



Cambridge WWTP Relocation Project

Transport Review – Mike Axon

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Appendices

- Appendix A** **Matters of Consistency and Ambiguity**
- Appendix B** **Summary of Junction Modelling Results**



1.0 Introduction and Summary

- 1.1 My name is Mike Axon. I have a degree in Civil Engineering from City University. I am a Fellow of the Chartered Institution of Highways and Transportation and a Member of the Transport Planning Society. I have over 35 years' experience in the design, implementation and assessment of mobility, transport and highway schemes in the public and private sectors.
- 1.2 I am the Global Director for Transport at SLR Consulting Ltd, an environmental focused organisation with a presence around the world. Prior to this, I was Managing Director of Vectos, a 160 strong company specialising in transport planning, highway engineering and research and demonstration, largely for the EU, in the social science, trends and psychology underpinning transport and mobility. Vectos was acquired by SLR in 2021.
- 1.3 I am a past DCE (Design Council Expert) with The Design Council, and the current Chair of the NLA (New London Architecture) Expert Panel for Transport and Infrastructure. I am also a Director of a leisure business and Chair of an estate management company.
- 1.4 My team and I were appointed by Anglian Water on Friday 15th March to peer review the transport work undertaken by Mott MacDonald (MM) in respect of the Cambridge Waste Water Treatment Plant Relocation Project (CWWTPr) DCO (ref: WW010003), and to provide an independent report on the conclusions.
- 1.5 In doing so I have prioritised our work in this way:
 - 1.5.1 **Consistency and Ambiguity:** Is there consistency within and between reports? We have particularly focussed on the Transport Assessment (REP5 5.4.19.3 ES Vol 4 Appendix 19.3) the Environmental Statement Chapter 19: Traffic & Transport (REP5 5.2.19 ES Vol 2 Chapter 19). What is the consequence of any inconsistencies?
 - 1.5.2 **Approach:** Is the approach proportionate and reasonable? Are the key assumptions appropriate for the purpose of this assessment?
 - 1.5.3 **Modelling:** Is the modelling technically sound and appropriate for the purpose of this assessment?
 - 1.5.4 **Judgements:** What are the effects? Are we in a position to, and do we, agree with the judgements about effects?
 - 1.5.5 **Matters raised by the Examination Panel (ISH4):** Consideration given to the points that have been raised and whether these have been satisfactorily actioned.
- 1.6 The views expressed which I have provided have been prepared in accordance with the guidance of my professional institution. I confirm that the opinions expressed are true and professional opinions, irrespective of by whom I am instructed.



Summary

- 1.7 My expert review has identified errors and inconsistencies in the Transport Assessment and Environmental Statement which give rise to ambiguities. These ambiguities have been corrected.
- 1.8 These inconsistencies and ambiguities are as a result of reporting, transpositional, and updating errors or lack of clarity. There are a few examples of minor mathematical errors. None of these make any discernible difference to the assessment results, and therefore the judgements.
- 1.9 The review has not identified the need for additional mitigation. In terms of the Examining Authorities (ExA) recommendations, and the Secretary of State's decision making, the provisions of paragraph 4.13.7 of the NPSWW have been met in full and development consent should therefore not be withheld on traffic or transport grounds and only limited weight should be applied to the residual effects.
- 1.10 The approach adopted by MM overestimates the impact of development traffic in the traditional peak periods. However, in doing so, and in concluding that even in this scenario that the effects are not significant, it provides an extra layer of comfort and confidence in the judgements at this time.
- 1.11 The reports focus on traffic impact in the traditional commuter peak periods. I have taken the data from the Transport Assessment report and additionally summarised effects outside of these periods across the day as a check on off-peak environmental impacts. This also takes into account the commitment to manage construction traffic movement such that it does not access the site in the stated peak periods.
- 1.12 There is no significant effect and so the conclusions in the submission reports are sound.
- 1.13 The background traffic counts lie in a period that the DfT says in a general advice note may have been affected by the pandemic. With the benefit of hindsight I have checked national statistics and conclude that any such effects are not significant, particularly in the context of this situation. Therefore, I have concluded that the traffic counts are suitable for the purpose of this assessment.
- 1.14 There are some differences between the traffic models prepared, and current guidance on traffic model construction. Our first view was that this would not result in any significant change to the results. However, to check this we asked MM to update its models accordingly. A review of the results corroborated that first view. There was no significant difference in the results, and so my conclusion is that the models and the results in the submission reports can be relied upon when making judgements about effect.
- 1.15 For ease of reporting I have summarised the model results for each arm at each junction for three flow scenarios. The traffic impact effects in every case are small and unlikely to be noticeable.
- 1.16 Given the insignificant traffic impact, the small changes to traffic demand throughout the day, and also the short-lived nature of the time of greatest impact, the peak construction period, I



have concluded that there is no significant adverse effect due to development related traffic, either during construction or during subsequent operation.



2.0 Consistency and Ambiguity

- 2.1 There is inconsistency and ambiguity both within the same report, and between reports which include ES Chapter 19: Traffic and Transport [5.2.19] and the ES Appendix 19.3: Transport Assessment [5.4.19.3].
- 2.2 In some cases, updates have been made in one report, but not in another. In other cases, information has not been clearly labelled or explained.
- 2.3 For example, in the ES Chapter 19: Traffic and Transport Revision no. 05 there are stated 'Major: significant' impacts at Horningsea Road / Junction 34¹. This is based on a superseded assessment and is incorrect.
- 2.4 The assessment has already been updated in the ES Chapter 19: Traffic and Transport (Version 6 (26th March 2024)), and the corresponding impact should read 'slight – neutral' impact².
- 2.5 In each case we have asked MM for reasons, and which is the appropriate answer. Where changes need to be made, I have made a judgement about whether or not, or to what extent, each one affects the outcome.
- 2.6 I have compiled a list summarising this. The list includes the outstanding issues raised by the ExA at the March 2024 Issue Specific Hearing (ISH) 3, ISH 4, and specific transport matters relating to the ES Chapter 19: Traffic and Transport and ES Appendix 19.3: Transport Assessment identified by me.
- 2.7 The list is in **Appendix A - 'Matter of Consistency and Ambiguity'**.
- 2.8 MM has updated its TA and ES Chapter to make good these inconsistencies and ambiguities further to discussions between SLR and MM.
- 2.9 In the course of undertaking this exercise, I created a few simple diagrams that helped me understand the position. I include a diagram summarising the timeline in **Figure 2.1** below. I include diagrams that summarise the traffic movement profile and modelling results in later sections.

¹ ES Chapter 19: Traffic and Transport Rev 5 - February 2024 [5.2.19] – Table 4.1 (page 98)

² ES Chapter 19: Traffic and Transport Rev 6 - 26th March 2024 [5.2.19] – Table 4.1 (page 116)



3.0 Approach

- 3.1 MM has agreed the Transport Assessment approach, and the detail of the approach, with the highway authorities, Cambridgeshire County Council (CCC) and National Highways (NH). This agreement was reached through formal pre-application advice from the County Transport Assessment Team, together with their engagement in the Traffic and Access Technical Working Group and discretionary advice given by National Highways either in the Technical Working Group meetings or separate bilateral meetings.
- 3.2 However, there are some elements to the approach that I have stress tested. These are set out below.

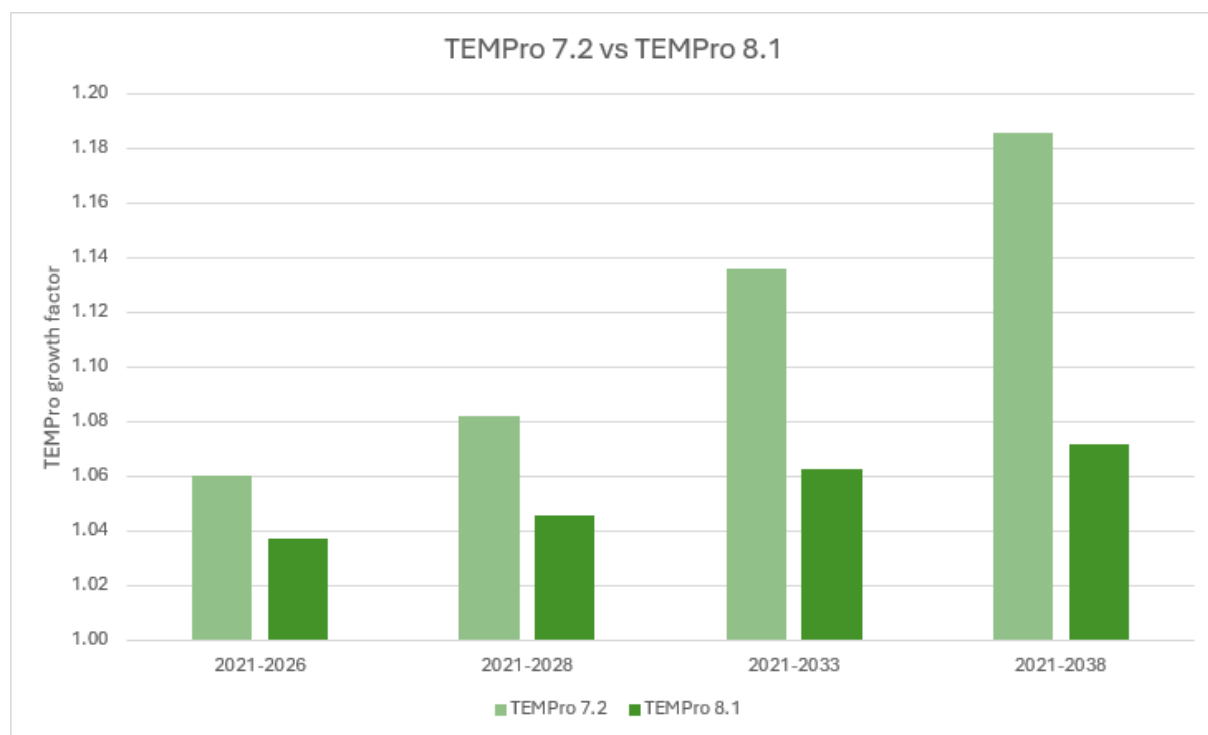
Background Traffic Growth

- 3.3 The chosen approach does not use forecasts from committed development to generate background growth. Instead, it uses a blanket uplift factor as a proxy for committed development, other as yet uncommitted development, and for general demographic and economic forecasts such as population growth and fuel forecasts. These blanket factors, derived through TEMPro, are necessarily rough, but nonetheless one of the industry standard ways of estimating the future.
- 3.4 If network performance was at its limit, then greater finesse in estimation would be appropriate. However, model results across the network show a comfortable level of performance. Given this, my judgement is that finessing background traffic estimations further would make no practical difference.
- 3.5 The TEMPro forecasts applied come from a now out of date version, TEMPro 7.2⁴. The latest version, TEMPro 8.1, was issued in September 2023, and contains substantially lower forecasts for traffic growth. However, it is acknowledged that MM used the available version of TEMPro at the time. **Figure 3.1** shows the difference between the two versions.

⁴ ES Appendix 19.1: Transport Assessment Rev 6 – 26th March 2024 [5.4.19.3] – Table 7.1 (page 104)



Figure 3.1 – Comparison of TEMPro 7.2 vs 8.1



- 3.6 For instance, the traffic growth forecast from 2021 to 2038 in the current version is just 39% of that in the superseded version.
- 3.7 The consequence of this is an overestimate of background traffic on the network, although not to the extent that this is likely to make a difference to any of the assessments either way. In traffic impact terms it provides extra cause for comfort in that the assessment in the TA is more robust than it needs to be in this respect. There is certainly no reason to change the judgements made as a result of the assessments on the basis of this difference in forecasts.

Period of Assessment

- 3.8 The period that has been assessed is the 'peak construction' period. However, this period lasts for nine months (Jul 2026 – Mar 2027) in a 51 month period⁵.
- 3.9 I explain this in Section 4.
- 3.10 In my view, judgements about environmental effect need to be cognisant of the length of the period over which effects take place, including the temporary nature of the effects, or not. In this case the relatively temporary nature of the 'peak construction' effects will have reduced importance compared with effects incident over a longer period. However, even in this scenario, the transport impacts, based on the models, are not significant.

⁵ ES Appendix 19.1: Transport Assessment Rev 6 – 26th March 2024 [5.4.19.3] – Figure 7.10 (page 116)



Assessment: Time in the Day

- 3.11 The assessment has been undertaken for the traditional commuter peak periods, the morning (08:00-09:00) and evening (17:00-18:00) peaks.
- 3.12 As it is not the purpose of planning policy to protect the convenience of the commuting car driver⁶, the bar is set high for establishing that there is 'severe' effect in the context of the NPPF paragraph 115. However, it is pertinent to understand whether there is a significant effect on matters other than driver delay. In some cases, those effects may be more pronounced at times other than the traditional commuter peak.
- 3.13 The ES identifies what those issues might be, but it is not as clear on the periods outside of the commuter peaks. For that reason, I have extracted the data from the evidence on daily demand profile and compared it with the data on background traffic flow.
- 3.14 This is set out in Section 4.
- 3.15 In all cases, the proportion change in total vehicles is less than 30%. The figure of 30% is pertinent as it is the IEMA guidelines rule of thumb for a 'slight' environmental effect⁷. In addition, the guidelines also identify that "very low baselines are unlikely to experience severance impacts even with high percentage changes in traffic". Therefore, even if there were a greater than 30% change, a judgement still needs to be made on the basis of the individual merits of the case.
- 3.16 Therefore, I'm satisfied that even though the reports do not explicitly refer to periods outside the traditional commuter period (which includes peak hours and the shoulder periods around the peak hours), that there is no significant environmental effect due to traffic as a result of the scheme.

Traffic Surveys

- 3.17 The TEMPro V8.1 Release Notes advise that traffic patterns in 2020 and 2021 were "certainly atypical of usual travel behaviour". The guidance is that "a traffic model should not be based on traffic data collected between 2020 and 2021. It says that in 2022 patterns are more normal, but it is too soon to regard them as stable"⁸.
- 3.18 The traffic surveys undertaken were in December 2021, with a check count undertaken in May 2022 i.e., within this period.
- 3.19 However, I understand the pragmatic reason for surveys being undertaken at these times, this being in the interests of moving forward. I also note that the highway authorities are satisfied that these counts are sufficiently representative for the purposes of assessment. Cambridgeshire County Council (CCC) and National Highways are the guardians of the local and strategic road networks, and they know their networks best.

⁶ SoS Decision for Hartford Appeal [APP/A0665/A/12/2179410 & 2179374] – paragraph 8.40

⁷ IEMA Environmental Assessment of Traffic And Movement (July 2023) (page 11)

⁸ TEMPro V8.1 Release Note (June 2022)



- 3.20 Furthermore, with the benefit of hindsight we now understand better the effects of the pandemic on traffic flows in 2021 and 2022. The DfT provides national data on traffic indices by road class. For the type of road class in the vicinity of the site, these indices indicate a general uplift of 12% between 2021 and 2023, when life was considered to have returned to normality.
- 3.21 This is akin to what is usually considered daily variation (at least plus or minus 10%)⁹.
- 3.22 Therefore, given this, given the Highway Authority's agreement, given the overestimates of traffic made elsewhere, and also given the function of traffic modelling as a tool from which judgements are made, I don't see any reason to adjust the assessments or judgements on this basis.
- 3.23 If the network was close to the limit, I would be more concerned in refining and checking the assessment. However, it is not close to that limit, and is not sensitive to large changes in assumption.

⁹ IEMA Environmental Assessment of Traffic And Movement (July 2023) (page 11) – paragraph 2.18



4.0 Development Traffic

- 4.1 **Figure 4.1** takes the data from the TA¹⁰ and summarises total development related vehicle and HGV movements at the site access month by month from start of construction to end of construction and start of operation. It provides an indication of relative intensity of operation across the entire period.
- 4.2 I have also included a modified version of Figure 2.1 (now **Figure 4.2**) again here, so the timeline can be seen side by side with the site access movement profile.

¹⁰ ES Appendix 19.1: Transport Assessment Rev 6 – 26th March 2024 [5.4.19.3] – Figure 7.1 (page 105) & Table 7-5 (page 108)



Figure 4.1 – CWWTPR Daily Vehicle Movement at Site Access

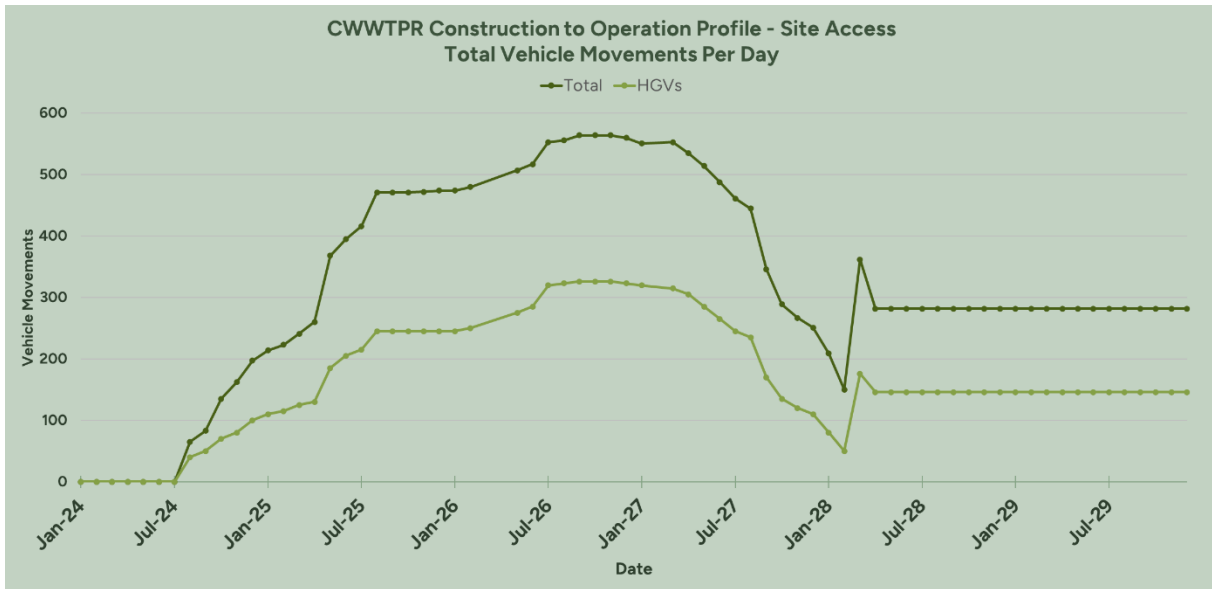
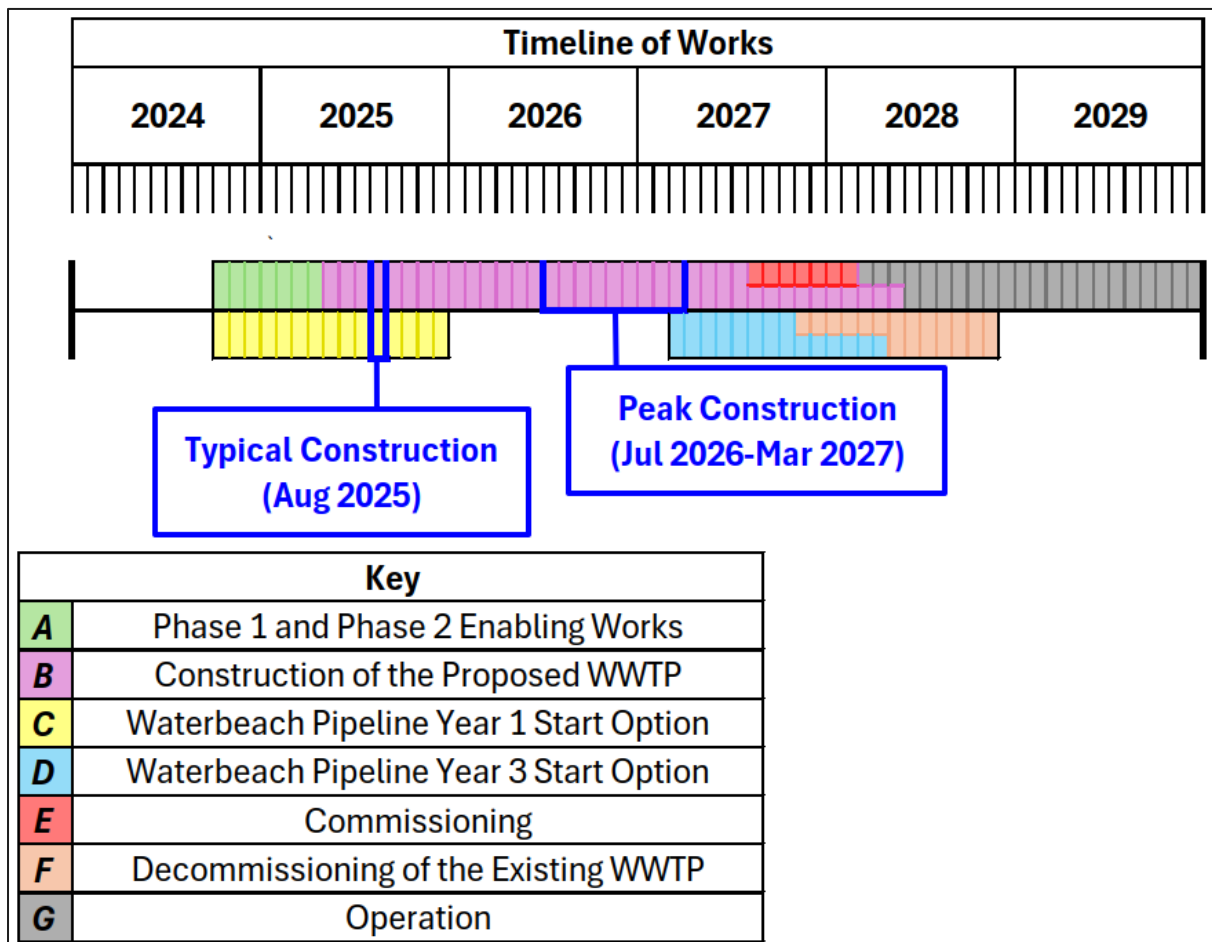


