001	

## Detailed Demand Data

### Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
17:00-17:15	1 - Park Way	988	988
	2 - Hitchin Hill	397	397
	3 - Stevenage Road	873	873
	4 - London Road	251	251
	5 - Gosmore Road	59	59
17:15-17:30	1 - Park Way	1179	1179
	2 - Hitchin Hill	474	474
	3 - Stevenage Road	1043	1043
	4 - London Road	300	300
	5 - Gosmore Road	70	70
17:30-17:45	1 - Park Way	1445	1445
	2 - Hitchin Hill	580	580
	3 - Stevenage Road	1277	1277
	4 - London Road	368	368
	5 - Gosmore Road	86	86
17:45-18:00	1 - Park Way	1445	1445
	2 - Hitchin Hill	580	580
	3 - Stevenage Road	1277	1277
	4 - London Road	368	368
	5 - Gosmore Road	86	86
18:00-18:15	1 - Park Way	1179	1179
	2 - Hitchin Hill	474	474
	3 - Stevenage Road	1043	1043
	4 - London Road	300	300
	5 - Gosmore Road	70	70
18:15-18:30	1 - Park Way	988	988
	2 - Hitchin Hill	397	397
	3 - Stevenage Road	873	873
	4 - London Road	251	251
	5 - Gosmore Road	59	59

## Results

### Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Park Way	160.23	73.1	F	1310	1310
2 - Hitchin Hill	25.25	4.3	D	525	525
3 - Stevenage Road	845.43	237.1	F	1161	1161
4 - London Road	9.81	1.2	A	334	334
5 - Gosmore Road	9.00	0.2	A	76	76

## Main Results for each time segment

### 17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1181	295	127	1172	1156	1365	3.2	8.3	20.674	C
2 - Hitchin Hill	472	118	1093	472	469	207	1.1	1.6	12.793	B
3 - Stevenage Road	1032	258	484	946	935	1080	8.5	34.0	86.526	F
4 - London Road	301	75	1208	303	300	223	0.5	0.6	7.841	A
5 - Gosmore Road	69	17	1422	69	71	89	0.1	0.1	8.200	A

### 17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1426	357	140	1325	1301	1454	8.3	42.9	77.867	F
2 - Hitchin Hill	587	147	1243	574	568	222	1.6	4.3	21.438	C
3 - Stevenage Road	1280	320	577	930	929	1240	34.0	121.0	304.494	F
4 - London Road	366	92	1244	365	363	263	0.6	1.1	9.577	A
5 - Gosmore Road	83	21	1511	84	84	98	0.1	0.2	8.911	A

### 17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1445	361	143	1320	1321	1446	42.9	73.1	160.229	F
2 - Hitchin Hill	570	143	1238	570	576	225	4.3	4.2	25.252	D
3 - Stevenage Road	1271	318	574	926	921	1234	121.0	210.5	647.690	F
4 - London Road	367	92	1234	365	371	266	1.1	1.2	9.813	A
5 - Gosmore Road	85	21	1503	86	84	96	0.2	0.2	8.999	A

### 18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	1189	297	124	1298	1315	1359	73.1	39.9	151.440	F
2 - Hitchin Hill	470	118	1211	468	480	211	4.2	2.3	17.309	C
3 - Stevenage Road	1061	265	497	942	943	1182	210.5	237.1	846.433	F
4 - London Road	303	76	1203	303	304	236	1.2	0.7	8.229	A
5 - Gosmore Road	67	17	1416	67	69	90	0.2	0.2	8.443	A

## Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

### Lanes: Main Results for each time segment

#### 17:15 - 17:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	1030	1169	0.881	1031	1015	2.8	5.5	17.371	C
			2	1, 4, 5	142	1169	0.121	142	142	0.1	0.1	3.498	A
	Exit	1	1	(1, 2, 3, 4, 5)	1181			1172	1167	0.2	2.7	4.925	A
2 - Hitchin Hill	Entry	1	1	3	136	583	0.233	135	137	0.3	0.3	8.477	A
			2	1, 2, 4, 5	336	583	0.576	337	332	0.8	1.2	13.232	B
	Exit	1	1	(1, 2, 3, 4, 5)	472			472	471	0.0	0.1	0.891	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	901	903	0.997	896	887	6.1	9.4	34.272	D
			2	2, 3	49	903	0.055	50	48	0.1	0.1	4.988	A
	Exit	1	1	(1, 2, 3, 4, 5)	1032			950	948	2.3	24.5	53.090	F
4 - London Road	Entry	1	1	1, 5	272	711	0.382	274	271	0.5	0.6	8.027	A
			2	2, 3, 4	29	711	0.040	29	29	0.0	0.0	5.182	A
	Exit	1	1	(1, 2, 3, 4, 5)	301			301	300	0.0	0.0	0.082	A
5 - Gosmore Road	Entry	1	1	1	21	473	0.045	21	22	0.0	0.0	7.398	A
			2	2, 3, 4, 5	48	473	0.102	48	50	0.1	0.1	8.546	A
	Exit	1	1	(1, 2, 3, 4, 5)	69			69	71	0.0	0.0	0.004	A

#### 17:30 - 17:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	1165	1165	1.000	1160	1138	5.5	9.6	27.528	D
			2	1, 4, 5	165	1165	0.142	165	163	0.1	0.2	3.671	A
	Exit	1	1	(1, 2, 3, 4, 5)	1426			1330	1318	2.7	33.2	53.035	F
2 - Hitchin Hill	Entry	1	1	3	169	544	0.311	167	166	0.3	0.6	10.167	B
			2	1, 2, 4, 5	410	544	0.752	407	402	1.2	2.4	19.008	C
	Exit	1	1	(1, 2, 3, 4, 5)	587			579	574	0.1	1.3	4.808	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	883	876	1.007	883	883	9.4	10.0	40.465	E
			2	2, 3	47	876	0.054	47	46	0.1	0.0	5.151	A
	Exit	1	1	(1, 2, 3, 4, 5)	1280			930	931	24.5	110.9	265.363	F
4 - London Road	Entry	1	1	1, 5	331	700	0.473	331	329	0.6	1.0	9.763	A
			2	2, 3, 4	35	700	0.050	35	34	0.0	0.0	5.193	A
	Exit	1	1	(1, 2, 3, 4, 5)	366			366	365	0.0	0.1	0.235	A
5 - Gosmore Road	Entry	1	1	1	25	450	0.055	25	26	0.0	0.0	8.220	A
			2	2, 3, 4, 5	59	450	0.130	59	59	0.1	0.1	9.203	A
	Exit	1	1	(1, 2, 3, 4, 5)	83			83	84	0.0	0.0	0.009	A

**17:45 - 18:00**

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	1155	1164	0.992	1153	1155	9.6	9.9	30.288	D
			2	1, 4, 5	167	1164	0.144	167	166	0.2	0.2	3.814	A
		2	1	(1, 2, 3, 4, 5)	1445			1322	1322	33.2	63.1	133.309	F
	Exit	1	1		1446			1446	1455	0.0	0.0	0.000	A
2 - Hitchin Hill	Entry	1	1	3	170	546	0.312	171	167	0.6	0.5	10.758	B
			2	1, 2, 4, 5	399	546	0.731	399	409	2.4	2.3	20.331	C
		2	1	(1, 2, 3, 4, 5)	570			569	575	1.3	1.4	7.629	A
	Exit	1	1		225			225	223	0.0	0.0	0.000	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	878	877	1.001	878	874	10.0	10.0	41.168	E
			2	2, 3	48	877	0.055	48	47	0.0	0.1	5.221	A
		2	1	(1, 2, 3, 4, 5)	1271			927	921	110.9	200.3	608.746	F
	Exit	1	1		1234			1234	1234	0.0	0.0	0.000	A
4 - London Road	Entry	1	1	1, 5	332	703	0.472	330	335	1.0	1.1	9.921	A
			2	2, 3, 4	35	703	0.050	35	36	0.0	0.1	5.263	A
		2	1	(1, 2, 3, 4, 5)	367			367	372	0.1	0.0	0.351	A
	Exit	1	1		266			266	265	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	26	452	0.058	26	26	0.0	0.1	8.667	A
			2	2, 3, 4, 5	59	452	0.130	60	58	0.1	0.1	9.143	A
		2	1	(1, 2, 3, 4, 5)	85			85	85	0.0	0.0	0.004	A
	Exit	1	1		96			96	97	0.0	0.0	0.000	A

**18:00 - 18:15**

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Park Way	Entry	1	1	2, 3	1130	1170	0.966	1140	1153	9.9	8.2	28.731	D
			2	1, 4, 5	158	1170	0.135	158	162	0.2	0.2	3.729	A
		2	1	(1, 2, 3, 4, 5)	1189			1289	1309	63.1	31.5	126.109	F
	Exit	1	1		1359			1359	1367	0.0	0.0	0.000	A
2 - Hitchin Hill	Entry	1	1	3	134	552	0.243	134	137	0.5	0.4	9.616	A
			2	1, 2, 4, 5	335	552	0.607	334	343	2.3	1.7	16.797	C
		2	1	(1, 2, 3, 4, 5)	470			469	477	1.4	0.3	2.658	A
	Exit	1	1		211			211	213	0.0	0.0	0.000	A
3 - Stevenage Road	Entry	1	1	1, 4, 5	894	900	0.994	894	895	10.0	10.0	40.189	E
			2	2, 3	48	900	0.054	48	48	0.1	0.1	4.999	A
		2	1	(1, 2, 3, 4, 5)	1061			943	943	200.3	227.0	809.832	F
	Exit	1	1		1182			1182	1198	0.0	0.0	0.000	A
4 - London Road	Entry	1	1	1, 5	273	713	0.384	274	274	1.1	0.7	8.472	A
			2	2, 3, 4	29	713	0.041	29	30	0.1	0.0	5.429	A
		2	1	(1, 2, 3, 4, 5)	303			303	302	0.0	0.0	0.066	A
	Exit	1	1		236			236	240	0.0	0.0	0.000	A
5 - Gosmore Road	Entry	1	1	1	20	475	0.042	20	21	0.1	0.0	8.108	A
			2	2, 3, 4, 5	48	475	0.100	47	48	0.1	0.1	8.581	A
		2	1	(1, 2, 3, 4, 5)	67			67	69	0.0	0.0	0.007	A
	Exit	1	1		90			90	93	0.0	0.0	0.000	A

**Lane movements: Main Results for each time segment**

## 17:15 - 17:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalise level of service	
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	106	27	1212	1169	0.091	107	102	0.2	0.5	17.391	C	
				3	924	231	1212	1169	0.790	924	913	2.6	5.0	17.369	C	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
		2	2	1	0	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	123	31	1212	1169	0.105	122	122	0.1	0.1	3.514	A	
				5	20	5	1200	1157	0.017	20	20	0.0	0.0	3.395	A	
		2	1	1	0	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	107	27	-	-	-	106	103	0.0	0.2	4.875	A	
				3	930	232	-	-	-	924	922	0.2	2.1	4.968	A	
				4	124	31	-	-	-	123	122	0.0	0.3	4.587	A	
				5	19	5	-	-	-	20	20	0.0	0.0	5.283	A	
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	136	34	863	583	0.233	135	137	0.3	0.3	8.477	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
		2	2	1	221	55	863	583	0.380	221	218	0.5	0.8	13.341	B	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	94	24	863	584	0.162	95	94	0.2	0.3	13.098	B	
				5	20	5	855	578	0.035	21	21	0.0	0.0	12.885	B	
		2	1	1	221	55	-	-	-	221	219	0.0	0.1	0.977	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	136	34	-	-	-	136	137	0.0	0.0	0.784	A	
				4	94	24	-	-	-	94	94	0.0	0.0	0.903	A	
				5	20	5	-	-	-	20	21	0.0	0.0	0.723	A	
3 - Stevenage Road	Entry	1	1	1	864	216	1045	904	0.966	859	852	5.8	9.0	34.279	D	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	37	9	1045	905	0.041	37	36	0.3	0.4	34.114	D	
		2	2	1	0	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	49	12	1045	902	0.055	50	48	0.1	0.1	4.988	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
		2	1	1	939	235	-	-	-	864	864	2.1	22.4	53.057	F	
				2	53	13	-	-	-	49	48	0.1	1.3	53.782	F	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	39	10	-	-	-	37	36	0.1	0.9	53.047	F	
4 - London Road	Entry	1	1	1	261	65	1096	712	0.366	263	259	0.4	0.5	8.047	A	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				5	11	3	1058	692	0.016	12	12	0.0	0.0	7.581	A	
		2	2	1	0	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	29	7	1096	713	0.040	29	29	0.0	0.0	5.182	A	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	

5 - Gosmore Road	Entry	2	1	5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				1	281	85	-	-	-	281	259	0.0	0.0	0.088	A
				2	29	7	-	-	-	29	29	0.0	0.0	0.038	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		5	11	3	-	-	-	11	12	0.0	0.0	0.094	A		
		1	1	1	21	5	835	471	0.045	21	22	0.0	0.0	7.398	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	21	5	835	469	0.045	21	21	0.0	0.0	8.729	A
				3	21	5	839	471	0.045	21	23	0.0	0.1	8.415	A
				4	6	1	863	378	0.015	6	6	0.0	0.0	8.403	A
5	0			0	0	0	0.000	0	0	0.0	0.0	0.000	A		
2	1	1	21	5	-	-	-	21	22	0.0	0.0	0.000	A		
		2	21	5	-	-	-	21	21	0.0	0.0	0.014	A		
		3	21	5	-	-	-	21	23	0.0	0.0	0.000	A		
		4	6	1	-	-	-	6	6	0.0	0.0	0.000	A		
		5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		

17:30 - 17:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalis level of service
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	114	29	1212	1165	0.098	115	114	0.5	0.9	27.553	D
				3	1051	283	1212	1165	0.902	1046	1024	5.0	8.6	27.525	D
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	143	38	1212	1165	0.122	143	139	0.1	0.2	3.701	A
				5	22	6	1212	1165	0.019	22	23	0.0	0.0	3.496	A
		2	1	1	0	0	0	0	0.000	0	0.0	0.0	0.000	A	
				2	122	30	-	-	-	114	116	0.2	2.8	53.054	F
				3	1126	281	-	-	-	1051	1039	2.1	26.4	53.105	F
				4	154	39	-	-	-	143	139	0.3	3.5	52.850	F
				5	24	6	-	-	-	22	23	0.0	0.6	50.998	F
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	169	42	863	545	0.310	167	166	0.3	0.6	10.167	B
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	270	67	863	544	0.495	268	265	0.8	1.5	18.926	C
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	115	29	863	544	0.212	115	113	0.3	0.7	19.023	C
				5	25	6	863	547	0.045	24	24	0.0	0.2	19.843	C
		2	1	1	274	68	-	-	-	270	268	0.1	0.7	5.042	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	171	43	-	-	-	169	167	0.0	0.3	3.933	A
				4	117	29	-	-	-	115	115	0.0	0.3	5.349	A
				5	25	6	-	-	-	25	24	0.0	0.1	5.443	A
1	1	1	846	212	1045	876	0.968	846	845	9.0	9.6	40.474	E		
		2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		

3 - Stevenage Road	Entry	1	4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			5	36	9	1045	877	0.041	37	37	0.4	0.4	40.252	E	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	47	12	1045	877	0.054	47	46	0.1	0.0	5.151	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				1	1170	293	-	-	-	846	848	22.4	101.4	265.693	F
				2	64	16	-	-	-	47	46	1.3	5.5	266.805	F
				5	47	12	-	-	-	36	37	0.9	4.0	256.229	F
4 - London Road	Entry	1	1	316	79	1096	700	0.452	315	315	0.5	0.9	9.791	A	
			2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			5	15	4	1069	683	0.021	15	14	0.0	0.0	9.153	A	
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	35	9	1096	699	0.050	35	34	0.0	0.0	5.193	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	317	79	-	-	-	316	316	0.0	0.1	0.249	A
				2	35	9	-	-	-	35	34	0.0	0.0	0.118	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	15	4	-	-	-	15	14	0.0	0.0	0.197	A
5 - Gosmore Road	Entry	1	1	25	6	843	449	0.055	25	26	0.0	0.0	8.220	A	
			2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	26	7	843	452	0.058	26	25	0.0	0.1	9.268	A
				3	26	7	843	450	0.058	27	27	0.1	0.0	9.072	A
				4	6	1	683	355	0.016	6	6	0.0	0.0	9.496	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	25	6	-	-	-	25	26	0.0	0.0	0.000	A
				2	26	7	-	-	-	26	26	0.0	0.0	0.018	A
				3	26	7	-	-	-	26	27	0.0	0.0	0.006	A
				4	6	1	-	-	-	6	6	0.0	0.0	0.026	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

## 17:45 - 18:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalis level of service
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	118	30	1212	1165	0.102	118	116	0.9	1.1	30.274	D
				3	1037	259	1212	1164	0.891	1036	1039	8.8	8.8	30.290	D
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	144	36	1212	1164	0.124	144	142	0.2	0.2	3.819	A
				5	23	6	1212	1163	0.020	23	23	0.0	0.0	3.784	A
		2	1	1	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	128	32	-	-	-	118	116	2.8	5.4	132.694	F



		2	1	3	1136	284	-	-	-	1037	1040	26.4	49.9	133.762	F
				4	156	39	-	-	-	144	142	3.5	6.7	130.782	F
				5	25	6	-	-	-	23	23	0.6	1.1	131.914	F
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	170	43	883	546	0.312	171	167	0.6	0.5	10.758	B
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	260	65	883	546	0.476	261	268	1.5	1.5	20.159	C
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	115	29	883	547	0.211	115	116	0.7	0.7	20.765	C
				5	24	6	883	547	0.044	24	25	0.2	0.2	20.167	C
		2	1	1	260	65	-	-	-	260	268	0.7	0.7	8.035	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	170	43	-	-	-	170	167	0.3	0.3	6.502	A
				4	115	29	-	-	-	115	116	0.3	0.3	8.164	A
				5	24	6	-	-	-	24	25	0.1	0.1	8.015	A
3 - Stevenage Road	Entry	1	1	1	842	210	1045	877	0.960	843	841	9.8	9.5	41.148	E
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	37	9	1045	875	0.042	35	34	0.4	0.5	41.637	E
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	48	12	1045	877	0.055	48	47	0.0	0.1	5.221	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	1157	289	-	-	-	842	840	101.4	182.5	608.876	F
				2	66	17	-	-	-	48	47	5.5	10.2	605.153	F
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	48	12	-	-	-	37	34	4.0	7.7	609.920	F
4 - London Road	Entry	1	1	1	318	80	1096	703	0.452	316	320	0.9	1.1	9.933	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	13	3	1058	680	0.020	13	14	0.0	0.0	9.675	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	35	9	1096	703	0.050	35	36	0.0	0.1	5.263	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	318	80	-	-	-	318	321	0.1	0.0	0.361	A
				2	35	9	-	-	-	35	36	0.0	0.0	0.175	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	13	3	-	-	-	13	15	0.0	0.0	0.581	A
5 - Gosmore Road	Entry	1	1	1	26	7	843	450	0.058	26	28	0.0	0.1	8.667	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
			2	23	6	843	446	0.053	24	24	0.1	0.0	8.976	A	
			3	27	7	843	448	0.061	28	28	0.0	0.1	9.802	A	
			4	8	2	671	359	0.022	8	7	0.0	0.0	7.828	A	
			5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	

		2	1	1	20	7	-	-	-	20	20	0.0	0.0	0.000	A
				2	23	6	-	-	-	23	24	0.0	0.0	0.000	A
				3	27	7	-	-	-	27	28	0.0	0.0	0.013	A
				4	8	2	-	-	-	8	7	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

**18:00 - 18:15**

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalis level of service		
1 - Park Way	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	113	28	1212	1170	0.098	113	115	1.1	0.8	28.754	D		
				3	1018	254	1212	1170	0.870	1026	1039	8.8	7.4	28.729	D		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
			2	1	1	0	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
					4	137	34	1212	1170	0.117	137	139	0.2	0.2	3.740	A	
					5	22	5	1212	1171	0.018	22	23	0.0	0.0	3.685	A	
		2	1	1	0	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
				2	107	27	-	-	-	113	113	5.4	2.9	124.736	F		
				3	935	234	-	-	-	1018	1033	49.9	24.6	125.974	F		
				4	127	32	-	-	-	137	139	6.7	3.4	127.033	F		
				5	20	5	-	-	-	22	23	1.1	0.6	133.022	F		
2 - Hitchin Hill	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	134	34	863	553	0.243	134	137	0.5	0.4	9.616	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
			2	1	1	220	55	863	552	0.399	218	228	1.5	1.0	16.646	C	
					2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
					4	95	24	863	553	0.171	94	98	0.7	0.5	17.222	C	
					5	21	5	859	551	0.038	21	21	0.2	0.1	16.494	C	
		2	1	1	220	55	-	-	-	220	224	0.7	0.1	2.837	A		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	134	34	-	-	-	134	136	0.3	0.1	2.198	A		
				4	95	24	-	-	-	95	95	0.3	0.1	2.881	A		
				5	21	5	-	-	-	21	21	0.1	0.0	2.636	A		
3 - Stevenage Road	Entry	1	1	1	860	215	1045	900	0.955	858	858	9.5	9.6	40.210	E		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	35	9	1045	899	0.039	36	37	0.5	0.4	39.688	E		
			2	1	1	0	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					2	48	12	1039	895	0.054	48	48	0.1	0.1	4.999	A	
					3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
					4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
					5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A	
		2	1	1	968	242	-	-	-	860	858	182.5	207.0	810.281	F		
				2	51	13	-	-	-	48	48	10.2	11.5	803.867	F		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	41	10	-	-	-	35	36	7.7	8.6	806.388	F		
			1	1	261	65	1096	713	0.367	262	262	1.1	0.7	8.473	A		
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		

4 - London Road	Entry	1	5	12	3	1031	609	0.018	12	12	0.0	0.0	8.406	A	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	29	7	1096	707	0.041	29	30	0.1	0.0	5.429	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A		
		2	1	1	262	65	-	-	-	261	260	0.0	0.0	0.072	A
				2	29	7	-	-	-	29	30	0.0	0.0	0.018	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
5	12			3	-	-	-	12	12	0.0	0.0	0.072	A		
5 - Gosmore Road	Entry	1	1	1	20	5	826	463	0.043	20	21	0.1	0.0	8.108	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	20	5	843	471	0.044	20	21	0.0	0.0	8.567	A
				3	22	6	843	475	0.047	22	22	0.1	0.1	8.684	A
				4	5	1	633	353	0.013	5	5	0.0	0.0	8.189	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	20	5	-	-	-	20	21	0.0	0.0	0.000	A
				2	20	5	-	-	-	20	21	0.0	0.0	0.018	A
				3	22	6	-	-	-	22	22	0.0	0.0	0.004	A
				4	5	1	-	-	-	5	5	0.0	0.0	0.000	A
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A



<h1>Junctions 9</h1>
<h2>ARCADY 9 - Roundabout Module</h2>
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Filename: A505 - Parkway v2.j9  
 Path: \\global.arup.com\europa\Midlands\jobs\259000\259393-10\4 Internal Project Data\4-04 Calculations\Junction Modelling\A505 - Upper Tilehouse St - Park Way\For Appendices  
 Report generation date: 14/02/2023 21:02:29

- »2027 Base, AM
- »2027 Base, PM
- »2039 Base, AM
- »2039 Base, PM
- »2043 Base, AM
- »2043 Base, PM
- »2027 Base + Dev, AM
- »2027 Base + Dev, PM

**Summary of junction performance**

	AM						PM					
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
<b>2027 Base</b>												
1 - Upper Tilehouse Street	D1	3.7	11.17	0.78	B	6.62	D2	2.9	10.09	0.74	B	6.15
3 - A505 Payne's Park		0.8	2.80	0.43	A			0.8	2.49	0.43	A	
4 - A602 Park Way		0.9	4.37	0.46	A			1.5	6.03	0.59	A	
<b>2039 Base</b>												
1 - Upper Tilehouse Street	D3	15.2	39.22	0.95	E	20.15	D4	5.6	16.52	0.85	C	8.87
3 - A505 Payne's Park		0.8	3.08	0.44	A			0.8	2.47	0.43	A	
4 - A602 Park Way		1.0	4.68	0.48	A			1.3	5.66	0.56	A	
<b>2043 Base</b>												
1 - Upper Tilehouse Street	D5	18.2	45.97	0.97	E	23.38	D6	6.3	17.97	0.87	C	9.60
3 - A505 Payne's Park		0.9	3.11	0.44	A			0.8	2.49	0.43	A	
4 - A602 Park Way		1.0	4.84	0.49	A			1.3	5.65	0.56	A	
<b>2027 Base + Dev</b>												
1 - Upper Tilehouse Street	D7	4.1	11.97	0.80	B	6.99	D8	3.1	10.45	0.75	B	6.28
3 - A505 Payne's Park		0.8	2.82	0.43	A			0.8	2.50	0.43	A	
4 - A602 Park Way		0.9	4.35	0.46	A			1.4	6.00	0.59	A	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.

