

Waterlooville Park

**Hambledon Roundabout
Appraisal**

Updated April 2022



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Appraisal***

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Existing Geometry

Baseline Traffic; Baseline + Outline Application; and, Baseline + Outline & Net Development

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TRL Junctions Report:

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Introduction

1. Outline consent was granted for the mixed redevelopment of the BAE site in Waterlooville. The transport implications of a detailed application (LPA reference APP/21/00399) for a discount foodstore, drive through coffee shop and restaurant is considered within a Transport Assessment prepared by DTA. This note considers the highway authority (HCC) response to the Transport Assessment dated 20th August 2021 in respect to the appraisal of the Hambledon Road – Elettra Avenue Roundabout. **It has been updated to reflect comments from HCC set out within their consultation response letter dated 29th March 2022; amendments are shown in red.**
2. The junction has been modelled based on the existing arrangement prior to the implementation of the improvements work agreed for the Elettra Avenue approach as part of the outline application. The junction has also been modelled with the Havant Borough Council plans to improve pedestrian and cycle routes which incorporates in full the works identified by DTA within the outline application.
3. The demand matrices have been updated with recent traffic survey data undertaken in September 2021. This has allowed further validation of the ARCADY modelling. The demand is represented in passenger car units. A pcu factor of 2.0 has been applied. Heavy vehicle percentages have been included with the model (for purposes of queue length comparison). The 2026 design year has forecast in accordance with TEMPRO (RTF 2018 Scenario 1 – Reference) for Havant 003 (Principal Road). The composition of the demand is otherwise the same as within the TA.
4. The geometric parameters within the ARCADY model have been reviewed against the current road markings and the pattern of usage. The ARCADY model, currently version 10, has been updated accordingly although the differences in the slope (f) and intercept ($Q_{e_{max}}$) values are in most cases not significant.
5. **In their HCC review of the modelling several minor changes to the geometry were put forward as set out in Table 1. These have not been verified but have been incorporated into the models and subjected to validation checks again.**

Table 1 HCC geometric review

	Approach Half Width		Entry Width	
	DTA Model	HCC Review	DTA Model	HCC Review
Milton Road (E)	3.4	3.0	4.5	4.0
Hambledon Road (S)	7.3	6.4	8.0	7.7
Elettra Avenue (W)	3.6	3.0	7.7	7.1
Hambledon Road (N)	N/A	N/A	7.9	7.5

6. **The exception to this Hambledon Road (S) from which the measurements have been confirmed against HCC Drawing CJ008981-ECH-GEN-17024883-DR-HE-0002 which is on topographical survey data. This confirms an entry width of 8.4m and half width on 7.3m.**

Base model validation

7. **The traffic models allow different arrival profiles to be applied. For the purposes of model validation DIRECT entry is more applicable than FLAT or OD-TAB as we are looking for a direction comparison between modelled and actual queue lengths.**



8. The manual classified turning count survey also recorded queue lengths by lane. The base traffic flows with DIRECT entry have been modelled (model report attached in **Appendix A**). These have been compared to the observed, reported as the average queue over the 15-minute period, and summarized in **Table 2** below.
9. The model is still under-representing capacity on Milton Road. To directly replicate the level of queuing would require further adjustment of the intercept or slope.

Table 2 2021 ARCADY Queue Length Comparison AM Peak

		Observed	DTA geometry	Updated geometry
Milton Road	07:30-07:45	2.0	2.2	2.2
	07:45-08:00	1.0	3.4	3.3
	08:00-08:15	1.3	5.9	5.7
	08:15-08:30	2.3	7.0	6.5
	08:30-08:45	1.3	6.2	5.9
	08:45-09:00	2.0	6.5	6.0
	09:00-09:15	2.0	3.3	3.1
	09:15-09:30	4.0	1.9	1.9
	Average	1.8	4.6	4.3
Hambleton Road (S)	07:30-07:45	3.3	0.7	0.8
	07:45-08:00	0.0	1.1	1.3
	08:00-08:15	1.3	1.1	1.2
	08:15-08:30	0.0	0.9	1.0
	08:30-08:45	0.0	0.9	1.8
	08:45-09:00	1.3	1.5	2.4
	09:00-09:15	0.0	1.8	2.3
	09:15-09:30	1.3	1.2	1.4
	Average	0.9	1.2	1.5
Elettra Avenue	07:30-07:45	0.7	0.3	0.3
	07:45-08:00	0.7	0.4	0.4
	08:00-08:15	1.0	0.4	0.5
	08:15-08:30	1.3	0.6	0.7
	08:30-08:45	0.3	0.5	0.7
	08:45-09:00	0.3	0.6	0.7
	09:00-09:15	3.7	0.9	1.1
	09:15-09:30	0.7	0.8	1.0
	Average	1.1	0.6	0.7
Hambleton Road (N)	07:30-07:45	0.0	0.8	0.9
	07:45-08:00	2.0	0.9	0.9
	08:00-08:15	1.3	1.1	1.1
	08:15-08:30	2.3	1.3	1.4
	08:30-08:45	1.7	1.1	1.1
	08:45-09:00	4.0	1.3	1.8
	09:00-09:15	5.3	1.4	1.5
	09:15-09:30	8.0	1.1	1.2
	Average	3.1	1.1	1.2

10. On Elettra Avenue there is uneven queuing evident from the survey which suggests that balance of demand across the entry is not even. The entry lanes in the existing arrangement are poorly aligned with the circulatory carriageway and this appears to affect the balance of lane usage which is skewed towards the off-side notwithstanding an almost exact balance between the ahead and left movements and the right turn movement. In practice it is evident from the survey footage that drivers on the ahead



movement (to Milton Road) use both lanes and weave/merge on the circulatory carriageway before the exit. This is addressed by the HBC/DTA works. These are tested in more detail in the modelling below.

11. On Hambledon Road (N) the updated geometry has not materially changed the results. As previously some longer queues are expected due to upstream modulation by the pedestrian crossing although this should not impact on capacity, i.e., result in entry starvation given the existing separation.

Table 3 2021 ARCADY Queue Length Comparison PM Peak

		Observed	DTA geometry	Updated geometry
Milton Road	16:30-16:45	0.0	2.0	2.0
	16:45-17:00	1.3	0.9	0.9
	17:00-17:15	0.7	2.2	2.1
	17:15-17:30	0.0	2.2	2.1
	17:30-17:45	0.0	2.2	2.1
	17:45-18:00	0.0	1.2	1.2
	18:00-18:15	0.0	1.2	1.2
	18:15-18:30	2.0	3.8	3.6
	Average	0.5	2.0	1.9
Hambledon Road (S)	16:30-16:45	5.8	1.6	1.9
	16:45-17:00	5.3	2.0	2.5
	17:00-17:15	0.0	2.0	2.6
	17:15-17:30	1.3	1.8	2.5
	17:30-17:45	3.0	1.3	2.3
	17:45-18:00	0.0	1.3	1.6
	18:00-18:15	1.3	1.3	1.5
	18:15-18:30	0.0	1.3	1.5
	Average	2.1	1.6	2.1
Elettra Avenue	16:30-16:45	16.0	1.1	1.5
	16:45-17:00	17.3	1.3	1.7
	17:00-17:15	15.7	2.9	4.9
	17:15-17:30	13.0	1.6	2.4
	17:30-17:45	13.3	1.3	1.8
	17:45-18:00	6.3	0.7	0.8
	18:00-18:15	4.7	0.7	0.9
	18:15-18:30	5.0	1.1	1.4
	Average	11.4	1.5	1.9
Hambledon Road (N)	16:30-16:45	2.3	1.2	1.2
	16:45-17:00	3.7	0.9	1.0
	17:00-17:15	10.7	1.5	1.6
	17:15-17:30	4.0	1.1	1.1
	17:30-17:45	2.7	1.4	1.5
	17:45-18:00	1.3	0.6	0.7
	18:00-18:15	4.7	1.0	1.0
	18:15-18:30	1.3	0.9	1.0
	Average	3.8	1.1	1.1

12. There is little existing queueing on either of the Hambledon Road approaches. There are signalized crossings on both Hambledon Road approaches. Roundabouts tend to be resilient to adjacent crossings as upstream modulation of traffic will tend to provide additional opportunities at downstream entries hence there is a natural rebalancing. Here there is limited evident impact on the operation of the junction from adjacent crossings. This has been queried by HCC, the implication being those underlying



capacities of the Hambleton Road within the model should be increased as the evidence capacity is throttled by the crossings. Having previously reviewed the survey footage it was not deemed necessary to represent the crossings within the modelling. There is no further to contradict this.

13. In both cases the crossings are called relatively infrequently and there is negligible direct interaction (blocking back), evident from the survey footage, with the roundabout however the modulation of the upstream arrival profile results in more platooning of traffic.
14. The larger proportional differences are on Hambleton Road (North) approach and the geometry has been reviewed in detail. This entry has a staggered give way line and nearside hatching to reduce the entry radius to 10m and lane delineation to force a higher conflict angle.
15. The behaviour of drivers, see **Figure 1**, does not reflect the markings as is evident from the survey footage and pavement wear patterns. Drivers in the nearside lane stop well behind the give-way line and positioned their vehicles to straddle the edge marking. In this regard the effective entry radius is estimated to be at least 15m. The entry radius has not been increased as it is evident that drivers in the offside lane encroach into the nearside lane to reduce the conflict angle on entry. The effective conflict angle is estimated to be 36°. The geometry within the model is based on the evident effective geometry and this is appropriate although there may be some minor impairment of expected performance.



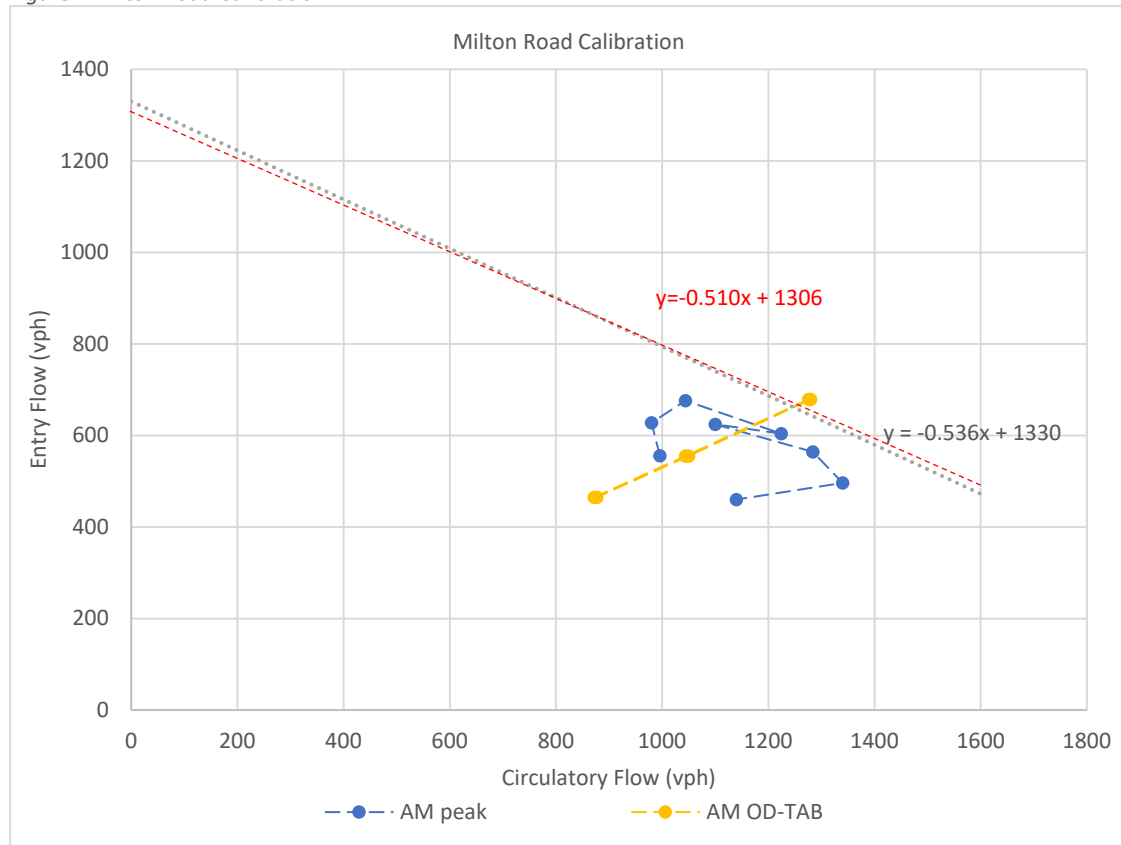
Figure 1 Capture from survey footage



16. The capacity of Milton Road within the model is slightly understated resulting in longer modelled queues. As can be seen from the below plot, **Figure 2**, it is likely that the calculated slope is too steep at 0.536; a value of 0.33 – 0.4 is probably more representative of a single lane entry. As can be seen the amended geometry reduces the slope slightly to 0.510. Also notable from this plot is that the actual pattern of circulatory vs entry demand (blue) is more complex than assumed by the OD-TAB (yellow); effectively the minor road peak is earlier than on the ahead movements. As a result, on DIRECT entry the peak demand is 90% capacity whereas under OD-TAB it is 105%. Within the TA, to adjust for this a FLAT profile was adopted, whereas in practice reality lies in between. Whilst OD-TAB has been adopted within the below tests it should be noted that this is likely to similarly overstate demand in the future year and with development tests.



Figure 2 Milton Road Calibration



Entry Simulation

17. To test the model, the junction has been re-modelled using entry simulation. Entry simulation is a tool within ARCADY which allows the sensitivity of the results to an explicit representation of the lane structure of a roundabout to be tested. It assumes that the overall capacity of each arm is the same as predicted by the core ARCADY model.
18. On Elettra Avenue there some evidence for this within the queue survey results where there is a bias towards the off-side lane. **Some bias appears to stem from poorly aligned entry lanes onto the circulatory carriageway which results in use of the off-side lane by drivers headed towards Milton Road. This is reproduced within the model by assigning Milton Road as a secondary destination for users of the nearside lane. This effectively caps the use of the nearside to 50% of the west-east drivers. It is represented this way around to best reflect the existing geometry/road markings. The model has been updated to correct the level 1 lane lengths as identified by HCC.**
19. On Hambleton Road south it is evident from the survey footage that, notwithstanding the road markings, that ahead drivers use both lanes as there is a two-lane exit which tapers down to a single lane north of the signal crossing. To reflect actual conditions on the ground the model must represent what happens in practice. In acknowledgement of the issue however the structure of this approach has been changed so that the nearside lane is primary with secondary use of the offside lane capped at 30%.



20. The results are summarized in **Table 4 & 5** below; the model report is attached in **Appendix B**. Again, these are based on DIRECT entry to best validate against observed operation.

Table 4 2021 ARCADY entry simulation queue length comparison AM peak

		Observed	DTA geometry	Updated geometry
Milton Road	07:30-07:45	2.0	3.0	2.5
	07:45-08:00	1.0	3.6	3.9
	08:00-08:15	1.3	7.1	7.1
	08:15-08:30	2.3	9.8	7.7
	08:30-08:45	1.3	7.3	6.2
	08:45-09:00	2.0	8.3	6.9
	09:00-09:15	2.0	4.2	3.2
	09:15-09:30	4.0	1.9	2.1
	Average	2.0	5.7	5.0
Hambleton Road (S)	07:30-07:45	3.3	1.1	1.2
	07:45-08:00	0.0	1.6	2.0
	08:00-08:15	1.3	2.1	2.2
	08:15-08:30	0.0	1.7	1.7
	08:30-08:45	0.0	2.6	3.2
	08:45-09:00	1.3	3.2	4.9
	09:00-09:15	0.0	2.9	4.0
	09:15-09:30	1.3	1.9	2.1
	Average	0.9	2.1	2.7
Elettra Avenue	07:30-07:45	0.7	0.6	0.7
	07:45-08:00	0.7	0.8	0.7
	08:00-08:15	1.0	0.9	1.0
	08:15-08:30	1.3	1.7	1.6
	08:30-08:45	0.3	1.0	1.3
	08:45-09:00	0.3	1.1	1.6
	09:00-09:15	3.7	1.8	2.9
	09:15-09:30	0.7	1.5	2.4
	Average	1.1	1.2	1.5
Hambleton Road (N)	07:30-07:45	0.0	1.2	1.5
	07:45-08:00	2.0	1.3	1.1
	08:00-08:15	1.3	1.6	1.8
	08:15-08:30	2.3	1.8	2.1
	08:30-08:45	1.7	1.7	1.6
	08:45-09:00	4.0	2.3	2.6
	09:00-09:15	5.3	2.1	2.2
	09:15-09:30	8.0	1.9	1.7
	Average	3.1	1.7	1.8

21. The results show that there is an increase in gap between model and observed queues on Hambleton Road (S) entry. The modelled queues are longer. The Hambleton Road (S) queue length has further increased resulting from the constraint on the off-side lane for ahead movements. The model is robust with respect to entry capacity moreover the entry is clearly operating within capacity and so there should be no material difference in downstream flow.



Table 5 2021 ARCADY entry simulation queue length comparison PM peak

		Observed	DTA geometry	Updated geometry
Milton Road	16:30-16:45	0.0	2.2	2.3
	16:45-17:00	1.3	0.9	0.8
	17:00-17:15	0.7	1.9	2.0
	17:15-17:30	0.0	2.3	2.2
	17:30-17:45	0.0	2.5	2.6
	17:45-18:00	0.0	1.2	1.2
	18:00-18:15	0.0	1.3	1.4
	18:15-18:30	2.0	4.3	4.3
	Average	0.5	2.1	2.1
Hambledon Road (S)	16:30-16:45	5.8	2.8	2.9
	16:45-17:00	5.3	3.4	3.4
	17:00-17:15	0.0	3.5	3.8
	17:15-17:30	1.3	3.0	3.6
	17:30-17:45	3.0	3.2	3.2
	17:45-18:00	0.0	2.1	2.5
	18:00-18:15	1.3	2.5	2.2
	18:15-18:30	0.0	2.1	2.3
	Average	2.1	2.8	3.0
Elettra Avenue	16:30-16:45	16.0	3.0	3.9
	16:45-17:00	17.3	4.3	6.4
	17:00-17:15	15.7	23.5	31.2
	17:15-17:30	13.0	9.6	18.5
	17:30-17:45	13.3	5.4	9.6
	17:45-18:00	6.3	1.5	1.9
	18:00-18:15	4.7	1.8	2.0
	18:15-18:30	5.0	4.1	5.4
	Average	11.4	6.7	9.9
Hambledon Road (N)	16:30-16:45	2.3	1.8	1.5
	16:45-17:00	3.7	1.4	1.5
	17:00-17:15	10.7	2.2	2.0
	17:15-17:30	4.0	1.6	1.8
	17:30-17:45	2.7	2.2	2.5
	17:45-18:00	1.3	1.1	1.1
	18:00-18:15	4.7	1.6	1.6
	18:15-18:30	1.3	1.6	1.6
	Average	3.8	1.6	1.7

22. The entry simulation approach as generally increased queue lengths across the board and the differential queuing apparent on Elettra Avenue is more closely replicated. On this basis no intercept corrections have been applied as the differences can be otherwise explained.
23. Baseline scenarios are summarized in **Table 6**; the model report is attached in **Appendix A**. These have been run on an OD-TAB arrival profile with the equivalent DIRECT arrival profile summarized in **Table 7**. The junction is generally operating within its practical capacity. The arm experiencing the greatest 'stress' in the AM peak is Milton Road however as set out above the OD-TAB profile is not representative on this approach in the AM Peak as there are differences between the arrival profile of local traffic on Milton Road and through traffic on Hambledon Road. As a result, in the AM peak only, the level of stress under ODTAB will be overstated as demonstrated by the DIRECT entry approach. As set out the Elettra Avenue results do not directly account for unequal lane usage.



Table 6 2021 Base (OD-TAB)

	AM			PM			SAT		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
Milton Road	8.0	49.09	0.91	2.0	15.15	0.66	1.7	11.12	0.63
Hambleton Road (south)	1.9	4.56	0.65	2.4	5.07	0.70	1.3	3.50	0.57
Elettra Avenue	1.0	6.91	0.50	4.9	22.91	0.84	0.8	5.62	0.44
Hambleton Road (north)	2.1	7.14	0.68	1.9	8.50	0.66	0.8	4.24	0.46

Table 7 2021 Base (DIRECT)

	AM			PM			SAT		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
Milton Road	3.7	22.90	0.79	2.5	15.41	0.72			
Hambleton Road (south)	1.8	4.26	0.63	1.9	4.35	0.64			
Elettra Avenue	1.1	7.06	0.52	5.0	20.12	0.84			
Hambleton Road (north)	1.8	6.34	0.65	1.6	7.55	0.65			

24. In light of the differences in the baseline scenarios, for future assessment scenarios the AM peak as been modelled using DIRECT entry, to reflect the underlying differences in the arrival profiles whereas the PM and SAT peaks, where the profiles are more similar, are assessed using the OD-TAB.

Scenario Testing

25. The outline application scenarios are summarized in **Table 8** but without mitigation; the model report is attached in **Appendix A**. As would be expected the junction is operating at capacity but as acknowledged by HCC the applicant has funded works at the junction and therefore this test is not relevant.

Table 8 2026 Base + committed development excl mitigation (OD-TAB)

	AM (DIRECT)			PM (OD-TAB)			SAT (OD-TAB)		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
Milton Road	10.5	62.86	0.94	4.3	29.75	0.82	4.7	26.73	0.83
Hambleton Road (south)	2.4	5.31	0.70	3.6	7.15	0.78	2.0	4.75	0.67
Elettra Avenue	1.8	9.48	0.63	44.9	145.54	1.08	2.1	10.07	0.68
Hambleton Road (north)	2.5	8.01	0.71	2.9	12.13	0.74	1.2	5.69	0.55

26. A similar pattern is evident with the development scenarios summarized in **Table 6** but without mitigation; the model report is attached in **Appendix A**. Again, this test is not relevant.



Table 9 2026 Base + committed development + development excl mitigation (OD-TAB)

	AM (DIRECT)			PM (OD-TAB)			SAT (OD-TAB)		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
Milton Road	28.9	164.85	1.03	4.1	29.99	0.82	4.4	26.30	0.82
Hambleton Road (south)	3.1	6.52	0.75	4.0	7.74	0.82	2.2	4.97	0.68
Elettra Avenue	2.6	12.30	0.72	85.6	251.18	1.17	2.5	11.20	0.71
Hambleton Road (north)	2.9	9.36	0.75	2.9	12.18	0.74	1.2	5.82	0.55

27. The outline application scenarios are summarized in **Table 10**; the model report is attached in **Appendix C**. All arms in all scenarios are operating within their practical capacities.

Table 10 2026 Base + committed development with mitigation

	AM (DIRECT)			PM (OD-TAB)			SAT (OD-TAB)		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
Milton Road	3.0	16.79	0.76	2.1	14.09	0.68	2.1	11.47	0.67
Hambleton Road (south)	2.3	5.06	0.70	4.0	7.75	0.80	2.2	4.97	0.68
Elettra Avenue	1.0	4.85	0.51	4.2	14.14	0.81	1.0	4.72	0.51
Hambleton Road (north)	2.9	9.5	0.75	3.9	16.75	0.80	1.2	5.82	0.55

28. There is a slightly different issue on the Milton Road approach under entry simulation given the relatively short flare length. The default setting apportions the overall capacity evenly between the lanes i.e., the single lane has a $Q_{e_{max}} = 1330$ vph but the two lanes share $Q_{e_{max}} = 1700$ vph. The even apportionment is unrealistic but would need to be individually apportioned for each scenario within the constraint of an individual lane geometry to bring it back in line with the standard ARCADY performance. This would add significant complexity and so the standard apportionment is reported in **Table 11** (although Milton Road should be treated with caution!); the model report is attached in **Appendix D**.

29. The model structure has been updated to explicitly show the short nearside flare. This was originally omitted as the default assumption to evenly split is evidently unrepresentative in this instance and the nuance being drawn out here is to differentiate demand between the nearside ahead and left lane(s) and the right turn lane. As it is to be now formally included here the offside lane has been assigned half the intercept value of the two-lane configuration and the difference to the overall widen lane capacity less the right turn lane has been assigned to the nearside lane and flare evenly. This maintains consistency with TRL default assumption with respect to consistency with the base model.



Table 11 2026 Base + committed development with mitigation (OD-TAB) entry sim

	AM			PM			SAT		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
Milton Road	7.3	32.89		4.7	31.53		4.8	24.59	
Hambleton Road (south)	7.0	15.51		8.4	14.18		5.0	10.72	
Elettra Avenue	1.9	8.65		7.6	26.66		2.2	9.03	
Hambleton Road (north)	3.0	10.15		4.6	18.70		1.9	8.22	

30. Significantly, however, the unequal lane use on Elettra Avenue should be addressed by the improved lane alignment. The off-side lane now aligns smoothly with the inside circulatory lane (as per CD116 para 3.18.2) and the nearside lane with the outside circulatory lane.
31. The with development scenarios are summarized in **Table 12 and 13**; the model reports are attached in **Appendix C**. All arms in all scenarios are operating within their practical capacities and the differences with the outline scenarios are modest.

Table 12 2026 Base + committed development + development with mitigation (OD-TAB)

	AM (DIRECT)			PM (OD-TAB)			SAT (OD-TAB)		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
Milton Road	4.3	24.17	0.83	2.3	16.19	0.70	2.0	11.58	0.66
Hambleton Road (south)	3.0	6.27	0.76	4.0	7.75	0.80	2.2	4.97	0.68
Elettra Avenue	1.0	4.85	0.51	4.2	14.14	0.81	1.0	4.72	0.51
Hambleton Road (north)	2.9	9.15	0.75	3.9	16.75	0.80	1.2	5.82	0.55

Table 13 2026 Base + committed development + development with mitigation (OD-TAB) entry sim

	AM (DIRECT)			PM (OD-TAB)			SAT (OD-TAB)		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
Milton Road	13.1	60.32		4.7	33.15		4.9	21.01	
Hambleton Road (south)	18.0	37.71		9.4	17.06		5.9	12.76	
Elettra Avenue	2.3	10.11		14.1	46.4		2.6	9.81	
Hambleton Road (north)	3.8	11.35		5.3	21.57		2.2	8.59	

Distribution Sensitivity

32. A sensitivity test has been undertaken with an additional 30 development vehicles per hour in and out of Elettra Avenue reassigned from Hambleton Road South to Hambleton Road North. This change is not sufficient to materially change the performance of either Hambleton Road nor the circulatory flow across Milton Road (the differences in delay are effectively a rounding issues related to the different HGV proportions assumed on different movements). The results are summarized in **Table 14 and 15** the model reports are attached in **Appendix C and D**. All arms in all scenarios are operating within their practical capacities.