Figure 4.2 – Timeline



- 4.3 The TA picks a period called ‘peak construction’ to assess traffic impact on the network¹¹. The TA defines this as a three month period in 2026 (Sep 2026-Nov 2026).
- 4.4 However, this period lasts for approximately nine months (based on the data in **Figure 4.1** we consider it longer than that quoted in the TA) of the 51 month construction period.
- 4.5 For the purpose of traffic impact assessment the TA also added to the 2026 peak construction period the traffic related to the Waterbeach pipeline construction, the timetable for which is either in 2025 or 2027 depending on which start date option is chosen¹² i.e., neither of which overlap significantly with the main Waste Water Treatment Plant (WWTP) peak construction period chosen by the assessment.
- 4.6 This addition of Waterbeach pipeline traffic at a time at which it will not occur is unnecessary and not a test of the likely scenario, although in traffic impact terms it results in an assessment of an overly robust case and so provides an extra level of comfort.
- 4.7 However, it is pertinent to assess the performance of the Waterbeach junctions at the time at which the Waterbeach pipeline generates traffic movement through them. At the time of peak construction, 2026, the effect on the Waterbeach junctions is minimal as there is no WWTP traffic passing through them and no Waterbeach pipeline traffic passing through them. Therefore, adding the Waterbeach pipeline traffic to the 2026 modelling, despite it being in a different period, provides this assessment.
- 4.8 To get to a broader understanding of effect, I have also looked at a time of ‘typical’ WWTP construction at the time of Waterbeach Pipeline construction demand (August 2025), and also the post construction ‘operational’ demand. These are also annotated on the timeline above.
- 4.9 For this broader understanding I have assessed how these three scenarios (‘peak construction’, ‘Typical (including Waterbeach Pipeline) construction’, ‘operational’) apply to four locations for total vehicles and HGVs. In these graphs I do not include background growth, simply seek to demonstrate the relative effect of the development. The four locations are:
1. A14 J34 Off-slip (**Figure 4.3**)
 2. A14 J34 On-slip (**Figure 4.4**)
 3. Horningsea Road – north of Site Access (**Figure 4.5**)
 4. Car Dyke Road, Waterbeach (**Figure 4.6**)
- 4.10 **Figures 4.3 – 4.6** show the hourly profiles at these locations compared with background traffic flows. The development flows and the background traffic flows are taken from the TA¹³. The development flows are based on the TA’s statement that construction traffic,

¹¹ ES Appendix 19.1: Transport Assessment Rev 6 – 26th March 2024 [5.4.19.3] – paragraph 7.1.15 (page 104)

¹² ES Chapter 2: Project Description Rev 5 22nd January 2024 [5.2.2] – Figure 3.1 (page 85)

¹³ ES Appendix 19.1: Transport Assessment Rev 6 – 26th March 2024 [5.4.19.3] – Figure 7-1 (page 105), Table 7-4 (page 107), Table 7-5 (page 108), and paragraph 8.1.4 (page 118).



including both HGVs and staff, will not be arriving or departing in specific periods in the day, notably the commuter peak and the school peak.

Figure 4.3 – A14 J34 Off-slip – Total Vehicles and HGVs

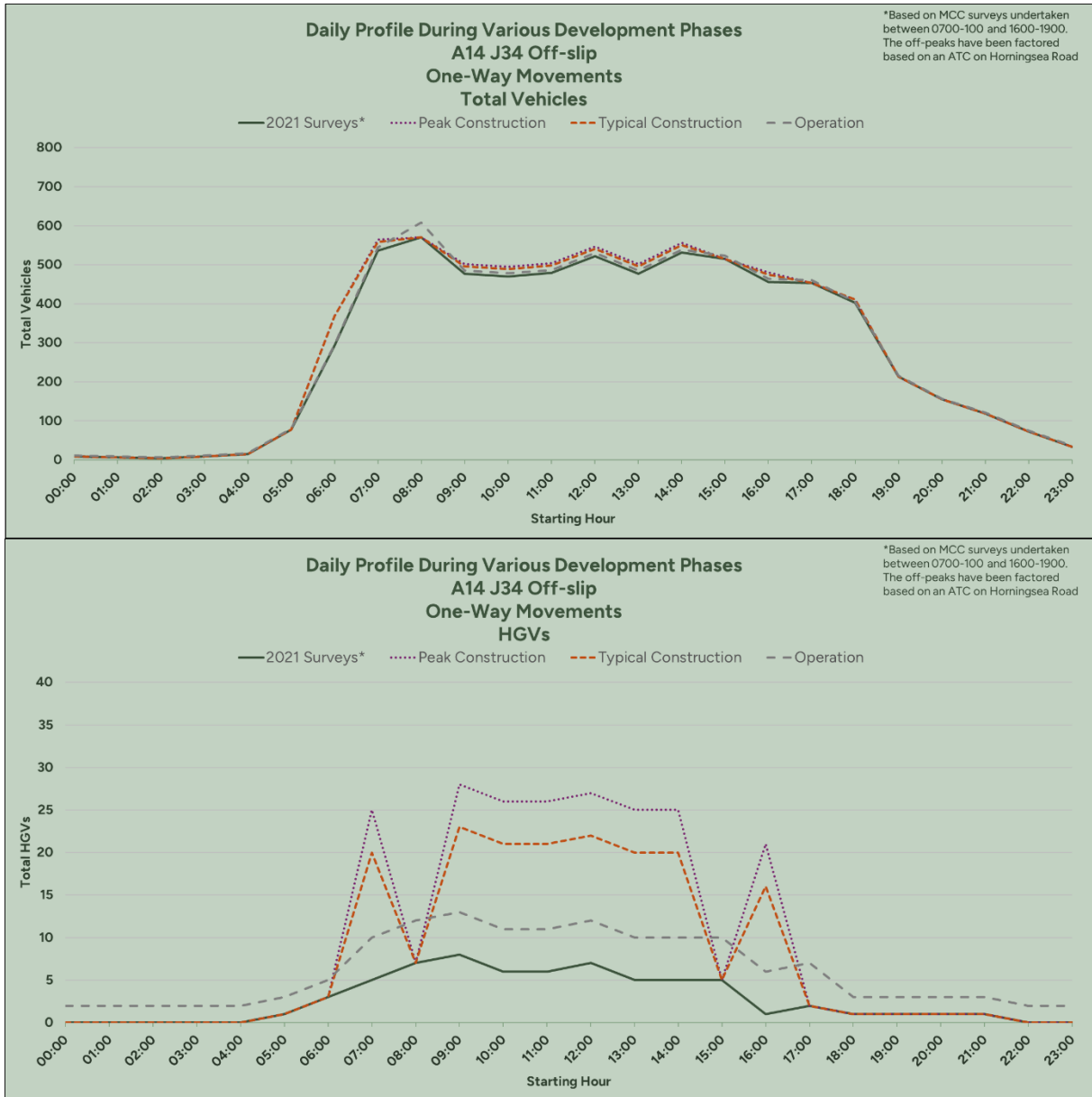


Figure 4.4 – A14 J34 On-slip – Total Vehicles and HGVs

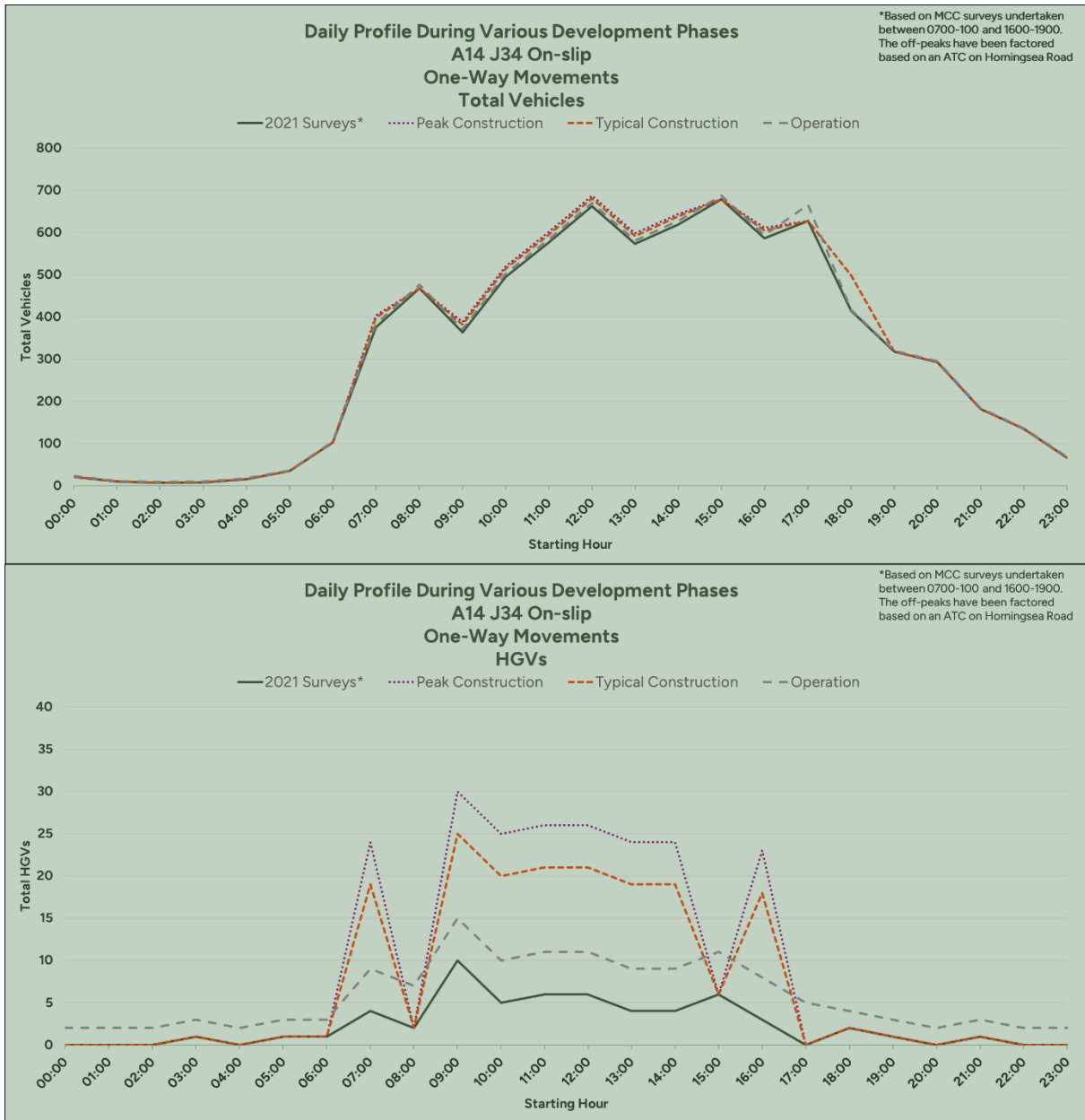


Figure 4.5 – Horningsea Road (north of Site Access) – Total Vehicles and HGVs

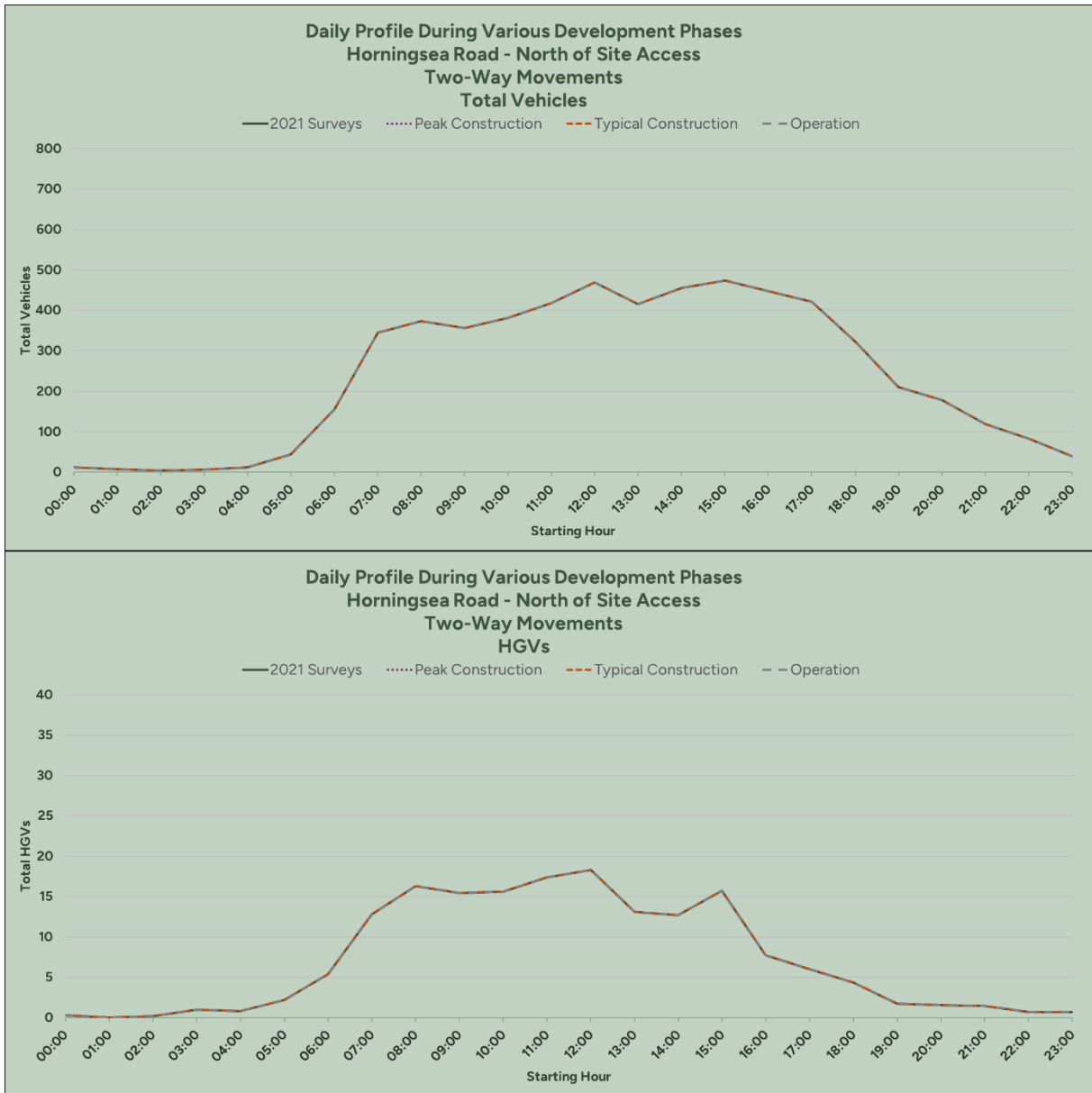
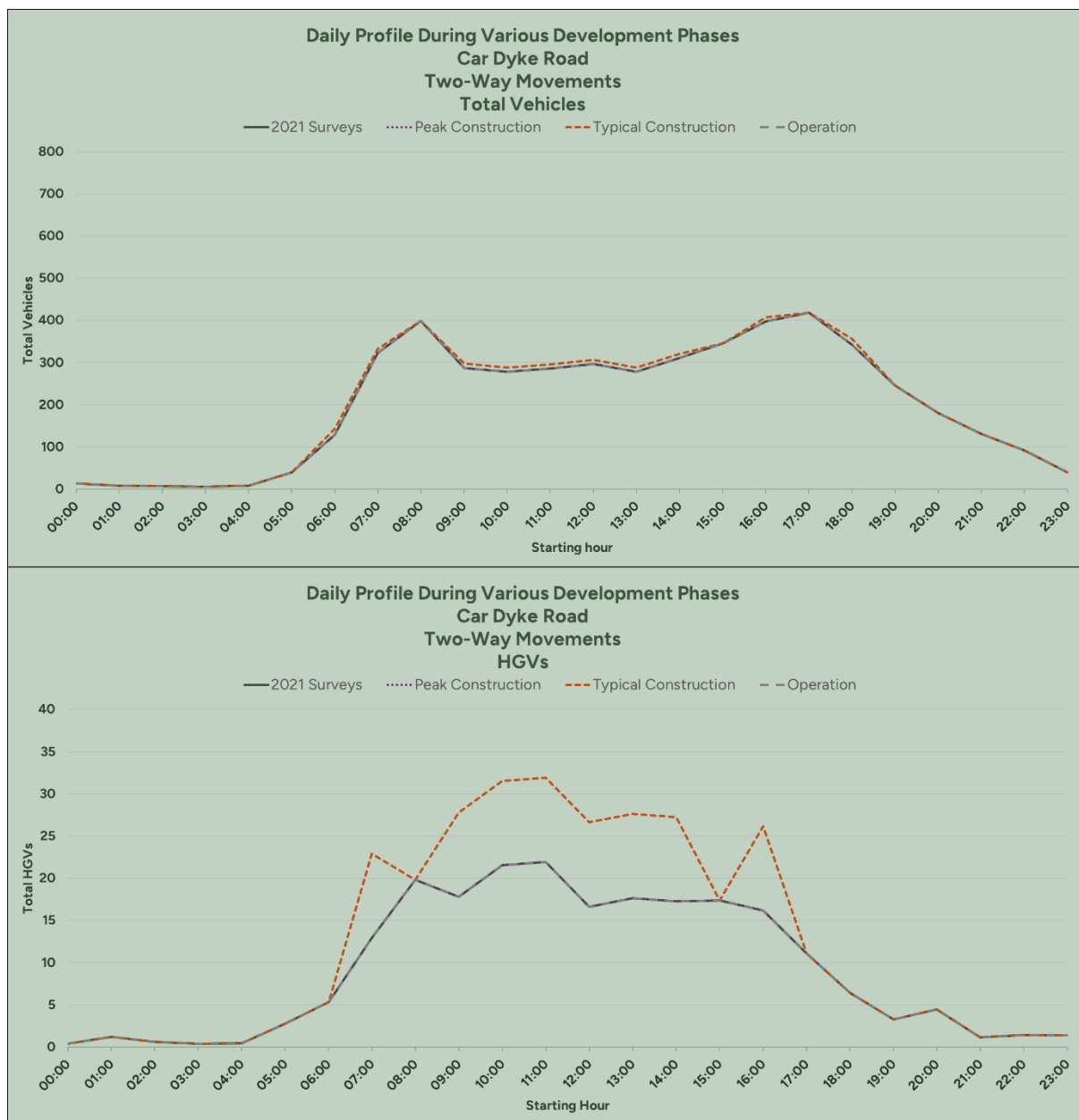


Figure 4.6 – Car Dyke Road – Total Vehicles and HGVs



- 4.11 At Figures 4.5 (Horningsea Road north of the site access) the lines have merged as the design and routing management results in no development traffic passing that point.
- 4.12 The IEMA guidelines referred to in the TA (1993) provide a guide relating change in traffic flow to environmental effect.
- 4.13 The guidelines referred to in the TA have been superseded by a revised version issued in July 2023. The same general rule of thumb applies¹⁴. Different environmental effects are sensitive to different changes in traffic flow. However, the general rule of thumb is that a

¹⁴ IEMA Environmental Assessment of Traffic And Movement (July 2023) (page 11)



30% change in traffic flow is considered to have only a 'slight' environmental effect¹⁵. In addition, it's not just a percentage change assessment, the guidelines explain that there needs to be cognisance of the volume of traffic, the receptors and the significance to the receptors. It cautions that high percentage changes on low baselines may not result in significant effects, and that there is a need for interpretation and judgement on the part of the expert¹⁶.