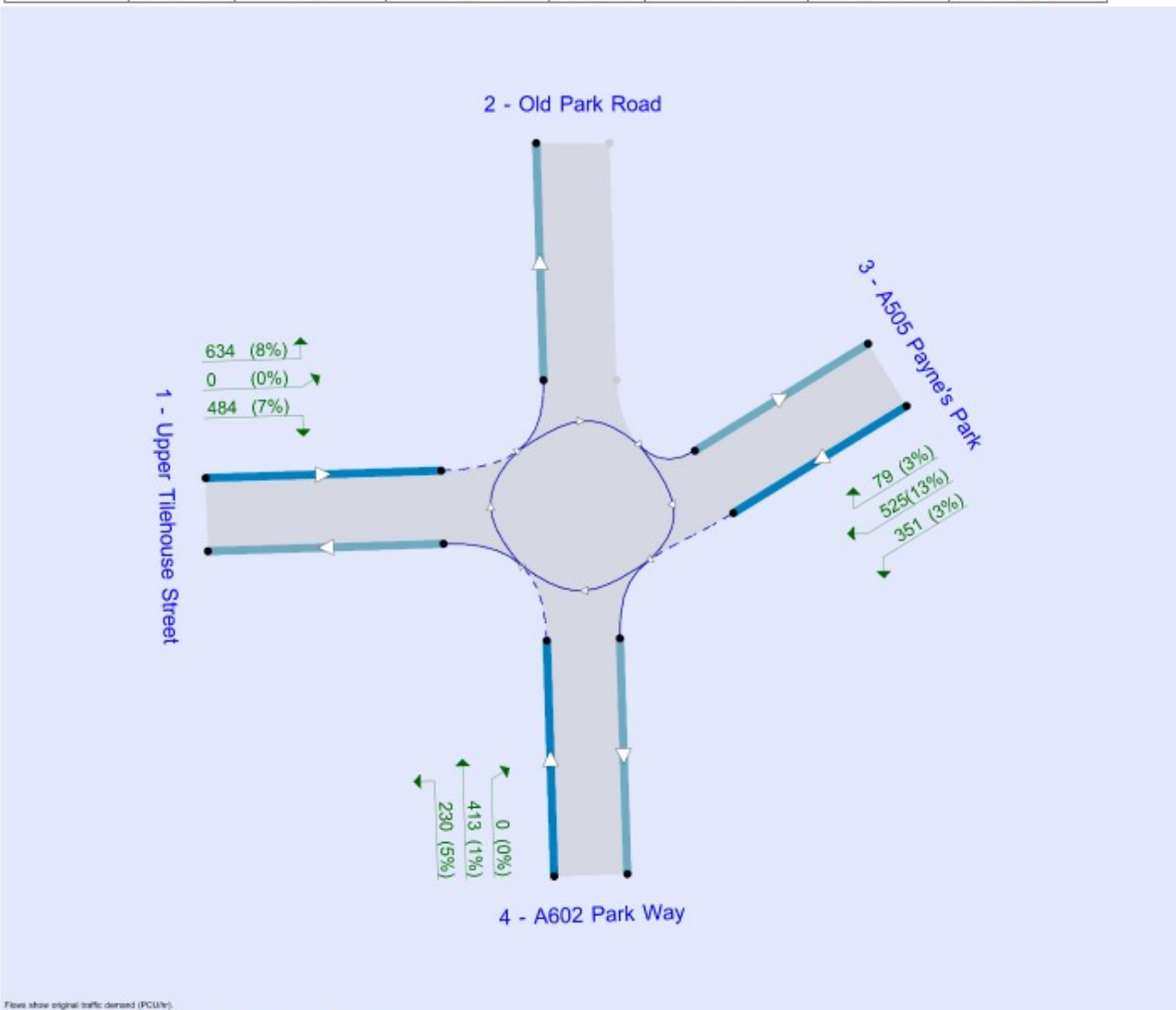
**File summary**

**File Description**

Title	
Location	
Site number	
Date	17/01/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\Paul.Dickens
Description	

**Units**

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin



Flows show original traffic demand (PCU/hr).

The junction diagram reflects the last run of Junctions.

### Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

### Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2027 Base	AM	ONE HOUR	07:45	09:15	15	✓
D2	2027 Base	PM	ONE HOUR	16:45	18:15	15	✓
D3	2039 Base	AM	ONE HOUR	07:45	09:15	15	✓
D4	2039 Base	PM	ONE HOUR	16:45	18:15	15	✓
D5	2043 Base	AM	ONE HOUR	07:45	09:15	15	✓
D6	2043 Base	PM	ONE HOUR	16:45	18:15	15	✓
D7	2027 Base + Dev	AM	ONE HOUR	07:45	09:15	15	✓
D8	2027 Base + Dev	PM	ONE HOUR	16:45	18:15	15	✓

### Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

# 2027 Base, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Upper Tilehouse Street - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A505 Upper Tilehouse Street / A602 Park Way (Existing)	Standard Roundabout		1, 2, 3, 4	6.62	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Name	Description
1	Upper Tilehouse Street	
2	Old Park Road	
3	A505 Payne's Park	
4	A602 Park Way	

### Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1 - Upper Tilehouse Street	3.35	8.26	49.0	11.2	35.3	46.0	
2 - Old Park Road							✓
3 - A505 Payne's Park	8.21	10.90	12.1	52.0	35.0	43.3	
4 - A602 Park Way	3.56	9.79	22.5	16.5	35.2	35.2	

### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Upper Tilehouse Street	0.671	1940
2 - Old Park Road		
3 - A505 Payne's Park	0.893	2917
4 - A602 Park Way	0.708	2021

The slope and intercept shown above include any corrections and adjustments.

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2027 Base	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Upper Tilehouse Street		ONE HOUR	✓	1118	100.000
2 - Old Park Road					
3 - A505 Payne's Park		ONE HOUR	✓	955	100.000
4 - A602 Park Way		ONE HOUR	✓	643	100.000

## Origin-Destination Data

### Demand (PCU/hr)

From		To			
		1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
From	1 - Upper Tilehouse Street	0	634	0	484
	2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only
	3 - A505 Payne's Park	525	79	0	351
	4 - A602 Park Way	230	413	0	0

### Proportions

From		To			
		1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
From	1 - Upper Tilehouse Street	0.00	0.57	0.00	0.43
	2 - Old Park Road	0.25	0.25	0.25	0.25
	3 - A505 Payne's Park	0.55	0.08	0.00	0.37
	4 - A602 Park Way	0.36	0.64	0.00	0.00

## Vehicle Mix

### Heavy Vehicle Percentages

From		To			
		1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
From	1 - Upper Tilehouse Street	0	8	0	7
	2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only
	3 - A505 Payne's Park	13	3	0	3
	4 - A602 Park Way	5	1	0	0

### Average PCU Per Veh

From		To			
		1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
From	1 - Upper Tilehouse Street	1.000	1.079	1.000	1.074
	2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only
	3 - A505 Payne's Park	1.128	1.032	1.000	1.030
	4 - A602 Park Way	1.046	1.011	1.000	1.000



## Detailed Demand Data

### Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:45-08:00	1 - Upper Tilehouse Street	842	842
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	719	719
	4 - A602 Park Way	484	484
08:00-08:15	1 - Upper Tilehouse Street	1005	1005
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	859	859
	4 - A602 Park Way	578	578
08:15-08:30	1 - Upper Tilehouse Street	1231	1231
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1051	1051
	4 - A602 Park Way	708	708
08:30-08:45	1 - Upper Tilehouse Street	1231	1231
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1051	1051
	4 - A602 Park Way	708	708
08:45-09:00	1 - Upper Tilehouse Street	1005	1005
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	859	859
	4 - A602 Park Way	578	578
09:00-09:15	1 - Upper Tilehouse Street	842	842
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	719	719
	4 - A602 Park Way	484	484

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Upper Tilehouse Street	0.78	11.17	3.7	B	1026	1539
2 - Old Park Road						
3 - A505 Payne's Park	0.43	2.80	0.8	A	876	1314
4 - A602 Park Way	0.46	4.37	0.9	A	590	885

### Main Results for each time segment

#### 07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	842	210	389	1692	0.497	837	567	0.0	1.1	4.513	A
2 - Old Park Road			363				844				
3 - A505 Payne's Park	719	180	363	2593	0.277	717	0	0.0	0.4	2.074	A
4 - A602 Park Way	484	121	454	1700	0.285	482	626	0.0	0.4	3.022	A

**08:00 - 08:15**

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1005	251	442	1644	0.612	1003	678	1.1	1.7	6.024	A
2 - Old Park Road			434				1010				
3 - A505 Payne's Park	859	215	434	2529	0.339	858	0	0.4	0.6	2.330	A
4 - A602 Park Way	578	145	543	1637	0.353	577	749	0.4	0.6	3.475	A

**08:15 - 08:30**

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1231	308	541	1577	0.781	1223	830	1.7	3.6	10.714	B
2 - Old Park Road			529				1234				
3 - A505 Payne's Park	1051	283	529	2444	0.430	1050	0	0.6	0.8	2.794	A
4 - A602 Park Way	708	177	664	1551	0.456	707	916	0.6	0.9	4.358	A

**08:30 - 08:45**

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1231	308	542	1577	0.781	1231	831	3.6	3.7	11.168	B
2 - Old Park Road			533				1240				
3 - A505 Payne's Park	1051	283	533	2441	0.431	1051	0	0.8	0.8	2.802	A
4 - A602 Park Way	708	177	665	1551	0.457	708	919	0.9	0.9	4.372	A

**08:45 - 09:00**

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1005	251	443	1643	0.612	1013	680	3.7	1.7	6.234	A
2 - Old Park Road			439				1018				
3 - A505 Payne's Park	859	215	439	2525	0.340	860	0	0.8	0.6	2.341	A
4 - A602 Park Way	578	145	544	1637	0.353	579	754	0.9	0.6	3.488	A

**09:00 - 09:15**

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	842	210	371	1691	0.498	844	569	1.7	1.1	4.590	A
2 - Old Park Road			366				850				
3 - A505 Payne's Park	719	180	366	2590	0.278	720	0	0.6	0.4	2.083	A
4 - A602 Park Way	484	121	455	1699	0.285	485	630	0.6	0.4	3.035	A

# 2027 Base, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Upper Tilehouse Street - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A505 Upper Tilehouse Street / A602 Park Way (Existing)	Standard Roundabout		1, 2, 3, 4	6.15	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2027 Base	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Upper Tilehouse Street		ONE HOUR	✓	972	100.000
2 - Old Park Road					
3 - A505 Payne's Park		ONE HOUR	✓	1021	100.000
4 - A602 Park Way		ONE HOUR	✓	795	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To			
		1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
From	1 - Upper Tilehouse Street	0	680	0	292
	2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only
	3 - A505 Payne's Park	620	71	0	330
	4 - A602 Park Way	188	607	0	0

### Proportions

		To			
		1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
From	1 - Upper Tilehouse Street	0.00	0.70	0.00	0.30
	2 - Old Park Road	0.25	0.25	0.25	0.25
	3 - A505 Payne's Park	0.61	0.07	0.00	0.32
	4 - A602 Park Way	0.24	0.76	0.00	0.00

## Vehicle Mix

### Heavy Vehicle Percentages

From	To			
	1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
1 - Upper Tilehouse Street	0	5	0	2
2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only
3 - A505 Payne's Park	6	3	0	1
4 - A602 Park Way	3	1	0	0

### Average PCU Per Veh

From	To			
	1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
1 - Upper Tilehouse Street	1.000	1.046	1.000	1.016
2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only
3 - A505 Payne's Park	1.059	1.033	1.000	1.011
4 - A602 Park Way	1.027	1.015	1.000	1.000

## Detailed Demand Data

### Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:45-17:00	1 - Upper Tilehouse Street	732	732
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	769	769
	4 - A602 Park Way	599	599
17:00-17:15	1 - Upper Tilehouse Street	874	874
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	918	918
	4 - A602 Park Way	715	715
17:15-17:30	1 - Upper Tilehouse Street	1070	1070
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1124	1124
	4 - A602 Park Way	875	875
17:30-17:45	1 - Upper Tilehouse Street	1070	1070
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1124	1124
	4 - A602 Park Way	875	875
17:45-18:00	1 - Upper Tilehouse Street	874	874
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	918	918
	4 - A602 Park Way	715	715
18:00-18:15	1 - Upper Tilehouse Street	732	732
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	769	769
	4 - A602 Park Way	599	599

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Upper Tilehouse Street	0.74	10.09	2.9	B	892	1338
2 - Old Park Road						
3 - A505 Payne's Park	0.43	2.49	0.8	A	937	1405
4 - A602 Park Way	0.59	6.03	1.5	A	730	1094

## Main Results for each time segment

### 16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	732	183	509	1599	0.458	728	607	0.0	0.9	4.272	A
2 - Old Park Road			219				1018				
3 - A505 Payne's Park	769	192	219	2721	0.282	767	0	0.0	0.4	1.915	A
4 - A602 Park Way	599	150	519	1654	0.362	596	467	0.0	0.6	3.457	A

### 17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	874	218	609	1532	0.571	872	726	0.9	1.4	5.642	A
2 - Old Park Road			282				1219				
3 - A505 Payne's Park	918	229	282	2683	0.342	917	0	0.4	0.5	2.123	A
4 - A602 Park Way	715	179	621	1582	0.452	714	558	0.6	0.8	4.214	A

### 17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1070	268	745	1440	0.743	1064	888	1.4	2.9	9.766	A
2 - Old Park Road			320				1489				
3 - A505 Payne's Park	1124	281	320	2631	0.427	1123	0	0.5	0.8	2.484	A
4 - A602 Park Way	875	219	760	1483	0.590	873	683	0.8	1.4	5.978	A

### 17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1070	268	746	1439	0.744	1070	890	2.9	2.9	10.092	B
2 - Old Park Road			321				1495				
3 - A505 Payne's Park	1124	281	321	2630	0.427	1124	0	0.8	0.8	2.489	A
4 - A602 Park Way	875	219	761	1483	0.590	875	685	1.4	1.5	6.030	A

### 17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	874	218	611	1530	0.571	880	728	2.9	1.4	5.798	A
2 - Old Park Road			284				1227				
3 - A505 Payne's Park	918	229	284	2681	0.342	919	0	0.8	0.5	2.130	A
4 - A602 Park Way	715	179	622	1581	0.452	717	561	1.5	0.8	4.251	A

### 18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	732	183	511	1597	0.458	734	609	1.4	0.9	4.335	A
2 - Old Park Road			220				1025				
3 - A505 Payne's Park	769	192	220	2720	0.283	769	0	0.5	0.4	1.922	A
4 - A602 Park Way	599	150	521	1653	0.362	600	469	0.8	0.6	3.481	A

# 2039 Base, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Upper Tilehouse Street - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A505 Upper Tilehouse Street / A602 Park Way (Existing)	Standard Roundabout		1, 2, 3, 4	20.15	C

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2039 Base	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Upper Tilehouse Street		ONE HOUR	✓	1345	100.000
2 - Old Park Road					
3 - A505 Payne's Park		ONE HOUR	✓	895	100.000
4 - A602 Park Way		ONE HOUR	✓	670	100.000

## Origin-Destination Data

### Demand (PCU/hr)

From		To			
		1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
From	1 - Upper Tilehouse Street	0	667	0	678
	2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only
	3 - A505 Payne's Park	553	84	0	258
	4 - A602 Park Way	231	439	0	0

### Proportions

From		To			
		1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
From	1 - Upper Tilehouse Street	0.00	0.50	0.00	0.50
	2 - Old Park Road	0.25	0.25	0.25	0.25
	3 - A505 Payne's Park	0.62	0.09	0.00	0.29
	4 - A602 Park Way	0.34	0.66	0.00	0.00

## Vehicle Mix

### Heavy Vehicle Percentages

From	To			
	1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
1 - Upper Tilehouse Street	0	9	0	6
2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only
3 - A505 Payne's Park	12	4	0	3
4 - A602 Park Way	4	1	0	0

### Average PCU Per Veh

From	To			
	1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
1 - Upper Tilehouse Street	1.000	1.088	1.000	1.065
2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only
3 - A505 Payne's Park	1.122	1.038	1.000	1.027
4 - A602 Park Way	1.045	1.013	1.000	1.000

## Detailed Demand Data

### Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:45-08:00	1 - Upper Tilehouse Street	1013	1013
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	674	674
	4 - A602 Park Way	504	504
08:00-08:15	1 - Upper Tilehouse Street	1209	1209
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	805	805
	4 - A602 Park Way	602	602
08:15-08:30	1 - Upper Tilehouse Street	1481	1481
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	985	985
	4 - A602 Park Way	738	738
08:30-08:45	1 - Upper Tilehouse Street	1481	1481
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	985	985
	4 - A602 Park Way	738	738
08:45-09:00	1 - Upper Tilehouse Street	1209	1209
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	805	805
	4 - A602 Park Way	602	602
09:00-09:15	1 - Upper Tilehouse Street	1013	1013
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	674	674
	4 - A602 Park Way	504	504

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Upper Tilehouse Street	0.95	39.22	15.2	E	1234	1851
2 - Old Park Road						
3 - A505 Payne's Park	0.44	3.08	0.8	A	821	1232
4 - A602 Park Way	0.48	4.68	1.0	A	615	922

## Main Results for each time segment

### 07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1013	253	392	1677	0.604	1006	589	0.0	1.6	5.718	A
2 - Old Park Road			507				891				
3 - A505 Payne's Park	674	168	507	2464	0.273	672	0	0.0	0.4	2.178	A
4 - A602 Park Way	504	126	478	1683	0.300	503	701	0.0	0.4	3.120	A

### 08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1209	302	470	1625	0.744	1204	704	1.6	3.0	9.066	A
2 - Old Park Road			607				1067				
3 - A505 Payne's Park	805	201	607	2375	0.339	804	0	0.4	0.6	2.487	A
4 - A602 Park Way	602	151	572	1616	0.373	602	838	0.4	0.6	3.631	A

### 08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1481	370	575	1554	0.953	1442	862	3.0	12.6	28.093	D
2 - Old Park Road			727				1290				
3 - A505 Payne's Park	985	246	727	2267	0.435	984	0	0.6	0.8	3.041	A
4 - A602 Park Way	738	184	701	1525	0.484	738	1011	0.6	0.9	4.663	A

### 08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1481	370	576	1554	0.953	1471	863	12.6	15.2	39.216	E
2 - Old Park Road			741				1305				
3 - A505 Payne's Park	985	246	741	2255	0.437	985	0	0.8	0.8	3.076	A
4 - A602 Park Way	738	184	701	1525	0.484	738	1025	0.9	1.0	4.681	A

### 08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1209	302	471	1624	0.745	1257	706	15.2	3.3	11.825	B
2 - Old Park Road			634				1094				
3 - A505 Payne's Park	805	201	634	2351	0.342	806	0	0.8	0.6	2.529	A
4 - A602 Park Way	602	151	573	1615	0.373	604	866	1.0	0.6	3.647	A

### 09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1013	253	394	1675	0.604	1019	591	3.3	1.7	5.954	A
2 - Old Park Road			514				900				
3 - A505 Payne's Park	674	168	514	2458	0.274	674	0	0.6	0.4	2.190	A
4 - A602 Park Way	504	126	480	1682	0.300	505	708	0.6	0.4	3.134	A



# 2039 Base, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Upper Tilehouse Street - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A505 Upper Tilehouse Street / A602 Park Way (Existing)	Standard Roundabout		1, 2, 3, 4	8.87	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2039 Base	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Upper Tilehouse Street		ONE HOUR	✓	1159	100.000
2 - Old Park Road					
3 - A505 Payne's Park		ONE HOUR	✓	1008	100.000
4 - A602 Park Way		ONE HOUR	✓	781	100.000

## Origin-Destination Data

### Demand (PCU/hr)

From		To			
		1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
From	1 - Upper Tilehouse Street	0	811	0	348
	2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only
	3 - A505 Payne's Park	616	71	0	319
	4 - A602 Park Way	233	528	0	0

### Proportions

From		To			
		1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
From	1 - Upper Tilehouse Street	0.00	0.70	0.00	0.30
	2 - Old Park Road	0.25	0.25	0.25	0.25
	3 - A505 Payne's Park	0.61	0.07	0.00	0.32
	4 - A602 Park Way	0.31	0.69	0.00	0.00

## Vehicle Mix

### Heavy Vehicle Percentages

From	To			
	1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
1 - Upper Tilehouse Street	0	4	0	2
2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only
3 - A505 Payne's Park	0	3	0	2
4 - A602 Park Way	2	2	0	0

### Average PCU Per Veh

From	To			
	1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
1 - Upper Tilehouse Street	1.000	1.043	1.000	1.017
2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only
3 - A505 Payne's Park	1.000	1.030	1.000	1.020
4 - A602 Park Way	1.020	1.020	1.000	1.000

## Detailed Demand Data

### Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:45-17:00	1 - Upper Tilehouse Street	873	873
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	757	757
	4 - A602 Park Way	573	573
17:00-17:15	1 - Upper Tilehouse Street	1042	1042
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	904	904
	4 - A602 Park Way	684	684
17:15-17:30	1 - Upper Tilehouse Street	1276	1276
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1108	1108
	4 - A602 Park Way	838	838
17:30-17:45	1 - Upper Tilehouse Street	1276	1276
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1108	1108
	4 - A602 Park Way	838	838
17:45-18:00	1 - Upper Tilehouse Street	1042	1042
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	904	904
	4 - A602 Park Way	684	684
18:00-18:15	1 - Upper Tilehouse Street	873	873
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	757	757
	4 - A602 Park Way	573	573

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Upper Tilehouse Street	0.85	16.52	5.6	C	1064	1595
2 - Old Park Road						
3 - A505 Payne's Park	0.43	2.47	0.8	A	923	1385
4 - A602 Park Way	0.56	5.66	1.3	A	698	1047

## Main Results for each time segment

### 16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	873	218	449	1638	0.533	868	638	0.0	1.2	4.805	A
2 - Old Park Road			261				1057				
3 - A505 Payne's Park	757	189	261	2684	0.282	756	0	0.0	0.4	1.880	A
4 - A602 Park Way	573	143	516	1658	0.346	571	500	0.0	0.5	3.376	A

### 17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1042	260	538	1579	0.660	1039	763	1.2	2.0	6.851	A
2 - Old Park Road			312				1285				
3 - A505 Payne's Park	904	226	312	2638	0.343	904	0	0.4	0.5	2.093	A
4 - A602 Park Way	684	171	617	1584	0.432	683	598	0.5	0.8	4.070	A

### 17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1276	319	658	1499	0.852	1263	934	2.0	5.3	14.996	B
2 - Old Park Road			379				1541				
3 - A505 Payne's Park	1108	277	379	2578	0.430	1107	0	0.5	0.8	2.466	A
4 - A602 Park Way	838	209	756	1486	0.564	836	730	0.8	1.3	5.625	A

### 17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1276	319	659	1498	0.852	1275	935	5.3	5.6	16.523	C
2 - Old Park Road			383				1552				
3 - A505 Payne's Park	1108	277	383	2575	0.430	1108	0	0.8	0.8	2.473	A
4 - A602 Park Way	838	209	756	1486	0.564	838	734	1.3	1.3	5.665	A

### 17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1042	260	540	1578	0.660	1056	764	5.6	2.1	7.328	A
2 - Old Park Road			317				1279				
3 - A505 Payne's Park	904	226	317	2634	0.343	905	0	0.8	0.5	2.101	A
4 - A602 Park Way	684	171	618	1584	0.432	686	604	1.3	0.8	4.100	A

### 18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	873	218	452	1637	0.533	876	640	2.1	1.2	4.916	A
2 - Old Park Road			263				1065				
3 - A505 Payne's Park	757	189	263	2682	0.282	758	0	0.5	0.4	1.889	A
4 - A602 Park Way	573	143	518	1655	0.346	574	503	0.8	0.5	3.398	A

# 2043 Base, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Upper Tilehouse Street - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A505 Upper Tilehouse Street / A602 Park Way (Existing)	Standard Roundabout		1, 2, 3, 4	23.38	C

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2043 Base	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Upper Tilehouse Street		ONE HOUR	✓	1360	100.000
2 - Old Park Road					
3 - A505 Payne's Park		ONE HOUR	✓	898	100.000
4 - A602 Park Way		ONE HOUR	✓	675	100.000

## Origin-Destination Data

### Demand (PCU/hr)

From		To			
		1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
From	1 - Upper Tilehouse Street	0	673	0	687
	2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only
	3 - A505 Payne's Park	577	86	0	235
	4 - A602 Park Way	230	445	0	0

### Proportions

From		To			
		1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
From	1 - Upper Tilehouse Street	0.00	0.49	0.00	0.51
	2 - Old Park Road	0.25	0.25	0.25	0.25
	3 - A505 Payne's Park	0.64	0.10	0.00	0.26
	4 - A602 Park Way	0.34	0.66	0.00	0.00

## Vehicle Mix

### Heavy Vehicle Percentages

From	To				
	1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way	
1 - Upper Tilehouse Street	0	9	0	8	
2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only	
3 - A505 Payne's Park	12	4	0	3	
4 - A602 Park Way	4	1	0	0	