Table 14 2026 Base + committed development + development with mitigation (OD-TAB)

	AM			PM			SAT		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
Milton Road	5.7	32.58	0.86	2.3	16.18	0.70	2.0	11.58	0.66
Hambleton Road (south)	2.8	6.08	0.73	3.9	7.63	0.80	2.1	4.93	0.68
Elettra Avenue	0.8	4.57	0.45	4.2	14.14	0.81	1.0	4.72	0.51
Hambleton Road (north)	3.2	9.90	0.76	4.2	17.61	0.81	1.3	5.93	0.57

Table 15 2026 Base + committed development + development with mitigation (OD-TAB) entry sim

	AM			PM			SAT		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
Milton Road	16.2	83.16		4.8	32.16		4.3	24.79	
Hambleton Road (south)	10.2	22.29		8.7	16.03		4.7	11.85	
Elettra Avenue	1.9	9.55		14.0	42.29		2.3	9.71	
Hambleton Road (north)	4.7	13.32		6.2	23.50		2.0	8.84	



Conclusions

33. The ARCADY modelling has been updated supported by additional data collection to inform the demand forecasting and model validation. Issues identified by HCC with respect to the geometry have been reviewed and required changes made where appropriate.
34. The geometry has been updated in response to further comments from HCC. These generally have the effect of tightening capacity by around 5-10%. In the round these are to the detriment of model validation. The models as originally constructed performed more conservatively than observed on the ground and the junction will operate better than the model metrics suggest. The model structure however is now improved.
35. The advanced mode in ARCADY has been used to undertake lane simulation. This has demonstrated that the apparent discrepancy on Elettra Avenue can be explained by unequal lane usage for the existing layout.
36. HBC is proposing changes to the roundabout to improve capacity and better provide for pedestrians and cyclists. These incorporate changes, funded by the applicant, on Elettra Avenue which were agreed as part of the outline permission.
37. Testing of the HBC improvements show that pedestrians will be better accommodated, and the lane allocation and capacities will be well aligned to future patterns of demand.
38. Sensitivity testing has been undertaken on the distribution to test what the implications are of more traffic originating from the north. This shows that the future arrangement will be resilient on this regard. There is sufficient capacity on Hambleton Road and the changes on the circulatory carriageway are negligible.
39. The consequences of the HCC suggested amendments do not change the conclusions drawn that the impact at the junction does not require design amendments and the traffic from the proposal can be appropriately accommodated



Appendix A

TRL Junctions Report:

Existing Geometry

Baseline Traffic; Baseline + Outline Application; and, Baseline + Outline & Net Development

Junctions 10															
ARCADY 10 - Roundabout Module															
Version: 10.0.2.1574															
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The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution															

Filename: Hambledon Road_Milton Road_Elettra Av (2021) RevB.j10

Path: P:\19000's\19235\Technical\Junction Modelling 2022\ARCADY\ARCADY

Report generation date: 09/04/2022 19:15:50

- »(Default Analysis Set) - 2021 Base, AM
- »(Default Analysis Set) - 2021 Base, PM
- »(Default Analysis Set) - 2021 Base, SAT
- »(Default Analysis Set) - 2026 Base + Com Dev, PM
- »(Default Analysis Set) - 2026 Base + Com Dev, SAT
- »(Default Analysis Set) - 2026 Base + Com Dev + Dev, PM
- »(Default Analysis Set) - 2026 Base + Com Dev + Dev, SAT
- »(Default Analysis Set) - 2021 Base, AM-DIRECT
- »(Default Analysis Set) - 2021 Base, PM-DIRECT
- »(Default Analysis Set) - 2026 Base + Com Dev, AM-DIRECT
- »(Default Analysis Set) - 2026 Base + Com Dev + Dev, AM-DIRECT

Summary of junction performance

	AM					PM					SAT					AM-DIRECT			
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC
	A1 - 2021 Base																		
1 - Milton road	D1	8.0	49.09	0.91	E	D2	2.0	15.15	0.66	C	D3	1.7	11.12	0.63	B	D10	3.7	22.90	0.79
2 - Hambledon Road (south)		1.9	4.56	0.65	A		2.4	5.07	0.70	A		1.3	3.50	0.57	A		1.8	4.26	0.63
3 - Elettra Avenue		1.0	6.91	0.50	A		4.9	22.91	0.84	C		0.8	5.62	0.44	A		1.1	7.06	0.52
4 - Hambledon Road (north)		2.1	7.14	0.68	A		1.9	8.50	0.66	A		0.8	4.24	0.46	A		1.8	6.34	0.65
	A1 - 2026 Base + Com Dev																		
1 - Milton road						D5	4.3	29.73	0.82	D	D6	4.7	26.73	0.83	D	D12	10.5	62.87	0.94
2 - Hambledon Road (south)							3.6	7.15	0.78	A		2.0	4.75	0.67	A		2.4	5.31	0.70
3 - Elettra Avenue							45.7	148.33	1.08	F		2.1	10.07	0.68	B		1.8	9.48	0.63
4 - Hambledon Road (north)							2.9	12.13	0.74	B		1.2	5.69	0.55	A		2.5	8.01	0.71
	A1 - 2026 Base + Com Dev + Dev																		
1 - Milton road						D8	4.1	29.93	0.81	D	D9	4.4	26.30	0.82	D	D13	28.9	164.89	1.03
2 - Hambledon Road (south)							4.0	7.74	0.80	A		2.2	4.97	0.68	A		3.1	6.52	0.75
3 - Elettra Avenue							85.6	251.18	1.17	F		2.5	11.21	0.71	B		2.6	12.30	0.72
4 - Hambledon Road (north)							2.9	12.18	0.74	B		1.2	5.82	0.55	A		2.9	9.38	0.75

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.

File summary

File Description

Title	Hambledon Road/ Milton Road/ Elettra Avenue
Location	Waterlooville
Site number	
Date	19/10/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	19235
Enumerator	DTA\arcady
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 period length (min)	Time segment length (min)	Run automatically
D1	2021 Base	AM	ONE HOUR	08:00	09:30		15	✓
D2	2021 Base	PM	ONE HOUR	16:30	18:00		15	✓
D3	2021 Base	SAT	ONE HOUR	11:15	12:45		15	✓
D4	2026 Base + Com Dev	AM	ONE HOUR	08:00	09:30		15	
D5	2026 Base + Com Dev	PM	ONE HOUR	16:30	18:00		15	✓
D6	2026 Base + Com Dev	SAT	ONE HOUR	11:15	12:45		15	✓
D7	2026 Base + Com Dev + Dev	AM	ONE HOUR	08:00	09:30		15	
D8	2026 Base + Com Dev + Dev	PM	ONE HOUR	16:30	18:00		15	✓
D9	2026 Base + Com Dev + Dev	SAT	ONE HOUR	11:15	12:45		15	✓
D10	2021 Base	AM-DIRECT	DIRECT	07:30	09:30	120	15	✓
D11	2021 Base	PM-DIRECT	DIRECT	16:30	18:30	120	15	✓
D12	2026 Base + Com Dev	AM-DIRECT	DIRECT	07:30	09:30	120	15	✓
D13	2026 Base + Com Dev + Dev	AM-DIRECT	DIRECT	07:30	09:30	120	15	✓

Analysis Set Details

ID	Name	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	(Default Analysis Set)	✓	100.000	100.000

(Default Analysis Set) - 2021 Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Elettra Avenue - 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	(untitled)	Standard Roundabout		1, 2, 3, 4	13.05	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	13.05	B

Arms

Arms

Arm	Name	Description	No give-way line
1	Milton road		
2	Hambledon Road (south)		
3	Elettra Avenue		
4	Hambledon Road (north)		

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 - Milton road	3.00	4.00	8.4	20.0	54.0	15.2		
2 - Hambledon Road (south)	7.30	8.40	12.7	47.5	54.0	18.0		
3 - Elettra Avenue	3.00	7.10	52.6	18.0	54.0	22.0		
4 - Hambledon Road (north)	6.80	7.50	5.0	15.0	54.0	36.0		

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct intercept adjustment (PCU/hr)
1 - Milton road	Direct		200
2 - Hambledon Road (south)	None		
3 - Elettra Avenue	None		
4 - Hambledon Road (north)	None		

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Milton road	0.510	1386
2 - Hambledon Road (south)	0.782	2646
3 - Elettra Avenue	0.641	1946
4 - Hambledon Road (north)	0.657	2125

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct capacity adjustment (PCU/hr)
1 - Milton road	Direct		0

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	2021 Base	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 - Milton road		ONE HOUR	✓	572	100.000
2 - Hambledon Road (south)		ONE HOUR	✓	1385	100.000
3 - Elettra Avenue		ONE HOUR	✓	495	100.000
4 - Hambledon Road (north)		ONE HOUR	✓	987	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	406	78	88
	2 - Hambledon Road (south)	332	42	325	686
	3 - Elettra Avenue	96	252	0	147
	4 - Hambledon Road (north)	44	771	112	60

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	4	0	1
	2 - Hambledon Road (south)	10	0	1	6
	3 - Elettra Avenue	2	8	0	3
	4 - Hambledon Road (north)	3	3	3	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 - Milton road	0.91	49.09	8.0	E	525	787
2 - Hambledon Road (south)	0.65	4.56	1.9	A	1271	1906
3 - Elettra Avenue	0.50	6.91	1.0	A	454	681
4 - Hambledon Road (north)	0.68	7.14	2.1	A	906	1359

Main Results for each time segment

08:00 - 08:15

Am	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 - Milton road	431	108	928	914	0.471	427	354	0.0	0.9	7.559	A
2 - Hambledon Road (south)	1043	261	253	2448	0.426	1040	1102	0.0	0.8	2.688	A
3 - Elettra Avenue	373	93	906	1365	0.273	371	386	0.0	0.4	3.812	A
4 - Hambledon Road (north)	743	186	542	1769	0.420	740	736	0.0	0.7	3.575	A

08:15 - 08:30

Am	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 - Milton road	514	129	1110	821	0.627	511	424	0.9	1.7	11.856	B
2 - Hambledon Road (south)	1245	311	303	2409	0.517	1244	1319	0.8	1.1	3.250	A
3 - Elettra Avenue	445	111	1084	1251	0.356	444	462	0.4	0.6	4.702	A
4 - Hambledon Road (north)	887	222	648	1699	0.522	886	880	0.7	1.1	4.529	A

08:30 - 08:45

Am	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 - Milton road	630	157	1357	695	0.906	609	518	1.7	6.8	36.913	E
2 - Hambledon Road (south)	1525	381	365	2360	0.646	1522	1601	1.1	1.9	4.509	A
3 - Elettra Avenue	545	136	1324	1097	0.497	543	563	0.6	1.0	6.830	A
4 - Hambledon Road (north)	1087	272	793	1604	0.678	1083	1075	1.1	2.1	7.026	A

08:45 - 09:00

Am	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 - Milton road	630	157	1362	692	0.910	625	520	6.8	8.0	49.087	E
2 - Hambledon Road (south)	1525	381	371	2356	0.647	1525	1616	1.9	1.9	4.565	A
3 - Elettra Avenue	545	136	1329	1094	0.498	545	566	1.0	1.0	6.913	A
4 - Hambledon Road (north)	1087	272	795	1603	0.678	1087	1079	2.1	2.1	7.145	A

09:00 - 09:15

Am	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 - Milton road	514	129	1117	817	0.629	539	426	8.0	1.8	14.418	B
2 - Hambledon Road (south)	1245	311	312	2402	0.518	1248	1344	1.9	1.1	3.296	A
3 - Elettra Avenue	445	111	1092	1246	0.357	447	468	1.0	0.6	4.762	A
4 - Hambledon Road (north)	887	222	651	1697	0.523	891	888	2.1	1.1	4.602	A

09:15 - 09:30

Am	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 - Milton road	431	108	933	911	0.473	434	356	1.8	0.9	7.830	A
2 - Hambledon Road (south)	1043	261	256	2446	0.426	1044	1112	1.1	0.8	2.708	A
3 - Elettra Avenue	373	93	911	1362	0.274	373	389	0.6	0.4	3.844	A
4 - Hambledon Road (north)	743	186	544	1767	0.420	745	740	1.1	0.7	3.615	A

(Default Analysis Set) - 2021 Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Elettra Avenue - 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	(untitled)	Standard Roundabout		1, 2, 3, 4	10.87	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	10.87	B

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	2021 Base	PM	ONE HOUR	16:30	18:00	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 - Milton road		ONE HOUR	✓	436	100.000
2 - Hambledon Road (south)		ONE HOUR	✓	1537	100.000
3 - Elettra Avenue		ONE HOUR	✓	733	100.000
4 - Hambledon Road (north)		ONE HOUR	✓	756	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	303	88	45
	2 - Hambledon Road (south)	521	99	228	689
	3 - Elettra Avenue	199	369	0	165
	4 - Hambledon Road (north)	42	576	96	42

Vehicle Mix

Heavy Vehicle Percentages

	To				
From		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
	1 - Milton road	0	4	0	1
	2 - Hambledon Road (south)	3	2	0	1
	3 - Elettra Avenue	0	1	0	1
	4 - Hambledon Road (north)	2	3	1	0

Results

Results Summary for whole modelled period

Am	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Milton road	0.66	15.15	2.0	C	400	600
2 - Hambledon Road (south)	0.70	5.07	2.4	A	1410	2116
3 - Elettra Avenue	0.84	22.91	4.9	C	673	1009
4 - Hambledon Road (north)	0.66	8.50	1.9	A	694	1041

Main Results for each time segment

16:30 - 16:45

Am	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 - Milton road	328	82	886	935	0.351	326	572	0.0	0.6	6.060	A
2 - Hambledon Road (south)	1157	289	203	2487	0.465	1154	1009	0.0	0.9	2.736	A
3 - Elettra Avenue	552	138	1048	1274	0.433	549	309	0.0	0.8	4.976	A
4 - Hambledon Road (north)	569	142	891	1540	0.370	567	706	0.0	0.6	3.783	A

16:45 - 17:00

Am	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 - Milton road	392	98	1060	846	0.463	391	684	0.6	0.9	8.107	A
2 - Hambledon Road (south)	1382	345	243	2456	0.563	1380	1208	0.9	1.3	3.400	A
3 - Elettra Avenue	659	165	1253	1143	0.577	657	370	0.8	1.3	7.425	A
4 - Hambledon Road (north)	680	170	1066	1425	0.477	678	844	0.6	0.9	4.934	A

17:00 - 17:15

Am	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 - Milton road	480	120	1291	728	0.659	476	834	0.9	1.9	14.435	B
2 - Hambledon Road (south)	1692	423	296	2414	0.701	1688	1471	1.3	2.3	5.009	A
3 - Elettra Avenue	807	202	1533	964	0.838	794	452	1.3	4.6	20.070	C
4 - Hambledon Road (north)	832	208	1296	1273	0.654	829	1031	0.9	1.9	8.231	A

17:15 - 17:30

Am	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 - Milton road	480	120	1301	724	0.663	480	839	1.9	2.0	15.147	C
2 - Hambledon Road (south)	1692	423	298	2413	0.701	1692	1482	2.3	2.4	5.074	A
3 - Elettra Avenue	807	202	1537	961	0.840	806	454	4.6	4.9	22.906	C
4 - Hambledon Road (north)	832	208	1307	1266	0.657	832	1036	1.9	1.9	8.496	A

17:30 - 17:45

Am	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 - Milton road	392	98	1074	839	0.467	396	690	2.0	0.9	8.434	A
2 - Hambledon Road (south)	1382	345	246	2454	0.563	1386	1224	2.4	1.3	3.437	A
3 - Elettra Avenue	659	165	1259	1139	0.579	673	372	4.9	1.4	8.003	A
4 - Hambledon Road (north)	680	170	1080	1415	0.480	684	852	1.9	1.0	5.073	A

17:45 - 18:00

Am	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 - Milton road	328	82	893	932	0.352	330	575	0.9	0.6	6.169	A
2 - Hambledon Road (south)	1157	289	205	2486	0.466	1159	1018	1.3	0.9	2.759	A
3 - Elettra Avenue	552	138	1053	1271	0.434	554	311	1.4	0.8	5.077	A
4 - Hambledon Road (north)	569	142	897	1535	0.371	571	710	1.0	0.6	3.829	A

(Default Analysis Set) - 2021 Base, SAT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Elettra Avenue - 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	(untitled)	Standard Roundabout		1, 2, 3, 4	5.38	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.38	A

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	2021 Base	SAT	ONE HOUR	11:15	12:45	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 - Milton road		ONE HOUR	✓	512	100.000
2 - Hambledon Road (south)		ONE HOUR	✓	1235	100.000
3 - Elettra Avenue		ONE HOUR	✓	456	100.000
4 - Hambledon Road (north)		ONE HOUR	✓	655	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	355	93	64
	2 - Hambledon Road (south)	390	26	198	621
	3 - Elettra Avenue	125	216	0	115
	4 - Hambledon Road (north)	24	506	89	36

Vehicle Mix

Heavy Vehicle Percentages

	To				
From		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
	1 - Milton road	0	4	1	0
	2 - Hambledon Road (south)	3	0	1	1
	3 - Elettra Avenue	0	0	0	1
	4 - Hambledon Road (north)	4	1	0	0

Results

Results Summary for whole modelled period

Am	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Milton road	0.63	11.12	1.7	B	470	705
2 - Hambledon Road (south)	0.57	3.50	1.3	A	1133	1700
3 - Elettra Avenue	0.44	5.62	0.8	A	418	628
4 - Hambledon Road (north)	0.46	4.24	0.8	A	601	902

Main Results for each time segment

11:15 - 11:30

Am	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 - Milton road	385	96	655	1053	0.366	383	405	0.0	0.6	5.517	A
2 - Hambledon Road (south)	930	232	211	2481	0.375	927	827	0.0	0.6	2.352	A
3 - Elettra Avenue	343	86	854	1399	0.245	342	285	0.0	0.3	3.410	A
4 - Hambledon Road (north)	493	123	568	1752	0.282	492	627	0.0	0.4	2.879	A

11:30 - 11:45

Am	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 - Milton road	460	115	784	987	0.466	459	484	0.6	0.9	7.005	A
2 - Hambledon Road (south)	1110	278	253	2448	0.454	1109	990	0.6	0.8	2.731	A
3 - Elettra Avenue	410	102	1021	1291	0.317	409	341	0.3	0.5	4.089	A
4 - Hambledon Road (north)	589	147	680	1678	0.351	588	751	0.4	0.5	3.331	A

11:45 - 12:00

Am	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 - Milton road	564	141	959	897	0.628	561	592	0.9	1.7	10.894	B
2 - Hambledon Road (south)	1360	340	309	2404	0.566	1358	1211	0.8	1.3	3.491	A
3 - Elettra Avenue	502	126	1250	1145	0.439	501	417	0.5	0.8	5.593	A
4 - Hambledon Road (north)	721	180	832	1578	0.457	720	919	0.5	0.8	4.226	A

12:00 - 12:15

Am	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 - Milton road	564	141	961	897	0.629	564	593	1.7	1.7	11.119	B
2 - Hambledon Road (south)	1360	340	310	2403	0.566	1360	1214	1.3	1.3	3.505	A
3 - Elettra Avenue	502	126	1252	1144	0.439	502	418	0.8	0.8	5.624	A
4 - Hambledon Road (north)	721	180	833	1577	0.457	721	920	0.8	0.8	4.243	A

12:15 - 12:30

Am	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 - Milton road	460	115	787	986	0.467	463	486	1.7	0.9	7.139	A
2 - Hambledon Road (south)	1110	278	255	2447	0.454	1112	995	1.3	0.8	2.746	A
3 - Elettra Avenue	410	102	1024	1290	0.318	411	343	0.8	0.5	4.115	A
4 - Hambledon Road (north)	589	147	682	1677	0.351	590	753	0.8	0.5	3.345	A

12:30 - 12:45

Am	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 - Milton road	385	96	658	1051	0.367	387	406	0.9	0.6	5.590	A
2 - Hambledon Road (south)	930	232	213	2479	0.375	931	832	0.8	0.6	2.364	A
3 - Elettra Avenue	343	86	857	1397	0.246	344	287	0.5	0.3	3.431	A
4 - Hambledon Road (north)	493	123	571	1750	0.282	494	630	0.5	0.4	2.894	A

(Default Analysis Set) - 2026 Base + Com Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Elettra Avenue - 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	(untitled)	Standard Roundabout		1, 2, 3, 4	44.38	E

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	44.38	E

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	2026 Base + Com Dev	PM	ONE HOUR	16:30	18:00	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 - Milton road		ONE HOUR	✓	498	100.000
2 - Hambledon Road (south)		ONE HOUR	✓	1661	100.000
3 - Elettra Avenue		ONE HOUR	✓	913	100.000
4 - Hambledon Road (north)		ONE HOUR	✓	799	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	313	138	47
	2 - Hambledon Road (south)	539	102	308	712
	3 - Elettra Avenue	256	459	0	198
	4 - Hambledon Road (north)	43	596	125	35

Vehicle Mix

Heavy Vehicle Percentages

	To				
From		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
	1 - Milton road	0	4	0	1
	2 - Hambledon Road (south)	3	2	0	6
	3 - Elettra Avenue	0	1	0	1
	4 - Hambledon Road (north)	0	4	0	1

Results

Results Summary for whole modelled period

Am	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Milton road	0.82	29.73	4.3	D	457	685
2 - Hambledon Road (south)	0.78	7.15	3.6	A	1524	2286
3 - Elettra Avenue	1.08	148.33	45.7	F	838	1257
4 - Hambledon Road (north)	0.74	12.13	2.9	B	733	1100

Main Results for each time segment

16:30 - 16:45

Am	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 - Milton road	375	94	986	884	0.424	372	628	0.0	0.7	7.174	A
2 - Hambledon Road (south)	1250	313	258	2444	0.512	1246	1100	0.0	1.1	3.102	A
3 - Elettra Avenue	687	172	1076	1256	0.547	683	428	0.0	1.2	6.272	A
4 - Hambledon Road (north)	602	150	1015	1458	0.413	599	744	0.0	0.7	4.303	A

16:45 - 17:00

Am	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 - Milton road	448	112	1179	786	0.570	445	751	0.7	1.3	10.785	B
2 - Hambledon Road (south)	1493	373	309	2404	0.621	1491	1316	1.1	1.7	4.073	A
3 - Elettra Avenue	821	205	1288	1121	0.732	815	512	1.2	2.6	11.652	B
4 - Hambledon Road (north)	718	180	1214	1327	0.541	716	889	0.7	1.2	6.047	A

17:00 - 17:15

Am	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 - Milton road	548	137	1396	675	0.812	538	893	1.3	3.9	25.333	D
2 - Hambledon Road (south)	1829	457	375	2353	0.777	1822	1559	1.7	3.5	6.931	A
3 - Elettra Avenue	1005	251	1573	938	1.072	911	624	2.6	26.3	70.833	F
4 - Hambledon Road (north)	880	220	1416	1194	0.737	874	1067	1.2	2.7	11.339	B

17:15 - 17:30

Am	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 - Milton road	548	137	1411	668	0.821	547	901	3.9	4.3	29.727	D
2 - Hambledon Road (south)	1829	457	379	2349	0.778	1828	1578	3.5	3.6	7.152	A
3 - Elettra Avenue	1005	251	1580	934	1.077	928	628	26.3	45.7	148.334	F
4 - Hambledon Road (north)	880	220	1432	1184	0.743	879	1075	2.7	2.9	12.126	B

17:30 - 17:45

Am	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 - Milton road	448	112	1275	736	0.608	458	804	4.3	1.6	13.740	B
2 - Hambledon Road (south)	1493	373	315	2399	0.622	1501	1418	3.6	1.7	4.185	A
3 - Elettra Avenue	821	205	1297	1115	0.736	991	518	45.7	3.1	57.599	F
4 - Hambledon Road (north)	718	180	1355	1234	0.582	724	933	2.9	1.5	7.344	A

17:45 - 18:00

Am	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 - Milton road	375	94	998	878	0.427	378	634	1.6	0.8	7.446	A
2 - Hambledon Road (south)	1250	313	262	2441	0.512	1253	1115	1.7	1.1	3.145	A
3 - Elettra Avenue	687	172	1083	1252	0.549	695	432	3.1	1.2	6.594	A
4 - Hambledon Road (north)	602	150	1028	1450	0.415	604	750	1.5	0.7	4.403	A

(Default Analysis Set) - 2026 Base + Com Dev, SAT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Elettra Avenue - 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	(untitled)	Standard Roundabout		1, 2, 3, 4	9.92	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	9.92	A

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	2026 Base + Com Dev	SAT	ONE HOUR	11:15	12:45	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 - Milton road		ONE HOUR	✓	602	100.000
2 - Hambledon Road (south)		ONE HOUR	✓	1390	100.000
3 - Elettra Avenue		ONE HOUR	✓	687	100.000
4 - Hambledon Road (north)		ONE HOUR	✓	719	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	368	168	66
	2 - Hambledon Road (south)	405	27	314	644
	3 - Elettra Avenue	199	330	0	158
	4 - Hambledon Road (north)	25	525	132	37

Vehicle Mix

Heavy Vehicle Percentages

	To				
From		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
	1 - Milton road	0	4	1	0
	2 - Hambledon Road (south)	3	0	1	1
	3 - Elettra Avenue	0	0	0	1
	4 - Hambledon Road (north)	4	1	0	0

Results

Results Summary for whole modelled period

Am	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Milton road	0.83	26.73	4.7	D	552	829
2 - Hambledon Road (south)	0.67	4.75	2.0	A	1275	1913
3 - Elettra Avenue	0.68	10.07	2.1	B	630	946
4 - Hambledon Road (north)	0.55	5.69	1.2	A	660	990

Main Results for each time segment

11:15 - 11:30

Am	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 - Milton road	453	113	788	985	0.460	450	472	0.0	0.9	6.868	A
2 - Hambledon Road (south)	1046	262	302	2410	0.434	1043	936	0.0	0.8	2.670	A
3 - Elettra Avenue	517	129	885	1379	0.375	515	460	0.0	0.6	4.163	A
4 - Hambledon Road (north)	541	135	721	1651	0.328	539	679	0.0	0.5	3.260	A

11:30 - 11:45

Am	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 - Milton road	541	135	943	906	0.598	539	565	0.9	1.5	10.006	B
2 - Hambledon Road (south)	1250	312	361	2363	0.529	1248	1121	0.8	1.1	3.274	A
3 - Elettra Avenue	618	154	1058	1268	0.487	616	551	0.6	0.9	5.529	A
4 - Hambledon Road (north)	646	162	862	1558	0.415	645	812	0.5	0.7	3.975	A

11:45 - 12:00

Am	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 - Milton road	663	166	1153	799	0.830	651	690	1.5	4.3	23.465	C
2 - Hambledon Road (south)	1530	383	439	2303	0.665	1527	1366	1.1	2.0	4.693	A
3 - Elettra Avenue	756	189	1294	1117	0.677	752	672	0.9	2.0	9.781	A
4 - Hambledon Road (north)	792	198	1054	1433	0.553	790	992	0.7	1.2	5.629	A

12:00 - 12:15

Am	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 - Milton road	663	166	1157	797	0.832	661	692	4.3	4.7	26.729	D
2 - Hambledon Road (south)	1530	383	443	2299	0.666	1530	1375	2.0	2.0	4.753	A
3 - Elettra Avenue	756	189	1298	1114	0.679	756	676	2.0	2.1	10.070	B
4 - Hambledon Road (north)	792	198	1058	1430	0.554	792	996	1.2	1.2	5.689	A

12:15 - 12:30

Am	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 - Milton road	541	135	949	903	0.599	554	568	4.7	1.6	10.940	B
2 - Hambledon Road (south)	1250	312	368	2358	0.530	1253	1135	2.0	1.2	3.317	A
3 - Elettra Avenue	618	154	1064	1264	0.489	622	557	2.1	1.0	5.660	A
4 - Hambledon Road (north)	646	162	868	1554	0.416	648	818	1.2	0.7	4.018	A

12:30 - 12:45

Am	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 - Milton road	453	113	793	982	0.461	456	474	1.6	0.9	7.059	A
2 - Hambledon Road (south)	1046	262	305	2407	0.435	1048	944	1.2	0.8	2.691	A
3 - Elettra Avenue	517	129	889	1376	0.376	519	464	1.0	0.6	4.216	A
4 - Hambledon Road (north)	541	135	725	1649	0.328	542	683	0.7	0.5	3.286	A

(Default Analysis Set) - 2026 Base + Com Dev + Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Elettra Avenue - 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	(untitled)	Standard Roundabout		1, 2, 3, 4	72.45	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	72.45	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	2026 Base + Com Dev + Dev	PM	ONE HOUR	16:30	18:00	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 - Milton road		ONE HOUR	✓	476	100.000
2 - Hambledon Road (south)		ONE HOUR	✓	1719	100.000
3 - Elettra Avenue		ONE HOUR	✓	1002	100.000
4 - Hambledon Road (north)		ONE HOUR	✓	790	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	302	127	47
	2 - Hambledon Road (south)	528	102	381	708
	3 - Elettra Avenue	248	557	0	197
	4 - Hambledon Road (north)	43	592	120	35