- 4.14 On the basis of the hour by hour assessment in **Figures 4.3 – 4.6**, all instances of total development traffic fall well below a 30% uplift in traffic and where the HGV uplift is substantial in percentage terms, it is against a very low baseline, and the absolute volume of HGVs remains low (for instance the 667% uplift in HGVs on the A14 J34 On Slip at 1600 – 1700 is caused by 20 HGVs in addition to the baseline 3 HGVs). The small absolute number, in association with no significant receptors in this location, and no significant effect on any receptors in this location leads to a reasonable judgement of no discernible effect.

Sensitivity of Traffic Modelling

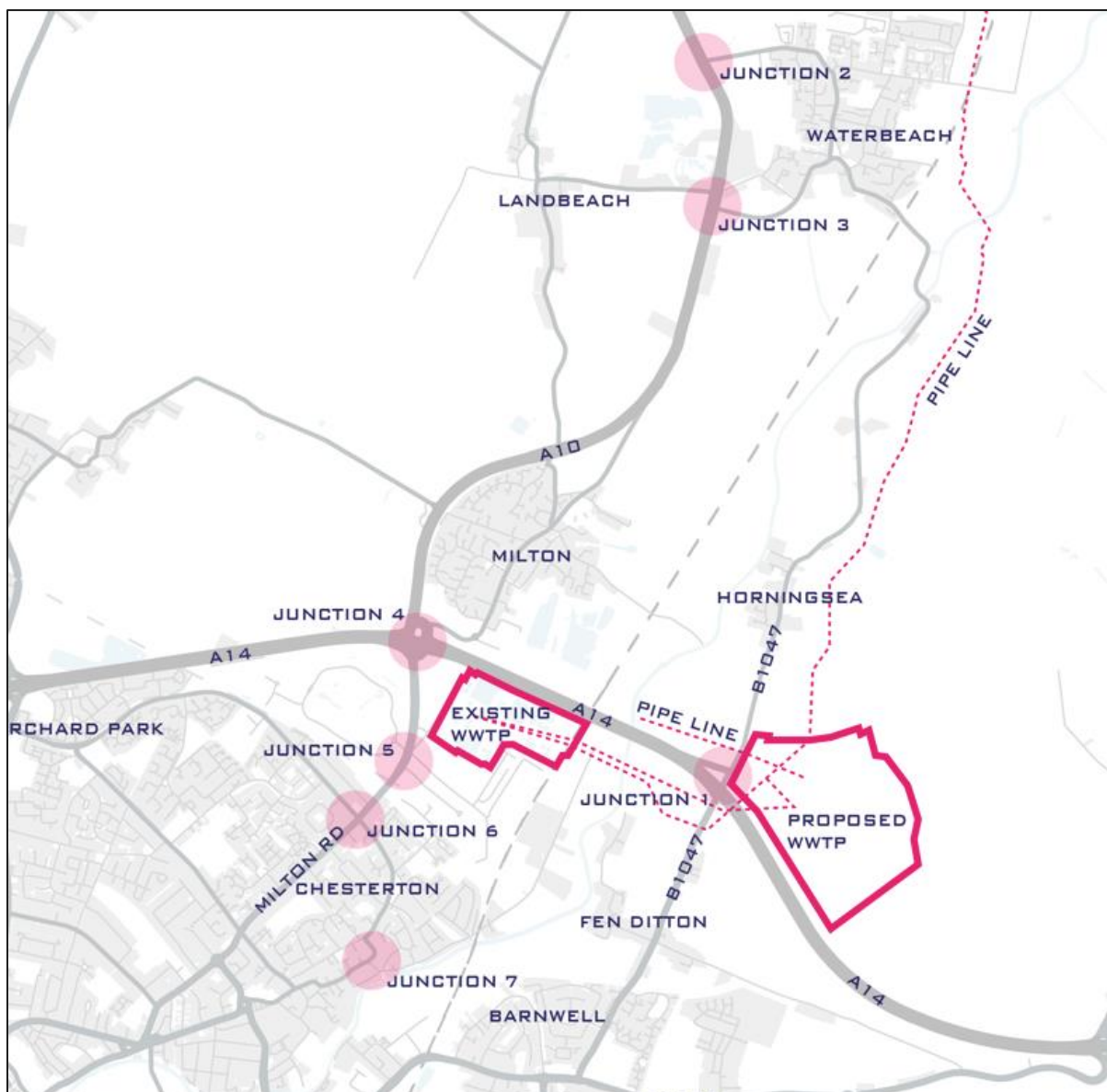
- 4.15 The TA assesses traffic impact at the junctions shown in **Figure 4.7**.

¹⁵ IEMA Environmental Assessment of Traffic And Movement (July 2023) – paragraph 2.19 (page 11)

¹⁶ IEMA Environmental Assessment of Traffic And Movement (July 2023) – paragraph 3.16 (page 16)



Figure 4.7 – Junction Locations



- 4.16 To undertake that exercise, and we understand as agreed with CCC, MM has assumed that there are no restrictions on construction traffic and staff arriving and departing in the restricted periods (the commuter and school peaks)¹⁷. This is contrary to the statement that traffic will be managed and controlled to avoid these periods¹⁸.
- 4.17 In my view this is an unnecessary assumption. It is an ‘unlikely’ scenario. However, for traffic impact purposes the results will overestimate impact compared with the ‘likely’ scenario. If impact is acceptable in the assessed scenarios, then it can also be assumed that impact is acceptable in the ‘likely’ scenario.
- 4.18 The flow sets used in the modelling for this assessment are those in **Figures 4.8 and 4.9**. The flows are in PCUs. PCUs are ‘passenger car units’. It is a way of converting the effect

¹⁷ ES Appendix 19.1: Transport Assessment Rev 6 – 26th March 2024 [5.4.19.3] – paragraph 9.3.3 (page 127)

¹⁸ ES Appendix 19.1: Transport Assessment Rev 6 – 26th March 2024 [5.4.19.3] – paragraph 2.7.21 (page 36)



of large vehicles in a traffic model into a number consistent with the effect of cars. Often, an HGV is considered to have the effect of two cars.

Figure 4.8 – Junction Modelling Flow Sets – Total Flows (PCUs) – Junctions 1 to 4

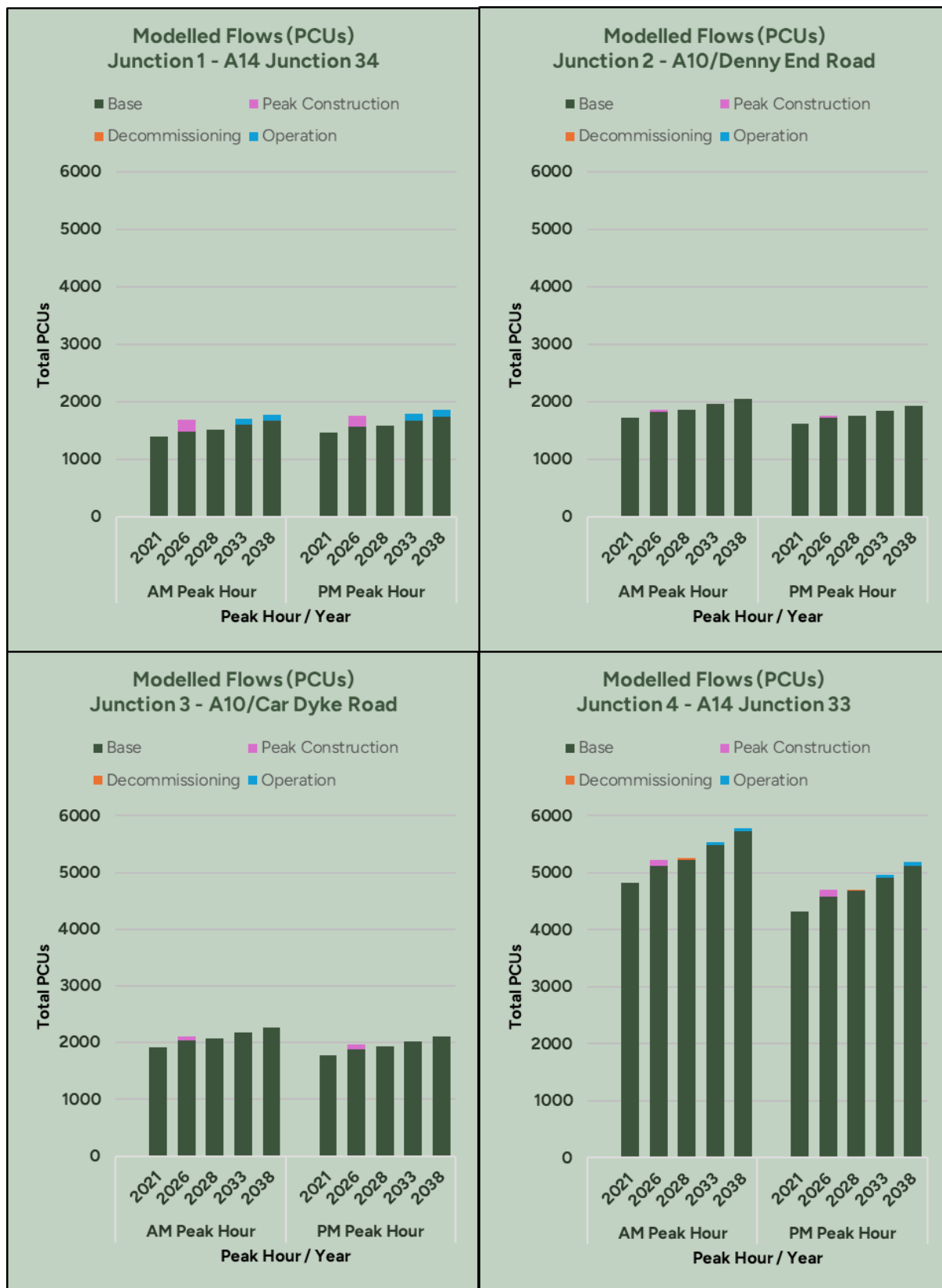
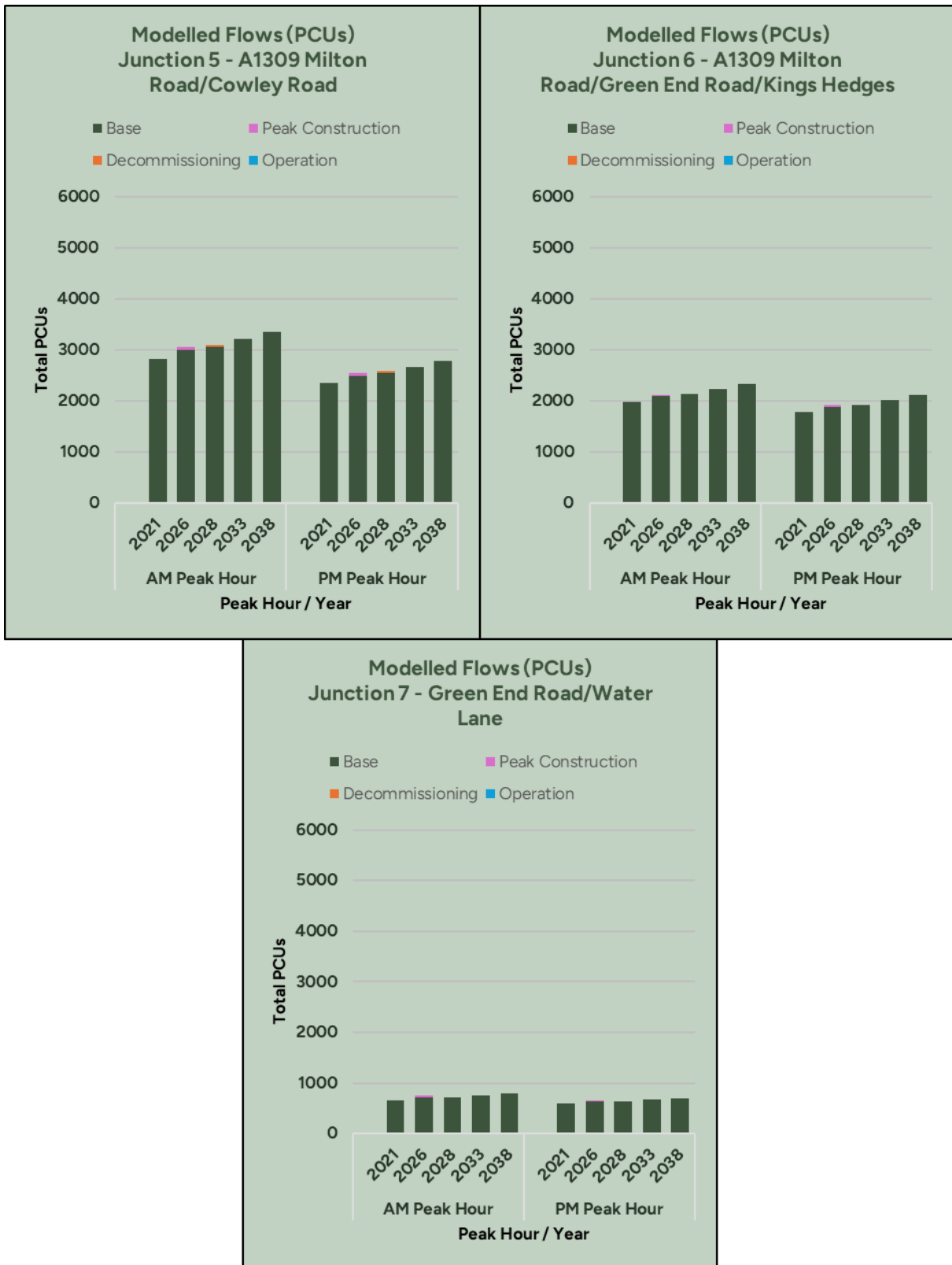


Figure 4.9 – Junction Modelling Flow Sets – Total Flows (PCUs) – Junctions 5 to 7



5.0 Modelling

- 5.1 We have checked the technical elements of all of the highway network models.
- 5.2 In total 7 junctions have been modelled. These have been chosen to reflect the construction routes, and the routes taken by traffic under the 'operational' phase. We are advised by MM some of these junction models have been provided to MM by Cambridgeshire County Council (CCC), and that as a result the validity of those models has been taken as read. The remaining junction models have been created by MM.
- 5.3 The list below names each junction, as per **Figure 4.7**, along with the model origin (CCC or MM).
1. Horningsea Road/A14 (Junction 34) - CCC
 2. A10/Denny End Road - CCC
 3. A10/Car Dyke Road - MM
 4. A14 Milton Interchange (Junction 33) - CCC
 5. A1309 Milton Road/Cowley Road - CCC
 6. A1309 Milton Road/Green End Road/Kings Hedges - CCC
 7. Green End Road/Water Lane - MM
- 5.4 MM were advised that the junction models provided by CCC were originally built to assess the Waterbeach New Town development.
- 5.5 We have checked both the CCC models and the MM models. We have found that there are some technical criteria which are out of date or not in accord with current guidance or best practice. Our initial judgement was that these differences would not significantly affect the model results or the judgements that flow from those models.
- 5.6 However, in any event I asked MM to stress test this by running updated models accordingly. The new results confirmed our initial view, that the minor modifications do not result in any significant change to the model results. Therefore, I am satisfied that the model runs reported in the TA and ES are appropriate for the purpose of assessment and there is no reason to update the reported models to reflect the refinements.
- 5.7 We note that the models provide information on Degree of Saturation (DoS) and also Practical Reserve Capacity (PRC), but that whilst DoS is reported, PRC is not. PRC is a useful indicator of overall performance of a junction.
- 5.8 DoS is a broad measure of whether the demand flow is greater or not than the maximum flow that can pass through the arm being assessed during the period of assessment on the basis of the criteria applied to the model. PRC is a broad measure of the overall capacity of the entire junction, bearing in mind that the DoS on each arm can affect performance on related arms.



- 5.9 Neither measure should be used as a pass/fail trigger (there is no policy requirement for that). The models are tools to inform judgements.
- 5.10 We have undertaken a review of the results as reported in the Transport Assessment (V5 19th February 2024)¹⁹.
- 5.11 Section 3 describes the flow scenarios that we have taken from the TA to look at.
- 5.12 We provide junction layout, queuing summaries, DoS and PRC summaries, in **Appendix B**, and a further summary of each junction below.

Horningsea Road / A14 (J34) / Site Access

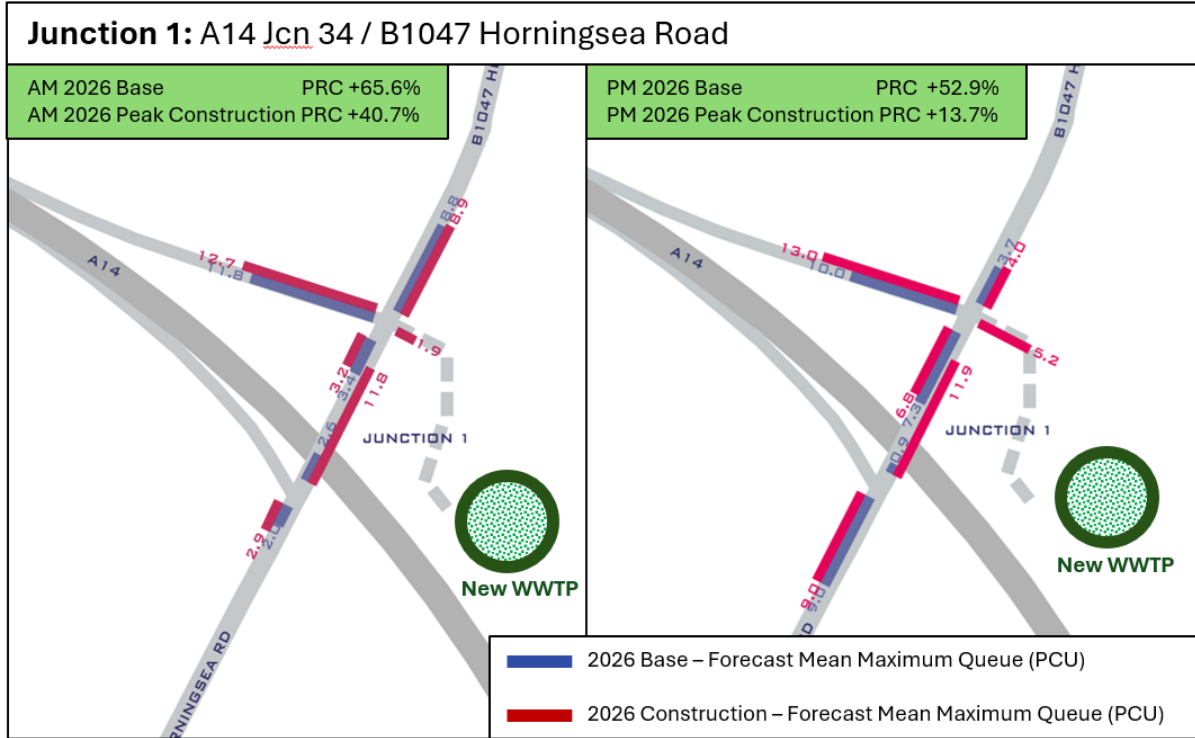
- 5.13 This is Junction 1 on **Figure 4.7**.
- 5.14 This junction forms the main access point to the new WWTP.
- 5.15 Junction 34 is a restricted intersection with only west-facing slip roads. Movements to and from the A14 east are by either A14 Junction 33 Milton Interchange or through Fen Ditton to A14 Junction 35 Quy Interchange.
- 5.16 The interface with the side road, Horningsea Road, is controlled by traffic signals and modelled using LinSig, an industry standard software for signal junction analysis.
- 5.17 The new access is a restricted movement access opposite the A14 east-bound off-slip. Turns to and from the north and from the south are prohibited.