### Average PCU Per Veh

From	To				
	1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way	
1 - Upper Tilehouse Street	1.000	1.088	1.000	1.085	
2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only	
3 - A505 Payne's Park	1.122	1.038	1.000	1.027	
4 - A602 Park Way	1.045	1.013	1.000	1.000	

## Detailed Demand Data

### Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:45-08:00	1 - Upper Tilehouse Street	1024	1024
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	676	676
	4 - A602 Park Way	508	508
08:00-08:15	1 - Upper Tilehouse Street	1223	1223
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	807	807
	4 - A602 Park Way	607	607
08:15-08:30	1 - Upper Tilehouse Street	1497	1497
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	989	989
	4 - A602 Park Way	743	743
08:30-08:45	1 - Upper Tilehouse Street	1497	1497
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	989	989
	4 - A602 Park Way	743	743
08:45-09:00	1 - Upper Tilehouse Street	1223	1223
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	807	807
	4 - A602 Park Way	607	607
09:00-09:15	1 - Upper Tilehouse Street	1024	1024
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	676	676
	4 - A602 Park Way	508	508

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Upper Tilehouse Street	0.97	45.97	18.2	E	1248	1872
2 - Old Park Road						
3 - A505 Payne's Park	0.44	3.11	0.9	A	824	1236
4 - A602 Park Way	0.49	4.84	1.0	A	619	929

## Main Results for each time segment

### 07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1024	256	398	1673	0.612	1017	606	0.0	1.7	5.848	A
2 - Old Park Road			514				902				
3 - A505 Payne's Park	676	169	514	2458	0.275	674	0	0.0	0.4	2.193	A
4 - A602 Park Way	508	127	498	1669	0.305	506	690	0.0	0.4	3.167	A

### 08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1223	306	477	1620	0.755	1217	725	1.7	3.2	9.453	A
2 - Old Park Road			615				1079				
3 - A505 Payne's Park	807	202	615	2368	0.341	807	0	0.4	0.6	2.508	A
4 - A602 Park Way	607	152	596	1600	0.379	606	826	0.4	0.6	3.707	A

### 08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1497	374	584	1548	0.967	1452	887	3.2	14.5	31.151	D
2 - Old Park Road			734				1302				
3 - A505 Payne's Park	989	247	734	2262	0.437	988	0	0.6	0.8	3.070	A
4 - A602 Park Way	743	186	729	1505	0.494	742	992	0.6	1.0	4.818	A

### 08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1497	374	585	1548	0.967	1483	888	14.5	18.2	45.973	E
2 - Old Park Road			749				1318				
3 - A505 Payne's Park	989	247	749	2248	0.440	989	0	0.8	0.9	3.108	A
4 - A602 Park Way	743	186	730	1505	0.494	743	1008	1.0	1.0	4.839	A

### 08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1223	306	478	1619	0.755	1282	727	18.2	3.5	13.342	B
2 - Old Park Road			647				1113				
3 - A505 Payne's Park	807	202	647	2339	0.345	808	0	0.9	0.6	2.559	A
4 - A602 Park Way	607	152	597	1599	0.380	608	859	1.0	0.6	3.725	A

### 09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1024	256	400	1671	0.613	1031	608	3.5	1.7	6.108	A
2 - Old Park Road			521				910				
3 - A505 Payne's Park	676	169	521	2452	0.276	677	0	0.6	0.4	2.207	A
4 - A602 Park Way	508	127	500	1668	0.305	509	698	0.6	0.5	3.181	A

# 2043 Base, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Upper Tilehouse Street - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A505 Upper Tilehouse Street / A602 Park Way (Existing)	Standard Roundabout		1, 2, 3, 4	9.60	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2043 Base	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Upper Tilehouse Street		ONE HOUR	✓	1200	100.000
2 - Old Park Road					
3 - A505 Payne's Park		ONE HOUR	✓	1001	100.000
4 - A602 Park Way		ONE HOUR	✓	742	100.000

## Origin-Destination Data

### Demand (PCU/hr)

From		To			
		1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
From	1 - Upper Tilehouse Street	0	833	0	367
	2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only
	3 - A505 Payne's Park	640	71	0	290
	4 - A602 Park Way	249	493	0	0

### Proportions

From		To			
		1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
From	1 - Upper Tilehouse Street	0.00	0.69	0.00	0.31
	2 - Old Park Road	0.25	0.25	0.25	0.25
	3 - A505 Payne's Park	0.64	0.07	0.00	0.29
	4 - A602 Park Way	0.34	0.66	0.00	0.00

## Vehicle Mix

### Heavy Vehicle Percentages

From	To				
	1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way	
1 - Upper Tilehouse Street	0	4	0	2	
2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only	
3 - A505 Payne's Park	0	3	0	2	
4 - A602 Park Way	2	2	0	0	

### Average PCU Per Veh

From	To				
	1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way	
1 - Upper Tilehouse Street	1.000	1.043	1.000	1.017	
2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only	
3 - A505 Payne's Park	1.000	1.030	1.000	1.020	
4 - A602 Park Way	1.020	1.020	1.000	1.000	

## Detailed Demand Data

### Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:45-17:00	1 - Upper Tilehouse Street	903	903
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	754	754
	4 - A602 Park Way	559	559
17:00-17:15	1 - Upper Tilehouse Street	1079	1079
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	900	900
	4 - A602 Park Way	667	667
17:15-17:30	1 - Upper Tilehouse Street	1321	1321
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1102	1102
	4 - A602 Park Way	817	817
17:30-17:45	1 - Upper Tilehouse Street	1321	1321
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1102	1102
	4 - A602 Park Way	817	817
17:45-18:00	1 - Upper Tilehouse Street	1079	1079
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	900	900
	4 - A602 Park Way	667	667
18:00-18:15	1 - Upper Tilehouse Street	903	903
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	754	754
	4 - A602 Park Way	559	559

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Upper Tilehouse Street	0.87	17.97	6.3	C	1101	1652
2 - Old Park Road						
3 - A505 Payne's Park	0.43	2.49	0.8	A	919	1378
4 - A602 Park Way	0.56	5.65	1.3	A	681	1021



## Main Results for each time segment

### 16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	903	226	423	1656	0.546	899	668	0.0	1.2	4.885	A
2 - Old Park Road			275				1047				
3 - A505 Payne's Park	754	188	275	2671	0.282	752	0	0.0	0.4	1.887	A
4 - A602 Park Way	559	140	534	1643	0.340	557	493	0.0	0.5	3.374	A

### 17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1079	270	506	1600	0.674	1075	799	1.2	2.1	7.049	A
2 - Old Park Road			329				1253				
3 - A505 Payne's Park	900	225	329	2623	0.343	899	0	0.4	0.5	2.105	A
4 - A602 Park Way	667	167	639	1569	0.425	666	589	0.5	0.7	4.062	A

### 17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1321	330	620	1524	0.867	1306	978	2.1	5.9	16.027	C
2 - Old Park Road			399				1526				
3 - A505 Payne's Park	1102	276	399	2580	0.431	1101	0	0.5	0.8	2.486	A
4 - A602 Park Way	817	204	782	1468	0.557	815	718	0.7	1.3	5.606	A

### 17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1321	330	621	1523	0.867	1320	979	5.9	6.3	17.973	C
2 - Old Park Road			404				1537				
3 - A505 Payne's Park	1102	276	404	2556	0.431	1102	0	0.8	0.8	2.494	A
4 - A602 Park Way	817	204	783	1487	0.557	817	723	1.3	1.3	5.645	A

### 17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1079	270	508	1599	0.675	1095	800	6.3	2.2	7.626	A
2 - Old Park Road			335				1269				
3 - A505 Payne's Park	900	225	335	2618	0.344	901	0	0.8	0.5	2.114	A
4 - A602 Park Way	667	167	640	1568	0.425	669	596	1.3	0.8	4.091	A

### 18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	903	226	425	1655	0.546	907	670	2.2	1.3	5.006	A
2 - Old Park Road			277				1055				
3 - A505 Payne's Park	754	188	277	2669	0.282	754	0	0.5	0.4	1.894	A
4 - A602 Park Way	559	140	536	1642	0.340	560	496	0.8	0.5	3.396	A

# 2027 Base + Dev, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Upper Tilehouse Street - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A505 Upper Tilehouse Street / A602 Park Way (Existing)	Standard Roundabout		1, 2, 3, 4	6.99	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2027 Base + Dev	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Upper Tilehouse Street		ONE HOUR	✓	1136	100.000
2 - Old Park Road					
3 - A505 Payne's Park		ONE HOUR	✓	949	100.000
4 - A602 Park Way		ONE HOUR	✓	645	100.000

## Origin-Destination Data

### Demand (PCU/hr)

From		To			
		1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
From	1 - Upper Tilehouse Street	0	633	0	503
	2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only
	3 - A505 Payne's Park	515	80	0	354
	4 - A602 Park Way	228	417	0	0

### Proportions

From		To			
		1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
From	1 - Upper Tilehouse Street	0.00	0.56	0.00	0.44
	2 - Old Park Road	0.25	0.25	0.25	0.25
	3 - A505 Payne's Park	0.54	0.08	0.00	0.37
	4 - A602 Park Way	0.35	0.65	0.00	0.00

## Vehicle Mix

### Heavy Vehicle Percentages

From	To				
	1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way	
1 - Upper Tilehouse Street	0	8	0	7	
2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only	
3 - A505 Payne's Park	13	3	0	3	
4 - A602 Park Way	5	1	0	0	

### Average PCU Per Veh

From	To				
	1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way	
1 - Upper Tilehouse Street	1.000	1.079	1.000	1.074	
2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only	
3 - A505 Payne's Park	1.128	1.032	1.000	1.030	
4 - A602 Park Way	1.046	1.011	1.000	1.000	

## Detailed Demand Data

### Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:45-08:00	1 - Upper Tilehouse Street	855	855
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	714	714
	4 - A602 Park Way	486	486
08:00-08:15	1 - Upper Tilehouse Street	1021	1021
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	853	853
	4 - A602 Park Way	580	580
08:15-08:30	1 - Upper Tilehouse Street	1251	1251
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1045	1045
	4 - A602 Park Way	710	710
08:30-08:45	1 - Upper Tilehouse Street	1251	1251
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1045	1045
	4 - A602 Park Way	710	710
08:45-09:00	1 - Upper Tilehouse Street	1021	1021
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	853	853
	4 - A602 Park Way	580	580
09:00-09:15	1 - Upper Tilehouse Street	855	855
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	714	714
	4 - A602 Park Way	486	486

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Upper Tilehouse Street	0.80	11.97	4.1	B	1042	1564
2 - Old Park Road						
3 - A505 Payne's Park	0.43	2.82	0.8	A	871	1306
4 - A602 Park Way	0.46	4.35	0.9	A	592	888

## Main Results for each time segment

### 07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	855	214	373	1690	0.506	851	558	0.0	1.1	4.596	A
2 - Old Park Road			377				847				
3 - A505 Payne's Park	714	179	377	2580	0.277	713	0	0.0	0.4	2.082	A
4 - A602 Park Way	486	121	447	1705	0.285	484	643	0.0	0.4	3.013	A

### 08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1021	255	446	1641	0.623	1019	667	1.1	1.7	6.206	A
2 - Old Park Road			451				1014				
3 - A505 Payne's Park	853	213	451	2514	0.339	853	0	0.4	0.6	2.343	A
4 - A602 Park Way	580	145	535	1643	0.353	579	769	0.4	0.6	3.462	A

### 08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1251	313	546	1573	0.795	1242	817	1.7	3.9	11.401	B
2 - Old Park Road			550				1238				
3 - A505 Payne's Park	1045	281	550	2426	0.431	1044	0	0.6	0.8	2.816	A
4 - A602 Park Way	710	178	654	1558	0.456	709	939	0.6	0.8	4.332	A

### 08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1251	313	547	1573	0.795	1250	818	3.9	4.1	11.968	B
2 - Old Park Road			554				1244				
3 - A505 Payne's Park	1045	281	554	2422	0.431	1045	0	0.8	0.8	2.824	A
4 - A602 Park Way	710	178	655	1558	0.456	710	943	0.8	0.9	4.347	A

### 08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1021	255	448	1640	0.623	1030	669	4.1	1.8	6.449	A
2 - Old Park Road			456				1022				
3 - A505 Payne's Park	853	213	456	2509	0.340	854	0	0.8	0.6	2.354	A
4 - A602 Park Way	580	145	536	1642	0.353	581	775	0.9	0.6	3.477	A

### 09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	855	214	375	1689	0.506	858	560	1.8	1.1	4.682	A
2 - Old Park Road			380				853				
3 - A505 Payne's Park	714	179	380	2577	0.277	715	0	0.6	0.4	2.090	A
4 - A602 Park Way	486	121	448	1704	0.285	486	647	0.6	0.4	3.026	A

# 2027 Base + Dev, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Upper Tilehouse Street - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A505 Upper Tilehouse Street / A602 Park Way (Existing)	Standard Roundabout		1, 2, 3, 4	6.28	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2027 Base + Dev	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Upper Tilehouse Street		ONE HOUR	✓	983	100.000
2 - Old Park Road					
3 - A505 Payne's Park		ONE HOUR	✓	1024	100.000
4 - A602 Park Way		ONE HOUR	✓	792	100.000

## Origin-Destination Data

### Demand (PCU/hr)

From		To			
		1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
From	1 - Upper Tilehouse Street	0	690	0	293
	2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only
	3 - A505 Payne's Park	620	71	0	333
	4 - A602 Park Way	184	608	0	0

### Proportions

From		To			
		1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
From	1 - Upper Tilehouse Street	0.00	0.70	0.00	0.30
	2 - Old Park Road	0.25	0.25	0.25	0.25
	3 - A505 Payne's Park	0.81	0.07	0.00	0.33
	4 - A602 Park Way	0.23	0.77	0.00	0.00

## Vehicle Mix

### Heavy Vehicle Percentages

From	To			
	1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
1 - Upper Tilehouse Street	0	5	0	2
2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only
3 - A505 Payne's Park	6	3	0	1
4 - A602 Park Way	3	1	0	0

### Average PCU Per Veh

From	To			
	1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
1 - Upper Tilehouse Street	1.000	1.046	1.000	1.016
2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only
3 - A505 Payne's Park	1.059	1.033	1.000	1.011
4 - A602 Park Way	1.027	1.015	1.000	1.000

## Detailed Demand Data

### Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:45-17:00	1 - Upper Tilehouse Street	740	740
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	771	771
	4 - A602 Park Way	596	596
17:00-17:15	1 - Upper Tilehouse Street	884	884
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	921	921
	4 - A602 Park Way	712	712
17:15-17:30	1 - Upper Tilehouse Street	1082	1082
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1127	1127
	4 - A602 Park Way	872	872
17:30-17:45	1 - Upper Tilehouse Street	1082	1082
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1127	1127
	4 - A602 Park Way	872	872
17:45-18:00	1 - Upper Tilehouse Street	884	884
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	921	921
	4 - A602 Park Way	712	712
18:00-18:15	1 - Upper Tilehouse Street	740	740
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	771	771
	4 - A602 Park Way	596	596

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Upper Tilehouse Street	0.75	10.45	3.1	B	902	1353
2 - Old Park Road						
3 - A505 Payne's Park	0.43	2.50	0.8	A	940	1409
4 - A602 Park Way	0.59	6.00	1.4	A	727	1090

## Main Results for each time segment

### 16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	740	185	509	1598	0.463	737	604	0.0	0.9	4.316	A
2 - Old Park Road			220				1026				
3 - A505 Payne's Park	771	193	220	2721	0.283	769	0	0.0	0.4	1.919	A
4 - A602 Park Way	596	149	519	1654	0.361	594	470	0.0	0.6	3.449	A

### 17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	884	221	610	1531	0.577	882	722	0.9	1.4	5.731	A
2 - Old Park Road			283				1228				
3 - A505 Payne's Park	921	230	283	2682	0.343	920	0	0.4	0.5	2.127	A
4 - A602 Park Way	712	178	621	1582	0.460	711	562	0.6	0.8	4.201	A

### 17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1082	271	746	1440	0.752	1076	884	1.4	3.0	10.086	B
2 - Old Park Road			321				1501				
3 - A505 Payne's Park	1127	282	321	2630	0.429	1127	0	0.5	0.8	2.491	A
4 - A602 Park Way	872	218	760	1483	0.588	870	687	0.8	1.4	5.945	A

### 17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1082	271	748	1438	0.752	1082	885	3.0	3.1	10.453	B
2 - Old Park Road			323				1507				
3 - A505 Payne's Park	1127	282	323	2629	0.429	1127	0	0.8	0.8	2.496	A
4 - A602 Park Way	872	218	761	1483	0.588	872	689	1.4	1.4	5.997	A

### 17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	884	221	612	1529	0.578	890	724	3.1	1.4	5.901	A
2 - Old Park Road			285				1237				
3 - A505 Payne's Park	921	230	285	2680	0.344	921	0	0.8	0.5	2.134	A
4 - A602 Park Way	712	178	622	1581	0.460	714	565	1.4	0.8	4.239	A

### 18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	740	185	512	1596	0.464	742	606	1.4	0.9	4.383	A
2 - Old Park Road			221				1033				
3 - A505 Payne's Park	771	193	221	2719	0.284	771	0	0.5	0.4	1.924	A
4 - A602 Park Way	596	149	521	1653	0.361	597	472	0.8	0.6	3.473	A

<b>Junctions 9</b>
<b>ARCADY 9 - Roundabout Module</b>
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**Filename:** A505 - Parkway\_Mitigation.j9  
**Path:** \\global.arup.com\europa\Midlands\jobs\259000\259393-10\4 Internal Project Data\4-04 Calculations\Junction Modelling\A505 - Upper Tilehouse St - Park Way\For Appendices  
**Report generation date:** 14/02/2023 21:05:01

- »2039 Base + Dev, AM
- »2039 Base + Dev, PM
- »2043 Base + Dev, AM
- »2043 Base + Dev, PM

**Summary of junction performance**

	AM						PM					
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
<b>2039 Base + Dev</b>												
1 - Upper Tilehouse Street	D9	6.9	19.30	0.87	C	9.96	D10	10.5	30.88	0.93	D	13.95
3 - A505 Payne's Park		1.6	3.73	0.59	A			1.5	3.55	0.60	A	
4 - A602 Park Way		0.8	4.94	0.45	A			1.4	6.48	0.59	A	
<b>2043 Base + Dev</b>												
1 - Upper Tilehouse Street	D11	10.0	27.06	0.92	D	13.40	D12	16.4	44.37	0.96	E	19.45
3 - A505 Payne's Park		1.5	3.74	0.58	A			1.5	3.53	0.60	A	
4 - A602 Park Way		0.9	5.03	0.47	A			1.3	6.02	0.56	A	

*There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.*

*Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.*

**File summary**

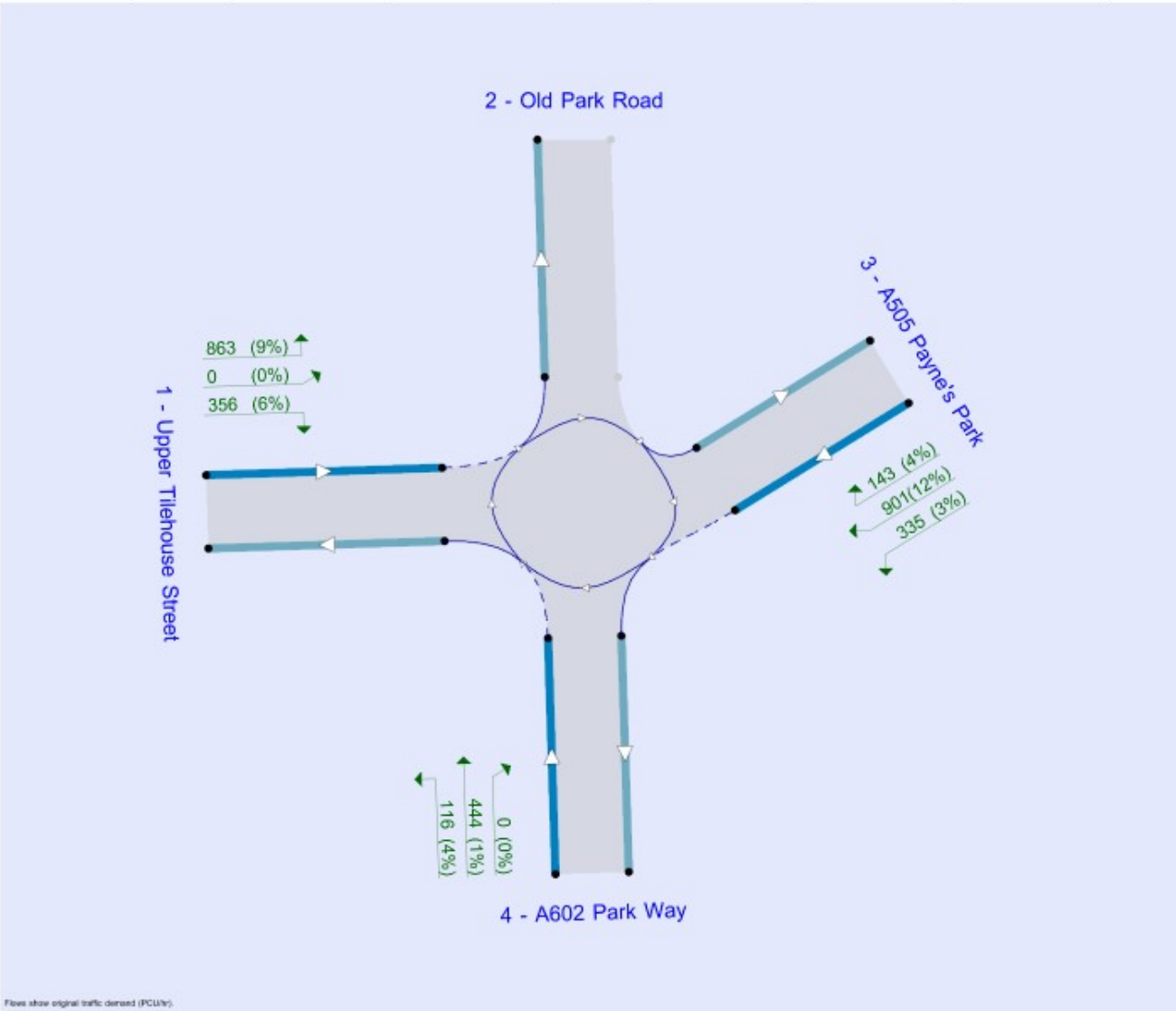
**File Description**

Title	
Location	
Site number	
Date	17/01/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\Paul.Dickens
Description	



**Units**

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin



Flows show original traffic demand (PCU/hr).  
The junction diagram reflects the last run of Junctions.

**Analysis Options**

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

**Demand Set Summary**

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2039 Base + Dev	AM	ONE HOUR	07:45	09:15	15	✓
D10	2039 Base + Dev	PM	ONE HOUR	16:45	18:15	15	✓
D11	2043 Base + Dev	AM	ONE HOUR	07:45	09:15	15	✓
D12	2043 Base + Dev	PM	ONE HOUR	16:45	18:15	15	✓

**Analysis Set Details**

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

# 2039 Base + Dev, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Upper Tilehouse Street - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - A602 Park Way - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A505 Upper Tilehouse Street / A602 Park Way (Mitigation)	Standard Roundabout		1, 2, 3, 4	9.96	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Name	Description
1	Upper Tilehouse Street	
2	Old Park Road	
3	A505 Payne's Park	
4	A602 Park Way	

### Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1 - Upper Tilehouse Street	3.35	8.26	57.0	11.2	35.3	46.0	
2 - Old Park Road							✓
3 - A505 Payne's Park	8.21	10.90	12.1	52.0	35.0	43.3	
4 - A602 Park Way	3.56	8.50	65.0	16.5	35.2	35.2	

### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Upper Tilehouse Street	0.878	1976
2 - Old Park Road		
3 - A505 Payne's Park	0.893	2917
4 - A602 Park Way	0.747	2218

The slope and intercept shown above include any corrections and adjustments.