Vehicle Mix

Heavy Vehicle Percentages

	To				
From		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
	1 - Milton road	0	4	0	1
	2 - Hambledon Road (south)	3	2	0	1
	3 - Elettra Avenue	0	1	0	1
	4 - Hambledon Road (north)	2	3	1	0

Results

Results Summary for whole modelled period

Am	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Milton road	0.81	29.93	4.1	D	437	655
2 - Hambledon Road (south)	0.80	7.74	4.0	A	1577	2366
3 - Elettra Avenue	1.17	251.18	85.6	F	919	1379
4 - Hambledon Road (north)	0.74	12.18	2.9	B	725	1087

Main Results for each time segment

16:30 - 16:45

Am	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 - Milton road	358	90	1052	850	0.422	355	614	0.0	0.7	7.424	A
2 - Hambledon Road (south)	1294	324	246	2453	0.528	1290	1162	0.0	1.1	3.127	A
3 - Elettra Avenue	754	189	1065	1263	0.597	748	471	0.0	1.5	6.970	A
4 - Hambledon Road (north)	595	149	1074	1419	0.419	592	740	0.0	0.7	4.445	A

16:45 - 17:00

Am	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 - Milton road	428	107	1257	746	0.574	425	733	0.7	1.3	11.442	B
2 - Hambledon Road (south)	1545	386	294	2415	0.640	1543	1388	1.1	1.8	4.172	A
3 - Elettra Avenue	901	225	1274	1129	0.798	892	563	1.5	3.7	14.757	B
4 - Hambledon Road (north)	710	178	1282	1283	0.554	708	884	0.7	1.3	6.400	A

17:00 - 17:15

Am	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 - Milton road	524	131	1449	648	0.809	514	857	1.3	3.8	25.940	D
2 - Hambledon Road (south)	1893	473	357	2366	0.800	1884	1606	1.8	3.9	7.448	A
3 - Elettra Avenue	1103	276	1556	949	1.163	936	686	3.7	45.5	107.069	F
4 - Hambledon Road (north)	870	217	1442	1177	0.739	864	1049	1.3	2.8	11.557	B

17:15 - 17:30

Am	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 - Milton road	524	131	1458	643	0.815	523	862	3.8	4.1	29.927	D
2 - Hambledon Road (south)	1893	473	362	2363	0.801	1892	1620	3.9	4.0	7.744	A
3 - Elettra Avenue	1103	276	1563	944	1.168	943	691	45.5	85.6	251.181	F
4 - Hambledon Road (north)	870	217	1451	1171	0.742	869	1055	2.8	2.9	12.178	B

17:30 - 17:45

Am	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 - Milton road	428	107	1385	680	0.629	437	791	4.1	1.8	15.712	C
2 - Hambledon Road (south)	1545	386	300	2411	0.641	1554	1522	4.0	1.8	4.304	A
3 - Elettra Avenue	901	225	1284	1123	0.802	1110	570	85.6	33.4	195.154	F
4 - Hambledon Road (north)	710	178	1461	1165	0.610	715	933	2.9	1.6	8.292	A

17:45 - 18:00

Am	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 - Milton road	358	90	1132	809	0.443	362	649	1.8	0.8	8.335	A
2 - Hambledon Road (south)	1294	324	250	2450	0.528	1297	1245	1.8	1.1	3.172	A
3 - Elettra Avenue	754	189	1072	1259	0.599	882	475	33.4	1.5	13.549	B
4 - Hambledon Road (north)	595	149	1184	1347	0.441	598	770	1.6	0.8	4.948	A

(Default Analysis Set) - 2026 Base + Com Dev + Dev, SAT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Elettra Avenue - 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	(untitled)	Standard Roundabout		1, 2, 3, 4	9.99	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	9.99	A

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	2026 Base + Com Dev + Dev	SAT	ONE HOUR	11:15	12:45	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 - Milton road		ONE HOUR	✓	570	100.000
2 - Hambledon Road (south)		ONE HOUR	✓	1445	100.000
3 - Elettra Avenue		ONE HOUR	✓	730	100.000
4 - Hambledon Road (north)		ONE HOUR	✓	705	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
From		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
	1 - Milton road	0	357	147	66
	2 - Hambledon Road (south)	394	27	384	640
	3 - Elettra Avenue	179	402	0	149
	4 - Hambledon Road (north)	25	521	122	37

Vehicle Mix

Heavy Vehicle Percentages

	To				
From		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
	1 - Milton road	0	4	1	0
	2 - Hambledon Road (south)	3	0	1	1
	3 - Elettra Avenue	0	0	0	1
	4 - Hambledon Road (north)	4	1	0	0

Results

Results Summary for whole modelled period

Am	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Milton road	0.82	26.30	4.4	D	523	785
2 - Hambledon Road (south)	0.68	4.97	2.2	A	1326	1989
3 - Elettra Avenue	0.71	11.21	2.5	B	670	1005
4 - Hambledon Road (north)	0.55	5.82	1.2	A	647	970

Main Results for each time segment

11:15 - 11:30

Am	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 - Milton road	429	107	832	963	0.446	426	449	0.0	0.8	6.850	A
2 - Hambledon Road (south)	1088	272	278	2428	0.448	1085	979	0.0	0.8	2.713	A
3 - Elettra Avenue	550	137	873	1386	0.396	547	490	0.0	0.7	4.286	A
4 - Hambledon Road (north)	531	133	751	1631	0.325	529	669	0.0	0.5	3.288	A

11:30 - 11:45

Am	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 - Milton road	512	128	995	879	0.583	510	537	0.8	1.4	9.956	A
2 - Hambledon Road (south)	1299	325	333	2385	0.545	1297	1172	0.8	1.2	3.356	A
3 - Elettra Avenue	656	164	1045	1276	0.514	655	586	0.7	1.0	5.788	A
4 - Hambledon Road (north)	634	158	899	1534	0.413	633	801	0.5	0.7	4.025	A

11:45 - 12:00

Am	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 - Milton road	628	157	1216	767	0.819	617	656	1.4	4.1	23.219	C
2 - Hambledon Road (south)	1591	398	405	2329	0.683	1587	1428	1.2	2.2	4.901	A
3 - Elettra Avenue	804	201	1277	1127	0.713	798	715	1.0	2.4	10.796	B
4 - Hambledon Road (north)	776	194	1098	1404	0.553	774	978	0.7	1.2	5.749	A

12:00 - 12:15

Am	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 - Milton road	628	157	1221	764	0.821	626	658	4.1	4.4	26.300	D
2 - Hambledon Road (south)	1591	398	409	2326	0.684	1591	1438	2.2	2.2	4.971	A
3 - Elettra Avenue	804	201	1281	1125	0.715	804	719	2.4	2.5	11.209	B
4 - Hambledon Road (north)	776	194	1103	1400	0.554	776	982	1.2	1.2	5.819	A

12:15 - 12:30

Am	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 - Milton road	512	128	1002	876	0.585	524	540	4.4	1.5	10.838	B
2 - Hambledon Road (south)	1299	325	339	2380	0.546	1303	1187	2.2	1.2	3.404	A
3 - Elettra Avenue	656	164	1051	1273	0.516	662	591	2.5	1.1	5.956	A
4 - Hambledon Road (north)	634	158	906	1529	0.414	636	806	1.2	0.7	4.073	A

12:30 - 12:45

Am	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 - Milton road	429	107	837	960	0.447	432	451	1.5	0.8	7.034	A
2 - Hambledon Road (south)	1088	272	281	2426	0.448	1089	987	1.2	0.8	2.739	A
3 - Elettra Avenue	550	137	878	1383	0.397	551	493	1.1	0.7	4.343	A
4 - Hambledon Road (north)	531	133	756	1628	0.326	532	673	0.7	0.5	3.316	A

(Default Analysis Set) - 2021 Base, AM-DIRECT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Elettra Avenue - 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	(untitled)	Standard Roundabout		1, 2, 3, 4	8.62	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	8.62	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D10	2021 Base	AM-DIRECT	DIRECT	07:30	09:30	120	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Milton road		DIRECT	✓	100.000
2 - Hambledon Road (south)		DIRECT	✓	100.000
3 - Elettra Avenue		DIRECT	✓	100.000
4 - Hambledon Road (north)		DIRECT	✓	100.000

Origin-Destination Data

Demand (PCU/hr)

07:30 -
07:45

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	416	60	80
	2 - Hambledon Road (south)	212	8	212	516
	3 - Elettra Avenue	60	172	0	112
	4 - Hambledon Road (north)	20	716	72	28

Demand (PCU/hr)

07:45 -
08:00

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	452	132	44
	2 - Hambledon Road (south)	312	28	248	608
	3 - Elettra Avenue	64	152	0	156
	4 - Hambledon Road (north)	24	696	80	24

Demand (PCU/hr)

08:00 -
08:15

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	464	108	104
	2 - Hambledon Road (south)	320	4	288	552
	3 - Elettra Avenue	148	172	0	88
	4 - Hambledon Road (north)	36	748	72	48

Demand (PCU/hr)

08:15 -
08:30

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	400	84	120
	2 - Hambledon Road (south)	292	36	88	612
	3 - Elettra Avenue	72	260	0	148
	4 - Hambledon Road (north)	48	752	108	68

Demand (PCU/hr)

08:30 -
08:45

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	452	100	72
	2 - Hambledon Road (south)	308	48	300	700
	3 - Elettra Avenue	96	212	0	144
	4 - Hambledon Road (north)	40	676	116	48

Demand (PCU/hr)

08:45 -
09:00

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	416	72	76
	2 - Hambledon Road (south)	380	40	424	684
	3 - Elettra Avenue	96	228	0	160
	4 - Hambledon Road (north)	44	868	108	40

Demand (PCU/hr)

09:00 -
09:15

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	356	56	84
	2 - Hambledon Road (south)	348	44	372	748
	3 - Elettra Avenue	128	308	0	136
	4 - Hambledon Road (north)	44	788	16	84

Demand (PCU/hr)

09:15 -
09:30

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	344	88	28
	2 - Hambledon Road (south)	356	48	212	628
	3 - Elettra Avenue	128	300	0	176
	4 - Hambledon Road (north)	40	632	112	48

Vehicle Mix

Heavy Vehicle Percentages

	To				
From		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
	1 - Milton road	0	4	0	1
	2 - Hambledon Road (south)	10	0	1	6
	3 - Elettra Avenue	2	8	0	3
	4 - Hambledon Road (north)	3	3	3	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 - Milton road	0.79	22.90	3.7	C	576	1152
2 - Hambledon Road (south)	0.63	4.26	1.8	A	1247	2494
3 - Elettra Avenue	0.52	7.06	1.1	A	465	929
4 - Hambledon Road (north)	0.65	6.34	1.8	A	906	1811

Main Results for each time segment

07:30 - 07:45

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 - Milton road	556	139	992	881	0.631	549	291	0.0	1.7	10.974	B
2 - Hambledon Road (south)	948	237	238	2460	0.385	945	1303	0.0	0.7	2.503	A
3 - Elettra Avenue	344	86	841	1407	0.244	343	342	0.0	0.3	3.560	A
4 - Hambledon Road (north)	836	209	450	1829	0.457	833	733	0.0	0.9	3.693	A

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 - Milton road	628	157	980	887	0.708	625	399	1.7	2.4	13.986	B
2 - Hambledon Road (south)	1196	299	279	2428	0.493	1195	1326	0.7	1.0	3.082	A
3 - Elettra Avenue	372	93	1015	1295	0.287	372	458	0.3	0.4	4.088	A
4 - Hambledon Road (north)	824	206	555	1760	0.468	824	831	0.9	0.9	3.944	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 - Milton road	676	169	1043	855	0.791	671	503	2.4	3.6	19.605	C
2 - Hambledon Road (south)	1164	291	330	2388	0.488	1164	1384	1.0	1.0	3.109	A
3 - Elettra Avenue	408	102	1027	1288	0.317	408	468	0.4	0.5	4.289	A
4 - Hambledon Road (north)	904	226	643	1702	0.531	903	791	0.9	1.1	4.612	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 - Milton road	604	151	1222	763	0.791	603	412	3.6	3.7	22.903	C
2 - Hambledon Road (south)	1028	257	379	2349	0.438	1029	1447	1.0	0.8	2.899	A
3 - Elettra Avenue	480	120	1127	1224	0.392	479	281	0.5	0.7	5.104	A
4 - Hambledon Road (north)	976	244	660	1691	0.577	975	947	1.1	1.4	5.143	A

08:30 - 08:45

Am	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 - Milton road	624	156	1101	825	0.756	625	444	3.7	3.4	18.738	C
2 - Hambledon Road (south)	1356	339	337	2382	0.569	1354	1389	0.8	1.4	3.682	A
3 - Elettra Avenue	452	113	1176	1192	0.379	452	515	0.7	0.6	5.121	A
4 - Hambledon Road (north)	880	220	664	1689	0.521	881	965	1.4	1.1	4.574	A

08:45 - 09:00

Am	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 - Milton road	564	141	1281	734	0.769	564	519	3.4	3.4	21.822	C
2 - Hambledon Road (south)	1528	382	296	2414	0.633	1526	1549	1.4	1.8	4.259	A
3 - Elettra Avenue	484	121	1219	1165	0.416	484	604	0.6	0.7	5.559	A
4 - Hambledon Road (north)	1060	265	743	1637	0.648	1057	959	1.1	1.8	6.340	A

09:00 - 09:15

Am	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 - Milton road	496	124	1240	754	0.658	501	520	3.4	2.1	14.946	B
2 - Hambledon Road (south)	1512	378	242	2457	0.615	1512	1500	1.8	1.7	4.015	A
3 - Elettra Avenue	572	143	1308	1108	0.516	571	446	0.7	1.1	7.058	A
4 - Hambledon Road (north)	932	233	827	1582	0.589	933	1052	1.8	1.5	5.699	A

09:15 - 09:30

Am	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 - Milton road	460	115	1142	805	0.572	463	524	2.1	1.4	10.921	B
2 - Hambledon Road (south)	1244	311	277	2429	0.512	1246	1328	1.7	1.1	3.225	A
3 - Elettra Avenue	604	151	1111	1234	0.489	604	412	1.1	1.0	6.029	A
4 - Hambledon Road (north)	832	208	833	1578	0.527	833	882	1.5	1.2	4.968	A

(Default Analysis Set) - 2021 Base, PM-DIRECT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Elettra Avenue - 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	(untitled)	Standard Roundabout		1, 2, 3, 4	9.81	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	9.81	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D11	2021 Base	PM-DIRECT	DIRECT	16:30	18:30	120	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Milton road		DIRECT	✓	100.000
2 - Hambledon Road (south)		DIRECT	✓	100.000
3 - Elettra Avenue		DIRECT	✓	100.000
4 - Hambledon Road (north)		DIRECT	✓	100.000

Origin-Destination Data

Demand (PCU/hr)

16:30 -
16:45

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	340	72	76
	2 - Hambledon Road (south)	480	76	208	664
	3 - Elettra Avenue	184	296	0	164
	4 - Hambledon Road (north)	24	656	72	40

Demand (PCU/hr)

16:45 -
17:00

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	248	80	36
	2 - Hambledon Road (south)	604	68	228	672
	3 - Elettra Avenue	168	344	0	144
	4 - Hambledon Road (north)	52	488	104	12

Demand (PCU/hr)

17:00 -
17:15

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	288	80	64
	2 - Hambledon Road (south)	500	140	260	672
	3 - Elettra Avenue	224	456	0	200
	4 - Hambledon Road (north)	48	620	80	32

Demand (PCU/hr)

17:15 -
17:30

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	316	124	52
	2 - Hambledon Road (south)	464	96	220	724
	3 - Elettra Avenue	212	340	0	172
	4 - Hambledon Road (north)	24	560	92	48

Demand (PCU/hr)

17:30 -
17:45

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	360	68	28
	2 - Hambledon Road (south)	516	92	204	688
	3 - Elettra Avenue	192	336	0	144
	4 - Hambledon Road (north)	44	636	108	44

Demand (PCU/hr)

17:45 -
18:00

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	288	96	68
	2 - Hambledon Road (south)	436	56	196	604
	3 - Elettra Avenue	148	264	0	108
	4 - Hambledon Road (north)	40	428	108	16

Demand (PCU/hr)

18:00 -
18:15

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	304	88	44
	2 - Hambledon Road (south)	544	40	124	588
	3 - Elettra Avenue	156	260	0	120
	4 - Hambledon Road (north)	56	584	88	16

Demand (PCU/hr)

18:15 -
18:30

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	408	120	60
	2 - Hambledon Road (south)	396	52	248	596
	3 - Elettra Avenue	172	396	0	128
	4 - Hambledon Road (north)	40	572	84	16

Vehicle Mix

Heavy Vehicle Percentages

	To				
From		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
	1 - Milton road	0	4	0	1
	2 - Hambledon Road (south)	10	0	1	6
	3 - Elettra Avenue	2	8	0	3
	4 - Hambledon Road (north)	3	3	3	0

Results

Results Summary for whole modelled period

Am	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Milton road	0.72	15.41	2.5	C	464	927
2 - Hambledon Road (south)	0.64	4.35	1.9	A	1432	2864
3 - Elettra Avenue	0.84	20.12	5.0	C	666	1332
4 - Hambledon Road (north)	0.62	7.55	1.6	A	729	1458

Main Results for each time segment

16:30 - 16:45

Am	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 - Milton road	488	122	1132	809	0.603	482	684	0.0	1.5	11.118	B
2 - Hambledon Road (south)	1428	357	257	2444	0.584	1422	1357	0.0	1.5	3.714	A
3 - Elettra Avenue	644	161	1330	1094	0.589	638	350	0.0	1.5	8.101	A
4 - Hambledon Road (north)	792	198	1029	1449	0.547	787	939	0.0	1.2	5.538	A

16:45 - 17:00

Am	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 - Milton road	364	91	1016	868	0.419	367	823	1.5	0.8	7.419	A
2 - Hambledon Road (south)	1572	393	233	2464	0.638	1570	1150	1.5	1.9	4.279	A
3 - Elettra Avenue	656	164	1392	1054	0.622	655	412	1.5	1.7	9.492	A
4 - Hambledon Road (north)	656	164	1182	1348	0.487	657	864	1.2	1.0	5.353	A

17:00 - 17:15

Am	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 - Milton road	432	108	1318	714	0.605	429	769	0.8	1.5	12.818	B
2 - Hambledon Road (south)	1572	393	255	2447	0.643	1572	1493	1.9	1.9	4.348	A
3 - Elettra Avenue	880	220	1407	1044	0.843	867	419	1.7	5.0	20.120	C
4 - Hambledon Road (north)	780	195	1310	1264	0.617	777	964	1.0	1.6	7.548	A

17:15 - 17:30

Am	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 - Milton road	492	123	1144	804	0.612	492	703	1.5	1.6	11.828	B
2 - Hambledon Road (south)	1504	376	316	2399	0.627	1504	1320	1.9	1.8	4.263	A
3 - Elettra Avenue	724	181	1384	1059	0.684	734	436	5.0	2.4	12.022	B
4 - Hambledon Road (north)	724	181	1120	1389	0.521	726	998	1.6	1.1	5.584	A

17:30 - 17:45

Am	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 - Milton road	456	114	1215	767	0.595	456	752	1.6	1.5	11.960	B
2 - Hambledon Road (south)	1500	375	249	2451	0.612	1500	1423	1.8	1.7	4.020	A
3 - Elettra Avenue	672	168	1369	1069	0.629	674	381	2.4	1.8	9.663	A
4 - Hambledon Road (north)	832	208	1137	1378	0.604	830	905	1.1	1.5	6.724	A

17:45 - 18:00

Am	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 - Milton road	452	113	878	939	0.481	454	626	1.5	1.0	7.658	A
2 - Hambledon Road (south)	1292	323	288	2420	0.534	1294	1043	1.7	1.2	3.398	A
3 - Elettra Avenue	520	130	1182	1189	0.438	524	401	1.8	0.8	5.742	A
4 - Hambledon Road (north)	592	148	908	1528	0.387	596	798	1.5	0.7	3.974	A

18:00 - 18:15

Am	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 - Milton road	436	109	987	884	0.493	436	755	1.0	1.0	8.265	A
2 - Hambledon Road (south)	1296	324	236	2461	0.527	1296	1186	1.2	1.2	3.300	A
3 - Elettra Avenue	536	134	1232	1156	0.464	536	300	0.8	0.9	6.103	A
4 - Hambledon Road (north)	744	186	1000	1468	0.507	742	768	0.7	1.0	5.079	A

18:15 - 18:30

Am	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 - Milton road	588	147	1119	816	0.720	582	608	1.0	2.5	15.414	C
2 - Hambledon Road (south)	1292	323	278	2428	0.532	1292	1423	1.2	1.2	3.351	A
3 - Elettra Avenue	696	174	1120	1228	0.567	694	450	0.9	1.4	7.104	A
4 - Hambledon Road (north)	712	178	1015	1458	0.488	712	799	1.0	1.0	4.955	A

(Default Analysis Set) - 2026 Base + Com Dev, AM-DIRECT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Elettra Avenue - 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	(untitled)	Standard Roundabout		1, 2, 3, 4	17.12	C

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	17.12	C

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D12	2026 Base + Com Dev	AM-DIRECT	DIRECT	07:30	09:30	120	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Milton road		DIRECT	✓	100.000
2 - Hambledon Road (south)		DIRECT	✓	100.000
3 - Elettra Avenue		DIRECT	✓	100.000
4 - Hambledon Road (north)		DIRECT	✓	100.000

Origin-Destination Data

Demand (PCU/hr)

07:30 -
07:45

	To				
From		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
	1 - Milton road	0	430	104	83
	2 - Hambledon Road (south)	219	8	288	534
	3 - Elettra Avenue	90	225	0	131
	4 - Hambledon Road (north)	21	741	97	29

Demand (PCU/hr)

07:45 -
08:00

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	468	178	46
	2 - Hambledon Road (south)	323	29	325	629
	3 - Elettra Avenue	94	204	0	177
	4 - Hambledon Road (north)	25	720	106	25

Demand (PCU/hr)

08:00 -
08:15

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	480	153	108
	2 - Hambledon Road (south)	331	4	367	571
	3 - Elettra Avenue	181	225	0	106
	4 - Hambledon Road (north)	37	774	97	50

Demand (PCU/hr)

08:15 -
08:30

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	414	128	124
	2 - Hambledon Road (south)	302	37	160	633
	3 - Elettra Avenue	102	316	0	168
	4 - Hambledon Road (north)	50	778	135	70

Demand (PCU/hr)

08:30 -
08:45

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	468	145	74
	2 - Hambledon Road (south)	319	50	379	724
	3 - Elettra Avenue	127	266	0	164
	4 - Hambledon Road (north)	41	699	143	50

Demand (PCU/hr)

08:45 -
09:00

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	430	116	79
	2 - Hambledon Road (south)	393	41	507	708
	3 - Elettra Avenue	127	283	0	181
	4 - Hambledon Road (north)	46	898	135	41

Demand (PCU/hr)

09:00 -
09:15

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	368	99	87
	2 - Hambledon Road (south)	360	46	454	774
	3 - Elettra Avenue	160	365	0	156
	4 - Hambledon Road (north)	46	815	40	87

Demand (PCU/hr)

09:15 -
09:30

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	356	132	29
	2 - Hambledon Road (south)	368	50	288	650
	3 - Elettra Avenue	160	357	0	197
	4 - Hambledon Road (north)	41	654	139	50

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	4	0	1
	2 - Hambledon Road (south)	10	0	1	6
	3 - Elettra Avenue	2	8	0	3
	4 - Hambledon Road (north)	3	3	3	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 - Milton road	0.94	62.87	10.5	F	637	1275
2 - Hambledon Road (south)	0.70	5.31	2.4	A	1359	2718
3 - Elettra Avenue	0.63	9.48	1.8	A	570	1141
4 - Hambledon Road (north)	0.71	8.01	2.5	A	960	1920

Main Results for each time segment

07:30 - 07:45

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 - Milton road	617	154	1095	828	0.745	606	329	0.0	2.8	15.928	C
2 - Hambledon Road (south)	1049	262	309	2404	0.436	1046	1392	0.0	0.8	2.781	A
3 - Elettra Avenue	446	112	869	1389	0.321	444	486	0.0	0.5	4.008	A
4 - Hambledon Road (north)	888	222	540	1770	0.502	884	773	0.0	1.0	4.147	A

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 - Milton road	692	173	1084	834	0.830	686	441	2.8	4.4	23.757	C
2 - Hambledon Road (south)	1306	327	353	2370	0.551	1304	1417	0.8	1.3	3.553	A
3 - Elettra Avenue	475	119	1051	1272	0.373	474	606	0.5	0.6	4.734	A
4 - Hambledon Road (north)	876	219	649	1698	0.516	876	876	1.0	1.1	4.488	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 - Milton road	741	185	1149	801	0.925	725	548	4.4	8.3	41.154	E
2 - Hambledon Road (south)	1273	318	402	2332	0.546	1273	1472	1.3	1.3	3.583	A
3 - Elettra Avenue	512	128	1060	1266	0.404	512	614	0.6	0.7	5.006	A
4 - Hambledon Road (north)	958	240	740	1638	0.585	957	832	1.1	1.4	5.401	A

08:15 - 08:30

Am	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 - Milton road	666	167	1334	707	0.942	657	454	8.3	10.5	60.571	F
2 - Hambledon Road (south)	1132	283	452	2292	0.494	1133	1539	1.3	1.0	3.291	A
3 - Elettra Avenue	586	147	1163	1201	0.488	585	422	0.7	1.0	6.163	A
4 - Hambledon Road (north)	1033	258	756	1628	0.635	1032	991	1.4	1.7	6.174	A

08:30 - 08:45

Am	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 - Milton road	687	172	1209	770	0.892	690	486	10.5	9.8	49.329	E
2 - Hambledon Road (south)	1472	368	416	2321	0.634	1469	1484	1.0	1.8	4.429	A
3 - Elettra Avenue	557	139	1219	1165	0.478	557	666	1.0	1.0	6.239	A
4 - Hambledon Road (north)	933	233	762	1625	0.574	934	1015	1.7	1.4	5.360	A

08:45 - 09:00

Am	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 - Milton road	625	156	1394	676	0.924	623	565	9.8	10.3	62.866	F
2 - Hambledon Road (south)	1649	412	370	2356	0.700	1647	1646	1.8	2.4	5.310	A
3 - Elettra Avenue	591	148	1260	1139	0.519	590	757	1.0	1.1	6.905	A
4 - Hambledon Road (north)	1120	280	843	1571	0.713	1116	1007	1.4	2.5	8.006	A

09:00 - 09:15

Am	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 - Milton road	554	139	1353	697	0.795	577	566	10.3	4.5	34.868	D
2 - Hambledon Road (south)	1634	409	320	2395	0.682	1634	1610	2.4	2.3	4.978	A
3 - Elettra Avenue	681	170	1356	1077	0.632	678	599	1.1	1.8	9.477	A
4 - Hambledon Road (north)	988	247	929	1515	0.652	990	1106	2.5	2.0	7.056	A

09:15 - 09:30

Am	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 - Milton road	517	129	1253	748	0.691	525	570	4.5	2.4	17.165	C
2 - Hambledon Road (south)	1356	339	353	2370	0.572	1359	1425	2.3	1.4	3.773	A
3 - Elettra Avenue	714	179	1152	1208	0.591	715	560	1.8	1.6	7.712	A
4 - Hambledon Road (north)	884	221	936	1510	0.586	886	930	2.0	1.5	5.938	A

(Default Analysis Set) - 2026 Base + Com Dev + Dev, AM-DIRECT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Elettra Avenue - 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	(untitled)	Standard Roundabout		1, 2, 3, 4	35.80	E

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	35.80	E

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D13	2026 Base + Com Dev + Dev	AM-DIRECT	DIRECT	07:30	09:30	120	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Milton road		DIRECT	✓	100.000
2 - Hambledon Road (south)		DIRECT	✓	100.000
3 - Elettra Avenue		DIRECT	✓	100.000
4 - Hambledon Road (north)		DIRECT	✓	100.000

