HALSTON

# APPENDIX 12.7

**Landscape Response**

**In respect of a Further Information Request (RFI)**

**Project Admiral (WCC planning ref. 25/60344)**

**By Macro Works**

**February 2026**

**Introduction**

This landscape response statement has been prepared in response to a Further Information Request (RFI) issued by Westmeath County Council in respect of a planning application for a proposed development in the townlands of Gneevebane, Oldtown, Farthingstown, Castlelost, and Kiltotan and Collinstown, Rochfortbridge in County Westmeath. The RFI included the following items in relation to the Landscape and Visual Impact assessment and the Glint and Glare report, both produced by Macro Works.

**RFI Item 13 (i).**

> *"The Planning Authority requires the submission of Further Information in order to fully assess the visual, architectural, and landscape impacts of the proposed Data Centre development. The following concerns have been identified:*
>
> *It is considered that the siting, orientation, and overall layout of the proposed Data Centre buildings would create a visually dominant, industrial-scale frontage along the R344. This would result in a significant adverse impact on the visual character of the surrounding rural landscape. The six buildings are presented as repetitive, industrial-scale structures more typical of a heavy industrial estate, with little or no evident response to the visual sensitivity of the rural setting. The development would benefit from significantly improved architectural quality and stronger design integration to better reflect and respect the surrounding rural landscape context.*
>
> *The layout of both the Data Centre and Distributed Energy Resource components appears constrained, offering limited opportunity for the surrounding landscape or site boundaries to absorb the visual bulk of the scheme. The proposed 20–24 metre landscape buffer along the road frontage is considered insufficient to mitigate the development's visual prominence.*
>
> *There is potential for the proposed Data Centre to adversely impact on the residential amenity of the two adjoining dwellings located along the Regional Road. It is considered that the current scale, layout, and siting of the data centre buildings demonstrate limited regard for the proximity, setting, and amenity value of these existing residential properties.*

*The photomontages submitted fail to adequately depict the true scale and impact of the Data Centre on adjoining residences. Critical elements, including high palisade security fencing, lighting masts, and security camera masts are omitted, which would further exacerbate visual and residential impacts both from the dwellings and the R344.*

*Accordingly, you are requested to submit the following;*
*Site layout plans to be submitted showing a revised configuration of the proposed data centre buildings that allows for clear separation from the regional road and existing roadside dwellings, thereby reducing visual impact and ensuring a more sympathetic relationship with the rural setting*

*A. A comprehensive Design Statement outlining the design rationale, architectural intent, and detailing proposed materials and finishes*

*B. Enhanced landscape proposals, including mitigation measures and cross-sections showing how the development will be screened over time*

*C. Revised, accurate photomontages illustrating the Data Centre in combination with security fencing, lighting infrastructure, and security cameras*

*D. Updated plans clearly showing the extent, design, and finish of all security-related infrastructure*

*E. Revised viewpoint photomontage locations taken from the rear garden boundaries of all dwellings within 600m of the site*

*F. Additional viewpoint locations taken at 500m intervals from the site entrance extending along both the eastern and western approaches of the R344 for 2km*

*G. A photomontage of the Data Centre, including associated security fencing, lighting, and cameras, as viewed directly from the R344*

**RFI Item 13 (ii).**

*"While the submitted Landscape and Visual Impact Assessment acknowledges local visual sensitivities, it is considered that the assessment significantly underestimates the proposal's visual impacts, particularly from key viewpoints along the R344, the roadside boundaries, and nearby residential properties. Large sections of the solar array will be located adjacent to several one-off dwellings, with the closest separation approximately 26m, which is considered insufficient to safeguard residential amenity. The proposed 2.4m timber post and tensile mesh fencing, in some cases located within 5.6m of residences, would create an overbearing and intrusive impact. You are therefore requested to submit revised plans illustrating a minimum set back of 40m of the solar array from all residential boundaries."*

**RFI Item 13 (iii).**

> *"You are therefore requested to submit revised photomontages of the solar array from the rear of all residential properties within 600m of the application site together with additional viewpoints at 500m intervals along both the eastern and western approaches of the R344 for a distance of 2km to enable a full assessment of visual and residential impacts.*
>
> *All photomontages should clearly illustrate security fencing, lighting, and security camera infrastructure."*

**Response to RFI Item 13 (i-iii)**

Review of submitted assessment
As set out in the submitted Landscape and Visual Impact Assessment (LVIA), a selection of representative viewpoints has been identified along the R446 regional road, which bisects the application site and passes directly to the north of the proposed Data Halls. These viewpoints were selected appropriate representative locations from which to assess potential visual effects on publicly accessible receptors and are selected with regard to GLVIA3. A revised suite of photomontages has been prepared and is submitted as part of this Further Information response (refer to RFI Photomontage Booklet). These updated visualisations incorporate the design amendments introduced as part of the current application and provide an accurate representation of the proposed development as amended.

With regard to the request for viewpoints from the rear gardens of dwellings within 600 metres of the site, it should be noted that this does not reflect standard or established practice in the assessment of landscape and visual effects for solar developments in a rural context. In accordance with best practice guidance, representative viewpoints are selected to assess likely visual effects on groups of receptors, including nearby residential properties, rather than on each individual dwelling. By definition, representative viewpoints are intended to illustrate the typical visual experience of receptors within a defined area. It is neither practicable nor proportionate to provide individual viewpoints from every property within the study area. The representative viewpoints included in the submitted LVIA have been selected to provide a fair and robust indication of the views that surrounding residential receptors are likely to experience.

Furthermore, in addition to the assessment of representative viewpoints, Digital Terrain Model (DTM) visibility mapping and more detailed Digital Surface Model (DSM) visibility mapping have been undertaken and are included as part of the submitted application to support the assessment of landscape and visual effects. These maps provide a comprehensive assessment of the potential theoretical visibility of the proposed solar farm development, thereby supplementing the viewpoint assessment and ensuring a thorough evaluation of likely visual effects.

As per Figure 1.8 of the submitted LVIA (Figure 1 below refers) the Digital Surface Model (DSM) visibility mapping, which takes account of existing topography, vegetation, and surrounding built development, indicates a limited potential for visibility of the proposed solar development beyond approximately 200m from the site boundary. Along certain sections of the site boundary, most notably to the east and northwest, visibility of the proposed panels will be largely contained to the immediate site perimeter. This is due to the substantial degree of existing boundary vegetation, together with the low-profile nature of the proposed panels, which will not exceed approximately 3.84m in height. This pattern of limited visibility is characteristic of solar developments within the Midlands of Ireland, where relatively flat terrain, combined with established layers of intervening hedgerows and vegetation, typically results in a notable degree of screening. As a consequence, solar panels do not generally present as prominent features within the surrounding local or wider landscape context. As demonstrated in the DSM mapping, some of the more densely populated areas within the study area, including lands to the northeast on the outskirts of Rochfortbridge, will be fully screened from the proposed panels.

The submitted assessment also includes for a mitigation-based DSM visibility map in Figure 1.14 (Figure 2 below refers), which provides a more robust and realistic reflection of the potential visibility of the proposed panels once the proposed landscape mitigation measures have fully established. The proposed enhancement of existing hedgerows, together with the introduction of additional native woodland planting, will further reduce the visibility of the panels from both the local and wider surrounding landscape. Of particular note is the projected reduction in visibility between the two northernmost parcels, including along the R446 regional road. This area encompasses the most concentrated cluster of rural residential dwellings within the immediate environs of the site and therefore represents one of the more sensitive receptor locations.

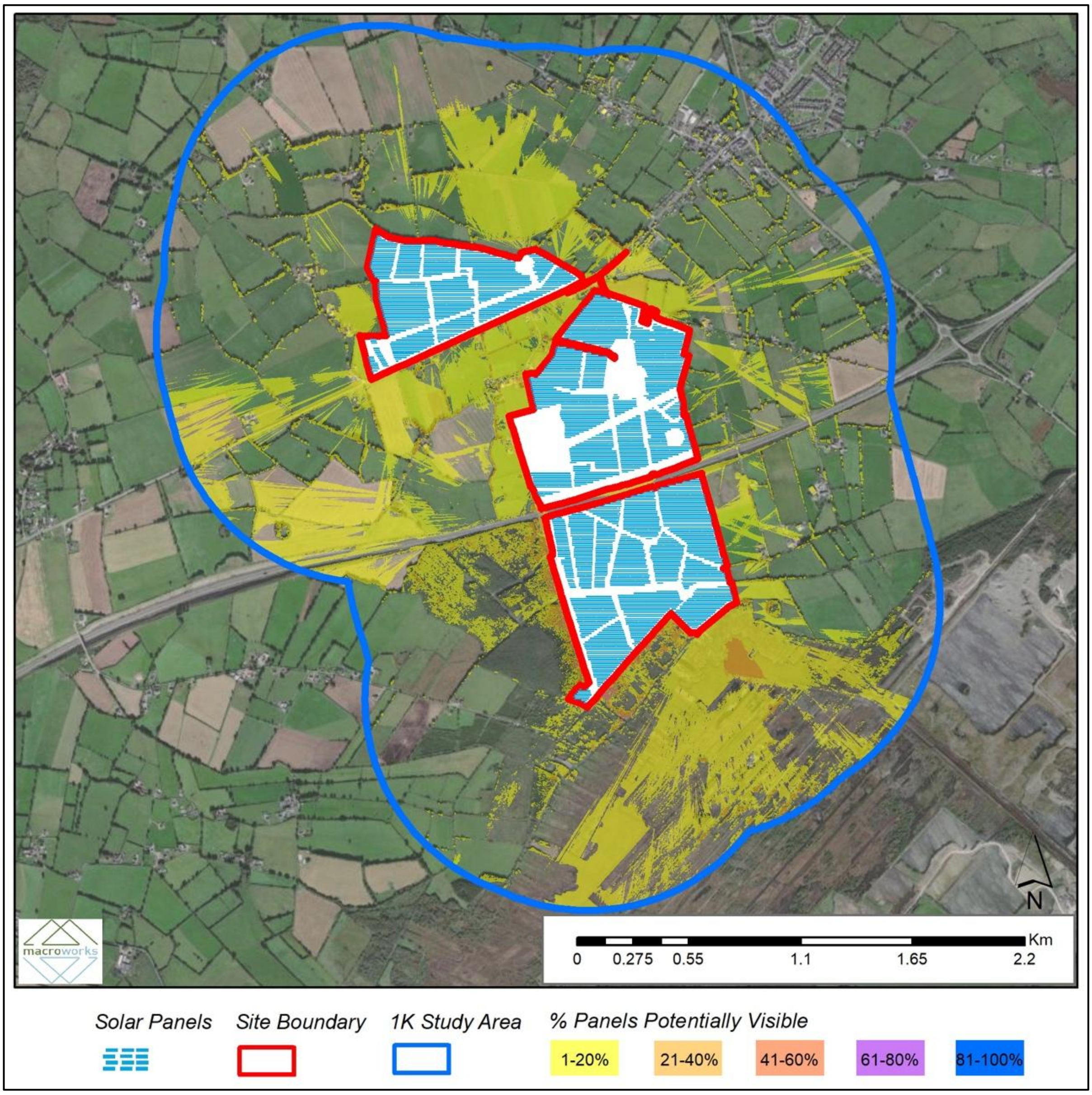


***Figure 1: Digital Surface Model (DSM) based visibility map (Solar Farm) accounting for screening by surface elements such as hedgerows, trees lines and forestry.***

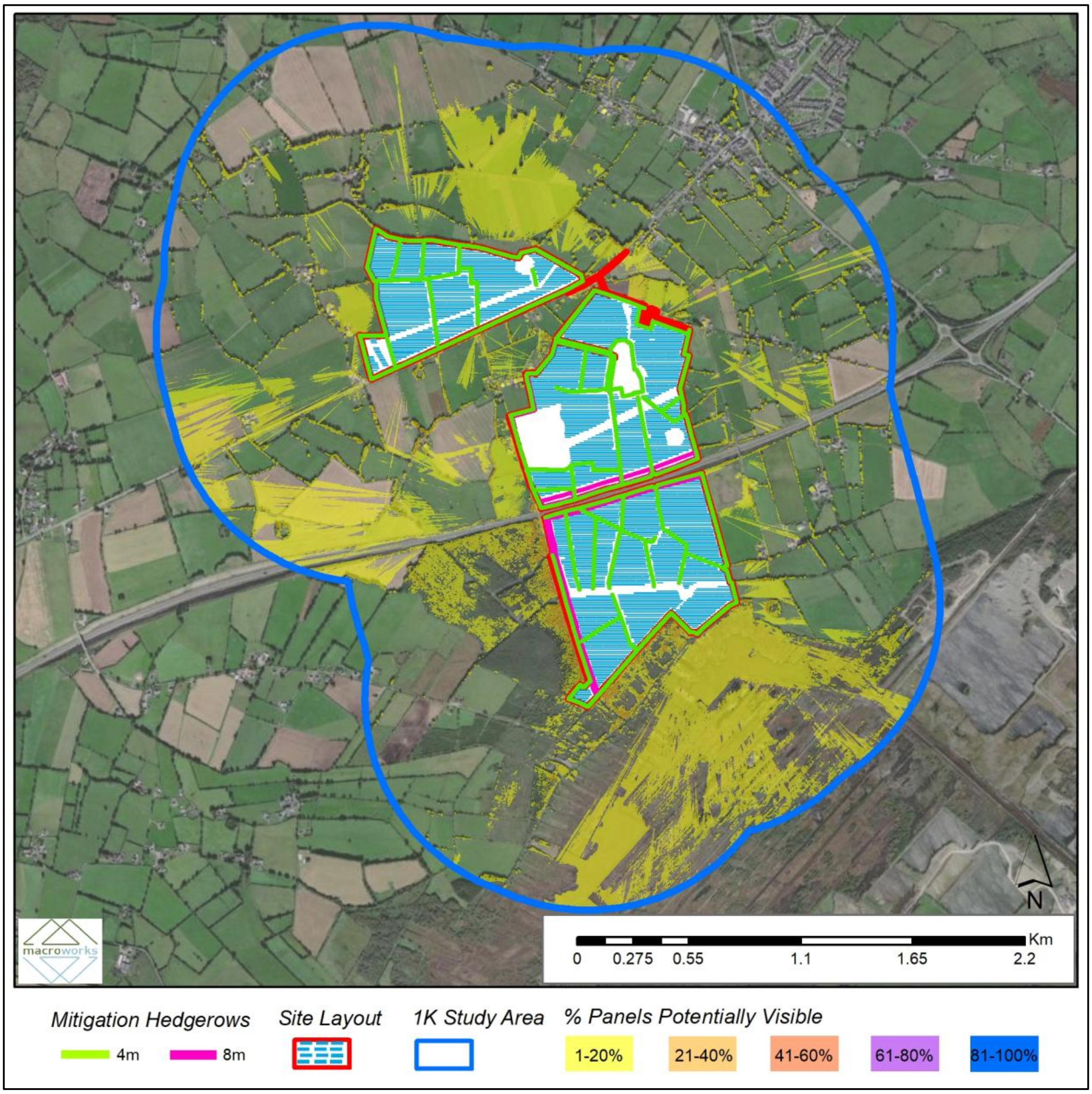


***Figure 2: Digital Surface Model (DSM) mitigation-based visibility map (Solar Farm) accounting for screening by surface elements such as hedgerows, trees lines and forestry and all proposed landscape mitigation measures (i.e. new and enhanced hedgerows, and areas of woodland)***

The limited degree of visibility from this local context is also demonstrated in the mitigation-based photomontages submitted as part of the application. In particular, representative viewpoints VP4 and VP7 within the submitted application, both located along the R446 regional road, represent the nearest surrounding residential receptors as well as the principal route corridor. From these viewpoints, the residual significance of visual effect has been assessed as Slight–Imperceptible, reflecting the heavily screened nature of the proposed development following the establishment of mitigation planting. While clearer visibility of the proposed panels would occur under the pre-mitigation scenario, it is anticipated that, once the existing and proposed hedgerows have established and reached a typical maintained height of approximately 3–4 metres, they will provide a high degree of screening. This will result in limited residual visibility of the proposed panels and a correspondingly Low-negligible level of visual effect resulting in a Slight-imperceptible residual significance of visual effect.

It should be noted that the proposed CCTV poles within the solar development will comprise slender vertical structures with a maximum height of approximately 4.5 metres. While these poles may have the potential to extend marginally above the height of adjacent hedgerow vegetation in certain locations, their slim profile and limited massing will result in a minimal visual presence. Owing to their slender form and dispersed arrangement across the site, they are unlikely to attract undue visual attention or materially influence the overall perception of the development within the surrounding landscape. On this basis, it is not considered that the proposed CCTV poles will give rise to any notable adverse visual effects.


***Figure 3: Viewpoint VP7 in the original submission (VP1 in the RFI Photomontage Booklet showing the heavily screened view of the proposed development in the post-mitigation scenario from the R446 regional road and nearby residential receptors.***

Similarly, the fencing proposed around the solar arrays will consist of a post-and-wire stockproof fence with a maximum height of 2.45 metres. This form of fencing represents the standard boundary treatment for solar developments throughout Ireland and provides a visually permeable boundary treatment. In contrast to more visually harsh alternatives such as palisade or paladin security fencing, the proposed post-and-wire fencing offers a considerably softer and more rural-appropriate boundary treatment, thereby minimising potential visual intrusion within the receiving landscape. Overall, the proposed site fencing will be well screened by the boundary vegetation or new areas of hedgerow and woodland, which are always located along public facing side of the proposed fencing.

<u>Further Information Amendments to the Proposed Development</u>

It should be noted that, during the further information stage, amendments have been made to the proposed solar layout to provide increased offsets from surrounding residential receptors. In particular, the nearest residential properties have been further set back from the proposed panel array, with a minimum set back from nearest residential boundaries of 40m from the solar arrays. There is currently no specific national guidance for solar energy developments that prescribes mandatory setback distances from residential receptors. Notwithstanding this, established best practice within the industry typically provides for separation distances in the order of approximately 20 m to 40 m from dwellings, depending on site-specific circumstances, topography, and the presence of existing screening. By way of example, the current Carlow County Development Plan (CDP) includes reference to a "*setback distance of 25 m imposed on solar farms from domestic dwellings*" as set out in the Renewable Energy Strategy (RES). The CDP further acknowledges, in its assessment of potential solar resources and constraints, that "*proximity to housing is another factor, although solar farms have limited external impacts beyond the site boundary*." In this context, the revised layout not only aligns with emerging best practice but also demonstrates a proactive design response to residential amenity considerations. The increased offsets, in combination with existing and proposed boundary treatments and landscaping measures (as detailed in the submitted LVIA and landscape mitigation proposals), will further reduce the potential for visual effects and ensure that the development integrates appropriately within the receiving landscape.

It is noted that RFI Point 13(iii) requests additional viewpoints along the "*western approaches of the R344 for a distance of 2km*". It is considered that reference to the R344 has been made in error and that this request more appropriately relates to the R446, which is the nearest regional road to the site and traverses between the solar development and the proposed Data Halls to the north. The submitted LVIA already includes eight representative viewpoints (VP2, VP4, VP7, VP8, VP9, VP12, VP15 and VP16) located along the R446. These viewpoints extend over a distance of approximately 5km, from the settlement of Rochfortbridge to the east of the site to Tyrrellspass to the west. The spacing between these viewpoints ranges from approximately 500m to 1.3km, with the wider intervals occurring toward the western extent of the study area where visibility potential reduces and in many instances the site is fully screened. While the viewpoints are not positioned at fixed 500m intervals, they have been strategically selected to reflect the sequential visual experience of road users travelling along this section of the regional road. Collectively, they provide a robust and proportionate representation of the nearest and most sensitive visual receptors along this section of the regional road corridor. The residual significance of visual effect at these representative viewpoints has been assessed as ranging from Moderate–Slight to Imperceptible. These residual effects assume the full establishment of the proposed mitigation planting, at which stage views of the proposed solar development and Data Halls will be substantially filtered or screened. Under the pre-mitigation scenario, the assessed significance of effect ranges from Substantial–Moderate to Imperceptible, reflecting the transitional nature of effects prior to the maturation of the proposed landscape mitigation measures.

It should be noted that the addition of photomontages at fixed 500m intervals along the route corridor would not identify or demonstrate any additional or materially different visual effects beyond those already assessed within the submitted LVIA.

Overall, the degree of visual change associated with the solar component of the proposed development in the post-mitigation scenario will be limited, as the surrounding and enhanced hedgerow network will substantially screen the development from the nearest surrounding receptors. With regard to the proposed Data Halls, these elements will similarly benefit from a considerable degree of screening arising from both existing vegetation and the proposed mitigation planting. Notwithstanding this, a discernible degree of visual change will occur at certain proximate local receptors, particularly during the initial establishment period of the landscape mitigation measures. It is important to note that the nearest residential receptors along the R446 regional road are generally well contained by existing boundary vegetation and do not afford any broad or distant views across the wider landscape in the direction of the proposed development. This vegetation will be heavily reinforced and supplemented by the proposed mitigation screen planting, thereby further reducing the potential for highly prominent views of the development.

It should be noted that, as part of the design amendments introduced during the Further Information stage, additional mitigation measures have been incorporated to further reduce residual visual effects on surrounding local receptors, as outlined in the preceding sections.
In particular, the proposed Data Halls have been set back further from the regional road corridor and will now be located approximately 69–71 metres from the roadside hedgerow, generally located at a lower ground level than the regional road. This increased setback will reduce their visual prominence when viewed from the road corridor and associated local receptors. Furthermore, the nearest Data Hall will be positioned approximately 51 metres from the curtilage of the two single-storey dwellings located to the north of the Data Hall component of the development, with the dwellings themselves situated a further distance to the northeast. This spatial separation, combined with intervening vegetation and proposed mitigation planting, will assist in limiting potential visual effects at these residential receptors. In addition, earthen berms are proposed along the northern, western, and north-eastern boundaries of the Data Hall area. These berms will be planted with native woodland species to provide enhanced screening and to assist in visually integrating the development into the receiving local landscape. This measure will further soften the built form and contribute to a reduction in residual visual effects at the nearest surrounding receptors.

As set out in the Architectural Design Statement submitted as part of this further information response, amendments to the proposed development have been undertaken during the further information stage, including a comprehensive redesign of the proposed Data Halls. The revised design incorporates a new geometric metal veil along the elevation facing the R446. This metal veil will be mounted approximately 4 m above ground level and set approximately 1 m below roof level. The purpose of this intervention is to diminish the perceived height and scale of the buildings when viewed from the R446 regional road. The angled geometry of the metal veil will further break up the visual mass of the elevations. The varying angles will create changing tones and shadow effects throughout the day as sunlight interacts with the façade, thereby introducing visual depth and texture to the building form. In addition, the proposed Data Halls have been reoriented to create a centralised plaza space where the office elements within each hall converge. These office components will be clad in a mix of glazing and timber battens, introducing variation in materiality, texture, and tone. These interventions will further subdivide the overall building mass and reduce the perceived extent and scale of the Data Halls, particularly in views from the R446.