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2039 Base + Dev	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Upper Tilehouse Street		ONE HOUR	✓	1219	100.000
2 - Old Park Road					
3 - A505 Payne's Park		ONE HOUR	✓	1379	100.000
4 - A602 Park Way		ONE HOUR	✓	580	100.000

## Origin-Destination Data

### Demand (PCU/hr)

From	To			
	1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
1 - Upper Tilehouse Street	0	883	0	356
2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only
3 - A505 Payne's Park	901	143	0	335
4 - A602 Park Way	116	444	0	0

### Proportions

From	To			
	1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
1 - Upper Tilehouse Street	0.00	0.71	0.00	0.29
2 - Old Park Road	0.25	0.25	0.25	0.25
3 - A505 Payne's Park	0.85	0.10	0.00	0.24
4 - A602 Park Way	0.21	0.79	0.00	0.00

## Vehicle Mix

### Heavy Vehicle Percentages

From	To			
	1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
1 - Upper Tilehouse Street	0	9	0	6
2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only
3 - A505 Payne's Park	12	4	0	3
4 - A602 Park Way	4	1	0	0

### Average PCU Per Veh

From	To			
	1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
1 - Upper Tilehouse Street	1.000	1.088	1.000	1.065
2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only
3 - A505 Payne's Park	1.122	1.036	1.000	1.027
4 - A602 Park Way	1.045	1.013	1.000	1.000

## Detailed Demand Data

### Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:45-08:00	1 - Upper Tilehouse Street	918	918
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1038	1038
	4 - A602 Park Way	422	422
08:00-08:15	1 - Upper Tilehouse Street	1096	1096
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1240	1240
	4 - A602 Park Way	503	503
08:15-08:30	1 - Upper Tilehouse Street	1342	1342
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1518	1518
	4 - A602 Park Way	617	617
08:30-08:45	1 - Upper Tilehouse Street	1342	1342
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1518	1518
	4 - A602 Park Way	617	617
08:45-09:00	1 - Upper Tilehouse Street	1096	1096
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1240	1240
	4 - A602 Park Way	503	503
09:00-09:15	1 - Upper Tilehouse Street	918	918
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1038	1038
	4 - A602 Park Way	422	422

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Upper Tilehouse Street	0.87	19.30	6.9	C	1119	1678
2 - Old Park Road						
3 - A505 Payne's Park	0.59	3.73	1.6	A	1285	1898
4 - A602 Park Way	0.45	4.94	0.8	A	514	771

### Main Results for each time segment

#### 07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	918	229	441	1677	0.547	913	764	0.0	1.3	5.051	A
2 - Old Park Road			267				1087				
3 - A505 Payne's Park	1038	260	267	2679	0.388	1035	0	0.0	0.7	2.380	A
4 - A602 Park Way	422	105	784	1632	0.258	420	518	0.0	0.4	3.027	A

**08:00 - 08:15**

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1096	274	527	1618	0.677	1092	913	1.3	2.2	7.335	A
2 - Old Park Road			319				1300				
3 - A505 Payne's Park	1240	310	319	2632	0.471	1239	0	0.7	1.0	2.809	A
4 - A602 Park Way	503	126	938	1517	0.332	503	620	0.4	0.5	3.617	A

**08:15 - 08:30**

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1342	336	645	1538	0.872	1325	1118	2.2	6.4	17.029	C
2 - Old Park Road			387				1583				
3 - A505 Payne's Park	1518	380	387	2571	0.591	1516	0	1.0	1.6	3.706	A
4 - A602 Park Way	617	154	1148	1360	0.453	615	755	0.5	0.8	4.918	A

**08:30 - 08:45**

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1342	336	646	1538	0.873	1340	1120	6.4	6.9	19.301	C
2 - Old Park Road			391				1595				
3 - A505 Payne's Park	1518	380	391	2567	0.591	1518	0	1.6	1.6	3.735	A
4 - A602 Park Way	617	154	1149	1359	0.454	617	760	0.8	0.8	4.944	A

**08:45 - 09:00**

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1096	274	529	1617	0.678	1114	916	6.9	2.3	7.988	A
2 - Old Park Road			325				1318				
3 - A505 Payne's Park	1240	310	325	2626	0.472	1242	0	1.6	1.0	2.837	A
4 - A602 Park Way	503	126	940	1515	0.332	505	627	0.8	0.5	3.639	A

**09:00 - 09:15**

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	918	229	443	1676	0.548	922	767	2.3	1.3	5.183	A
2 - Old Park Road			289				1095				
3 - A505 Payne's Park	1038	260	289	2676	0.388	1039	0	1.0	0.7	2.395	A
4 - A602 Park Way	422	105	787	1630	0.259	422	522	0.5	0.4	3.040	A

# 2039 Base + Dev, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Upper Tilehouse Street - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - A602 Park Way - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A505 Upper Tilehouse Street / A602 Park Way (Mitigation)	Standard Roundabout		1, 2, 3, 4	13.95	B

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2039 Base + Dev	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Upper Tilehouse Street		ONE HOUR	✓	1186	100.000
2 - Old Park Road					
3 - A505 Payne's Park		ONE HOUR	✓	1410	100.000
4 - A602 Park Way		ONE HOUR	✓	726	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To			
		1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
From	1 - Upper Tilehouse Street	0	837	0	349
	2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only
	3 - A505 Payne's Park	881	154	0	375
	4 - A602 Park Way	124	602	0	0

### Proportions

		To			
		1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
From	1 - Upper Tilehouse Street	0.00	0.71	0.00	0.29
	2 - Old Park Road	0.25	0.25	0.25	0.25
	3 - A505 Payne's Park	0.82	0.11	0.00	0.27
	4 - A602 Park Way	0.17	0.83	0.00	0.00

## Vehicle Mix

### Heavy Vehicle Percentages

From	To			
	1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
1 - Upper Tilehouse Street	0	4	0	2
2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only
3 - A505 Payne's Park	0	3	0	2
4 - A602 Park Way	2	2	0	0

### Average PCU Per Veh

From	To			
	1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
1 - Upper Tilehouse Street	1.000	1.043	1.000	1.017
2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only
3 - A505 Payne's Park	1.000	1.030	1.000	1.020
4 - A602 Park Way	1.020	1.020	1.000	1.000

## Detailed Demand Data

### Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:45-17:00	1 - Upper Tilehouse Street	893	893
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1062	1062
	4 - A602 Park Way	547	547
17:00-17:15	1 - Upper Tilehouse Street	1066	1066
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1268	1268
	4 - A602 Park Way	653	653
17:15-17:30	1 - Upper Tilehouse Street	1306	1306
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1552	1552
	4 - A602 Park Way	799	799
17:30-17:45	1 - Upper Tilehouse Street	1306	1306
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1552	1552
	4 - A602 Park Way	799	799
17:45-18:00	1 - Upper Tilehouse Street	1066	1066
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1268	1268
	4 - A602 Park Way	653	653
18:00-18:15	1 - Upper Tilehouse Street	893	893
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1062	1062
	4 - A602 Park Way	547	547

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Upper Tilehouse Street	0.93	30.88	10.5	D	1066	1632
2 - Old Park Road						
3 - A505 Payne's Park	0.60	3.55	1.5	A	1294	1941
4 - A602 Park Way	0.59	6.48	1.4	A	666	999

## Main Results for each time segment

### 16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	893	223	567	1591	0.561	888	755	0.0	1.3	5.256	A
2 - Old Park Road			261				1194				
3 - A505 Payne's Park	1062	265	261	2683	0.396	1059	0	0.0	0.7	2.230	A
4 - A602 Park Way	547	137	777	1637	0.334	545	543	0.0	0.5	3.356	A

### 17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1066	267	679	1516	0.703	1062	903	1.3	2.4	8.133	A
2 - Old Park Road			312				1428				
3 - A505 Payne's Park	1268	317	312	2638	0.481	1266	0	0.7	0.9	2.645	A
4 - A602 Park Way	653	163	930	1523	0.429	652	649	0.5	0.8	4.209	A

### 17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1306	326	830	1413	0.924	1279	1105	2.4	9.2	23.997	C
2 - Old Park Road			376				1732				
3 - A505 Payne's Park	1552	388	376	2581	0.802	1550	0	0.9	1.5	3.516	A
4 - A602 Park Way	799	200	1138	1368	0.585	797	789	0.8	1.4	6.404	A

### 17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1306	326	832	1411	0.925	1301	1106	9.2	10.5	30.878	D
2 - Old Park Road			383				1750				
3 - A505 Payne's Park	1552	388	383	2575	0.803	1552	0	1.5	1.5	3.549	A
4 - A602 Park Way	799	200	1140	1366	0.585	799	796	1.4	1.4	6.476	A

### 17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1066	267	682	1513	0.705	1098	905	10.5	2.5	9.620	A
2 - Old Park Road			323				1457				
3 - A505 Payne's Park	1268	317	323	2628	0.482	1270	0	1.5	0.9	2.678	A
4 - A602 Park Way	653	163	932	1521	0.429	655	661	1.4	0.8	4.252	A

### 18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	893	223	570	1589	0.562	898	757	2.5	1.3	5.423	A
2 - Old Park Road			264				1204				
3 - A505 Payne's Park	1062	265	264	2681	0.396	1063	0	0.9	0.7	2.246	A
4 - A602 Park Way	547	137	780	1635	0.334	548	547	0.8	0.5	3.379	A



# 2043 Base + Dev, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Upper Tilehouse Street - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - A602 Park Way - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A505 Upper Tilehouse Street / A602 Park Way (Mitigation)	Standard Roundabout		1, 2, 3, 4	13.40	B

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2043 Base + Dev	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Upper Tilehouse Street		ONE HOUR	✓	1290	100.000
2 - Old Park Road					
3 - A505 Payne's Park		ONE HOUR	✓	1315	100.000
4 - A602 Park Way		ONE HOUR	✓	589	100.000

## Origin-Destination Data

### Demand (PCU/hr)

From	To			
	1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
1 - Upper Tilehouse Street	0	883	0	427
2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only
3 - A505 Payne's Park	904	116	0	295
4 - A602 Park Way	136	453	0	0

### Proportions

From	To			
	1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
1 - Upper Tilehouse Street	0.00	0.87	0.00	0.33
2 - Old Park Road	0.25	0.25	0.25	0.25
3 - A505 Payne's Park	0.89	0.09	0.00	0.22
4 - A602 Park Way	0.23	0.77	0.00	0.00

## Vehicle Mix

### Heavy Vehicle Percentages

From	To			
	1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
1 - Upper Tilehouse Street	0	9	0	6
2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only
3 - A505 Payne's Park	12	4	0	3
4 - A602 Park Way	4	1	0	0

### Average PCU Per Veh

From	To			
	1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
1 - Upper Tilehouse Street	1.000	1.088	1.000	1.065
2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only
3 - A505 Payne's Park	1.122	1.038	1.000	1.027
4 - A602 Park Way	1.045	1.013	1.000	1.000

## Detailed Demand Data

### Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:45-08:00	1 - Upper Tilehouse Street	971	971
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	990	990
	4 - A602 Park Way	443	443
08:00-08:15	1 - Upper Tilehouse Street	1160	1160
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1182	1182
	4 - A602 Park Way	529	529
08:15-08:30	1 - Upper Tilehouse Street	1420	1420
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1448	1448
	4 - A602 Park Way	649	649
08:30-08:45	1 - Upper Tilehouse Street	1420	1420
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1448	1448
	4 - A602 Park Way	649	649
08:45-09:00	1 - Upper Tilehouse Street	1160	1160
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1182	1182
	4 - A602 Park Way	529	529
09:00-09:15	1 - Upper Tilehouse Street	971	971
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	990	990
	4 - A602 Park Way	443	443

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Upper Tilehouse Street	0.92	27.06	10.0	D	1184	1776
2 - Old Park Road						
3 - A505 Payne's Park	0.58	3.74	1.5	A	1207	1810
4 - A602 Park Way	0.47	5.03	0.9	A	540	811

## Main Results for each time segment

### 07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	971	243	427	1686	0.576	965	781	0.0	1.4	5.345	A
2 - Old Park Road			320				1073				
3 - A505 Payne's Park	990	248	320	2631	0.376	987	0	0.0	0.7	2.386	A
4 - A602 Park Way	443	111	766	1646	0.269	442	541	0.0	0.4	3.047	A

### 08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1180	290	511	1629	0.712	1155	934	1.4	2.6	8.109	A
2 - Old Park Road			382				1284				
3 - A505 Payne's Park	1182	296	382	2575	0.459	1181	0	0.7	0.9	2.818	A
4 - A602 Park Way	529	132	916	1533	0.345	529	647	0.4	0.5	3.656	A

### 08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1420	355	625	1552	0.915	1395	1143	2.6	9.0	21.858	C
2 - Old Park Road			462				1558				
3 - A505 Payne's Park	1448	362	462	2504	0.578	1446	0	0.9	1.5	3.704	A
4 - A602 Park Way	649	162	1121	1380	0.470	647	786	0.5	0.9	5.002	A

### 08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1420	355	626	1551	0.916	1416	1145	9.0	10.0	27.080	D
2 - Old Park Road			469				1574				
3 - A505 Payne's Park	1448	362	469	2498	0.580	1448	0	1.5	1.5	3.741	A
4 - A602 Park Way	649	162	1123	1379	0.470	648	794	0.9	0.9	5.030	A

### 08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1180	290	513	1628	0.712	1189	937	10.0	2.8	9.390	A
2 - Old Park Road			393				1308				
3 - A505 Payne's Park	1182	296	393	2665	0.461	1184	0	1.5	0.9	2.850	A
4 - A602 Park Way	529	132	919	1531	0.346	531	659	0.9	0.5	3.676	A

### 09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	971	243	429	1685	0.576	976	784	2.8	1.5	5.520	A
2 - Old Park Road			323				1082				
3 - A505 Payne's Park	990	248	323	2628	0.377	991	0	0.9	0.7	2.403	A
4 - A602 Park Way	443	111	769	1643	0.270	444	545	0.5	0.4	3.063	A

# 2043 Base + Dev, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Upper Tilehouse Street - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - A602 Park Way - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A505 Upper Tilehouse Street / A602 Park Way (Mitigation)	Standard Roundabout		1, 2, 3, 4	19.45	C

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2043 Base + Dev	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Upper Tilehouse Street		ONE HOUR	✓	1271	100.000
2 - Old Park Road					
3 - A505 Payne's Park		ONE HOUR	✓	1389	100.000
4 - A602 Park Way		ONE HOUR	✓	711	100.000

## Origin-Destination Data

### Demand (PCU/hr)

From	To			
	1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
1 - Upper Tilehouse Street	0	903	0	368
2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only
3 - A505 Payne's Park	880	123	0	386
4 - A602 Park Way	134	577	0	0

### Proportions

From	To			
	1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
1 - Upper Tilehouse Street	0.00	0.71	0.00	0.29
2 - Old Park Road	0.25	0.25	0.25	0.25
3 - A505 Payne's Park	0.83	0.09	0.00	0.28
4 - A602 Park Way	0.19	0.81	0.00	0.00

## Vehicle Mix

### Heavy Vehicle Percentages

From	To			
	1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
1 - Upper Tilehouse Street	0	4	0	2
2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only
3 - A505 Payne's Park	0	3	0	2
4 - A602 Park Way	2	2	0	0

### Average PCU Per Veh

From	To			
	1 - Upper Tilehouse Street	2 - Old Park Road	3 - A505 Payne's Park	4 - A602 Park Way
1 - Upper Tilehouse Street	1.000	1.043	1.000	1.017
2 - Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only
3 - A505 Payne's Park	1.000	1.030	1.000	1.020
4 - A602 Park Way	1.020	1.020	1.000	1.000

## Detailed Demand Data

### Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:45-17:00	1 - Upper Tilehouse Street	957	957
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1046	1046
	4 - A602 Park Way	535	535
17:00-17:15	1 - Upper Tilehouse Street	1143	1143
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1249	1249
	4 - A602 Park Way	639	639
17:15-17:30	1 - Upper Tilehouse Street	1399	1399
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1529	1529
	4 - A602 Park Way	783	783
17:30-17:45	1 - Upper Tilehouse Street	1399	1399
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1529	1529
	4 - A602 Park Way	783	783
17:45-18:00	1 - Upper Tilehouse Street	1143	1143
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1249	1249
	4 - A602 Park Way	639	639
18:00-18:15	1 - Upper Tilehouse Street	957	957
	2 - Old Park Road	0	0
	3 - A505 Payne's Park	1046	1046
	4 - A602 Park Way	535	535

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Upper Tilehouse Street	0.96	44.37	16.4	E	1166	1749
2 - Old Park Road						
3 - A505 Payne's Park	0.60	3.53	1.5	A	1275	1912
4 - A602 Park Way	0.56	6.02	1.3	A	652	979

## Main Results for each time segment

### 16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	957	239	525	1620	0.591	951	781	0.0	1.5	5.523	A
2 - Old Park Road			275				1201				
3 - A505 Payne's Park	1046	261	275	2671	0.392	1043	0	0.0	0.6	2.225	A
4 - A602 Park Way	535	134	753	1655	0.323	533	565	0.0	0.5	3.268	A

### 17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1143	286	628	1550	0.737	1137	911	1.5	2.8	8.919	A
2 - Old Park Road			329				1436				
3 - A505 Payne's Park	1249	312	329	2623	0.476	1248	0	0.6	0.9	2.639	A
4 - A602 Park Way	639	160	901	1545	0.414	638	676	0.5	0.7	4.047	A

### 17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1399	350	769	1455	0.962	1358	1115	2.8	13.2	30.367	D
2 - Old Park Road			393				1733				
3 - A505 Payne's Park	1529	382	393	2566	0.596	1527	0	0.9	1.5	3.487	A
4 - A602 Park Way	783	196	1103	1394	0.562	781	818	0.7	1.3	5.965	A

### 17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1399	350	771	1453	0.963	1387	1116	13.2	16.4	44.371	E
2 - Old Park Road			401				1756				
3 - A505 Payne's Park	1529	382	401	2558	0.598	1529	0	1.5	1.5	3.526	A
4 - A602 Park Way	783	196	1104	1393	0.562	783	826	1.3	1.3	6.021	A

### 17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	1143	286	631	1548	0.738	1196	913	16.4	3.0	12.113	B
2 - Old Park Road			346				1481				
3 - A505 Payne's Park	1249	312	346	2607	0.479	1251	0	1.5	0.9	2.681	A
4 - A602 Park Way	639	160	903	1543	0.414	641	694	1.3	0.7	4.083	A

### 18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Upper Tilehouse Street	957	239	528	1618	0.591	963	764	3.0	1.5	5.741	A
2 - Old Park Road			279				1212				
3 - A505 Payne's Park	1046	261	279	2668	0.392	1047	0	0.9	0.7	2.241	A
4 - A602 Park Way	535	134	756	1653	0.324	536	570	0.7	0.5	3.290	A

<b>Junctions 9</b>
<b>ARCADY 9 - Roundabout Module</b>
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Filename: Upper Tilehouse - Pirton Road\_Existing.j9  
 Path: \\global.arup.com\europa\Midlands\jobs\259000\259393-10\4 Internal Project Data\4-04 Calculations\Junction Modelling\A505 - Upper Tilehouse St- Pirton Rd\For Appendix  
 Report generation date: 14/02/2023 20:54:40

- »2027 Base, AM
- »2027 Base, PM
- »2039 Base, AM
- »2039 Base, PM
- »2043 Base, AM
- »2043 Base, PM
- »2027 Base + Dev, AM
- »2027 Base + Dev, PM

**Summary of junction performance**

	AM						PM					
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
<b>2027 Base</b>												
1 - Offley Road	D1	7.4	45.95	0.90	E	39.62	D2	9.1	58.39	0.93	F	30.74
2 - Pirton Road		10.4	69.34	0.95	F			2.3	19.90	0.71	C	
3 - Upper Tilehouse Street		2.8	13.48	0.75	B			3.8	16.98	0.80	C	
4 - Wratten Road West		0.0	8.10	0.04	A			0.0	8.77	0.04	A	
<b>2039 Base</b>												
1 - Offley Road	D3	138.8	669.42	1.33	F	295.48	D4	62.2	298.18	1.18	F	120.02
2 - Pirton Road		10.5	76.86	0.95	F			5.0	38.06	0.85	E	
3 - Upper Tilehouse Street		3.2	14.89	0.77	B			4.9	20.92	0.84	C	
4 - Wratten Road West		0.0	8.40	0.04	A			0.0	9.34	0.04	A	
<b>2043 Base</b>												
1 - Offley Road	D5	188.5	874.64	1.41	F	389.41	D6	69.5	344.49	1.20	F	139.83
2 - Pirton Road		6.0	47.89	0.88	E			7.3	52.17	0.90	F	
3 - Upper Tilehouse Street		3.6	16.18	0.79	C			6.5	27.19	0.88	D	
4 - Wratten Road West		0.0	8.64	0.04	A			0.0	10.00	0.04	A	
<b>2027 Base + Dev</b>												
1 - Offley Road	D7	9.2	55.49	0.93	F	45.67	D8	10.2	64.09	0.94	F	32.80
2 - Pirton Road		12.1	79.71	0.97	F			2.4	20.83	0.72	C	
3 - Upper Tilehouse Street		2.7	12.85	0.73	B			3.7	16.56	0.79	C	
4 - Wratten Road West		0.0	7.96	0.04	A			0.0	8.70	0.04	A	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.

## File summary

### File Description

Title	Upper Tilehouse Street / Pirton Road
Location	
Site number	
Date	17/01/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\Paul.Dickens
Description	

## Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

## Analysis Options

Mini-roundabout model	Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
JUNCTIONS 9	5.75				0.85	36.00	20.00

## Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2027 Base	AM	ONE HOUR	07:45	09:15	15	✓
D2	2027 Base	PM	ONE HOUR	16:45	18:15	15	✓
D3	2039 Base	AM	ONE HOUR	07:45	09:15	15	✓
D4	2039 Base	PM	ONE HOUR	16:45	18:15	15	✓
D5	2043 Base	AM	ONE HOUR	07:45	09:15	15	✓
D6	2043 Base	PM	ONE HOUR	16:45	18:15	15	✓
D7	2027 Base + Dev	AM	ONE HOUR	07:45	09:15	15	✓
D8	2027 Base + Dev	PM	ONE HOUR	16:45	18:15	15	✓

## Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000



# 2027 Base, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details. [Arms 1 and 3 have 70% of the total flow for the roundabout for one or more time segments]
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A505 - Upper Tilehouse St (Existing)	Mini-roundabout		1, 2, 3, 4	39.62	E

### Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

## Arms

### Arms

Arm	Name	Description
1	Offley Road	
2	Pirton Road	
3	Upper Tilehouse Street	
4	Wratten Road West	

### Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1 - Offley Road	3.80	3.80	4.50	1.0	11.50	6.00	0.0	
2 - Pirton Road	4.00	4.00	4.20	1.0	15.50	13.50	0.0	
3 - Upper Tilehouse Street	3.80	3.80	5.00	6.0	12.00	6.60	0.0	✓
4 - Wratten Road West	2.80	2.80	4.50	3.0	13.00	8.40	0.0	

### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Offley Road	0.629	893
2 - Pirton Road	0.644	1001
3 - Upper Tilehouse Street	0.538	1049
4 - Wratten Road West	0.606	929

The slope and intercept shown above include any corrections and adjustments.