¹⁹ ES Appendix 19.1: Transport Assessment Rev 5 – 19th February 2024 [5.4.19.3] – Section 9.5 (pages 129 to 169)



5.18 **Figure 5.1** summarises the junction performance during ‘peak construction’ based on the TA analysis²⁰.

Figure 5.1 – Horningsea Road / A14 (J34) / Site Access – 2026 Future Base vs 2026 Peak Construction



²⁰ ES Appendix 19.1: Transport Assessment Rev 5 – 19th February 2024 [5.4.19.3] – Table 9-5 (page 136)

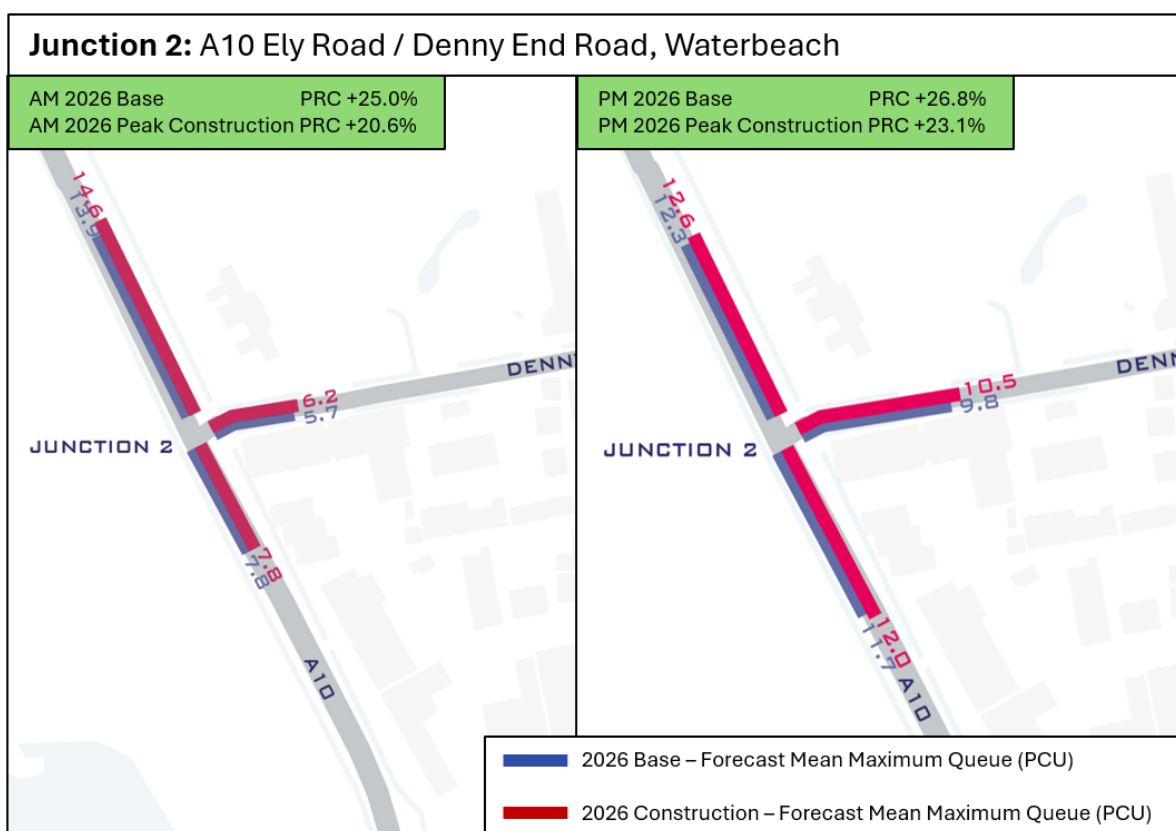


A10 / Denny End Road

5.19 This is Junction 2 on **Figure 4.7**.

5.20 **Figure 5.2** summarises the junction performance during ‘peak construction’ based on the TA analysis²¹.

Figure 5.2 – A10 / Denny End Road – 2026 Future Base vs 2026 Peak Construction



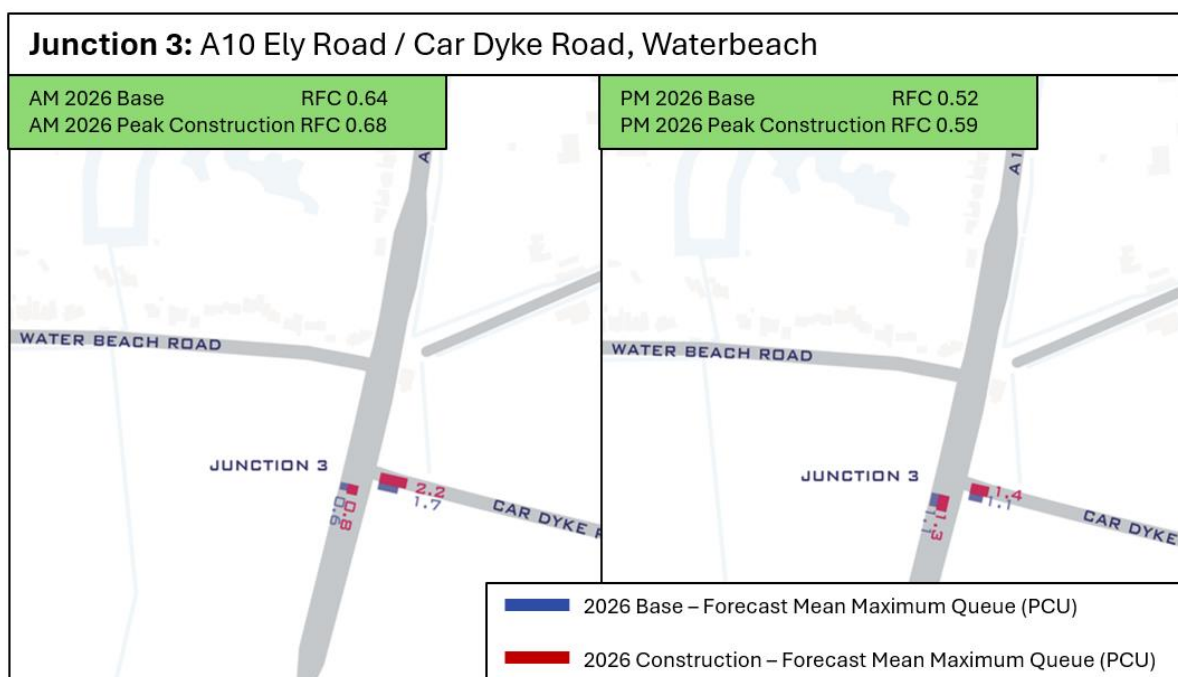
²¹ ES Appendix 19.1: Transport Assessment Rev 5 – 19th February 2024 [5.4.19.3] – Table 9-15 (page 146)



A10 / Car Dyke Road

- 5.21 This is Junction 3 on **Figure 4.7**.
- 5.22 **Figure 5.3** summarises the junction performance during ‘peak construction’ based on the TA analysis²².

Figure 5.3 – A10 / Car Dyke Road – 2026 Future Base vs 2026 Peak Construction



²² ES Appendix 19.1: Transport Assessment Rev 5 – 19th February 2024 [5.4.19.3] – Table 9-19 (pages 149)

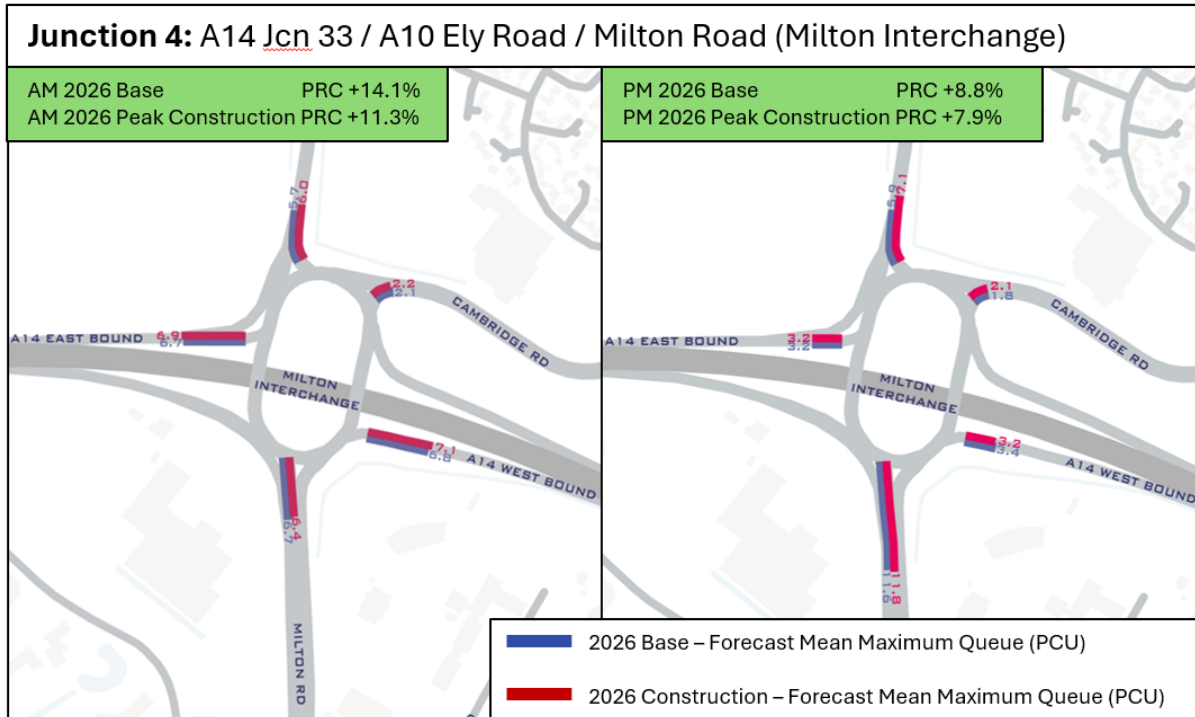


A14 / A10 Milton Interchange (J33)

5.23 This is Junction 4 on **Figure 4.7**.

5.24 **Figure 5.4** summarises the junction performance during ‘peak construction’ based on the TA analysis²³.

Figure 5.4 – A14 / A10 Milton Interchange (J33) – 2026 Future Base vs 2026 Peak Construction



²³ ES Appendix 19.1: Transport Assessment Rev 5 – 19th February 2024 [5.4.19.3] – Table 9-23 (page 156)

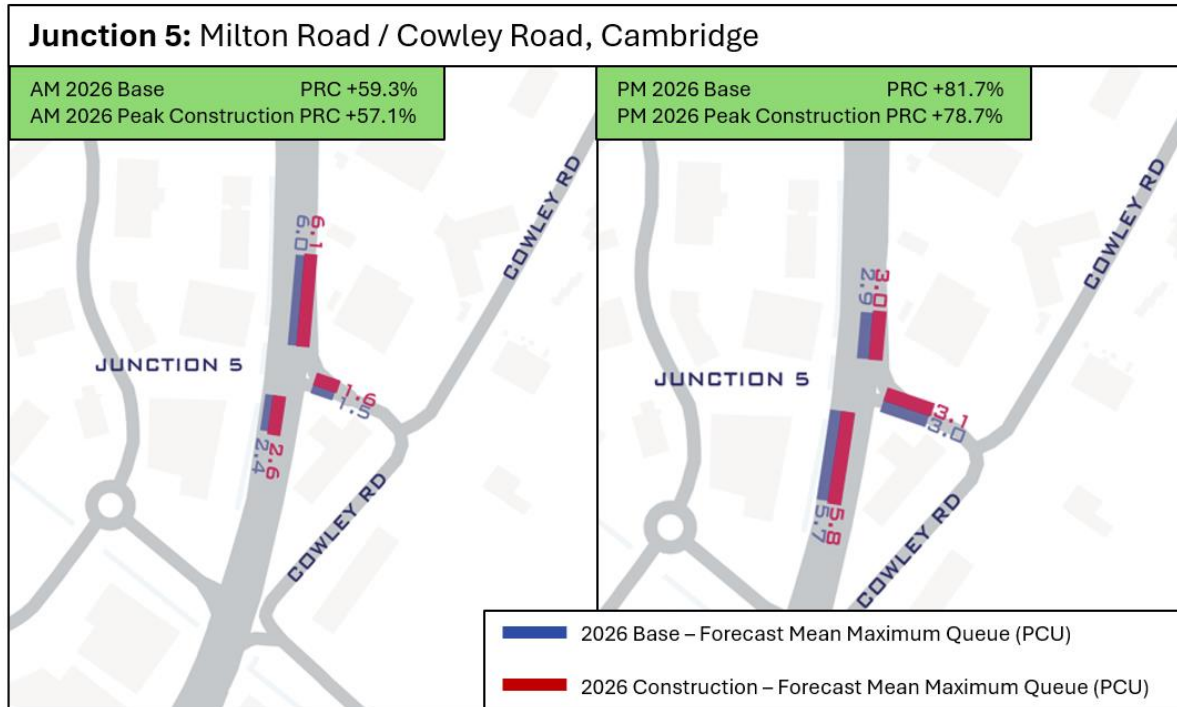


A1309 Milton Road / Cowley Road

5.25 This is Junction 5 on **Figure 4.7**.

5.26 **Figure 5.5** summarises the junction performance during ‘peak construction’ based on the TA analysis²⁴.

Figure 5.5 – A1309 Milton Road / Cowley Road – 2026 Future Base vs 2026 Peak Construction



²⁴ ES Appendix 19.1: Transport Assessment Rev 5 – 19th February 2024 [5.4.19.3] – Table 9-33 (page 164)

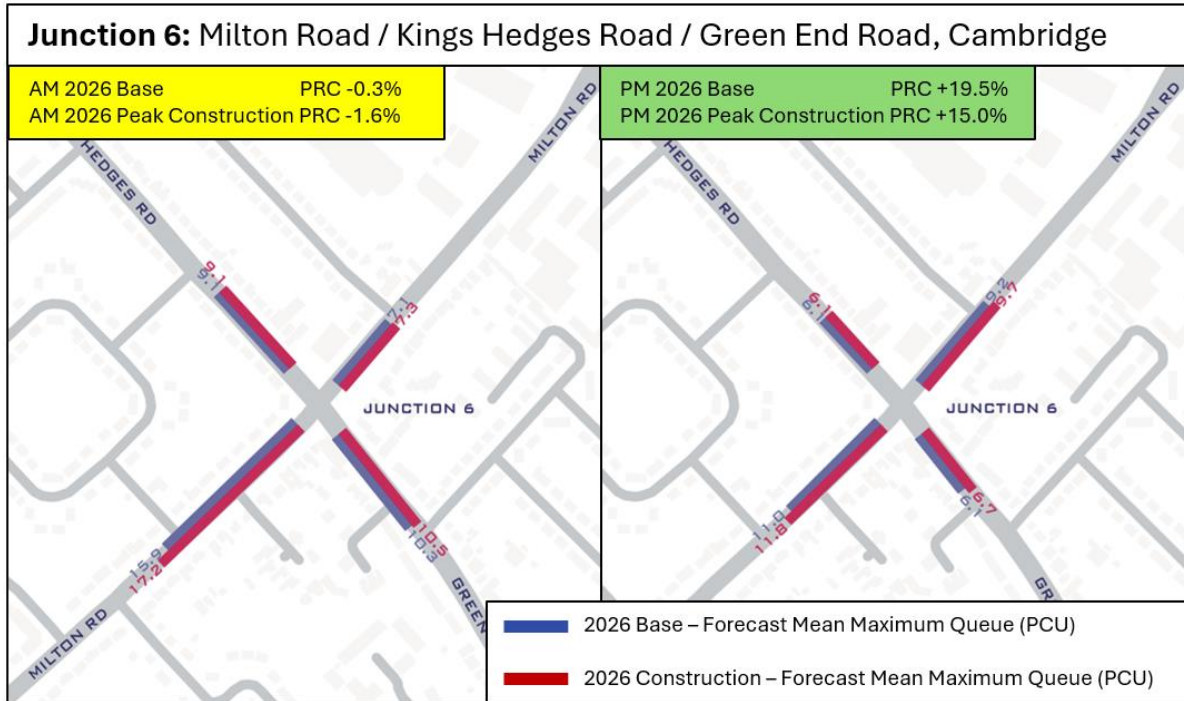


A1309 Milton Road / Green End Road / Kings Hedges Road

5.27 This is Junction 6 on **Figure 4.7**.

5.28 **Figure 5.6** summarises the junction performance during ‘peak construction’ based on the TA analysis²⁵.

Figure 5.6 – A1309 / Milton Road / Green End Road / Kings Hedges Road – 2026 Future Base vs 2026 Peak Construction



²⁵ ES Appendix 19.1: Transport Assessment Rev 5 – 19th February 2024 [5.4.19.3] – Table 9-39 (page 167)

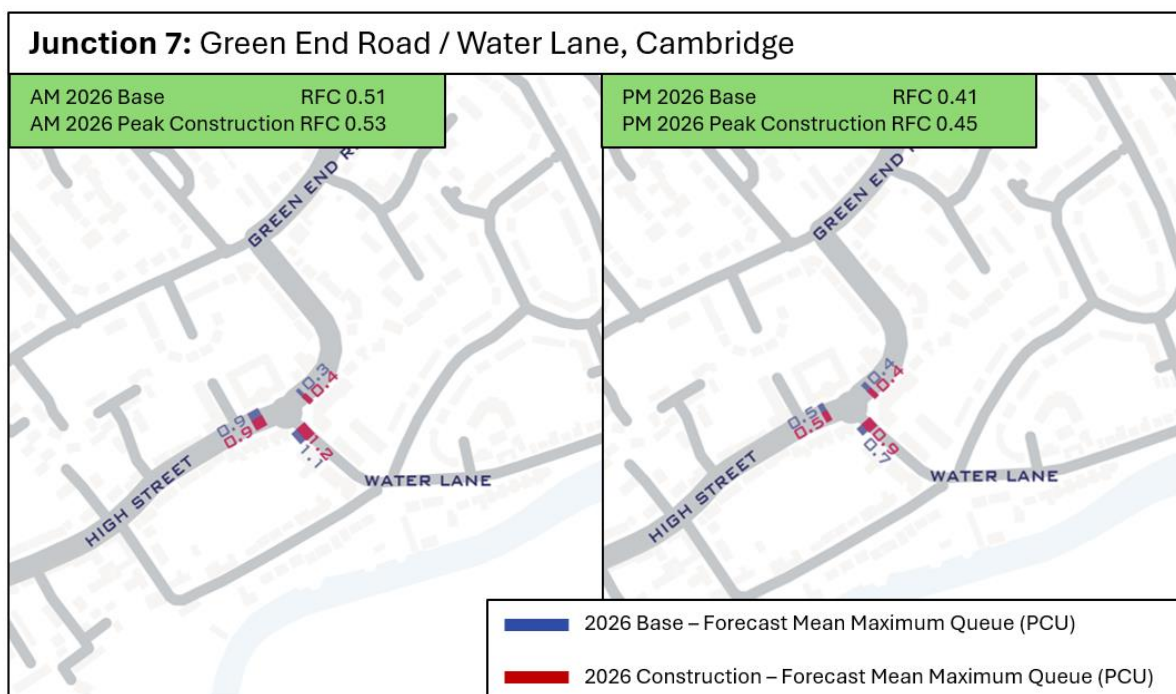


Green End Road / Water Lane

5.29 This is Junction 7 on **Figure 4.7**.

5.30 **Figure 5.7** summarises the junction performance during ‘peak construction’ based on the TA analysis²⁶.