***Figure 4: Proposed metal veil on the R446 facing side of the proposed data halls***

A newly designed landscaped plaza (Figure 5 refers) will surround this central space, incorporating geometric raised planters and structured planting beds that reflect and complement the angular form of the metal veil. The plaza has been designed across a series of graduated levels to respond sensitively to the changes in ground levels between the proposed buildings and the adjacent road carriageway. This terraced approach will assist in integrating the development into the existing topography while reducing abrupt level transitions. With regard to planting, the plaza will incorporate a mix of native and pollinator-friendly tree and shrub species to soften the visual interface between the buildings and the road corridor. The planting design will enhance biodiversity value within the site while contributing to visual amenity. Species selection will ensure a sequential flowering period, providing continuous nectar and pollen sources from early spring through late autumn. The proposed tree and planting strategy has been developed in alignment with the objectives of the All-Ireland Pollinator Plan, thereby supporting biodiversity enhancement while strengthening the character, functionality, and environmental performance of the plaza space.

***Figure 5: CGI imagery of the newly design internal plaza with stepped planters and native and pollinator friendly plantings***

An updated photomontage booklet, comprising the representative viewpoints located closest to the proposed development, is includes as part of this response. Viewpoints VP2 and VP3 are representative of the nearest surrounding local residential receptors. As previously noted, a notable degree of visual change will occur at these viewpoints under the pre-mitigation scenario. However, once the proposed screen planting has fully established, these receptors will benefit from a substantial degree of visual containment and screening arising from the enhanced hedgerow network and native woodland planting. It is noted that, in the post-mitigation establishment scenario, these dwellings will experience an increased sense of enclosure. However, this enclosure will primarily result from native woodland screening rather than from direct views of the built development (refer to Figure 6 and Figure 7 below and the updated Photomontage Booklet). The proposed planting has been designed to integrate the development into the receiving landscape while reducing potential visual exposure. As described above, visual mitigation measures have also been employed on the facades of the proposed development to further diminish its perceived scale and extent. On the basis of the reasons outlined above, it is considered that the residual significance of visual effect at Representative Viewpoints VP2 and VP3 will be no greater than Moderate–Slight. This conclusion is consistent with the findings of the original LVIA submitted as part of the application.


***Figure 6 – Updated Photomontage Booklet: VP2 located to the immediate north of the site showing the proposed development prior to the establishment of the mitigation screen planting.***


***Figure 7 – Updated Photomontage Booklet: VP2 located to the immediate north of the site showing the effectiveness of the proposed mitigation screen planting once fully established***

Summary Response

Overall, the amendments introduced at further information stage represent a comprehensive and considered response to the issues raised under RFI Item 13. The proposed development has been materially revised to increase setbacks from the regional road and adjoining residential properties, improve architectural articulation and design quality, and strengthen landscape mitigation measures. The Data Halls have been reconfigured and redesigned to reduce perceived scale and visual prominence, including increased separation distances, façade design through a geometric metal veil, the introduction of berms, and the creation of a landscaped central plaza. The solar layout has similarly been amended to provide enhanced residential offsets in line with established best practice, while the security infrastructure has been clearly illustrated and designed to minimise visual intrusion.

Updated photomontages, supported by DTM and DSM visibility mapping, demonstrate that the proposed mitigation strategy, including reinforced hedgerows and native woodland planting, will substantially limit visibility from the surrounding road network and nearby dwellings once established. While some localised visual change will occur, particularly during the initial establishment period, the residual significance of effect will range from Moderate–Slight to Imperceptible and will not result in significant adverse impacts on the rural landscape or residential amenity in the post-mitigation establishment scenario. It is therefore considered that the proposal, as amended, achieves an appropriate and balanced integration within its receiving environment and that the concerns raised by the Planning Authority have been fully and robustly addressed.

APPENDIX 13.1

**Video-based Manual Classified Count Thursday 22nd May 2025**
**Existing N52/R446 (4-arm) roundabout junction**

Arm A = R446 to/from West (Tyrrellspass)
Arm B = N52 to/from North (Mullingar)
Arm C = R446 to/from East (Rochfortbridge)
Arm D = N52 to/from South (M6)

***Incidents***: *None*
***Weather:*** *Dry*

**PCU Factors**

| | |
|---|---|
| Cycle | 0.2 |
| Motorcycle | 0.4 |
| Car/LGV | 1 |
| HGV/PSV | 2.3 |

| Cycle | A-A | A-B | A-C | A-D | B-A | B-B | B-C | B-D | C-A | C-B | C-C | C-D | D-A | D-B | D-C | D-D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 07:45 – 07:59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:00 – 08:14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:15 – 08:29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:30 – 08:44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:45 – 08:59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 09:00 – 09:14 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | | | | | | | | | | | |
| 16:30 – 16:44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:45 – 16:59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 – 17:14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 – 17:29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:30 – 17:44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:45 – 17:59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Motorcycle | A-A | A-B | A-C | A-D | B-A | B-B | B-C | B-D | C-A | C-B | C-C | C-D | D-A | D-B | D-C | D-D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 07:45 – 07:59 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:00 – 08:14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:15 – 08:29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:30 – 08:44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:45 – 08:59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 09:00 – 09:14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | | | | | | | | | | | |
| 16:30 – 16:44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:45 – 16:59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 – 17:14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 – 17:29 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:30 – 17:44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:45 – 17:59 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Car / LGV | A-A | A-B | A-C | A-D | B-A | B-B | B-C | B-D | C-A | C-B | C-C | C-D | D-A | D-B | D-C | D-D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 07:45 – 07:59 | 0 | 23 | 12 | 14 | 11 | 0 | 2 | 65 | 10 | 2 | 0 | 7 | 21 | 42 | 7 | 0 |
| 08:00 – 08:14 | 0 | 21 | 11 | 15 | 10 | 0 | 3 | 72 | 15 | 5 | 0 | 8 | 24 | 65 | 6 | 0 |
| 08:15 – 08:29 | 0 | 33 | 16 | 16 | 9 | 1 | 7 | 91 | 18 | 5 | 0 | 11 | 26 | 72 | 5 | 3 |
| 08:30 – 08:44 | 0 | 36 | 21 | 14 | 12 | 0 | 8 | 112 | 18 | 7 | 0 | 9 | 16 | 71 | 3 | 0 |
| 08:45 – 08:59 | 1 | 32 | 35 | 21 | 6 | 0 | 5 | 95 | 23 | 5 | 0 | 9 | 13 | 55 | 5 | 0 |
| 09:00 – 09:14 | 0 | 30 | 20 | 19 | 9 | 0 | 2 | 54 | 20 | 3 | 0 | 9 | 12 | 66 | 2 | 2 |
| | | | | | | | | | | | | | | | | |
| 16:30 – 16:44 | 0 | 14 | 24 | 7 | 13 | 0 | 8 | 83 | 16 | 7 | 0 | 6 | 14 | 52 | 1 | 2 |
| 16:45 – 16:59 | 0 | 21 | 24 | 9 | 13 | 0 | 6 | 91 | 8 | 4 | 0 | 6 | 23 | 95 | 3 | 0 |
| 17:00 – 17:14 | 0 | 21 | 28 | 9 | 17 | 0 | 8 | 85 | 14 | 4 | 0 | 10 | 24 | 81 | 0 | 0 |
| 17:15 – 17:29 | 0 | 19 | 22 | 24 | 13 | 0 | 13 | 93 | 19 | 4 | 0 | 9 | 19 | 80 | 2 | 0 |
| 17:30 – 17:44 | 0 | 27 | 29 | 9 | 15 | 0 | 3 | 97 | 21 | 6 | 0 | 9 | 27 | 95 | 6 | 1 |
| 17:45 – 17:59 | 0 | 24 | 27 | 30 | 13 | 1 | 6 | 77 | 17 | 5 | 1 | 8 | 10 | 64 | 6 | 0 |

| HGV/PSV | A-A | A-B | A-C | A-D | B-A | B-B | B-C | B-D | C-A | C-B | C-C | C-D | D-A | D-B | D-C | D-D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **07:45 – 07:59** | 0 | 0 | 2 | 0 | 1 | 0 | 1 | 9 | 3 | 0 | 0 | 0 | 2 | 1 | 0 | 0 |
| **08:00 – 08:14** | 0 | 3 | 0 | 0 | 2 | 0 | 0 | 5 | 4 | 0 | 0 | 0 | 3 | 2 | 0 | 0 |
| **08:15 – 08:29** | 0 | 3 | 3 | 1 | 0 | 0 | 0 | 13 | 4 | 0 | 0 | 0 | 0 | 9 | 0 | 0 |
| **08:30 – 08:44** | 0 | 1 | 2 | 1 | 1 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 |
| **08:45 – 08:59** | 0 | 0 | 2 | 0 | 4 | 0 | 0 | 9 | 2 | 0 | 0 | 0 | 0 | 8 | 0 | 0 |
| **09:00 – 09:14** | 0 | 2 | 2 | 2 | 1 | 0 | 0 | 6 | 1 | 0 | 0 | 0 | 1 | 6 | 0 | 0 |
| | | | | | | | | | | | | | | | | |
| **16:30 – 16:44** | 0 | 1 | 1 | 0 | 2 | 0 | 1 | 12 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 |
| **16:45 – 16:59** | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 8 | 1 | 0 | 0 | 0 | 1 | 3 | 0 | 0 |
| **17:00 – 17:14** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 |
| **17:15 – 17:29** | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 6 | 1 | 0 | 0 | 1 | 0 | 3 | 0 | 0 |
| **17:30 – 17:44** | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 4 | 2 | 0 | 0 | 1 | 1 | 5 | 0 | 0 |
| **17:45 – 17:59** | 0 | 1 | 3 | 0 | 1 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 0 |

| Total Vehicles | A-A | A-B | A-C | A-D | B-A | B-B | B-C | B-D | C-A | C-B | C-C | C-D | D-A | D-B | D-C | D-D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **07:45 – 07:59** | 0 | 23 | 15 | 14 | 12 | 0 | 3 | 74 | 13 | 2 | 0 | 7 | 23 | 43 | 7 | 0 |
| **08:00 – 08:14** | 0 | 24 | 11 | 15 | 12 | 0 | 3 | 77 | 19 | 5 | 0 | 8 | 27 | 67 | 6 | 0 |
| **08:15 – 08:29** | 0 | 36 | 19 | 17 | 9 | 1 | 7 | 104 | 22 | 5 | 0 | 11 | 26 | 81 | 5 | 3 |
| **08:30 – 08:44** | 0 | 37 | 23 | 15 | 13 | 0 | 8 | 122 | 18 | 7 | 0 | 9 | 16 | 77 | 3 | 0 |
| **08:45 – 08:59** | 1 | 32 | 37 | 21 | 10 | 0 | 5 | 104 | 25 | 5 | 0 | 9 | 13 | 63 | 5 | 0 |
| **09:00 – 09:14** | 0 | 32 | 23 | 21 | 10 | 0 | 2 | 60 | 22 | 3 | 0 | 9 | 13 | 72 | 2 | 2 |
| | | | | | | | | | | | | | | | | |
| **16:30 – 16:44** | 0 | 15 | 25 | 7 | 15 | 0 | 9 | 95 | 16 | 7 | 0 | 6 | 15 | 54 | 1 | 2 |
| **16:45 – 16:59** | 0 | 22 | 25 | 9 | 14 | 0 | 6 | 99 | 9 | 4 | 0 | 6 | 24 | 98 | 3 | 0 |
| **17:00 – 17:14** | 0 | 21 | 28 | 9 | 17 | 0 | 8 | 91 | 14 | 4 | 0 | 10 | 24 | 85 | 0 | 0 |
| **17:15 – 17:29** | 0 | 20 | 24 | 25 | 13 | 0 | 13 | 99 | 20 | 4 | 0 | 10 | 19 | 83 | 2 | 0 |
| **17:30 – 17:44** | 0 | 27 | 29 | 9 | 16 | 0 | 3 | 101 | 23 | 6 | 0 | 10 | 28 | 100 | 6 | 1 |
| **17:45 – 17:59** | 0 | 25 | 31 | 25 | 14 | 1 | 6 | 82 | 18 | 5 | 1 | 8 | 11 | 67 | 6 | 0 |

| PCUS | A-A | A-B | A-C | A-D | B-A | B-B | B-C | B-D | C-A | C-B | C-C | C-D | D-A | D-B | D-C | D-D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **07:45 – 07:59** | 0 | 23 | 17 | 14 | 13 | 0 | 4 | 86 | 17 | 2 | 0 | 7 | 26 | 44 | 7 | 0 |
| **08:00 – 08:14** | 0 | 28 | 11 | 15 | 15 | 0 | 3 | 84 | 24 | 5 | 0 | 8 | 31 | 70 | 6 | 0 |
| **08:15 – 08:29** | 0 | 40 | 23 | 18 | 9 | 1 | 7 | 121 | 27 | 5 | 0 | 11 | 26 | 93 | 5 | 3 |
| **08:30 – 08:44** | 0 | 38 | 26 | 16 | 14 | 0 | 8 | 135 | 18 | 7 | 0 | 9 | 16 | 85 | 3 | 0 |
| **08:45 – 08:59** | 1 | 32 | 40 | 21 | 15 | 0 | 5 | 116 | 28 | 5 | 0 | 9 | 13 | 73 | 5 | 0 |
| **09:00 – 09:14** | 0 | 35 | 25 | 24 | 11 | 0 | 2 | 68 | 23 | 3 | 0 | 9 | 14 | 80 | 2 | 2 |
| | | | | | | | | | | | | | | | | |
| **16:30 – 16:44** | 0 | 16 | 26 | 7 | 18 | 0 | 10 | 111 | 16 | 7 | 0 | 6 | 16 | 57 | 1 | 2 |
| **16:45 – 16:59** | 0 | 23 | 26 | 9 | 15 | 0 | 6 | 109 | 10 | 4 | 0 | 6 | 25 | 102 | 3 | 0 |
| **17:00 – 17:14** | 0 | 21 | 28 | 9 | 17 | 0 | 8 | 99 | 14 | 4 | 0 | 10 | 24 | 90 | 0 | 0 |
| **17:15 – 17:29** | 0 | 21 | 23 | 26 | 13 | 0 | 13 | 107 | 21 | 4 | 0 | 11 | 19 | 87 | 2 | 0 |
| **17:30 – 17:44** | 0 | 27 | 29 | 9 | 17 | 0 | 3 | 106 | 26 | 6 | 0 | 11 | 29 | 107 | 6 | 1 |
| **17:45 – 17:59** | 0 | 26 | 34 | 30 | 15 | 1 | 6 | 89 | 17 | 5 | 1 | 8 | 12 | 71 | 6 | 0 |

| PCUS | A-A | A-B | A-C | A-D | B-A | B-B | B-C | B-D | C-A | C-B | C-C | C-D | D-A | D-B | D-C | D-D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **08:15 – 09:14** | **1** | **145** | **113** | **79** | **50** | **1** | **22** | **439** | **96** | **20** | **0** | **38** | **69** | **331** | **15** | **5** |
| **17:00 – 17:59** | **0** | **96** | **114** | **74** | **63** | **1** | **30** | **400** | **78** | **19** | **1** | **41** | **85** | **355** | **14** | **1** |

*PCUs are rounded to the nearest whole number*

**Video-based Manual Classified Count Thursday 22nd May 2025**
**Existing R446/L5125 (3-arm) junction**

TTRSA
Traffic : Transport : Road Safety

Arm A = R446 to/from West (Tyrrellspass)
Arm B = L5125 local road
Arm C = R446 to/from East (Rochfortbridge)

***Incidents**: None*
***Weather:** Dry*

**PCU Factors**

| | |
|---|---|
| Cycle | 0.2 |
| Motorcycle | 0.4 |
| Car/LGV | 1 |
| HGV/PSV | 2.3 |

| **Cycle** | **A-B** | **A-C** | **B-A** | **B-C** | **C-A** | **C-B** |
|---|---|---|---|---|---|---|
| **07:45 – 07:59** | 0 | 0 | 0 | 0 | 0 | 0 |
| **08:00 – 08:14** | 0 | 0 | 0 | 0 | 0 | 0 |
| **08:15 – 08:29** | 0 | 0 | 0 | 0 | 0 | 0 |
| **08:30 – 08:44** | 0 | 0 | 0 | 0 | 0 | 0 |
| **08:45 – 08:59** | 0 | 0 | 0 | 0 | 0 | 0 |
| **09:00 – 09:14** | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | |
| **16:30 – 16:44** | 0 | 1 | 0 | 0 | 0 | 0 |
| **16:45 – 16:59** | 0 | 0 | 0 | 0 | 0 | 0 |
| **17:00 – 17:14** | 0 | 0 | 0 | 0 | 0 | 0 |
| **17:15 – 17:29** | 0 | 0 | 0 | 0 | 0 | 0 |
| **17:30 – 17:44** | 0 | 0 | 0 | 0 | 0 | 0 |
| **17:45 – 17:59** | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | |
| **Motorcycle** | **A-B** | **A-C** | **B-A** | **B-C** | **C-A** | **C-B** |
| **07:45 – 07:59** | 0 | 0 | 0 | 0 | 0 | 0 |
| **08:00 – 08:14** | 0 | 0 | 0 | 0 | 0 | 0 |
| **08:15 – 08:29** | 0 | 0 | 0 | 0 | 0 | 0 |
| **08:30 – 08:44** | 0 | 0 | 0 | 0 | 0 | 0 |
| **08:45 – 08:59** | 0 | 0 | 0 | 0 | 0 | 0 |
| **09:00 – 09:14** | 0 | 0 | 0 | 0 | 1 | 0 |
| | | | | | | |
| **16:30 – 16:44** | 0 | 0 | 0 | 0 | 0 | 0 |
| **16:45 – 16:59** | 0 | 0 | 0 | 0 | 0 | 0 |
| **17:00 – 17:14** | 0 | 0 | 0 | 0 | 0 | 0 |
| **17:15 – 17:29** | 0 | 0 | 0 | 0 | 0 | 0 |
| **17:30 – 17:44** | 0 | 1 | 0 | 0 | 1 | 0 |
| **17:45 – 17:59** | 0 | 0 | 0 | 0 | 1 | 0 |

| **Car / LGV** | **A-B** | **A-C** | **B-A** | **B-C** | **C-A** | **C-B** |
|---|---|---|---|---|---|---|
| **07:45 – 07:59** | 0 | 22 | 0 | 0 | 9 | 0 |
| **08:00 – 08:14** | 1 | 13 | 1 | 0 | 17 | 2 |
| **08:15 – 08:29** | 0 | 25 | 0 | 0 | 17 | 0 |
| **08:30 – 08:44** | 0 | 30 | 2 | 0 | 21 | 0 |
| **08:45 – 08:59** | 1 | 33 | 1 | 1 | 14 | 0 |
| **09:00 – 09:14** | 1 | 23 | 0 | 0 | 26 | 0 |
| | | | | | | |
| **16:30 – 16:44** | 2 | 29 | 1 | 0 | 30 | 1 |
| **16:45 – 16:59** | 1 | 18 | 1 | 2 | 19 | 0 |
| **17:00 – 17:14** | 0 | 20 | 1 | 1 | 38 | 2 |
| **17:15 – 17:29** | 1 | 26 | 0 | 0 | 38 | 1 |
| **17:30 – 17:44** | 0 | 32 | 0 | 0 | 30 | 1 |
| **17:45 – 17:59** | 0 | 24 | 0 | 0 | 15 | 0 |

| HGV/PSV | A-B | A-C | B-A | B-C | C-A | C-B |
|---|---|---|---|---|---|---|
| 07:45 – 07:59 | 0 | 3 | 0 | 0 | 4 | 1 |
| 08:00 – 08:14 | 0 | 0 | 0 | 0 | 4 | 0 |
| 08:15 – 08:29 | 0 | 3 | 0 | 0 | 2 | 0 |
| 08:30 – 08:44 | 0 | 1 | 0 | 0 | 2 | 0 |
| 08:45 – 08:59 | 0 | 1 | 0 | 1 | 1 | 0 |
| 09:00 – 09:14 | 0 | 2 | 0 | 0 | 0 | 0 |
| | | | | | | |
| 16:30 – 16:44 | 0 | 3 | 1 | 0 | 0 | 0 |
| 16:45 – 16:59 | 0 | 3 | 0 | 0 | 1 | 0 |
| 17:00 – 17:14 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 – 17:29 | 0 | 0 | 0 | 0 | 2 | 0 |
| 17:30 – 17:44 | 0 | 1 | 0 | 0 | 4 | 0 |
| 17:45 – 17:59 | 0 | 2 | 0 | 0 | 3 | 0 |

| Total Vehicles | A-B | A-C | B-A | B-C | C-A | C-B |
|---|---|---|---|---|---|---|
| 07:45 – 07:59 | 0 | 25 | 0 | 0 | 13 | 1 |
| 08:00 – 08:14 | 1 | 13 | 1 | 0 | 21 | 2 |
| 08:15 – 08:29 | 0 | 28 | 0 | 0 | 19 | 0 |
| 08:30 – 08:44 | 0 | 31 | 2 | 0 | 23 | 0 |
| 08:45 – 08:59 | 1 | 34 | 1 | 2 | 15 | 0 |
| 09:00 – 09:14 | 1 | 25 | 0 | 0 | 27 | 0 |
| | | | | | | |
| 16:30 – 16:44 | 2 | 33 | 2 | 0 | 30 | 1 |
| 16:45 – 16:59 | 1 | 21 | 1 | 2 | 20 | 0 |
| 17:00 – 17:14 | 0 | 20 | 1 | 1 | 38 | 2 |
| 17:15 – 17:29 | 1 | 26 | 0 | 0 | 40 | 1 |
| 17:30 – 17:44 | 0 | 34 | 0 | 0 | 35 | 1 |
| 17:45 – 17:59 | 0 | 26 | 0 | 0 | 19 | 0 |

| PCUS | A-B | A-C | B-A | B-C | C-A | C-B |
|---|---|---|---|---|---|---|
| 07:45 – 07:59 | 0 | 29 | 0 | 0 | 18 | 2 |
| 08:00 – 08:14 | 1 | 13 | 1 | 0 | 26 | 2 |
| 08:15 – 08:29 | 0 | 32 | 0 | 0 | 22 | 0 |
| 08:30 – 08:44 | 0 | 32 | 2 | 0 | 26 | 0 |
| 08:45 – 08:59 | 1 | 35 | 1 | 3 | 16 | 0 |
| 09:00 – 09:14 | 1 | 28 | 0 | 0 | 26 | 0 |
| | | | | | | |
| 16:30 – 16:44 | 2 | 36 | 3 | 0 | 30 | 1 |
| 16:45 – 16:59 | 1 | 25 | 1 | 2 | 21 | 0 |
| 17:00 – 17:14 | 0 | 20 | 1 | 1 | 38 | 2 |
| 17:15 – 17:29 | 1 | 26 | 0 | 0 | 43 | 1 |
| 17:30 – 17:44 | 0 | 35 | 0 | 0 | 40 | 1 |
| 17:45 – 17:59 | 0 | 29 | 0 | 0 | 22 | 0 |

| PCUS | A-B | A-C | B-A | B-C | C-A | C-B |
|---|---|---|---|---|---|---|
| 08:15 – 09:14 | **2** | **127** | **3** | **3** | **90** | **0** |
| 17:00 – 17:59 | **1** | **109** | **1** | **1** | **143** | **4** |