Origin-Destination Data

Demand (PCU/hr)

07:30 -
07:45

	To				
From		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
	1 - Milton road	0	425	125	83
	2 - Hambledon Road (south)	215	8	402	533
	3 - Elettra Avenue	103	297	0	141
	4 - Hambledon Road (north)	21	739	115	29

Demand (PCU/hr)

07:45 -
08:00

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	463	199	46
	2 - Hambledon Road (south)	319	29	439	628
	3 - Elettra Avenue	107	277	0	187
	4 - Hambledon Road (north)	25	718	123	25

Demand (PCU/hr)

08:00 -
08:15

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	475	174	108
	2 - Hambledon Road (south)	327	4	481	570
	3 - Elettra Avenue	194	297	0	116
	4 - Hambledon Road (north)	37	772	115	50

Demand (PCU/hr)

08:15 -
08:30

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	409	150	124
	2 - Hambledon Road (south)	298	37	274	632
	3 - Elettra Avenue	115	388	0	178
	4 - Hambledon Road (north)	50	776	152	70

Demand (PCU/hr)

08:30 -
08:45

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	463	166	74
	2 - Hambledon Road (south)	315	50	493	723
	3 - Elettra Avenue	140	339	0	174
	4 - Hambledon Road (north)	41	697	160	50

Demand (PCU/hr)

08:45 -
09:00

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	425	137	79
	2 - Hambledon Road (south)	389	41	622	707
	3 - Elettra Avenue	140	355	0	191
	4 - Hambledon Road (north)	46	896	152	41

Demand (PCU/hr)

09:00 -
09:15

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	363	121	87
	2 - Hambledon Road (south)	356	46	568	773
	3 - Elettra Avenue	173	438	0	166
	4 - Hambledon Road (north)	46	813	57	87

Demand (PCU/hr)

09:15 -
09:30

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	351	154	29
	2 - Hambledon Road (south)	364	50	402	649
	3 - Elettra Avenue	173	430	0	207
	4 - Hambledon Road (north)	41	652	156	50

Vehicle Mix

Heavy Vehicle Percentages

	To				
From		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
	1 - Milton road	0	4	0	1
	2 - Hambledon Road (south)	10	0	1	6
	3 - Elettra Avenue	2	8	0	3
	4 - Hambledon Road (north)	3	3	3	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 - Milton road	1.03	164.89	28.9	F	654	1308
2 - Hambledon Road (south)	0.75	6.52	3.1	A	1468	2936
3 - Elettra Avenue	0.72	12.30	2.6	B	666	1332
4 - Hambledon Road (north)	0.75	9.38	2.9	A	975	1951

Main Results for each time segment

07:30 - 07:45

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 - Milton road	633	158	1182	784	0.807	618	338	0.0	3.8	20.688	C
2 - Hambledon Road (south)	1158	290	346	2375	0.488	1154	1454	0.0	1.0	3.079	A
3 - Elettra Avenue	541	135	863	1393	0.388	538	637	0.0	0.7	4.440	A
4 - Hambledon Road (north)	904	226	620	1717	0.526	899	781	0.0	1.1	4.491	A

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 - Milton road	708	177	1171	789	0.897	696	450	3.8	6.7	35.309	E
2 - Hambledon Road (south)	1415	354	389	2342	0.604	1413	1479	1.0	1.6	4.058	A
3 - Elettra Avenue	571	143	1045	1276	0.448	570	756	0.7	0.8	5.368	A
4 - Hambledon Road (north)	891	223	731	1645	0.542	891	885	1.1	1.2	4.895	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 - Milton road	757	189	1236	756	1.001	723	557	6.7	15.3	69.659	F
2 - Hambledon Road (south)	1382	346	433	2307	0.599	1382	1526	1.6	1.6	4.086	A
3 - Elettra Avenue	607	152	1052	1272	0.477	607	763	0.8	1.0	5.695	A
4 - Hambledon Road (north)	974	244	821	1585	0.614	972	837	1.2	1.6	6.006	A

08:15 - 08:30

Am	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 - Milton road	683	171	1420	663	1.031	649	463	15.3	23.7	121.932	F
2 - Hambledon Road (south)	1241	310	480	2270	0.547	1242	1589	1.6	1.3	3.696	A
3 - Elettra Avenue	681	170	1152	1207	0.564	679	570	1.0	1.3	7.191	A
4 - Hambledon Road (north)	1048	262	837	1575	0.665	1046	995	1.6	2.0	6.961	A

08:30 - 08:45

Am	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 - Milton road	703	176	1298	725	0.970	701	495	23.7	24.2	128.553	F
2 - Hambledon Road (south)	1581	395	455	2290	0.691	1577	1544	1.3	2.3	5.265	A
3 - Elettra Avenue	653	163	1217	1166	0.560	653	815	1.3	1.3	7.402	A
4 - Hambledon Road (north)	948	237	843	1571	0.604	950	1027	2.0	1.6	5.958	A

08:45 - 09:00

Am	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 - Milton road	641	160	1479	632	1.014	622	574	24.2	28.9	164.889	F
2 - Hambledon Road (south)	1759	440	402	2331	0.755	1756	1699	2.3	3.1	6.517	A
3 - Elettra Avenue	686	172	1251	1144	0.600	685	907	1.3	1.5	8.256	A
4 - Hambledon Road (north)	1135	284	924	1518	0.748	1130	1013	1.6	2.9	9.375	A

09:00 - 09:15

Am	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 - Milton road	571	143	1441	652	0.876	633	574	28.9	13.4	128.480	F
2 - Hambledon Road (south)	1743	436	372	2355	0.740	1743	1702	3.1	3.0	6.179	A
3 - Elettra Avenue	777	194	1355	1078	0.721	773	761	1.5	2.6	12.303	B
4 - Hambledon Road (north)	1003	251	1010	1462	0.686	1005	1118	2.9	2.3	8.130	A

09:15 - 09:30

Am	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 - Milton road	534	134	1342	703	0.760	573	579	13.4	3.6	34.414	D
2 - Hambledon Road (south)	1465	366	403	2330	0.629	1470	1511	3.0	1.8	4.426	A
3 - Elettra Avenue	810	203	1153	1207	0.671	812	721	2.6	2.2	9.653	A
4 - Hambledon Road (north)	899	225	1019	1455	0.618	901	945	2.3	1.7	6.698	A



Appendix B

TRL Junctions Report:

Existing Geometry – Entry Sim

Baseline Traffic; Baseline + Outline Application; and, Baseline + Outline & Net Development

Junctions 10									
ARCADY 10 - Roundabout Module									
Version: 10.0.2.1574 © Copyright TRL Software Limited, 2021									
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Filename: Hambledon Road_Milton Road_Elettra Av (2021) Entry Sim RevC.j10
Path: P:\19000's\19235\Technical\Junction Modelling 2022\ARCADY\ARCADY
Report generation date: 09/04/2022 19:33:16

»(Default Analysis Set) - 2021 Base, AM-DIRECT
 »(Default Analysis Set) - 2021 Base, PM-DIRECT

Summary of junction performance

	AM-DIRECT					PM-DIRECT				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
A1 [Lane Simulation] - 2021 Base										
1 - Milton road	D10	7.7	42.34		E	D11	4.3	22.66		C
2 - Hambledon Road (south)		4.9	9.99		A		3.8	7.97		A
3 - Elettra Avenue		2.9	17.88		C		31.2	111.47		F
4 - Hambledon Road (north)		2.6	8.91		A		2.5	10.03		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. Arm and junction delays are averages for all movements, including movements with zero delay.

File summary

File Description

Title	Hambledon Road/ Milton Road/ Elettra Avenue
Location	Waterlooville
Site number	
Date	19/10/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	19235
Enumerator	DTA\arcady
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

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	✓			1480225371	181	30.75

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2021 Base	AM	ONE HOUR	08:00	09:30		15	
D2	2021 Base	PM	ONE HOUR	16:30	18:00		15	
D3	2021 Base	SAT	ONE HOUR	11:15	12:45		15	
D4	2026 Base + Com Dev	AM	ONE HOUR	08:00	09:30		15	
D5	2026 Base + Com Dev	PM	ONE HOUR	16:30	18:00		15	
D6	2026 Base + Com Dev	SAT	ONE HOUR	11:15	12:45		15	
D7	2026 Base + Com Dev + Dev	AM	ONE HOUR	08:00	09:30		15	
D8	2026 Base + Com Dev + Dev	PM	ONE HOUR	16:30	18:00		15	
D9	2026 Base + Com Dev + Dev	SAT	ONE HOUR	11:15	12:45		15	
D10	2021 Base	AM-DIRECT	DIRECT	07:30	09:30	120	15	✓
D11	2021 Base	PM-DIRECT	DIRECT	16:30	18:30	120	15	✓
D12	2026 Base + Com Dev	AM-DIRECT	DIRECT	07:30	09:30	120	15	
D13	2026 Base + Com Dev + Dev	AM-DIRECT	DIRECT	07:30	09:30	120	15	

Analysis Set Details

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

(Default Analysis Set) - 2021 Base, AM-DIRECT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Elettra Avenue - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
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	(untitled)	Standard Roundabout		1, 2, 3, 4	16.70	C

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	16.70	C

Arms

Arms

Arm	Name	Description	No give-way line
1	Milton road		
2	Hambledon Road (south)		
3	Elettra Avenue		
4	Hambledon Road (north)		

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 - Milton road	3.00	4.00	8.4	20.0	54.0	15.2		
2 - Hambledon Road (south)	7.30	8.40	12.7	47.5	54.0	18.0		
3 - Elettra Avenue	3.00	7.10	52.6	18.0	54.0	22.0		
4 - Hambledon Road (north)	6.80	7.50	5.0	15.0	54.0	36.0		

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct intercept adjustment (PCU/hr)
1 - Milton road	Direct		120
2 - Hambledon Road (south)	None		
3 - Elettra Avenue	None		
4 - Hambledon Road (north)	None		

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Milton road	0.510	1306
2 - Hambledon Road (south)	0.782	2646
3 - Elettra Avenue	0.641	1946
4 - Hambledon Road (north)	0.657	2125

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct capacity adjustment (PCU/hr)
1 - Milton road	Direct		0

Lane Simulation: Arm options

Arm	Lane capacity source	Traffic considering secondary lanes (%)
1 - Milton road	Evenly split	10.00
2 - Hambledon Road (south)	Evenly split	30.00
3 - Elettra Avenue	Evenly split	50.00
4 - Hambledon Road (north)	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 - Milton road	Entry	1	1	1, 2, 3, 4		Infinity			0	99999	
	Exit	1	1			Infinity					
2 - Hambledon Road (south)	Entry	1	1	3, 4		Infinity			0	99999	
			2	1, 2, (4)		Infinity			0	99999	
	Exit	1	1			Infinity					
3 - Elettra Avenue	Entry	1	1	(1), 4	✓	9.00			0	99999	
			2	1, 2, 3	✓	9.00			0	99999	
			2	1	(1, 2, 3, 4)		Infinity				
	Exit	1	1			Infinity					
4 - Hambledon Road (north)	Entry	1	1	1, 2		Infinity			0	99999	
			2	2, 3, 4		Infinity			0	99999	
	Exit	1	1			Infinity					

Entry Lane slope and intercept

Arm	Side	Lane level	Lane	Final slope	Final intercept (PCU/hr)
1 - Milton road	Entry	1	1	0.510	1306
2 - Hambledon Road (south)	Entry	1	1	0.391	1323
			2	0.391	1323
3 - Elettra Avenue	Entry	1	1	0.320	973
			2	0.320	973
4 - Hambledon Road (north)	Entry	1	1	0.329	1062
			2	0.329	1062

Summary of Entry Lane allowed movements

Arm	Lane Level	Lane	Destination arm			
			Milton road	Hambledon Road (south)	Elettra Avenue	Hambledon Road (north)
1 - Milton road	1	1	✓	✓	✓	✓
2 - Hambledon Road (south)	1	1			✓	✓
		2	✓	✓		
3 - Elettra Avenue	1	1				✓
		2	✓	✓	✓	
	2	1	✓	✓	✓	✓
4 - Hambledon Road (north)	1	1	✓	✓		
		2		✓	✓	✓

Summary of Entry Lane allowed secondary movements

Arm	Lane Level	Lane	Destination arm			
			Milton road	Hambledon Road (south)	Elettra Avenue	Hambledon Road (north)
1 - Milton road	1	1				
2 - Hambledon Road (south)	1	1				
		2				✓
3 - Elettra Avenue	1	1	✓			
		2				
4 - Hambledon Road (north)	1	1				
		2				

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D10	2021 Base	AM-DIRECT	DIRECT	07:30	09:30	120	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Milton road		DIRECT	✓	100.000
2 - Hambledon Road (south)		DIRECT	✓	100.000
3 - Elettra Avenue		DIRECT	✓	100.000
4 - Hambledon Road (north)		DIRECT	✓	100.000

Origin-Destination Data

Demand (PCU/hr)

07:30 -
07:45

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	416	60	80
	2 - Hambledon Road (south)	212	8	212	516
	3 - Elettra Avenue	60	172	0	112
	4 - Hambledon Road (north)	20	716	72	28

Demand (PCU/hr)

07:45 -
08:00

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	452	132	44
	2 - Hambledon Road (south)	312	28	248	608
	3 - Elettra Avenue	64	152	0	156
	4 - Hambledon Road (north)	24	696	80	24

Demand (PCU/hr)

08:00 -
08:15

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	464	108	104
	2 - Hambledon Road (south)	320	4	288	552
	3 - Elettra Avenue	148	172	0	88
	4 - Hambledon Road (north)	36	748	72	48

Demand (PCU/hr)

08:15 -
08:30

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	400	84	120
	2 - Hambledon Road (south)	292	36	88	612
	3 - Elettra Avenue	72	260	0	148
	4 - Hambledon Road (north)	48	752	108	68

Demand (PCU/hr)

08:30 -
08:45

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	452	100	72
	2 - Hambledon Road (south)	308	48	300	700
	3 - Elettra Avenue	96	212	0	144
	4 - Hambledon Road (north)	40	676	116	48

Demand (PCU/hr)

08:45 -
09:00

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	416	72	76
	2 - Hambledon Road (south)	380	40	424	684
	3 - Elettra Avenue	96	228	0	160
	4 - Hambledon Road (north)	44	868	108	40

Demand (PCU/hr)

09:00 -
09:15

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	356	56	84
	2 - Hambledon Road (south)	348	44	372	748
	3 - Elettra Avenue	128	308	0	136
	4 - Hambledon Road (north)	44	788	16	84

Demand (PCU/hr)

09:15 -
09:30

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	344	88	28
	2 - Hambledon Road (south)	356	48	212	628
	3 - Elettra Avenue	128	300	0	176
	4 - Hambledon Road (north)	40	632	112	48

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	4	0	1
	2 - Hambledon Road (south)	10	0	1	6
	3 - Elettra Avenue	2	8	0	3
	4 - Hambledon Road (north)	3	3	3	0

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 - Milton road	42.34	7.7	E	578	1156
2 - Hambledon Road (south)	9.99	4.9	A	1245	2490
3 - Elettra Avenue	17.88	2.9	C	465	930
4 - Hambledon Road (north)	8.91	2.6	A	901	1801

Main Results for each time segment

07:30 - 07:45

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 - Milton road	562	141	990	559	553	292	0.0	2.5	14.882	B
2 - Hambledon Road (south)	937	234	243	941	942	1306	0.0	1.2	5.359	A
3 - Elettra Avenue	342	85	839	343	339	345	0.0	0.7	7.267	A
4 - Hambledon Road (north)	832	208	452	830	829	730	0.0	1.5	5.570	A

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 - Milton road	635	159	978	632	621	401	2.5	3.9	21.786	C
2 - Hambledon Road (south)	1192	298	282	1193	1186	1327	1.2	2.0	6.249	A
3 - Elettra Avenue	369	92	1018	373	371	457	0.7	0.7	8.251	A
4 - Hambledon Road (north)	817	204	559	820	818	833	1.5	1.1	5.962	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 - Milton road	683	171	1030	680	667	508	3.9	7.1	33.707	D
2 - Hambledon Road (south)	1175	294	333	1175	1158	1377	2.0	2.2	6.503	A
3 - Elettra Avenue	404	101	1039	403	405	468	0.7	1.0	8.838	A
4 - Hambledon Road (north)	893	223	645	893	897	797	1.1	1.8	6.705	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 - Milton road	603	151	1225	603	595	413	7.1	7.7	42.336	E
2 - Hambledon Road (south)	1023	256	377	1021	1029	1450	2.2	1.7	5.712	A
3 - Elettra Avenue	479	120	1122	476	475	276	1.0	1.6	10.560	B
4 - Hambledon Road (north)	975	244	664	975	975	934	1.8	2.1	7.449	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 - Milton road	622	156	1096	623	629	448	7.7	6.2	39.236	E
2 - Hambledon Road (south)	1364	341	329	1361	1352	1390	1.7	3.2	8.203	A
3 - Elettra Avenue	466	116	1178	468	455	511	1.6	1.3	11.108	B
4 - Hambledon Road (north)	865	216	681	863	876	965	2.1	1.6	6.733	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 - Milton road	568	142	1290	564	561	521	6.2	6.9	38.650	E
2 - Hambledon Road (south)	1527	382	296	1520	1515	1558	3.2	4.9	9.987	A
3 - Elettra Avenue	484	121	1217	487	488	599	1.3	1.6	11.836	B
4 - Hambledon Road (north)	1064	266	742	1069	1058	962	1.6	2.6	8.906	A

09:00 - 09:15

Am	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 - Milton road	491	123	1240	502	507	522	6.9	3.2	30.580	D
2 - Hambledon Road (south)	1506	377	242	1510	1510	1500	4.9	4.0	9.828	A
3 - Elettra Avenue	576	144	1307	579	570	445	1.6	2.9	17.879	C
4 - Hambledon Road (north)	935	234	831	931	937	1055	2.6	2.2	7.779	A

09:15 - 09:30

Am	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 - Milton road	459	115	1131	458	467	521	3.2	2.1	15.834	C
2 - Hambledon Road (south)	1234	309	274	1238	1252	1315	4.0	2.1	6.391	A
3 - Elettra Avenue	600	150	1099	603	607	413	2.9	2.4	14.492	B
4 - Hambledon Road (north)	823	206	830	822	827	872	2.2	1.7	7.383	A

Lane Results

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

Lanes: Main Results for each time segment

07:30 - 07:45

Am	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 - Milton road	Entry	1	1	1, 2, 3, 4	562	802	0.701	559	553	0.0	2.5	14.882	B
	Exit	1	1		292			292	293	0.0	0.0	0.000	A
2 - Hambledon Road (south)	Entry	1	1	3, 4	619	1228	0.504	621	622	0.0	0.9	5.986	A
	Exit	1	2	1, 2, (4)	318	1228	0.259	320	320	0.0	0.3	4.093	A
3 - Elettra Avenue	Entry	1	1	(1), 4	128	704	0.182	128	127	0.0	0.3	6.374	A
		2	2	1, 2, 3	214	704	0.303	214	212	0.0	0.4	7.825	A
	Exit	1	1	(1, 2, 3, 4)	342			342	341	0.0	0.0	0.000	A
		2	2		345			345	342	0.0	0.0	0.000	A
4 - Hambledon Road (north)	Entry	1	1	1, 2	395	914	0.433	394	397	0.0	0.8	5.450	A
	Exit	1	2	2, 3, 4	437	914	0.478	436	433	0.0	0.7	5.679	A
	Exit	1	1		730			730	726	0.0	0.0	0.000	A

07:45 - 08:00

Am	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 - Milton road	Entry	1	1	1, 2, 3, 4	635	808	0.786	632	621	2.5	3.9	21.786	C
	Exit	1	1		401			401	398	0.0	0.0	0.000	A
2 - Hambledon Road (south)	Entry	1	1	3, 4	736	1213	0.607	735	733	0.9	1.5	7.092	A
	Exit	1	2	1, 2, (4)	456	1213	0.376	459	453	0.3	0.6	4.832	A
3 - Elettra Avenue	Entry	1	1	(1), 4	170	647	0.263	172	173	0.3	0.2	7.694	A
		2	2	1, 2, 3	199	647	0.308	202	198	0.4	0.5	8.645	A
	Exit	1	1	(1, 2, 3, 4)	369			369	371	0.0	0.0	0.060	A
		2	2		457			457	454	0.0	0.0	0.000	A
4 - Hambledon Road (north)	Entry	1	1	1, 2	391	879	0.445	393	392	0.8	0.5	5.795	A
	Exit	1	2	2, 3, 4	426	879	0.484	426	426	0.7	0.6	6.115	A
	Exit	1	1		833			833	830	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 - Milton road	Entry	1	1	1, 2, 3, 4	683	782	0.874	680	667	3.9	7.1	33.707	D
	Exit	1	1		508			508	501	0.0	0.0	0.000	A
2 - Hambledon Road (south)	Entry	1	1	3, 4	735	1193	0.616	736	729	1.5	1.5	7.427	A
			2	1, 2, (4)	440	1193	0.369	439	429	0.6	0.7	4.857	A
	Exit	1	1		1377			1377	1370	0.0	0.0	0.000	A
3 - Elettra Avenue	Entry	1	1	(1), 4	133	640	0.208	133	134	0.2	0.2	6.769	A
			2	1, 2, 3	271	640	0.424	270	271	0.5	0.8	9.876	A
		2	1	(1, 2, 3, 4)	404			404	406	0.0	0.0	0.008	A
	Exit	1	1		468			468	467	0.0	0.0	0.000	A
4 - Hambledon Road (north)	Entry	1	1	1, 2	418	851	0.492	418	426	0.5	0.8	6.653	A
			2	2, 3, 4	475	851	0.558	475	471	0.6	1.0	6.751	A
	Exit	1	1		797			797	789	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 - Milton road	Entry	1	1	1, 2, 3, 4	603	682	0.884	603	595	7.1	7.7	42.336	E
	Exit	1	1		413			413	414	0.0	0.0	0.000	A
2 - Hambledon Road (south)	Entry	1	1	3, 4	586	1175	0.498	583	593	1.5	1.1	6.236	A
			2	1, 2, (4)	437	1175	0.372	438	436	0.7	0.6	4.980	A
	Exit	1	1		1450			1450	1441	0.0	0.0	0.000	A
3 - Elettra Avenue	Entry	1	1	(1), 4	170	613	0.278	169	168	0.2	0.5	8.213	A
			2	1, 2, 3	309	613	0.503	307	307	0.8	1.1	11.864	B
		2	1	(1, 2, 3, 4)	479			479	478	0.0	0.0	0.026	A
	Exit	1	1		276			276	278	0.0	0.0	0.000	A
4 - Hambledon Road (north)	Entry	1	1	1, 2	458	844	0.542	456	459	0.8	1.0	7.177	A
			2	2, 3, 4	518	844	0.613	519	516	1.0	1.1	7.690	A
	Exit	1	1		934			934	941	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 - Milton road	Entry	1	1	1, 2, 3, 4	622	748	0.832	623	629	7.7	6.2	39.236	E
	Exit	1	1		448			448	447	0.0	0.0	0.000	A
2 - Hambledon Road (south)	Entry	1	1	3, 4	858	1194	0.719	855	844	1.1	2.5	9.849	A
			2	1, 2, (4)	506	1194	0.424	506	508	0.6	0.7	5.363	A
	Exit	1	1		1390			1390	1390	0.0	0.0	0.000	A
3 - Elettra Avenue	Entry	1	1	(1), 4	176	595	0.296	177	175	0.5	0.4	8.945	A
			2	1, 2, 3	289	595	0.486	290	281	1.1	1.0	12.372	B
		2	1	(1, 2, 3, 4)	466			466	455	0.0	0.0	0.085	A
	Exit	1	1		511			511	512	0.0	0.0	0.000	A
4 - Hambledon Road (north)	Entry	1	1	1, 2	405	839	0.483	404	410	1.0	0.7	6.572	A
			2	2, 3, 4	460	839	0.549	459	466	1.1	0.9	6.875	A
	Exit	1	1		965			965	964	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 - Milton road	Entry	1	1	1, 2, 3, 4	568	649	0.875	564	561	6.2	6.9	38.650	E
	Exit	1	1		521			521	518	0.0	0.0	0.000	A
2 - Hambledon Road (south)	Entry	1	1	3, 4	955	1207	0.791	949	948	2.5	3.9	12.406	B
			2	1, 2, (4)	573	1207	0.474	571	567	0.7	1.0	5.766	A
	Exit	1	1		1558			1558	1550	0.0	0.0	0.000	A
3 - Elettra Avenue	Entry	1	1	(1), 4	191	583	0.328	192	192	0.4	0.5	9.379	A
			2	1, 2, 3	293	583	0.503	295	295	1.0	1.1	13.470	B
		2	1	(1, 2, 3, 4)	484			485	488	0.0	0.0	0.020	A
	Exit	1	1		599			599	597	0.0	0.0	0.000	A
4 - Hambledon Road (north)	Entry	1	1	1, 2	518	819	0.633	520	513	0.7	1.3	8.642	A
			2	2, 3, 4	546	819	0.667	548	545	0.9	1.3	9.154	A
	Exit	1	1		962			962	956	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 - Milton road	Entry	1	1	1, 2, 3, 4	491	674	0.729	502	507	6.9	3.2	30.580	D
	Exit	1	1		522			522	514	0.0	0.0	0.000	A
2 - Hambledon Road (south)	Entry	1	1	3, 4	951	1228	0.775	952	956	3.9	3.2	12.268	B
			2	1, 2, (4)	555	1228	0.452	557	554	1.0	0.8	5.455	A
	Exit	1	1		1500			1500	1513	0.0	0.0	0.000	A
3 - Elettra Avenue	Entry	1	1	(1), 4	186	554	0.336	185	183	0.5	0.5	9.425	A
			2	1, 2, 3	393	554	0.710	394	387	1.1	2.4	20.526	C
		2	1	(1, 2, 3, 4)	576			579	575	0.0	0.1	0.983	A
	Exit	1	1		445			445	448	0.0	0.0	0.000	A
4 - Hambledon Road (north)	Entry	1	1	1, 2	458	789	0.581	457	457	1.3	1.0	7.669	A
			2	2, 3, 4	476	789	0.604	474	480	1.3	1.2	7.882	A
	Exit	1	1		1055			1055	1050	0.0	0.0	0.000	A

09:15 - 09:30

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 - Milton road	Entry	1	1	1, 2, 3, 4	459	730	0.629	458	467	3.2	2.1	15.834	C
	Exit	1	1		521			521	522	0.0	0.0	0.000	A
2 - Hambledon Road (south)	Entry	1	1	3, 4	722	1216	0.594	726	734	3.2	1.3	7.224	A
			2	1, 2, (4)	512	1216	0.421	512	518	0.8	0.8	5.181	A
	Exit	1	1		1315			1315	1327	0.0	0.0	0.000	A
3 - Elettra Avenue	Entry	1	1	(1), 4	220	621	0.354	220	222	0.5	0.5	9.333	A
			2	1, 2, 3	381	621	0.614	383	385	2.4	1.8	16.792	C
		2	1	(1, 2, 3, 4)	600			601	605	0.1	0.0	0.521	A
	Exit	1	1		413			413	413	0.0	0.0	0.000	A
4 - Hambledon Road (north)	Entry	1	1	1, 2	380	790	0.480	380	385	1.0	0.8	7.151	A
			2	2, 3, 4	444	790	0.562	443	442	1.2	1.0	7.585	A
	Exit	1	1		872			872	891	0.0	0.0	0.000	A