Figure 5.7 – Green End Road / Water Lane – 2026 Future Base vs 2026 Peak Construction



Modelling Summary and Judgement

5.31 There is no empirical pass/fail switch for these types of models i.e., they are tools which inform, rather than dictate, judgements. Given the high bar set for NPPF ‘severe’ it is not unusual for DoS to be greater than 100% (i.e., the demand flow in the period is greater than the maximum capacity in the period) and the PRC to be negative and for the network to be deemed to be performing adequately.

5.32 Notwithstanding that, in any event, the effect of the development in these peak periods is insignificant, and likely to not be discernible. Furthermore, this is in the context that these are the busiest times of the day, and the demand flows are gross overestimates, only being used here for the purpose of assessment.

5.33 Therefore, the model results and context lead to a judgement of no significant effect.

²⁶ ES Appendix 19.1: Transport Assessment Rev 5 – 19th February 2024 [5.4.19.3] – Table 9-43 (page 169)



6.0 Judgments

- 6.1 My expert review has identified errors and inconsistencies in the Transport Assessment and Environmental Statement which give rise to ambiguities. These ambiguities have been corrected. The review has not identified the need for additional mitigation. In terms of ExA's recommendations, and the Secretary of State's decision making, the provisions of paragraph 4.13.7 of the NPSWW have been met in full and development consent should therefore not be withheld on traffic or transport grounds and only limited weight should be applied to the residual effects.
- 6.2 The inconsistencies and ambiguities in the reporting do not affect the technical work, including the technical results and judgements.
- 6.3 There are many different ways to approach assessments of this type. I note that the approach adopted here has been developed and agreed by MM, Cambridgeshire County Council and National Highways.
- 6.4 I have noted the broad nature of this approach. Because of the relatively comfortable nature of the performance of the network, the low operational flows associated with the scheme, the relatively low, and short-lived effects associated with construction, and that operationally this is movement displaced from the existing site, my judgement is that this broad approach is appropriate.
- 6.5 There are some instances of guidance being used in this assessment being superseded. I have concluded that this does not change the character of the results or the subsequent judgements.
- 6.6 The traffic surveys were necessarily undertaken in a period which the DfT considers potentially impacted by the pandemic. It has been a straightforward task to check the extent to which that is the case or matters. My check is that the surveys are not significantly affected by the pandemic and coupled with the comfortable nature of the performance of the network, I am satisfied in the robustness of the assessment.



7.0 Matters raised by the Examining Authority (“ExA”) (ISH4)

- 7.1 A number of matters were discussed in relation to Transport at Issue Specific Hearing (ISH) 4 that took place on 13th/14th March 2024. The action points are listed in the PINS Document WW010003 – 002256 (EV-008b).
- 7.2 In addition, our team noted comments raised at the Examination Panel 13th/14th points raised by the ExA and are recorded on CWWTPR ISH3 – Agenda Item 9(2245375974.1) Preliminary Note of Agenda Item 9.
- 7.3 These action points were just examples, and not intended to be comprehensive. They are addressed in my **Appendix A** along with other points that have been picked up by my team. However, as they are specifically mentioned by the ExA, I have also responded to them here.

Issues with documents submitted at Deadline 5 (Para 9.1)

- 7.4 Reference is made to the ES Chapter 19 [REP5-046] and the ExA ask whether specific time restrictions should be included in the first bullet point of para 2.8.1. The CTMP at para 6.5.2 states *‘that the Principal Contractor will where reasonably practicable, schedule deliveries so they do not coincide with peak hours, especially during the AM and PM peak hours to minimise the possibility of adding congestion on the road network.’* The ES Chapter 19 Summary (page xi) sets out as ‘Secondary Measures’ a general requirement for all deliveries to be made outside of the peak hours (0800-0900, 1500-1600 and 1700-1800).
- 7.5 The CTMP has been updated²⁷. Instead of the phrase ‘reasonably practicable’ the commitment has been strengthened such that no related construction deliveries (over 3.5 tonnes) will arrive or leave the site in those ‘peak hours’ unless; it is a time critical delivery, is an essential delivery, or specific alternative restrictions are agreed with the local highway authority.
- 7.6 The TA²⁸ and the ES Chapter²⁹ have been made consistent with this statement.
- 7.7 The ES Chapter 19 [REP5-046] paragraph 2.8.28 makes an incorrect reference to the ‘Operation Logistics Traffic Plan’. The correct reference is ‘Outline Operational Logistics Traffic Plan’. This has been updated³⁰.
- 7.8 The Transport Assessment (TA) Part 1 [REP5-71] paragraphs 4.4.11 and 4.4.12 have incorrect citations and paragraphs 9.3.6 and Table 9-6 formatting is incorrect. These have been updated³¹.

²⁷ CTMP V6 [5.4.19.7]

²⁸ ES Appendix 19.1: Transport Assessment Rev 6 – 26th March 2024 [5.4.19.3]

²⁹ ES Chapter 19: Traffic and Transport Rev 6 - 26th March 2024 [5.2.19]

³⁰ ES Chapter 19: Traffic and Transport Rev 6 - 26th March 2024 [5.2.19] – paragraph 2.8.28 (page 78)

³¹ ES Appendix 19.1: Transport Assessment Rev 6 – 26th March 2024 [5.4.19.3] – paragraph 4.4.11 (page 77) and 4.4.12 (page 78), paragraph 9.3.6 (page 128) and Table 9-9 (page 140)



- 7.9 The Transport Assessment (TA) Part 3 [REP5-075] page 1008 of 1012 paragraph 1.2.2 has an incorrect reference. This has been updated³².

CTMP and SHHG's request for further restrictions (Para 9.3)

- 7.10 Section 5 of the Save Honey Hill Group's (SHHG) document SHH 58 [REP5-135] requests that Station Road is covered by the same restrictions in timings of HGV movement as per other roads. This is namely the restriction on passage of HGVs in the peak periods.
- 7.11 The CTMP has now been updated such that there is a restriction on construction deliveries in the peak periods³³ at the site access. For clarity, this encompasses Station Road, but in any event, the document has been updated so that Station Road is specifically mentioned³⁴.

Review of ISH3 Action Point 25 [EV-007v] (Para 9.11)

- 7.12 The ExA has made reference to the Cambridgeshire County Council comment [REP1-134 response to ExQ1.20.85] that there is not a single peak hour in Cambridge and that some off-peak traffic flows at Junction 34 (Milton Interchange) are not significantly different from peak hour traffic flows. This point was raised at ISH3 and in particular whether the traffic flows in the 'off-peak periods' would in fact exceed the traffic flow threshold used in the 'peak period analysis' as recorded in the TA to determine whether mitigation was necessary for the assessed peak hour.
- 7.13 The ExA has made it clear that for Junction 34, an arm by arm assessment is required that considers the hours either side of the peak.
- 7.14 In further discussion on this matter at ISH4, MM confirmed that 0800-0900 is the busiest peak hour and confirmed that a technical note would be prepared to consider the shoulder peak hours that could be used to inform/update the CTMP if necessary.
- 7.15 This has been addressed in the 'ISH4 Supporting Note – T&T Agenda Item 9.11 – J34 Shoulder Hour Assessment'³⁵, prepared by MM. There was some discussion regarding the performance of the A14 off-slip and on-slip parts of the junction, but when considered in aggregate it was found that the assessed peaks had the highest total flow and that the assessed peaks had the least reserve capacity. Our assessment of this note was that the assessed peak hours for A14 Junction 34 are appropriate. This provides confidence that in traffic impact terms there is no greater development related effect than that assessed in the peak period analysis³⁶.
- 7.16 However, as I have noted above, it is relevant to consider a wider period, as effects are not limited to traffic impact alone. I have done this across a daily period in Section 4, with the

³² ES Appendix 19.1: Transport Assessment Rev 6 – 26th March 2024 [5.4.19.3] – Appendix M paragraph 1.2.2

³³ CTMP V6 [5.4.19.7]

³⁴ CTMP V6 [5.4.19.7]

³⁵ ISH4 Supporting Note – T&T Agenda Item 9.11 – J34 Shoulder Hour Assessment

³⁶ ISH4 Supporting Note – T&T Agenda Item 9.11 – J34 Shoulder Hour Assessment



conclusion that there is no significant effect at any time during construction or operation of the scheme.

Junction Modelling in TA Part 1 [REP5 – 071] (Para 9.12)

- 7.17 At 9.12.1 the ExA refers to Table 4-78 and 4-79 of the ES Chapter 19 – Transport [REP5-46] and the discrepancies in the referencing to the highway links for the 2038 Operational Phase and corresponding flows. We agree. There are discrepancies. This is a reporting issue. These tables have been updated³⁷.
- 7.18 At 9.12.1 the ExA raised further discrepancies at paragraph 4.2.56 of the ES Chapter 19 – Transport and noted that Table 4.15 includes data for 2038 Operational assessment flows rather than 2026 Construction flows. We agree. This is a reporting issue. The report has been updated³⁸.
- 7.19 Also included at 9.12.1, the ExA referred to Table 4-40 in the ES Chapter 19-Transport and noted incorrect column headings in the table. We agree. The table has been removed because the A14 Junction 34 is no longer operating near capacity in the assessment.
- 7.20 Furthermore at 9.12.2 the ExA refers to the Transport Assessment [REP5-71] and Table 9-5 that details the LinSig output for the Year 3 (2026) Construction stage assessment. The ExA were keen to understand why DoS increases on Horningsea Road, but the queue lengths reduce.
- 7.21 MM has explained this in a further technical note³⁹. The answer is that this type of seeming anomaly is not uncommon. It is not an actual anomaly as forecast queuing in models such as this are a function of a wide range of factors and interactions. Reported queues are not necessarily proportional to just DoS. This is one of the reasons that the model results themselves are not the pass/fail arbiter of performance, but simply a tool from which judgements are made. Similarly, at 9.12.3 reference is made by the ExA to Table 9-9 of the Transport Assessment [REP5-071] and for an explanation to be provided for the 2033 Operational Year + 5 assessment. This has been explained in the further technical note⁴⁰.
- 7.22 At 9.12.4 the ExA requested an explanation in relation to the traffic flows reported in Table 9-4 of the Transport Assessment for B1047 Horningsea Road. No change in flows is recorded in the table for Horningsea Road. The ExA also asked why the traffic flow data in Table 9-4 for Horningsea Road is different to the flows in Table 4-7 of the ES Chapter 19 – Transport. A similar point is made at 9.12.5 with reference to Table 4-29 of ES Chapter 19 – Transport where the information reported did not align with the TA.

³⁷ ES Chapter 19: Traffic and Transport Rev 6 - 26th March 2024 [5.2.19] – Tables 4-80 and 4-81 (pages 198)

³⁸ ES Chapter 19: Traffic and Transport Rev 6 - 26th March 2024 [5.2.19] – paragraphs 4.2.97 (page 143) and Table 4.26 (pages 143)

³⁹ ISH4 T&T Agenda Item 9.12 – Issues with traffic modelling in TA Part 1 [REP5-071]

⁴⁰ ISH4 T&T Agenda Item 9.12 – Issues with traffic modelling in TA Part 1 [REP5-071]



- 7.23 Horningsea Road data was also queried by ExA in Tables 9-8 and 9-10 in the TA. MM agreed to review the discrepancies raised at ISH4 and prepare a technical note addressing the points raised⁴¹.
- 7.24 There are no change in flows forecast on Horningsea Road due to the scheme design is such that only movements from the SRN can access the site. The junction is designed to prevent movement to and from Horningsea Road north of the site access, and to prevent access to the site from Horningsea Road south of the site access⁴². In addition, the HGV routing requirement, now clarified in the CTMP⁴³, does not allow for construction deliveries to and from those roads.
- 7.25 The differences in traffic flows at Table 9-4 (TA) and Table 4-7 (ES Chapter 19), are because of reporting errors and ambiguities. Table 4-7 (ES Chapter 19) has been removed because the A14 Junction 34 no longer has a major impact in the assessment (it did previously because of an error in the demand flows), while Table 9-4 (TA) has been adjusted and clarified in the latest MM reports⁴⁴. None of these changes affect the modelling or the results.
- 7.26 Further queries were raised and recorded at 9.12.8 relating to differences in the numbers relating to the A14 off slip traffic flows. MM at ISH4 noted that this is due to one table reporting traffic flows in 'vehicles' and the other reporting traffic flows in PCUs. PCUs are 'passenger car units'. It is a way of converting the effect of large vehicles in a traffic model into a number consistent with the effect of cars. Often, an HGV is considered to have the effect of two cars. This is a reporting issue and has been adjusted and clarified in the latest documents⁴⁵.
- 7.27 At 9.12.9 the ExA raised questions on the data presented in Table 4-68 of the ES Chapter 19 – Transport that concentrates on the A10. Again, discrepancies in traffic flows, descriptions of the peak hours and what assumptions had been made about movements in the peak hours resulted in a difference in data recorded in the tables. Similarly, differences between Table 4-77 and 4-79 covered by para 4.3.5 were noted.
- 7.28 We agree. All of these relate to reporting inconsistencies or lack of clarity, and do not affect the assessment or the results. These have been made good in the latest version of the reports⁴⁶.
- 7.29 At 9.12.10 the focus was on para 4.3.7 of the ES Chapter 19 – Transport and data for 2028. Once again, the ExA noted discrepancies in the data for Table 4-78 that feeds into Table 4-79 and that this did not reflect the Operational Daily Traffic flows recorded in Table 4-77. It was noted that at para 4.3.14, reference was made to 'Construction Traffic/HGV volumes

⁴¹ ISH4 T&T Agenda Item 9.12 – Issues with traffic modelling in TA Part 1 [REP5-046]

⁴² Design Plan – Highways and Site Access Rev 1 – April 2023 [4.11] - 00001-100006-CAMEST-ZZZ-LAY-Z-9808 Rev C01 (S4)

⁴³ CTMP V6 [5.4.19.7]

⁴⁴ ES Appendix 19.1: Transport Assessment Rev 6 – 26th March 2024 [5.4.19.3] – Table 9-6 (pages 136 to 137)

⁴⁵ ES Appendix 19.1: Transport Assessment Rev 6 – 26th March 2024 [5.4.19.3] – Table 9-4 (pages 133 to 134)

⁴⁶ ES Chapter 19: Traffic and Transport Rev 6 - 26th March 2024 [5.2.19] – Tables 4-79, 4-80 and 4-81 (pages 196 to 198)



when in fact the subject in 2038 Operational traffic. These have all been updated and clarified in the latest MM reports⁴⁷.

- 7.30 There is nothing in any of these inconsistencies, ambiguities or answers to questions that changes the nature of the assessments, the nature of the results, or which would affect the judgements that have already been made. The outcomes remain the same.

⁴⁷ ES Chapter 19: Traffic and Transport Rev 6 - 26th March 2024 [5.2.19] – Tables 4-79, 4-80 and 4-81 (pages 196 to 198)





Appendix A Matters of Consistency and Ambiguity

Cambridge WWTP Relocation Project

Transport Review – Mike Axon

Anglian Water Services Ltd

SLR Project No.: 452.065519.00001

26 March 2024

APPENDIX A

LIST OF MATTERS ON CONSISTENCY AND AMBIGUITY

Item No	ES/TA Reference	Matter	Paragraph/Table	Comments
1	ES Chapter 19: Traffic and Transport [REP5 – 5.2.19] Rev 5 – February 2024	Reference to IEMA Guidance 1993 which has been superseded.	Pg ix – Summary Section	<p>Latest guidance is July 2023. Current ES Transport Chapter has referenced 1993. ES at para 2.1.2 makes reference to Appendix 19.12: Comparison of IEMA 1993 and 2023 Guidance.</p> <p>SLR - Document concludes that no material change to assessment as a result of the updated IEMA document.</p>
3	ES Chapter 19: Traffic and Transport [REP5 – 5.2.19] Rev 5 – February 2024	Construction Vehicle Movement	Table 2-12 in the ES and Para 7.1.21 TA	<p>A difference in number between the ES and TA. Table 2-12 refers to 494 daily total for WWTP. Para 7.1.21 refers to 492</p> <p>SLR - These have been updated to reflect the correct 492 value (ES Rev 6 - Table 2-12).</p>
4	Transport Assessment (Application Document Reference 5.4.19.3) Rev 5 – February 2024	PIC Data	Para 4.2.41	<p>5 years data (2016 – 2021) Is there a reason why more recent data has not been included? Does it change the position.</p> <p>SLR - This is the latest data that was available at the time of preparing the TA. It has not been raised by ExA or both NH/CCoC. Dec 2022 is the latest data available. SLR looked at the data for 2022 and no change.</p>
5	Transport Assessment (Application Document Reference 5.4.19.3) Rev 5 – February 2024	Period of peak construction (WWTP). Related to Fig 7.1, and the description the peak construction period over 3 years	Para 7.1.15 and Para 7.1.19	<p>Paragraph 7.1.15 refers to August – October 2026 as the 3 month peak period. Para 7.1.19 refers to September – November 2026.</p> <p>SLR - The September – November 2026 peak construction traffic flow data has been used in the assessment – updated the TA to confirm this (paragraph 7.1.15)</p>

6	Transport Assessment (Application Document Reference 5.4.19.3) Rev 5 – February 2024	HGV movements / day	Para 7.1.21 and Table 7.3	280 HGV's referenced in para 7.1.21 which doesn't align with 263 in Table 7.3 SLR - 280 HGV used in the assessment and MM to update Table 7.3 title in the updated TA (Table 7.3)
7	Transport Assessment (Application Document Reference 5.4.19.3) Rev 5 – February 2024	HGV Movements in peak hours	Table 7-4	Peaks hours identified as having no construction traffic but junction models include construction related trips SLR - The assessment is robust for the Peak Construction scenario for the peak hour assessments.
8	Transport Assessment (Application Document Reference 5.4.19.3) Rev 5 – February 2024	Highway Network Growth	7.3.1	August TEMPro V8.1 is the most recent version – this has not been applied to growth forecasts. SLR - MM have advised that they used the version of TEMPro that was available at the time when the TA and ES Traffic & Transport Chapter was prepared. A comparison has been undertaken and it was found to show that V8.1 forecasts lower growth factors. Hence the assessment is considered robust using V7.2
9	Transport Assessment (Application Document Reference 5.4.19.3) Rev 5 – February 2024	Operational Daily Traffic Flow profile	Table 8-2	The operational traffic flow profile makes no allowance for HGV's or car/LGV's associated with daily deliveries between 0800-0900, 1500 – 1600 and 1700-1800hrs. This does not accord with the Outline OLTP. SLR - This has been discussed with MM. We have assessed the impact of HGV/LGV/cars in the retrospective peaks and there is not material difference detected. In addition the TA has removed Table 8-2 (TA V5) and provided text around this in the updated TA (paragraphs 8.1.7-8.1.8)
10	Transport Assessment (Application Document	Baseline Traffic Surveys	Para 9.1.1	December is not a neutral month and 2021 data may not be representative (COVID 19 period) but further surveys completed in 2022 for comparisons.