*PCUs are rounded to the nearest whole number*

**Video-based Manual Classified Count Thursday 22nd May 2025**
**Existing R446/Castlelost Development Site (3-arm) junction**

Arm A = R446 to/from East (Rochfortbridge)
Arm B = Castlelost Development Site
Arm C = R446 to/from West (Tyrrellspass)

***Incidents**: None*
***Weather:** Dry*

**PCU Factors**

| | |
|---|---|
| Cycle | 0.2 |
| Motorcycle | 0.4 |
| Car/LGV | 1 |
| HGV/PSV | 2.3 |

| **Cycle** | **A-B** | **A-C** | **B-A** | **B-C** | **C-A** | **C-B** |
|---|---|---|---|---|---|---|
| **07:45 – 07:59** | 0 | 0 | 0 | 0 | 0 | 0 |
| **08:00 – 08:14** | 0 | 0 | 0 | 0 | 0 | 0 |
| **08:15 – 08:29** | 0 | 0 | 0 | 0 | 0 | 0 |
| **08:30 – 08:44** | 0 | 0 | 0 | 0 | 0 | 0 |
| **08:45 – 08:59** | 0 | 0 | 0 | 0 | 0 | 0 |
| **09:00 – 09:14** | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | |
| **16:30 – 16:44** | 0 | 0 | 0 | 0 | 1 | 0 |
| **16:45 – 16:59** | 0 | 0 | 0 | 0 | 0 | 0 |
| **17:00 – 17:14** | 0 | 0 | 0 | 0 | 0 | 0 |
| **17:15 – 17:29** | 0 | 0 | 0 | 0 | 0 | 0 |
| **17:30 – 17:44** | 0 | 0 | 0 | 0 | 0 | 0 |
| **17:45 – 17:59** | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | |
| **Motorcycle** | **A-B** | **A-C** | **B-A** | **B-C** | **C-A** | **C-B** |
| **07:45 – 07:59** | 0 | 0 | 0 | 0 | 0 | 0 |
| **08:00 – 08:14** | 0 | 0 | 0 | 0 | 0 | 0 |
| **08:15 – 08:29** | 0 | 0 | 0 | 0 | 0 | 0 |
| **08:30 – 08:44** | 0 | 0 | 0 | 0 | 0 | 0 |
| **08:45 – 08:59** | 0 | 0 | 0 | 0 | 0 | 0 |
| **09:00 – 09:14** | 0 | 1 | 0 | 0 | 0 | 0 |
| | | | | | | |
| **16:30 – 16:44** | 0 | 0 | 0 | 0 | 0 | 0 |
| **16:45 – 16:59** | 0 | 0 | 0 | 0 | 0 | 0 |
| **17:00 – 17:14** | 0 | 0 | 0 | 0 | 0 | 0 |
| **17:15 – 17:29** | 0 | 0 | 0 | 0 | 0 | 0 |
| **17:30 – 17:44** | 0 | 1 | 0 | 0 | 1 | 0 |
| **17:45 – 17:59** | 0 | 1 | 0 | 0 | 0 | 0 |

| **Car / LGV** | **A-B** | **A-C** | **B-A** | **B-C** | **C-A** | **C-B** |
|---|---|---|---|---|---|---|
| **07:45 – 07:59** | 3 | 9 | 0 | 0 | 14 | 8 |
| **08:00 – 08:14** | 5 | 17 | 1 | 2 | 9 | 4 |
| **08:15 – 08:29** | 2 | 17 | 0 | 0 | 19 | 6 |
| **08:30 – 08:44** | 2 | 21 | 0 | 0 | 29 | 1 |
| **08:45 – 08:59** | 1 | 14 | 1 | 0 | 31 | 3 |
| **09:00 – 09:14** | 3 | 24 | 0 | 2 | 21 | 2 |
| | | | | | | |
| **16:30 – 16:44** | 1 | 24 | 7 | 7 | 29 | 0 |
| **16:45 – 16:59** | 0 | 14 | 3 | 5 | 20 | 0 |
| **17:00 – 17:14** | 0 | 26 | 11 | 14 | 21 | 0 |
| **17:15 – 17:29** | 0 | 30 | 2 | 9 | 26 | 0 |
| **17:30 – 17:44** | 0 | 24 | 5 | 7 | 32 | 0 |
| **17:45 – 17:59** | 0 | 12 | 1 | 3 | 24 | 0 |

| HGV/PSV | A-B | A-C | B-A | B-C | C-A | C-B |
|---|---|---|---|---|---|---|
| 07:45 – 07:59 | 1 | 5 | 1 | 0 | 3 | 0 |
| 08:00 – 08:14 | 0 | 4 | 0 | 0 | 0 | 0 |
| 08:15 – 08:29 | 0 | 2 | 0 | 0 | 2 | 1 |
| 08:30 – 08:44 | 0 | 1 | 0 | 1 | 1 | 0 |
| 08:45 – 08:59 | 0 | 1 | 1 | 0 | 2 | 0 |
| 09:00 – 09:14 | 0 | 0 | 0 | 0 | 1 | 1 |
| | | | | | | |
| 16:30 – 16:44 | 0 | 0 | 0 | 0 | 3 | 0 |
| 16:45 – 16:59 | 0 | 1 | 0 | 0 | 3 | 0 |
| 17:00 – 17:14 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 – 17:29 | 0 | 2 | 0 | 0 | 0 | 0 |
| 17:30 – 17:44 | 0 | 4 | 0 | 0 | 1 | 0 |
| 17:45 – 17:59 | 0 | 3 | 0 | 0 | 2 | 0 |

| Total Vehicles | A-B | A-C | B-A | B-C | C-A | C-B |
|---|---|---|---|---|---|---|
| 07:45 – 07:59 | 4 | 14 | 1 | 0 | 17 | 8 |
| 08:00 – 08:14 | 5 | 21 | 1 | 2 | 9 | 4 |
| 08:15 – 08:29 | 2 | 19 | 0 | 0 | 21 | 7 |
| 08:30 – 08:44 | 2 | 22 | 0 | 1 | 30 | 1 |
| 08:45 – 08:59 | 1 | 15 | 2 | 0 | 33 | 3 |
| 09:00 – 09:14 | 3 | 25 | 0 | 2 | 22 | 3 |
| | | | | | | |
| 16:30 – 16:44 | 1 | 24 | 7 | 7 | 33 | 0 |
| 16:45 – 16:59 | 0 | 15 | 3 | 5 | 23 | 0 |
| 17:00 – 17:14 | 0 | 26 | 11 | 14 | 21 | 0 |
| 17:15 – 17:29 | 0 | 32 | 2 | 9 | 26 | 0 |
| 17:30 – 17:44 | 0 | 29 | 5 | 7 | 34 | 0 |
| 17:45 – 17:59 | 0 | 16 | 1 | 3 | 26 | 0 |

| PCUS | A-B | A-C | B-A | B-C | C-A | C-B |
|---|---|---|---|---|---|---|
| 07:45 – 07:59 | 5 | 21 | 2 | 0 | 21 | 8 |
| 08:00 – 08:14 | 5 | 26 | 1 | 2 | 9 | 4 |
| 08:15 – 08:29 | 2 | 22 | 0 | 0 | 24 | 8 |
| 08:30 – 08:44 | 2 | 23 | 0 | 2 | 31 | 1 |
| 08:45 – 08:59 | 1 | 16 | 3 | 0 | 36 | 3 |
| 09:00 – 09:14 | 3 | 24 | 0 | 2 | 23 | 4 |
| | | | | | | |
| 16:30 – 16:44 | 1 | 24 | 7 | 7 | 36 | 0 |
| 16:45 – 16:59 | 0 | 16 | 3 | 5 | 27 | 0 |
| 17:00 – 17:14 | 0 | 26 | 11 | 14 | 21 | 0 |
| 17:15 – 17:29 | 0 | 35 | 2 | 9 | 26 | 0 |
| 17:30 – 17:44 | 0 | 34 | 5 | 7 | 35 | 0 |
| 17:45 – 17:59 | 0 | 19 | 1 | 3 | 29 | 0 |

| PCUS | A-B | A-C | B-A | B-C | C-A | C-B |
|---|---|---|---|---|---|---|
| 08:15 – 09:14 | **8** | **86** | **3** | **4** | **114** | **17** |
| 17:00 – 17:59 | **0** | **114** | **19** | **33** | **110** | **0** |

*PCUs are rounded to the nearest whole number*

**Video-based Manual Classified Count Thursday 22nd May 2025**
**Existing R446/L51251 (3-arm) junction**

Arm A = R446 to/from East (Rochfortbridge)
Arm B = L51251 local road
Arm C = R446 to/from West (Tyrrellspass)

***Incidents**: None*
***Weather:** Dry*

**PCU Factors**

| | |
|---|---|
| Cycle | 0.2 |
| Motorcycle | 0.4 |
| Car/LGV | 1 |
| HGV/PSV | 2.3 |

| **Cycle** | **A-B** | **A-C** | **B-A** | **B-C** | **C-A** | **C-B** |
|---|---|---|---|---|---|---|
| **07:45 – 07:59** | 0 | 0 | 0 | 0 | 0 | 0 |
| **08:00 – 08:14** | 0 | 0 | 1 | 0 | 0 | 0 |
| **08:15 – 08:29** | 0 | 0 | 0 | 0 | 0 | 0 |
| **08:30 – 08:44** | 0 | 0 | 0 | 0 | 0 | 0 |
| **08:45 – 08:59** | 0 | 0 | 0 | 0 | 0 | 0 |
| **09:00 – 09:14** | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | |
| **16:30 – 16:44** | 0 | 0 | 0 | 0 | 1 | 0 |
| **16:45 – 16:59** | 0 | 0 | 0 | 0 | 0 | 0 |
| **17:00 – 17:14** | 0 | 0 | 0 | 0 | 0 | 0 |
| **17:15 – 17:29** | 0 | 0 | 0 | 0 | 0 | 0 |
| **17:30 – 17:44** | 0 | 0 | 0 | 0 | 0 | 0 |
| **17:45 – 17:59** | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | |
| **Motorcycle** | **A-B** | **A-C** | **B-A** | **B-C** | **C-A** | **C-B** |
| **07:45 – 07:59** | 0 | 0 | 0 | 0 | 0 | 0 |
| **08:00 – 08:14** | 0 | 0 | 0 | 0 | 0 | 0 |
| **08:15 – 08:29** | 0 | 0 | 0 | 0 | 0 | 0 |
| **08:30 – 08:44** | 0 | 0 | 0 | 0 | 0 | 0 |
| **08:45 – 08:59** | 0 | 0 | 0 | 0 | 0 | 0 |
| **09:00 – 09:14** | 0 | 1 | 0 | 0 | 0 | 0 |
| | | | | | | |
| **16:30 – 16:44** | 0 | 0 | 0 | 0 | 0 | 0 |
| **16:45 – 16:59** | 0 | 0 | 0 | 0 | 0 | 0 |
| **17:00 – 17:14** | 0 | 0 | 0 | 0 | 0 | 0 |
| **17:15 – 17:29** | 0 | 0 | 0 | 0 | 0 | 0 |
| **17:30 – 17:44** | 0 | 1 | 0 | 0 | 1 | 0 |
| **17:45 – 17:59** | 0 | 1 | 0 | 0 | 0 | 0 |

| **Car / LGV** | **A-B** | **A-C** | **B-A** | **B-C** | **C-A** | **C-B** |
|---|---|---|---|---|---|---|
| **07:45 – 07:59** | 0 | 12 | 0 | 0 | 14 | 0 |
| **08:00 – 08:14** | 1 | 21 | 3 | 1 | 10 | 0 |
| **08:15 – 08:29** | 2 | 19 | 1 | 0 | 19 | 0 |
| **08:30 – 08:44** | 0 | 23 | 2 | 0 | 29 | 0 |
| **08:45 – 08:59** | 1 | 13 | 1 | 2 | 32 | 0 |
| **09:00 – 09:14** | 1 | 26 | 3 | 1 | 21 | 0 |
| | | | | | | |
| **16:30 – 16:44** | 1 | 24 | 0 | 1 | 36 | 0 |
| **16:45 – 16:59** | 0 | 14 | 0 | 0 | 22 | 1 |
| **17:00 – 17:14** | 1 | 25 | 0 | 1 | 31 | 1 |
| **17:15 – 17:29** | 4 | 30 | 1 | 0 | 28 | 0 |
| **17:30 – 17:44** | 2 | 24 | 3 | 0 | 37 | 0 |
| **17:45 – 17:59** | 3 | 12 | 2 | 0 | 23 | 2 |

| HGV/PSV | A-B | A-C | B-A | B-C | C-A | C-B |
|---|---|---|---|---|---|---|
| 07:45 – 07:59 | 0 | 6 | 1 | 0 | 4 | 0 |
| 08:00 – 08:14 | 0 | 4 | 0 | 0 | 0 | 0 |
| 08:15 – 08:29 | 0 | 2 | 0 | 0 | 2 | 0 |
| 08:30 – 08:44 | 0 | 1 | 0 | 0 | 1 | 0 |
| 08:45 – 08:59 | 0 | 1 | 0 | 0 | 3 | 0 |
| 09:00 – 09:14 | 0 | 0 | 0 | 0 | 1 | 0 |
| | | | | | | |
| 16:30 – 16:44 | 0 | 0 | 0 | 0 | 3 | 0 |
| 16:45 – 16:59 | 0 | 1 | 0 | 0 | 3 | 0 |
| 17:00 – 17:14 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 – 17:29 | 0 | 2 | 0 | 0 | 0 | 0 |
| 17:30 – 17:44 | 0 | 4 | 0 | 0 | 1 | 0 |
| 17:45 – 17:59 | 0 | 3 | 1 | 0 | 2 | 0 |

| Total Vehicles | A-B | A-C | B-A | B-C | C-A | C-B |
|---|---|---|---|---|---|---|
| 07:45 – 07:59 | 0 | 18 | 1 | 0 | 18 | 0 |
| 08:00 – 08:14 | 1 | 25 | 4 | 1 | 10 | 0 |
| 08:15 – 08:29 | 2 | 21 | 1 | 0 | 21 | 0 |
| 08:30 – 08:44 | 0 | 24 | 2 | 0 | 30 | 0 |
| 08:45 – 08:59 | 1 | 14 | 1 | 2 | 35 | 0 |
| 09:00 – 09:14 | 1 | 27 | 3 | 1 | 22 | 0 |
| | | | | | | |
| 16:30 – 16:44 | 1 | 24 | 0 | 1 | 40 | 0 |
| 16:45 – 16:59 | 0 | 15 | 0 | 0 | 25 | 1 |
| 17:00 – 17:14 | 1 | 25 | 0 | 1 | 31 | 1 |
| 17:15 – 17:29 | 4 | 32 | 1 | 0 | 28 | 0 |
| 17:30 – 17:44 | 2 | 29 | 3 | 0 | 39 | 0 |
| 17:45 – 17:59 | 3 | 16 | 3 | 0 | 25 | 2 |

| PCUS | A-B | A-C | B-A | B-C | C-A | C-B |
|---|---|---|---|---|---|---|
| 07:45 – 07:59 | 0 | 26 | 2 | 0 | 23 | 0 |
| 08:00 – 08:14 | 1 | 30 | 3 | 1 | 10 | 0 |
| 08:15 – 08:29 | 2 | 24 | 1 | 0 | 24 | 0 |
| 08:30 – 08:44 | 0 | 25 | 2 | 0 | 31 | 0 |
| 08:45 – 08:59 | 1 | 15 | 1 | 2 | 39 | 0 |
| 09:00 – 09:14 | 1 | 26 | 3 | 1 | 23 | 0 |
| | | | | | | |
| 16:30 – 16:44 | 1 | 24 | 0 | 1 | 43 | 0 |
| 16:45 – 16:59 | 0 | 16 | 0 | 0 | 29 | 1 |
| 17:00 – 17:14 | 1 | 25 | 0 | 1 | 31 | 1 |
| 17:15 – 17:29 | 4 | 35 | 1 | 0 | 28 | 0 |
| 17:30 – 17:44 | 2 | 34 | 3 | 0 | 40 | 0 |
| 17:45 – 17:59 | 3 | 19 | 4 | 0 | 28 | 2 |

| PCUS | A-B | A-C | B-A | B-C | C-A | C-B |
|---|---|---|---|---|---|---|
| 08:15 – 09:14 | **4** | **91** | **7** | **3** | **117** | **0** |
| 17:00 – 17:59 | **10** | **113** | **8** | **1** | **126** | **3** |

*PCUs are rounded to the nearest whole number*

**Video-based Manual Classified Count Thursday 22nd May 2025**
**Existing R446-L11272 (3-arm) junction**

Arm A = R446 to/from East (Rochfortbridge)
Arm B = L11272 local road
Arm C = R446 to/from West (Tyrrellspass)

***Incidents***: *None*
***Weather:*** *Dry*

**PCU Factors**

| | |
|---|---|
| Cycle | 0.2 |
| Motorcycle | 0.4 |
| Car/LGV | 1 |
| HGV/PSV | 2.3 |

| Cycle | A-B | A-C | B-A | B-C | C-A | C-B |
|---|---|---|---|---|---|---|
| 07:45 – 07:59 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:00 – 08:14 | 0 | 0 | 0 | 0 | 1 | 0 |
| 08:15 – 08:29 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:30 – 08:44 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:45 – 08:59 | 0 | 0 | 0 | 0 | 0 | 0 |
| 09:00 – 09:14 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | |
| 16:30 – 16:44 | 0 | 0 | 0 | 0 | 1 | 0 |
| 16:45 – 16:59 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 – 17:14 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 – 17:29 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:30 – 17:44 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:45 – 17:59 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | |
| **Motorcycle** | **A-B** | **A-C** | **B-A** | **B-C** | **C-A** | **C-B** |
| 07:45 – 07:59 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:00 – 08:14 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:15 – 08:29 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:30 – 08:44 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:45 – 08:59 | 0 | 0 | 0 | 0 | 0 | 0 |
| 09:00 – 09:14 | 0 | 1 | 0 | 0 | 0 | 0 |
| | | | | | | |
| 16:30 – 16:44 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:45 – 16:59 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 – 17:14 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 – 17:29 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:30 – 17:44 | 0 | 1 | 0 | 0 | 1 | 0 |
| 17:45 – 17:59 | 0 | 1 | 0 | 0 | 0 | 0 |

| Car / LGV | A-B | A-C | B-A | B-C | C-A | C-B |
|---|---|---|---|---|---|---|
| 07:45 – 07:59 | 0 | 12 | 2 | 0 | 14 | 0 |
| 08:00 – 08:14 | 3 | 21 | 2 | 1 | 13 | 0 |
| 08:15 – 08:29 | 1 | 18 | 1 | 3 | 20 | 0 |
| 08:30 – 08:44 | 5 | 22 | 5 | 1 | 31 | 0 |
| 08:45 – 08:59 | 3 | 14 | 2 | 0 | 33 | 0 |
| 09:00 – 09:14 | 0 | 25 | 2 | 2 | 23 | 1 |
| | | | | | | |
| 16:30 – 16:44 | 3 | 24 | 1 | 1 | 34 | 2 |
| 16:45 – 16:59 | 1 | 14 | 1 | 0 | 21 | 1 |
| 17:00 – 17:14 | 0 | 26 | 2 | 0 | 29 | 2 |
| 17:15 – 17:29 | 3 | 34 | 0 | 0 | 28 | 1 |
| 17:30 – 17:44 | 1 | 26 | 4 | 0 | 38 | 2 |
| 17:45 – 17:59 | 5 | 15 | 0 | 0 | 24 | 1 |

| HGV/PSV | A-B | A-C | B-A | B-C | C-A | C-B |
|---|---|---|---|---|---|---|
| 07:45 – 07:59 | 0 | 4 | 0 | 2 | 5 | 0 |
| 08:00 – 08:14 | 0 | 4 | 0 | 0 | 0 | 0 |
| 08:15 – 08:29 | 0 | 2 | 0 | 0 | 2 | 0 |
| 08:30 – 08:44 | 0 | 1 | 0 | 0 | 1 | 0 |
| 08:45 – 08:59 | 0 | 1 | 0 | 0 | 3 | 0 |
| 09:00 – 09:14 | 0 | 0 | 2 | 0 | 1 | 0 |
| | | | | | | |
| 16:30 – 16:44 | 0 | 0 | 0 | 0 | 3 | 0 |
| 16:45 – 16:59 | 0 | 1 | 0 | 0 | 2 | 1 |
| 17:00 – 17:14 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 – 17:29 | 0 | 2 | 1 | 0 | 0 | 0 |
| 17:30 – 17:44 | 0 | 4 | 0 | 0 | 1 | 0 |
| 17:45 – 17:59 | 0 | 3 | 0 | 0 | 3 | 0 |

| Total Vehicles | A-B | A-C | B-A | B-C | C-A | C-B |
|---|---|---|---|---|---|---|
| 07:45 – 07:59 | 0 | 16 | 2 | 2 | 19 | 0 |
| 08:00 – 08:14 | 3 | 25 | 2 | 1 | 14 | 0 |
| 08:15 – 08:29 | 1 | 20 | 1 | 3 | 22 | 0 |
| 08:30 – 08:44 | 5 | 23 | 5 | 1 | 32 | 0 |
| 08:45 – 08:59 | 3 | 15 | 2 | 0 | 36 | 0 |
| 09:00 – 09:14 | 0 | 26 | 4 | 2 | 24 | 1 |
| | | | | | | |
| 16:30 – 16:44 | 3 | 24 | 1 | 1 | 38 | 2 |
| 16:45 – 16:59 | 1 | 15 | 1 | 0 | 23 | 2 |
| 17:00 – 17:14 | 0 | 26 | 2 | 0 | 29 | 2 |
| 17:15 – 17:29 | 3 | 36 | 1 | 0 | 28 | 1 |
| 17:30 – 17:44 | 1 | 31 | 4 | 0 | 40 | 2 |
| 17:45 – 17:59 | 5 | 19 | 0 | 0 | 27 | 1 |

| PCUS | A-B | A-C | B-A | B-C | C-A | C-B |
|---|---|---|---|---|---|---|
| 07:45 – 07:59 | 0 | 21 | 2 | 5 | 26 | 0 |
| 08:00 – 08:14 | 3 | 30 | 2 | 1 | 13 | 0 |
| 08:15 – 08:29 | 1 | 23 | 1 | 3 | 25 | 0 |
| 08:30 – 08:44 | 5 | 24 | 5 | 1 | 33 | 0 |
| 08:45 – 08:59 | 3 | 16 | 2 | 0 | 40 | 0 |
| 09:00 – 09:14 | 0 | 25 | 7 | 2 | 25 | 1 |
| | | | | | | |
| 16:30 – 16:44 | 3 | 24 | 1 | 1 | 41 | 2 |
| 16:45 – 16:59 | 1 | 16 | 1 | 0 | 26 | 3 |
| 17:00 – 17:14 | 0 | 26 | 2 | 0 | 29 | 2 |
| 17:15 – 17:29 | 3 | 39 | 2 | 0 | 28 | 1 |
| 17:30 – 17:44 | 1 | 36 | 4 | 0 | 41 | 2 |
| 17:45 – 17:59 | 5 | 22 | 0 | 0 | 31 | 1 |

| PCUS | A-B | A-C | B-A | B-C | C-A | C-B |
|---|---|---|---|---|---|---|
| 08:15 – 09:14 | **9** | **89** | **15** | **6** | **123** | **1** |
| 17:00 – 17:59 | **9** | **123** | **8** | **0** | **129** | **6** |