Lane movements: Main Results for each time segment

07:30 - 07:45

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)	Un
1 - Milton road	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	419	105	1306	801	0.523	417	414	0.0	1.9	14.979	
				3	61	15	1306	805	0.076	61	59	0.0	0.2	14.253	
				4	82	21	1306	803	0.102	81	80	0.0	0.4	14.864	
2 - Hambledon Road (south)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	209	52	1323	1228	0.170	210	211	0.0	0.3	6.180	
				4	410	103	1323	1228	0.334	411	411	0.0	0.6	5.883	
			2	1	211	53	1323	1229	0.171	212	213	0.0	0.2	4.321	
				2	8	2	1118	1038	0.008	9	8	0.0	0.0	4.110	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	99	25	1323	1228	0.081	99	99	0.0	0.1	3.622	
3 - Elettra Avenue	Entry	1	1	1	17	4	968	700	0.024	17	18	0.0	0.0	5.915	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	111	28	973	704	0.158	111	109	0.0	0.2	6.450	
			2	1	42	11	973	705	0.060	43	42	0.0	0.1	6.911	
				2	171	43	973	704	0.243	171	170	0.0	0.4	8.066	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	59	15	-	-	-	59	61	0.0	0.0	0.000	
				2	171	43	-	-	-	171	171	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	111	28	-	-	-	111	110	0.0	0.0	0.000	
4 - Hambledon Road (north)	Entry	1	1	1	21	5	1062	916	0.022	20	20	0.0	0.1	6.645	
				2	375	94	1062	914	0.410	374	377	0.0	0.7	5.386	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	336	84	1062	914	0.367	335	333	0.0	0.6	5.387	
				3	73	18	1062	915	0.080	73	73	0.0	0.1	6.718	
				4	28	7	1062	915	0.030	28	27	0.0	0.0	6.479	

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)	Un
1 - Milton road	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	451	113	1306	808	0.559	451	445	1.9	2.8	21.870	
				3	136	34	1306	809	0.168	134	132	0.2	0.9	21.577	
				4	47	12	1306	811	0.058	46	45	0.4	0.3	21.591	
2 - Hambledon Road (south)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	244	61	1323	1212	0.202	244	244	0.3	0.5	7.271	
				4	492	123	1323	1212	0.406	490	489	0.6	0.9	6.999	
		2	2	1	309	77	1323	1211	0.255	310	309	0.2	0.4	5.106	
				2	30	7	1323	1214	0.024	30	28	0.0	0.0	4.799	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	118	29	1323	1212	0.097	119	116	0.1	0.1	4.135	
3 - Elettra Avenue	Entry	1	1	1	18	4	951	634	0.028	18	17	0.0	0.0	6.300	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	152	38	973	648	0.235	154	157	0.2	0.2	7.842	
		2	2	1	48	12	973	645	0.075	49	48	0.1	0.1	7.687	
				2	151	38	973	648	0.233	153	150	0.4	0.4	8.973	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - Hambledon Road (north)	Entry	1	1	1	66	17	-	-	-	66	65	0.0	0.0	0.009	
				2	151	38	-	-	-	151	150	0.0	0.0	0.058	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	152	38	-	-	-	152	157	0.0	0.0	0.083	
		2	2	1	25	6	1057	874	0.028	24	24	0.1	0.0	6.765	
				2	367	92	1062	880	0.417	369	368	0.7	0.4	5.732	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

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)	Un
1 - Milton road	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	471	118	1306	782	0.602	468	457	2.8	4.8	33.740	
				3	106	26	1306	782	0.135	105	106	0.9	1.2	34.156	
				4	107	27	1306	783	0.136	107	104	0.3	1.1	33.117	
2 - Hambledon Road (south)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	291	73	1323	1193	0.244	289	288	0.5	0.7	7.585	
				4	444	111	1323	1193	0.372	447	441	0.9	0.8	7.320	
			2	1	325	81	1323	1192	0.273	325	316	0.4	0.5	5.117	
				2	4	0.90	862	778	0.005	4	4	0.0	0.0	4.775	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	111	28	1323	1193	0.093	110	109	0.1	0.2	4.133	
3 - Elettra Avenue	Entry	1	1	1	46	12	973	643	0.072	46	46	0.0	0.1	6.291	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	87	22	973	639	0.136	87	88	0.2	0.1	7.021	
			2	1	102	26	973	642	0.160	102	103	0.1	0.3	9.075	
				2	169	42	973	639	0.264	168	168	0.4	0.5	10.396	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	148	37	-	-	-	148	150	0.0	0.0	0.009	
				2	169	42	-	-	-	169	168	0.0	0.0	0.009	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	87	22	-	-	-	87	87	0.0	0.0	0.003	
4 - Hambledon Road (north)	Entry	1	1	1	35	9	1062	852	0.041	35	36	0.0	0.1	7.794	
				2	384	96	1062	851	0.451	383	390	0.4	0.8	6.550	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	354	88	1062	851	0.416	354	350	0.4	0.7	6.315	
				3	74	19	1062	853	0.087	74	72	0.2	0.2	8.136	
				4	47	12	1062	849	0.055	47	48	0.0	0.1	7.820	

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)	Un
1 - Milton road	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	402	100	1306	682	0.589	400	395	4.8	5.3	42.537	
				3	79	20	1306	684	0.115	81	81	1.2	0.9	41.691	
				4	122	31	1306	684	0.179	122	119	1.1	1.4	42.124	
2 - Hambledon Road (south)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	90	23	1323	1176	0.077	90	91	0.7	0.1	6.402	
				4	496	124	1323	1176	0.421	493	502	0.8	1.0	6.206	
			2	1	298	75	1323	1176	0.253	298	295	0.5	0.5	5.285	
				2	35	9	1323	1178	0.030	35	35	0.0	0.0	5.160	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	104	26	1323	1176	0.088	104	106	0.2	0.1	4.108	
3 - Elettra Avenue	Entry	1	1	1	23	6	957	605	0.038	23	22	0.1	0.0	7.481	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	148	37	973	613	0.241	146	147	0.1	0.4	8.319	
			2	1	46	11	973	612	0.075	45	49	0.3	0.1	10.172	
				2	263	66	973	614	0.428	261	258	0.5	1.0	12.193	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	69	17	-	-	-	69	70	0.0	0.0	0.038	
				2	263	66	-	-	-	263	260	0.0	0.0	0.030	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	148	37	-	-	-	148	148	0.0	0.0	0.014	
4 - Hambledon Road (north)	Entry	1	1	1	47	12	1062	844	0.056	47	49	0.1	0.2	8.483	
				2	410	103	1062	845	0.486	410	410	0.8	0.8	7.023	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	343	86	1062	845	0.406	344	343	0.7	0.6	6.991	
				3	104	26	1062	846	0.123	105	105	0.2	0.2	9.004	
				4	71	18	1062	845	0.084	70	68	0.1	0.2	9.132	

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)	Un
1 - Milton road	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	453	113	1306	749	0.605	452	452	5.3	4.5	39.010	
				3	97	24	1306	745	0.130	97	100	0.9	1.0	39.915	
				4	72	18	1306	750	0.096	74	77	1.4	0.7	39.642	
2 - Hambledon Road (south)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	304	76	1323	1194	0.254	303	299	0.1	0.8	10.173	
				4	555	139	1323	1194	0.465	552	545	1.0	1.7	9.663	
		2	2	1	308	77	1323	1195	0.258	309	309	0.5	0.5	5.688	
				2	51	13	1323	1190	0.042	50	50	0.0	0.1	5.236	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	148	37	1323	1193	0.124	146	149	0.1	0.2	4.768	
3 - Elettra Avenue	Entry	1	1	1	31	8	973	596	0.052	31	29	0.0	0.1	7.518	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	145	36	973	594	0.245	146	146	0.4	0.3	9.236	
			2	1	66	17	973	595	0.112	67	67	0.1	0.2	11.338	
				2	223	56	973	595	0.375	223	213	1.0	0.8	12.721	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	97	24	-	-	-	97	97	0.0	0.0	0.118	
				2	223	56	-	-	-	223	213	0.0	0.0	0.093	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	145	36	-	-	-	145	145	0.0	0.0	0.053	
4 - Hambledon Road (north)	Entry	1	1	1	40	10	1062	842	0.048	40	42	0.2	0.1	7.755	
				2	365	91	1062	839	0.435	364	368	0.8	0.6	6.439	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	302	76	1062	839	0.360	301	306	0.6	0.6	6.246	
				3	111	28	1062	840	0.133	112	114	0.2	0.2	8.096	
				4	46	12	1062	842	0.055	46	47	0.2	0.1	8.014	

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)	Un
1 - Milton road	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	419	105	1306	649	0.645	413	415	4.5	5.2	38.655	
				3	76	19	1306	652	0.116	76	72	1.0	0.8	38.749	
				4	74	19	1306	648	0.115	75	74	0.7	0.9	38.525	
2 - Hambledon Road (south)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	422	106	1323	1207	0.350	418	420	0.8	1.8	12.707	
				4	533	133	1323	1207	0.441	531	528	1.7	2.1	12.153	
		2	2	1	376	94	1323	1208	0.312	377	377	0.5	0.7	6.002	
				2	40	10	1323	1207	0.033	40	40	0.1	0.1	6.035	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	156	39	1323	1207	0.129	155	151	0.2	0.2	5.124	
3 - Elettra Avenue	Entry	1	1	1	30	8	973	582	0.052	31	30	0.1	0.1	8.354	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	161	40	973	582	0.277	161	162	0.3	0.4	9.572	
			2	1	70	17	973	584	0.119	69	67	0.2	0.3	12.230	
				2	224	56	973	583	0.384	226	228	0.8	0.8	13.856	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	100	25	-	-	-	100	98	0.0	0.0	0.020	
				2	224	56	-	-	-	224	229	0.0	0.0	0.028	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	161	40	-	-	-	161	162	0.0	0.0	0.009	
4 - Hambledon Road (north)	Entry	1	1	1	44	11	1062	818	0.054	45	44	0.1	0.1	10.375	
				2	474	118	1062	819	0.579	476	468	0.6	1.2	8.480	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	402	100	1062	819	0.491	403	399	0.6	0.9	8.574	
				3	105	26	1062	816	0.128	105	106	0.2	0.3	10.705	
				4	39	10	1062	816	0.048	40	40	0.1	0.1	10.782	

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)	Un
1 - Milton road	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	354	89	1306	674	0.525	360	367	5.2	2.3	30.684	
				3	54	13	1306	671	0.080	57	58	0.8	0.3	30.725	
				4	83	21	1306	671	0.124	85	83	0.9	0.5	30.044	
2 - Hambledon Road (south)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	369	92	1323	1228	0.301	373	374	1.8	1.1	12.708	
				4	582	146	1323	1228	0.474	580	582	2.1	2.0	11.974	
		2	2	1	343	86	1323	1228	0.279	344	342	0.7	0.5	5.771	
				2	45	11	1323	1229	0.037	45	45	0.1	0.1	5.497	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	167	42	1323	1228	0.136	168	166	0.2	0.2	4.816	
3 - Elettra Avenue	Entry	1	1	1	49	12	973	558	0.087	48	47	0.1	0.1	8.788	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	138	34	973	555	0.248	137	136	0.4	0.4	9.651	
			2	1	85	21	973	556	0.153	84	80	0.3	0.5	18.471	
				2	309	77	973	554	0.557	309	307	0.8	1.9	21.088	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	132	33	-	-	-	133	128	0.0	0.0	0.970	
				2	307	77	-	-	-	309	312	0.0	0.0	1.047	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	137	34	-	-	-	138	135	0.0	0.0	0.855	
4 - Hambledon Road (north)	Entry	1	1	1	46	11	1062	794	0.057	45	44	0.1	0.1	9.132	
				2	413	103	1062	790	0.523	412	413	1.2	0.9	7.513	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	377	94	1062	789	0.477	374	381	0.9	1.0	7.437	
				3	16	4	1039	774	0.020	16	16	0.3	0.0	9.549	
				4	84	21	1062	791	0.106	84	83	0.1	0.2	9.566	

09:15 - 09:30

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)	Un
1 - Milton road	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	341	85	1306	732	0.466	340	348	2.3	1.6	16.086	
				3	91	23	1306	727	0.125	91	90	0.3	0.4	15.168	
				4	27	7	1306	727	0.038	27	29	0.5	0.1	14.975	
2 - Hambledon Road (south)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	209	52	1323	1216	0.172	211	214	1.1	0.4	7.509	
				4	513	128	1323	1216	0.422	515	520	2.0	0.9	7.103	
		2	2	1	353	88	1323	1216	0.290	353	354	0.5	0.5	5.496	
				2	50	13	1323	1214	0.041	50	49	0.1	0.1	5.228	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	109	27	1323	1217	0.090	109	115	0.2	0.2	4.230	
3 - Elettra Avenue	Entry	1	1	1	44	11	973	618	0.071	43	44	0.1	0.1	8.435	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	176	44	973	620	0.284	176	179	0.4	0.4	9.552	
		2	2	1	87	22	973	620	0.140	86	84	0.5	0.4	14.739	
				2	294	74	973	620	0.475	297	301	1.9	1.4	17.405	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - Hambledon Road (north)	Entry	1	1	1	130	33	-	-	-	131	128	0.0	0.0	0.523	
				2	294	73	-	-	-	294	299	0.0	0.0	0.577	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	176	44	-	-	-	176	179	0.0	0.0	0.431	
		2	2	1	38	10	1062	790	0.049	39	40	0.1	0.1	8.211	
				2	341	85	1062	790	0.432	341	345	0.9	0.7	7.030	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

(Default Analysis Set) - 2021 Base, PM-DIRECT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Elettra Avenue - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
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	(untitled)	Standard Roundabout		1, 2, 3, 4	31.50	D

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	31.50	D

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D11	2021 Base	PM-DIRECT	DIRECT	16:30	18:30	120	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Milton road		DIRECT	✓	100.000
2 - Hambledon Road (south)		DIRECT	✓	100.000
3 - Elettra Avenue		DIRECT	✓	100.000
4 - Hambledon Road (north)		DIRECT	✓	100.000

Origin-Destination Data

Demand (PCU/hr)

16:30 -
16:45

		To			
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	340	72	76
	2 - Hambledon Road (south)	480	76	208	664
	3 - Elettra Avenue	184	296	0	164
	4 - Hambledon Road (north)	24	656	72	40

Demand (PCU/hr)

16:45 -
17:00

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	248	80	36
	2 - Hambledon Road (south)	604	68	228	672
	3 - Elettra Avenue	168	344	0	144
	4 - Hambledon Road (north)	52	488	104	12

Demand (PCU/hr)

17:00 -
17:15

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	288	80	64
	2 - Hambledon Road (south)	500	140	260	672
	3 - Elettra Avenue	224	456	0	200
	4 - Hambledon Road (north)	48	620	80	32

Demand (PCU/hr)

17:15 -
17:30

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	316	124	52
	2 - Hambledon Road (south)	464	96	220	724
	3 - Elettra Avenue	212	340	0	172
	4 - Hambledon Road (north)	24	560	92	48

Demand (PCU/hr)

17:30 -
17:45

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	360	68	28
	2 - Hambledon Road (south)	516	92	204	688
	3 - Elettra Avenue	192	336	0	144
	4 - Hambledon Road (north)	44	636	108	44

Demand (PCU/hr)

17:45 -
18:00

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	288	96	68
	2 - Hambledon Road (south)	436	56	196	604
	3 - Elettra Avenue	148	264	0	108
	4 - Hambledon Road (north)	40	428	108	16

Demand (PCU/hr)

18:00 -
18:15

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	304	88	44
	2 - Hambledon Road (south)	544	40	124	588
	3 - Elettra Avenue	156	260	0	120
	4 - Hambledon Road (north)	56	584	88	16

Demand (PCU/hr)

18:15 -
18:30

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	408	120	60
	2 - Hambledon Road (south)	396	52	248	596
	3 - Elettra Avenue	172	396	0	128
	4 - Hambledon Road (north)	40	572	84	16

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	4	0	1
	2 - Hambledon Road (south)	10	0	1	6
	3 - Elettra Avenue	2	8	0	3
	4 - Hambledon Road (north)	3	3	3	0

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 - Milton road	22.66	4.3	C	462	924
2 - Hambledon Road (south)	7.97	3.8	A	1437	2874
3 - Elettra Avenue	111.47	31.2	F	669	1339
4 - Hambledon Road (north)	10.03	2.5	B	728	1455

Main Results for each time segment

16:30 - 16:45

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 - Milton road	491	123	1142	491	478	693	0.0	2.3	15.706	C
2 - Hambledon Road (south)	1426	357	263	1427	1418	1371	0.0	2.9	7.059	A
3 - Elettra Avenue	656	164	1337	656	632	353	0.0	3.9	19.740	C
4 - Hambledon Road (north)	788	197	1041	794	783	952	0.0	1.5	8.017	A

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 - Milton road	365	91	1015	365	373	817	2.3	0.8	9.503	A
2 - Hambledon Road (south)	1574	393	231	1576	1572	1148	2.9	3.4	7.918	A
3 - Elettra Avenue	656	164	1392	652	644	416	3.9	6.4	31.474	D
4 - Hambledon Road (north)	656	164	1175	657	658	868	1.5	1.5	8.013	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 - Milton road	436	109	1279	435	427	747	0.8	2.0	15.083	C
2 - Hambledon Road (south)	1572	393	254	1570	1572	1460	3.4	3.8	7.843	A
3 - Elettra Avenue	882	221	1405	795	777	420	6.4	31.2	94.758	F
4 - Hambledon Road (north)	776	194	1246	781	774	953	1.5	2.0	9.784	A

17:15 - 17:30

Am	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 - Milton road	489	122	1150	492	490	720	2.0	2.2	18.782	C
2 - Hambledon Road (south)	1510	378	313	1508	1509	1329	3.8	3.6	7.970	A
3 - Elettra Avenue	730	182	1388	771	780	433	31.2	18.5	111.466	F
4 - Hambledon Road (north)	722	180	1149	720	722	1009	2.0	1.8	8.837	A

17:30 - 17:45

Am	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 - Milton road	460	115	1237	459	453	762	2.2	2.6	17.925	C
2 - Hambledon Road (south)	1506	376	253	1503	1513	1443	3.6	3.2	7.560	A
3 - Elettra Avenue	681	170	1371	697	706	385	18.5	9.6	62.002	F
4 - Hambledon Road (north)	843	211	1155	843	835	913	1.8	2.5	10.031	B

17:45 - 18:00

Am	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 - Milton road	448	112	872	449	454	624	2.6	1.2	11.157	B
2 - Hambledon Road (south)	1297	324	286	1295	1300	1035	3.2	2.5	6.473	A
3 - Elettra Avenue	522	130	1180	529	553	401	9.6	1.9	21.939	C
4 - Hambledon Road (north)	589	147	907	589	597	801	2.5	1.1	6.720	A

18:00 - 18:15

Am	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 - Milton road	433	108	979	431	434	755	1.2	1.4	10.141	B
2 - Hambledon Road (south)	1298	325	233	1298	1290	1177	2.5	2.2	6.122	A
3 - Elettra Avenue	532	133	1230	534	537	300	1.9	2.0	14.013	B
4 - Hambledon Road (north)	736	184	997	737	738	768	1.1	1.6	7.551	A

18:15 - 18:30

Am	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 - Milton road	572	143	1117	575	570	611	1.4	4.3	22.664	C
2 - Hambledon Road (south)	1314	328	276	1314	1301	1416	2.2	2.3	6.542	A
3 - Elettra Avenue	696	174	1135	692	680	454	2.0	5.4	23.265	C
4 - Hambledon Road (north)	710	178	1020	709	713	807	1.6	1.6	7.353	A

Lane Results

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

Lanes: Main Results for each time segment

16:30 - 16:45

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 - Milton road	Entry	1	1	1, 2, 3, 4	491	724	0.678	491	478	0.0	2.3	15.706	C
	Exit	1	1		693			693	684	0.0	0.0	0.000	A
2 - Hambledon Road (south)	Entry	1	1	3, 4	757	1220	0.621	761	754	0.0	1.4	7.539	A
	Exit	1	2	1, 2, (4)	669	1220	0.548	666	664	0.0	1.5	6.495	A
3 - Elettra Avenue	Entry	1	1	(1), 4	241	545	0.442	244	231	0.0	0.7	11.502	B
			2	1, 2, 3	413	545	0.759	412	401	0.0	2.8	22.352	C
	Exit	1	1	(1, 2, 3, 4)	656			654	646	0.0	0.4	1.336	A
			1		353			353	348	0.0	0.0	0.000	A
4 - Hambledon Road (north)	Entry	1	1	1, 2	372	720	0.517	375	372	0.0	0.7	7.738	A
	Exit	1	2	2, 3, 4	416	720	0.578	419	411	0.0	0.8	8.270	A
	Exit	1	1		952			952	936	0.0	0.0	0.000	A

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 - Milton road	Entry	1	1	1, 2, 3, 4	365	789	0.463	365	373	2.3	0.8	9.503	A
	Exit	1	1		817			817	816	0.0	0.0	0.000	A
2 - Hambledon Road (south)	Entry	1	1	3, 4	802	1232	0.651	805	801	1.4	1.7	8.017	A
	Exit	1	2	1, 2, (4)	772	1232	0.626	771	771	1.5	1.7	7.811	A
3 - Elettra Avenue	Entry	1	1	(1), 4	209	527	0.396	210	209	0.7	0.7	12.286	B
			2	1, 2, 3	446	527	0.846	442	435	2.8	4.3	31.937	D
	Exit	1	1	(1, 2, 3, 4)	656			655	650	0.4	1.4	5.887	A
			1		416			416	416	0.0	0.0	0.000	A
4 - Hambledon Road (north)	Entry	1	1	1, 2	312	676	0.461	313	314	0.7	0.6	7.654	A
	Exit	1	2	2, 3, 4	344	676	0.509	344	344	0.8	0.8	8.339	A
	Exit	1	1		868			868	867	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 - Milton road	Entry	1	1	1, 2, 3, 4	436	654	0.667	435	427	0.8	2.0	15.083	C
	Exit	1	1		747			747	752	0.0	0.0	0.000	A
2 - Hambledon Road (south)	Entry	1	1	3, 4	824	1223	0.674	824	822	1.7	2.0	8.181	A
	Exit	1	2	1, 2, (4)	747	1223	0.611	747	750	1.7	1.7	7.460	A
3 - Elettra Avenue	Entry	1	1	(1), 4	283	523	0.541	278	273	0.7	1.7	17.754	C
			2	1, 2, 3	522	523	0.998	516	504	4.3	8.1	50.555	F
	Exit	1	1	(1, 2, 3, 4)	882			805	796	1.4	21.3	55.102	F
			1		420			420	415	0.0	0.0	0.000	A
4 - Hambledon Road (north)	Entry	1	1	1, 2	376	653	0.576	379	374	0.6	0.9	9.570	A
	Exit	1	2	2, 3, 4	399	653	0.612	402	400	0.8	1.0	9.984	A
	Exit	1	1		953			953	945	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 - Milton road	Entry	1	1	1, 2, 3, 4	489	721	0.679	492	490	2.0	2.2	18.782	C
	Exit	1	1		720			720	715	0.0	0.0	0.000	A
2 - Hambledon Road (south)	Entry	1	1	3, 4	816	1201	0.679	816	817	2.0	2.2	8.713	A
			2	1, 2, (4)	695	1201	0.579	692	692	1.7	1.4	7.063	A
	Exit	1	1		1329			1329	1342	0.0	0.0	0.000	A
3 - Elettra Avenue	Entry	1	1	(1), 4	283	528	0.535	285	284	1.7	1.5	19.985	C
			2	1, 2, 3	482	528	0.911	486	495	8.1	6.0	50.042	F
		2	1	(1, 2, 3, 4)	730			764	770	21.3	11.0	73.344	F
	Exit	1	1		433			433	435	0.0	0.0	0.000	A
4 - Hambledon Road (north)	Entry	1	1	1, 2	333	685	0.487	333	336	0.9	0.8	8.405	A
			2	2, 3, 4	389	685	0.568	387	387	1.0	1.0	9.211	A
	Exit	1	1		1009			1009	1009	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 - Milton road	Entry	1	1	1, 2, 3, 4	460	676	0.680	459	453	2.2	2.6	17.925	C
	Exit	1	1		762			762	760	0.0	0.0	0.000	A
2 - Hambledon Road (south)	Entry	1	1	3, 4	793	1224	0.647	789	793	2.2	1.8	7.857	A
			2	1, 2, (4)	713	1224	0.583	714	720	1.4	1.3	7.222	A
	Exit	1	1		1443			1443	1441	0.0	0.0	0.000	A
3 - Elettra Avenue	Entry	1	1	(1), 4	235	534	0.440	235	240	1.5	0.9	14.616	B
			2	1, 2, 3	458	534	0.859	462	466	6.0	4.5	40.004	E
		2	1	(1, 2, 3, 4)	681			693	697	11.0	4.2	31.445	D
	Exit	1	1		385			385	386	0.0	0.0	0.000	A
4 - Hambledon Road (north)	Entry	1	1	1, 2	400	683	0.585	401	397	0.8	1.1	9.565	A
			2	2, 3, 4	443	683	0.649	442	438	1.0	1.4	10.452	B
	Exit	1	1		913			913	919	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 - Milton road	Entry	1	1	1, 2, 3, 4	448	862	0.520	449	454	2.6	1.2	11.157	B
	Exit	1	1		624			624	634	0.0	0.0	0.000	A
2 - Hambledon Road (south)	Entry	1	1	3, 4	702	1211	0.579	700	703	1.8	1.6	6.879	A
			2	1, 2, (4)	595	1211	0.491	595	597	1.3	0.9	5.977	A
	Exit	1	1		1035			1035	1062	0.0	0.0	0.000	A
3 - Elettra Avenue	Entry	1	1	(1), 4	163	595	0.273	162	172	0.9	0.4	9.562	A
			2	1, 2, 3	362	595	0.608	366	381	4.5	1.5	21.626	C
		2	1	(1, 2, 3, 4)	522			524	539	4.2	0.0	5.173	A
	Exit	1	1		401			401	402	0.0	0.0	0.000	A
4 - Hambledon Road (north)	Entry	1	1	1, 2	269	764	0.352	269	274	1.1	0.5	6.426	A
			2	2, 3, 4	321	764	0.419	320	323	1.4	0.6	6.969	A
	Exit	1	1		801			801	806	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 - Milton road	Entry	1	1	1, 2, 3, 4	433	808	0.536	431	434	1.2	1.4	10.141	B
	Exit	1	1		755			755	752	0.0	0.0	0.000	A
2 - Hambledon Road (south)	Entry	1	1	3, 4	629	1232	0.511	628	626	1.6	1.0	5.853	A
			2	1, 2, (4)	669	1232	0.543	670	664	0.9	1.2	6.382	A
	Exit	1	1		1177			1177	1180	0.0	0.0	0.000	A
3 - Elettra Avenue	Entry	1	1	(1), 4	176	579	0.305	177	176	0.4	0.5	8.888	A
			2	1, 2, 3	356	579	0.615	358	361	1.5	1.5	16.228	C
		2	1	(1, 2, 3, 4)	532			532	537	0.0	0.0	0.257	A
	Exit	1	1		300			300	299	0.0	0.0	0.000	A
4 - Hambledon Road (north)	Entry	1	1	1, 2	357	735	0.486	357	359	0.5	0.8	7.368	A
			2	2, 3, 4	379	735	0.516	379	379	0.6	0.8	7.725	A
	Exit	1	1		768			768	768	0.0	0.0	0.000	A

18:15 - 18:30

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 - Milton road	Entry	1	1	1, 2, 3, 4	572	737	0.776	575	570	1.4	4.3	22.664	C
	Exit	1	1		611			611	608	0.0	0.0	0.000	A
2 - Hambledon Road (south)	Entry	1	1	3, 4	751	1215	0.618	751	743	1.0	1.4	7.194	A
			2	1, 2, (4)	563	1215	0.463	562	558	1.2	0.9	5.640	A
	Exit	1	1		1416			1416	1407	0.0	0.0	0.000	A
3 - Elettra Avenue	Entry	1	1	(1), 4	198	609	0.325	198	197	0.5	0.6	9.007	A
			2	1, 2, 3	496	609	0.814	494	484	1.5	4.0	25.012	D
		2	1	(1, 2, 3, 4)	696			694	691	0.0	0.9	3.034	A
	Exit	1	1		454			454	450	0.0	0.0	0.000	A
4 - Hambledon Road (north)	Entry	1	1	1, 2	343	727	0.471	342	344	0.8	0.7	7.169	A
			2	2, 3, 4	368	727	0.506	367	370	0.8	0.9	7.525	A
	Exit	1	1		807			807	799	0.0	0.0	0.000	A