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2027 Base	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Offley Road		ONE HOUR	✓	564	100.000
2 - Pirton Road		ONE HOUR	✓	517	100.000
3 - Upper Tilehouse Street		ONE HOUR	✓	706	100.000
4 - Wratten Road West		ONE HOUR	✓	15	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To			
		1 - Offley Road	2 - Pirton Road	3 - Upper Tilehouse Street	4 - Wratten Road West
From	1 - Offley Road	0	0	559	5
	2 - Pirton Road	0	0	512	5
	3 - Upper Tilehouse Street	415	288	0	5
	4 - Wratten Road West	5	5	5	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To			
		1 - Offley Road	2 - Pirton Road	3 - Upper Tilehouse Street	4 - Wratten Road West
From	1 - Offley Road	0	0	0	0
	2 - Pirton Road	0	0	0	0
	3 - Upper Tilehouse Street	0	0	0	0
	4 - Wratten Road West	0	0	0	0

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Offley Road	0.90	45.95	7.4	E	518	776
2 - Pirton Road	0.95	69.34	10.4	F	474	712
3 - Upper Tilehouse Street	0.75	13.48	2.8	B	648	972
4 - Wratten Road West	0.04	8.10	0.0	A	14	21

## Main Results for each time segment

### 07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	425	106	221	754	0.583	420	314	0.0	1.3	10.608	B
2 - Pirton Road	389	97	423	728	0.535	385	217	0.0	1.1	10.365	B
3 - Upper Tilehouse Street	532	133	7	1045	0.509	527	801	0.0	1.0	6.900	A
4 - Wratten Road West	11	3	524	611	0.018	11	11	0.0	0.0	6.001	A

### 08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	507	127	285	728	0.698	503	376	1.3	2.2	15.859	C
2 - Pirton Road	465	116	508	673	0.690	461	261	1.1	2.1	16.628	C
3 - Upper Tilehouse Street	635	159	9	1044	0.608	633	960	1.0	1.5	8.699	A
4 - Wratten Road West	13	3	628	548	0.025	13	13	0.0	0.0	6.737	A

### 08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	621	155	324	690	0.900	604	459	2.2	6.4	36.395	E
2 - Pirton Road	569	142	610	608	0.937	546	318	2.1	7.9	46.805	E
3 - Upper Tilehouse Street	777	194	11	1043	0.745	772	1145	1.5	2.8	13.030	B
4 - Wratten Road West	17	4	767	464	0.036	16	16	0.0	0.0	8.048	A

### 08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	621	155	326	688	0.902	617	462	6.4	7.4	45.952	E
2 - Pirton Road	569	142	623	599	0.950	559	320	7.9	10.4	69.340	F
3 - Upper Tilehouse Street	777	194	11	1043	0.745	777	1171	2.8	2.8	13.478	B
4 - Wratten Road West	17	4	772	461	0.036	17	16	0.0	0.0	8.101	A

### 08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	507	127	288	725	0.700	527	381	7.4	2.5	19.744	C
2 - Pirton Road	465	116	531	658	0.706	496	264	10.4	2.6	25.707	D
3 - Upper Tilehouse Street	635	159	9	1044	0.608	640	1018	2.8	1.6	9.010	A
4 - Wratten Road West	13	3	635	544	0.025	14	14	0.0	0.0	6.794	A

### 09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	425	106	224	753	0.584	429	317	2.5	1.3	11.283	B
2 - Pirton Road	389	97	433	722	0.539	395	220	2.6	1.2	11.193	B
3 - Upper Tilehouse Street	532	133	8	1045	0.509	534	820	1.6	1.1	7.070	A
4 - Wratten Road West	11	3	530	607	0.019	11	11	0.0	0.0	6.041	A

# 2027 Base, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 75% of the total flow for the roundabout for one or more time segments]
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A505 - Upper Tilehouse St (Existing)	Mini-roundabout		1, 2, 3, 4	30.74	D

### Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2027 Base	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Offley Road		ONE HOUR	✓	544	100.000
2 - Pirton Road		ONE HOUR	✓	396	100.000
3 - Upper Tilehouse Street		ONE HOUR	✓	757	100.000
4 - Wratten Road West		ONE HOUR	✓	15	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To			
		1 - Offley Road	2 - Pirton Road	3 - Upper Tilehouse Street	4 - Wratten Road West
From	1 - Offley Road	0	0	539	5
	2 - Pirton Road	0	0	391	5
	3 - Upper Tilehouse Street	403	349	0	5
	4 - Wratten Road West	5	5	5	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To			
		1 - Offley Road	2 - Pirton Road	3 - Upper Tilehouse Street	4 - Wratten Road West
From	1 - Offley Road	0	0	0	0
	2 - Pirton Road	0	0	0	0
	3 - Upper Tilehouse Street	0	0	0	0
	4 - Wratten Road West	0	0	0	0

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Offley Road	0.93	58.39	9.1	F	499	749
2 - Pirton Road	0.71	19.90	2.3	C	363	545
3 - Upper Tilehouse Street	0.80	16.98	3.8	C	695	1042
4 - Wratten Road West	0.04	8.77	0.0	A	14	21

### Main Results for each time segment

#### 16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	410	102	268	725	0.565	404	305	0.0	1.3	11.076	B
2 - Pirton Road	298	75	408	738	0.404	295	264	0.0	0.7	8.097	A
3 - Upper Tilehouse Street	570	142	7	1045	0.545	565	696	0.0	1.2	7.431	A
4 - Wratten Road West	11	3	561	588	0.019	11	11	0.0	0.0	6.239	A

#### 17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	489	122	322	691	0.708	485	365	1.3	2.3	17.124	C
2 - Pirton Road	356	89	489	685	0.520	354	317	0.7	1.1	10.833	B
3 - Upper Tilehouse Street	681	170	9	1044	0.652	678	835	1.2	1.8	9.753	A
4 - Wratten Road West	13	3	673	520	0.026	13	13	0.0	0.0	7.102	A

#### 17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	599	150	392	647	0.926	578	445	2.3	7.5	43.069	E
2 - Pirton Road	436	109	584	625	0.698	432	386	1.1	2.2	18.244	C
3 - Upper Tilehouse Street	833	208	11	1043	0.799	826	1004	1.8	3.7	16.029	C
4 - Wratten Road West	17	4	821	431	0.038	16	16	0.0	0.0	8.681	A

#### 17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	599	150	395	645	0.929	593	449	7.5	9.1	58.394	F
2 - Pirton Road	436	109	598	615	0.709	435	389	2.2	2.3	19.897	C
3 - Upper Tilehouse Street	833	208	11	1043	0.799	833	1023	3.7	3.8	16.985	C
4 - Wratten Road West	17	4	827	427	0.039	17	16	0.0	0.0	8.770	A

**17:45 - 18:00**

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	489	122	326	688	0.711	515	371	9.1	2.6	23.339	C
2 - Pirton Road	356	89	519	666	0.535	361	322	2.3	1.2	11.958	B
3 - Upper Tilehouse Street	681	170	9	1044	0.652	688	871	3.8	1.9	10.310	B
4 - Wratten Road West	13	3	683	514	0.026	14	14	0.0	0.0	7.192	A

**18:00 - 18:15**

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	410	102	272	722	0.567	415	309	2.6	1.3	11.881	B
2 - Pirton Road	298	75	418	731	0.408	300	268	1.2	0.7	8.393	A
3 - Upper Tilehouse Street	570	142	8	1045	0.545	573	711	1.9	1.2	7.665	A
4 - Wratten Road West	11	3	569	584	0.019	11	11	0.0	0.0	6.291	A

# 2039 Base, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 76% of the total flow for the roundabout for one or more time segments]
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A505 - Upper Tilehouse St (Existing)	Mini-roundabout		1, 2, 3, 4	295.48	F

### Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2039 Base	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Offley Road		ONE HOUR	✓	837	100.000
2 - Pirton Road		ONE HOUR	✓	475	100.000
3 - Upper Tilehouse Street		ONE HOUR	✓	730	100.000
4 - Wratten Road West		ONE HOUR	✓	15	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To			
		1 - Offley Road	2 - Pirton Road	3 - Upper Tilehouse Street	4 - Wratten Road West
From	1 - Offley Road	0	0	832	5
	2 - Pirton Road	0	0	470	5
	3 - Upper Tilehouse Street	444	281	0	5
	4 - Wratten Road West	5	5	5	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To			
		1 - Offley Road	2 - Pirton Road	3 - Upper Tilehouse Street	4 - Wratten Road West
From	1 - Offley Road	0	0	0	0
	2 - Pirton Road	0	0	0	0
	3 - Upper Tilehouse Street	0	0	0	0
	4 - Wratten Road West	0	0	0	0

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Offley Road	1.33	669.42	138.8	F	768	1152
2 - Pirton Road	0.95	76.88	10.5	F	438	654
3 - Upper Tilehouse Street	0.77	14.89	3.2	B	670	1005
4 - Wratten Road West	0.04	8.40	0.0	A	14	21

### Main Results for each time segment

#### 07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	630	158	217	757	0.833	613	335	0.0	4.3	22.929	C
2 - Pirton Road	358	89	617	603	0.593	352	214	0.0	1.4	14.044	B
3 - Upper Tilehouse Street	550	137	7	1045	0.526	545	961	0.0	1.1	7.140	A
4 - Wratten Road West	11	3	541	600	0.019	11	11	0.0	0.0	6.110	A

#### 08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	752	188	261	729	1.032	700	402	4.3	17.4	71.848	F
2 - Pirton Road	427	107	705	547	0.781	420	258	1.4	3.2	27.034	D
3 - Upper Tilehouse Street	658	164	9	1045	0.628	654	1116	1.1	1.6	9.183	A
4 - Wratten Road West	13	3	650	535	0.025	13	13	0.0	0.0	6.904	A

#### 08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	922	230	318	693	1.329	692	491	17.4	74.9	252.959	F
2 - Pirton Road	523	131	697	551	0.949	502	313	3.2	8.4	56.223	F
3 - Upper Tilehouse Street	804	201	9	1044	0.770	798	1190	1.6	3.1	14.266	B
4 - Wratten Road West	17	4	792	448	0.037	16	15	0.0	0.0	8.336	A

#### 08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	922	230	320	692	1.332	692	494	74.9	132.3	538.506	F
2 - Pirton Road	523	131	697	551	0.949	515	315	8.4	10.5	76.859	F
3 - Upper Tilehouse Street	804	201	10	1044	0.770	803	1202	3.1	3.2	14.890	B
4 - Wratten Road West	17	4	798	445	0.037	17	15	0.0	0.0	8.403	A



08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	752	188	264	727	1.035	726	407	132.3	138.8	669.421	F
2 - Pirton Road	427	107	731	530	0.806	449	259	10.5	4.9	50.919	F
3 - Upper Tilehouse Street	656	164	9	1044	0.628	662	1171	3.2	1.7	9.565	A
4 - Wratten Road West	13	3	658	530	0.025	14	14	0.0	0.0	6.971	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	630	158	220	755	0.835	750	340	138.8	109.0	596.073	F
2 - Pirton Road	358	89	753	515	0.694	367	216	4.9	2.4	25.719	D
3 - Upper Tilehouse Street	550	137	8	1045	0.526	552	1112	1.7	1.1	7.344	A
4 - Wratten Road West	11	3	548	596	0.019	11	12	0.0	0.0	6.154	A

# 2039 Base, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 75% of the total flow for the roundabout for one or more time segments]
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A505 - Upper Tilehouse St (Existing)	Mini-roundabout		1, 2, 3, 4	120.02	F

### Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2039 Base	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Offley Road		ONE HOUR	✓	664	100.000
2 - Pirton Road		ONE HOUR	✓	462	100.000
3 - Upper Tilehouse Street		ONE HOUR	✓	795	100.000
4 - Wratten Road West		ONE HOUR	✓	15	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To			
		1 - Offley Road	2 - Pirton Road	3 - Upper Tilehouse Street	4 - Wratten Road West
From	1 - Offley Road	0	0	659	5
	2 - Pirton Road	0	0	457	5
	3 - Upper Tilehouse Street	408	382	0	5
	4 - Wratten Road West	5	5	5	0

## Vehicle Mix

### Heavy Vehicle Percentages

	To			
	1 - Offley Road	2 - Pirton Road	3 - Upper Tilehouse Street	4 - Wratten Road West
From				
1 - Offley Road	0	0	0	0
2 - Pirton Road	0	0	0	0
3 - Upper Tilehouse Street	0	0	0	0
4 - Wratten Road West	0	0	0	0

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Offley Road	1.18	298.18	62.2	F	609	914
2 - Pirton Road	0.85	38.06	5.0	E	424	636
3 - Upper Tilehouse Street	0.84	20.92	4.9	C	730	1094
4 - Wratten Road West	0.04	9.34	0.0	A	14	21

### Main Results for each time segment

#### 16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	500	125	293	709	0.705	491	308	0.0	2.2	15.896	C
2 - Pirton Road	348	87	495	682	0.510	344	289	0.0	1.0	10.527	B
3 - Upper Tilehouse Street	599	150	7	1045	0.573	593	831	0.0	1.3	7.877	A
4 - Wratten Road West	11	3	590	571	0.020	11	11	0.0	0.0	6.428	A

#### 17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	597	149	351	673	0.867	582	370	2.2	5.9	35.187	E
2 - Pirton Road	415	104	587	622	0.867	412	346	1.0	1.9	16.808	C
3 - Upper Tilehouse Street	715	179	9	1044	0.864	712	990	1.3	2.1	10.711	B
4 - Wratten Road West	13	3	707	500	0.027	13	13	0.0	0.0	7.399	A

#### 17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	731	183	427	625	1.170	616	450	5.9	34.6	135.352	F
2 - Pirton Road	509	127	622	600	0.848	498	421	1.9	4.5	32.361	D
3 - Upper Tilehouse Street	875	219	10	1044	0.839	865	1110	2.1	4.6	19.133	C
4 - Wratten Road West	17	4	860	407	0.041	16	15	0.0	0.0	9.208	A

#### 17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	731	183	431	622	1.175	621	454	34.6	62.2	289.188	F
2 - Pirton Road	509	127	626	597	0.852	507	426	4.5	5.0	38.063	E
3 - Upper Tilehouse Street	875	219	10	1044	0.839	874	1123	4.6	4.9	20.921	C
4 - Wratten Road West	17	4	869	402	0.041	17	16	0.0	0.0	9.341	A

**17:45 - 18:00**

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	597	149	357	668	0.893	658	377	62.2	47.0	298.182	F
2 - Pirton Road	415	104	662	574	0.724	424	353	5.0	2.8	25.299	D
3 - Upper Tilehouse Street	715	179	10	1044	0.685	725	1077	4.9	2.2	11.634	B
4 - Wratten Road West	13	3	721	492	0.027	14	14	0.0	0.0	7.528	A

**18:00 - 18:15**

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	500	125	297	707	0.707	675	313	47.0	3.1	130.350	F
2 - Pirton Road	348	87	679	563	0.618	352	293	2.8	1.7	17.444	C
3 - Upper Tilehouse Street	599	150	9	1044	0.573	602	1022	2.2	1.4	8.201	A
4 - Wratten Road West	11	3	598	566	0.020	11	13	0.0	0.0	6.493	A

# 2043 Base, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 78% of the total flow for the roundabout for one or more time segments]
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A505 - Upper Tilehouse St (Existing)	Mini-roundabout		1, 2, 3, 4	389.41	F

### Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2043 Base	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Offley Road		ONE HOUR	✓	894	100.000
2 - Pirton Road		ONE HOUR	✓	436	100.000
3 - Upper Tilehouse Street		ONE HOUR	✓	748	100.000
4 - Wratten Road West		ONE HOUR	✓	15	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To			
		1 - Offley Road	2 - Pirton Road	3 - Upper Tilehouse Street	4 - Wratten Road West
From	1 - Offley Road	0	0	889	5
	2 - Pirton Road	0	0	431	5
	3 - Upper Tilehouse Street	470	273	0	5
	4 - Wratten Road West	5	5	5	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To			
		1 - Offley Road	2 - Pirton Road	3 - Upper Tilehouse Street	4 - Wratten Road West
From	1 - Offley Road	0	0	0	0
	2 - Pirton Road	0	0	0	0
	3 - Upper Tilehouse Street	0	0	0	0
	4 - Wratten Road West	0	0	0	0

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Offley Road	1.41	874.64	188.5	F	820	1231
2 - Pirton Road	0.88	47.89	6.0	E	400	600
3 - Upper Tilehouse Street	0.79	16.18	3.6	C	688	1030
4 - Wratten Road West	0.04	8.64	0.0	A	14	21

### Main Results for each time segment

#### 07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	673	168	211	760	0.885	650	355	0.0	5.9	28.309	D
2 - Pirton Road	328	82	653	580	0.566	323	208	0.0	1.3	13.789	B
3 - Upper Tilehouse Street	563	141	7	1045	0.539	559	969	0.0	1.1	7.328	A
4 - Wratten Road West	11	3	555	592	0.019	11	11	0.0	0.0	6.195	A

#### 08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	804	201	254	734	1.095	719	425	5.9	27.2	99.357	F
2 - Pirton Road	392	98	723	535	0.733	387	249	1.3	2.5	23.588	C
3 - Upper Tilehouse Street	672	168	8	1045	0.644	670	1102	1.1	1.8	9.544	A
4 - Wratten Road West	13	3	666	525	0.026	13	13	0.0	0.0	7.035	A

#### 08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	984	246	309	699	1.408	698	519	27.2	98.7	335.898	F
2 - Pirton Road	480	120	704	547	0.877	469	304	2.5	5.3	40.690	E
3 - Upper Tilehouse Street	824	206	9	1044	0.789	817	1163	1.8	3.5	15.368	C
4 - Wratten Road West	17	4	811	437	0.038	16	15	0.0	0.0	8.564	A

#### 08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	984	246	311	697	1.411	697	523	98.7	170.4	688.503	F
2 - Pirton Road	480	120	703	548	0.877	478	306	5.3	6.0	47.887	E
3 - Upper Tilehouse Street	824	206	9	1044	0.789	823	1171	3.5	3.6	16.184	C
4 - Wratten Road West	17	4	818	433	0.038	17	15	0.0	0.0	8.644	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	804	201	257	732	1.098	731	431	170.4	188.5	874.644	F
2 - Pirton Road	392	98	736	526	0.745	403	252	6.0	3.2	31.236	D
3 - Upper Tilehouse Street	672	168	9	1045	0.644	679	1130	3.6	1.9	10.036	B
4 - Wratten Road West	13	3	675	520	0.026	14	13	0.0	0.0	7.114	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	673	168	214	759	0.887	755	359	188.5	168.1	850.953	F
2 - Pirton Road	328	82	758	512	0.641	334	210	3.2	1.9	20.743	C
3 - Upper Tilehouse Street	563	141	8	1045	0.539	566	1084	1.9	1.2	7.555	A
4 - Wratten Road West	11	3	562	588	0.019	11	12	0.0	0.0	6.243	A

# 2043 Base, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details. [Arms 1 and 3 have 75% of the total flow for the roundabout for one or more time segments]
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A505 - Upper Tilehouse St (Existing)	Mini-roundabout		1, 2, 3, 4	139.83	F

### Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2043 Base	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Offley Road		ONE HOUR	✓	678	100.000
2 - Pirton Road		ONE HOUR	✓	489	100.000
3 - Upper Tilehouse Street		ONE HOUR	✓	834	100.000
4 - Wratten Road West		ONE HOUR	✓	15	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To			
		1 - Offley Road	2 - Pirton Road	3 - Upper Tilehouse Street	4 - Wratten Road West
From	1 - Offley Road	0	0	673	5
	2 - Pirton Road	0	0	484	5
	3 - Upper Tilehouse Street	448	381	0	5
	4 - Wratten Road West	5	5	5	0

## Vehicle Mix



### Heavy Vehicle Percentages

	To			
	1 - Offley Road	2 - Pirton Road	3 - Upper Tilehouse Street	4 - Wratten Road West
From				
1 - Offley Road	0	0	0	0
2 - Pirton Road	0	0	0	0
3 - Upper Tilehouse Street	0	0	0	0
4 - Wratten Road West	0	0	0	0

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Offley Road	1.20	344.49	69.5	F	622	933
2 - Pirton Road	0.90	52.17	7.3	F	449	673
3 - Upper Tilehouse Street	0.88	27.19	6.5	D	765	1148
4 - Wratten Road West	0.04	10.00	0.0	A	14	21

### Main Results for each time segment

#### 16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	510	128	292	710	0.719	501	338	0.0	2.4	16.547	C
2 - Pirton Road	368	92	505	675	0.545	363	288	0.0	1.2	11.381	B
3 - Upper Tilehouse Street	628	157	7	1045	0.601	622	861	0.0	1.5	8.394	A
4 - Wratten Road West	11	3	618	554	0.020	11	11	0.0	0.0	6.635	A

#### 17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	610	152	350	673	0.905	593	405	2.4	6.6	38.302	E
2 - Pirton Road	440	110	597	616	0.714	435	345	1.2	2.3	19.417	C
3 - Upper Tilehouse Street	750	187	9	1044	0.718	746	1023	1.5	2.4	11.899	B
4 - Wratten Road West	13	3	741	479	0.028	13	13	0.0	0.0	7.731	A

#### 17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	746	187	424	627	1.191	619	491	6.6	38.4	147.407	F
2 - Pirton Road	538	135	625	598	0.901	523	418	2.3	6.2	41.147	E
3 - Upper Tilehouse Street	918	230	10	1044	0.880	904	1138	2.4	6.0	23.562	C
4 - Wratten Road West	17	4	898	384	0.043	16	15	0.0	0.0	9.796	A

#### 17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	746	187	430	623	1.198	622	498	38.4	69.5	319.189	F
2 - Pirton Road	538	135	628	596	0.903	534	424	6.2	7.3	52.167	F
3 - Upper Tilehouse Street	918	230	10	1044	0.880	916	1152	6.0	6.5	27.193	D
4 - Wratten Road West	17	4	911	376	0.044	17	16	0.0	0.0	10.000	A

**17:45 - 18:00**

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	610	152	359	668	0.913	658	416	69.5	57.3	344.490	F
2 - Pirton Road	440	110	663	573	0.767	454	354	7.3	3.6	32.834	D
3 - Upper Tilehouse Street	750	187	9	1044	0.718	765	1107	6.5	2.7	13.563	B
4 - Wratten Road West	13	3	761	467	0.029	14	14	0.0	0.0	7.933	A

**18:00 - 18:15**

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	510	128	296	707	0.722	695	343	57.3	11.2	184.270	F
2 - Pirton Road	368	92	699	550	0.669	374	293	3.6	2.1	21.063	C
3 - Upper Tilehouse Street	628	157	9	1044	0.601	632	1064	2.7	1.5	8.829	A
4 - Wratten Road West	11	3	629	548	0.021	11	13	0.0	0.0	6.713	A

# 2027 Base + Dev, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details. [Arms 1 and 3 have 70% of the total flow for the roundabout for one or more time segments]
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A505 - Upper Tilehouse St (Existing)	Mini-roundabout		1, 2, 3, 4	45.67	E

### Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2027 Base + Dev	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Offley Road		ONE HOUR	✓	581	100.000
2 - Pirton Road		ONE HOUR	✓	518	100.000
3 - Upper Tilehouse Street		ONE HOUR	✓	694	100.000
4 - Wratten Road West		ONE HOUR	✓	15	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To			
		1 - Offley Road	2 - Pirton Road	3 - Upper Tilehouse Street	4 - Wratten Road West
From	1 - Offley Road	0	0	576	5
	2 - Pirton Road	0	0	513	5
	3 - Upper Tilehouse Street	404	285	0	5
	4 - Wratten Road West	5	5	5	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To			
		1 - Offley Road	2 - Pirton Road	3 - Upper Tilehouse Street	4 - Wratten Road West
From	1 - Offley Road	0	0	0	0
	2 - Pirton Road	0	0	0	0
	3 - Upper Tilehouse Street	0	0	0	0
	4 - Wratten Road West	0	0	0	0

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Offley Road	0.93	55.49	9.2	F	533	800
2 - Pirton Road	0.97	79.71	12.1	F	475	713
3 - Upper Tilehouse Street	0.73	12.85	2.7	B	637	955
4 - Wratten Road West	0.04	7.96	0.0	A	14	21

### Main Results for each time segment

#### 07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	437	109	220	755	0.580	432	306	0.0	1.3	10.987	B
2 - Pirton Road	390	97	436	720	0.542	385	217	0.0	1.2	10.635	B
3 - Upper Tilehouse Street	522	131	7	1045	0.500	519	814	0.0	1.0	6.786	A
4 - Wratten Road West	11	3	515	617	0.018	11	11	0.0	0.0	5.947	A

#### 08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	522	131	264	727	0.718	518	367	1.3	2.4	16.881	C
2 - Pirton Road	466	116	523	664	0.701	461	260	1.2	2.2	17.421	C
3 - Upper Tilehouse Street	624	156	9	1044	0.597	622	975	1.0	1.5	8.482	A
4 - Wratten Road West	13	3	618	554	0.024	13	13	0.0	0.0	6.656	A

#### 08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	640	160	323	690	0.927	619	448	2.4	7.7	41.432	E
2 - Pirton Road	570	143	624	598	0.953	544	317	2.2	8.8	51.132	F
3 - Upper Tilehouse Street	764	191	11	1044	0.732	759	1158	1.5	2.6	12.468	B
4 - Wratten Road West	17	4	754	471	0.035	16	16	0.0	0.0	7.910	A

#### 08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	640	160	325	689	0.928	634	450	7.7	9.2	55.490	F
2 - Pirton Road	570	143	639	589	0.969	557	319	8.8	12.1	79.710	F
3 - Upper Tilehouse Street	764	191	11	1043	0.732	764	1185	2.6	2.7	12.846	B
4 - Wratten Road West	17	4	758	469	0.035	17	16	0.0	0.0	7.958	A

**08:45 - 09:00**

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	522	131	267	725	0.720	548	370	9.2	2.8	22.773	C
2 - Pirton Road	466	116	553	644	0.723	503	263	12.1	2.8	30.623	D
3 - Upper Tilehouse Street	624	156	10	1044	0.598	628	1046	2.7	1.5	8.757	A
4 - Wratten Road West	13	3	624	550	0.025	14	14	0.0	0.0	6.708	A

**09:00 - 09:15**

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	437	109	223	753	0.581	443	309	2.8	1.4	11.790	B
2 - Pirton Road	390	97	446	713	0.547	396	219	2.8	1.2	11.593	B
3 - Upper Tilehouse Street	522	131	8	1045	0.500	524	835	1.5	1.0	6.940	A
4 - Wratten Road West	11	3	521	613	0.018	11	11	0.0	0.0	5.983	A

# 2027 Base + Dev, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 75% of the total flow for the roundabout for one or more time segments]
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A505 - Upper Tilehouse St (Existing)	Mini-roundabout		1, 2, 3, 4	32.80	D

### Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2027 Base + Dev	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Offley Road		ONE HOUR	✓	554	100.000
2 - Pirton Road		ONE HOUR	✓	398	100.000
3 - Upper Tilehouse Street		ONE HOUR	✓	752	100.000
4 - Wratten Road West		ONE HOUR	✓	15	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To			
		1 - Offley Road	2 - Pirton Road	3 - Upper Tilehouse Street	4 - Wratten Road West
From	1 - Offley Road	0	0	549	5
	2 - Pirton Road	0	0	393	5
	3 - Upper Tilehouse Street	402	345	0	5
	4 - Wratten Road West	5	5	5	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To			
		1 - Offley Road	2 - Pirton Road	3 - Upper Tilehouse Street	4 - Wratten Road West
From	1 - Offley Road	0	0	0	0
	2 - Pirton Road	0	0	0	0
	3 - Upper Tilehouse Street	0	0	0	0
	4 - Wratten Road West	0	0	0	0