*PCUs are rounded to the nearest whole number*

**Video-based Manual Classified Count Thursday 22nd May 2025**
**Existing R446-L1127 (3-arm) junction**

Arm A = R446 to/from West (Tyrrellspass)
Arm B = L1127 local road
Arm C = R446 to/from East (Rochfortbridge)

***Incidents**: None*
***Weather:** Dry*

| **PCU Factors** | |
|---|---|
| Cycle | 0.2 |
| Motorcycle | 0.4 |
| Car/LGV | 1 |
| HGV/PSV | 2.3 |

| **Cycle** | **A-B** | **A-C** | **B-A** | **B-C** | **C-A** | **C-B** |
|---|---|---|---|---|---|---|
| **07:45 – 07:59** | 0 | 0 | 0 | 0 | 0 | 0 |
| **08:00 – 08:14** | 0 | 0 | 0 | 0 | 0 | 0 |
| **08:15 – 08:29** | 0 | 0 | 0 | 0 | 0 | 0 |
| **08:30 – 08:44** | 0 | 0 | 0 | 0 | 0 | 0 |
| **08:45 – 08:59** | 0 | 0 | 0 | 0 | 0 | 0 |
| **09:00 – 09:14** | 0 | 0 | 0 | 0 | 1 | 0 |
| | | | | | | |
| **16:30 – 16:44** | 0 | 1 | 0 | 0 | 0 | 0 |
| **16:45 – 16:59** | 0 | 0 | 0 | 0 | 0 | 0 |
| **17:00 – 17:14** | 0 | 0 | 0 | 0 | 0 | 0 |
| **17:15 – 17:29** | 0 | 0 | 0 | 0 | 0 | 0 |
| **17:30 – 17:44** | 0 | 0 | 0 | 0 | 0 | 0 |
| **17:45 – 17:59** | 0 | 0 | 0 | 0 | -1 | 1 |
| | | | | | | |
| **Motorcycle** | **A-B** | **A-C** | **B-A** | **B-C** | **C-A** | **C-B** |
| **07:45 – 07:59** | 0 | 0 | 0 | 0 | 0 | 0 |
| **08:00 – 08:14** | 0 | 0 | 0 | 0 | 0 | 0 |
| **08:15 – 08:29** | 0 | 0 | 0 | 0 | 0 | 0 |
| **08:30 – 08:44** | 0 | 0 | 0 | 0 | 1 | 0 |
| **08:45 – 08:59** | 0 | 0 | 0 | 0 | 1 | 0 |
| **09:00 – 09:14** | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | |
| **16:30 – 16:44** | 0 | 0 | 0 | 0 | 0 | 0 |
| **16:45 – 16:59** | 0 | 0 | 0 | 0 | 0 | 0 |
| **17:00 – 17:14** | 0 | 0 | 0 | 0 | 0 | 0 |
| **17:15 – 17:29** | 0 | 0 | 0 | 0 | 0 | 0 |
| **17:30 – 17:44** | 0 | 2 | 0 | 0 | 1 | 1 |
| **17:45 – 17:59** | 0 | 1 | 0 | 0 | 0 | 0 |

| **Car / LGV** | **A-B** | **A-C** | **B-A** | **B-C** | **C-A** | **C-B** |
|---|---|---|---|---|---|---|
| **07:45 – 07:59** | 2 | 25 | 2 | 9 | 29 | 8 |
| **08:00 – 08:14** | 3 | 22 | 6 | 7 | 26 | 10 |
| **08:15 – 08:29** | 6 | 18 | 3 | 22 | 41 | 31 |
| **08:30 – 08:44** | 23 | 40 | 12 | 26 | 39 | 39 |
| **08:45 – 08:59** | 24 | 26 | 6 | 18 | 23 | 35 |
| **09:00 – 09:14** | 18 | 20 | 8 | 28 | 37 | 55 |
| | | | | | | |
| **16:30 – 16:44** | 4 | 35 | 5 | 8 | 27 | 15 |
| **16:45 – 16:59** | 2 | 28 | 1 | 7 | 33 | 1 |
| **17:00 – 17:14** | 4 | 37 | 3 | 11 | 35 | 12 |
| **17:15 – 17:29** | 6 | 27 | 6 | 12 | 43 | 22 |
| **17:30 – 17:44** | 12 | 46 | 6 | 31 | 40 | 8 |
| **17:45 – 17:59** | 7 | 25 | 4 | 11 | 18 | 23 |

| HGV/PSV | A-B | A-C | B-A | B-C | C-A | C-B |
|---|---|---|---|---|---|---|
| 07:45 – 07:59 | 0 | 4 | 0 | 0 | 5 | 0 |
| 08:00 – 08:14 | 1 | 1 | 0 | 0 | 3 | 2 |
| 08:15 – 08:29 | 1 | 0 | 0 | 6 | 1 | 11 |
| 08:30 – 08:44 | 0 | 1 | 0 | 5 | 3 | 4 |
| 08:45 – 08:59 | 0 | 2 | 0 | 1 | 0 | 1 |
| 09:00 – 09:14 | 0 | 4 | 0 | 7 | 1 | 1 |
| | | | | | | |
| 16:30 – 16:44 | 0 | 5 | 0 | 1 | 2 | 2 |
| 16:45 – 16:59 | 0 | 1 | 0 | 1 | 0 | 2 |
| 17:00 – 17:14 | 0 | 0 | 0 | 0 | 0 | 3 |
| 17:15 – 17:29 | 0 | 2 | 2 | 1 | 1 | 4 |
| 17:30 – 17:44 | 0 | 0 | 1 | 2 | 3 | 1 |
| 17:45 – 17:59 | 0 | 2 | 0 | 2 | 4 | 1 |

| Total Vehicles | A-B | A-C | B-A | B-C | C-A | C-B |
|---|---|---|---|---|---|---|
| 07:45 – 07:59 | 2 | 29 | 2 | 9 | 34 | 8 |
| 08:00 – 08:14 | 4 | 23 | 6 | 7 | 29 | 12 |
| 08:15 – 08:29 | 7 | 18 | 3 | 28 | 42 | 42 |
| 08:30 – 08:44 | 23 | 41 | 12 | 31 | 43 | 43 |
| 08:45 – 08:59 | 24 | 28 | 6 | 19 | 24 | 36 |
| 09:00 – 09:14 | 18 | 24 | 8 | 35 | 39 | 56 |
| | | | | | | |
| 16:30 – 16:44 | 4 | 41 | 5 | 9 | 29 | 17 |
| 16:45 – 16:59 | 2 | 29 | 1 | 8 | 33 | 3 |
| 17:00 – 17:14 | 4 | 37 | 3 | 11 | 35 | 15 |
| 17:15 – 17:29 | 6 | 29 | 8 | 13 | 44 | 26 |
| 17:30 – 17:44 | 12 | 48 | 7 | 33 | 44 | 10 |
| 17:45 – 17:59 | 7 | 28 | 4 | 13 | 21 | 25 |

| PCUS | A-B | A-C | B-A | B-C | C-A | C-B |
|---|---|---|---|---|---|---|
| 07:45 – 07:59 | 2 | 34 | 2 | 9 | 41 | 8 |
| 08:00 – 08:14 | 5 | 24 | 6 | 7 | 33 | 15 |
| 08:15 – 08:29 | 8 | 18 | 3 | 36 | 43 | 56 |
| 08:30 – 08:44 | 23 | 42 | 12 | 38 | 46 | 48 |
| 08:45 – 08:59 | 24 | 31 | 6 | 20 | 23 | 37 |
| 09:00 – 09:14 | 18 | 29 | 8 | 44 | 40 | 57 |
| | | | | | | |
| 16:30 – 16:44 | 4 | 47 | 5 | 10 | 32 | 20 |
| 16:45 – 16:59 | 2 | 30 | 1 | 9 | 33 | 6 |
| 17:00 – 17:14 | 4 | 37 | 3 | 11 | 35 | 19 |
| 17:15 – 17:29 | 6 | 32 | 11 | 14 | 45 | 31 |
| 17:30 – 17:44 | 12 | 47 | 8 | 36 | 47 | 11 |
| 17:45 – 17:59 | 7 | 30 | 4 | 16 | 27 | 26 |

| PCUS | A-B | A-C | B-A | B-C | C-A | C-B |
|---|---|---|---|---|---|---|
| 08:15 – 09:14 | **73** | **120** | **29** | **138** | **153** | **199** |
| 17:00 – 17:59 | **29** | **145** | **26** | **77** | **155** | **86** |

*PCUs are rounded to the nearest whole number*

**Video-based Manual Classified Count Thursday 22nd May 2025**
**Existing R446/R400 (3-arm) roundabout junction**

Arm A = R446 to/from East (Kinnegad)
Arm B = R400 to/from South (M6)
Arm C = R446 to/from West (Tyrrellspass)

**PCU Factors**

| | |
|---|---|
| Cycle | 0.2 |
| Motorcycle | 0.4 |
| Car/LGV | 1 |
| HGV/PSV | 2.3 |

| Cycle | A-A | A-B | A-C | B-A | B-B | B-C | C-A | C-B | C-C |
|---|---|---|---|---|---|---|---|---|---|
| 07:45 – 07:59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:00 – 08:14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:15 – 08:29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:30 – 08:44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:45 – 08:59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 09:00 – 09:14 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| | | | | | | | | | |
| 16:30 – 16:44 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 16:45 – 16:59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 – 17:14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 – 17:29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:30 – 17:44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:45 – 17:59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | | | | |
| **Motorcycle** | **A-A** | **A-B** | **A-C** | **B-A** | **B-B** | **B-C** | **C-A** | **C-B** | **C-C** |
| 07:45 – 07:59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:00 – 08:14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:15 – 08:29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:30 – 08:44 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 08:45 – 08:59 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 09:00 – 09:14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | | | | |
| 16:30 – 16:44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:45 – 16:59 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 17:00 – 17:14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 – 17:29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:30 – 17:44 | 0 | 1 | 2 | 0 | 0 | 0 | 2 | 0 | 0 |
| 17:45 – 17:59 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |

| Car / LGV | A-A | A-B | A-C | B-A | B-B | B-C | C-A | C-B | C-C |
|---|---|---|---|---|---|---|---|---|---|
| 07:45 – 07:59 | 0 | 31 | 18 | 17 | 0 | 19 | 25 | 9 | 0 |
| 08:00 – 08:14 | 0 | 34 | 25 | 23 | 0 | 11 | 22 | 7 | 0 |
| 08:15 – 08:29 | 2 | 30 | 58 | 17 | 0 | 14 | 28 | 12 | 1 |
| 08:30 – 08:44 | 4 | 16 | 58 | 24 | 0 | 20 | 45 | 21 | 2 |
| 08:45 – 08:59 | 1 | 21 | 43 | 23 | 0 | 15 | 40 | 4 | 2 |
| 09:00 – 09:14 | 2 | 22 | 78 | 16 | 0 | 14 | 36 | 12 | 3 |
| | | | | | | | | | |
| 16:30 – 16:44 | 1 | 27 | 35 | 22 | 0 | 7 | 27 | 16 | 0 |
| 16:45 – 16:59 | 1 | 20 | 21 | 32 | 0 | 13 | 29 | 6 | 1 |
| 17:00 – 17:14 | 1 | 30 | 36 | 30 | 0 | 11 | 33 | 15 | 0 |
| 17:15 – 17:29 | 0 | 34 | 50 | 26 | 0 | 15 | 32 | 7 | 3 |
| 17:30 – 17:44 | 0 | 23 | 35 | 24 | 0 | 13 | 56 | 21 | 2 |
| 17:45 – 17:59 | 1 | 26 | 34 | 29 | 0 | 7 | 27 | 9 | 1 |

| HGV/PSV | A-A | A-B | A-C | B-A | B-B | B-C | C-A | C-B | C-C |
|---|---|---|---|---|---|---|---|---|---|
| 07:45 – 07:59 | 0 | 1 | 3 | 0 | 0 | 2 | 2 | 2 | 0 |
| 08:00 – 08:14 | 0 | 2 | 4 | 0 | 0 | 1 | 0 | 1 | 0 |
| 08:15 – 08:29 | 0 | 1 | 9 | 2 | 0 | 3 | 6 | 0 | 0 |
| 08:30 – 08:44 | 0 | 1 | 5 | 0 | 0 | 2 | 3 | 3 | 0 |
| 08:45 – 08:59 | 0 | 0 | 1 | 4 | 0 | 0 | 0 | 3 | 0 |
| 09:00 – 09:14 | 0 | 2 | 0 | 5 | 0 | 2 | 3 | 8 | 0 |
| | | | | | | | | | |
| 16:30 – 16:44 | 0 | 1 | 3 | 1 | 0 | 1 | 4 | 2 | 0 |
| 16:45 – 16:59 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 2 | 0 |
| 17:00 – 17:14 | 0 | 1 | 2 | 0 | 0 | 1 | 0 | 0 | 0 |
| 17:15 – 17:29 | 0 | 0 | 3 | 0 | 0 | 2 | 1 | 2 | 0 |
| 17:30 – 17:44 | 0 | 0 | 3 | 1 | 0 | 1 | 2 | 0 | 0 |
| 17:45 – 17:59 | 0 | 0 | 3 | 0 | 0 | 2 | 4 | 0 | 0 |

| Total Vehicles | A-A | A-B | A-C | B-A | B-B | B-C | C-A | C-B | C-C |
|---|---|---|---|---|---|---|---|---|---|
| 07:45 – 07:59 | 0 | 32 | 21 | 17 | 0 | 21 | 27 | 11 | 0 |
| 08:00 – 08:14 | 0 | 36 | 29 | 23 | 0 | 12 | 22 | 8 | 0 |
| 08:15 – 08:29 | 2 | 31 | 67 | 19 | 0 | 17 | 34 | 12 | 1 |
| 08:30 – 08:44 | 4 | 17 | 63 | 24 | 0 | 23 | 48 | 24 | 2 |
| 08:45 – 08:59 | 1 | 21 | 44 | 27 | 0 | 16 | 40 | 7 | 2 |
| 09:00 – 09:14 | 2 | 24 | 78 | 21 | 0 | 17 | 39 | 20 | 3 |
| | | | | | | | | | |
| 16:30 – 16:44 | 1 | 28 | 38 | 23 | 0 | 8 | 32 | 18 | 0 |
| 16:45 – 16:59 | 1 | 20 | 22 | 34 | 0 | 14 | 29 | 8 | 1 |
| 17:00 – 17:14 | 1 | 31 | 38 | 30 | 0 | 12 | 33 | 15 | 0 |
| 17:15 – 17:29 | 0 | 34 | 53 | 26 | 0 | 17 | 33 | 9 | 3 |
| 17:30 – 17:44 | 0 | 24 | 40 | 25 | 0 | 14 | 60 | 21 | 2 |
| 17:45 – 17:59 | 1 | 26 | 37 | 29 | 0 | 9 | 32 | 9 | 1 |

| PCUS | A-A | A-B | A-C | B-A | B-B | B-C | C-A | C-B | C-C |
|---|---|---|---|---|---|---|---|---|---|
| 07:45 – 07:59 | 0 | 33 | 25 | 17 | 0 | 24 | 30 | 14 | 0 |
| 08:00 – 08:14 | 0 | 39 | 34 | 23 | 0 | 13 | 22 | 9 | 0 |
| 08:15 – 08:29 | 2 | 32 | 79 | 22 | 0 | 21 | 42 | 12 | 1 |
| 08:30 – 08:44 | 4 | 18 | 70 | 24 | 0 | 25 | 52 | 28 | 2 |
| 08:45 – 08:59 | 1 | 21 | 45 | 32 | 0 | 15 | 40 | 11 | 2 |
| 09:00 – 09:14 | 2 | 27 | 78 | 28 | 0 | 19 | 43 | 30 | 3 |
| | | | | | | | | | |
| 16:30 – 16:44 | 1 | 29 | 42 | 24 | 0 | 9 | 36 | 21 | 0 |
| 16:45 – 16:59 | 1 | 20 | 23 | 35 | 0 | 15 | 29 | 11 | 1 |
| 17:00 – 17:14 | 1 | 32 | 41 | 30 | 0 | 13 | 33 | 15 | 0 |
| 17:15 – 17:29 | 0 | 34 | 57 | 26 | 0 | 20 | 34 | 12 | 3 |
| 17:30 – 17:44 | 0 | 23 | 43 | 26 | 0 | 15 | 61 | 21 | 2 |
| 17:45 – 17:59 | 1 | 26 | 41 | 29 | 0 | 12 | 37 | 9 | 1 |

| PCUS | A-A | A-B | A-C | B-A | B-B | B-C | C-A | C-B | C-C |
|---|---|---|---|---|---|---|---|---|---|
| 08:15 – 09:14 | **9** | **98** | **272** | **105** | **0** | **80** | **177** | **81** | **8** |
| 17:00 – 17:59 | **2** | **116** | **181** | **111** | **0** | **60** | **165** | **57** | **6** |

*PCUs are rounded to the nearest whole number*

HALSTON

APPENDIX 13.2

**Construction Trip Generation Calculations**

**Two-way HGV trips per month**

| | Red Admiral | | | | Year 1 | | | | | | | | | | | | Year 2 | | | | | | | | | | | | Year 3 | | | | | | | | | | | | Year 4 | | | | | | | | | | | | Year 5 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project | | Phase | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Phase 1 | DC1+2, Fuel Cell 1, BESS, Solar 1, Grid | E&P | 97 | 97 | 97 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&S | 286 | 286 | 382 | 477 | 477 | 477 | 477 | 477 | 477 | 477 | 477 | 477 | 477 | 477 | 477 | 477 | 382 | 286 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | M&E | | | | | | | | | | | | | | 140 | 234 | 327 | 327 | 374 | 234 | 234 | 234 | 234 | 281 | 281 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&T | | | | | | | | | | | | | | | | | | | 64 | 64 | 64 | 64 | 64 | 64 | 129 | 64 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Phase 2 | DC3+4, Fuel Cell 2, Solar 2 (x2) | E&P | | | | | | | | | | | | | | | 124 | 124 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&S | | | | | | | | | | | | | | | | | 118 | 157 | 393 | 393 | 393 | 393 | 393 | 393 | 393 | 393 | 393 | 393 | 393 | 393 | 393 | 393 | 393 | 393 | 157 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | M&E | | | | | | | | | | | | | | | | | | | | | | | | | | | 209 | 209 | 209 | 209 | 209 | 209 | 200 | 209 | 200 | 209 | 209 | 209 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&T | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 29 | 29 | 29 | 29 | 59 | 59 | 59 | 59 | 59 | 59 | 29 | | | | | | | | | | | | | | | | | |
| Phase 3 | DC5+6, Fuel Cell 3 | E&P | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 109 | 109 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&S | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 117 | 235 | 235 | 235 | 313 | 313 | 313 | 313 | 313 | 313 | 313 | 313 | 313 | 313 | 313 | 313 | 313 | 313 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | |
| | | M&E | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 146 | 146 | 146 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | | |
| | | C&T | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 |
| | | **Total** | 383 | 383 | 479 | 477 | 477 | 477 | 477 | 477 | 477 | 477 | 477 | 477 | 477 | 618 | 836 | 929 | 827 | 818 | 691 | 691 | 691 | 691 | 738 | 738 | 522 | 457 | 601 | 601 | 601 | 601 | 601 | 601 | 593 | 601 | 613 | 582 | 473 | 473 | 371 | 371 | 371 | 371 | 371 | 371 | 342 | 313 | 313 | 459 | 459 | 459 | 488 | 488 | 297 | 297 | 297 | 297 | 297 | 297 | 297 | 297 | 122 | 44 |

**Two-way HGV trips per weekday**

| | Red Admiral | | | | Year 1 | | | | | | | | | | | | Year 2 | | | | | | | | | | | | Year 3 | | | | | | | | | | | | Year 4 | | | | | | | | | | | | Year 5 | | | | | | | | | | | |
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| Project | | Phase | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Phase 1 | DC1+2, Fuel Cell 1, BESS, Solar 1, Grid | E&P | 4 | 4 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&S | 12 | 12 | 16 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 16 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | M&E | | | | | | | | | | | | | | 6 | 10 | 14 | 14 | 16 | 10 | 10 | 10 | 10 | 12 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&T | | | | | | | | | | | | | | | | | | | 3 | 3 | 3 | 3 | 3 | 3 | 5 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Phase 2 | DC3+4, Fuel Cell 2, Solar 2 (x2) | E&P | | | | | | | | | | | | | | | 5 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&S | | | | | | | | | | | | | | | | | 5 | 7 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | M&E | | | | | | | | | | | | | | | | | | | | | | | | | | | 9 | 9 | 9 | 9 | 9 | 9 | 8 | 9 | 8 | 9 | 9 | 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&T | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | | | | | | | | | | | | | | | | | |
| Phase 3 | DC5+6, Fuel Cell 3 | E&P | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 5 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&S | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 5 | 10 | 10 | 10 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| | | M&E | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | |
| | | C&T | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | **Total** | 16 | 16 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 26 | 35 | 39 | 35 | 35 | 29 | 29 | 29 | 29 | 31 | 31 | 22 | 19 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 26 | 25 | 20 | 20 | 16 | 16 | 16 | 16 | 16 | 16 | 14 | 13 | 13 | 19 | 19 | 19 | 21 | 21 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 5 | 2 |

**Two-way HGV trips per weekday hour**

| | Red Admiral | | | | Year 1 | | | | | | | | | | | | Year 2 | | | | | | | | | | | | Year 3 | | | | | | | | | | | | Year 4 | | | | | | | | | | | | Year 5 | | | | | | | | | | | |
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| Project | | Phase | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Phase 1 | DC1+2, Fuel Cell 1, BESS, Solar 1, Grid | E&P | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&S | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | M&E | | | | | | | | | | | | | | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&T | | | | | | | | | | | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Phase 2 | DC3+4, Fuel Cell 2, Solar 2 (x2) | E&P | | | | | | | | | | | | | | | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&S | | | | | | | | | | | | | | | | | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | M&E | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&T | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | |
| Phase 3 | DC5+6, Fuel Cell 3 | E&P | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&S | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | M&E | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | |
| | | C&T | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Total** | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 |