Lane movements: Main Results for each time segment

16:30 - 16:45

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)	Un
1 - Milton road	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	343	86	1306	725	0.474	343	332	0.0	1.7	15.828	
				3	71	18	1306	726	0.098	71	70	0.0	0.3	15.547	
				4	77	19	1306	727	0.106	78	76	0.0	0.3	15.336	
2 - Hambledon Road (south)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	208	52	1323	1220	0.171	209	206	0.0	0.4	7.778	
				4	549	137	1323	1220	0.450	552	548	0.0	1.0	7.445	
			2	1	483	121	1323	1220	0.396	481	481	0.0	1.1	6.860	
				2	75	19	1323	1221	0.062	75	75	0.0	0.2	6.528	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	111	28	1323	1220	0.091	110	108	0.0	0.2	4.918	
3 - Elettra Avenue	Entry	1	1	1	72	18	973	545	0.132	73	67	0.0	0.2	10.706	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	168	42	973	546	0.308	171	164	0.0	0.5	11.831	
			2	1	114	29	973	546	0.210	114	113	0.0	0.7	20.110	
				2	299	75	973	545	0.548	298	288	0.0	2.1	23.282	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	187	47	-	-	-	187	184	0.0	0.1	1.208	
				2	300	75	-	-	-	299	296	0.0	0.2	1.468	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	169	42	-	-	-	168	166	0.0	0.1	1.256	
4 - Hambledon Road (north)	Entry	1	1	1	25	6	1059	724	0.034	25	23	0.0	0.1	8.929	
				2	347	87	1062	720	0.482	350	349	0.0	0.6	7.659	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	303	76	1062	720	0.421	305	300	0.0	0.6	7.708	
				3	73	18	1062	720	0.101	73	71	0.0	0.1	9.784	
				4	40	10	1062	721	0.056	41	40	0.0	0.1	9.761	

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)	Un
1 - Milton road	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	250	62	1306	789	0.317	249	255	1.7	0.6	9.573	
				3	79	20	1306	789	0.100	79	80	0.3	0.2	9.275	
				4	36	9	1306	787	0.046	37	37	0.3	0.1	9.536	
2 - Hambledon Road (south)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	233	58	1323	1233	0.189	234	230	0.4	0.4	8.359	
				4	569	142	1323	1233	0.462	571	571	1.0	1.2	7.874	
			2	1	600	150	1323	1233	0.487	599	600	1.1	1.5	8.235	
				2	66	16	1323	1232	0.053	66	66	0.2	0.1	7.936	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	105	26	1323	1232	0.086	106	105	0.2	0.2	5.396	
3 - Elettra Avenue	Entry	1	1	1	68	17	973	526	0.129	68	68	0.2	0.2	12.117	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	141	35	973	527	0.267	142	141	0.5	0.5	12.368	
			2	1	98	25	973	528	0.187	99	97	0.7	0.9	29.103	
				2	348	87	973	527	0.660	343	338	2.1	3.5	32.792	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	167	42	-	-	-	167	166	0.1	0.3	5.577	
				2	348	87	-	-	-	348	343	0.2	0.8	6.264	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	141	35	-	-	-	141	141	0.1	0.2	5.382	
4 - Hambledon Road (north)	Entry	1	1	1	50	13	1062	677	0.075	51	52	0.1	0.1	8.806	
				2	262	65	1062	676	0.387	262	262	0.6	0.5	7.428	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	228	57	1062	676	0.338	228	227	0.6	0.5	7.558	
				3	103	26	1062	677	0.152	103	105	0.1	0.3	9.802	
				4	13	3	1013	646	0.021	13	13	0.1	0.1	10.064	

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)	Un
1 - Milton road	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	292	73	1306	655	0.445	291	285	0.6	1.3	15.122	
				3	80	20	1306	659	0.122	80	78	0.2	0.4	14.905	
				4	64	16	1306	657	0.098	64	64	0.1	0.3	15.134	
2 - Hambledon Road (south)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	262	66	1323	1224	0.214	263	259	0.4	0.6	8.474	
				4	562	141	1323	1224	0.459	561	562	1.2	1.4	8.040	
			2	1	499	125	1323	1224	0.407	498	503	1.5	1.2	7.886	
				2	138	34	1323	1223	0.112	138	139	0.1	0.3	7.680	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	111	28	1323	1223	0.091	111	108	0.2	0.2	5.272	
3 - Elettra Avenue	Entry	1	1	1	96	24	973	524	0.182	94	93	0.2	0.6	17.566	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	187	47	973	524	0.357	184	180	0.5	1.2	17.851	
			2	1	106	27	973	523	0.203	106	107	0.9	1.6	48.611	
				2	415	104	973	523	0.795	410	397	3.5	6.6	51.104	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	221	55	-	-	-	202	204	0.3	5.3	53.550	
				2	455	114	-	-	-	415	410	0.8	11.2	56.718	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	206	52	-	-	-	187	182	0.2	4.9	53.389	
4 - Hambledon Road (north)	Entry	1	1	1	49	12	1062	655	0.075	49	49	0.1	0.2	11.206	
				2	327	82	1062	653	0.501	329	325	0.5	0.8	9.324	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	290	73	1062	653	0.444	292	290	0.5	0.7	9.295	
				3	76	19	1062	656	0.116	77	78	0.3	0.2	11.834	
				4	33	8	1062	653	0.050	33	31	0.1	0.1	11.763	

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)	Un
1 - Milton road	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	315	79	1306	721	0.437	316	314	1.3	1.4	18.868	
				3	122	31	1306	720	0.170	123	122	0.4	0.5	18.526	
				4	52	13	1306	719	0.072	52	54	0.3	0.2	18.887	
2 - Hambledon Road (south)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	220	55	1323	1200	0.183	220	221	0.6	0.6	8.928	
				4	596	149	1323	1201	0.497	596	596	1.4	1.6	8.630	
		2	2	1	466	117	1323	1200	0.389	464	467	1.2	1.1	7.517	
				2	99	25	1323	1200	0.082	98	98	0.3	0.2	7.150	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	130	32	1323	1202	0.108	130	127	0.2	0.2	5.394	
3 - Elettra Avenue	Entry	1	1	1	100	25	973	529	0.189	101	99	0.6	0.5	19.777	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	183	46	973	528	0.346	184	185	1.2	1.0	20.097	
		2	2	1	126	31	973	529	0.238	129	123	1.6	1.4	47.984	
				2	356	89	973	528	0.673	358	372	6.6	4.6	50.770	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - Hambledon Road (north)	Entry	1	1	1	26	7	1059	680	0.039	26	25	0.2	0.1	9.951	
				2	307	77	1062	685	0.449	307	310	0.8	0.7	8.282	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	250	63	1062	685	0.365	250	248	0.7	0.6	8.248	
				3	91	23	1062	685	0.133	90	92	0.2	0.3	11.114	
				4	48	12	1062	683	0.070	48	47	0.1	0.1	10.514	

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)	Un
1 - Milton road	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	363	91	1306	676	0.537	361	355	1.4	2.2	18.063	
				3	68	17	1306	676	0.100	69	69	0.5	0.4	17.165	
				4	29	7	1306	677	0.043	29	29	0.2	0.1	18.072	
2 - Hambledon Road (south)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	206	52	1323	1224	0.169	206	208	0.6	0.5	8.167	
				4	586	147	1323	1224	0.479	584	585	1.6	1.3	7.742	
		2	2	1	512	128	1323	1224	0.418	512	514	1.1	1.0	7.649	
				2	91	23	1323	1224	0.075	92	94	0.2	0.1	7.437	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	110	28	1323	1224	0.090	110	112	0.2	0.2	5.137	
3 - Elettra Avenue	Entry	1	1	1	89	22	973	534	0.166	89	89	0.5	0.3	14.713	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	146	36	973	535	0.273	145	151	1.0	0.6	14.559	
			2	1	114	29	973	535	0.213	114	112	1.4	1.0	37.350	
				2	344	86	973	534	0.645	348	354	4.6	3.5	40.893	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	199	50	-	-	-	203	199	3.1	1.3	31.627	
				2	340	85	-	-	-	344	349	5.4	2.1	31.912	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	143	36	-	-	-	146	149	2.5	0.9	30.149	
4 - Hambledon Road (north)	Entry	1	1	1	45	11	1062	686	0.066	46	44	0.1	0.1	11.011	
				2	354	89	1062	683	0.519	355	353	0.7	0.9	9.384	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	288	72	1062	683	0.421	288	286	0.6	0.8	9.421	
				3	111	28	1062	685	0.161	110	110	0.3	0.4	12.372	
				4	45	11	1062	686	0.065	44	43	0.1	0.2	12.351	

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)	Un
1 - Milton road	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	287	72	1306	861	0.333	286	290	2.2	0.8	11.286	
				3	95	24	1306	861	0.111	96	97	0.4	0.2	10.863	
				4	67	17	1306	863	0.077	67	67	0.1	0.2	11.053	
2 - Hambledon Road (south)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	199	50	1323	1211	0.164	198	196	0.5	0.4	7.093	
				4	503	126	1323	1211	0.416	502	507	1.3	1.1	6.792	
		2	2	1	437	109	1323	1211	0.360	437	438	1.0	0.7	6.349	
				2	52	13	1323	1212	0.043	51	56	0.1	0.1	5.880	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	107	27	1323	1210	0.088	106	103	0.2	0.2	4.508	
3 - Elettra Avenue	Entry	1	1	1	52	13	973	594	0.088	52	59	0.3	0.1	9.311	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	110	28	973	596	0.185	110	113	0.6	0.3	9.693	
		2	2	1	95	24	973	596	0.160	95	98	1.0	0.4	19.607	
				2	266	67	973	596	0.447	271	283	3.5	1.1	22.374	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - Hambledon Road (north)	Entry	1	1	1	147	37	-	-	-	148	154	1.3	0.0	5.246	
				2	265	66	-	-	-	266	273	2.1	0.0	5.262	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	110	27	-	-	-	110	112	0.9	0.0	4.866	
		2	2	1	40	10	1062	765	0.052	40	39	0.1	0.1	7.464	
				2	229	57	1062	764	0.300	229	235	0.9	0.4	6.252	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	198	49	1062	764	0.259	197	199	0.8	0.4	6.269	
				3	107	27	1062	765	0.140	107	109	0.4	0.2	8.035	
				4	16	4	1040	746	0.021	16	16	0.2	0.0	8.434	

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)	Un
1 - Milton road	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	300	75	1306	808	0.372	299	301	0.8	1.0	10.191	
				3	87	22	1306	807	0.108	87	88	0.2	0.3	10.013	
				4	45	11	1306	808	0.055	44	45	0.2	0.1	10.068	
2 - Hambledon Road (south)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	128	32	1323	1232	0.104	127	124	0.4	0.2	6.010	
				4	501	125	1323	1232	0.407	501	502	1.1	0.8	5.813	
		2	2	1	543	136	1323	1232	0.440	543	539	0.7	1.0	6.714	
				2	40	10	1323	1232	0.033	41	41	0.1	0.1	6.274	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	86	22	1323	1232	0.070	86	84	0.2	0.1	4.377	
3 - Elettra Avenue	Entry	1	1	1	54	14	973	580	0.094	55	55	0.1	0.1	8.258	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	122	31	973	577	0.212	122	121	0.3	0.4	9.175	
		2	2	1	101	25	973	579	0.174	101	102	0.4	0.4	14.878	
				2	255	64	973	579	0.440	257	259	1.1	1.1	16.790	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - Hambledon Road (north)	Entry	1	1	1	155	39	-	-	-	155	157	0.0	0.0	0.230	
				2	255	64	-	-	-	255	259	0.0	0.0	0.312	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	122	31	-	-	-	122	121	0.0	0.0	0.180	
		2	2	1	55	14	1062	733	0.075	55	56	0.1	0.2	8.702	
				2	302	75	1062	735	0.410	302	303	0.4	0.6	7.123	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

18:15 - 18:30

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)	Un
1 - Milton road	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	396	99	1306	737	0.537	398	397	1.0	3.0	22.778	
				3	117	29	1306	736	0.159	117	115	0.3	0.9	22.743	
				4	59	15	1306	738	0.081	60	59	0.1	0.5	21.762	
2 - Hambledon Road (south)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	254	63	1323	1215	0.209	255	251	0.2	0.4	7.463	
				4	497	124	1323	1215	0.409	496	492	0.8	1.0	7.049	
		2	2	1	400	100	1323	1216	0.329	400	399	1.0	0.7	5.992	
				2	55	14	1323	1215	0.046	55	52	0.1	0.1	5.573	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	107	27	1323	1215	0.088	107	106	0.1	0.1	4.407	
3 - Elettra Avenue	Entry	1	1	1	71	18	973	611	0.116	71	69	0.1	0.2	8.635	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	127	32	973	609	0.209	127	127	0.4	0.4	9.212	
			2	1	99	25	973	608	0.163	100	99	0.4	0.7	22.621	
				2	397	99	973	609	0.651	394	385	1.1	3.3	25.655	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	171	43	-	-	-	170	170	0.0	0.2	2.729	
				2	397	99	-	-	-	397	394	0.0	0.5	3.268	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	128	32	-	-	-	127	127	0.0	0.1	2.751	
4 - Hambledon Road (north)	Entry	1	1	1	41	10	1062	729	0.056	41	41	0.2	0.1	8.535	
				2	302	75	1062	727	0.415	301	303	0.6	0.6	6.986	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	269	67	1062	727	0.370	268	270	0.6	0.6	6.993	
				3	82	21	1062	727	0.113	82	84	0.2	0.2	9.075	
				4	16	4	1046	721	0.023	16	16	0.1	0.0	8.395	





Appendix C

TRL Junctions Report:

Proposed Geometry

Baseline Traffic; Baseline + Outline Application; and, Baseline + Outline & Net Development

Junctions 10									
ARCADY 10 - Roundabout Module									
Version: 10.0.2.1574									
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Filename: Hambledon Road_Milton Road_Elettra Av Mit (2021) (RevB).j10

Path: P:\19000's\19235\Technical\Junction Modelling 2022\ARCADY\ARCADY

Report generation date: 09/04/2022 19:14:20

- »(Default Analysis Set) - 2026 Base + Com Dev, PM
- »(Default Analysis Set) - 2026 Base + Com Dev, SAT
- »(Default Analysis Set) - 2026 Base + Com Dev + Dev, PM
- »(Default Analysis Set) - 2026 Base + Com Dev + Dev, SAT
- »(Default Analysis Set) - 2026 Base + Com Dev + Dev Sens, AM
- »(Default Analysis Set) - 2026 Base + Com Dev + Dev Sens, PM
- »(Default Analysis Set) - 2026 Base + Com Dev + Dev Sens, SAT
- »(Default Analysis Set) - 2026 Base + Com Dev + Dev, AM DIRECT
- »(Default Analysis Set) - 2026 Base + Com Dev, AM DIRECT

Summary of junction performance

	PM					SAT					AM					AM DIRECT			
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC
	A1 - 2026 Base + Com Dev																		
1 - Milton road	D5	2.1	14.10	0.68	B	D6	2.1	11.47	0.67	B						D14	3.0	16.78	0.76
2 - Hambledon Road (south)		3.6	7.16	0.78	A		2.0	4.76	0.67	A							2.3	5.06	0.70
3 - Elettra Avenue		2.9	10.64	0.75	B		0.9	4.52	0.49	A							0.9	4.32	0.47
4 - Hambledon Road (north)		3.3	13.93	0.77	B		1.2	5.69	0.55	A							2.4	7.84	0.71
	A1 - 2026 Base + Com Dev + Dev																		
1 - Milton road	D8	2.3	16.19	0.70	C	D9	2.0	11.58	0.66	B						D13	4.3	24.17	0.83
2 - Hambledon Road (south)		4.0	7.75	0.80	A		2.2	4.97	0.68	A							3.0	6.27	0.76
3 - Elettra Avenue		4.2	14.14	0.81	B		1.0	4.72	0.51	A							1.0	4.85	0.51
4 - Hambledon Road (north)		3.9	16.75	0.80	C		1.2	5.82	0.55	A							2.9	9.15	0.75
	A1 - 2026 Base + Com Dev + Dev Sens																		
1 - Milton road	D11	2.3	16.18	0.70	C	D12	2.0	11.58	0.66	B	D10	5.7	32.58	0.86	D				
2 - Hambledon Road (south)		3.9	7.63	0.80	A		2.1	4.93	0.68	A		2.8	6.08	0.73	A				
3 - Elettra Avenue		4.2	14.14	0.81	B		1.0	4.72	0.51	A		0.8	4.57	0.45	A				
4 - Hambledon Road (north)		4.2	17.61	0.81	C		1.3	5.93	0.57	A		3.2	9.90	0.76	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.

File summary

File Description

Title	Hambledon Road/ Milton Road/ Elettra Avenue
Location	Waterlooville
Site number	
Date	19/10/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	19235
Enumerator	DTA\arcady
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 period length (min)	Time segment length (min)	Run automatically
D1	2021 Base	AM	ONE HOUR	08:00	09:30		15	
D2	2021 Base	PM	ONE HOUR	16:30	18:00		15	
D3	2021 Base	SAT	ONE HOUR	11:15	12:45		15	
D4	2026 Base + Com Dev	AM	ONE HOUR	08:00	09:30		15	
D5	2026 Base + Com Dev	PM	ONE HOUR	16:30	18:00		15	✓
D6	2026 Base + Com Dev	SAT	ONE HOUR	11:15	12:45		15	✓
D7	2026 Base + Com Dev + Dev	AM	ONE HOUR	08:00	09:30		15	
D8	2026 Base + Com Dev + Dev	PM	ONE HOUR	16:30	18:00		15	✓
D9	2026 Base + Com Dev + Dev	SAT	ONE HOUR	11:15	12:45		15	✓
D10	2026 Base + Com Dev + Dev Sens	AM	ONE HOUR	08:00	09:30		15	✓
D11	2026 Base + Com Dev + Dev Sens	PM	ONE HOUR	16:30	18:00		15	✓
D12	2026 Base + Com Dev + Dev Sens	SAT	ONE HOUR	11:15	12:45		15	✓
D13	2026 Base + Com Dev + Dev	AM DIRECT	DIRECT	07:30	09:30	120	15	✓
D14	2026 Base + Com Dev	AM DIRECT	DIRECT	07:30	09:30	120	15	✓

Analysis Set Details

ID	Name	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	(Default Analysis Set)	✓	100.000	100.000

(Default Analysis Set) - 2026 Base + Com Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Elettra Avenue - 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	(untitled)	Standard Roundabout		1, 2, 3, 4	10.27	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	10.27	B

Arms

Arms

Arm	Name	Description	No give-way line
1	Milton road		
2	Hambledon Road (south)		
3	Elettra Avenue		
4	Hambledon Road (north)		

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 - Milton road	3.00	7.40	15.0	20.0	54.0	15.2		
2 - Hambledon Road (south)	7.30	8.40	12.7	47.5	54.0	18.0		
3 - Elettra Avenue	3.00	10.50	52.6	18.0	54.0	22.0		
4 - Hambledon Road (north)	6.80	7.50	5.0	15.0	54.0	36.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Milton road	0.600	1679
2 - Hambledon Road (south)	0.782	2646
3 - Elettra Avenue	0.747	2525
4 - Hambledon Road (north)	0.657	2125

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct capacity adjustment (PCU/hr)
1 - Milton road	Direct		0

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	2026 Base + Com Dev	PM	ONE HOUR	16:30	18:00	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 - Milton road		ONE HOUR	✓	498	100.000
2 - Hambledon Road (south)		ONE HOUR	✓	1661	100.000
3 - Elettra Avenue		ONE HOUR	✓	913	100.000
4 - Hambledon Road (north)		ONE HOUR	✓	799	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	313	138	47
	2 - Hambledon Road (south)	539	102	308	712
	3 - Elettra Avenue	256	459	0	198
	4 - Hambledon Road (north)	43	596	125	35

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	4	0	1
	2 - Hambledon Road (south)	3	2	0	6
	3 - Elettra Avenue	0	1	0	1
	4 - Hambledon Road (north)	0	4	0	1

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 - Milton road	0.68	14.10	2.1	B	457	685
2 - Hambledon Road (south)	0.78	7.16	3.6	A	1524	2286
3 - Elettra Avenue	0.75	10.64	2.9	B	838	1257
4 - Hambledon Road (north)	0.77	13.93	3.3	B	733	1100

Main Results for each time segment

16:30 - 16:45

Am	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 - Milton road	375	94	987	1087	0.345	373	629	0.0	0.5	5.159	A
2 - Hambledon Road (south)	1250	313	258	2444	0.512	1246	1102	0.0	1.1	3.103	A
3 - Elettra Avenue	687	172	1077	1721	0.399	685	428	0.0	0.7	3.491	A
4 - Hambledon Road (north)	602	150	1017	1457	0.413	599	744	0.0	0.7	4.309	A

16:45 - 17:00

Am	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 - Milton road	448	112	1181	970	0.461	446	752	0.5	0.9	7.032	A
2 - Hambledon Road (south)	1493	373	309	2404	0.621	1491	1318	1.1	1.7	4.075	A
3 - Elettra Avenue	821	205	1288	1563	0.525	819	512	0.7	1.1	4.863	A
4 - Hambledon Road (north)	718	180	1217	1325	0.542	716	890	0.7	1.2	6.068	A

17:00 - 17:15

Am	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 - Milton road	548	137	1439	816	0.672	544	918	0.9	2.0	13.360	B
2 - Hambledon Road (south)	1829	457	377	2351	0.778	1821	1606	1.7	3.5	6.946	A
3 - Elettra Avenue	1005	251	1573	1350	0.745	998	625	1.1	2.8	10.133	B
4 - Hambledon Road (north)	880	220	1485	1149	0.765	872	1087	1.2	3.2	13.013	B

17:15 - 17:30

Am	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 - Milton road	548	137	1449	809	0.678	548	922	2.0	2.1	14.096	B
2 - Hambledon Road (south)	1829	457	380	2349	0.779	1829	1618	3.5	3.6	7.158	A
3 - Elettra Avenue	1005	251	1580	1345	0.748	1005	628	2.8	2.9	10.641	B
4 - Hambledon Road (north)	880	220	1493	1144	0.769	879	1092	3.2	3.3	13.925	B

17:30 - 17:45

Am	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 - Milton road	448	112	1196	961	0.466	452	758	2.1	0.9	7.321	A
2 - Hambledon Road (south)	1493	373	314	2401	0.622	1501	1335	3.6	1.7	4.179	A
3 - Elettra Avenue	821	205	1297	1556	0.528	828	517	2.9	1.1	5.028	A
4 - Hambledon Road (north)	718	180	1227	1318	0.545	726	897	3.3	1.3	6.350	A

17:45 - 18:00

Am	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 - Milton road	375	94	995	1082	0.346	376	632	0.9	0.5	5.243	A
2 - Hambledon Road (south)	1250	313	261	2442	0.512	1253	1110	1.7	1.1	3.143	A
3 - Elettra Avenue	687	172	1083	1716	0.401	689	431	1.1	0.7	3.536	A
4 - Hambledon Road (north)	602	150	1023	1453	0.414	604	749	1.3	0.7	4.379	A

(Default Analysis Set) - 2026 Base + Com Dev, SAT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Elettra Avenue - 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	(untitled)	Standard Roundabout		1, 2, 3, 4	6.09	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.09	A

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	2026 Base + Com Dev	SAT	ONE HOUR	11:15	12:45	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 - Milton road		ONE HOUR	✓	602	100.000
2 - Hambledon Road (south)		ONE HOUR	✓	1390	100.000
3 - Elettra Avenue		ONE HOUR	✓	687	100.000
4 - Hambledon Road (north)		ONE HOUR	✓	719	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	368	168	66
	2 - Hambledon Road (south)	405	27	314	644
	3 - Elettra Avenue	199	330	0	158
	4 - Hambledon Road (north)	25	525	132	37

Vehicle Mix

Heavy Vehicle Percentages

	To				
From		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
	1 - Milton road	0	4	1	0
	2 - Hambledon Road (south)	3	0	1	1
	3 - Elettra Avenue	0	0	0	1
	4 - Hambledon Road (north)	4	1	0	0

Results

Results Summary for whole modelled period

Am	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Milton road	0.67	11.47	2.1	B	552	829
2 - Hambledon Road (south)	0.67	4.76	2.0	A	1275	1913
3 - Elettra Avenue	0.49	4.52	0.9	A	630	946
4 - Hambledon Road (north)	0.55	5.69	1.2	A	660	990

Main Results for each time segment

11:15 - 11:30

Am	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 - Milton road	453	113	789	1206	0.376	451	472	0.0	0.6	4.882	A
2 - Hambledon Road (south)	1046	262	302	2410	0.434	1043	937	0.0	0.8	2.671	A
3 - Elettra Avenue	517	129	885	1864	0.278	516	461	0.0	0.4	2.674	A
4 - Hambledon Road (north)	541	135	721	1651	0.328	539	679	0.0	0.5	3.261	A

11:30 - 11:45

Am	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 - Milton road	541	135	944	1113	0.486	540	565	0.6	1.0	6.438	A
2 - Hambledon Road (south)	1250	312	362	2363	0.529	1248	1122	0.8	1.1	3.275	A
3 - Elettra Avenue	618	154	1059	1734	0.356	617	551	0.4	0.6	3.228	A
4 - Hambledon Road (north)	646	162	863	1558	0.415	645	813	0.5	0.7	3.977	A

11:45 - 12:00

Am	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 - Milton road	663	166	1154	986	0.672	659	691	1.0	2.0	11.138	B
2 - Hambledon Road (south)	1530	383	442	2300	0.665	1527	1371	1.1	2.0	4.706	A
3 - Elettra Avenue	756	189	1295	1557	0.486	755	674	0.6	0.9	4.488	A
4 - Hambledon Road (north)	792	198	1056	1431	0.553	790	994	0.7	1.2	5.641	A

12:00 - 12:15

Am	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 - Milton road	663	166	1157	985	0.673	663	693	2.0	2.1	11.467	B
2 - Hambledon Road (south)	1530	383	444	2299	0.666	1530	1376	2.0	2.0	4.757	A
3 - Elettra Avenue	756	189	1298	1555	0.486	756	676	0.9	0.9	4.517	A
4 - Hambledon Road (north)	792	198	1058	1430	0.554	792	996	1.2	1.2	5.690	A

12:15 - 12:30

Am	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 - Milton road	541	135	948	1110	0.487	546	567	2.1	1.0	6.595	A
2 - Hambledon Road (south)	1250	312	364	2361	0.529	1253	1129	2.0	1.2	3.309	A
3 - Elettra Avenue	618	154	1063	1731	0.357	619	554	0.9	0.6	3.250	A
4 - Hambledon Road (north)	646	162	866	1556	0.415	648	816	1.2	0.7	4.012	A

12:30 - 12:45

Am	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 - Milton road	453	113	792	1203	0.377	455	474	1.0	0.6	4.947	A
2 - Hambledon Road (south)	1046	262	304	2408	0.435	1048	943	1.2	0.8	2.692	A
3 - Elettra Avenue	517	129	889	1861	0.278	518	463	0.6	0.4	2.688	A
4 - Hambledon Road (north)	541	135	724	1649	0.328	542	682	0.7	0.5	3.285	A

(Default Analysis Set) - 2026 Base + Com Dev + Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Elettra Avenue - 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	(untitled)	Standard Roundabout		1, 2, 3, 4	12.14	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	12.14	B