	Reference 5.4.19.3) Rev 5 – February 2024			SLR - Neither CCoCA or National Highways have raised this as a concern. A review of DfT data suggests between 10-12% growth between 2021 – 2023. Given the TEMPro growth factors applied and Reasonable Worst Case Scenario the 'peak hour' assessment is robust
11	Transport Assessment (Application Document Reference 5.4.19.3) Rev 5 – February 2024	Committed Development	Para 9.1.2 and 9.1.3	Contradiction between the two paragraphs on inclusion of committed development SLR – TEMPro has been used to account for those committed development, this has been clarified in the updated TA (paragraphs 9.1.3)
12	ES Chapter 19: Traffic and Transport [REP5 – 5.2.19] Rev 5 – February 2024	Reference to measures within the CTMP (Appendix 19.7) delivery time constraints	Para 2.8.21	The 1 st bullet of 2.8.21 makes reference to all deliveries taking place outside of the peak hrs (0800-0900, 1500-1600 and 1700-1800hrs). CTMP at 6.5.2 states where reasonably practicable schedule deliveries do not coincide with peak hours. TA has tested deliveries in the peak hrs SLR - ES has been updated with the alternative wording (paragraph 2.8.21) to match the CTMP.
13	Transport Assessment (Application Document Reference 5.4.19.3) Rev 5 – February 2024	Realistic Worst Case Scenario	Para 9.3.3 – 2 nd bullet	Waterbeach Pipeline included in Reasonable Worst Case Scenario which according to Fig 3.1 (Project Description) between 2026 – 2027. Waterbeach Pipeline construction takes place outside of this. SLR - Waterbeach 'typical construction' flows have been included rather than 'peak construction'. This does not change the outcome of the modelling or the mitigation measures.

ACTION POINTS RAISED AT ISH4 – TRANSPORT (PINS Document WW010003-002256-EV-008b)			
Action No	DIRECTED TO	ACTION	Action Taken
44	Applicant	To review documents (ES Chapter 19 [REP5-46], Transport Assessment (TA) and supporting information such as traffic flow information), correct mistakes and ensure consistency. Note all points raised in ISH4 and thoroughly check documents for any other issues.	SLR - review has identified errors and inconsistencies in the Transport Assessment and Environmental Statement which give rise to ambiguities. These ambiguities have been corrected. The review has not identified the need for additional mitigation.
45	Applicant	Amend the CTMP [REP5-077] for Station Road and Clayhithe Road to limit hours to between 0900 and 1500hrs for construction vehicles over 3.5 tonnes	SLR – checked and included in updated CTMP.
46	Applicant	SoCG to be updated to reflect agreed position on mitigation documents / add updated schedule	SLR - no comment
47	National Highways	Clarify your position regarding response to ExQ1.20.82 [REP4 – 096]	SLR – no comment
48	Applicant	Provide updated response regarding your road damage payments (this could be included in the SoCG with CCoC)	SLR – no comment
49	Applicant	Provide an explanation as to why network technicians, and associated facilities provided for them, need to be based at the proposed WWTP. Why must they use facilities at the proposed WWTP as opposed to elsewhere, and why are they essential to the operation of the proposed WWTP.	SLR – no comment
50	Applicant	Provide a note relating to the shoulder peaks during the operational phase and respond to Action Point 25 from ISH3 [EV-007v]. Please provide all supporting information/data and	SLR – MM have produced a technical note (ISH4 T&T Agenda Item 9.11 - J34 Shoulder Hour Assessment). SLR have reviewed and approved.

		provide clear cross references to the data. Please ensure that this is consistent with the updated TA / ES Chapter 19	
51	Applicant	SoCG with National Highways and CCoC to be updated following their review of any revisions to the transport documents.	SLR – no comment

Action No	ACTION	Sub-Paragraph	Action for Applicant
101	<p>Issues with documents submitted at Deadline 5, including:</p> <ul style="list-style-type: none"> - ES Chapter 19 [REP5-046] and whether excluded hours should be included in first bullet point of para 2.8.21. - ES Chapter 19 [REP5-046] para 2.8.28 and incorrect reference to 'Operation Logistics Traffic Plan'. - Transport Assessment (TA) part 1 [REP5-071] paras 4.4.11, 4.4.12, 9.3.6 and Table 9-6. o TA part 3 [REP5-075] page 1008 of 1013, para 1.2.2. 	101.1	<p>The Applicant confirmed that a couple of issues had arisen relating to misaligned tables.</p> <p>MM have updated the TA and ES Chapter 19 to reflect those agreements previously made on excluded hours</p> <p>Incorrect reference – should be Outline Operational Logistics Traffic Plan. MM have updated the reference.</p> <p>Erroneous citations to Greater Cambridge Partnership 2021 that have been repeated several times in 4.4.11 and 4.4.12. Para 9.3.6 formatting error. Table 9-6 formatting error. Part 3 of the TA. Referencing error in para 1.2.2</p>
102	CTMP and justification for SHHG's request for further restrictions in section 5 of 'SHH 58' [REP5-135].	102.1	<p>The peak periods for the set up and take down of the pipeline are for the first eight weeks and last weeks only, otherwise it is 50 vehicles per day, therefore the Applicant does not consider that a vehicle limit is required. The Applicant is content to accept a restriction on hours. This would be secured through the CTMP.</p> <p>The ExA noted as an action point that the CTMP would be amended in relation to Station Road.</p>

			CTMP is being updated
103	Review of ISH3 Action Point 25 [EV-007v].	103.1	<p>This Action Point is related to the operation of Junction 34 Milton Interchange and whether the development traffic flows in the peak hour shoulders would exceed the thresholds that was used to assess whether mitigation was needed during the assessed 'peak' hours. This point was specifically in relation to Milton Interchange (A14 – J33).</p> <p>I have reviewed the A14 Jcn 34 Shoulder Hour Assessment note by MM and I agree with the key finding. That is, the assessed peak hours have the highest combined flow and the LinSig junction analysis for the assessed peak hours confirm the least spare capacity.</p>
104	Junction Modelling in TA Part 1 [REP5-071]	104.1	<p>Table 4-77, 4-78 and 4-79 of ES Chapter 19: Transport were identified as having errors in relation to total vehicle numbers. On 4-78, it includes three highway links. In Table 4-79, only refers to Horningsea Road.</p> <p>I have reviewed the errors and these have been dealt with by MM in the updated ES Chapter 19.</p> <p>Similarly 4.2.56 of ES Chapter 19 which states that Table 4-15 relates to construction and the 2026 future base scenario in the peak hours. 2038 columns headings included in Table 4-15.</p> <p>The same error occurs in Table 4-40.</p> <p>I have reviewed the errors and these have been dealt with by MM in the updated ES Chapter 19.</p>
		104.2	<p>The ExA referred to Table 9-5, and the link between the on slip and the off slip. The Applicant confirmed it did.</p> <p>The ExA queried the results for the performance of Horningsea Road and an explanation of the results presented. This focused on the DoS and corresponding DoS. The Applicant agreed to prepare a technical note explaining the results of the LinSig model.</p> <p>Similar question on Table 9-9 of the Transport Assessment</p> <p>I have reviewed the technical note and satisfied this addresses the points raised by the ExA.</p>

		104.3	<p>Table 9-4 of the Transport Assessment was queried as to why there is no change on Horningsea Road with construction. Applicant confirmed it's looking at the northbound and the traffic comes out of the site access on the A14 slip.</p> <p>This has been addressed in the updated TA.</p>
		104.4	<p>The ExA asked to look at Table 4-29 of Chapter 19. The ExA said this was the same scenario and dealing with the same matter but in the ES. The Applicant confirmed that was correct and that development meant 'construction'. Some presentation issues were raised by the ExA</p> <p>Traffic Flow Diagrams and referencing of flows in the ES have been reviewed there were inconsistencies in referencing and has been updated in the updated ES. This is included in Response Note "ISH4 T&T Agenda Item 9.12 – Issues with traffic modelling in TA Part 1 [REP5-046]"</p>
		104.5	<p>The ExA turned to Chapter 19 Table 4-68 which relates to the A10. The ExA asked for observations on the AM peak Northbound ahead. The ExA stated that this was not correct. The Applicant confirmed that was the case.</p> <p>The ExA turned to Table 4-77 and asked whether AM peak was 8-9 and PM peak was 5-6. The Applicant confirmed it was. The ExA then turned to paragraph 4.3.5. The ExA asked for [REP3-021]. The ExA noted that this has the same wording and gives a figure of 45 for the AM peak total. When looking at the Deadline 5 version, this has 100 movements. The Applicant explained that the Deadline 3 submission had a different assumption about parking compared to the Deadline 5 submission. At Deadline 3, the assessment assumed that the parking for staff would be occupied in the peak hour but for visitors, those vehicles were not expected to travel in the peak hours. However, following discussions, the assumptions were changed and a worst case was assessed which is that all spaces are occupied in the peak hour. The Applicant noted that the wording in 4.3.5 does not reflect the revised assumptions. This was added as an Action Point to amend</p> <p>I agree that a number of errors and referencing issues occurred. A series of updates have been made to the ES and Transport Assessment that address the points raised.</p> <p>This does not change the outcomes of the assessment.</p>

		104.6	<p>The ExA referred to paragraph 4.3.7 of Chapter 19 and the year 2028. The ExA asked where 2028 was. The Applicant confirmed this information was not present.</p> <p>The ExA referred to Table 4-78 and the absolute change column and how that relates back to the figures in Table 4-77. The Applicant agreed this did not link up and the figures had not been updated.</p> <p>Turning to paragraph 4.3.14 and the year 2038, the ExA asked which construction traffic was being referred to. The Applicant said it was an incorrect reference to construction and it should be operational</p> <p>I agree with the points raised by the ExA and these have been dealt with in the updated ES</p>
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Appendix B Summary of Junction Modelling Results

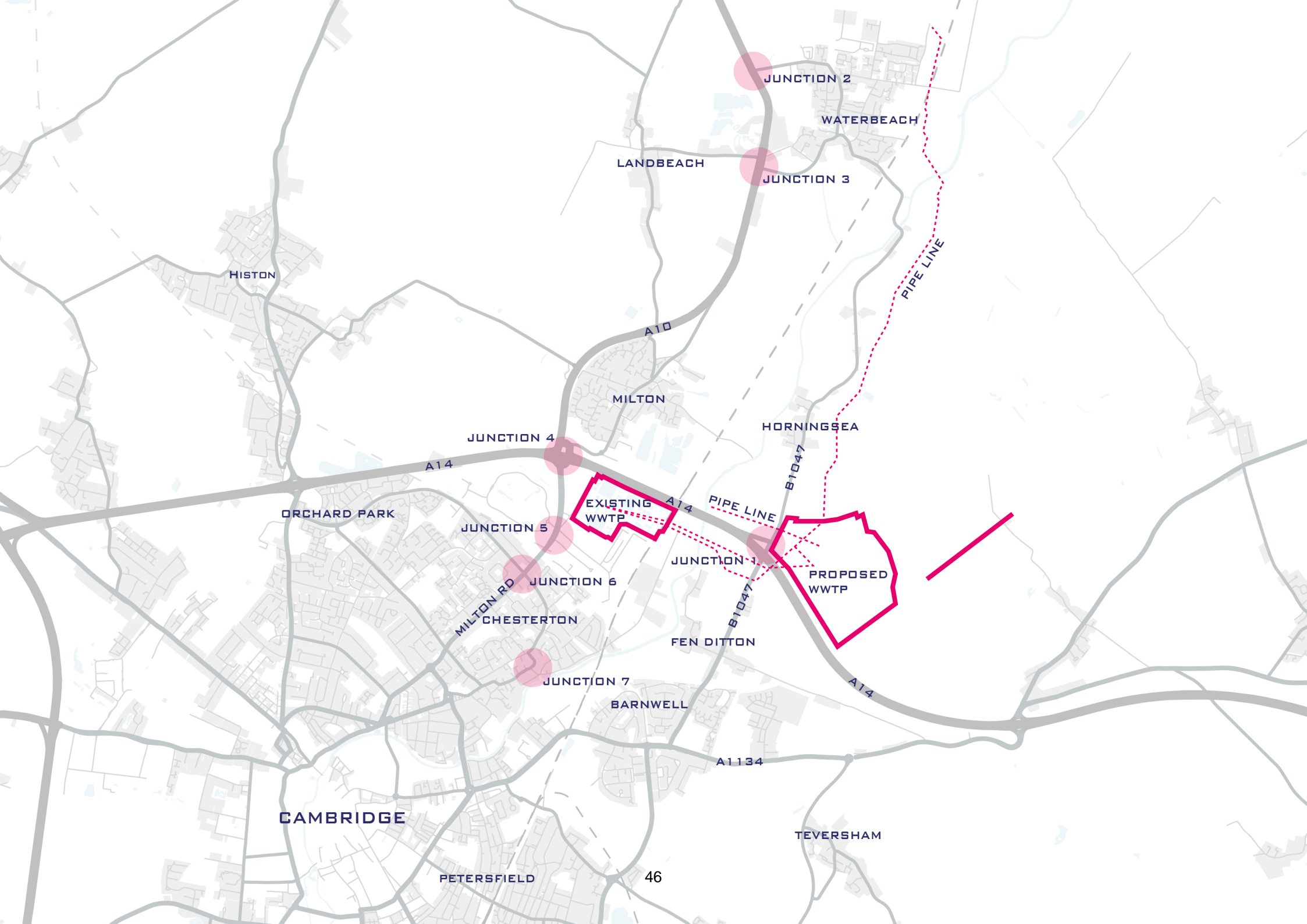
Cambridge WWTP Relocation Project

Transport Review – Mike Axon

Anglian Water Services Ltd

SLR Project No.: 452.065519.00001

26 March 2024



1. A14 JUNCTION 34 - B1047 HORNINGSEA RD

AM 2026
DATA SHOWING MEAN MAXIMUM QUEUE (PCU)
FUTURE BASE

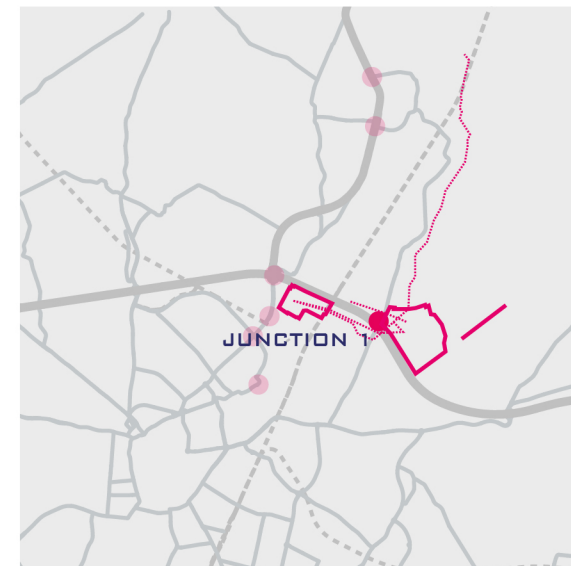
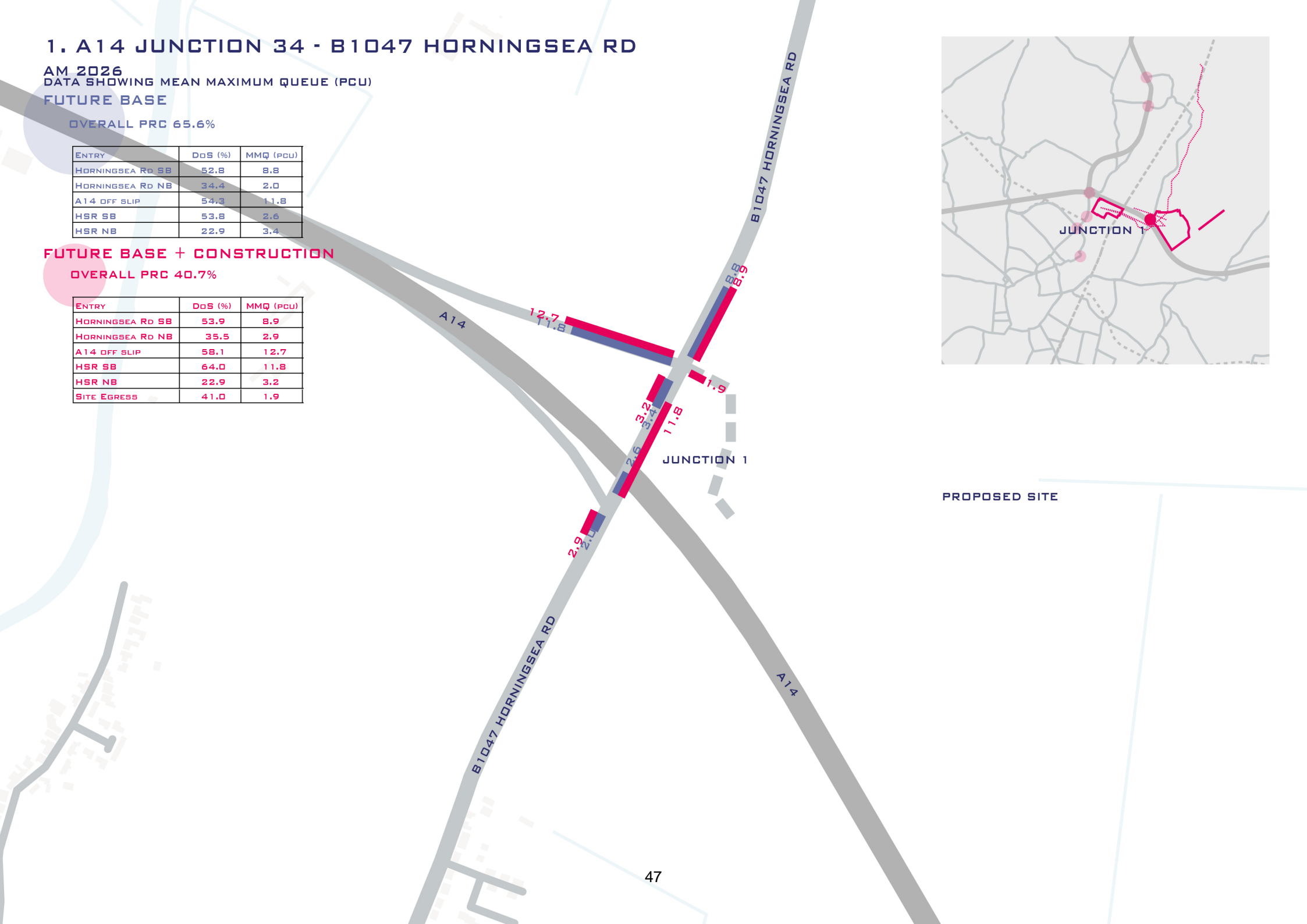
OVERALL PRC 65.6%

ENTRY	DOS (%)	MMQ (PCU)
HORNINGSEA Rd SB	52.8	8.8
HORNINGSEA Rd NB	34.4	2.0
A14 OFF SLIP	54.3	11.8
HSR SB	53.8	2.6
HSR NB	22.9	3.4

FUTURE BASE + CONSTRUCTION

OVERALL PRC 40.7%

ENTRY	DOS (%)	MMQ (PCU)
HORNINGSEA Rd SB	53.9	8.9
HORNINGSEA Rd NB	35.5	2.9
A14 OFF SLIP	58.1	12.7
HSR SB	64.0	11.8
HSR NB	22.9	3.2
SITE EGRESS	41.0	1.9