**Two-way Employee trips per weekday**

| Red Admiral | | | | | Year 1 | | | | | | | | | | | | Year 2 | | | | | | | | | | | | Year 3 | | | | | | | | | | | | Year 4 | | | | | | | | | | | | Year 5 | | | | | | | | | | | |
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| Project | | Phase | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Phase 1 | DC1+2, Fuel Cell 1, BESS, Solar 1, Grid | E&P | 25 | 25 | 25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&S | 150 | 150 | 200 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 200 | 150 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | M&E | | | | | | | | | | | | | | 75 | 125 | 175 | 175 | 200 | 125 | 125 | 125 | 125 | 150 | 150 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&T | | | | | | | | | | | | | | | | | | | 50 | 50 | 50 | 50 | 50 | 50 | 100 | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Phase 2 | DC3+4, Fuel Cell 2, Solar 2 (x2) | E&P | | | | | | | | | | | | | | | 25 | 25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&S | | | | | | | | | | | | | | | | | 75 | 100 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | M&E | | | | | | | | | | | | | | | | | | | | | | | | | | | 125 | 125 | 125 | 125 | 125 | 125 | 120 | 125 | 120 | 125 | 125 | 125 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&T | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 50 | 50 | 50 | 50 | 100 | 100 | 100 | 100 | 100 | 100 | 50 | | | | | | | | | | | | | | | | | |
| Phase 3 | DC5+6, Fuel Cell 3 | E&P | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 25 | 25 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&S | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 75 | 150 | 150 | 150 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | |
| | | M&E | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 125 | 125 | 125 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | | |
| | | C&T | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Total | 175 | 175 | 225 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 325 | 400 | 450 | 450 | 450 | 425 | 425 | 425 | 425 | 450 | 450 | 350 | 300 | 375 | 375 | 375 | 375 | 375 | 375 | 370 | 375 | 370 | 350 | 325 | 325 | 300 | 300 | 300 | 300 | 300 | 300 | 250 | 200 | 200 | 325 | 325 | 325 | 350 | 350 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 150 | 100 |

**Employee arrivals AM Peak hour**

| Red Admiral | | | | | Year 1 | | | | | | | | | | | | Year 2 | | | | | | | | | | | | Year 3 | | | | | | | | | | | | Year 4 | | | | | | | | | | | | Year 5 | | | | | | | | | | | |
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| Project | | Phase | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Phase 1 | DC1+2, Fuel Cell 1, BESS, Solar 1, Grid | E&P | 5 | 5 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&S | 30 | 30 | 40 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 40 | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | M&E | | | | | | | | | | | | | | 15 | 25 | 35 | 35 | 40 | 25 | 25 | 25 | 25 | 30 | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&T | | | | | | | | | | | | | | | | | | | 10 | 10 | 10 | 10 | 10 | 10 | 20 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Phase 2 | DC3+4, Fuel Cell 2, Solar 2 (x2) | E&P | | | | | | | | | | | | | | | 5 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&S | | | | | | | | | | | | | | | | | 15 | 20 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | M&E | | | | | | | | | | | | | | | | | | | | | | | | | | | 25 | 25 | 25 | 25 | 25 | 25 | 24 | 25 | 24 | 25 | 25 | 25 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&T | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 10 | 10 | 10 | 10 | 20 | 20 | 20 | 20 | 20 | 20 | 10 | | | | | | | | | | | | | | | | | |
| Phase 3 | DC5+6, Fuel Cell 3 | E&P | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 5 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&S | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | 30 | 30 | 30 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | |
| | | M&E | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 25 | 25 | 25 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | | |
| | | C&T | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| | | Total | 35 | 35 | 45 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 65 | 80 | 90 | 90 | 90 | 85 | 85 | 85 | 85 | 90 | 90 | 70 | 60 | 75 | 75 | 75 | 75 | 75 | 75 | 74 | 75 | 74 | 70 | 65 | 65 | 60 | 60 | 60 | 60 | 60 | 60 | 50 | 40 | 40 | 65 | 65 | 65 | 70 | 70 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 30 | 20 |

**Employee departures AM Peak hour**

| Red Admiral | | | | | Year 1 | | | | | | | | | | | | Year 2 | | | | | | | | | | | | Year 3 | | | | | | | | | | | | Year 4 | | | | | | | | | | | | Year 5 | | | | | | | | | | | |
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| Project | | Phase | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Phase 1 | DC1+2, Fuel Cell 1, BESS, Solar 1, Grid | E&P | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&S | 5 | 5 | 6 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 6 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | M&E | | | | | | | | | | | | | | 2 | 4 | 5 | 5 | 6 | 4 | 4 | 4 | 4 | 5 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&T | | | | | | | | | | | | | | | | | | | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Phase 2 | DC3+4, Fuel Cell 2, Solar 2 (x2) | E&P | | | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&S | | | | | | | | | | | | | | | | | 2 | 3 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | M&E | | | | | | | | | | | | | | | | | | | | | | | | | | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&T | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | | | | | | | | | | | | | | | | | |
| Phase 3 | DC5+6, Fuel Cell 3 | E&P | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&S | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| | | M&E | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | |
| | | C&T | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| | | Total | 5 | 5 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 10 | 12 | 14 | 14 | 14 | 13 | 13 | 13 | 13 | 14 | 14 | 11 | 9 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 10 | 10 | 9 | 9 | 9 | 9 | 9 | 9 | 8 | 6 | 6 | 10 | 10 | 10 | 11 | 11 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 5 | 3 |

**Employee departures PM Peak hour**

| Red Admiral | | | | | Year 1 | | | | | | | | | | | | Year 2 | | | | | | | | | | | | Year 3 | | | | | | | | | | | | Year 4 | | | | | | | | | | | | Year 5 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project | | Phase | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Phase 1 | DC1+2, Fuel Cell 1, BESS, Solar 1, Grid | E&P | 13 | 13 | 13 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&S | 75 | 75 | 100 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 100 | 75 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | M&E | | | | | | | | | | | | | | 38 | 63 | 88 | 88 | 100 | 63 | 63 | 63 | 63 | 75 | 75 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&T | | | | | | | | | | | | | | | | | | | 25 | 25 | 25 | 25 | 25 | 25 | 50 | 25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Phase 2 | DC3+4, Fuel Cell 2, Solar 2 (x2) | E&P | | | | | | | | | | | | | | | 13 | 13 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&S | | | | | | | | | | | | | | | | | 38 | 50 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | M&E | | | | | | | | | | | | | | | | | | | | | | | | | | | 63 | 63 | 63 | 63 | 63 | 63 | 60 | 63 | 60 | 63 | 63 | 63 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&T | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 25 | 25 | 25 | 25 | 50 | 50 | 50 | 50 | 50 | 50 | 25 | | | | | | | | | | | | | | | | | |
| Phase 3 | DC5+6, Fuel Cell 3 | E&P | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 13 | 13 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C&S | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 38 | 75 | 75 | 75 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | |
| | | M&E | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 63 | 63 | 63 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | | |
| | | C&T | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| | | Total | 88 | 88 | 113 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 163 | 200 | 225 | 225 | 225 | 213 | 213 | 213 | 213 | 225 | 225 | 175 | 150 | 188 | 188 | 188 | 188 | 188 | 188 | 185 | 188 | 185 | 175 | 163 | 163 | 150 | 150 | 150 | 150 | 150 | 150 | 125 | 100 | 100 | 163 | 163 | 163 | 175 | 175 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 75 | 50 |

HALSTON

APPENDIX 13.3

**Traffic Calculations – Summary**
**Existing N52/R446 (4-arm) roundabout junction**

TTRSA
Traffic : Transport : Road Safety

Arm A = R446 to/from West (Tyrrellspass)
Arm B = N52 to/from North (Mullingar)
Arm C = R446 to/from East (Rochfortbridge)
Arm D = N52 to/from South (M6)

| **Scenario** | **A-A** | **A-B** | **A-C** | **A-D** | **B-A** | **B-B** | **B-C** | **B-D** | **C-A** | **C-B** | **C-C** | **C-D** | **D-A** | **D-B** | **D-C** | **D-D** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2025 AM Peak Hour (08:15 – 09:14) | 1 | 145 | 113 | 79 | 50 | 1 | 22 | 439 | 96 | 20 | 0 | 38 | 69 | 331 | 15 | 5 |
| AM Peak Subtraction of Castlelost Flexgen Development Traffic | 0 | 0 | -9 | 0 | 0 | 0 | -2 | 0 | -1 | 0 | 0 | 0 | 0 | 0 | -1 | 0 |
| AM Peak Castlelost Flexgen Operational Traffic | 0 | 0 | 10 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2025 AM Peak Hour With Castlelost Flexgen Operational | 1 | 145 | 114 | 79 | 50 | 1 | 22 | 439 | 94 | 20 | 0 | 38 | 69 | 331 | 15 | 5 |
| **2029 AM Peak Hour (Factor = 1.070) Without Development** | **1** | **155** | **122** | **85** | **53** | **1** | **24** | **470** | **101** | **21** | **0** | **40** | **74** | **354** | **16** | **5** |
| 2029 AM Peak Hour Construction HGV Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| 2029 AM Peak Hour Construction Employee Main Site Trips | 0 | 0 | 42 | 0 | 0 | 0 | 8 | 0 | 5 | 1 | 0 | 2 | 0 | 0 | 6 | 0 |
| 2029 AM Peak Hour Construction Employee Solar Site Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **2029 AM Peak Hour With Construction Trips** | **1** | **155** | **164** | **85** | **53** | **1** | **32** | **470** | **105** | **22** | **0** | **49** | **74** | **354** | **29** | **5** |
| **2033 AM Peak Hour (Factor = 1.099) Without Development** | **1** | **159** | **125** | **87** | **55** | **1** | **24** | **483** | **104** | **22** | **0** | **41** | **76** | **363** | **17** | **5** |
| **2038 AM Peak Hour (Factor = 1.137) Without Development** | **1** | **165** | **130** | **90** | **57** | **1** | **25** | **500** | **107** | **22** | **0** | **43** | **79** | **376** | **17** | **6** |
| **2048 AM Peak Hour (Factor = 1.210) Without Development** | **1** | **175** | **138** | **96** | **60** | **1** | **27** | **532** | **114** | **24** | **0** | **45** | **84** | **400** | **18** | **6** |
| 2033-2048 AM Peak Hour Operational Trips | 0 | 0 | 32 | 0 | 0 | 0 | 6 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 4 | 0 |
| **2033 AM Peak Hour With Development Operational** | **1** | **159** | **157** | **87** | **55** | **1** | **31** | **483** | **105** | **22** | **0** | **42** | **76** | **363** | **21** | **5** |
| **2038 AM Peak Hour With Development Operational** | **1** | **165** | **162** | **90** | **57** | **1** | **32** | **500** | **109** | **23** | **0** | **43** | **79** | **376** | **21** | **6** |
| **2048 AM Peak Hour With Development Operational** | **1** | **175** | **170** | **96** | **60** | **1** | **33** | **532** | **116** | **24** | **0** | **46** | **84** | **400** | **23** | **6** |
| 2025 PM Peak Hour (17:00 – 17:59) | 0 | 96 | 114 | 74 | 63 | 1 | 30 | 400 | 78 | 19 | 1 | 41 | 85 | 355 | 14 | 1 |
| PM Peak Subtraction of Castlelost Flexgen Development Traffic | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -18 | -4 | 0 | -9 | 0 | 0 | 0 | 0 |
| PM Peak Castlelost Flexgen Operational Traffic | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 2 | 0 | 4 | 0 | 0 | 0 | 0 |
| 2025 PM Peak Hour With Castlelost Flexgen Operational | 0 | 96 | 114 | 74 | 63 | 1 | 30 | 400 | 67 | 16 | 1 | 35 | 85 | 355 | 14 | 1 |
| **2029 PM Peak Hour (Factor = 1.070) Without Development** | **0** | **102** | **122** | **80** | **67** | **1** | **32** | **428** | **72** | **17** | **1** | **37** | **91** | **379** | **15** | **1** |
| 2029 PM Peak Hour Construction HGV Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| 2029 PM Peak Hour Construction Employee Main Site Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 74 | 18 | 0 | 38 | 0 | 0 | 0 | 0 |
| 2029 PM Peak Hour Construction Employee Solar Site Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **2029 PM Peak Hour With Construction Trips** | **0** | **102** | **122** | **80** | **67** | **1** | **32** | **428** | **146** | **35** | **1** | **83** | **91** | **379** | **22** | **1** |
| **2033 PM Peak Hour (Factor = 1.099) Without Development** | **0** | **105** | **125** | **82** | **69** | **1** | **33** | **440** | **74** | **18** | **1** | **38** | **93** | **390** | **15** | **1** |
| **2038 PM Peak Hour (Factor = 1.137) Without Development** | **0** | **109** | **130** | **84** | **71** | **1** | **34** | **455** | **76** | **19** | **1** | **40** | **96** | **403** | **16** | **1** |
| **2048 PM Peak Hour (Factor = 1.210) Without Development** | **0** | **116** | **138** | **90** | **76** | **1** | **36** | **484** | **81** | **20** | **1** | **42** | **102** | **429** | **17** | **1** |
| 2033-2048 PM Peak Hour Operational Trips | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 23 | 6 | 0 | 12 | 0 | 0 | 0 | 0 |
| **2033 PM Peak Hour With Development Operational** | **0** | **105** | **126** | **82** | **69** | **1** | **33** | **440** | **97** | **24** | **1** | **50** | **93** | **390** | **16** | **1** |
| **2038 PM Peak Hour With Development Operational** | **0** | **109** | **131** | **84** | **71** | **1** | **34** | **455** | **100** | **24** | **1** | **52** | **96** | **403** | **16** | **1** |
| **2048 PM Peak Hour With Development Operational** | **0** | **116** | **139** | **90** | **76** | **1** | **37** | **484** | **105** | **25** | **1** | **54** | **102** | **429** | **17** | **1** |

*Data in PCUs rounded to the nearest whole number*

**Traffic Calculations – Summary**
**Existing R446/L5125 (3-arm) junction**

Arm A = R446 to/from West (Tyrrellspass)
Arm B = L5125 local road
Arm C = R446 to/from East (Rochfortbridge)

| Scenario | A-B | A-C | B-A | B-C | C-A | C-B |
|---|---|---|---|---|---|---|
| 2025 AM Peak Hour (08:15 – 09:14) | 2 | 127 | 3 | 3 | 90 | 0 |
| AM Peak Subtraction of Castlelost Flexgen Development Traffic | 0 | -12 | 0 | 0 | -2 | 0 |
| AM Peak Castlelost Flexgen Operational Traffic | 0 | 13 | 0 | 0 | 0 | 0 |
| 2025 AM Peak Hour With Castlelost Flexgen Operational | 2 | 129 | 3 | 3 | 88 | 0 |
| **2029 AM Peak Hour (Factor = 1.070) Without Development** | **2** | **138** | **3** | **4** | **94** | **0** |
| 2029 AM Peak Hour Construction HGV Trips | 0 | 7 | 0 | 0 | 7 | 0 |
| 2029 AM Peak Hour Construction Employee Main Site Trips | 0 | 56 | 0 | 1 | 7 | 0 |
| 2029 AM Peak Hour Construction Employee Solar Site Trips | 0 | 0 | 0 | 0 | 0 | 0 |
| **2029 AM Peak Hour With Construction Trips** | **2** | **200** | **3** | **5** | **108** | **0** |
| **2033 AM Peak Hour (Factor = 1.099) Without Development** | **2** | **141** | **3** | **4** | **97** | **0** |
| **2038 AM Peak Hour (Factor = 1.137) Without Development** | **2** | **146** | **3** | **4** | **100** | **0** |
| **2048 AM Peak Hour (Factor = 1.210) Without Development** | **2** | **156** | **4** | **4** | **106** | **0** |
| 2033-2048 AM Peak Hour Operational Trips | 0 | 43 | 0 | 1 | 3 | 0 |
| **2033 AM Peak Hour With Development Operational** | **2** | **184** | **3** | **5** | **99** | **0** |
| **2038 AM Peak Hour With Development Operational** | **2** | **189** | **3** | **5** | **103** | **0** |
| **2048 AM Peak Hour With Development Operational** | **2** | **198** | **4** | **5** | **109** | **0** |
| 2025 PM Peak Hour (17:00 – 17:59) | 1 | 109 | 1 | 1 | 143 | 4 |
| PM Peak Subtraction of Castlelost Flexgen Development Traffic | 0 | 0 | 0 | 0 | -32 | -1 |
| PM Peak Castlelost Flexgen Operational Traffic | 0 | 0 | 0 | 0 | 12 | 0 |
| 2025 PM Peak Hour With Castlelost Flexgen Operational | 1 | 109 | 1 | 1 | 123 | 3 |
| **2029 PM Peak Hour (Factor = 1.070) Without Development** | **1** | **117** | **1** | **1** | **131** | **4** |
| 2029 PM Peak Hour Construction HGV Trips | 0 | 7 | 0 | 0 | 7 | 0 |
| 2029 PM Peak Hour Construction Employee Main Site Trips | 0 | 0 | 0 | 0 | 131 | 4 |
| 2029 PM Peak Hour Construction Employee Solar Site Trips | 0 | 0 | 0 | 0 | 0 | 0 |
| **2029 PM Peak Hour With Construction Trips** | **1** | **124** | **1** | **1** | **270** | **7** |
| **2033 PM Peak Hour (Factor = 1.099) Without Development** | **1** | **120** | **1** | **1** | **135** | **4** |
| **2038 PM Peak Hour (Factor = 1.137) Without Development** | **1** | **124** | **1** | **1** | **140** | **4** |
| **2048 PM Peak Hour (Factor = 1.210) Without Development** | **1** | **132** | **1** | **1** | **149** | **4** |
| 2033-2048 PM Peak Hour Operational Trips | 0 | 1 | 0 | 0 | 41 | 1 |
| **2033 PM Peak Hour With Development Operational** | **1** | **121** | **1** | **1** | **176** | **5** |
| **2038 PM Peak Hour With Development Operational** | **1** | **126** | **1** | **1** | **181** | **5** |
| **2048 PM Peak Hour With Development Operational** | **1** | **134** | **1** | **1** | **190** | **5** |

*Data in PCUs rounded to the nearest whole number*

**Traffic Calculations – Summary**
**Existing R446/Castlelost Development Site (3-arm) junction**

Arm A = R446 to/from East (Rochfortbridge)
Arm B = Castlelost Development Site
Arm C = R446 to/from West (Tyrrellspass)

| Scenario | A-B | A-C | B-A | B-C | C-A | C-B |
|---|---|---|---|---|---|---|
| 2025 AM Peak Hour (08:15 – 09:14) | 8 | 86 | 3 | 4 | 114 | 17 |
| AM Peak Subtraction of Castlelost Flexgen Development Traffic | -8 | 0 | -1 | -2 | 0 | -12 |
| AM Peak Castlelost Flexgen Operational Traffic | 7 | 0 | 0 | 0 | 0 | 13 |
| 2025 AM Peak Hour With Castlelost Flexgen Operational | 7 | 86 | 2 | 2 | 114 | 18 |
| **2029 AM Peak Hour (Factor = 1.070) Without Development** | **7** | **92** | **2** | **2** | **122** | **19** |
| 2029 AM Peak Hour Construction HGV Trips | 0 | 0 | 0 | 7 | 0 | 7 |
| 2029 AM Peak Hour Construction Employee Main Site Trips | 28 | 0 | 6 | 7 | 0 | 57 |
| 2029 AM Peak Hour Construction Employee Solar Site Trips | 0 | 1 | 0 | 0 | 0 | 0 |
| **2029 AM Peak Hour With Construction Trips** | **35** | **92** | **8** | **17** | **122** | **84** |
| **2033 AM Peak Hour (Factor = 1.099) Without Development** | **7** | **94** | **3** | **3** | **125** | **20** |
| **2038 AM Peak Hour (Factor = 1.137) Without Development** | **7** | **97** | **3** | **3** | **129** | **21** |
| **2048 AM Peak Hour (Factor = 1.210) Without Development** | **8** | **104** | **3** | **3** | **138** | **22** |
| 2033-2048 AM Peak Hour Operational Trips | 21 | 0 | 2 | 3 | 0 | 44 |
| **2033 AM Peak Hour With Development Operational** | **28** | **94** | **5** | **5** | **125** | **64** |
| **2038 AM Peak Hour With Development Operational** | **29** | **97** | **5** | **5** | **129** | **64** |
| **2048 AM Peak Hour With Development Operational** | **29** | **104** | **5** | **6** | **138** | **66** |
| 2025 PM Peak Hour (17:00 – 17:59) | 0 | 114 | 19 | 33 | 110 | 0 |
| PM Peak Subtraction of Castlelost Flexgen Development Traffic | 0 | 0 | -19 | -33 | 0 | 0 |
| PM Peak Castlelost Flexgen Operational Traffic | 0 | 0 | 7 | 13 | 0 | 0 |
| 2025 PM Peak Hour With Castlelost Flexgen Operational | 0 | 114 | 7 | 13 | 110 | 0 |
| **2029 PM Peak Hour (Factor = 1.070) Without Development** | **0** | **121** | **8** | **14** | **118** | **0** |
| 2029 PM Peak Hour Construction HGV Trips | 0 | 0 | 0 | 7 | 0 | 7 |
| 2029 PM Peak Hour Construction Employee Main Site Trips | 0 | 0 | 78 | 135 | 0 | 0 |
| 2029 PM Peak Hour Construction Employee Solar Site Trips | 0 | 0 | 0 | 0 | 0 | 0 |
| **2029 PM Peak Hour With Construction Trips** | **0** | **121** | **86** | **156** | **118** | **7** |
| **2033 PM Peak Hour (Factor = 1.099) Without Development** | **0** | **125** | **8** | **14** | **121** | **0** |
| **2038 PM Peak Hour (Factor = 1.137) Without Development** | **0** | **129** | **8** | **14** | **125** | **0** |
| **2048 PM Peak Hour (Factor = 1.210) Without Development** | **0** | **137** | **9** | **15** | **133** | **0** |
| 2033-2048 PM Peak Hour Operational Trips | 1 | 0 | 24 | 43 | 0 | 1 |
| **2033 PM Peak Hour With Development Operational** | **1** | **125** | **33** | **56** | **121** | **1** |
| **2038 PM Peak Hour With Development Operational** | **1** | **129** | **33** | **57** | **125** | **1** |
| **2048 PM Peak Hour With Development Operational** | **1** | **137** | **33** | **58** | **133** | **1** |