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	2026 Base + Com Dev + Dev	PM	ONE HOUR	16:30	18:00	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 - Milton road		ONE HOUR	✓	476	100.000
2 - Hambledon Road (south)		ONE HOUR	✓	1719	100.000
3 - Elettra Avenue		ONE HOUR	✓	1002	100.000
4 - Hambledon Road (north)		ONE HOUR	✓	790	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
	From				
	1 - Milton road	0	302	127	47
	2 - Hambledon Road (south)	528	102	381	708
	3 - Elettra Avenue	248	557	0	197
	4 - Hambledon Road (north)	43	592	120	35

Vehicle Mix

Heavy Vehicle Percentages

	To				
From		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
	1 - Milton road	0	4	0	1
	2 - Hambledon Road (south)	3	2	0	1
	3 - Elettra Avenue	0	1	0	1
	4 - Hambledon Road (north)	2	3	1	0

Results

Results Summary for whole modelled period

Am	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Milton road	0.70	16.19	2.3	C	437	655
2 - Hambledon Road (south)	0.80	7.75	4.0	A	1577	2366
3 - Elettra Avenue	0.81	14.14	4.2	B	919	1379
4 - Hambledon Road (north)	0.80	16.75	3.9	C	725	1087

Main Results for each time segment

16:30 - 16:45

Am	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 - Milton road	358	90	1054	1047	0.342	356	614	0.0	0.5	5.335	A
2 - Hambledon Road (south)	1294	324	246	2453	0.528	1290	1164	0.0	1.1	3.128	A
3 - Elettra Avenue	754	189	1065	1729	0.436	751	471	0.0	0.8	3.697	A
4 - Hambledon Road (north)	595	149	1076	1418	0.420	592	740	0.0	0.7	4.454	A

16:45 - 17:00

Am	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 - Milton road	428	107	1261	923	0.464	427	735	0.5	0.9	7.426	A
2 - Hambledon Road (south)	1545	386	295	2415	0.640	1543	1392	1.1	1.8	4.173	A
3 - Elettra Avenue	901	225	1274	1573	0.573	899	563	0.8	1.3	5.362	A
4 - Hambledon Road (north)	710	178	1287	1279	0.555	708	886	0.7	1.3	6.440	A

17:00 - 17:15

Am	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 - Milton road	524	131	1533	759	0.690	519	896	0.9	2.2	15.048	C
2 - Hambledon Road (south)	1893	473	358	2365	0.800	1884	1693	1.8	3.9	7.458	A
3 - Elettra Avenue	1103	276	1556	1362	0.810	1093	687	1.3	4.0	12.964	B
4 - Hambledon Road (north)	870	217	1568	1094	0.795	860	1080	1.3	3.7	15.173	C

17:15 - 17:30

Am	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 - Milton road	524	131	1547	751	0.698	524	901	2.2	2.3	16.185	C
2 - Hambledon Road (south)	1893	473	362	2363	0.801	1892	1708	3.9	4.0	7.747	A
3 - Elettra Avenue	1103	276	1563	1357	0.813	1102	691	4.0	4.2	14.135	B
4 - Hambledon Road (north)	870	217	1579	1087	0.800	869	1086	3.7	3.9	16.746	C

17:30 - 17:45

Am	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 - Milton road	428	107	1280	911	0.470	433	742	2.3	0.9	7.827	A
2 - Hambledon Road (south)	1545	386	300	2411	0.641	1554	1414	4.0	1.8	4.302	A
3 - Elettra Avenue	901	225	1284	1565	0.575	912	569	4.2	1.4	5.645	A
4 - Hambledon Road (north)	710	178	1302	1269	0.560	720	894	3.9	1.3	6.847	A

17:45 - 18:00

Am	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 - Milton road	358	90	1062	1042	0.344	360	618	0.9	0.5	5.430	A
2 - Hambledon Road (south)	1294	324	249	2451	0.528	1297	1173	1.8	1.1	3.172	A
3 - Elettra Avenue	754	189	1071	1724	0.437	757	474	1.4	0.8	3.759	A
4 - Hambledon Road (north)	595	149	1083	1413	0.421	597	745	1.3	0.8	4.533	A

(Default Analysis Set) - 2026 Base + Com Dev + Dev, SAT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Elettra Avenue - 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	(untitled)	Standard Roundabout		1, 2, 3, 4	6.19	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.19	A

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	2026 Base + Com Dev + Dev	SAT	ONE HOUR	11:15	12:45	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 - Milton road		ONE HOUR	✓	570	100.000
2 - Hambledon Road (south)		ONE HOUR	✓	1445	100.000
3 - Elettra Avenue		ONE HOUR	✓	730	100.000
4 - Hambledon Road (north)		ONE HOUR	✓	705	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
From		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
	1 - Milton road	0	357	147	66
	2 - Hambledon Road (south)	394	27	384	640
	3 - Elettra Avenue	179	402	0	149
	4 - Hambledon Road (north)	25	521	122	37

Vehicle Mix

Heavy Vehicle Percentages

	To				
From		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
	1 - Milton road	0	4	1	0
	2 - Hambledon Road (south)	3	0	1	1
	3 - Elettra Avenue	0	0	0	1
	4 - Hambledon Road (north)	4	1	0	0

Results

Results Summary for whole modelled period

Am	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Milton road	0.66	11.58	2.0	B	523	785
2 - Hambledon Road (south)	0.68	4.97	2.2	A	1326	1989
3 - Elettra Avenue	0.51	4.72	1.0	A	670	1005
4 - Hambledon Road (north)	0.55	5.82	1.2	A	647	970

Main Results for each time segment

11:15 - 11:30

Am	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 - Milton road	429	107	832	1180	0.364	427	449	0.0	0.6	4.899	A
2 - Hambledon Road (south)	1088	272	279	2428	0.448	1085	980	0.0	0.8	2.714	A
3 - Elettra Avenue	550	137	874	1872	0.294	548	490	0.0	0.4	2.720	A
4 - Hambledon Road (north)	531	133	752	1631	0.325	529	669	0.0	0.5	3.290	A

11:30 - 11:45

Am	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 - Milton road	512	128	996	1081	0.474	511	537	0.6	0.9	6.471	A
2 - Hambledon Road (south)	1299	325	334	2385	0.545	1297	1173	0.8	1.2	3.357	A
3 - Elettra Avenue	656	164	1045	1744	0.376	656	586	0.4	0.6	3.312	A
4 - Hambledon Road (north)	634	158	900	1534	0.413	633	801	0.5	0.7	4.027	A

11:45 - 12:00

Am	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 - Milton road	628	157	1218	948	0.662	623	657	0.9	1.9	11.253	B
2 - Hambledon Road (south)	1591	398	408	2327	0.684	1587	1434	1.2	2.2	4.914	A
3 - Elettra Avenue	804	201	1278	1570	0.512	802	717	0.6	1.0	4.687	A
4 - Hambledon Road (north)	776	194	1101	1402	0.554	774	979	0.7	1.2	5.767	A

12:00 - 12:15

Am	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 - Milton road	628	157	1221	946	0.663	627	658	1.9	2.0	11.584	B
2 - Hambledon Road (south)	1591	398	410	2325	0.684	1591	1439	2.2	2.2	4.973	A
3 - Elettra Avenue	804	201	1282	1567	0.513	804	719	1.0	1.0	4.723	A
4 - Hambledon Road (north)	776	194	1103	1400	0.554	776	982	1.2	1.2	5.820	A

12:15 - 12:30

Am	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 - Milton road	512	128	1000	1079	0.475	517	539	2.0	0.9	6.627	A
2 - Hambledon Road (south)	1299	325	336	2383	0.545	1303	1180	2.2	1.2	3.395	A
3 - Elettra Avenue	656	164	1050	1741	0.377	658	589	1.0	0.6	3.339	A
4 - Hambledon Road (north)	634	158	903	1531	0.414	636	805	1.2	0.7	4.064	A

12:30 - 12:45

Am	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 - Milton road	429	107	836	1177	0.365	431	451	0.9	0.6	4.962	A
2 - Hambledon Road (south)	1088	272	281	2426	0.448	1089	986	1.2	0.8	2.738	A
3 - Elettra Avenue	550	137	878	1869	0.294	550	493	0.6	0.4	2.738	A
4 - Hambledon Road (north)	531	133	755	1629	0.326	532	673	0.7	0.5	3.312	A

(Default Analysis Set) - 2026 Base + Com Dev + Dev Sens, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Elettra Avenue - 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	(untitled)	Standard Roundabout		1, 2, 3, 4	11.15	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	11.15	B

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	2026 Base + Com Dev + Dev Sens	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 - Milton road		ONE HOUR	✓	608	100.000
2 - Hambledon Road (south)		ONE HOUR	✓	1511	100.000
3 - Elettra Avenue		ONE HOUR	✓	611	100.000
4 - Hambledon Road (north)		ONE HOUR	✓	1067	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
From		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
	1 - Milton road	0	415	102	91
	2 - Hambledon Road (south)	339	43	420	709
	3 - Elettra Avenue	113	303	0	195
	4 - Hambledon Road (north)	46	796	163	62

Vehicle Mix

Heavy Vehicle Percentages

	To				
From		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
	1 - Milton road	0	4	0	1
	2 - Hambledon Road (south)	10	0	1	6
	3 - Elettra Avenue	2	8	0	3
	4 - Hambledon Road (north)	3	3	3	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 - Milton road	0.86	32.58	5.7	D	558	837
2 - Hambledon Road (south)	0.73	6.08	2.8	A	1387	2080
3 - Elettra Avenue	0.45	4.57	0.8	A	561	841
4 - Hambledon Road (north)	0.76	9.90	3.2	A	979	1469

Main Results for each time segment

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 - Milton road	458	114	1025	1064	0.430	455	374	0.0	0.8	6.048	A
2 - Hambledon Road (south)	1138	284	313	2401	0.474	1134	1167	0.0	0.9	2.981	A
3 - Elettra Avenue	460	115	933	1828	0.252	459	514	0.0	0.4	2.764	A
4 - Hambledon Road (north)	803	201	599	1731	0.464	800	793	0.0	0.9	3.958	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 - Milton road	547	137	1227	943	0.580	544	447	0.8	1.4	9.227	A
2 - Hambledon Road (south)	1358	340	375	2353	0.577	1356	1396	0.9	1.4	3.796	A
3 - Elettra Avenue	549	137	1116	1691	0.325	549	615	0.4	0.5	3.315	A
4 - Hambledon Road (north)	959	240	716	1654	0.580	957	949	0.9	1.4	5.294	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 - Milton road	669	167	1498	780	0.858	655	547	1.4	5.1	26.831	D
2 - Hambledon Road (south)	1664	416	454	2291	0.726	1658	1698	1.4	2.7	5.944	A
3 - Elettra Avenue	673	168	1363	1506	0.447	671	749	0.5	0.8	4.529	A
4 - Hambledon Road (north)	1175	294	876	1549	0.758	1168	1158	1.4	3.1	9.547	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 - Milton road	669	167	1505	776	0.863	667	548	5.1	5.7	32.577	D
2 - Hambledon Road (south)	1664	416	459	2286	0.728	1663	1712	2.7	2.8	6.077	A
3 - Elettra Avenue	673	168	1369	1502	0.448	673	754	0.8	0.8	4.567	A
4 - Hambledon Road (north)	1175	294	879	1548	0.759	1174	1163	3.1	3.2	9.899	A

09:00 - 09:15

Am	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 - Milton road	547	137	1236	937	0.583	563	449	5.7	1.5	10.337	B
2 - Hambledon Road (south)	1358	340	383	2347	0.579	1364	1417	2.8	1.5	3.875	A
3 - Elettra Avenue	549	137	1125	1684	0.326	551	621	0.8	0.5	3.344	A
4 - Hambledon Road (north)	959	240	720	1652	0.581	966	956	3.2	1.4	5.450	A

09:15 - 09:30

Am	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 - Milton road	458	114	1032	1060	0.432	460	376	1.5	0.8	6.204	A
2 - Hambledon Road (south)	1138	284	316	2399	0.474	1140	1176	1.5	1.0	3.013	A
3 - Elettra Avenue	460	115	939	1824	0.252	461	517	0.5	0.4	2.782	A
4 - Hambledon Road (north)	803	201	602	1730	0.464	805	797	1.4	0.9	4.016	A

(Default Analysis Set) - 2026 Base + Com Dev + Dev Sens, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Elettra Avenue - 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	(untitled)	Standard Roundabout		1, 2, 3, 4	12.34	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	12.34	B

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	2026 Base + Com Dev + Dev Sens	PM	ONE HOUR	16:30	18:00	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 - Milton road		ONE HOUR	✓	476	100.000
2 - Hambledon Road (south)		ONE HOUR	✓	1689	100.000
3 - Elettra Avenue		ONE HOUR	✓	1002	100.000
4 - Hambledon Road (north)		ONE HOUR	✓	820	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
From		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
	1 - Milton road	0	302	127	47
	2 - Hambledon Road (south)	528	102	351	708
	3 - Elettra Avenue	248	527	0	227
	4 - Hambledon Road (north)	43	592	150	35

Vehicle Mix

Heavy Vehicle Percentages

	To				
From		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
	1 - Milton road	0	4	0	1
	2 - Hambledon Road (south)	3	2	0	1
	3 - Elettra Avenue	0	1	0	1
	4 - Hambledon Road (north)	2	3	1	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 - Milton road	0.70	16.18	2.3	C	437	655
2 - Hambledon Road (south)	0.80	7.63	3.9	A	1550	2325
3 - Elettra Avenue	0.81	14.14	4.2	B	919	1379
4 - Hambledon Road (north)	0.81	17.61	4.2	C	752	1129

Main Results for each time segment

16:30 - 16:45

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 - Milton road	358	90	1054	1047	0.342	356	614	0.0	0.5	5.334	A
2 - Hambledon Road (south)	1272	318	269	2436	0.522	1267	1141	0.0	1.1	3.115	A
3 - Elettra Avenue	754	189	1065	1729	0.436	751	471	0.0	0.8	3.697	A
4 - Hambledon Road (north)	617	154	1054	1433	0.431	614	763	0.0	0.8	4.490	A

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 - Milton road	428	107	1261	923	0.464	427	735	0.5	0.9	7.425	A
2 - Hambledon Road (south)	1518	380	322	2394	0.634	1516	1365	1.1	1.7	4.147	A
3 - Elettra Avenue	901	225	1274	1573	0.573	899	563	0.8	1.3	5.362	A
4 - Hambledon Road (north)	737	184	1260	1297	0.568	735	912	0.8	1.3	6.538	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 - Milton road	524	131	1532	760	0.690	519	896	0.9	2.2	15.026	C
2 - Hambledon Road (south)	1860	465	391	2340	0.795	1851	1660	1.7	3.8	7.357	A
3 - Elettra Avenue	1103	276	1556	1362	0.810	1093	686	1.3	4.0	12.968	B
4 - Hambledon Road (north)	903	226	1536	1116	0.809	892	1113	1.3	4.0	15.804	C

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 - Milton road	524	131	1547	751	0.698	524	901	2.2	2.3	16.179	C
2 - Hambledon Road (south)	1860	465	395	2337	0.796	1859	1675	3.8	3.9	7.633	A
3 - Elettra Avenue	1103	276	1563	1357	0.813	1102	691	4.0	4.2	14.135	B
4 - Hambledon Road (north)	903	226	1546	1109	0.814	902	1119	4.0	4.2	17.605	C

17:30 - 17:45

Am	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 - Milton road	428	107	1281	910	0.470	433	742	2.3	0.9	7.832	A
2 - Hambledon Road (south)	1518	380	327	2390	0.635	1527	1387	3.9	1.8	4.271	A
3 - Elettra Avenue	901	225	1284	1565	0.575	912	570	4.2	1.4	5.642	A
4 - Hambledon Road (north)	737	184	1275	1287	0.573	749	921	4.2	1.4	6.987	A

17:45 - 18:00

Am	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 - Milton road	358	90	1062	1041	0.344	360	618	0.9	0.5	5.430	A
2 - Hambledon Road (south)	1272	318	271	2434	0.523	1274	1151	1.8	1.1	3.157	A
3 - Elettra Avenue	754	189	1071	1724	0.437	757	474	1.4	0.8	3.759	A
4 - Hambledon Road (north)	617	154	1061	1428	0.432	620	768	1.4	0.8	4.578	A

(Default Analysis Set) - 2026 Base + Com Dev + Dev Sens, SAT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Elettra Avenue - 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	(untitled)	Standard Roundabout		1, 2, 3, 4	6.20	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.20	A

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	2026 Base + Com Dev + Dev Sens	SAT	ONE HOUR	11:15	12:45	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 - Milton road		ONE HOUR	✓	570	100.000
2 - Hambledon Road (south)		ONE HOUR	✓	1415	100.000
3 - Elettra Avenue		ONE HOUR	✓	730	100.000
4 - Hambledon Road (north)		ONE HOUR	✓	735	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
From		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
	1 - Milton road	0	357	147	66
	2 - Hambledon Road (south)	394	27	354	640
	3 - Elettra Avenue	179	372	0	179
	4 - Hambledon Road (north)	25	521	152	37

Vehicle Mix

Heavy Vehicle Percentages

	To				
From		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
	1 - Milton road	0	4	1	0
	2 - Hambledon Road (south)	3	0	1	1
	3 - Elettra Avenue	0	0	0	1
	4 - Hambledon Road (north)	4	1	0	0

Results

Results Summary for whole modelled period

Am	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Milton road	0.66	11.58	2.0	B	523	785
2 - Hambledon Road (south)	0.68	4.93	2.1	A	1298	1948
3 - Elettra Avenue	0.51	4.72	1.0	A	670	1005
4 - Hambledon Road (north)	0.57	5.93	1.3	A	674	1012

Main Results for each time segment

11:15 - 11:30

Am	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 - Milton road	429	107	832	1180	0.364	427	449	0.0	0.6	4.899	A
2 - Hambledon Road (south)	1065	266	301	2410	0.442	1062	958	0.0	0.8	2.704	A
3 - Elettra Avenue	550	137	874	1872	0.294	548	490	0.0	0.4	2.721	A
4 - Hambledon Road (north)	553	138	730	1646	0.336	551	692	0.0	0.5	3.312	A

11:30 - 11:45

Am	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 - Milton road	512	128	996	1081	0.474	511	537	0.6	0.9	6.471	A
2 - Hambledon Road (south)	1272	318	361	2364	0.538	1271	1146	0.8	1.2	3.339	A
3 - Elettra Avenue	656	164	1045	1744	0.376	656	586	0.4	0.6	3.314	A
4 - Hambledon Road (north)	661	165	873	1551	0.426	660	828	0.5	0.7	4.067	A

11:45 - 12:00

Am	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 - Milton road	628	157	1218	948	0.662	623	657	0.9	1.9	11.251	B
2 - Hambledon Road (south)	1558	389	440	2301	0.677	1554	1401	1.2	2.1	4.869	A
3 - Elettra Avenue	804	201	1278	1570	0.512	802	717	0.6	1.0	4.689	A
4 - Hambledon Road (north)	809	202	1068	1423	0.569	807	1012	0.7	1.3	5.869	A

12:00 - 12:15

Am	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 - Milton road	628	157	1221	946	0.663	627	658	1.9	2.0	11.584	B
2 - Hambledon Road (south)	1558	389	443	2300	0.677	1558	1406	2.1	2.1	4.925	A
3 - Elettra Avenue	804	201	1282	1567	0.513	804	719	1.0	1.0	4.724	A
4 - Hambledon Road (north)	809	202	1070	1422	0.569	809	1015	1.3	1.3	5.926	A

12:15 - 12:30

Am	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 - Milton road	512	128	1000	1079	0.475	517	539	2.0	0.9	6.628	A
2 - Hambledon Road (south)	1272	318	364	2361	0.539	1276	1153	2.1	1.2	3.379	A
3 - Elettra Avenue	656	164	1050	1741	0.377	658	589	1.0	0.6	3.338	A
4 - Hambledon Road (north)	661	165	876	1549	0.427	663	832	1.3	0.8	4.106	A

12:30 - 12:45

Am	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 - Milton road	429	107	836	1177	0.365	431	451	0.9	0.6	4.963	A
2 - Hambledon Road (south)	1065	266	303	2408	0.442	1067	963	1.2	0.8	2.729	A
3 - Elettra Avenue	550	137	878	1869	0.294	550	493	0.6	0.4	2.739	A
4 - Hambledon Road (north)	553	138	733	1643	0.337	554	695	0.8	0.5	3.337	A

(Default Analysis Set) - 2026 Base + Com Dev + Dev, AM DIRECT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Elettra Avenue - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
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	(untitled)	Standard Roundabout		1, 2, 3, 4	9.87	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	9.87	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D13	2026 Base + Com Dev + Dev	AM DIRECT	DIRECT	07:30	09:30	120	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Milton road		DIRECT	✓	100.000
2 - Hambledon Road (south)		DIRECT	✓	100.000
3 - Elettra Avenue		DIRECT	✓	100.000
4 - Hambledon Road (north)		DIRECT	✓	100.000

Origin-Destination Data

Demand (PCU/hr)

07:30 -
07:45

		To			
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	425	125	83
	2 - Hambledon Road (south)	215	8	402	533
	3 - Elettra Avenue	103	297	0	141
	4 - Hambledon Road (north)	21	739	115	29

Demand (PCU/hr)

07:45 -
08:00

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	463	199	46
	2 - Hambledon Road (south)	319	29	439	628
	3 - Elettra Avenue	107	277	0	187
	4 - Hambledon Road (north)	25	718	123	25

Demand (PCU/hr)

08:00 -
08:15

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	475	174	108
	2 - Hambledon Road (south)	327	4	481	570
	3 - Elettra Avenue	194	297	0	116
	4 - Hambledon Road (north)	37	772	115	50

Demand (PCU/hr)

08:15 -
08:30

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	409	150	124
	2 - Hambledon Road (south)	298	37	274	632
	3 - Elettra Avenue	115	388	0	178
	4 - Hambledon Road (north)	50	776	152	70

Demand (PCU/hr)

08:30 -
08:45

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	463	166	74
	2 - Hambledon Road (south)	315	50	493	723
	3 - Elettra Avenue	140	339	0	174
	4 - Hambledon Road (north)	41	697	160	50

Demand (PCU/hr)

08:45 -
09:00

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	425	137	79
	2 - Hambledon Road (south)	389	41	622	707
	3 - Elettra Avenue	140	355	0	191
	4 - Hambledon Road (north)	46	896	152	41

Demand (PCU/hr)

09:00 -
09:15

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	363	121	87
	2 - Hambledon Road (south)	356	46	568	773
	3 - Elettra Avenue	173	438	0	166
	4 - Hambledon Road (north)	46	813	57	87

Demand (PCU/hr)

09:15 -
09:30

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	351	154	29
	2 - Hambledon Road (south)	364	50	402	649
	3 - Elettra Avenue	173	430	0	207
	4 - Hambledon Road (north)	41	652	156	50

Vehicle Mix

Heavy Vehicle Percentages

	To				
From		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
	1 - Milton road	0	0	0	0
	2 - Hambledon Road (south)	0	0	0	0
	3 - Elettra Avenue	0	0	0	0
	4 - Hambledon Road (north)	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 - Milton road	0.83	24.17	4.3	C	654	1308
2 - Hambledon Road (south)	0.76	6.27	3.0	A	1468	2936
3 - Elettra Avenue	0.51	4.85	1.0	A	666	1332
4 - Hambledon Road (north)	0.75	9.15	2.9	A	975	1951

Main Results for each time segment

07:30 - 07:45

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 - Milton road	633	158	1183	969	0.653	626	338	0.0	1.8	10.277	B
2 - Hambledon Road (south)	1158	290	349	2373	0.488	1154	1460	0.0	0.9	2.946	A
3 - Elettra Avenue	541	135	864	1879	0.288	539	639	0.0	0.4	2.683	A
4 - Hambledon Road (north)	904	226	621	1717	0.527	900	783	0.0	1.1	4.381	A

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 - Milton road	708	177	1172	976	0.726	705	450	1.8	2.5	13.146	B
2 - Hambledon Road (south)	1415	354	392	2339	0.605	1413	1485	0.9	1.5	3.876	A
3 - Elettra Avenue	571	143	1046	1744	0.327	571	759	0.4	0.5	3.069	A
4 - Hambledon Road (north)	891	223	731	1645	0.542	891	885	1.1	1.2	4.773	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 - Milton road	757	189	1237	937	0.808	752	558	2.5	3.8	18.847	C
2 - Hambledon Road (south)	1382	346	444	2298	0.601	1382	1544	1.5	1.5	3.931	A
3 - Elettra Avenue	607	152	1058	1735	0.350	607	769	0.5	0.5	3.191	A
4 - Hambledon Road (north)	974	244	822	1585	0.614	972	843	1.2	1.6	5.860	A

08:15 - 08:30

Am	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 - Milton road	683	171	1421	826	0.827	681	463	3.8	4.3	24.166	C
2 - Hambledon Road (south)	1241	310	494	2259	0.549	1242	1608	1.5	1.2	3.542	A
3 - Elettra Avenue	681	170	1160	1658	0.411	680	576	0.5	0.7	3.680	A
4 - Hambledon Road (north)	1048	262	838	1574	0.666	1046	1003	1.6	2.0	6.797	A

08:30 - 08:45

Am	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 - Milton road	703	176	1298	900	0.781	705	495	4.3	3.8	18.745	C
2 - Hambledon Road (south)	1581	395	452	2292	0.690	1577	1551	1.2	2.2	5.008	A
3 - Elettra Avenue	653	163	1212	1620	0.403	653	818	0.7	0.7	3.723	A
4 - Hambledon Road (north)	948	237	843	1571	0.604	950	1021	2.0	1.5	5.810	A

08:45 - 09:00

Am	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 - Milton road	641	160	1480	791	0.810	640	574	3.8	4.0	23.528	C
2 - Hambledon Road (south)	1759	440	408	2326	0.756	1756	1712	2.2	3.0	6.268	A
3 - Elettra Avenue	686	172	1255	1587	0.432	686	909	0.7	0.8	3.991	A
4 - Hambledon Road (north)	1135	284	924	1518	0.748	1130	1017	1.5	2.9	9.152	A

09:00 - 09:15

Am	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 - Milton road	571	143	1443	813	0.702	577	575	4.0	2.5	15.617	C
2 - Hambledon Road (south)	1743	436	354	2369	0.736	1744	1665	3.0	2.8	5.770	A
3 - Elettra Avenue	777	194	1349	1517	0.512	776	749	0.8	1.0	4.852	A
4 - Hambledon Road (north)	1003	251	1012	1460	0.687	1005	1113	2.9	2.3	7.969	A

09:15 - 09:30

Am	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 - Milton road	534	134	1341	874	0.611	537	579	2.5	1.6	10.792	B
2 - Hambledon Road (south)	1465	366	390	2341	0.626	1470	1488	2.8	1.7	4.154	A
3 - Elettra Avenue	810	203	1146	1668	0.485	810	713	1.0	1.0	4.197	A
4 - Hambledon Road (north)	899	225	1018	1456	0.617	901	939	2.3	1.6	6.523	A

(Default Analysis Set) - 2026 Base + Com Dev, AM DIRECT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Elettra Avenue - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
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	(untitled)	Standard Roundabout		1, 2, 3, 4	7.80	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.80	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D14	2026 Base + Com Dev	AM DIRECT	DIRECT	07:30	09:30	120	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Milton road		DIRECT	✓	100.000
2 - Hambledon Road (south)		DIRECT	✓	100.000
3 - Elettra Avenue		DIRECT	✓	100.000
4 - Hambledon Road (north)		DIRECT	✓	100.000

Origin-Destination Data

Demand (PCU/hr)

07:30 -
07:45

		To			
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	430	104	83
	2 - Hambledon Road (south)	219	8	288	534
	3 - Elettra Avenue	90	225	0	131
	4 - Hambledon Road (north)	21	741	97	29

Demand (PCU/hr)