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Offley Road	0.94	64.09	10.2	F	508	783
2 - Pirton Road	0.72	20.83	2.4	C	365	548
3 - Upper Tilehouse Street	0.79	16.56	3.7	C	690	1035
4 - Wratten Road West	0.04	8.70	0.0	A	14	21

### Main Results for each time segment

#### 16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	417	104	265	727	0.574	412	304	0.0	1.3	11.260	B
2 - Pirton Road	300	75	416	733	0.409	297	261	0.0	0.7	8.210	A
3 - Upper Tilehouse Street	566	142	7	1045	0.542	562	705	0.0	1.2	7.375	A
4 - Wratten Road West	11	3	558	590	0.019	11	11	0.0	0.0	6.215	A

#### 17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	498	125	318	693	0.718	494	365	1.3	2.4	17.648	C
2 - Pirton Road	358	89	498	680	0.527	356	313	0.7	1.1	11.077	B
3 - Upper Tilehouse Street	678	169	9	1044	0.647	674	845	1.2	1.8	9.640	A
4 - Wratten Road West	13	3	669	523	0.026	13	13	0.0	0.0	7.064	A

#### 17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	610	152	388	650	0.939	587	444	2.4	8.2	45.817	E
2 - Pirton Road	438	110	592	619	0.708	433	382	1.1	2.3	18.934	C
3 - Upper Tilehouse Street	828	207	11	1043	0.794	821	1015	1.8	3.6	15.682	C
4 - Wratten Road West	17	4	815	434	0.038	16	16	0.0	0.0	8.615	A

#### 17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	610	152	391	648	0.942	602	448	8.2	10.2	64.085	F
2 - Pirton Road	438	110	608	609	0.720	438	385	2.3	2.4	20.826	C
3 - Upper Tilehouse Street	828	207	11	1043	0.794	827	1034	3.6	3.7	16.565	C
4 - Wratten Road West	17	4	822	430	0.038	17	16	0.0	0.0	8.699	A

**17:45 - 18:00**

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	498	125	322	690	0.721	528	370	10.2	2.8	25.362	D
2 - Pirton Road	358	89	532	658	0.544	363	318	2.4	1.2	12.395	B
3 - Upper Tilehouse Street	676	169	9	1044	0.647	683	885	3.7	1.9	10.161	B
4 - Wratten Road West	13	3	679	517	0.026	14	14	0.0	0.0	7.150	A

**18:00 - 18:15**

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	417	104	269	724	0.576	423	308	2.8	1.4	12.140	B
2 - Pirton Road	300	75	426	726	0.413	302	265	1.2	0.7	8.528	A
3 - Upper Tilehouse Street	566	142	8	1045	0.542	569	720	1.9	1.2	7.604	A
4 - Wratten Road West	11	3	565	586	0.019	11	11	0.0	0.0	6.266	A



<b>Junctions 9</b>
<b>ARCADY 9 - Roundabout Module</b>
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**Filename:** Upper Tilehouse - Pirton Road\_Proposed.j9  
**Path:** \\global.arup.com\europa\Midlands\jobs\259000\259393-10\4 Internal Project Data\4-04 Calculations\Junction Modelling\A505 - Upper Tilehouse St- Pirton Rd\For Appendix  
**Report generation date:** 14/02/2023 20:57:06

- »2039 Base + Dev, AM
- »2039 Base + Dev, PM
- »2043 Base + Dev, AM
- »2043 Base + Dev, PM

**Summary of junction performance**

	AM						PM					
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
<b>2039 Base + Dev</b>												
1 - Offley Road	D9	6.0	35.88	0.87	E	75.73	D10	59.6	288.50	1.18	F	102.80
2 - Pirton Road		43.1	218.25	1.12	F			6.6	49.16	0.89	E	
3 - Upper Tilehouse Street		3.7	12.64	0.79	B			3.3	11.49	0.77	B	
4 - Wratten Road West		0.1	13.59	0.06	B			0.1	12.76	0.06	B	
<b>2043 Base + Dev</b>												
1 - Offley Road	D11	8.0	46.45	0.91	E	130.76	D12	103.6	528.63	1.29	F	197.89
2 - Pirton Road		75.2	392.71	1.24	F			8.2	59.15	0.92	F	
3 - Upper Tilehouse Street		4.1	13.77	0.81	B			3.4	11.94	0.78	B	
4 - Wratten Road West		0.1	14.38	0.06	B			0.1	13.10	0.06	B	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.

**File summary**

**File Description**

Title	Upper Tilehouse Street / Pirton Road
Location	
Site number	
Date	17/01/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\Paul.Dickens
Description	

### Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

### Analysis Options

Mini-roundabout model	Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
JUNCTIONS 9	5.75				0.85	36.00	20.00

### Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2039 Base + Dev	AM	ONE HOUR	07:45	09:15	15	✓
D10	2039 Base + Dev	PM	ONE HOUR	16:45	18:15	15	✓
D11	2043 Base + Dev	AM	ONE HOUR	07:45	09:15	15	✓
D12	2043 Base + Dev	PM	ONE HOUR	16:45	18:15	15	✓

### Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

# 2039 Base + Dev, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details. [Arms 1 and 3 have 71% of the total flow for the roundabout for one or more time segments][Arms 2 and 3 have 72% of the total flow for the roundabout for one or more time segments]
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A505 - Upper Tilehouse St (Existing)	Mini-roundabout		1, 2, 3, 4	75.73	F

### Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

## Arms

### Arms

Arm	Name	Description
1	Offley Road	
2	Pirton Road	
3	Upper Tilehouse Street	
4	Wratten Road West	

### Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1 - Offley Road	3.80	3.80	4.75	2.0	11.50	6.00	0.0	
2 - Pirton Road	4.00	4.00	4.20	1.0	15.50	13.50	0.0	
3 - Upper Tilehouse Street	3.80	3.80	7.50	21.0	12.00	6.60	0.0	✓
4 - Wratten Road West	2.80	2.80	4.50	3.0	13.00	8.40	0.0	

### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Offley Road	0.635	924
2 - Pirton Road	0.644	1001
3 - Upper Tilehouse Street	0.600	1363
4 - Wratten Road West	0.606	929

The slope and intercept shown above include any corrections and adjustments.

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2039 Base + Dev	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Offley Road		ONE HOUR	✓	579	100.000
2 - Pirton Road		ONE HOUR	✓	600	100.000
3 - Upper Tilehouse Street		ONE HOUR	✓	975	100.000
4 - Wratten Road West		ONE HOUR	✓	15	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To			
		1 - Offley Road	2 - Pirton Road	3 - Upper Tilehouse Street	4 - Wratten Road West
From	1 - Offley Road	0	0	574	5
	2 - Pirton Road	0	0	595	5
	3 - Upper Tilehouse Street	703	267	0	5
	4 - Wratten Road West	5	5	5	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To			
		1 - Offley Road	2 - Pirton Road	3 - Upper Tilehouse Street	4 - Wratten Road West
From	1 - Offley Road	0	0	0	0
	2 - Pirton Road	0	0	0	0
	3 - Upper Tilehouse Street	0	0	0	0
	4 - Wratten Road West	0	0	0	0

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Offley Road	0.87	35.88	6.0	E	531	797
2 - Pirton Road	1.12	218.25	43.1	F	551	826
3 - Upper Tilehouse Street	0.79	12.64	3.7	B	895	1342
4 - Wratten Road West	0.06	13.59	0.1	B	14	21

## Main Results for each time segment

### 07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	436	109	207	793	0.550	431	530	0.0	1.2	9.835	A
2 - Pirton Road	452	113	435	720	0.627	445	203	0.0	1.6	12.808	B
3 - Upper Tilehouse Street	734	184	7	1359	0.540	729	873	0.0	1.2	5.682	A
4 - Wratten Road West	11	3	726	489	0.023	11	11	0.0	0.0	7.540	A

### 08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	521	130	248	767	0.679	517	635	1.2	2.0	14.244	B
2 - Pirton Road	539	135	522	664	0.812	531	244	1.6	3.8	25.424	D
3 - Upper Tilehouse Street	877	219	9	1358	0.646	874	1044	1.2	1.8	7.404	A
4 - Wratten Road West	13	3	870	401	0.034	13	13	0.0	0.0	9.277	A

### 08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	637	159	303	732	0.871	624	774	2.0	5.4	30.190	D
2 - Pirton Road	661	165	630	595	1.110	579	297	3.8	24.1	104.747	F
3 - Upper Tilehouse Street	1073	288	10	1357	0.791	1066	1199	1.8	3.6	12.097	B
4 - Wratten Road West	17	4	1061	285	0.058	16	16	0.0	0.1	13.382	B

### 08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	637	159	305	731	0.873	635	779	5.4	6.0	35.882	E
2 - Pirton Road	661	165	641	588	1.124	585	299	24.1	43.1	218.252	F
3 - Upper Tilehouse Street	1073	288	10	1357	0.791	1073	1215	3.6	3.7	12.637	B
4 - Wratten Road West	17	4	1088	281	0.059	17	16	0.1	0.1	13.591	B

### 08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	521	130	251	765	0.681	535	642	6.0	2.2	16.604	C
2 - Pirton Road	539	135	540	653	0.826	638	247	43.1	18.5	178.576	F
3 - Upper Tilehouse Street	877	219	10	1357	0.646	884	1168	3.7	1.9	7.717	A
4 - Wratten Road West	13	3	879	396	0.034	14	14	0.1	0.0	9.428	A

### 09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	436	109	209	791	0.551	440	535	2.2	1.3	10.353	B
2 - Pirton Road	452	113	444	715	0.632	519	206	18.5	1.8	24.668	C
3 - Upper Tilehouse Street	734	184	8	1358	0.540	737	954	1.9	1.2	5.819	A
4 - Wratten Road West	11	3	733	484	0.023	11	12	0.0	0.0	7.612	A

# 2039 Base + Dev, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details. [Arms 1 and 3 have 77% of the total flow for the roundabout for one or more time segments]
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A505 - Upper Tilehouse St (Existing)	Mini-roundabout		1, 2, 3, 4	102.60	F

### Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2039 Base + Dev	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Offley Road		ONE HOUR	✓	681	100.000
2 - Pirton Road		ONE HOUR	✓	471	100.000
3 - Upper Tilehouse Street		ONE HOUR	✓	949	100.000
4 - Wratten Road West		ONE HOUR	✓	15	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To			
		1 - Offley Road	2 - Pirton Road	3 - Upper Tilehouse Street	4 - Wratten Road West
From	1 - Offley Road	0	0	676	5
	2 - Pirton Road	0	0	466	5
	3 - Upper Tilehouse Street	557	387	0	5
	4 - Wratten Road West	5	5	5	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To			
		1 - Offley Road	2 - Pirton Road	3 - Upper Tilehouse Street	4 - Wratten Road West
From	1 - Offley Road	0	0	0	0
	2 - Pirton Road	0	0	0	0
	3 - Upper Tilehouse Street	0	0	0	0
	4 - Wratten Road West	0	0	0	0

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Offley Road	1.16	268.50	59.6	F	625	937
2 - Pirton Road	0.89	49.16	6.6	E	432	648
3 - Upper Tilehouse Street	0.77	11.49	3.3	B	871	1306
4 - Wratten Road West	0.06	12.76	0.1	B	14	21

### Main Results for each time segment

#### 16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	513	128	297	736	0.697	504	421	0.0	2.2	15.035	C
2 - Pirton Road	355	89	508	673	0.527	350	293	0.0	1.1	11.000	B
3 - Upper Tilehouse Street	714	179	7	1359	0.526	710	851	0.0	1.1	5.516	A
4 - Wratten Road West	11	3	706	500	0.023	11	11	0.0	0.0	7.359	A

#### 17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	612	153	356	698	0.877	599	504	2.2	5.5	32.461	D
2 - Pirton Road	423	106	603	612	0.692	419	351	1.1	2.1	18.304	C
3 - Upper Tilehouse Street	853	213	9	1358	0.628	851	1014	1.1	1.7	7.072	A
4 - Wratten Road West	13	3	846	415	0.032	13	13	0.0	0.0	8.953	A

#### 17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	750	187	435	648	1.157	638	615	5.5	33.4	126.603	F
2 - Pirton Road	519	130	644	586	0.885	504	429	2.1	5.6	38.808	E
3 - Upper Tilehouse Street	1045	261	10	1357	0.770	1039	1138	1.7	3.2	11.101	B
4 - Wratten Road West	17	4	1033	302	0.055	16	16	0.0	0.1	12.595	B

#### 17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	750	187	437	647	1.159	645	619	33.4	59.6	268.498	F
2 - Pirton Road	519	130	650	581	0.892	515	431	5.6	6.6	49.156	E
3 - Upper Tilehouse Street	1045	261	10	1357	0.770	1045	1155	3.2	3.3	11.494	B
4 - Wratten Road West	17	4	1039	299	0.055	17	16	0.1	0.1	12.758	B

**17:45 - 18:00**

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	612	153	359	696	0.880	684	509	59.6	41.6	286.651	F
2 - Pirton Road	423	106	689	557	0.761	436	355	6.6	3.5	32.096	D
3 - Upper Tilehouse Street	853	213	10	1357	0.629	859	1115	3.3	1.7	7.315	A
4 - Wratten Road West	13	3	855	410	0.033	14	14	0.1	0.0	9.073	A

**18:00 - 18:15**

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	513	128	300	734	0.699	668	425	41.6	2.7	96.230	F
2 - Pirton Road	355	89	672	568	0.625	362	296	3.5	1.7	18.036	C
3 - Upper Tilehouse Street	714	179	9	1358	0.526	717	1025	1.7	1.1	5.637	A
4 - Wratten Road West	11	3	713	496	0.023	11	13	0.0	0.0	7.423	A



# 2043 Base + Dev, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details. [Arms 1 and 3 have 70% of the total flow for the roundabout for one or more time segments][Arms 2 and 3 have 72% of the total flow for the roundabout for one or more time segments]
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A505 - Upper Tilehouse St (Existing)	Mini-roundabout		1, 2, 3, 4	130.76	F

### Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2043 Base + Dev	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Offley Road		ONE HOUR	✓	603	100.000
2 - Pirton Road		ONE HOUR	✓	646	100.000
3 - Upper Tilehouse Street		ONE HOUR	✓	997	100.000
4 - Wratten Road West		ONE HOUR	✓	15	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To			
		1 - Offley Road	2 - Pirton Road	3 - Upper Tilehouse Street	4 - Wratten Road West
From	1 - Offley Road	0	0	598	5
	2 - Pirton Road	0	0	641	5
	3 - Upper Tilehouse Street	723	289	0	5
	4 - Wratten Road West	5	5	5	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To			
		1 - Offley Road	2 - Pirton Road	3 - Upper Tilehouse Street	4 - Wratten Road West
From	1 - Offley Road	0	0	0	0
	2 - Pirton Road	0	0	0	0
	3 - Upper Tilehouse Street	0	0	0	0
	4 - Wratten Road West	0	0	0	0

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Offley Road	0.91	46.45	8.0	E	553	830
2 - Pirton Road	1.24	392.71	75.2	F	593	889
3 - Upper Tilehouse Street	0.81	13.77	4.1	B	915	1372
4 - Wratten Road West	0.06	14.38	0.1	B	14	21

### Main Results for each time segment

#### 07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	454	113	209	792	0.573	449	545	0.0	1.3	10.347	B
2 - Pirton Road	486	122	452	709	0.686	478	205	0.0	2.1	15.096	C
3 - Upper Tilehouse Street	751	188	7	1359	0.553	746	923	0.0	1.2	5.830	A
4 - Wratten Road West	11	3	742	479	0.024	11	11	0.0	0.0	7.696	A

#### 08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	542	136	250	765	0.708	538	652	1.3	2.3	15.562	C
2 - Pirton Road	581	145	543	651	0.892	565	246	2.1	6.0	36.555	E
3 - Upper Tilehouse Street	896	224	9	1356	0.660	894	1099	1.2	1.9	7.710	A
4 - Wratten Road West	13	3	889	390	0.035	13	13	0.0	0.0	9.569	A

#### 08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	664	166	305	731	0.909	646	796	2.3	6.9	36.293	E
2 - Pirton Road	711	178	651	581	1.224	575	299	6.0	40.2	162.026	F
3 - Upper Tilehouse Street	1098	274	10	1357	0.809	1090	1216	1.9	3.9	13.061	B
4 - Wratten Road West	17	4	1084	271	0.061	16	15	0.0	0.1	14.113	B

#### 08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	664	166	307	729	0.910	660	801	6.9	8.0	46.452	E
2 - Pirton Road	711	178	665	572	1.243	571	302	40.2	75.2	365.717	F
3 - Upper Tilehouse Street	1098	274	10	1357	0.809	1097	1226	3.9	4.1	13.774	B
4 - Wratten Road West	17	4	1092	267	0.062	17	15	0.1	0.1	14.385	B

**08:45 - 09:00**

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	542	136	253	763	0.710	564	661	8.0	2.6	19.684	C
2 - Pirton Road	581	145	568	634	0.915	626	249	75.2	63.8	392.711	F
3 - Upper Tilehouse Street	896	224	10	1357	0.660	905	1185	4.1	2.0	8.093	A
4 - Wratten Road West	13	3	900	383	0.035	14	14	0.1	0.0	9.750	A

**09:00 - 09:15**

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	454	113	211	790	0.574	459	550	2.6	1.4	11.013	B
2 - Pirton Road	486	122	463	702	0.692	692	207	63.8	12.5	204.997	F
3 - Upper Tilehouse Street	751	188	9	1358	0.553	754	1145	2.0	1.3	5.991	A
4 - Wratten Road West	11	3	750	474	0.024	11	13	0.0	0.0	7.780	A

# 2043 Base + Dev, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details. [Arms 1 and 3 have 77% of the total flow for the roundabout for one or more time segments]
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A505 - Upper Tilehouse St (Existing)	Mini-roundabout		1, 2, 3, 4	197.89	F

### Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2043 Base + Dev	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Offley Road		ONE HOUR	✓	752	100.000
2 - Pirton Road		ONE HOUR	✓	488	100.000
3 - Upper Tilehouse Street		ONE HOUR	✓	960	100.000
4 - Wratten Road West		ONE HOUR	✓	15	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To			
		1 - Offley Road	2 - Pirton Road	3 - Upper Tilehouse Street	4 - Wratten Road West
From	1 - Offley Road	0	0	747	5
	2 - Pirton Road	0	0	481	5
	3 - Upper Tilehouse Street	563	392	0	5
	4 - Wratten Road West	5	5	5	0

## Vehicle Mix

### Heavy Vehicle Percentages

	To			
	1 - Offley Road	2 - Pirton Road	3 - Upper Tilehouse Street	4 - Wratten Road West
From				
1 - Offley Road	0	0	0	0
2 - Pirton Road	0	0	0	0
3 - Upper Tilehouse Street	0	0	0	0
4 - Wratten Road West	0	0	0	0

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Offley Road	1.29	528.63	103.6	F	690	1035
2 - Pirton Road	0.92	59.15	8.2	F	446	669
3 - Upper Tilehouse Street	0.78	11.94	3.4	B	881	1321
4 - Wratten Road West	0.06	13.10	0.1	B	14	21

### Main Results for each time segment

#### 16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	566	142	301	733	0.772	554	425	0.0	3.1	18.953	C
2 - Pirton Road	366	91	558	641	0.571	361	297	0.0	1.3	12.616	B
3 - Upper Tilehouse Street	723	181	7	1359	0.532	718	911	0.0	1.1	5.583	A
4 - Wratten Road West	11	3	715	495	0.023	11	11	0.0	0.0	7.434	A

#### 17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	676	169	380	695	0.972	645	509	3.1	10.8	52.797	F
2 - Pirton Road	437	109	650	582	0.751	431	356	1.3	2.7	23.017	C
3 - Upper Tilehouse Street	863	216	9	1358	0.636	861	1072	1.1	1.7	7.207	A
4 - Wratten Road West	13	3	856	410	0.033	13	13	0.0	0.0	9.087	A

#### 17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	828	207	440	645	1.284	642	622	10.8	57.3	205.799	F
2 - Pirton Road	535	134	647	584	0.917	518	434	2.7	6.9	46.048	E
3 - Upper Tilehouse Street	1057	264	10	1357	0.779	1050	1156	1.7	3.3	11.492	B
4 - Wratten Road West	17	4	1045	295	0.056	16	15	0.0	0.1	12.916	B

#### 17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	828	207	442	643	1.287	643	625	57.3	103.6	450.387	F
2 - Pirton Road	535	134	648	583	0.918	530	437	6.9	8.2	59.149	F
3 - Upper Tilehouse Street	1057	264	10	1357	0.779	1057	1169	3.3	3.4	11.940	B
4 - Wratten Road West	17	4	1051	291	0.057	17	15	0.1	0.1	13.098	B

**17:45 - 18:00**

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	676	169	364	693	0.976	686	514	103.6	101.0	528.631	F
2 - Pirton Road	437	109	691	555	0.787	453	360	8.2	4.2	38.769	E
3 - Upper Tilehouse Street	863	216	9	1357	0.636	870	1135	3.4	1.8	7.473	A
4 - Wratten Road West	13	3	865	404	0.033	14	14	0.1	0.0	9.218	A

**18:00 - 18:15**

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Offley Road	566	142	304	731	0.774	724	429	101.0	61.5	406.136	F
2 - Pirton Road	366	91	728	531	0.688	373	300	4.2	2.4	23.659	C
3 - Upper Tilehouse Street	723	181	9	1358	0.532	725	1092	1.8	1.2	5.713	A
4 - Wratten Road West	11	3	721	491	0.023	11	12	0.0	0.0	7.501	A

**Appendix K: Hitchin Junction Turning Movements**

**A602 Park Way / A602 Stevenage Road / B656 Hitchin Hill / B656  
London Road / Gosmore Road**

**2027 Future Baseline**

AM Peak (08:00-09:00), PCU/hr

From \ To	A602 Park Way	B656 Hitchin Hill	A602 Stevenage Road	B656 London Road	Gosmore Road	Total
A602 Park Way	0	125	1032	201	18	1376
B656 Hitchin Hill	254	0	74	98	20	446
A602 Stevenage Road	986	88	0	0	22	1096
B656 London Road	106	96	0	0	4	206
Gosmore Road	24	19	49	16	0	108
<b>Total</b>	<b>1370</b>	<b>328</b>	<b>1155</b>	<b>315</b>	<b>64</b>	<b>-</b>

PM Peak (17:00-18:00), PCU/hr

From \ To	A602 Park Way	B656 Hitchin Hill	A602 Stevenage Road	B656 London Road	Gosmore Road	Total
A602 Park Way	0	99	951	110	20	1180
B656 Hitchin Hill	371	0	142	97	24	634
A602 Stevenage Road	991	51	0	0	40	1082
B656 London Road	225	48	0	0	11	284
Gosmore Road	20	22	24	5	0	71
<b>Total</b>	<b>1607</b>	<b>220</b>	<b>1117</b>	<b>212</b>	<b>95</b>	<b>-</b>



**A602 Park Way / A602 Stevenage Road / B656 Hitchin Hill / B656  
London Road / Gosmore Road**

**2039 Future Baseline**

AM Peak (08:00-09:00), PCU/hr

From \ To	A602 Park Way	B656 Hitchin Hill	A602 Stevenage Road	B656 London Road	Gosmore Road	Total
A602 Park Way	0	135	1070	174	19	1398
B656 Hitchin Hill	257	0	52	93	21	423
A602 Stevenage Road	1042	48	0	0	24	1114
B656 London Road	151	102	0	0	6	259
Gosmore Road	26	20	54	15	0	115
<b>Total</b>	<b>1476</b>	<b>305</b>	<b>1176</b>	<b>282</b>	<b>70</b>	<b>-</b>

PM Peak (17:00-18:00), PCU/hr

From \ To	A602 Park Way	B656 Hitchin Hill	A602 Stevenage Road	B656 London Road	Gosmore Road	Total
A602 Park Way	0	108	975	137	21	1241
B656 Hitchin Hill	313	0	124	118	23	578
A602 Stevenage Road	1007	41	0	0	42	1090
B656 London Road	290	33	0	0	14	337
Gosmore Road	21	22	24	8	0	75
<b>Total</b>	<b>1631</b>	<b>204</b>	<b>1123</b>	<b>263</b>	<b>100</b>	<b>-</b>

**A602 Park Way / A602 Stevenage Road / B656 Hitchin Hill / B656  
London Road / Gosmore Road**

**2043 Future Baseline**

AM Peak (08:00-09:00), PCU/hr

From \ To	A602 Park Way	B656 Hitchin Hill	A602 Stevenage Road	B656 London Road	Gosmore Road	Total
A602 Park Way	0	137	1082	158	20	1397
B656 Hitchin Hill	255	0	49	107	22	433
A602 Stevenage Road	1038	64	0	0	24	1126
B656 London Road	174	103	0	0	6	283
Gosmore Road	27	21	57	14	0	119
<b>Total</b>	<b>1494</b>	<b>325</b>	<b>1188</b>	<b>279</b>	<b>72</b>	<b>-</b>