*Data in PCUs rounded to the nearest whole number*

**Traffic Calculations – Summary**
**Existing R446/L51251 (3-arm) junction**

Arm A = R446 to/from East (Rochfortbridge)
Arm B = L51251 local road
Arm C = R446 to/from West (Tyrrellspass)

| Scenario | A-B | A-C | B-A | B-C | C-A | C-B |
|---|---|---|---|---|---|---|
| 2025 AM Peak Hour (08:15 – 09:14) | 4 | 91 | 7 | 3 | 117 | 0 |
| AM Peak Subtraction of Castlelost Flexgen Development Traffic | 0 | -8 | 0 | 0 | -1 | 0 |
| AM Peak Castlelost Flexgen Operational Traffic | 0 | 6 | 0 | 0 | 0 | 0 |
| 2025 AM Peak Hour With Castlelost Flexgen Operational | 4 | 89 | 7 | 3 | 116 | 0 |
| **2029 AM Peak Hour (Factor = 1.070) Without Development** | **4** | **95** | **7** | **3** | **124** | **0** |
| 2029 AM Peak Hour Construction HGV Trips | 0 | 0 | 0 | 0 | 0 | 0 |
| 2029 AM Peak Hour Construction Employee Main Site Trips | 0 | 27 | 0 | 1 | 6 | 0 |
| 2029 AM Peak Hour Construction Employee Solar Site Trips | 0 | 0 | 0 | 0 | 1 | 0 |
| **2029 AM Peak Hour With Construction Trips** | **4** | **122** | **7** | **4** | **130** | **0** |
| **2033 AM Peak Hour (Factor = 1.099) Without Development** | **4** | **98** | **8** | **3** | **128** | **0** |
| **2038 AM Peak Hour (Factor = 1.137) Without Development** | **5** | **101** | **8** | **3** | **132** | **0** |
| **2048 AM Peak Hour (Factor = 1.210) Without Development** | **5** | **108** | **8** | **4** | **140** | **0** |
| 2033-2048 AM Peak Hour Operational Trips | 0 | 20 | 0 | 1 | 2 | 0 |
| **2033 AM Peak Hour With Development Operational** | **4** | **118** | **8** | **4** | **130** | **0** |
| **2038 AM Peak Hour With Development Operational** | **5** | **122** | **8** | **4** | **134** | **0** |
| **2048 AM Peak Hour With Development Operational** | **5** | **128** | **8** | **4** | **143** | **0** |
| 2025 PM Peak Hour (17:00 – 17:59) | 10 | 113 | 8 | 1 | 126 | 3 |
| PM Peak Subtraction of Castlelost Flexgen Development Traffic | 0 | 0 | 0 | 0 | -19 | 0 |
| PM Peak Castlelost Flexgen Operational Traffic | 0 | 0 | 0 | 0 | 7 | 0 |
| 2025 PM Peak Hour With Castlelost Flexgen Operational | 10 | 113 | 8 | 1 | 115 | 3 |
| **2029 PM Peak Hour (Factor = 1.070) Without Development** | **11** | **120** | **9** | **1** | **123** | **3** |
| 2029 PM Peak Hour Construction HGV Trips | 0 | 0 | 0 | 0 | 0 | 0 |
| 2029 PM Peak Hour Construction Employee Main Site Trips | 0 | 0 | 0 | 0 | 76 | 2 |
| 2029 PM Peak Hour Construction Employee Solar Site Trips | 0 | 0 | 0 | 0 | 0 | 0 |
| **2029 PM Peak Hour With Construction Trips** | **11** | **120** | **9** | **1** | **199** | **5** |
| **2033 PM Peak Hour (Factor = 1.099) Without Development** | **11** | **124** | **9** | **1** | **126** | **3** |
| **2038 PM Peak Hour (Factor = 1.137) Without Development** | **11** | **128** | **9** | **1** | **131** | **3** |
| **2048 PM Peak Hour (Factor = 1.210) Without Development** | **12** | **136** | **10** | **1** | **139** | **3** |
| 2033-2048 PM Peak Hour Operational Trips | 0 | 1 | 0 | 0 | 24 | 1 |
| **2033 PM Peak Hour With Development Operational** | **11** | **124** | **9** | **1** | **150** | **4** |
| **2038 PM Peak Hour With Development Operational** | **11** | **129** | **9** | **1** | **155** | **4** |
| **2048 PM Peak Hour With Development Operational** | **12** | **137** | **10** | **1** | **163** | **4** |

*Data in PCUs rounded to the nearest whole number*

**Traffic Calculations – Summary**
**Existing R446-L11272 (3-arm) junction**

Arm A = R446 to/from East (Rochfortbridge)
Arm B = L11272 local road
Arm C = R446 to/from West (Tyrrellspass)

| **Scenario** | **A-B** | **A-C** | **B-A** | **B-C** | **C-A** | **C-B** |
|---|---|---|---|---|---|---|
| 2025 AM Peak Hour (08:15 – 09:14) | 9 | 89 | 15 | 6 | 123 | 1 |
| AM Peak Subtraction of Castlelost Flexgen Development Traffic | 0 | -7 | 0 | 0 | -1 | 0 |
| AM Peak Castlelost Flexgen Operational Traffic | 0 | 6 | 0 | 0 | 0 | 0 |
| 2025 AM Peak Hour With Castlelost Flexgen Operational | 9 | 87 | 15 | 6 | 122 | 1 |
| **2029 AM Peak Hour (Factor = 1.070) Without Development** | **10** | **93** | **16** | **6** | **131** | **1** |
| 2029 AM Peak Hour Construction HGV Trips | 0 | 0 | 0 | 0 | 0 | 0 |
| 2029 AM Peak Hour Construction Employee Main Site Trips | 0 | 25 | 0 | 2 | 6 | 0 |
| 2029 AM Peak Hour Construction Employee Solar Site Trips | 5 | 0 | 1 | 0 | 0 | 1 |
| **2029 AM Peak Hour With Construction Trips** | **14** | **118** | **16** | **8** | **136** | **2** |
| **2033 AM Peak Hour (Factor = 1.099) Without Development** | **10** | **96** | **16** | **6** | **134** | **1** |
| **2038 AM Peak Hour (Factor = 1.137) Without Development** | **10** | **99** | **17** | **7** | **139** | **1** |
| **2048 AM Peak Hour (Factor = 1.210) Without Development** | **11** | **106** | **18** | **7** | **148** | **1** |
| 2033-2048 AM Peak Hour Operational Trips | 0 | 19 | 0 | 1 | 2 | 0 |
| **2033 AM Peak Hour With Development Operational** | **10** | **115** | **16** | **8** | **136** | **1** |
| **2038 AM Peak Hour With Development Operational** | **10** | **118** | **17** | **8** | **141** | **1** |
| **2048 AM Peak Hour With Development Operational** | **11** | **125** | **18** | **8** | **150** | **1** |
| 2025 PM Peak Hour (17:00 – 17:59) | 9 | 123 | 8 | 0 | 129 | 6 |
| PM Peak Subtraction of Castlelost Flexgen Development Traffic | 0 | 0 | 0 | 0 | -18 | -1 |
| PM Peak Castlelost Flexgen Operational Traffic | 0 | 0 | 0 | 0 | 7 | 0 |
| 2025 PM Peak Hour With Castlelost Flexgen Operational | 9 | 123 | 8 | 0 | 118 | 5 |
| **2029 PM Peak Hour (Factor = 1.070) Without Development** | **10** | **131** | **9** | **0** | **126** | **6** |
| 2029 PM Peak Hour Construction HGV Trips | 0 | 0 | 0 | 0 | 0 | 0 |
| 2029 PM Peak Hour Construction Employee Main Site Trips | 0 | 0 | 0 | 0 | 73 | 3 |
| 2029 PM Peak Hour Construction Employee Solar Site Trips | 0 | 0 | 1 | 0 | 0 | 0 |
| **2029 PM Peak Hour With Construction Trips** | **10** | **131** | **10** | **0** | **199** | **9** |
| **2033 PM Peak Hour (Factor = 1.099) Without Development** | **10** | **135** | **9** | **0** | **129** | **6** |
| **2038 PM Peak Hour (Factor = 1.137) Without Development** | **10** | **139** | **9** | **0** | **134** | **6** |
| **2048 PM Peak Hour (Factor = 1.210) Without Development** | **11** | **148** | **10** | **0** | **142** | **7** |
| 2033-2048 PM Peak Hour Operational Trips | 0 | 1 | 0 | 0 | 23 | 1 |
| **2033 PM Peak Hour With Development Operational** | **10** | **135** | **9** | **0** | **152** | **7** |
| **2038 PM Peak Hour With Development Operational** | **10** | **140** | **9** | **0** | **157** | **7** |
| **2048 PM Peak Hour With Development Operational** | **11** | **149** | **10** | **0** | **165** | **8** |

*Data in PCUs rounded to the nearest whole number*

**Traffic Calculations – Summary**
**Existing R446-L1127 (3-arm) junction**

Arm A = R446 to/from West (Tyrrellspass)
Arm B = L1127 local road
Arm C = R446 to/from East (Rochfortbridge)

| **Scenario** | **A-B** | **A-C** | **B-A** | **B-C** | **C-A** | **C-B** |
|---|---|---|---|---|---|---|
| 2025 AM Peak Hour (08:15 – 09:14) | 73 | 120 | 29 | 138 | 153 | 199 |
| AM Peak Subtraction of Castlelost Flexgen Development Traffic | 0 | -1 | -1 | 0 | -6 | 0 |
| AM Peak Castlelost Flexgen Operational Traffic | 0 | 0 | 1 | 0 | 5 | 0 |
| 2025 AM Peak Hour With Castlelost Flexgen Operational | 73 | 119 | 29 | 138 | 151 | 199 |
| **2029 AM Peak Hour (Factor = 1.070) Without Development** | **78** | **128** | **31** | **147** | **162** | **213** |
| 2029 AM Peak Hour Construction HGV Trips | 0 | 0 | 0 | 0 | 0 | 0 |
| 2029 AM Peak Hour Construction Employee Main Site Trips | 2 | 3 | 4 | 0 | 21 | 0 |
| 2029 AM Peak Hour Construction Employee Solar Site Trips | 0 | 0 | 1 | 0 | 4 | 0 |
| **2029 AM Peak Hour With Construction Trips** | **80** | **132** | **36** | **147** | **187** | **213** |
| **2033 AM Peak Hour (Factor = 1.099) Without Development** | **80** | **131** | **32** | **151** | **166** | **219** |
| **2038 AM Peak Hour (Factor = 1.137) Without Development** | **83** | **136** | **33** | **157** | **172** | **226** |
| **2048 AM Peak Hour (Factor = 1.210) Without Development** | **88** | **145** | **35** | **167** | **183** | **241** |
| 2033-2048 AM Peak Hour Operational Trips | 1 | 1 | 3 | 0 | 16 | 0 |
| **2033 AM Peak Hour With Development Operational** | **81** | **133** | **35** | **151** | **182** | **219** |
| **2038 AM Peak Hour With Development Operational** | **84** | **137** | **36** | **157** | **188** | **226** |
| **2048 AM Peak Hour With Development Operational** | **89** | **146** | **38** | **167** | **199** | **241** |
| 2025 PM Peak Hour (17:00 – 17:59) | 29 | 145 | 26 | 77 | 155 | 86 |
| PM Peak Subtraction of Castlelost Flexgen Development Traffic | -3 | -15 | 0 | 0 | 0 | 0 |
| PM Peak Castlelost Flexgen Operational Traffic | 1 | 6 | 0 | 0 | 0 | 0 |
| 2025 PM Peak Hour With Castlelost Flexgen Operational | 27 | 136 | 26 | 77 | 155 | 86 |
| **2029 PM Peak Hour (Factor = 1.070) Without Development** | **29** | **146** | **28** | **82** | **165** | **92** |
| 2029 PM Peak Hour Construction HGV Trips | 0 | 0 | 0 | 0 | 0 | 0 |
| 2029 PM Peak Hour Construction Employee Main Site Trips | 12 | 61 | 0 | 0 | 0 | 0 |
| 2029 PM Peak Hour Construction Employee Solar Site Trips | 0 | 1 | 0 | 0 | 0 | 0 |
| **2029 PM Peak Hour With Construction Trips** | **41** | **207** | **28** | **82** | **165** | **92** |
| **2033 PM Peak Hour (Factor = 1.099) Without Development** | **30** | **150** | **28** | **84** | **170** | **95** |
| **2038 PM Peak Hour (Factor = 1.137) Without Development** | **31** | **155** | **29** | **87** | **176** | **98** |
| **2048 PM Peak Hour (Factor = 1.210) Without Development** | **33** | **165** | **31** | **93** | **187** | **104** |
| 2033-2048 PM Peak Hour Operational Trips | 4 | 19 | 0 | 0 | 1 | 0 |
| **2033 PM Peak Hour With Development Operational** | **34** | **169** | **29** | **84** | **170** | **95** |
| **2038 PM Peak Hour With Development Operational** | **35** | **174** | **30** | **87** | **176** | **98** |
| **2048 PM Peak Hour With Development Operational** | **37** | **184** | **31** | **93** | **188** | **104** |

*Data in PCUs rounded to the nearest whole number*

**Traffic Calculations – Summary**
**Existing R446/R400 (3-arm) roundabout junction**

Arm A = R446 to/from East (Kinnegad)
Arm B = R400 to/from South (M6)
Arm C = R446 to/from West (Tyrrellspass)

| Scenario | A-A | A-B | A-C | B-A | B-B | B-C | C-A | C-B | C-C |
|---|---|---|---|---|---|---|---|---|---|
| 2025 AM Peak Hour (08:15 – 09:14) | 9 | 98 | 272 | 105 | 0 | 80 | 177 | 81 | 8 |
| AM Peak Subtraction of Castlelost Flexgen Development Traffic | 0 | 0 | -5 | 0 | 0 | -1 | 0 | 0 | 0 |
| AM Peak Castlelost Flexgen Operational Traffic | 0 | 0 | 4 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2025 AM Peak Hour With Castlelost Flexgen Operational | 9 | 98 | 271 | 105 | 0 | 80 | 176 | 81 | 8 |
| **2029 AM Peak Hour (Factor = 1.070) Without Development** | **10** | **105** | **290** | **113** | **0** | **85** | **189** | **87** | **9** |
| 2029 AM Peak Hour Construction HGV Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2029 AM Peak Hour Construction Employee Main Site Trips | 0 | 0 | 16 | 0 | 0 | 5 | 2 | 1 | 0 |
| 2029 AM Peak Hour Construction Employee Solar Site Trips | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 0 | 0 |
| **2029 AM Peak Hour With Construction Trips** | **10** | **105** | **309** | **113** | **0** | **91** | **191** | **88** | **9** |
| **2033 AM Peak Hour (Factor = 1.099) Without Development** | **10** | **108** | **297** | **116** | **0** | **88** | **194** | **89** | **9** |
| **2038 AM Peak Hour (Factor = 1.137) Without Development** | **10** | **112** | **308** | **120** | **0** | **91** | **200** | **92** | **9** |
| **2048 AM Peak Hour (Factor = 1.210) Without Development** | **11** | **119** | **327** | **127** | **0** | **97** | **213** | **98** | **10** |
| 2033-2048 AM Peak Hour Operational Trips | 0 | 0 | 12 | 0 | 0 | 4 | 1 | 0 | 0 |
| **2033 AM Peak Hour With Development Operational** | **10** | **108** | **310** | **116** | **0** | **91** | **195** | **89** | **9** |
| **2038 AM Peak Hour With Development Operational** | **10** | **112** | **320** | **120** | **0** | **94** | **201** | **93** | **9** |
| **2048 AM Peak Hour With Development Operational** | **11** | **119** | **340** | **127** | **0** | **100** | **214** | **98** | **10** |
| 2025 PM Peak Hour (17:00 – 17:59) | 2 | 116 | 181 | 111 | 0 | 60 | 165 | 57 | 6 |
| PM Peak Subtraction of Castlelost Flexgen Development Traffic | 0 | 0 | 0 | 0 | 0 | 0 | -11 | -4 | 0 |
| PM Peak Castlelost Flexgen Operational Traffic | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 1 | 0 |
| 2025 PM Peak Hour With Castlelost Flexgen Operational | 2 | 116 | 181 | 111 | 0 | 60 | 159 | 54 | 6 |
| **2029 PM Peak Hour (Factor = 1.070) Without Development** | **2** | **124** | **194** | **119** | **0** | **64** | **170** | **58** | **6** |
| 2029 PM Peak Hour Construction HGV Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2029 PM Peak Hour Construction Employee Main Site Trips | 0 | 0 | 0 | 0 | 0 | 0 | 45 | 15 | 0 |
| 2029 PM Peak Hour Construction Employee Solar Site Trips | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| **2029 PM Peak Hour With Construction Trips** | **2** | **124** | **194** | **119** | **0** | **64** | **215** | **74** | **6** |
| **2033 PM Peak Hour (Factor = 1.099) Without Development** | **2** | **127** | **199** | **122** | **0** | **66** | **174** | **60** | **7** |
| **2038 PM Peak Hour (Factor = 1.137) Without Development** | **2** | **132** | **206** | **127** | **0** | **68** | **180** | **62** | **7** |
| **2048 PM Peak Hour (Factor = 1.210) Without Development** | **2** | **140** | **219** | **135** | **0** | **72** | **192** | **66** | **7** |
| 2033-2048 PM Peak Hour Operational Trips | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 5 | 0 |
| **2033 PM Peak Hour With Development Operational** | **2** | **127** | **199** | **122** | **0** | **66** | **188** | **65** | **7** |
| **2038 PM Peak Hour With Development Operational** | **2** | **132** | **206** | **127** | **0** | **68** | **194** | **67** | **7** |
| **2048 PM Peak Hour With Development Operational** | **2** | **140** | **220** | **135** | **0** | **72** | **206** | **71** | **7** |

*Data in PCUs rounded to the nearest whole number*

APPENDIX 13.4

| Junctions 9 |
| --- |
| **ARCADY 9 - Roundabout Module** |
| Version: 9.5.2.1013<br>© Copyright TRL Limited, 2019 |
| For sales and distribution information, program advice and maintenance, contact TRL:<br>+44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk |
| **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:** N52.j9
**Path:** \\192.168.1.33 \ttrsa\projects\T241206_Westmeath_Admiral_Datacentre_Solar_Farm_EIAR_MMP_S1_RSA\eiar_chapter\modelling\N52
**Report generation date:** 08/07/2025 11:11:53

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»2029 Without Development, AM
»2029 With Construction, AM
»2033 Without Development, AM
»2038 Without Development, AM
»2048 Without Development, AM
»2033 With Operational Development, AM
»2038 With Operational Development, AM
»2048 With Operational Development, AM
»2029 Without Development, PM
»2029 With Construction, PM
»2033 Without Development, PM
»2038 Without Development, PM
»2048 Without Development, PM
»2033 With Operational Development, PM
»2038 With Operational Development, PM
»2048 With Operational Development, PM

## Summary of junction performance

| | AM | | | | | PM | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Set ID | Queue (PCU) | Delay (s) | RFC | LOS | Set ID | Queue (PCU) | Delay (s) | RFC | LOS |
| | 2029 Without Development | | | | | | | | | |
| Arm A | D1 | 0.4 | 3.31 | 0.25 | A | D9 | 0.3 | 3.17 | 0.21 | A |
| Arm B | | 0.6 | 3.85 | 0.37 | A | | 0.6 | 3.74 | 0.36 | A |
| Arm C | | 0.3 | 5.24 | 0.19 | A | | 0.2 | 4.84 | 0.15 | A |
| Arm D | | 0.4 | 3.11 | 0.28 | A | | 0.5 | 3.18 | 0.30 | A |
| | 2029 With Construction | | | | | | | | | |
| Arm A | D2 | 0.4 | 3.48 | 0.29 | A | D10 | 0.3 | 3.22 | 0.22 | A |
| Arm B | | 0.7 | 4.04 | 0.39 | A | | 0.6 | 3.76 | 0.36 | A |
| Arm C | | 0.3 | 5.35 | 0.21 | A | | 0.5 | 5.97 | 0.31 | A |
| Arm D | | 0.4 | 3.15 | 0.29 | A | | 0.5 | 3.38 | 0.32 | A |
| | 2033 Without Development | | | | | | | | | |
| Arm A | D3 | 0.4 | 3.36 | 0.26 | A | D11 | 0.3 | 3.22 | 0.22 | A |
| Arm B | | 0.7 | 3.93 | 0.39 | A | | 0.6 | 3.82 | 0.37 | A |
| Arm C | | 0.3 | 5.35 | 0.20 | A | | 0.2 | 4.92 | 0.15 | A |
| Arm D | | 0.4 | 3.15 | 0.29 | A | | 0.5 | 3.23 | 0.31 | A |
| | 2038 Without Development | | | | | | | | | |
| Arm A | D4 | 0.4 | 3.44 | 0.27 | A | D12 | 0.3 | 3.28 | 0.23 | A |
| Arm B | | 0.7 | 4.05 | 0.40 | A | | 0.7 | 3.91 | 0.38 | A |
| Arm C | | 0.3 | 5.49 | 0.21 | A | | 0.2 | 5.03 | 0.16 | A |
| Arm D | | 0.5 | 3.21 | 0.30 | A | | 0.5 | 3.29 | 0.32 | A |
| | 2048 Without Development | | | | | | | | | |
| Arm A | D5 | 0.4 | 3.58 | 0.29 | A | D13 | 0.4 | 3.40 | 0.25 | A |
| Arm B | | 0.8 | 4.28 | 0.43 | A | | 0.8 | 4.12 | 0.41 | A |
| Arm C | | 0.3 | 5.78 | 0.23 | A | | 0.2 | 5.25 | 0.18 | A |
| Arm D | | 0.5 | 3.32 | 0.32 | A | | 0.6 | 3.41 | 0.35 | A |
| | 2033 With Operational Development | | | | | | | | | |
| Arm A | D6 | 0.4 | 3.48 | 0.29 | A | D14 | 0.3 | 3.23 | 0.22 | A |
| Arm B | | 0.7 | 4.07 | 0.40 | A | | 0.6 | 3.82 | 0.37 | A |
| Arm C | | 0.3 | 5.36 | 0.20 | A | | 0.3 | 5.22 | 0.20 | A |
| Arm D | | 0.4 | 3.17 | 0.29 | A | | 0.5 | 3.28 | 0.32 | A |
| | 2038 With Operational Development | | | | | | | | | |
| Arm A | D7 | 0.5 | 3.56 | 0.30 | A | D15 | 0.3 | 3.29 | 0.23 | A |
| Arm B | | 0.8 | 4.21 | 0.41 | A | | 0.7 | 3.92 | 0.38 | A |
| Arm C | | 0.3 | 5.53 | 0.22 | A | | 0.3 | 5.34 | 0.21 | A |
| Arm D | | 0.5 | 3.23 | 0.31 | A | | 0.5 | 3.34 | 0.33 | A |
| | 2048 With Operational Development | | | | | | | | | |
| Arm A | D8 | 0.5 | 3.72 | 0.32 | A | D16 | 0.4 | 3.41 | 0.25 | A |
| Arm B | | 0.8 | 4.43 | 0.44 | A | | 0.8 | 4.13 | 0.41 | A |
| Arm C | | 0.3 | 5.81 | 0.23 | A | | 0.3 | 5.59 | 0.23 | A |
| Arm D | | 0.5 | 3.34 | 0.33 | A | | 0.6 | 3.47 | 0.35 | A |