PROPOSED SITE

1. A14 JUNCTION 34 - B1047 HORNINGSEA RD

PM 2026
 DATA SHOWING MEAN MAXIMUM QUEUE (PCU)
 FUTURE BASE

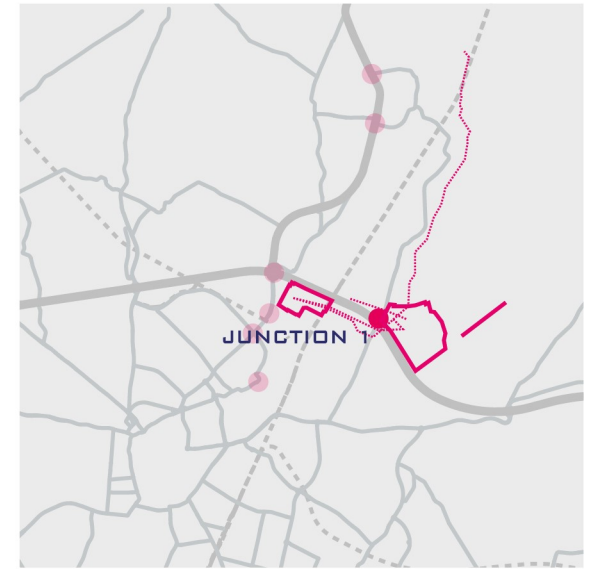
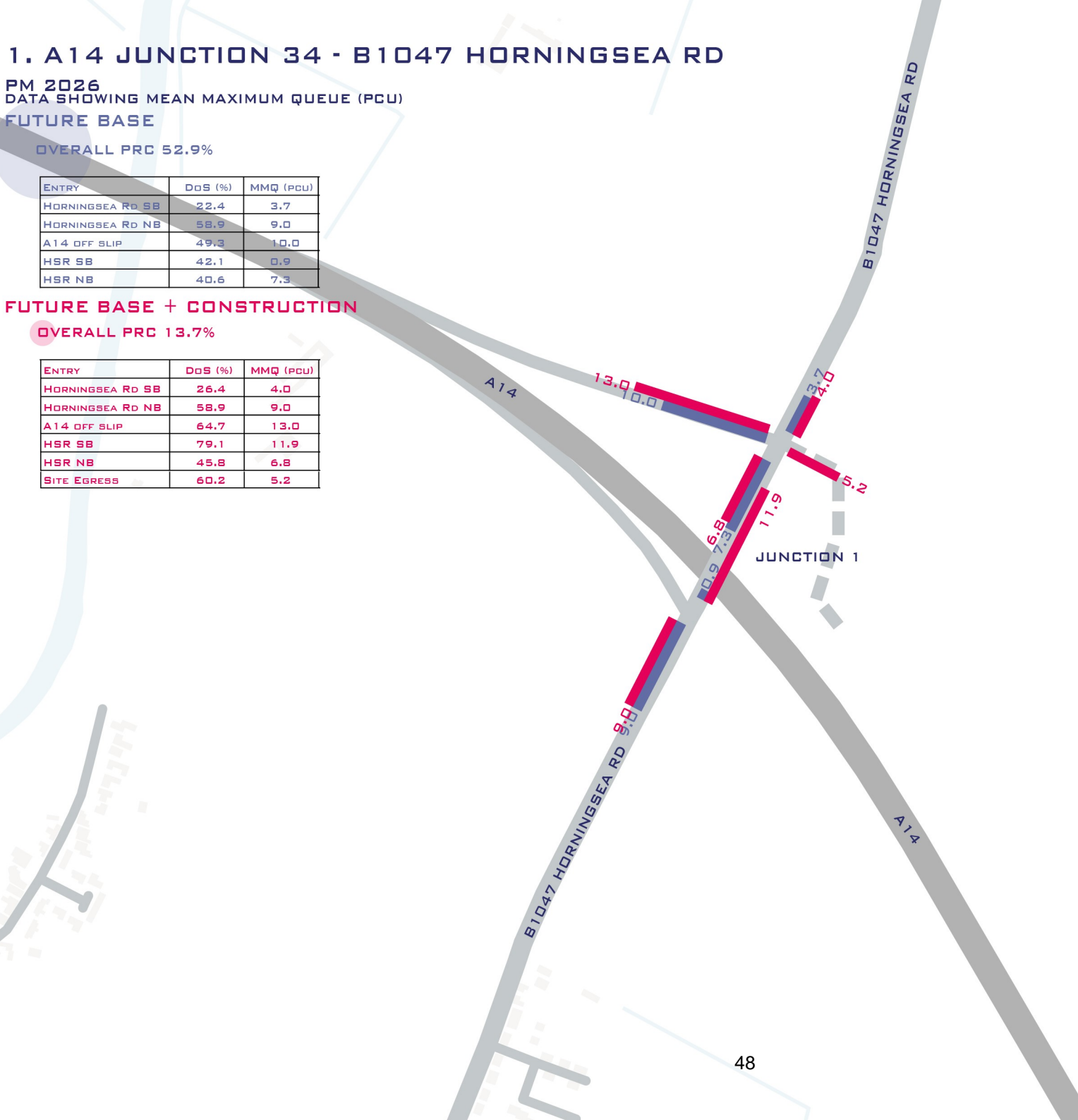
OVERALL PRC 52.9%

ENTRY	DoS (%)	MMQ (PCU)
HORNINGSEA Rd SB	22.4	3.7
HORNINGSEA Rd NB	58.9	9.0
A14 OFF SLIP	49.3	10.0
HSR SB	42.1	0.9
HSR NB	40.6	7.3

FUTURE BASE + CONSTRUCTION

OVERALL PRC 13.7%

ENTRY	DoS (%)	MMQ (PCU)
HORNINGSEA Rd SB	26.4	4.0
HORNINGSEA Rd NB	58.9	9.0
A14 OFF SLIP	64.7	13.0
HSR SB	79.1	11.9
HSR NB	45.8	6.8
SITE EGRESS	60.2	5.2



PROPOSED SITE

2. A10 - DENNY END ROAD

AM 2026
DATA SHOWING MEAN MAXIMUM QUEUE (PCU)
FUTURE BASE

OVERALL PRC 25%

ENTRY	DoS (%)	MMQ (pcu)
DENNY END RD	67.3	5.7
A10 SB	72.0	13.9
A10 NB	70.8	7.8

FUTURE BASE + CONSTRUCTION

OVERALL PRC 20.6%

ENTRY	DoS (%)	MMQ (pcu)
DENNY END RD	71.5	6.2
A10 SB	74.6	14.6
A10 NB	69.6	7.8

JUNCTION 2

DENNY END ROAD

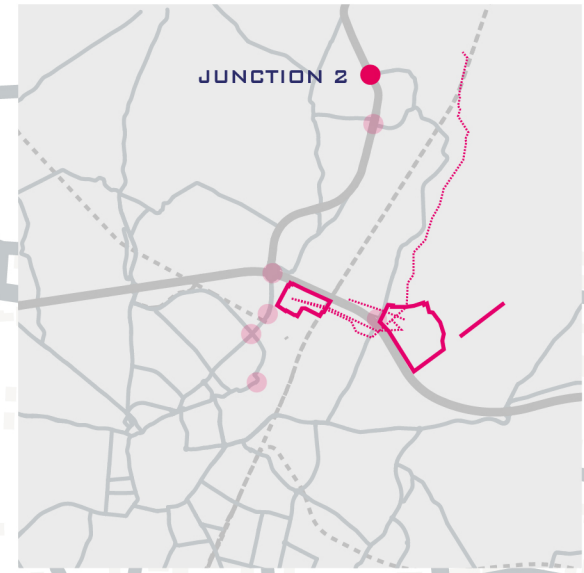
A10

A10

14.6
13.9

6.2
5.7

7.8
7.8



2. A10 - DENNY END ROAD

PM 2026
DATA SHOWING MEAN MAXIMUM QUEUE (PCU)
FUTURE BASE

OVERALL PRC 26.8%

ENTRY	DoS (%)	MMQ (pcu)
DENNY END RD	71.0	9.8
A10 SB	70.9	12.3
A10 NB	61.6	11.7

FUTURE BASE + CONSTRUCTION

OVERALL PRC 23.1%

ENTRY	DoS (%)	MMQ (pcu)
DENNY END RD	73.1	10.5
A10 SB	73.0	12.6
A10 NB	63.1	12.0

JUNCTION 2

DENNY END ROAD

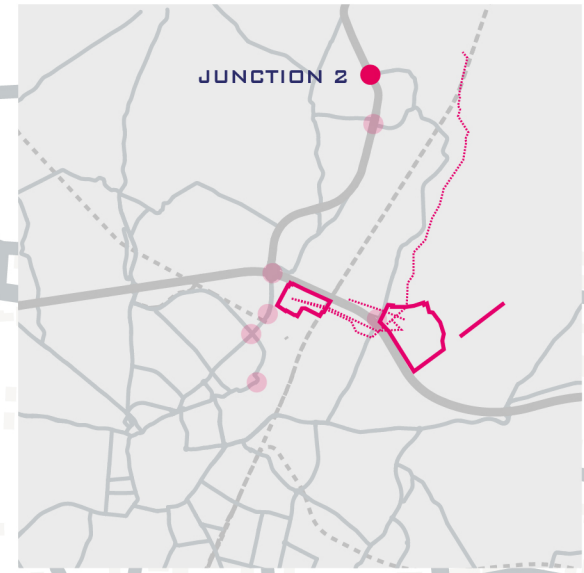
10.5
9.8

12.0

A10

50

JUNCTION 2



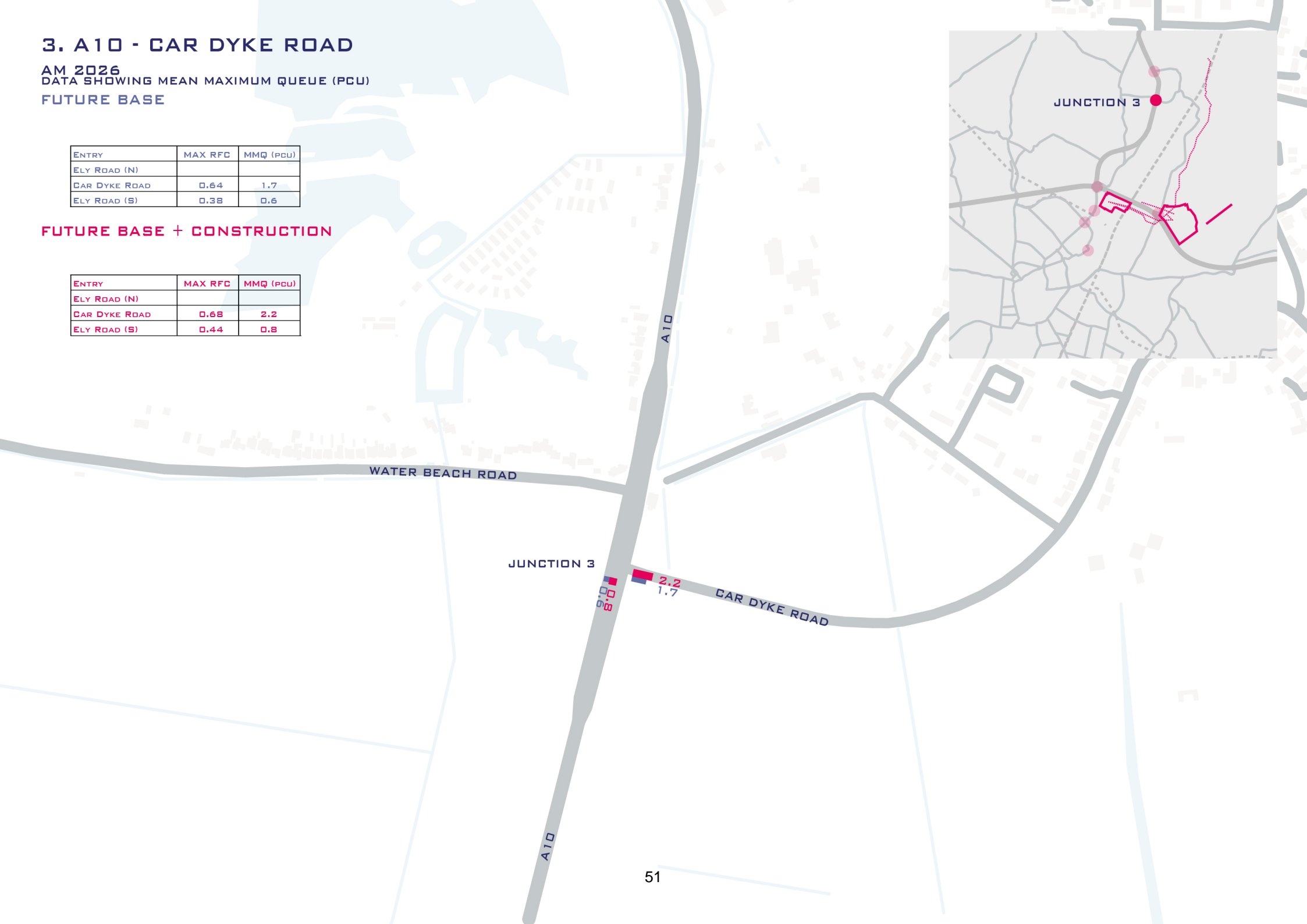
3. A10 - CAR DYKE ROAD

AM 2026
DATA SHOWING MEAN MAXIMUM QUEUE (PCU)
FUTURE BASE

ENTRY	MAX RFC	MMQ (PCU)
ELY ROAD (N)		
CAR DYKE ROAD	0.64	1.7
ELY ROAD (S)	0.38	0.6

FUTURE BASE + CONSTRUCTION

ENTRY	MAX RFC	MMQ (PCU)
ELY ROAD (N)		
CAR DYKE ROAD	0.68	2.2
ELY ROAD (S)	0.44	0.8



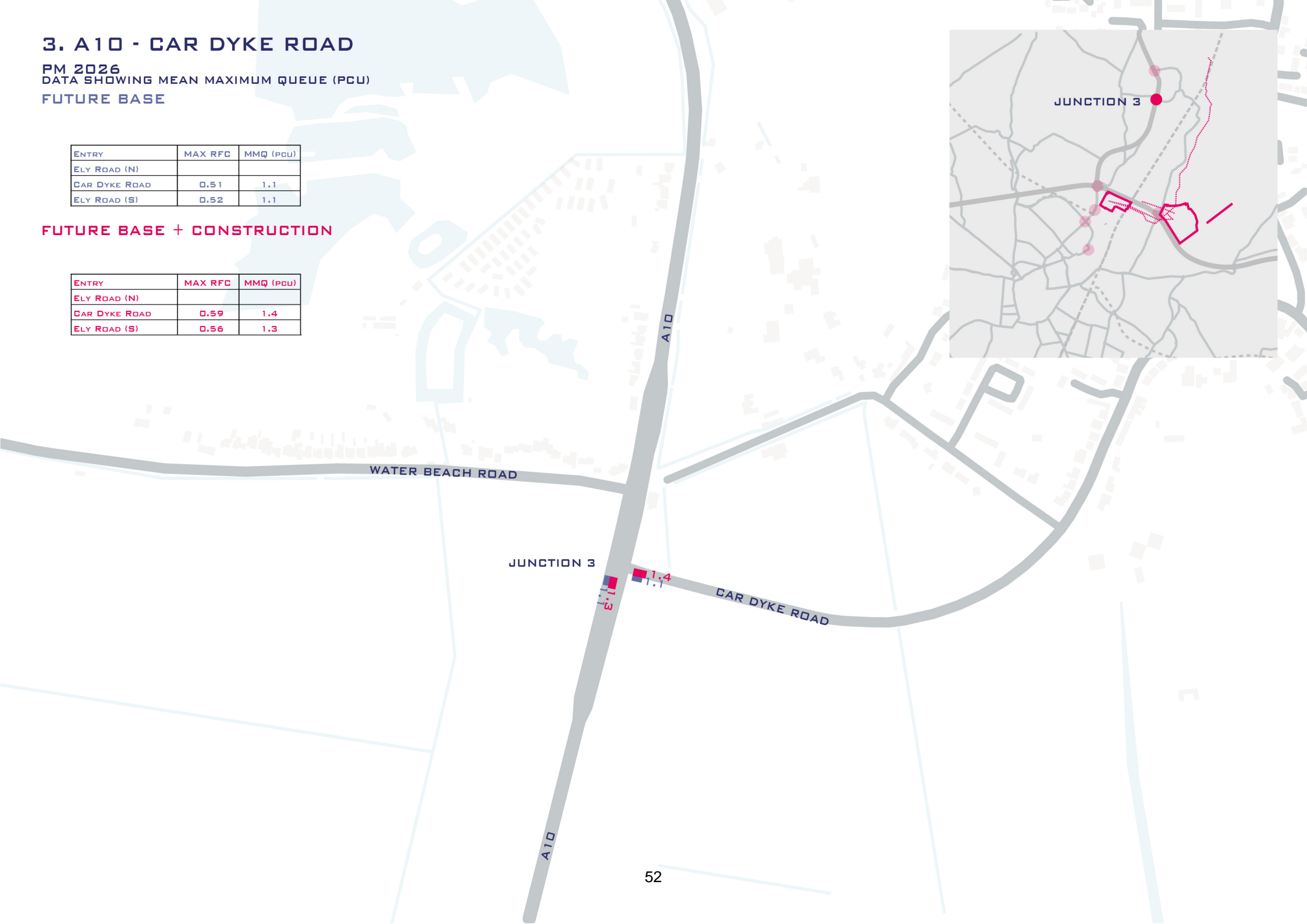
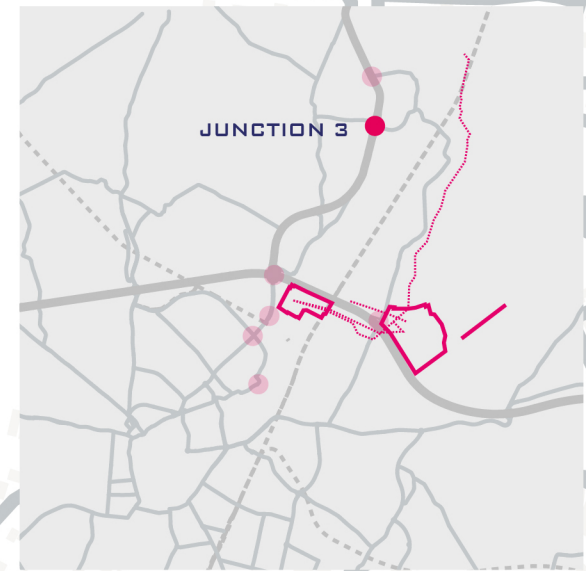
3. A10 - CAR DYKE ROAD