PM Peak (17:00-18:00), PCU/hr

From \ To	A602 Park Way	B656 Hitchin Hill	A602 Stevenage Road	B656 London Road	Gosmore Road	Total
A602 Park Way	0	114	995	118	22	1249
B656 Hitchin Hill	322	0	132	101	23	578
A602 Stevenage Road	1024	46	0	0	44	1114
B656 London Road	261	29	0	0	13	303
Gosmore Road	24	23	25	6	0	78
<b>Total</b>	<b>1631</b>	<b>212</b>	<b>1152</b>	<b>225</b>	<b>102</b>	<b>-</b>

**A602 Park Way / A602 Stevenage Road / B656 Hitchin Hill / B656  
London Road / Gosmore Road**

**2027 Future Baseline + Development**

AM Peak (08:00-09:00), PCU/hr

From \ To	A602 Park Way	B656 Hitchin Hill	A602 Stevenage Road	B656 London Road	Gosmore Road	Total
A602 Park Way	0	124	1027	205	19	1375
B656 Hitchin Hill	246	0	68	103	20	437
A602 Stevenage Road	988	76	0	0	23	1087
B656 London Road	105	95	0	0	4	204
Gosmore Road	24	19	49	16	0	108
<b>Total</b>	<b>1363</b>	<b>314</b>	<b>1144</b>	<b>324</b>	<b>66</b>	<b>-</b>

PM Peak (17:00-18:00), PCU/hr

From \ To	A602 Park Way	B656 Hitchin Hill	A602 Stevenage Road	B656 London Road	Gosmore Road	Total
A602 Park Way	0	99	959	111	20	1189
B656 Hitchin Hill	360	0	130	97	24	611
A602 Stevenage Road	994	50	0	0	40	1084
B656 London Road	228	48	0	0	11	287
Gosmore Road	20	22	24	5	0	71
<b>Total</b>	<b>1602</b>	<b>219</b>	<b>1113</b>	<b>213</b>	<b>95</b>	<b>-</b>

**A602 Park Way / A602 Stevenage Road / B656 Hitchin Hill / B656  
London Road / Gosmore Road**

**2039 Future Baseline + Development**

AM Peak (08:00-09:00), PCU/hr

From \ To	A602 Park Way	B656 Hitchin Hill	A602 Stevenage Road	B656 London Road	Gosmore Road	Total
A602 Park Way	0	102	1039	182	20	<b>1343</b>
B656 Hitchin Hill	181	0	104	159	24	<b>468</b>
A602 Stevenage Road	938	159	0	0	22	<b>1119</b>
B656 London Road	147	110	0	0	6	<b>263</b>
Gosmore Road	27	20	53	15	0	<b>115</b>
<b>Total</b>	<b>1293</b>	<b>391</b>	<b>1196</b>	<b>356</b>	<b>72</b>	<b>-</b>

PM Peak (17:00-18:00), PCU/hr

From \ To	A602 Park Way	B656 Hitchin Hill	A602 Stevenage Road	B656 London Road	Gosmore Road	Total
A602 Park Way	0	111	1018	130	22	<b>1281</b>
B656 Hitchin Hill	270	0	154	102	23	<b>549</b>
A602 Stevenage Road	1052	62	0	0	42	<b>1156</b>
B656 London Road	273	34	0	0	12	<b>319</b>
Gosmore Road	23	23	25	6	0	<b>77</b>
<b>Total</b>	<b>1618</b>	<b>230</b>	<b>1197</b>	<b>238</b>	<b>99</b>	<b>-</b>

**A602 Park Way / A602 Stevenage Road / B656 Hitchin Hill / B656  
London Road / Gosmore Road**

**2043 Future Baseline + Development**

AM Peak (08:00-09:00), PCU/hr

From \ To	A602 Park Way	B656 Hitchin Hill	A602 Stevenage Road	B656 London Road	Gosmore Road	Total
A602 Park Way	0	100	1081	158	20	1359
B656 Hitchin Hill	184	0	101	153	24	462
A602 Stevenage Road	986	141	0	0	23	1150
B656 London Road	182	119	0	0	6	307
Gosmore Road	28	21	57	14	0	120
<b>Total</b>	<b>1380</b>	<b>381</b>	<b>1239</b>	<b>325</b>	<b>73</b>	<b>-</b>

PM Peak (17:00-18:00), PCU/hr

From \ To	A602 Park Way	B656 Hitchin Hill	A602 Stevenage Road	B656 London Road	Gosmore Road	Total
A602 Park Way	0	116	1034	139	23	1312
B656 Hitchin Hill	246	0	152	106	23	527
A602 Stevenage Road	1057	59	0	0	44	1160
B656 London Road	288	33	0	0	13	334
Gosmore Road	24	23	25	6	0	78
<b>Total</b>	<b>1615</b>	<b>231</b>	<b>1211</b>	<b>251</b>	<b>103</b>	<b>-</b>

## A505 Upper Tilehouse Street/A505 Paynes Park/A602 Park Way

### 2027 Future Baseline

AM Peak (08:00-09:00), PCU/hr

From \ To	A505 Upper Tilehouse Street	Old Park Road	A505 Payne's Park	A602 Park Way	Total
A505 Upper Tilehouse Street	0	634	0	484	1118
Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only	0
A505 Payne's Park	525	79	0	351	955
A602 Park Way	230	413	0	0	643
<b>Total</b>	<b>755</b>	<b>1126</b>	<b>0</b>	<b>835</b>	<b>-</b>

PM Peak (17:00-18:00), PCU/hr

From \ To	A505 Upper Tilehouse Street	Old Park Road	A505 Payne's Park	A602 Park Way	Total
A505 Upper Tilehouse Street	0	680	0	292	972
Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only	0
A505 Payne's Park	620	71	0	330	1021
A602 Park Way	188	607	0	0	795
<b>Total</b>	<b>808</b>	<b>1358</b>	<b>0</b>	<b>622</b>	<b>-</b>

## A505 Upper Tilehouse Street/A505 Paynes Park/A602 Park Way

### 2039 Future Baseline

AM Peak (08:00-09:00), PCU/hr

From \ To	A505 Upper Tilehouse Street	Old Park Road	A505 Payne's Park	A602 Park Way	Total
A505 Upper Tilehouse Street	0	667	0	678	1345
Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only	0
A505 Payne's Park	553	84	0	258	895
A602 Park Way	231	439	0	0	670
<b>Total</b>	<b>784</b>	<b>1190</b>	<b>0</b>	<b>936</b>	-

PM Peak (17:00-18:00), PCU/hr

From \ To	A505 Upper Tilehouse Street	Old Park Road	A505 Payne's Park	A602 Park Way	Total
A505 Upper Tilehouse Street	0	811	0	348	1159
Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only	0
A505 Payne's Park	616	71	0	319	1006
A602 Park Way	233	528	0	0	761
<b>Total</b>	<b>849</b>	<b>1410</b>	<b>0</b>	<b>667</b>	-

## A505 Upper Tilehouse Street/A505 Paynes Park/A602 Park Way

### 2043 Future Baseline

AM Peak (08:00-09:00), PCU/hr

From \ To	A505 Upper Tilehouse Street	Old Park Road	A505 Payne's Park	A602 Park Way	Total
A505 Upper Tilehouse Street	0	673	0	687	1360
Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only	0
A505 Payne's Park	577	86	0	235	898
A602 Park Way	230	445	0	0	675
<b>Total</b>	<b>807</b>	<b>1204</b>	<b>0</b>	<b>922</b>	-

PM Peak (17:00-18:00), PCU/hr

From \ To	A505 Upper Tilehouse Street	Old Park Road	A505 Payne's Park	A602 Park Way	Total
A505 Upper Tilehouse Street	0	833	0	367	1200
Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only	0
A505 Payne's Park	640	71	0	290	1001
A602 Park Way	249	493	0	0	742
<b>Total</b>	<b>889</b>	<b>1397</b>	<b>0</b>	<b>657</b>	-



## A505 Upper Tilehouse Street/A505 Paynes Park/A602 Park Way

### 2027 Future Baseline + Development

AM Peak (08:00-09:00), PCU/hr

From \ To	A505 Upper Tilehouse Street	Old Park Road	A505 Payne's Park	A602 Park Way	Total
A505 Upper Tilehouse Street	0	633	0	503	1136
Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only	0
A505 Payne's Park	515	80	0	354	949
A602 Park Way	228	417	0	0	645
<b>Total</b>	<b>743</b>	<b>1130</b>	<b>0</b>	<b>857</b>	-

PM Peak (17:00-18:00), PCU/hr

From \ To	A505 Upper Tilehouse Street	Old Park Road	A505 Payne's Park	A602 Park Way	Total
A505 Upper Tilehouse Street	0	690	0	293	983
Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only	0
A505 Payne's Park	620	71	0	333	1024
A602 Park Way	184	608	0	0	792
<b>Total</b>	<b>804</b>	<b>1369</b>	<b>0</b>	<b>626</b>	-

## A505 Upper Tilehouse Street/A505 Paynes Park/A602 Park Way

### 2039 Future Baseline + Development

AM Peak (08:00-09:00), PCU/hr

From \ To	A505 Upper Tilehouse Street	Old Park Road	A505 Payne's Park	A602 Park Way	Total
A505 Upper Tilehouse Street	0	863	0	356	1219
Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only	0
A505 Payne's Park	901	143	0	335	1379
A602 Park Way	116	444	0	0	560
<b>Total</b>	<b>1017</b>	<b>1450</b>	<b>0</b>	<b>691</b>	-

PM Peak (17:00-18:00), PCU/hr

From \ To	A505 Upper Tilehouse Street	Old Park Road	A505 Payne's Park	A602 Park Way	Total
A505 Upper Tilehouse Street	0	837	0	349	1186
Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only	0
A505 Payne's Park	881	154	0	375	1410
A602 Park Way	124	602	0	0	726
<b>Total</b>	<b>1005</b>	<b>1593</b>	<b>0</b>	<b>724</b>	-

## A505 Upper Tilehouse Street/A505 Paynes Park/A602 Park Way

### 2043 Future Baseline + Development

AM Peak (08:00-09:00), PCU/hr

From \ To	A505 Upper Tilehouse Street	Old Park Road	A505 Payne's Park	A602 Park Way	Total
A505 Upper Tilehouse Street	0	863	0	427	1290
Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only	0
A505 Payne's Park	904	116	0	295	1315
A602 Park Way	136	453	0	0	589
<b>Total</b>	<b>1040</b>	<b>1432</b>	<b>0</b>	<b>722</b>	-

PM Peak (17:00-18:00), PCU/hr

From \ To	A505 Upper Tilehouse Street	Old Park Road	A505 Payne's Park	A602 Park Way	Total
A505 Upper Tilehouse Street	0	903	0	368	1271
Old Park Road	Exit-only	Exit-only	Exit-only	Exit-only	0
A505 Payne's Park	880	123	0	386	1389
A602 Park Way	134	577	0	0	711
<b>Total</b>	<b>1014</b>	<b>1603</b>	<b>0</b>	<b>754</b>	-

**A505 Offley Road / Pirton Road / A505 Upper Tilehouse Street / Wratten Road West**

**2027 Future Baseline**

AM Peak (08:00-09:00), PCU/hr

From \ To	A505 Offley Road	Pirton Road	A505 Upper Tilehouse Street	Wratten Road West	Total
A505 Offley Road	0	0	559	5	<b>564</b>
Pirton Road	0	0	512	5	<b>517</b>
A505 Upper Tilehouse Street	415	286	0	5	<b>706</b>
Wratten Road West	5	5	5	0	<b>15</b>
<b>Total</b>	<b>420</b>	<b>291</b>	<b>1076</b>	<b>15</b>	<b>-</b>

PM Peak (17:00-18:00), PCU/hr

From \ To	A505 Offley Road	Pirton Road	A505 Upper Tilehouse Street	Wratten Road West	Total
A505 Offley Road	0	0	539	5	<b>544</b>
Pirton Road	0	0	391	5	<b>396</b>
A505 Upper Tilehouse Street	403	349	0	5	<b>757</b>
Wratten Road West	5	5	5	0	<b>15</b>
<b>Total</b>	<b>408</b>	<b>354</b>	<b>935</b>	<b>15</b>	<b>-</b>

**A505 Offley Road / Pirton Road / A505 Upper Tilehouse Street / Wratten Road West**

**2039 Future Baseline**

AM Peak (08:00-09:00), PCU/hr

From \ To	A505 Offley Road	Pirton Road	A505 Upper Tilehouse Street	Wratten Road West	Total
A505 Offley Road	0	0	832	5	<b>837</b>
Pirton Road	0	0	470	5	<b>475</b>
A505 Upper Tilehouse Street	444	281	0	5	<b>730</b>
Wratten Road West	5	5	5	0	<b>15</b>
<b>Total</b>	<b>449</b>	<b>286</b>	<b>1307</b>	<b>15</b>	<b>-</b>

PM Peak (17:00-18:00), PCU/hr

From \ To	A505 Offley Road	Pirton Road	A505 Upper Tilehouse Street	Wratten Road West	Total
A505 Offley Road	0	0	659	5	<b>664</b>
Pirton Road	0	0	457	5	<b>462</b>
A505 Upper Tilehouse Street	408	382	0	5	<b>795</b>
Wratten Road West	5	5	5	0	<b>15</b>
<b>Total</b>	<b>413</b>	<b>387</b>	<b>1121</b>	<b>15</b>	<b>-</b>

**A505 Offley Road / Pirton Road / A505 Upper Tilehouse Street / Wratten Road West**

**2043 Future Baseline**

**AM Peak (08:00-09:00), PCU/hr**

From \ To	A505 Offley Road	Pirton Road	A505 Upper Tilehouse Street	Wratten Road West	Total
A505 Offley Road	0	0	889	5	894
Pirton Road	0	0	431	5	436
A505 Upper Tilehouse Street	470	273	0	5	748
Wratten Road West	5	5	5	0	15
<b>Total</b>	<b>475</b>	<b>278</b>	<b>1325</b>	<b>15</b>	<b>-</b>

**PM Peak (17:00-18:00), PCU/hr**

From \ To	A505 Offley Road	Pirton Road	A505 Upper Tilehouse Street	Wratten Road West	Total
A505 Offley Road	0	0	673	5	678
Pirton Road	0	0	484	5	489
A505 Upper Tilehouse Street	448	381	0	5	834
Wratten Road West	5	5	5	0	15
<b>Total</b>	<b>453</b>	<b>386</b>	<b>1162</b>	<b>15</b>	<b>-</b>

**A505 Offley Road / Pirton Road / A505 Upper Tilehouse Street / Wratten Road West**

**2027 Future Baseline + Development**

AM Peak (08:00-09:00), PCU/hr

From \ To	A505 Offley Road	Pirton Road	A505 Upper Tilehouse Street	Wratten Road West	Total
A505 Offley Road	0	0	576	5	581
Pirton Road	0	0	513	5	518
A505 Upper Tilehouse Street	404	285	0	5	694
Wratten Road West	5	5	5	0	15
<b>Total</b>	<b>409</b>	<b>290</b>	<b>1094</b>	<b>15</b>	<b>-</b>

PM Peak (17:00-18:00), PCU/hr

From \ To	A505 Offley Road	Pirton Road	A505 Upper Tilehouse Street	Wratten Road West	Total
A505 Offley Road	0	0	549	5	554
Pirton Road	0	0	393	5	398
A505 Upper Tilehouse Street	402	345	0	5	752
Wratten Road West	5	5	5	0	15
<b>Total</b>	<b>407</b>	<b>350</b>	<b>947</b>	<b>15</b>	<b>-</b>

**A505 Offley Road / Pirton Road / A505 Upper Tilehouse Street / Wratten Road West**

**2039 Future Baseline + Development**

AM Peak (08:00-09:00), PCU/hr

From \ To	A505 Offley Road	Pirton Road	A505 Upper Tilehouse Street	Wratten Road West	Total
A505 Offley Road	0	0	574	5	579
Pirton Road	0	0	595	5	600
A505 Upper Tilehouse Street	703	267	0	5	975
Wratten Road West	5	5	5	0	15
<b>Total</b>	<b>708</b>	<b>272</b>	<b>1174</b>	<b>15</b>	<b>-</b>

PM Peak (17:00-18:00), PCU/hr

From \ To	A505 Offley Road	Pirton Road	A505 Upper Tilehouse Street	Wratten Road West	Total
A505 Offley Road	0	0	676	5	681
Pirton Road	0	0	466	5	471
A505 Upper Tilehouse Street	557	387	0	5	949
Wratten Road West	5	5	5	0	15
<b>Total</b>	<b>562</b>	<b>392</b>	<b>1147</b>	<b>15</b>	<b>-</b>



**A505 Offley Road / Pirton Road / A505 Upper Tilehouse Street / Wratten Road West**

**2043 Future Baseline + Development**

AM Peak (08:00-09:00), PCU/hr

From \ To	A505 Offley Road	Pirton Road	A505 Upper Tilehouse Street	Wratten Road West	Total
A505 Offley Road	0	0	598	5	<b>603</b>
Pirton Road	0	0	641	5	<b>646</b>
A505 Upper Tilehouse Street	723	269	0	5	<b>997</b>
Wratten Road West	5	5	5	0	<b>15</b>
<b>Total</b>	<b>728</b>	<b>274</b>	<b>1244</b>	<b>15</b>	<b>-</b>

PM Peak (17:00-18:00), PCU/hr

From \ To	A505 Offley Road	Pirton Road	A505 Upper Tilehouse Street	Wratten Road West	Total
A505 Offley Road	0	0	747	5	<b>752</b>
Pirton Road	0	0	481	5	<b>486</b>
A505 Upper Tilehouse Street	563	392	0	5	<b>960</b>
Wratten Road West	5	5	5	0	<b>15</b>
<b>Total</b>	<b>568</b>	<b>397</b>	<b>1233</b>	<b>15</b>	<b>-</b>

# Appendix L: Caddington Junction Modelling

<b>Junctions 10</b>
<b>PICADY 10 - Priority Intersection Module</b>
Version: 10.0.2.1574 © Copyright TRL Software Limited, 2021
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**Filename:** 2022-10-06 Luton Road - Newlands Road.j10  
**Path:** \\global.arup.com\europa\Midlands\jobs\259000\259393-10\4 Internal Project Data\4-04 Calculations\Junction Modelling\Newlands Road - Luton Road  
**Report generation date:** 14/02/2023 20:12:29

- »2043 Base, AM
- »2043 Base, PM
- »2043 Base + Dev (No Mitigation), AM
- »2043 Base + Dev (No Mitigation), PM

**Summary of junction performance**

	AM						PM					
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
<b>2043 Base</b>												
Stream B-C	D1	5.2	100.43	0.94	F	35.61	D2	49.7	406.06	1.28	F	115.47
Stream B-A		5.8	110.66	0.92	F			28.7	424.32	1.26	F	
Stream C-AB		18.6	48.41	0.95	E			1.2	14.79	0.55	B	
<b>2043 Base + Dev (No Mitigation)</b>												
Stream B-C	D3	6.0	108.65	0.98	F	26.01	D4	99.4	946.44	1.55	F	258.56
Stream B-A		6.5	112.49	0.93	F			54.2	959.54	1.53	F	
Stream C-AB		6.5	25.42	0.84	D			1.9	18.12	0.64	C	

*There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.*

*Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.*

**File summary**

**File Description**

Title	
Location	
Site number	
Date	06/10/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\Neil.Scott
Description	

### Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

### Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75						0.85	36.00	20.00		500

### Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2043 Base	AM	ONE HOUR	07:45	09:15	15	✓
D2	2043 Base	PM	ONE HOUR	16:45	18:15	15	✓
D3	2043 Base + Dev (No Mitigation)	AM	ONE HOUR	07:45	09:15	15	✓
D4	2043 Base + Dev (No Mitigation)	PM	ONE HOUR	16:45	18:15	15	✓

### Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

# 2043 Base, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Chaul End Road - Luton Road	T-Junction	Two-way	Two-way	Two-way		35.61	E

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	35.61	E

## Arms

### Arms

Arm	Name	Description	Arm type
A	Farley Hill		Major
B	Newlands Road		Minor
C	Luton Road		Major

### Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right-turn storage	Width for right-turn storage (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Luton Road	8.20	✓	4.35	✓	2.80	203.0	✓	6.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

### Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Newlands Road	One lane plus flare	9.20	4.65	3.50	3.50	3.20		1.50	250	177

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	764	0.115	0.290	0.182	0.414
B-C	758	0.105	0.266	-	-
C-B	737	0.258	0.258	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2043 Base	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Farley Hill		ONE HOUR	✓	456	100.000
B - Newlands Road		ONE HOUR	✓	349	100.000
C - Luton Road		ONE HOUR	✓	1277	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Farley Hill	B - Newlands Road	C - Luton Road
From	A - Farley Hill	0	103	353
	B - Newlands Road	182	0	167
	C - Luton Road	754	523	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Farley Hill	B - Newlands Road	C - Luton Road
From	A - Farley Hill	0	0	0
	B - Newlands Road	0	0	0
	C - Luton Road	0	0	0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.94	100.43	5.2	F	153	230
B-A	0.92	110.66	5.8	F	167	251
C-AB	0.95	48.41	18.8	E	708	1059
C-A					466	699
A-B					95	142
A-C					324	466

## Main Results for each time segment

### 07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	126	31	613	0.205	125	0.0	0.3	7.365	A
B-A	137	34	409	0.335	135	0.0	0.5	13.034	B
C-AB	411	103	677	0.608	405	0.0	1.5	12.992	B
C-A	550	138			550				
A-B	78	19			78				
A-C	266	66			266				

### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	150	38	546	0.275	150	0.3	0.4	9.060	A
B-A	164	41	336	0.487	162	0.5	0.9	20.453	C
C-AB	557	139	747	0.745	551	1.5	3.1	18.016	C
C-A	591	148			591				
A-B	93	23			93				
A-C	317	79			317				

### 08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	184	46	296	0.622	179	0.4	1.5	29.910	D
B-A	200	50	231	0.867	188	0.9	4.0	69.886	F
C-AB	1149	287	1212	0.949	1106	3.1	13.8	31.450	D
C-A	257	64			257				
A-B	113	28			113				
A-C	389	97			389				

### 08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	184	46	196	0.938	169	1.5	5.2	100.427	F
B-A	200	50	218	0.920	193	4.0	5.8	110.663	F
C-AB	1149	287	1212	0.949	1130	13.8	18.6	48.413	E
C-A	257	64			257				
A-B	113	28			113				
A-C	389	97			389				

### 08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	150	38	500	0.300	169	5.2	0.4	11.508	B
B-A	164	41	314	0.522	162	5.8	1.2	30.839	D
C-AB	557	139	747	0.745	615	18.6	3.9	37.561	E
C-A	591	148			591				
A-B	93	23			93				
A-C	317	79			317				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	126	31	606	0.207	126	0.4	0.3	7.512	A
B-A	137	34	405	0.339	140	1.2	0.5	13.710	B
C-AB	411	103	677	0.608	420	3.9	1.7	14.517	B
C-A	550	138			550				
A-B	78	19			78				
A-C	266	66			266				



# 2043 Base, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Chaul End Road - Luton Road	T-Junction	Two-way	Two-way	Two-way		115.47	F

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	115.47	F

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2043 Base	PM	ONE HOUR	18:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Farley Hill		ONE HOUR	✓	754	100.000
B - Newlands Road		ONE HOUR	✓	617	100.000
C - Luton Road		ONE HOUR	✓	868	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Farley Hill	B - Newlands Road	C - Luton Road
From	A - Farley Hill	0	147	607
	B - Newlands Road	223	0	394
	C - Luton Road	607	261	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Farley Hill	B - Newlands Road	C - Luton Road
From	A - Farley Hill	0	0	0
	B - Newlands Road	0	0	0
	C - Luton Road	0	0	0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	1.28	408.06	49.7	F	362	542
B-A	1.26	424.32	28.7	F	205	307
C-AB	0.55	14.79	1.2	B	243	385
C-A					553	830
A-B					135	202
A-C					557	835

### Main Results for each time segment

#### 16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	297	74	576	0.515	292	0.0	1.0	12.534	B
B-A	188	42	395	0.425	165	0.0	0.7	15.488	C
C-AB	197	49	591	0.333	195	0.0	0.5	9.047	A
C-A	457	114			457				
A-B	111	28			111				
A-C	457	114			457				

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	354	89	480	0.738	348	1.0	2.5	26.150	D
B-A	200	50	297	0.674	196	0.7	1.9	34.067	D
C-AB	236	59	565	0.418	235	0.5	0.7	10.893	B
C-A	544	136			544				
A-B	132	33			132				
A-C	546	136			546				

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	434	108	349	1.244	340	2.5	25.9	174.263	F
B-A	246	61	199	1.236	190	1.9	15.6	199.865	F
C-AB	298	74	541	0.550	296	0.7	1.2	14.563	B
C-A	658	165			658				
A-B	162	40			162				
A-C	668	167			668				

#### 17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	434	108	339	1.278	338	25.9	49.7	402.301	F
B-A	246	61	195	1.262	193	15.6	28.7	424.323	F
C-AB	298	74	541	0.550	297	1.2	1.2	14.791	B
C-A	658	165			658				
A-B	162	40			162				
A-C	668	167			668				