*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** | Admiral |
| **Location** | R446/N52 roundabout junction |
| **Site number** | |
| **Date** | 08/07/2025 |
| **Version** | EIAR |
| **Status** | Final |
| **Identifier** | |
| **Client** | Halston |
| **Jobnumber** | 241206 |
| **Enumerator** | TTRSA |
| **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 | Calculate residual capacity | RFC Threshold | Average Delay threshold (s) | Queue threshold (PCU) |
|---|---|---|---|---|---|---|
| 5.75 | | | | 0.85 | 36.00 | 20.00 |

# Demand Set Summary

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D1 | 2029 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D2 | 2029 With Construction | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D3 | 2033 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D4 | 2038 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D5 | 2048 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D6 | 2033 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D7 | 2038 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D8 | 2048 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D9 | 2029 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D10 | 2029 With Construction | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D11 | 2033 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D12 | 2038 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D13 | 2048 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D14 | 2033 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D15 | 2038 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D16 | 2048 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

# Analysis Set Details

| ID | Include in report | Network flow scaling factor (%) | Network capacity scaling factor (%) |
|---|---|---|---|
| A1 | ✓ | 100.000 | 100.000 |

# 2029 Without Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/N52 roundabout junction | Standard Roundabout | | A, B, C, D | 3.65 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Arms

### Arms

| Arm | Name | Description |
|---|---|---|
| A | R446 to/from West | |
| B | N52 to/from North | |
| C | R446 to/from East | |
| D | N52 to/from South | |

### Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | l' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit only |
|---|---|---|---|---|---|---|---|
| A | 4.47 | 7.22 | 6.7 | 23.2 | 54.4 | 9.2 | |
| B | 3.68 | 7.10 | 11.9 | 23.9 | 52.4 | 12.5 | |
| C | 2.79 | 6.99 | 6.1 | 20.7 | 53.0 | 23.5 | |
| D | 3.96 | 7.79 | 17.1 | 26.2 | 52.9 | 35.1 | |

### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

| Arm | Final slope | Final intercept (PCU/hr) |
|---|---|---|
| A | 0.637 | 1848 |
| B | 0.630 | 1770 |
| C | 0.523 | 1273 |
| D | 0.624 | 1864 |

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

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D1 | 2029 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

## Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 363 | 100.000 |
| B | | ONE HOUR | ✓ | 548 | 100.000 |
| C | | ONE HOUR | ✓ | 162 | 100.000 |
| D | | ONE HOUR | ✓ | 449 | 100.000 |

# Origin-Destination Data

### Demand (PCU/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 1 | 155 | 122 | 85 |
| | B | 53 | 1 | 24 | 470 |
| | C | 101 | 21 | 0 | 40 |
| | D | 74 | 354 | 16 | 5 |

# Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 6 | 6 | 6 | 6 |
| | B | 6 | 6 | 6 | 6 |
| | C | 6 | 6 | 6 | 6 |
| | D | 6 | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.25 | 3.31 | 0.4 | A | 333 | 500 |
| B | 0.37 | 3.85 | 0.6 | A | 503 | 754 |
| C | 0.19 | 5.24 | 0.3 | A | 149 | 223 |
| D | 0.28 | 3.11 | 0.4 | A | 412 | 618 |

## 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 273 | 68 | 298 | 1659 | 0.165 | 272 | 172 | 0.0 | 0.2 | 2.798 | A |
| B | 413 | 103 | 172 | 1661 | 0.248 | 411 | 399 | 0.0 | 0.4 | 3.101 | A |
| C | 122 | 30 | 461 | 1032 | 0.118 | 121 | 122 | 0.0 | 0.1 | 4.258 | A |
| D | 338 | 85 | 133 | 1781 | 0.190 | 337 | 450 | 0.0 | 0.3 | 2.686 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 326 | 82 | 357 | 1621 | 0.201 | 326 | 206 | 0.2 | 0.3 | 2.995 | A |
| B | 493 | 123 | 206 | 1640 | 0.300 | 492 | 477 | 0.4 | 0.5 | 3.381 | A |
| C | 146 | 36 | 552 | 985 | 0.148 | 145 | 146 | 0.1 | 0.2 | 4.623 | A |
| D | 404 | 101 | 159 | 1765 | 0.229 | 403 | 539 | 0.3 | 0.3 | 2.850 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 400 | 100 | 437 | 1571 | 0.254 | 399 | 252 | 0.3 | 0.4 | 3.313 | A |
| B | 603 | 151 | 252 | 1611 | 0.375 | 603 | 584 | 0.5 | 0.6 | 3.846 | A |
| C | 178 | 45 | 676 | 920 | 0.194 | 178 | 178 | 0.2 | 0.3 | 5.231 | A |
| D | 494 | 124 | 195 | 1742 | 0.284 | 494 | 660 | 0.3 | 0.4 | 3.108 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 400 | 100 | 437 | 1570 | 0.255 | 400 | 252 | 0.4 | 0.4 | 3.314 | A |
| B | 603 | 151 | 252 | 1611 | 0.375 | 603 | 585 | 0.6 | 0.6 | 3.851 | A |
| C | 178 | 45 | 677 | 920 | 0.194 | 178 | 178 | 0.3 | 0.3 | 5.235 | A |
| D | 494 | 124 | 195 | 1742 | 0.284 | 494 | 661 | 0.4 | 0.4 | 3.109 | A |

### 09:00 - 09:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 326 | 82 | 357 | 1621 | 0.201 | 327 | 206 | 0.4 | 0.3 | 3.000 | A |
| B | 493 | 123 | 206 | 1640 | 0.300 | 493 | 478 | 0.6 | 0.5 | 3.388 | A |
| C | 146 | 36 | 554 | 984 | 0.148 | 146 | 146 | 0.3 | 0.2 | 4.633 | A |
| D | 404 | 101 | 159 | 1764 | 0.229 | 404 | 540 | 0.4 | 0.3 | 2.853 | A |

### 09:15 - 09:30

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 273 | 68 | 299 | 1658 | 0.165 | 274 | 173 | 0.3 | 0.2 | 2.805 | A |
| B | 413 | 103 | 173 | 1661 | 0.248 | 413 | 400 | 0.5 | 0.4 | 3.109 | A |
| C | 122 | 30 | 463 | 1031 | 0.118 | 122 | 122 | 0.2 | 0.1 | 4.269 | A |
| D | 338 | 85 | 133 | 1781 | 0.190 | 338 | 452 | 0.3 | 0.3 | 2.690 | A |

# 2029 With Construction, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/N52 roundabout junction | Standard Roundabout | | A, B, C, D | 3.79 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D2 | 2029 With Construction | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 405 | 100.000 |
| B | | ONE HOUR | ✓ | 556 | 100.000 |
| C | | ONE HOUR | ✓ | 176 | 100.000 |
| D | | ONE HOUR | ✓ | 462 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 1 | 155 | 164 | 85 |
| | B | 53 | 1 | 32 | 470 |
| | C | 105 | 22 | 0 | 49 |
| | D | 74 | 354 | 29 | 5 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 6 | 6 | 6 | 6 |
| | B | 6 | 6 | 6 | 6 |
| | C | 6 | 6 | 6 | 6 |
| | D | 6 | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.29 | 3.48 | 0.4 | A | 372 | 557 |
| B | 0.39 | 4.04 | 0.7 | A | 510 | 765 |
| C | 0.21 | 5.35 | 0.3 | A | 162 | 242 |
| D | 0.29 | 3.15 | 0.4 | A | 424 | 636 |

## 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 305 | 76 | 308 | 1652 | 0.185 | 304 | 175 | 0.0 | 0.2 | 2.877 | A |
| B | 419 | 105 | 213 | 1635 | 0.256 | 417 | 399 | 0.0 | 0.4 | 3.180 | A |
| C | 133 | 33 | 461 | 1032 | 0.128 | 132 | 169 | 0.0 | 0.2 | 4.307 | A |
| D | 348 | 87 | 136 | 1779 | 0.196 | 347 | 457 | 0.0 | 0.3 | 2.709 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 364 | 91 | 369 | 1613 | 0.226 | 364 | 209 | 0.2 | 0.3 | 3.105 | A |
| B | 500 | 125 | 255 | 1609 | 0.311 | 499 | 478 | 0.4 | 0.5 | 3.495 | A |
| C | 158 | 40 | 552 | 985 | 0.161 | 158 | 202 | 0.2 | 0.2 | 4.693 | A |
| D | 415 | 104 | 163 | 1762 | 0.236 | 415 | 547 | 0.3 | 0.3 | 2.881 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 446 | 111 | 452 | 1561 | 0.286 | 445 | 256 | 0.3 | 0.4 | 3.477 | A |
| B | 612 | 153 | 312 | 1573 | 0.389 | 611 | 585 | 0.5 | 0.7 | 4.032 | A |
| C | 194 | 48 | 676 | 920 | 0.211 | 193 | 247 | 0.2 | 0.3 | 5.339 | A |
| D | 509 | 127 | 200 | 1739 | 0.293 | 508 | 670 | 0.3 | 0.4 | 3.153 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 446 | 111 | 453 | 1560 | 0.286 | 446 | 257 | 0.4 | 0.4 | 3.481 | A |
| B | 612 | 153 | 313 | 1573 | 0.389 | 612 | 586 | 0.7 | 0.7 | 4.039 | A |
| C | 194 | 48 | 677 | 920 | 0.211 | 194 | 248 | 0.3 | 0.3 | 5.346 | A |
| D | 509 | 127 | 200 | 1739 | 0.293 | 509 | 671 | 0.4 | 0.4 | 3.154 | A |

### 09:00 - 09:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 364 | 91 | 370 | 1613 | 0.226 | 365 | 210 | 0.4 | 0.3 | 3.111 | A |
| B | 500 | 125 | 256 | 1609 | 0.311 | 501 | 479 | 0.7 | 0.5 | 3.503 | A |
| C | 158 | 40 | 554 | 984 | 0.161 | 159 | 203 | 0.3 | 0.2 | 4.704 | A |
| D | 415 | 104 | 164 | 1762 | 0.236 | 416 | 548 | 0.4 | 0.3 | 2.886 | A |

### 09:15 - 09:30

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 305 | 76 | 310 | 1651 | 0.185 | 305 | 176 | 0.3 | 0.2 | 2.882 | A |
| B | 419 | 105 | 214 | 1635 | 0.256 | 419 | 401 | 0.5 | 0.4 | 3.192 | A |
| C | 133 | 33 | 464 | 1031 | 0.129 | 133 | 170 | 0.2 | 0.2 | 4.321 | A |
| D | 348 | 87 | 137 | 1778 | 0.196 | 348 | 459 | 0.3 | 0.3 | 2.715 | A |

# 2033 Without Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/N52 roundabout junction | Standard Roundabout | | A, B, C, D | 3.72 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D3 | 2033 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 372 | 100.000 |
| B | | ONE HOUR | ✓ | 563 | 100.000 |
| C | | ONE HOUR | ✓ | 167 | 100.000 |
| D | | ONE HOUR | ✓ | 461 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 1 | 159 | 125 | 87 |
| | B | 55 | 1 | 24 | 483 |
| | C | 104 | 22 | 0 | 41 |
| | D | 76 | 363 | 17 | 5 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 6 | 6 | 6 | 6 |
| | B | 6 | 6 | 6 | 6 |
| | C | 6 | 6 | 6 | 6 |
| | D | 6 | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.26 | 3.36 | 0.4 | A | 341 | 512 |
| B | 0.39 | 3.93 | 0.7 | A | 517 | 775 |
| C | 0.20 | 5.35 | 0.3 | A | 153 | 230 |
| D | 0.29 | 3.15 | 0.4 | A | 423 | 635 |

## 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 280 | 70 | 306 | 1654 | 0.169 | 279 | 177 | 0.0 | 0.2 | 2.822 | A |
| B | 424 | 106 | 176 | 1659 | 0.256 | 422 | 409 | 0.0 | 0.4 | 3.134 | A |
| C | 126 | 31 | 474 | 1026 | 0.123 | 125 | 125 | 0.0 | 0.1 | 4.307 | A |
| D | 347 | 87 | 137 | 1778 | 0.195 | 346 | 462 | 0.0 | 0.3 | 2.708 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 334 | 84 | 367 | 1615 | 0.207 | 334 | 212 | 0.2 | 0.3 | 3.029 | A |
| B | 506 | 127 | 211 | 1637 | 0.309 | 506 | 490 | 0.4 | 0.5 | 3.428 | A |
| C | 150 | 38 | 568 | 977 | 0.154 | 150 | 149 | 0.1 | 0.2 | 4.692 | A |
| D | 414 | 104 | 164 | 1761 | 0.235 | 414 | 553 | 0.3 | 0.3 | 2.880 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 410 | 102 | 449 | 1563 | 0.262 | 409 | 260 | 0.3 | 0.4 | 3.364 | A |
| B | 620 | 155 | 258 | 1607 | 0.386 | 619 | 599 | 0.5 | 0.7 | 3.923 | A |
| C | 184 | 46 | 695 | 910 | 0.202 | 184 | 183 | 0.2 | 0.3 | 5.338 | A |
| D | 508 | 127 | 201 | 1738 | 0.292 | 507 | 677 | 0.3 | 0.4 | 3.152 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 410 | 102 | 449 | 1563 | 0.262 | 410 | 260 | 0.4 | 0.4 | 3.365 | A |
| B | 620 | 155 | 259 | 1607 | 0.386 | 620 | 600 | 0.7 | 0.7 | 3.932 | A |
| C | 184 | 46 | 696 | 910 | 0.202 | 184 | 183 | 0.3 | 0.3 | 5.345 | A |
| D | 508 | 127 | 201 | 1738 | 0.292 | 508 | 678 | 0.4 | 0.4 | 3.152 | A |

### 09:00 - 09:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 334 | 84 | 367 | 1615 | 0.207 | 335 | 212 | 0.4 | 0.3 | 3.034 | A |
| B | 506 | 127 | 212 | 1636 | 0.309 | 507 | 491 | 0.7 | 0.5 | 3.437 | A |
| C | 150 | 38 | 569 | 976 | 0.154 | 150 | 149 | 0.3 | 0.2 | 4.701 | A |
| D | 414 | 104 | 165 | 1761 | 0.235 | 415 | 555 | 0.4 | 0.3 | 2.885 | A |

### 09:15 - 09:30

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 280 | 70 | 307 | 1653 | 0.169 | 280 | 178 | 0.3 | 0.2 | 2.829 | A |
| B | 424 | 106 | 177 | 1658 | 0.256 | 424 | 411 | 0.5 | 0.4 | 3.145 | A |
| C | 126 | 31 | 476 | 1024 | 0.123 | 126 | 125 | 0.2 | 0.2 | 4.321 | A |
| D | 347 | 87 | 138 | 1778 | 0.195 | 347 | 464 | 0.3 | 0.3 | 2.713 | A |

# 2038 Without Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/N52 roundabout junction | Standard Roundabout | | A, B, C, D | 3.81 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D4 | 2038 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 386 | 100.000 |
| B | | ONE HOUR | ✓ | 583 | 100.000 |
| C | | ONE HOUR | ✓ | 172 | 100.000 |
| D | | ONE HOUR | ✓ | 478 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 1 | 165 | 130 | 90 |
| | B | 57 | 1 | 25 | 500 |
| | C | 107 | 22 | 0 | 43 |
| | D | 79 | 376 | 17 | 6 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 6 | 6 | 6 | 6 |
| | B | 6 | 6 | 6 | 6 |
| | C | 6 | 6 | 6 | 6 |
| | D | 6 | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.27 | 3.44 | 0.4 | A | 354 | 531 |
| B | 0.40 | 4.05 | 0.7 | A | 535 | 802 |
| C | 0.21 | 5.49 | 0.3 | A | 158 | 237 |
| D | 0.30 | 3.21 | 0.5 | A | 439 | 658 |

## 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 291 | 73 | 317 | 1647 | 0.176 | 290 | 183 | 0.0 | 0.2 | 2.858 | A |
| B | 439 | 110 | 183 | 1654 | 0.265 | 437 | 423 | 0.0 | 0.4 | 3.184 | A |
| C | 129 | 32 | 491 | 1017 | 0.127 | 129 | 129 | 0.0 | 0.2 | 4.369 | A |
| D | 360 | 90 | 141 | 1776 | 0.203 | 359 | 479 | 0.0 | 0.3 | 2.737 | A |

### 08:15 - 08:30

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 347 | 87 | 379 | 1607 | 0.216 | 347 | 219 | 0.2 | 0.3 | 3.078 | A |
| B | 524 | 131 | 219 | 1632 | 0.321 | 524 | 507 | 0.4 | 0.5 | 3.500 | A |
| C | 155 | 39 | 588 | 966 | 0.160 | 154 | 155 | 0.2 | 0.2 | 4.781 | A |
| D | 430 | 107 | 169 | 1759 | 0.244 | 429 | 574 | 0.3 | 0.3 | 2.919 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 425 | 106 | 464 | 1553 | 0.274 | 425 | 268 | 0.3 | 0.4 | 3.439 | A |
| B | 642 | 160 | 268 | 1601 | 0.401 | 641 | 620 | 0.5 | 0.7 | 4.041 | A |
| C | 189 | 47 | 720 | 897 | 0.211 | 189 | 189 | 0.2 | 0.3 | 5.479 | A |
| D | 526 | 132 | 207 | 1735 | 0.303 | 526 | 703 | 0.3 | 0.5 | 3.207 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 425 | 106 | 465 | 1553 | 0.274 | 425 | 269 | 0.4 | 0.4 | 3.440 | A |
| B | 642 | 160 | 269 | 1600 | 0.401 | 642 | 621 | 0.7 | 0.7 | 4.048 | A |
| C | 189 | 47 | 721 | 896 | 0.211 | 189 | 189 | 0.3 | 0.3 | 5.487 | A |
| D | 526 | 132 | 207 | 1735 | 0.303 | 526 | 704 | 0.5 | 0.5 | 3.210 | A |

### 09:00 - 09:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 347 | 87 | 380 | 1607 | 0.216 | 347 | 220 | 0.4 | 0.3 | 3.084 | A |
| B | 524 | 131 | 220 | 1631 | 0.321 | 525 | 508 | 0.7 | 0.5 | 3.511 | A |
| C | 155 | 39 | 590 | 965 | 0.160 | 155 | 155 | 0.3 | 0.2 | 4.793 | A |
| D | 430 | 107 | 169 | 1758 | 0.244 | 430 | 575 | 0.5 | 0.4 | 2.922 | A |

### 09:15 - 09:30

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 291 | 73 | 318 | 1646 | 0.177 | 291 | 184 | 0.3 | 0.2 | 2.865 | A |
| B | 439 | 110 | 184 | 1654 | 0.265 | 439 | 425 | 0.5 | 0.4 | 3.198 | A |
| C | 129 | 32 | 494 | 1015 | 0.128 | 130 | 130 | 0.2 | 0.2 | 4.382 | A |
| D | 360 | 90 | 142 | 1775 | 0.203 | 360 | 482 | 0.4 | 0.3 | 2.742 | A |

# 2048 Without Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/N52 roundabout junction | Standard Roundabout | | A, B, C, D | 3.99 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D5 | 2048 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 410 | 100.000 |
| B | | ONE HOUR | ✓ | 620 | 100.000 |
| C | | ONE HOUR | ✓ | 183 | 100.000 |
| D | | ONE HOUR | ✓ | 508 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 1 | 175 | 138 | 96 |
| | B | 60 | 1 | 27 | 532 |
| | C | 114 | 24 | 0 | 45 |
| | D | 84 | 400 | 18 | 6 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 6 | 6 | 6 | 6 |
| | B | 6 | 6 | 6 | 6 |
| | C | 6 | 6 | 6 | 6 |
| | D | 6 | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.29 | 3.58 | 0.4 | A | 376 | 564 |
| B | 0.43 | 4.28 | 0.8 | A | 569 | 853 |
| C | 0.23 | 5.78 | 0.3 | A | 168 | 252 |
| D | 0.32 | 3.32 | 0.5 | A | 466 | 699 |

## 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 309 | 77 | 337 | 1634 | 0.189 | 308 | 194 | 0.0 | 0.3 | 2.925 | A |
| B | 467 | 117 | 194 | 1647 | 0.283 | 465 | 450 | 0.0 | 0.4 | 3.278 | A |
| C | 138 | 34 | 522 | 1001 | 0.138 | 137 | 137 | 0.0 | 0.2 | 4.488 | A |
| D | 382 | 96 | 150 | 1770 | 0.216 | 381 | 509 | 0.0 | 0.3 | 2.791 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 369 | 92 | 403 | 1592 | 0.232 | 368 | 233 | 0.3 | 0.3 | 3.172 | A |
| B | 557 | 139 | 233 | 1623 | 0.343 | 557 | 539 | 0.4 | 0.6 | 3.637 | A |
| C | 165 | 41 | 625 | 947 | 0.174 | 164 | 164 | 0.2 | 0.2 | 4.959 | A |
| D | 457 | 114 | 180 | 1752 | 0.261 | 456 | 610 | 0.3 | 0.4 | 2.995 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 451 | 113 | 494 | 1534 | 0.294 | 451 | 285 | 0.3 | 0.4 | 3.580 | A |
| B | 683 | 171 | 285 | 1590 | 0.429 | 682 | 660 | 0.6 | 0.8 | 4.267 | A |
| C | 201 | 50 | 765 | 873 | 0.231 | 201 | 201 | 0.2 | 0.3 | 5.770 | A |
| D | 559 | 140 | 220 | 1727 | 0.324 | 559 | 747 | 0.4 | 0.5 | 3.320 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 451 | 113 | 494 | 1534 | 0.294 | 451 | 285 | 0.4 | 0.4 | 3.584 | A |
| B | 683 | 171 | 285 | 1590 | 0.429 | 683 | 661 | 0.8 | 0.8 | 4.276 | A |
| C | 201 | 50 | 766 | 873 | 0.231 | 201 | 201 | 0.3 | 0.3 | 5.779 | A |
| D | 559 | 140 | 220 | 1726 | 0.324 | 559 | 748 | 0.5 | 0.5 | 3.324 | A |

### 09:00 - 09:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 369 | 92 | 404 | 1591 | 0.232 | 369 | 233 | 0.4 | 0.3 | 3.175 | A |
| B | 557 | 139 | 233 | 1623 | 0.343 | 558 | 540 | 0.8 | 0.6 | 3.650 | A |
| C | 165 | 41 | 627 | 946 | 0.174 | 165 | 165 | 0.3 | 0.2 | 4.971 | A |
| D | 457 | 114 | 180 | 1751 | 0.261 | 457 | 611 | 0.5 | 0.4 | 3.001 | A |

### 09:15 - 09:30

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 309 | 77 | 338 | 1633 | 0.189 | 309 | 195 | 0.3 | 0.3 | 2.930 | A |
| B | 467 | 117 | 195 | 1647 | 0.283 | 467 | 452 | 0.6 | 0.4 | 3.293 | A |
| C | 138 | 34 | 525 | 999 | 0.138 | 138 | 138 | 0.2 | 0.2 | 4.506 | A |
| D | 382 | 96 | 151 | 1770 | 0.216 | 383 | 512 | 0.4 | 0.3 | 2.798 | A |