07:45 -
08:00

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	468	178	46
	2 - Hambledon Road (south)	323	29	325	629
	3 - Elettra Avenue	94	204	0	177
	4 - Hambledon Road (north)	25	720	106	25

Demand (PCU/hr)

08:00 -
08:15

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	480	153	108
	2 - Hambledon Road (south)	331	4	367	571
	3 - Elettra Avenue	181	225	0	106
	4 - Hambledon Road (north)	37	774	97	50

Demand (PCU/hr)

08:15 -
08:30

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	414	128	124
	2 - Hambledon Road (south)	302	37	160	633
	3 - Elettra Avenue	102	316	0	168
	4 - Hambledon Road (north)	50	778	135	70

Demand (PCU/hr)

08:30 -
08:45

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	468	145	74
	2 - Hambledon Road (south)	319	50	379	724
	3 - Elettra Avenue	127	266	0	164
	4 - Hambledon Road (north)	41	699	143	50

Demand (PCU/hr)

08:45 -
09:00

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	430	116	79
	2 - Hambledon Road (south)	393	41	507	708
	3 - Elettra Avenue	127	283	0	181
	4 - Hambledon Road (north)	46	898	135	41

Demand (PCU/hr)

09:00 -
09:15

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	368	99	87
	2 - Hambledon Road (south)	360	46	454	774
	3 - Elettra Avenue	160	365	0	156
	4 - Hambledon Road (north)	46	815	40	87

Demand (PCU/hr)

09:15 -
09:30

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	351	154	29
	2 - Hambledon Road (south)	364	50	402	649
	3 - Elettra Avenue	173	430	0	207
	4 - Hambledon Road (north)	41	652	156	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	0	0	0
	2 - Hambledon Road (south)	0	0	0	0
	3 - Elettra Avenue	0	0	0	0
	4 - Hambledon Road (north)	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 - Milton road	0.76	16.78	3.0	C	640	1279
2 - Hambledon Road (south)	0.70	5.06	2.3	A	1373	2745
3 - Elettra Avenue	0.47	4.32	0.9	A	582	1165
4 - Hambledon Road (north)	0.71	7.84	2.4	A	956	1911

Main Results for each time segment

07:30 - 07:45

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 - Milton road	617	154	1095	1022	0.604	611	329	0.0	1.5	8.649	A
2 - Hambledon Road (south)	1049	262	311	2403	0.437	1046	1396	0.0	0.8	2.648	A
3 - Elettra Avenue	446	112	870	1875	0.238	445	487	0.0	0.3	2.514	A
4 - Hambledon Road (north)	888	222	540	1770	0.502	884	774	0.0	1.0	4.047	A

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 - Milton road	692	173	1084	1029	0.673	690	441	1.5	2.0	10.562	B
2 - Hambledon Road (south)	1306	327	354	2369	0.551	1304	1420	0.8	1.2	3.375	A
3 - Elettra Avenue	475	119	1051	1740	0.273	475	608	0.3	0.4	2.845	A
4 - Hambledon Road (north)	876	219	649	1698	0.516	876	876	1.0	1.1	4.375	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 - Milton road	741	185	1149	990	0.749	738	549	2.0	2.8	14.082	B
2 - Hambledon Road (south)	1273	318	406	2328	0.547	1273	1480	1.2	1.2	3.412	A
3 - Elettra Avenue	512	128	1063	1731	0.296	512	616	0.4	0.4	2.953	A
4 - Hambledon Road (north)	958	240	741	1638	0.585	957	834	1.1	1.4	5.270	A

08:15 - 08:30

Am	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 - Milton road	666	167	1334	878	0.758	665	454	2.8	3.0	16.785	C
2 - Hambledon Road (south)	1132	283	456	2289	0.495	1133	1544	1.2	1.0	3.117	A
3 - Elettra Avenue	586	147	1165	1654	0.354	585	424	0.4	0.5	3.366	A
4 - Hambledon Road (north)	1033	258	757	1628	0.635	1032	994	1.4	1.7	6.027	A

08:30 - 08:45

Am	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 - Milton road	687	172	1209	953	0.721	688	487	3.0	2.7	13.676	B
2 - Hambledon Road (south)	1472	368	413	2322	0.634	1469	1484	1.0	1.7	4.204	A
3 - Elettra Avenue	557	139	1217	1616	0.345	557	666	0.5	0.5	3.401	A
4 - Hambledon Road (north)	933	233	762	1625	0.574	934	1012	1.7	1.4	5.228	A

08:45 - 09:00

Am	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 - Milton road	625	156	1394	843	0.742	625	565	2.7	2.8	16.448	C
2 - Hambledon Road (south)	1649	412	371	2356	0.700	1647	1648	1.7	2.3	5.058	A
3 - Elettra Avenue	591	148	1260	1583	0.373	591	757	0.5	0.6	3.627	A
4 - Hambledon Road (north)	1120	280	843	1571	0.713	1116	1008	1.4	2.4	7.838	A

09:00 - 09:15

Am	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 - Milton road	554	139	1354	866	0.640	558	566	2.8	1.8	11.812	B
2 - Hambledon Road (south)	1634	409	315	2400	0.681	1635	1598	2.3	2.2	4.710	A
3 - Elettra Avenue	681	170	1354	1513	0.450	680	595	0.6	0.8	4.316	A
4 - Hambledon Road (north)	988	247	930	1514	0.653	990	1104	2.4	1.9	6.905	A

09:15 - 09:30

Am	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 - Milton road	534	134	1290	905	0.590	535	578	1.8	1.5	9.782	A
2 - Hambledon Road (south)	1465	366	339	2380	0.615	1467	1486	2.2	1.6	3.951	A
3 - Elettra Avenue	810	203	1095	1707	0.475	810	712	0.8	0.9	4.011	A
4 - Hambledon Road (north)	849	212	1017	1457	0.583	851	888	1.9	1.4	5.966	A



Appendix D

TRL Junctions Report:

Proposed Geometry – Entry Sim

Baseline Traffic; Baseline + Outline Application; and, Baseline + Outline & Net Development

Junctions 10									
ARCADY 10 - Roundabout Module									
Version: 10.0.2.1574									
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Filename: Hambledon Road_Milton Road_Elettra Av Mit (2021) Entry Sim (RevC).j10

Path: P:\19000's\19235\Technical\Junction Modelling 2022\ARCADY\ARCADY

Report generation date: 10/04/2022 10:39:44

- »(Default Analysis Set) - 2026 Base + Com Dev, PM
- »(Default Analysis Set) - 2026 Base + Com Dev, SAT
- »(Default Analysis Set) - 2026 Base + Com Dev + Dev, PM
- »(Default Analysis Set) - 2026 Base + Com Dev + Dev, SAT
- »(Default Analysis Set) - 2026 Base + Com Dev + Dev Sens, AM
- »(Default Analysis Set) - 2026 Base + Com Dev + Dev Sens, PM
- »(Default Analysis Set) - 2026 Base + Com Dev + Dev Sens, SAT
- »(Default Analysis Set) - 2026 Base + Com Dev + Dev, AM DIRECT
- »(Default Analysis Set) - 2026 Base + Com Dev, AM DIRECT

Summary of junction performance

	PM					SAT					AM					AM DIRECT			
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC
	A1 [Lane Simulation] - 2026 Base + Com Dev																		
1 - Milton road	D5	4.7	31.53		D	D6	4.8	24.59		C						D14	7.3	32.89	
2 - Hambledon Road (south)		8.4	14.18		B		5.0	10.72		B							7.0	15.51	
3 - Elettra Avenue		7.6	26.66		D		2.2	9.03		A							1.9	8.65	
4 - Hambledon Road (north)		4.6	18.70		C		1.9	8.22		A							3.0	10.15	
	A1 [Lane Simulation] - 2026 Base + Com Dev + Dev																		
1 - Milton road	D8	4.7	33.15		D	D9	4.9	21.01		C						D13	13.1	60.32	
2 - Hambledon Road (south)		9.4	17.06		C		5.9	12.76		B							18.0	37.71	
3 - Elettra Avenue		14.1	46.10		E		2.6	9.81		A							2.3	10.11	
4 - Hambledon Road (north)		5.3	21.57		C		2.2	8.59		A							3.8	11.35	
	A1 [Lane Simulation] - 2026 Base + Com Dev + Dev Sens																		
1 - Milton road	D11	4.8	32.16		D	D12	4.3	24.79		C	D10	16.2	83.16		F				
2 - Hambledon Road (south)		8.7	16.03		C		4.7	11.85		B		10.2	22.29		C				
3 - Elettra Avenue		14.0	42.29		E		2.3	9.71		A		1.9	9.55		A				
4 - Hambledon Road (north)		6.2	23.50		C		2.0	8.84		A		4.7	13.32		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. Arm and junction delays are averages for all movements, including movements with zero delay.

File summary

File Description

Title	Hambledon Road/ Milton Road/ Elettra Avenue
Location	Waterlooville
Site number	
Date	19/10/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	19235
Enumerator	DTA\arcady
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

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	✓			1952404410	106	18.60

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2021 Base	AM	ONE HOUR	08:00	09:30		15	
D2	2021 Base	PM	ONE HOUR	16:30	18:00		15	
D3	2021 Base	SAT	ONE HOUR	11:15	12:45		15	
D4	2026 Base + Com Dev	AM	ONE HOUR	08:00	09:30		15	
D5	2026 Base + Com Dev	PM	ONE HOUR	16:30	18:00		15	✓
D6	2026 Base + Com Dev	SAT	ONE HOUR	11:15	12:45		15	✓
D7	2026 Base + Com Dev + Dev	AM	ONE HOUR	08:00	09:30		15	
D8	2026 Base + Com Dev + Dev	PM	ONE HOUR	16:30	18:00		15	✓
D9	2026 Base + Com Dev + Dev	SAT	ONE HOUR	11:15	12:45		15	✓
D10	2026 Base + Com Dev + Dev Sens	AM	ONE HOUR	08:00	09:30		15	✓
D11	2026 Base + Com Dev + Dev Sens	PM	ONE HOUR	16:30	18:00		15	✓
D12	2026 Base + Com Dev + Dev Sens	SAT	ONE HOUR	11:15	12:45		15	✓
D13	2026 Base + Com Dev + Dev	AM DIRECT	DIRECT	07:30	09:30	120	15	✓
D14	2026 Base + Com Dev	AM DIRECT	DIRECT	07:30	09:30	120	15	✓

Analysis Set Details

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

(Default Analysis Set) - 2026 Base + Com Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Elettra Avenue - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
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	(untitled)	Standard Roundabout		1, 2, 3, 4	20.31	C

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	20.31	C

Arms

Arms

Arm	Name	Description	No give-way line
1	Milton road		
2	Hambleton Road (south)		
3	Elettra Avenue		
4	Hambleton Road (north)		

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 - Milton road	3.00	7.40	15.0	20.0	54.0	15.2		
2 - Hambleton Road (south)	7.30	8.05	12.7	47.5	54.0	18.0		
3 - Elettra Avenue	3.00	10.50	52.6	18.0	54.0	22.0		
4 - Hambleton Road (north)	6.80	7.50	5.0	15.0	54.0	36.0		

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct intercept adjustment (PCU/hr)
1 - Milton road	Direct		0
2 - Hambleton Road (south)	None		
3 - Elettra Avenue	None		
4 - Hambleton Road (north)	None		

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Milton road	0.600	1679
2 - Hambleton Road (south)	0.769	2571
3 - Elettra Avenue	0.747	2525
4 - Hambleton Road (north)	0.657	2125

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct capacity adjustment (PCU/hr)
1 - Milton road	Direct		0

Lane Simulation: Arm options

Arm	Lane capacity source	Traffic considering secondary lanes (%)
1 - Milton road	Evenly split	10.00
2 - Hambledon Road (south)	Evenly split	33.00
3 - Elettra Avenue	Evenly split	10.00
4 - Hambledon Road (north)	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 - Milton road	Entry	1	1	2	✓	3.00			0	99999	
			2	1, 2, 3, 4	✓	3.00			0	99999	
			2	1	(1, 2, 3, 4)		Infinity				
	Exit	1	1			Infinity					
2 - Hambledon Road (south)	Entry	1	1	3, 4		Infinity			0	99999	
			2	1, 2, (4)		Infinity			0	99999	
	Exit	1	1			Infinity					
3 - Elettra Avenue	Entry	1	1	1, 4	✓	10.00			0	99999	
			2	2, 3	✓	10.00			0	99999	
			2	1	(1, 2, 3, 4)		Infinity				
	Exit	1	1			Infinity					
4 - Hambledon Road (north)	Entry	1	1	1, 2		Infinity			0	99999	
			2	2, 3, 4		Infinity			0	99999	
	Exit	1	1			Infinity					

Entry Lane slope and intercept

Arm	Side	Lane level	Lane	Final slope	Final intercept (PCU/hr)
1 - Milton road	Entry	1	1	0.300	839
			2	0.300	839
2 - Hambledon Road (south)	Entry	1	1	0.384	1286
			2	0.384	1286
3 - Elettra Avenue	Entry	1	1	0.373	1262
			2	0.373	1262
4 - Hambledon Road (north)	Entry	1	1	0.329	1062
			2	0.329	1062

Summary of Entry Lane allowed movements

Arm	Lane Level	Lane	Destination arm			
			Milton road	Hambledon Road (south)	Elettra Avenue	Hambledon Road (north)
1 - Milton road	1	1		✓		
		2	✓	✓	✓	✓
	2	1	✓	✓	✓	✓
2 - Hambledon Road (south)	1	1			✓	✓
		2	✓	✓		
3 - Elettra Avenue	1	1	✓			✓
		2		✓	✓	
	2	1	✓	✓	✓	✓
4 - Hambledon Road (north)	1	1	✓	✓		
		2		✓	✓	✓

Summary of Entry Lane allowed secondary movements

Arm	Lane Level	Lane	Destination arm			
			Milton road	Hambledon Road (south)	Elettra Avenue	Hambledon Road (north)
1 - Milton road	1	1				
		2				
2 - Hambledon Road (south)	1	1				
		2				✓
3 - Elettra Avenue	1	1				
		2				
4 - Hambledon Road (north)	1	1				
		2				

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	2026 Base + Com Dev	PM	ONE HOUR	16:30	18:00	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)

Am	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Milton road		ONE HOUR	✓	498	100.000
2 - Hambledon Road (south)		ONE HOUR	✓	1661	100.000
3 - Elettra Avenue		ONE HOUR	✓	913	100.000
4 - Hambledon Road (north)		ONE HOUR	✓	799	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	313	138	47
	2 - Hambledon Road (south)	539	102	308	712
	3 - Elettra Avenue	256	459	0	198
	4 - Hambledon Road (north)	43	596	125	35

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	4	0	1
	2 - Hambledon Road (south)	3	2	0	6
	3 - Elettra Avenue	0	1	0	1
	4 - Hambledon Road (north)	0	4	0	1

Results

Results Summary for whole modelled period

Am	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Milton road	31.53	4.7	D	461	691
2 - Hambledon Road (south)	14.18	8.4	B	1520	2281
3 - Elettra Avenue	26.66	7.6	D	836	1254
4 - Hambledon Road (north)	18.70	4.6	C	730	1095

(Default Analysis Set) - 2026 Base + Com Dev, SAT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Elettra Avenue - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
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	(untitled)	Standard Roundabout		1, 2, 3, 4	12.30	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	12.30	B

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	2026 Base + Com Dev	SAT	ONE HOUR	11:15	12:45	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 - Milton road		ONE HOUR	✓	602	100.000
2 - Hambledon Road (south)		ONE HOUR	✓	1390	100.000
3 - Elettra Avenue		ONE HOUR	✓	687	100.000
4 - Hambledon Road (north)		ONE HOUR	✓	719	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	368	168	66
	2 - Hambledon Road (south)	405	27	314	644
	3 - Elettra Avenue	199	330	0	158
	4 - Hambledon Road (north)	25	525	132	37

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	4	1	0
	2 - Hambledon Road (south)	3	0	1	1
	3 - Elettra Avenue	0	0	0	1
	4 - Hambledon Road (north)	4	1	0	0

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 - Milton road	24.59	4.8	C	552	828
2 - Hambledon Road (south)	10.72	5.0	B	1275	1912
3 - Elettra Avenue	9.03	2.2	A	637	956
4 - Hambledon Road (north)	8.22	1.9	A	662	994

(Default Analysis Set) - 2026 Base + Com Dev + Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Elettra Avenue - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
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	(untitled)	Standard Roundabout		1, 2, 3, 4	27.17	D

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	27.17	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
D8	2026 Base + Com Dev + Dev	PM	ONE HOUR	16:30	18:00	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 - Milton road		ONE HOUR	✓	476	100.000
2 - Hambledon Road (south)		ONE HOUR	✓	1719	100.000
3 - Elettra Avenue		ONE HOUR	✓	1002	100.000
4 - Hambledon Road (north)		ONE HOUR	✓	790	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
From		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
	1 - Milton road	0	302	127	47
	2 - Hambledon Road (south)	528	102	381	708
	3 - Elettra Avenue	248	557	0	197
	4 - Hambledon Road (north)	43	592	120	35

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	4	0	1
	2 - Hambledon Road (south)	3	2	0	1
	3 - Elettra Avenue	0	1	0	1
	4 - Hambledon Road (north)	2	3	1	0

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 - Milton road	33.15	4.7	D	439	659
2 - Hambledon Road (south)	17.06	9.4	C	1582	2372
3 - Elettra Avenue	46.10	14.1	E	920	1380
4 - Hambledon Road (north)	21.57	5.3	C	726	1089

(Default Analysis Set) - 2026 Base + Com Dev + Dev, SAT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Elettra Avenue - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
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	(untitled)	Standard Roundabout		1, 2, 3, 4	12.66	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	12.66	B

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	2026 Base + Com Dev + Dev	SAT	ONE HOUR	11:15	12:45	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 - Milton road		ONE HOUR	✓	570	100.000
2 - Hambledon Road (south)		ONE HOUR	✓	1445	100.000
3 - Elettra Avenue		ONE HOUR	✓	730	100.000
4 - Hambledon Road (north)		ONE HOUR	✓	705	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	357	147	66
	2 - Hambledon Road (south)	394	27	384	640
	3 - Elettra Avenue	179	402	0	149
	4 - Hambledon Road (north)	25	521	122	37

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	4	1	0
	2 - Hambledon Road (south)	3	0	1	1
	3 - Elettra Avenue	0	0	0	1
	4 - Hambledon Road (north)	4	1	0	0

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 - Milton road	21.01	4.9	C	523	784
2 - Hambledon Road (south)	12.76	5.9	B	1331	1996
3 - Elettra Avenue	9.81	2.6	A	671	1006
4 - Hambledon Road (north)	8.59	2.2	A	636	954

(Default Analysis Set) - 2026 Base + Com Dev + Dev Sens, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Elettra Avenue - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
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	(untitled)	Standard Roundabout		1, 2, 3, 4	27.42	D

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	27.42	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
D10	2026 Base + Com Dev + Dev Sens	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 - Milton road		ONE HOUR	✓	608	100.000
2 - Hambledon Road (south)		ONE HOUR	✓	1511	100.000
3 - Elettra Avenue		ONE HOUR	✓	611	100.000
4 - Hambledon Road (north)		ONE HOUR	✓	1067	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	415	102	91
	2 - Hambledon Road (south)	339	43	420	709
	3 - Elettra Avenue	113	303	0	195
	4 - Hambledon Road (north)	46	796	163	62

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	4	0	1
	2 - Hambledon Road (south)	10	0	1	6
	3 - Elettra Avenue	2	8	0	3
	4 - Hambledon Road (north)	3	3	3	0

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 - Milton road	83.16	16.2	F	557	835
2 - Hambledon Road (south)	22.29	10.2	C	1384	2077
3 - Elettra Avenue	9.55	1.9	A	562	843
4 - Hambledon Road (north)	13.32	4.7	B	984	1476

(Default Analysis Set) - 2026 Base + Com Dev + Dev Sens, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Elettra Avenue - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
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	(untitled)	Standard Roundabout		1, 2, 3, 4	26.10	D

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	26.10	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
D11	2026 Base + Com Dev + Dev Sens	PM	ONE HOUR	16:30	18:00	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 - Milton road		ONE HOUR	✓	476	100.000
2 - Hambledon Road (south)		ONE HOUR	✓	1689	100.000
3 - Elettra Avenue		ONE HOUR	✓	1002	100.000
4 - Hambledon Road (north)		ONE HOUR	✓	820	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	302	127	47
	2 - Hambledon Road (south)	528	102	351	708
	3 - Elettra Avenue	248	527	0	227
	4 - Hambledon Road (north)	43	592	150	35

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	4	0	1
	2 - Hambledon Road (south)	3	2	0	1
	3 - Elettra Avenue	0	1	0	1
	4 - Hambledon Road (north)	2	3	1	0

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 - Milton road	32.16	4.8	D	439	658
2 - Hambledon Road (south)	16.03	8.7	C	1546	2319
3 - Elettra Avenue	42.29	14.0	E	918	1377
4 - Hambledon Road (north)	23.50	6.2	C	753	1130

(Default Analysis Set) - 2026 Base + Com Dev + Dev Sens, SAT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Elettra Avenue - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
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	(untitled)	Standard Roundabout		1, 2, 3, 4	12.90	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	12.90	B

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	2026 Base + Com Dev + Dev Sens	SAT	ONE HOUR	11:15	12:45	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 - Milton road		ONE HOUR	✓	570	100.000
2 - Hambledon Road (south)		ONE HOUR	✓	1415	100.000
3 - Elettra Avenue		ONE HOUR	✓	730	100.000
4 - Hambledon Road (north)		ONE HOUR	✓	735	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	357	147	66
	2 - Hambledon Road (south)	394	27	354	640
	3 - Elettra Avenue	179	372	0	179
	4 - Hambledon Road (north)	25	521	152	37

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	4	1	0
	2 - Hambledon Road (south)	3	0	1	1
	3 - Elettra Avenue	0	0	0	1
	4 - Hambledon Road (north)	4	1	0	0

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 - Milton road	24.79	4.3	C	522	783
2 - Hambledon Road (south)	11.85	4.7	B	1296	1944
3 - Elettra Avenue	9.71	2.3	A	667	1001
4 - Hambledon Road (north)	8.84	2.0	A	672	1008

(Default Analysis Set) - 2026 Base + Com Dev + Dev, AM DIRECT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Elettra Avenue - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
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.
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	(untitled)	Standard Roundabout		1, 2, 3, 4	29.92	D

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	29.92	D

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D13	2026 Base + Com Dev + Dev	AM DIRECT	DIRECT	07:30	09:30	120	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Milton road		DIRECT	✓	100.000
2 - Hambledon Road (south)		DIRECT	✓	100.000
3 - Elettra Avenue		DIRECT	✓	100.000
4 - Hambledon Road (north)		DIRECT	✓	100.000

Origin-Destination Data

Demand (PCU/hr)

07:30 -
07:45

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	425	125	83
	2 - Hambledon Road (south)	215	8	402	533
	3 - Elettra Avenue	103	297	0	141
	4 - Hambledon Road (north)	21	739	115	29

Demand (PCU/hr)

07:45 -
08:00

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	463	199	46
	2 - Hambledon Road (south)	319	29	439	628
	3 - Elettra Avenue	107	277	0	187
	4 - Hambledon Road (north)	25	718	123	25

Demand (PCU/hr)

08:00 -
08:15

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	475	174	108
	2 - Hambledon Road (south)	327	4	481	570
	3 - Elettra Avenue	194	297	0	116
	4 - Hambledon Road (north)	37	772	115	50

Demand (PCU/hr)

08:15 -
08:30

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	409	150	124
	2 - Hambledon Road (south)	298	37	274	632
	3 - Elettra Avenue	115	388	0	178
	4 - Hambledon Road (north)	50	776	152	70

Demand (PCU/hr)

08:30 -
08:45

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	463	166	74
	2 - Hambledon Road (south)	315	50	493	723
	3 - Elettra Avenue	140	339	0	174
	4 - Hambledon Road (north)	41	697	160	50

Demand (PCU/hr)

08:45 -
09:00

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	425	137	79
	2 - Hambledon Road (south)	389	41	622	707
	3 - Elettra Avenue	140	355	0	191
	4 - Hambledon Road (north)	46	896	152	41

Demand (PCU/hr)

09:00 -
09:15

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	363	121	87
	2 - Hambledon Road (south)	356	46	568	773
	3 - Elettra Avenue	173	438	0	166
	4 - Hambledon Road (north)	46	813	57	87

Demand (PCU/hr)

09:15 -
09:30

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	351	154	29
	2 - Hambledon Road (south)	364	50	402	649
	3 - Elettra Avenue	173	430	0	207
	4 - Hambledon Road (north)	41	652	156	50

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	0	0	0
	2 - Hambledon Road (south)	0	0	0	0
	3 - Elettra Avenue	0	0	0	0
	4 - Hambledon Road (north)	0	0	0	0

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 - Milton road	60.32	13.1	F	653	1305
2 - Hambledon Road (south)	37.71	18.0	E	1468	2936
3 - Elettra Avenue	10.11	2.3	B	664	1327
4 - Hambledon Road (north)	11.35	3.8	B	977	1954

(Default Analysis Set) - 2026 Base + Com Dev, AM DIRECT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Elettra Avenue - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
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.
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	(untitled)	Standard Roundabout		1, 2, 3, 4	16.07	C

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	16.07	C

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D14	2026 Base + Com Dev	AM DIRECT	DIRECT	07:30	09:30	120	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Milton road		DIRECT	✓	100.000
2 - Hambledon Road (south)		DIRECT	✓	100.000
3 - Elettra Avenue		DIRECT	✓	100.000
4 - Hambledon Road (north)		DIRECT	✓	100.000

Origin-Destination Data

Demand (PCU/hr)

07:30 -
07:45

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	430	104	83
	2 - Hambledon Road (south)	219	8	288	534
	3 - Elettra Avenue	90	225	0	131
	4 - Hambledon Road (north)	21	741	97	29

Demand (PCU/hr)

07:45 -
08:00

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	468	178	46
	2 - Hambledon Road (south)	323	29	325	629
	3 - Elettra Avenue	94	204	0	177
	4 - Hambledon Road (north)	25	720	106	25

Demand (PCU/hr)

08:00 -
08:15

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	480	153	108
	2 - Hambledon Road (south)	331	4	367	571
	3 - Elettra Avenue	181	225	0	106
	4 - Hambledon Road (north)	37	774	97	50

Demand (PCU/hr)

08:15 -
08:30

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	414	128	124
	2 - Hambledon Road (south)	302	37	160	633
	3 - Elettra Avenue	102	316	0	168
	4 - Hambledon Road (north)	50	778	135	70

Demand (PCU/hr)

08:30 -
08:45

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	468	145	74
	2 - Hambledon Road (south)	319	50	379	724
	3 - Elettra Avenue	127	266	0	164
	4 - Hambledon Road (north)	41	699	143	50

Demand (PCU/hr)

08:45 -
09:00

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	430	116	79
	2 - Hambledon Road (south)	393	41	507	708
	3 - Elettra Avenue	127	283	0	181
	4 - Hambledon Road (north)	46	898	135	41

Demand (PCU/hr)

09:00 -
09:15

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	368	99	87
	2 - Hambledon Road (south)	360	46	454	774
	3 - Elettra Avenue	160	365	0	156
	4 - Hambledon Road (north)	46	815	40	87

Demand (PCU/hr)

09:15 -
09:30

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	351	154	29
	2 - Hambledon Road (south)	364	50	402	649
	3 - Elettra Avenue	173	430	0	207
	4 - Hambledon Road (north)	41	652	156	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	0	0	0
	2 - Hambledon Road (south)	0	0	0	0
	3 - Elettra Avenue	0	0	0	0
	4 - Hambledon Road (north)	0	0	0	0

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 - Milton road	32.89	7.3	D	639	1277
2 - Hambledon Road (south)	15.51	7.0	C	1371	2742
3 - Elettra Avenue	8.65	1.9	A	581	1162
4 - Hambledon Road (north)	10.15	3.0	B	956	1912





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