**17:45 - 18:00**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	354	89	400	0.888	392	49.7	40.4	406.060	F
B-A	200	50	228	0.880	220	28.7	23.8	421.059	F
C-AB	236	59	565	0.418	238	1.2	0.7	11.088	B
C-A	544	136			544				
A-B	132	33			132				
A-C	546	136			546				

**18:00 - 18:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	297	74	452	0.656	441	40.4	4.2	193.188	F
B-A	168	42	280	0.647	250	23.8	3.4	214.011	F
C-AB	197	49	591	0.333	198	0.7	0.5	9.179	A
C-A	457	114			457				
A-B	111	28			111				
A-C	457	114			457				

# 2043 Base + Dev (No Mitigation), AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Chaul End Road - Luton Road	T-Junction	Two-way	Two-way	Two-way		26.01	D

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	26.01	D

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2043 Base + Dev (No Mitigation)	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Farley Hill		ONE HOUR	✓	510	100.000
B - Newlands Road		ONE HOUR	✓	370	100.000
C - Luton Road		ONE HOUR	✓	1242	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Farley Hill	B - Newlands Road	C - Luton Road
From	A - Farley Hill	0	120	390
	B - Newlands Road	199	0	171
	C - Luton Road	791	451	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Farley Hill	B - Newlands Road	C - Luton Road
From	A - Farley Hill	0	0	0
	B - Newlands Road	0	0	0
	C - Luton Road	0	0	0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.96	108.65	6.0	F	157	235
B-A	0.93	112.49	6.5	F	183	274
C-AB	0.84	25.42	6.5	D	514	770
C-A					626	939
A-B					110	165
A-C					358	537

### Main Results for each time segment

#### 07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	129	32	592	0.217	128	0.0	0.3	7.731	A
B-A	150	37	421	0.356	148	0.0	0.5	13.064	B
C-AB	347	87	651	0.533	342	0.0	1.1	11.500	B
C-A	588	147			588				
A-B	90	23			90				
A-C	294	73			294				

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	154	38	521	0.295	153	0.3	0.4	9.759	A
B-A	179	45	349	0.513	177	0.5	1.0	20.728	C
C-AB	442	111	675	0.656	439	1.1	2.0	15.125	C
C-A	674	169			674				
A-B	108	27			108				
A-C	351	88			351				

#### 08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	188	47	264	0.712	181	0.4	2.1	40.618	E
B-A	219	55	243	0.900	204	1.0	4.7	74.288	F
C-AB	752	188	896	0.839	737	2.0	5.6	21.932	C
C-A	616	154			616				
A-B	132	33			132				
A-C	429	107			429				

#### 08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	188	47	195	0.964	173	2.1	6.0	108.650	F
B-A	219	55	236	0.928	212	4.7	6.5	112.493	F
C-AB	752	188	896	0.839	748	5.6	6.5	25.423	D
C-A	616	154			616				
A-B	132	33			132				
A-C	429	107			429				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	154	38	483	0.318	176	6.0	0.5	12.543	B
B-A	179	45	337	0.531	200	6.5	1.2	29.787	D
C-AB	442	111	675	0.656	460	6.5	2.2	18.042	C
C-A	674	169			674				
A-B	108	27			108				
A-C	351	88			351				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	129	32	587	0.219	130	0.5	0.3	7.886	A
B-A	150	37	419	0.358	152	1.2	0.6	13.645	B
C-AB	347	87	651	0.533	351	2.2	1.2	12.153	B
C-A	588	147			588				
A-B	90	23			90				
A-C	294	73			294				

# 2043 Base + Dev (No Mitigation), PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Chaul End Road - Luton Road	T-Junction	Two-way	Two-way	Two-way		258.56	F

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	258.56	F

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2043 Base + Dev (No Mitigation)	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Farley Hill		ONE HOUR	✓	838	100.000
B - Newlands Road		ONE HOUR	✓	672	100.000
C - Luton Road		ONE HOUR	✓	983	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Farley Hill	B - Newlands Road	C - Luton Road
From	A - Farley Hill	0	170	668
	B - Newlands Road	236	0	436
	C - Luton Road	694	289	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Farley Hill	B - Newlands Road	C - Luton Road
From	A - Farley Hill	0	0	0
	B - Newlands Road	0	0	0
	C - Luton Road	0	0	0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	1.55	946.44	99.4	F	400	600
B-A	1.53	959.54	54.2	F	217	325
C-AB	0.64	18.12	1.9	C	278	416
C-A					624	937
A-B					156	234
A-C					613	919

### Main Results for each time segment

#### 16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	328	82	540	0.608	322	0.0	1.5	16.163	C
B-A	178	44	345	0.515	174	0.0	1.0	20.555	C
C-AB	218	55	575	0.379	216	0.0	0.6	9.947	A
C-A	522	130			522				
A-B	128	32			128				
A-C	503	126			503				

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	392	98	397	0.987	362	1.5	9.0	73.917	F
B-A	212	53	216	0.983	190	1.0	6.5	102.572	F
C-AB	263	66	550	0.479	262	0.6	0.9	12.467	B
C-A	620	155			620				
A-B	153	38			153				
A-C	601	150			601				

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	480	120	310	1.549	309	9.0	51.9	376.262	F
B-A	280	65	172	1.513	170	6.5	29.0	412.789	F
C-AB	351	88	550	0.638	348	0.9	1.8	17.543	C
C-A	731	183			731				
A-B	187	47			187				
A-C	735	184			735				

#### 17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	480	120	311	1.542	311	51.9	94.1	790.343	F
B-A	280	65	170	1.528	170	29.0	51.5	810.670	F
C-AB	351	88	550	0.638	351	1.8	1.9	18.117	C
C-A	731	183			731				
A-B	187	47			187				
A-C	735	184			735				



**17:45 - 18:00**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	392	98	371	1.055	371	94.1	99.4	946.444	F
B-A	212	53	202	1.050	201	51.5	54.2	959.543	F
C-AB	263	66	550	0.479	267	1.9	1.0	12.898	B
C-A	620	155			620				
A-B	153	38			153				
A-C	601	150			601				

**18:00 - 18:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	328	82	408	0.804	404	99.4	80.4	802.188	F
B-A	178	44	222	0.801	218	54.2	44.2	815.141	F
C-AB	218	55	575	0.379	220	1.0	0.6	10.153	B
C-A	522	130			522				
A-B	128	32			128				
A-C	503	126			503				

<b>Junctions 10</b>
<b>PICADY 10 - Priority Intersection Module</b>
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**Filename:** 2022-10-06 Chaul End Road - Luton Road.j10  
**Path:** \\global.arup.com\europa\Midlands\jobs\259000\259393-10\4 Internal Project Data\4-04 Calculations\Junction Modelling\Chaul End Road - Luton Road  
**Report generation date:** 14/02/2023 20:09:54

- »2043 Base, AM
- »2043 Base, PM
- »2043 Base + Dev (No Mitigation), AM
- »2043 Base + Dev (No Mitigation), PM

**Summary of junction performance**

	AM						PM					
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
<b>2043 Base</b>												
Stream B-C	D1	53.2	592.87	1.39	F	170.62	D2	59.0	757.71	1.65	F	263.40
Stream B-A		34.8	603.98	1.38	F			36.8	770.75	1.63	F	
Stream C-AB		3.0	16.17	0.69	C			69.3	203.29	1.11	F	
Stream A-BC		1.2	4.79	0.55	A			0.6	3.05	0.36	A	
<b>2043 Base + Dev (No Mitigation)</b>												
Stream B-C	D3	69.0	751.19	1.47	F	220.70	D4	166.6	2978.70	3.63	F	939.44
Stream B-A		39.5	765.16	1.46	F			84.8	3037.94	3.58	F	
Stream C-AB		3.4	17.35	0.71	C			141.0	492.86	1.25	F	
Stream A-BC		1.2	4.84	0.55	A			0.7	3.52	0.40	A	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.

**File summary**

**File Description**

Title	
Location	
Site number	
Date	06/10/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\Neil.Scott
Description	

### Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

### Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75						0.85	36.00	20.00		500

### Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2043 Base	AM	ONE HOUR	07:45	09:15	15	✓
D2	2043 Base	PM	ONE HOUR	16:45	18:15	15	✓
D3	2043 Base + Dev (No Mitigation)	AM	ONE HOUR	07:45	09:15	15	✓
D4	2043 Base + Dev (No Mitigation)	PM	ONE HOUR	16:45	18:15	15	✓

### Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

# 2043 Base, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Chaul End Road - Luton Road	T-Junction	Two-way	Two-way	Two-way		170.62	F

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	170.62	F

## Arms

### Arms

Arm	Name	Description	Arm type
A	Dunstable Road		Major
B	Chaul End Road		Minor
C	Luton Road		Major

### Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Luton Road	6.25			250.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

### Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Chaul End Road	One lane plus flare	10.00	6.50	4.40	3.00	3.00		2.00	200	54

### Pelican/Puffin Crossings

Arm	Space between crossing and junc. entry (Signalised) (PCU)	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)
A - Dunstable Road	3.00	3.00	2.90	1.00	6.00	6.00	7.00

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	576	0.104	0.262	0.165	0.374
B-C	716	0.108	0.274	-	-
C-B	719	0.275	0.275	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.  
 Values are shown for the first time segment only; they may differ for subsequent time segments.

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2043 Base	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Dunstable Road		ONE HOUR	✓	830	100.000
B - Chaul End Road		ONE HOUR	✓	525	100.000
C - Luton Road		ONE HOUR	✓	544	100.000

### Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Dunstable Road	[ONEHOUR]	50.00
B - Chaul End Road		
C - Luton Road		

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Dunstable Road	B - Chaul End Road	C - Luton Road
From	A - Dunstable Road	0	146	684
	B - Chaul End Road	206	0	319
	C - Luton Road	311	233	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Dunstable Road	B - Chaul End Road	C - Luton Road
From	A - Dunstable Road	0	0	0
	B - Chaul End Road	0	0	0
	C - Luton Road	0	0	0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	1.39	592.87	53.2	F	293	439
B-A	1.38	603.98	34.8	F	189	284
C-AB	0.69	16.17	3.0	C	368	552
C-A					131	196
A-BC	0.55	4.79	1.2	A	762	1142

## Main Results for each time segment

### 07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	240	60		475	0.506	236	0.0	1.0	14.855	B
B-A	155	39		311	0.499	151	0.0	0.9	22.083	C
C-AB	262	65		710	0.369	259	0.0	0.8	7.957	A
C-A	148	37				148				
A-BC	625	156	37.64	1717	0.364	623	0.0	0.6	3.282	A

### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	287	72		364	0.787	278	1.0	3.1	38.724	E
B-A	185	46		233	0.795	177	0.9	3.0	57.980	F
C-AB	346	87		713	0.485	344	0.8	1.3	9.768	A
C-A	143	36				143				
A-BC	746	187	44.95	1695	0.440	745	0.6	0.8	3.786	A

### 08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	351	88		254	1.384	249	3.1	28.6	255.912	F
B-A	227	57		167	1.362	162	3.0	19.1	283.497	F
C-AB	492	123		721	0.682	486	1.3	2.9	15.287	C
C-A	107	27				107				
A-BC	914	228	55.05	1666	0.549	912	0.8	1.2	4.785	A

### 08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	351	88		253	1.387	253	28.6	53.2	563.306	F
B-A	227	57		165	1.375	164	19.1	34.8	580.760	F
C-AB	496	124		724	0.685	495	2.9	3.0	16.170	C
C-A	103	26				103				
A-BC	914	228	55.05	1666	0.549	914	1.2	1.2	4.786	A

### 08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	287	72		306	0.936	301	53.2	49.7	592.866	F
B-A	185	46		199	0.932	193	34.8	32.8	603.975	F
C-AB	349	87		716	0.488	356	3.0	1.4	10.263	B
C-A	140	35				140				
A-BC	746	187	44.95	1695	0.440	746	1.2	0.8	3.806	A

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	240	60		347	0.691	341	49.7	24.7	398.698	F
B-A	155	39		228	0.685	220	32.8	16.6	412.637	F
C-AB	264	68		710	0.371	268	1.4	0.8	8.165	A
C-A	148	38				146				
A-BC	625	158	37.64	1717	0.364	626	0.8	0.6	3.300	A

# 2043 Base, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Pedestrian Crossing	A - Dunstable Road - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Chaul End Road - Luton Road	T-Junction	Two-way	Two-way	Two-way		283.40	F

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	283.40	F

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2043 Base	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Dunstable Road		ONE HOUR	✓	602	100.000
B - Chaul End Road		ONE HOUR	✓	467	100.000
C - Luton Road		ONE HOUR	✓	1015	100.000

### Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Dunstable Road	[ONEHOUR]	0.00
B - Chaul End Road		
C - Luton Road		

## Origin-Destination Data

### Demand (PCU/hr)

From	To		
	A - Dunstable Road	B - Chaul End Road	C - Luton Road
A - Dunstable Road	0	157	445
B - Chaul End Road	178	0	289
C - Luton Road	677	338	0



## Vehicle Mix

### Heavy Vehicle Percentages

From	To		
	A - Dunstable Road	B - Chaul End Road	C - Luton Road
A - Dunstable Road	0	0	0
B - Chaul End Road	0	0	0
C - Luton Road	0	0	0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	1.65	757.71	59.0	F	265	398
B-A	1.63	770.75	36.8	F	163	245
C-AB	1.11	203.29	69.3	F	862	1293
C-A					70	104
A-BC	0.36	3.05	0.6	A	552	829

### Main Results for each time segment

#### 16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	218	54		526	0.413	215	0.0	0.7	11.463	B
B-A	134	34		289	0.464	131	0.0	0.8	22.372	C
C-AB	559	140		935	0.598	550	0.0	2.2	9.287	A
C-A	205	51				205				
A-BC	453	113	0.00	1843	0.246	452	0.0	0.3	2.585	A

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	260	65		413	0.629	256	0.7	1.6	22.463	C
B-A	160	40		221	0.725	155	0.8	2.2	50.817	F
C-AB	803	201		989	0.812	788	2.2	6.0	18.040	C
C-A	109	27				109				
A-BC	541	135	0.00	1843	0.294	541	0.3	0.4	2.764	A

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	318	80		229	1.390	223	1.6	25.4	257.980	F
B-A	196	49		144	1.357	139	2.2	16.3	296.033	F
C-AB	1118	279		1007	1.110	980	6.0	40.3	92.019	F
C-A	0	0				0				
A-BC	663	166	0.00	1843	0.360	662	0.4	0.6	3.046	A

**17:30 - 17:45**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	318	80		193	1.648	193	25.4	56.7	702.168	F
B-A	196	49		120	1.631	120	16.3	35.4	725.341	F
C-AB	1118	279		1008	1.109	1002	40.3	69.3	203.293	F
C-A	0	0				0				
A-BC	663	166	0.00	1843	0.360	663	0.6	0.6	3.049	A

**17:45 - 18:00**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	260	65		252	1.032	251	56.7	59.0	757.709	F
B-A	160	40		156	1.026	154	35.4	36.8	770.746	F
C-AB	912	228		1046	0.872	1022	69.3	41.8	192.662	F
C-A	0	0				0				
A-BC	541	135	0.00	1843	0.294	542	0.6	0.4	2.768	A

**18:00 - 18:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	218	54		326	0.668	320	59.0	33.4	524.395	F
B-A	134	34		202	0.665	196	36.8	21.2	538.361	F
C-AB	661	165		1010	0.655	816	41.8	3.1	38.604	E
C-A	103	26				103				
A-BC	453	113	0.00	1843	0.246	454	0.4	0.3	2.590	A

# 2043 Base + Dev (No Mitigation), AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Chaul End Road - Luton Road	T-Junction	Two-way	Two-way	Two-way		220.70	F

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	220.70	F

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2043 Base + Dev (No Mitigation)	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Dunstable Road		ONE HOUR	✓	838	100.000
B - Chaul End Road		ONE HOUR	✓	557	100.000
C - Luton Road		ONE HOUR	✓	565	100.000

### Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Dunstable Road	[ONEHOUR]	50.00
B - Chaul End Road		
C - Luton Road		

## Origin-Destination Data

### Demand (PCU/hr)

From	To		
	A - Dunstable Road	B - Chaul End Road	C - Luton Road
A - Dunstable Road	0	145	693
B - Chaul End Road	201	0	356
C - Luton Road	328	237	0

## Vehicle Mix

### Heavy Vehicle Percentages

From	To		
	A - Dunstable Road	B - Chaul End Road	C - Luton Road
A - Dunstable Road	0	0	0
B - Chaul End Road	0	0	0
C - Luton Road	0	0	0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	1.47	751.19	69.0	F	327	490
B-A	1.46	765.16	39.5	F	184	277
C-AB	0.71	17.35	3.4	C	388	579
C-A					133	199
A-BC	0.55	4.84	1.2	A	769	1153

### Main Results for each time segment

#### 07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	268	67		477	0.562	263	0.0	1.2	16.497	C
B-A	151	38		297	0.510	147	0.0	1.0	23.565	C
C-AB	272	68		717	0.379	269	0.0	0.8	8.004	A
C-A	153	38				153				
A-BC	631	158	37.64	1717	0.367	629	0.0	0.6	3.300	A

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	320	80		359	0.892	304	1.2	5.1	55.383	F
B-A	181	45		206	0.875	169	1.0	4.0	78.559	F
C-AB	362	90		723	0.501	360	0.8	1.4	9.935	A
C-A	146	37				146				
A-BC	753	188	44.95	1695	0.444	752	0.6	0.8	3.815	A

#### 08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	392	98		267	1.470	264	5.1	37.1	313.876	F
B-A	221	55		153	1.442	151	4.0	21.7	348.517	F
C-AB	519	130		733	0.707	511	1.4	3.3	16.189	C
C-A	103	26				103				
A-BC	923	231	55.05	1666	0.554	921	0.8	1.2	4.824	A

**08:30 - 08:45**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	392	98		266	1.473	266	37.1	68.6	678.496	F
B-A	221	55		152	1.458	151	21.7	39.2	699.941	F
C-AB	523	131		736	0.710	522	3.3	3.4	17.345	C
C-A	99	25				99				
A-BC	923	231	55.05	1666	0.554	923	1.2	1.2	4.842	A

**08:45 - 09:00**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	320	80		321	0.997	319	68.6	69.0	751.189	F
B-A	181	45		182	0.991	180	39.2	39.5	765.163	F
C-AB	366	91		726	0.504	374	3.4	1.5	10.530	B
C-A	142	38				142				
A-BC	753	188	44.95	1695	0.444	755	1.2	0.8	3.835	A

**09:00 - 09:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	268	67		357	0.751	352	69.0	48.0	601.335	F
B-A	151	38		203	0.746	198	39.5	27.8	616.705	F
C-AB	274	69		718	0.382	277	1.5	0.8	8.232	A
C-A	151	38				151				
A-BC	631	158	37.64	1717	0.367	632	0.8	0.6	3.318	A

# 2043 Base + Dev (No Mitigation), PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Chaul End Road - Luton Road	T-Junction	Two-way	Two-way	Two-way		939.44	F

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	939.44	F

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2043 Base + Dev (No Mitigation)	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Dunstable Road		ONE HOUR	✓	614	100.000
B - Chaul End Road		ONE HOUR	✓	527	100.000
C - Luton Road		ONE HOUR	✓	1111	100.000

### Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Dunstable Road	[ONEHOUR]	40.00
B - Chaul End Road		
C - Luton Road		

## Origin-Destination Data

### Demand (PCU/hr)

From	To		
	A - Dunstable Road	B - Chaul End Road	C - Luton Road
A - Dunstable Road	0	151	463
B - Chaul End Road	177	0	350
C - Luton Road	720	391	0

## Vehicle Mix

### Heavy Vehicle Percentages

From	To		
	A - Dunstable Road	B - Chaul End Road	C - Luton Road
A - Dunstable Road	0	0	0
B - Chaul End Road	0	0	0
C - Luton Road	0	0	0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	3.63	2978.70	166.6	F	321	482
B-A	3.58	3037.94	84.8	F	162	244
C-AB	1.25	492.86	141.0	F	993	1489
C-A					27	40
A-BC	0.40	3.52	0.7	A	563	845

### Main Results for each time segment

#### 16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	263	66		516	0.511	259	0.0	1.0	13.838	B
B-A	133	33		255	0.522	129	0.0	1.0	27.731	D
C-AB	680	170		955	0.712	666	0.0	3.6	12.286	B
C-A	156	39				156				
A-BC	462	116	30.11	1741	0.266	461	0.0	0.4	2.811	A

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	315	79		340	0.926	295	1.0	6.0	63.192	F
B-A	159	40		171	0.933	144	1.0	4.8	103.855	F
C-AB	994	249		1015	0.979	940	3.6	17.0	43.469	E
C-A	4	1				4				
A-BC	552	138	35.96	1722	0.320	552	0.4	0.5	3.075	A

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	385	96		203	1.900	202	6.0	51.9	743.442	F
B-A	195	49		106	1.838	105	4.8	27.3	820.816	F
C-AB	1223	306		979	1.250	973	17.0	79.6	187.503	F
C-A	0	0				0				
A-BC	676	169	44.04	1698	0.398	675	0.5	0.7	3.519	A

**17:30 - 17:45**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	385	96		106	3.627	106	51.9	121.7	2978.698	F
B-A	195	49		54	3.577	54	27.3	62.4	3037.936	F
C-AB	1223	306		979	1.250	978	79.6	141.0	408.261	F
C-A	0	0				0				
A-BC	676	169	44.04	1698	0.398	676	0.7	0.7	3.522	A

**17:45 - 18:00**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	315	79		148	2.131	148	121.7	163.4	2433.676	F
B-A	159	40		75	2.113	75	62.4	83.3	2458.457	F
C-AB	999	250		1018	0.981	1027	141.0	134.0	492.864	F
C-A	0	0				0				
A-BC	552	138	35.96	1722	0.320	553	0.7	0.5	3.079	A

**18:00 - 18:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	263	66		251	1.051	251	163.4	166.6	2386.685	F
B-A	133	33		128	1.045	127	83.3	84.8	2405.992	F
C-AB	836	209		1046	0.799	1034	134.0	84.5	378.314	F
C-A	0	0				0				
A-BC	462	116	30.11	1741	0.266	463	0.5	0.4	2.819	A



**Appendix M: Caddington Junction Turning Movements**

## Newlands Road / Luton Road / Farley Hill

### 2043 Future Baseline

AM Peak (08:00-09:00), PCU/hr

From \ To	Farley Hill	Newlands Road	Luton Road	Total
Farley Hill	0	103	353	456
Newlands Road	182	0	167	349
Luton Road	754	523	0	1277
<b>Total</b>	<b>936</b>	<b>626</b>	<b>520</b>	-

PM Peak (17:00-18:00), PCU/hr

From \ To	Farley Hill	Newlands Road	Luton Road	Total
Farley Hill	0	147	607	754
Newlands Road	223	0	394	617
Luton Road	607	261	0	868
<b>Total</b>	<b>830</b>	<b>408</b>	<b>1001</b>	-

## Newlands Road / Luton Road / Farley Hill

### 2043 Future Baseline + Development

AM Peak (08:00-09:00), PCU/hr

From \ To	Farley Hill	Newlands Road	Luton Road	Total
Farley Hill	0	120	390	510
Newlands Road	199	0	171	370
Luton Road	791	451	0	1242
<b>Total</b>	<b>990</b>	<b>571</b>	<b>561</b>	-

PM Peak (17:00-18:00), PCU/hr

From \ To	Farley Hill	Newlands Road	Luton Road	Total
Farley Hill	0	170	668	838
Newlands Road	236	0	436	672
Luton Road	694	289	0	983
<b>Total</b>	<b>930</b>	<b>459</b>	<b>1104</b>	-

## Luton Road / Chaul End Road

### 2043 Future Baseline

AM Peak (08:00-09:00), PCU/hr

From \ To	Dunstable Road	Chaul End Road	Luton Road	Total
Dunstable Road	0	146	684	830
Chaul End Road	206	0	319	525
Luton Road	311	233	0	544
<b>Total</b>	<b>517</b>	<b>379</b>	<b>1003</b>	-

PM Peak (17:00-18:00), PCU/hr

From \ To	Dunstable Road	Chaul End Road	Luton Road	Total
Dunstable Road	0	157	445	602
Chaul End Road	178	0	289	467
Luton Road	677	338	0	1015
<b>Total</b>	<b>855</b>	<b>495</b>	<b>734</b>	-

## Luton Road / Chaul End Road

### 2043 Future Baseline + Development

AM Peak (08:00-09:00), PCU/hr

From \ To	Dunstable Road	Chaul End Road	Luton Road	Total
Dunstable Road	0	145	693	838
Chaul End Road	201	0	356	557
Luton Road	328	237	0	565
<b>Total</b>	<b>529</b>	<b>382</b>	<b>1049</b>	-

PM Peak (17:00-18:00), PCU/hr

From \ To	Dunstable Road	Chaul End Road	Luton Road	Total
Dunstable Road	0	151	463	614
Chaul End Road	177	0	350	527
Luton Road	720	391	0	1111
<b>Total</b>	<b>897</b>	<b>542</b>	<b>813</b>	-