PM 2026
DATA SHOWING MEAN MAXIMUM QUEUE (PCU)
FUTURE BASE

ENTRY	MAX RFC	MMQ (PCU)
ELY ROAD (N)		
CAR DYKE ROAD	0.51	1.1
ELY ROAD (S)	0.52	1.1

FUTURE BASE + CONSTRUCTION

ENTRY	MAX RFC	MMQ (PCU)
ELY ROAD (N)		
CAR DYKE ROAD	0.59	1.4
ELY ROAD (S)	0.56	1.3



4. A14 JUNCTION 33 - MILTON INTERCHANGE

AM 2026
 DATA SHOWING MEAN MAXIMUM QUEUE (PCU)
 FUTURE BASE

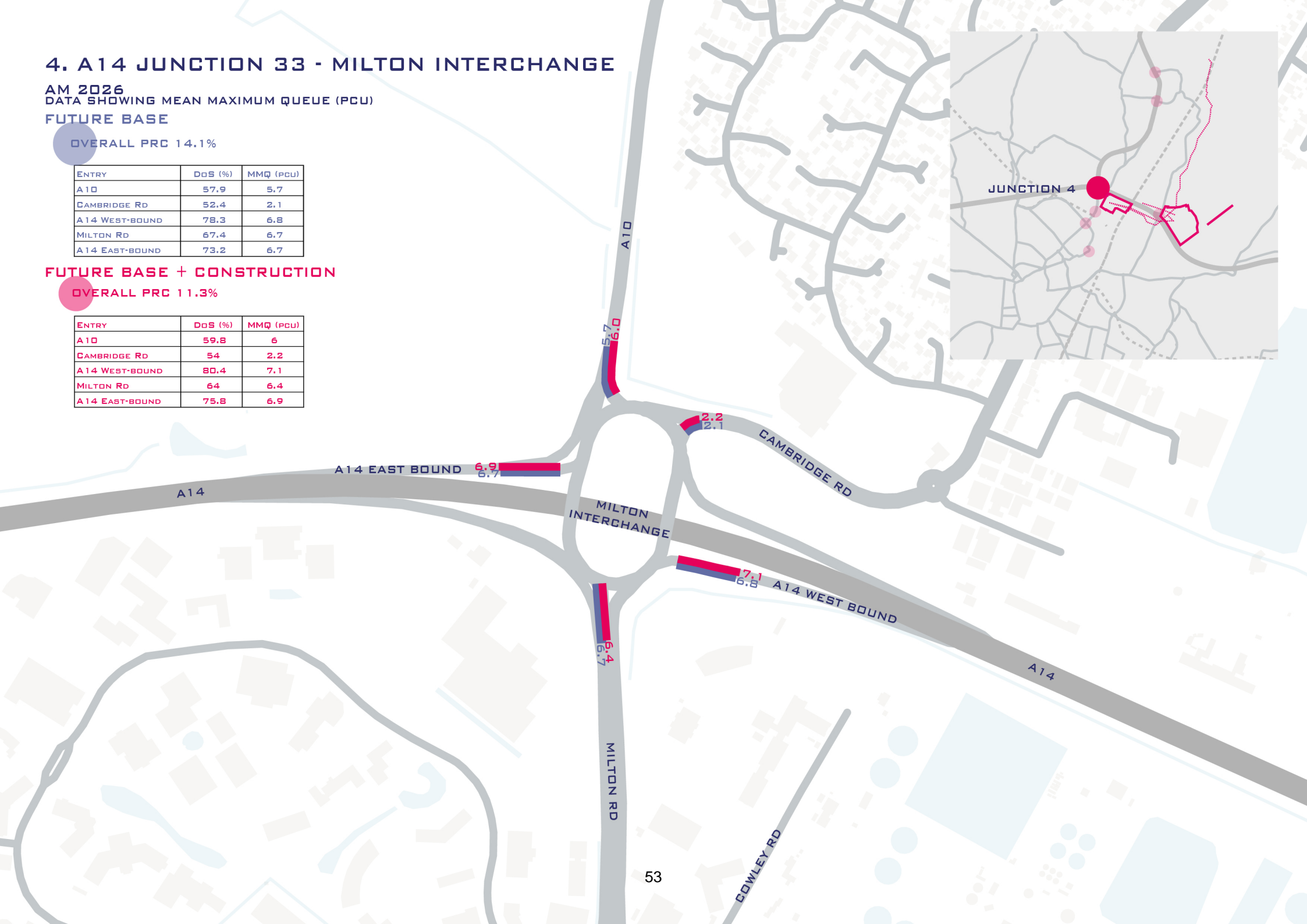
OVERALL PRC 14.1%

ENTRY	DoS (%)	MMQ (pcu)
A10	57.9	5.7
CAMBRIDGE RD	52.4	2.1
A14 WEST-BOUND	78.3	6.8
MILTON RD	67.4	6.7
A14 EAST-BOUND	73.2	6.7

FUTURE BASE + CONSTRUCTION

OVERALL PRC 11.3%

ENTRY	DoS (%)	MMQ (pcu)
A10	59.8	6
CAMBRIDGE RD	54	2.2
A14 WEST-BOUND	80.4	7.1
MILTON RD	64	6.4
A14 EAST-BOUND	75.8	6.9



4. A14 JUNCTION 33 - MILTON INTERCHANGE

PM 2026
 DATA SHOWING MEAN MAXIMUM QUEUE (PCU)
 FUTURE BASE

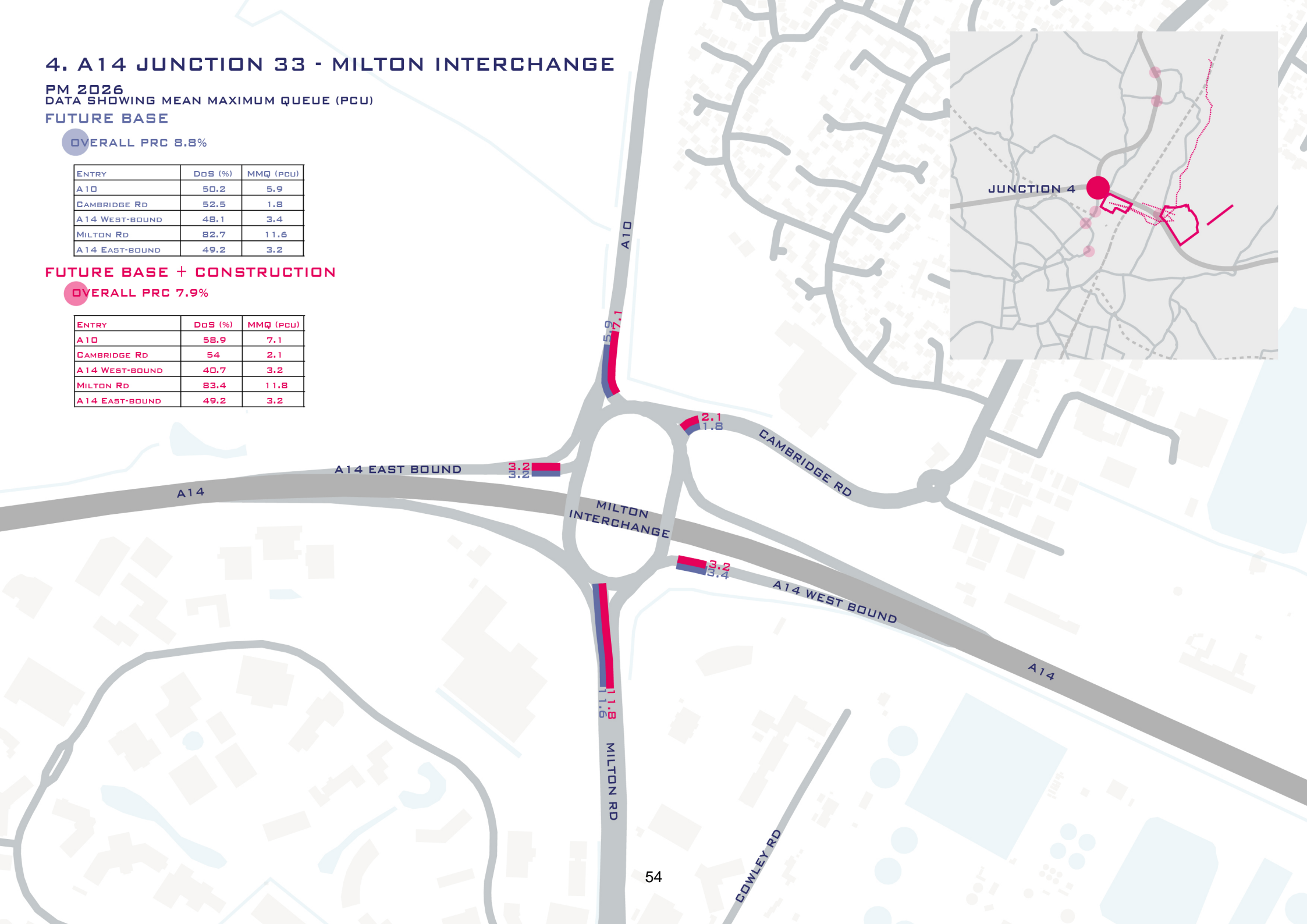
OVERALL PRC 8.8%

ENTRY	DoS (%)	MMQ (pcu)
A10	50.2	5.9
CAMBRIDGE RD	52.5	1.8
A14 WEST-BOUND	48.1	3.4
MILTON RD	82.7	11.6
A14 EAST-BOUND	49.2	3.2

FUTURE BASE + CONSTRUCTION

OVERALL PRC 7.9%

ENTRY	DoS (%)	MMQ (pcu)
A10	58.9	7.1
CAMBRIDGE RD	54	2.1
A14 WEST-BOUND	40.7	3.2
MILTON RD	83.4	11.8
A14 EAST-BOUND	49.2	3.2



5. MILTON ROAD - COWLEY ROAD

AM 2026
DATA SHOWING MEAN MAXIMUM QUEUE (PCU)
FUTURE BASE

OVERALL PRC 59.3%

ENTRY	DoS (%)	MMQ (PCU)
MILTON Rd SB	56.5	6.0
COWLEY Rd WB	33.9	1.5
MILTON Rd NB	46.3	2.4

FUTURE BASE + CONSTRUCTION

OVERALL PRC 57.1%

ENTRY	DoS (%)	MMQ (PCU)
MILTON Rd SB	57.3	6.1
COWLEY Rd WB	34.7	1.6
MILTON Rd NB	46.3	2.6

JUNCTION 5

6.0
6.1

2.9
1.5
1.6

COWLEY RD

COWLEY RD

MILTON RD

COWLEY RD

KINGS HEDGES RD

9.1

JUNCTION 6

7.3

10.5

10.5

GREEN END RD

55

MILTON RD

15.9
17.2

6. MILTON ROAD - GREEN END ROAD - KINGS HEDGES

AM 2026
DATA SHOWING MEAN MAXIMUM QUEUE (PCU)
FUTURE BASE

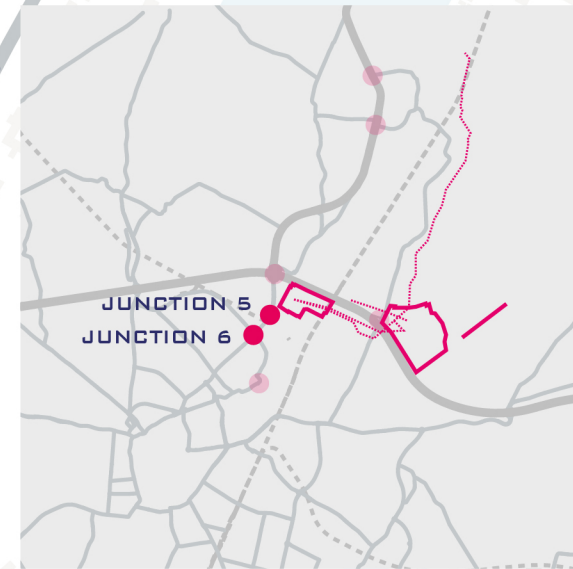
OVERALL PRC -0.3%

ENTRY	DoS (%)	MMQ (PCU)
MILTON Rd SB	80.7	7.1
GREEN END WB	90.3	10.3
MILTON Rd NB	88.2	15.9
KINGS HEDGES EB	89.6	9.1

FUTURE BASE + CONSTRUCTION

OVERALL PRC -1.6%

ENTRY	DoS (%)	MMQ (PCU)
MILTON Rd SB	80.7	7.3
GREEN END WB	89.6	10.5
MILTON Rd NB	91.5	17.2
KINGS HEDGES EB	89.6	9.1



5. MILTON ROAD - COWLEY ROAD

PM 2026
DATA SHOWING MEAN MAXIMUM QUEUE (PCU)
FUTURE BASE

OVERALL PRC 81.7%

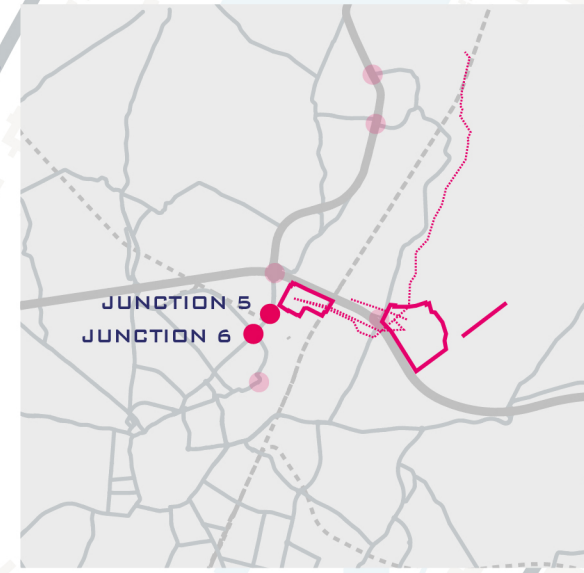
ENTRY	DoS (%)	MMQ (PCU)
MILTON Rd SB	31.6	2.9
COWLEY Rd WB	49.5	3.0
MILTON Rd NB	48.9	5.7

FUTURE BASE + CONSTRUCTION

OVERALL PRC 78.7%

ENTRY	DoS (%)	MMQ (PCU)
MILTON Rd SB	32.1	3.0
COWLEY Rd WB	50.4	3.1
MILTON Rd NB	49.8	5.8

JUNCTION 5



JUNCTION 5
JUNCTION 6

6. MILTON ROAD - GREEN END ROAD - KINGS HEDGES

PM 2026
DATA SHOWING MEAN MAXIMUM QUEUE (PCU)
FUTURE BASE

OVERALL PRC 19.5%

ENTRY	DoS (%)	MMQ (PCU)
MILTON Rd SB	64.5	9.2
GREEN END WB	75.1	6.1
MILTON Rd NB	73.0	11.0
KINGS HEDGES EB	75.3	6.1

FUTURE BASE + CONSTRUCTION

OVERALL PRC 15.0%

ENTRY	DoS (%)	MMQ (PCU)
MILTON Rd SB	68.0	9.7
GREEN END WB	76.5	6.7
MILTON Rd NB	78.3	11.8
KINGS HEDGES EB	75.3	6.1

JUNCTION 6

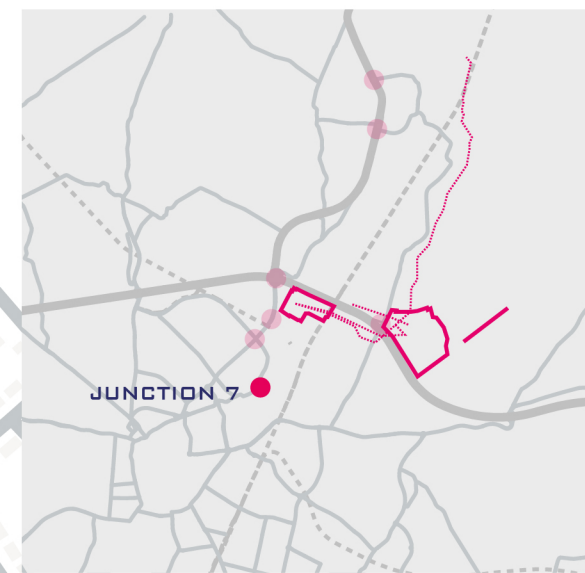
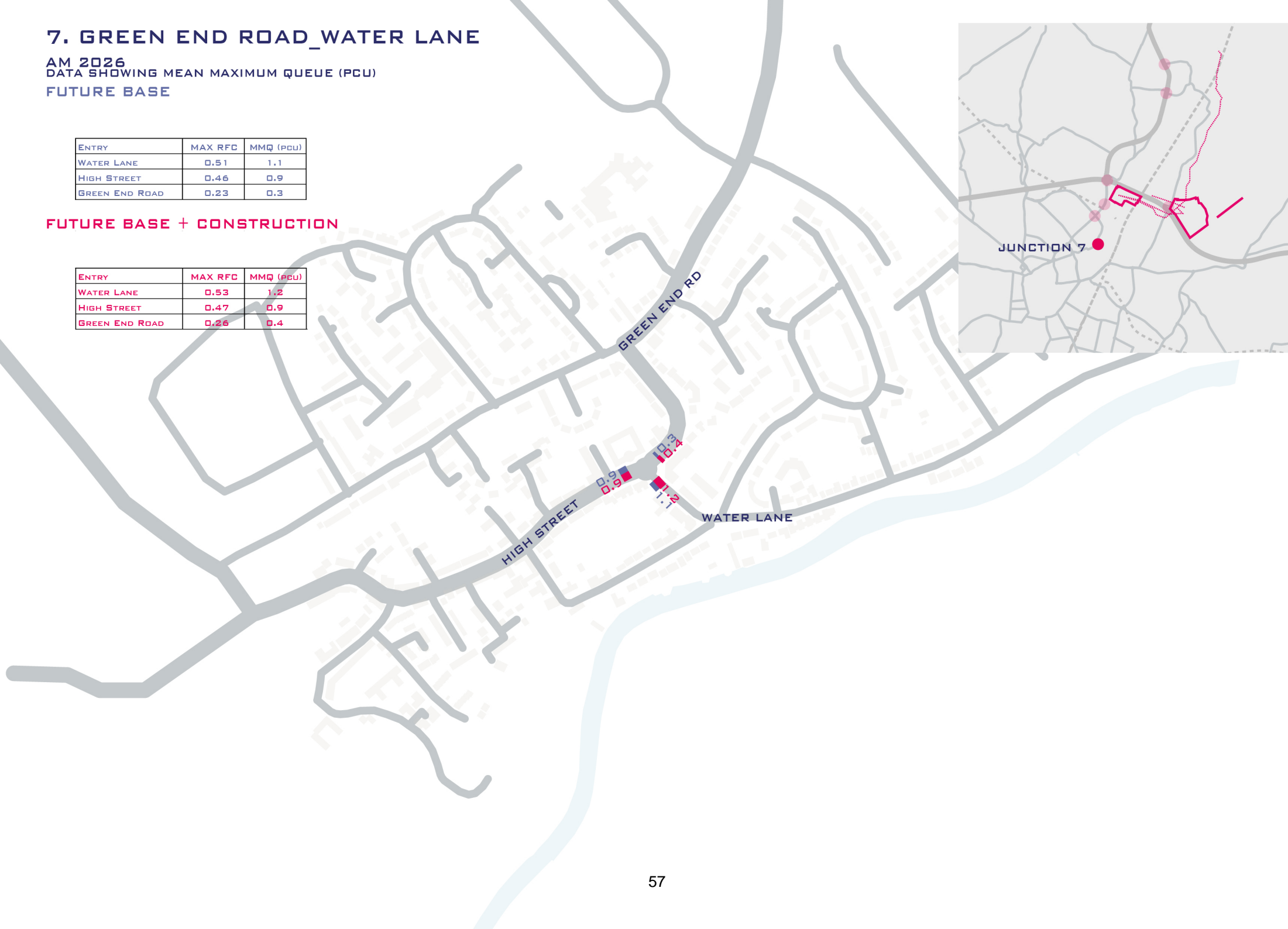
7. GREEN END ROAD_WATER LANE

AM 2026
 DATA SHOWING MEAN MAXIMUM QUEUE (PCU)
 FUTURE BASE

ENTRY	MAX RFC	MMQ (PCU)
WATER LANE	0.51	1.1
HIGH STREET	0.46	0.9
GREEN END ROAD	0.23	0.3

FUTURE BASE + CONSTRUCTION

ENTRY	MAX RFC	MMQ (PCU)
WATER LANE	0.53	1.2
HIGH STREET	0.47	0.9
GREEN END ROAD	0.26	0.4



7. GREEN END ROAD_WATER LANE

PM 2026
 DATA SHOWING MEAN MAXIMUM QUEUE (PCU)
 FUTURE BASE

ENTRY	MAX RFC	MMQ (PCU)
WATER LANE	0.41	0.7
HIGH STREET	0.32	0.5
GREEN END ROAD	0.28	0.4

FUTURE BASE + CONSTRUCTION

ENTRY	MAX RFC	MMQ (PCU)
WATER LANE	0.45	0.9
HIGH STREET	0.33	0.5
GREEN END ROAD	0.29	0.4