# 2033 With Operational Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/N52 roundabout junction | Standard Roundabout | | A, B, C, D | 3.79 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D6 | 2033 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 404 | 100.000 |
| B | | ONE HOUR | ✓ | 570 | 100.000 |
| C | | ONE HOUR | ✓ | 169 | 100.000 |
| D | | ONE HOUR | ✓ | 465 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 1 | 159 | 157 | 87 |
| | B | 55 | 1 | 31 | 483 |
| | C | 105 | 22 | 0 | 42 |
| | D | 76 | 363 | 21 | 5 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 6 | 6 | 6 | 6 |
| | B | 6 | 6 | 6 | 6 |
| | C | 6 | 6 | 6 | 6 |
| | D | 6 | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.29 | 3.48 | 0.4 | A | 371 | 556 |
| B | 0.40 | 4.07 | 0.7 | A | 523 | 785 |
| C | 0.20 | 5.36 | 0.3 | A | 155 | 233 |
| D | 0.29 | 3.17 | 0.4 | A | 427 | 640 |

## 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 304 | 76 | 309 | 1652 | 0.184 | 303 | 178 | 0.0 | 0.2 | 2.877 | A |
| B | 429 | 107 | 203 | 1642 | 0.261 | 428 | 409 | 0.0 | 0.4 | 3.192 | A |
| C | 127 | 32 | 474 | 1026 | 0.124 | 127 | 157 | 0.0 | 0.2 | 4.314 | A |
| D | 350 | 88 | 138 | 1778 | 0.197 | 349 | 463 | 0.0 | 0.3 | 2.715 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 363 | 91 | 370 | 1613 | 0.225 | 363 | 213 | 0.2 | 0.3 | 3.104 | A |
| B | 512 | 128 | 243 | 1616 | 0.317 | 512 | 490 | 0.4 | 0.5 | 3.511 | A |
| C | 152 | 38 | 568 | 977 | 0.156 | 152 | 188 | 0.2 | 0.2 | 4.702 | A |
| D | 418 | 105 | 165 | 1761 | 0.237 | 418 | 554 | 0.3 | 0.3 | 2.889 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 445 | 111 | 453 | 1560 | 0.285 | 444 | 261 | 0.3 | 0.4 | 3.476 | A |
| B | 628 | 157 | 298 | 1582 | 0.397 | 627 | 599 | 0.5 | 0.7 | 4.059 | A |
| C | 186 | 47 | 695 | 910 | 0.204 | 186 | 230 | 0.2 | 0.3 | 5.354 | A |
| D | 512 | 128 | 202 | 1738 | 0.295 | 512 | 678 | 0.3 | 0.4 | 3.165 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 445 | 111 | 454 | 1560 | 0.285 | 445 | 261 | 0.4 | 0.4 | 3.479 | A |
| B | 628 | 157 | 298 | 1582 | 0.397 | 628 | 600 | 0.7 | 0.7 | 4.066 | A |
| C | 186 | 47 | 696 | 910 | 0.205 | 186 | 230 | 0.3 | 0.3 | 5.362 | A |
| D | 512 | 128 | 203 | 1737 | 0.295 | 512 | 679 | 0.4 | 0.4 | 3.166 | A |

### 09:00 - 09:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 363 | 91 | 371 | 1612 | 0.225 | 364 | 213 | 0.4 | 0.3 | 3.110 | A |
| B | 512 | 128 | 244 | 1616 | 0.317 | 513 | 491 | 0.7 | 0.5 | 3.523 | A |
| C | 152 | 38 | 569 | 976 | 0.156 | 152 | 188 | 0.3 | 0.2 | 4.714 | A |
| D | 418 | 105 | 166 | 1760 | 0.237 | 418 | 556 | 0.4 | 0.3 | 2.892 | A |

### 09:15 - 09:30

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 304 | 76 | 310 | 1651 | 0.184 | 304 | 179 | 0.3 | 0.2 | 2.882 | A |
| B | 429 | 107 | 204 | 1641 | 0.261 | 430 | 411 | 0.5 | 0.4 | 3.203 | A |
| C | 127 | 32 | 476 | 1024 | 0.124 | 127 | 157 | 0.2 | 0.2 | 4.326 | A |
| D | 350 | 88 | 139 | 1777 | 0.197 | 350 | 465 | 0.3 | 0.3 | 2.719 | A |

# 2038 With Operational Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/N52 roundabout junction | Standard Roundabout | | A, B, C, D | 3.90 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D7 | 2038 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 418 | 100.000 |
| B | | ONE HOUR | ✓ | 593 | 100.000 |
| C | | ONE HOUR | ✓ | 175 | 100.000 |
| D | | ONE HOUR | ✓ | 482 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 1 | 165 | 162 | 90 |
| | B | 60 | 1 | 32 | 500 |
| | C | 109 | 23 | 0 | 43 |
| | D | 79 | 376 | 21 | 6 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 6 | 6 | 6 | 6 |
| | B | 6 | 6 | 6 | 6 |
| | C | 6 | 6 | 6 | 6 |
| | D | 6 | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.30 | 3.56 | 0.5 | A | 384 | 575 |
| B | 0.41 | 4.21 | 0.8 | A | 544 | 816 |
| C | 0.22 | 5.53 | 0.3 | A | 161 | 241 |
| D | 0.31 | 3.23 | 0.5 | A | 442 | 663 |

## 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 315 | 79 | 320 | 1645 | 0.191 | 314 | 187 | 0.0 | 0.3 | 2.915 | A |
| B | 446 | 112 | 210 | 1637 | 0.273 | 445 | 424 | 0.0 | 0.4 | 3.250 | A |
| C | 132 | 33 | 494 | 1015 | 0.130 | 131 | 161 | 0.0 | 0.2 | 4.386 | A |
| D | 363 | 91 | 145 | 1773 | 0.205 | 362 | 479 | 0.0 | 0.3 | 2.750 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 376 | 94 | 384 | 1604 | 0.234 | 375 | 224 | 0.3 | 0.3 | 3.158 | A |
| B | 533 | 133 | 252 | 1611 | 0.331 | 533 | 508 | 0.4 | 0.5 | 3.595 | A |
| C | 157 | 39 | 591 | 965 | 0.163 | 157 | 193 | 0.2 | 0.2 | 4.805 | A |
| D | 433 | 108 | 174 | 1755 | 0.247 | 433 | 574 | 0.3 | 0.4 | 2.935 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 460 | 115 | 470 | 1550 | 0.297 | 460 | 274 | 0.3 | 0.5 | 3.559 | A |
| B | 653 | 163 | 308 | 1576 | 0.414 | 652 | 621 | 0.5 | 0.8 | 4.196 | A |
| C | 193 | 48 | 723 | 895 | 0.215 | 192 | 236 | 0.2 | 0.3 | 5.518 | A |
| D | 531 | 133 | 213 | 1731 | 0.307 | 530 | 703 | 0.4 | 0.5 | 3.230 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 460 | 115 | 470 | 1549 | 0.297 | 460 | 274 | 0.5 | 0.5 | 3.562 | A |
| B | 653 | 163 | 308 | 1576 | 0.414 | 653 | 622 | 0.8 | 0.8 | 4.206 | A |
| C | 193 | 48 | 724 | 895 | 0.215 | 193 | 237 | 0.3 | 0.3 | 5.526 | A |
| D | 531 | 133 | 214 | 1731 | 0.307 | 531 | 704 | 0.5 | 0.5 | 3.233 | A |

### 09:00 - 09:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 376 | 94 | 384 | 1604 | 0.234 | 376 | 224 | 0.5 | 0.3 | 3.164 | A |
| B | 533 | 133 | 252 | 1611 | 0.331 | 534 | 509 | 0.8 | 0.5 | 3.608 | A |
| C | 157 | 39 | 592 | 964 | 0.163 | 158 | 194 | 0.3 | 0.2 | 4.817 | A |
| D | 433 | 108 | 175 | 1755 | 0.247 | 434 | 575 | 0.5 | 0.4 | 2.938 | A |

### 09:15 - 09:30

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 315 | 79 | 322 | 1644 | 0.191 | 315 | 188 | 0.3 | 0.3 | 2.920 | A |
| B | 446 | 112 | 211 | 1637 | 0.273 | 447 | 426 | 0.5 | 0.4 | 3.264 | A |
| C | 132 | 33 | 496 | 1014 | 0.130 | 132 | 162 | 0.2 | 0.2 | 4.401 | A |
| D | 363 | 91 | 146 | 1773 | 0.205 | 363 | 482 | 0.4 | 0.3 | 2.753 | A |

# 2048 With Operational Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/N52 roundabout junction | Standard Roundabout | | A, B, C, D | 4.08 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D8 | 2048 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 442 | 100.000 |
| B | | ONE HOUR | ✓ | 626 | 100.000 |
| C | | ONE HOUR | ✓ | 186 | 100.000 |
| D | | ONE HOUR | ✓ | 513 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 1 | 175 | 170 | 96 |
| | B | 60 | 1 | 33 | 532 |
| | C | 116 | 24 | 0 | 46 |
| | D | 84 | 400 | 23 | 6 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 6 | 6 | 6 | 6 |
| | B | 6 | 6 | 6 | 6 |
| | C | 6 | 6 | 6 | 6 |
| | D | 6 | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.32 | 3.72 | 0.5 | A | 406 | 608 |
| B | 0.44 | 4.43 | 0.8 | A | 574 | 862 |
| C | 0.23 | 5.81 | 0.3 | A | 171 | 256 |
| D | 0.33 | 3.34 | 0.5 | A | 471 | 706 |

## 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 333 | 83 | 341 | 1632 | 0.204 | 332 | 196 | 0.0 | 0.3 | 2.982 | A |
| B | 471 | 118 | 222 | 1630 | 0.289 | 470 | 450 | 0.0 | 0.4 | 3.341 | A |
| C | 140 | 35 | 522 | 1001 | 0.140 | 139 | 170 | 0.0 | 0.2 | 4.502 | A |
| D | 386 | 97 | 151 | 1769 | 0.218 | 385 | 510 | 0.0 | 0.3 | 2.800 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 397 | 99 | 408 | 1589 | 0.250 | 397 | 234 | 0.3 | 0.4 | 3.256 | A |
| B | 563 | 141 | 266 | 1602 | 0.351 | 562 | 539 | 0.4 | 0.6 | 3.729 | A |
| C | 167 | 42 | 625 | 947 | 0.177 | 167 | 203 | 0.2 | 0.2 | 4.976 | A |
| D | 461 | 115 | 181 | 1751 | 0.263 | 461 | 611 | 0.3 | 0.4 | 3.008 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 487 | 122 | 499 | 1531 | 0.318 | 486 | 287 | 0.4 | 0.5 | 3.713 | A |
| B | 689 | 172 | 326 | 1565 | 0.441 | 688 | 660 | 0.6 | 0.8 | 4.422 | A |
| C | 205 | 51 | 765 | 873 | 0.234 | 204 | 249 | 0.2 | 0.3 | 5.796 | A |
| D | 565 | 141 | 222 | 1725 | 0.327 | 564 | 748 | 0.4 | 0.5 | 3.340 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 487 | 122 | 500 | 1530 | 0.318 | 487 | 287 | 0.5 | 0.5 | 3.717 | A |
| B | 689 | 172 | 326 | 1564 | 0.441 | 689 | 661 | 0.8 | 0.8 | 4.433 | A |
| C | 205 | 51 | 766 | 873 | 0.235 | 205 | 249 | 0.3 | 0.3 | 5.807 | A |
| D | 565 | 141 | 222 | 1725 | 0.327 | 565 | 749 | 0.5 | 0.5 | 3.343 | A |

### 09:00 - 09:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 397 | 99 | 409 | 1588 | 0.250 | 398 | 235 | 0.5 | 0.4 | 3.260 | A |
| B | 563 | 141 | 266 | 1602 | 0.351 | 564 | 540 | 0.8 | 0.6 | 3.741 | A |
| C | 167 | 42 | 627 | 946 | 0.177 | 168 | 203 | 0.3 | 0.2 | 4.988 | A |
| D | 461 | 115 | 182 | 1750 | 0.263 | 462 | 612 | 0.5 | 0.4 | 3.012 | A |

### 09:15 - 09:30

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 333 | 83 | 342 | 1631 | 0.204 | 333 | 197 | 0.4 | 0.3 | 2.993 | A |
| B | 471 | 118 | 223 | 1629 | 0.289 | 472 | 452 | 0.6 | 0.4 | 3.354 | A |
| C | 140 | 35 | 525 | 999 | 0.140 | 140 | 170 | 0.2 | 0.2 | 4.520 | A |
| D | 386 | 97 | 152 | 1769 | 0.218 | 387 | 513 | 0.4 | 0.3 | 2.809 | A |

# 2029 Without Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/N52 roundabout junction | Standard Roundabout | | A, B, C, D | 3.53 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D9 | 2029 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 304 | 100.000 |
| B | | ONE HOUR | ✓ | 528 | 100.000 |
| C | | ONE HOUR | ✓ | 127 | 100.000 |
| D | | ONE HOUR | ✓ | 486 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 0 | 102 | 122 | 80 |
| | B | 67 | 1 | 32 | 428 |
| | C | 72 | 17 | 1 | 37 |
| | D | 91 | 379 | 15 | 1 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 6 | 6 | 6 | 6 |
| | B | 6 | 6 | 6 | 6 |
| | C | 6 | 6 | 6 | 6 |
| | D | 6 | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.21 | 3.17 | 0.3 | A | 279 | 418 |
| B | 0.36 | 3.74 | 0.6 | A | 485 | 727 |
| C | 0.15 | 4.84 | 0.2 | A | 117 | 175 |
| D | 0.30 | 3.18 | 0.5 | A | 446 | 669 |

## Main Results for each time segment

### 16:45 - 17:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 229 | 57 | 311 | 1651 | 0.139 | 228 | 173 | 0.0 | 0.2 | 2.726 | A |
| B | 398 | 99 | 164 | 1666 | 0.239 | 396 | 375 | 0.0 | 0.3 | 3.053 | A |
| C | 96 | 24 | 433 | 1047 | 0.091 | 95 | 128 | 0.0 | 0.1 | 4.075 | A |
| D | 366 | 91 | 118 | 1790 | 0.204 | 365 | 410 | 0.0 | 0.3 | 2.722 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 273 | 68 | 372 | 1612 | 0.170 | 273 | 207 | 0.2 | 0.2 | 2.898 | A |
| B | 475 | 119 | 197 | 1646 | 0.288 | 474 | 448 | 0.3 | 0.4 | 3.312 | A |
| C | 114 | 29 | 518 | 1003 | 0.114 | 114 | 153 | 0.1 | 0.1 | 4.368 | A |
| D | 437 | 109 | 142 | 1775 | 0.246 | 437 | 490 | 0.3 | 0.4 | 2.898 | A |

### 17:15 - 17:30

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 335 | 84 | 455 | 1559 | 0.215 | 334 | 253 | 0.2 | 0.3 | 3.170 | A |
| B | 581 | 145 | 241 | 1618 | 0.359 | 581 | 549 | 0.4 | 0.6 | 3.739 | A |
| C | 140 | 35 | 635 | 942 | 0.148 | 140 | 187 | 0.1 | 0.2 | 4.837 | A |
| D | 535 | 134 | 174 | 1755 | 0.305 | 535 | 600 | 0.4 | 0.5 | 3.176 | A |

### 17:30 - 17:45

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 335 | 84 | 456 | 1558 | 0.215 | 335 | 253 | 0.3 | 0.3 | 3.170 | A |
| B | 581 | 145 | 241 | 1618 | 0.359 | 581 | 549 | 0.6 | 0.6 | 3.743 | A |
| C | 140 | 35 | 635 | 941 | 0.149 | 140 | 187 | 0.2 | 0.2 | 4.841 | A |
| D | 535 | 134 | 174 | 1755 | 0.305 | 535 | 601 | 0.5 | 0.5 | 3.179 | A |

### 17:45 - 18:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 273 | 68 | 373 | 1611 | 0.170 | 274 | 207 | 0.3 | 0.2 | 2.903 | A |
| B | 475 | 119 | 197 | 1646 | 0.288 | 475 | 449 | 0.6 | 0.4 | 3.319 | A |
| C | 114 | 29 | 519 | 1002 | 0.114 | 114 | 153 | 0.2 | 0.1 | 4.372 | A |
| D | 437 | 109 | 142 | 1775 | 0.246 | 437 | 492 | 0.5 | 0.4 | 2.903 | A |

### 18:00 - 18:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 229 | 57 | 312 | 1650 | 0.139 | 229 | 173 | 0.2 | 0.2 | 2.733 | A |
| B | 398 | 99 | 165 | 1666 | 0.239 | 398 | 376 | 0.4 | 0.3 | 3.061 | A |
| C | 96 | 24 | 435 | 1046 | 0.091 | 96 | 128 | 0.1 | 0.1 | 4.085 | A |
| D | 366 | 91 | 119 | 1790 | 0.204 | 366 | 411 | 0.4 | 0.3 | 2.726 | A |

# 2029 With Construction, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/N52 roundabout junction | Standard Roundabout | | A, B, C, D | 3.91 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D10 | 2029 With Construction | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 304 | 100.000 |
| B | | ONE HOUR | ✓ | 528 | 100.000 |
| C | | ONE HOUR | ✓ | 265 | 100.000 |
| D | | ONE HOUR | ✓ | 493 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 0 | 102 | 122 | 80 |
| | B | 67 | 1 | 32 | 428 |
| | C | 146 | 35 | 1 | 83 |
| | D | 91 | 379 | 22 | 1 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 6 | 6 | 6 | 6 |
| | B | 6 | 6 | 6 | 6 |
| | C | 6 | 6 | 6 | 6 |
| | D | 6 | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.22 | 3.22 | 0.3 | A | 279 | 418 |
| B | 0.36 | 3.76 | 0.6 | A | 485 | 727 |
| C | 0.31 | 5.97 | 0.5 | A | 243 | 365 |
| D | 0.32 | 3.38 | 0.5 | A | 452 | 679 |

## Main Results for each time segment

### 16:45 - 17:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 229 | 57 | 329 | 1639 | 0.140 | 228 | 228 | 0.0 | 0.2 | 2.749 | A |
| B | 398 | 99 | 170 | 1663 | 0.239 | 396 | 388 | 0.0 | 0.3 | 3.061 | A |
| C | 200 | 50 | 433 | 1047 | 0.191 | 198 | 133 | 0.0 | 0.3 | 4.566 | A |
| D | 371 | 93 | 187 | 1747 | 0.212 | 370 | 444 | 0.0 | 0.3 | 2.815 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 273 | 68 | 394 | 1597 | 0.171 | 273 | 273 | 0.2 | 0.2 | 2.930 | A |
| B | 475 | 119 | 203 | 1642 | 0.289 | 474 | 464 | 0.3 | 0.4 | 3.324 | A |
| C | 238 | 60 | 518 | 1003 | 0.238 | 238 | 159 | 0.3 | 0.3 | 5.073 | A |
| D | 443 | 111 | 224 | 1724 | 0.257 | 443 | 532 | 0.3 | 0.4 | 3.029 | A |

### 17:15 - 17:30

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 335 | 84 | 483 | 1541 | 0.217 | 334 | 334 | 0.2 | 0.3 | 3.215 | A |
| B | 581 | 145 | 249 | 1613 | 0.360 | 581 | 569 | 0.4 | 0.6 | 3.757 | A |
| C | 292 | 73 | 635 | 942 | 0.310 | 291 | 195 | 0.3 | 0.5 | 5.960 | A |
| D | 543 | 136 | 275 | 1692 | 0.321 | 542 | 651 | 0.4 | 0.5 | 3.372 | A |

### 17:30 - 17:45

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 335 | 84 | 483 | 1541 | 0.217 | 335 | 335 | 0.3 | 0.3 | 3.216 | A |
| B | 581 | 145 | 249 | 1613 | 0.360 | 581 | 569 | 0.6 | 0.6 | 3.760 | A |
| C | 292 | 73 | 635 | 941 | 0.310 | 292 | 195 | 0.5 | 0.5 | 5.973 | A |
| D | 543 | 136 | 275 | 1692 | 0.321 | 543 | 652 | 0.5 | 0.5 | 3.375 | A |

### 17:45 - 18:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 273 | 68 | 395 | 1597 | 0.171 | 274 | 274 | 0.3 | 0.2 | 2.934 | A |
| B | 475 | 119 | 203 | 1642 | 0.289 | 475 | 465 | 0.6 | 0.4 | 3.331 | A |
| C | 238 | 60 | 519 | 1002 | 0.238 | 239 | 159 | 0.5 | 0.3 | 5.090 | A |
| D | 443 | 111 | 225 | 1723 | 0.257 | 444 | 533 | 0.5 | 0.4 | 3.035 | A |

### 18:00 - 18:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 229 | 57 | 331 | 1638 | 0.140 | 229 | 229 | 0.2 | 0.2 | 2.754 | A |
| B | 398 | 99 | 170 | 1662 | 0.239 | 398 | 390 | 0.4 | 0.3 | 3.069 | A |
| C | 200 | 50 | 435 | 1046 | 0.191 | 200 | 133 | 0.3 | 0.3 | 4.587 | A |
| D | 371 | 93 | 188 | 1746 | 0.213 | 371 | 446 | 0.4 | 0.3 | 2.825 | A |

# 2033 Without Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/N52 roundabout junction | Standard Roundabout | | A, B, C, D | 3.59 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D11 | 2033 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 312 | 100.000 |
| B | | ONE HOUR | ✓ | 543 | 100.000 |
| C | | ONE HOUR | ✓ | 131 | 100.000 |
| D | | ONE HOUR | ✓ | 499 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 0 | 105 | 125 | 82 |
| | B | 69 | 1 | 33 | 440 |
| | C | 74 | 18 | 1 | 38 |
| | D | 93 | 390 | 15 | 1 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 6 | 6 | 6 | 6 |
| | B | 6 | 6 | 6 | 6 |
| | C | 6 | 6 | 6 | 6 |
| | D | 6 | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.22 | 3.22 | 0.3 | A | 286 | 429 |
| B | 0.37 | 3.82 | 0.6 | A | 498 | 747 |
| C | 0.15 | 4.92 | 0.2 | A | 120 | 180 |
| D | 0.31 | 3.23 | 0.5 | A | 458 | 687 |

## Main Results for each time segment

### 16:45 - 17:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 235 | 59 | 320 | 1645 | 0.143 | 234 | 177 | 0.0 | 0.2 | 2.749 | A |
| B | 409 | 102 | 168 | 1664 | 0.246 | 407 | 386 | 0.0 | 0.3 | 3.086 | A |
| C | 99 | 25 | 445 | 1041 | 0.095 | 98 | 131 | 0.0 | 0.1 | 4.115 | A |
| D | 376 | 94 | 122 | 1788 | 0.210 | 375 | 421 | 0.0 | 0.3 | 2.743 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 280 | 70 | 383 | 1605 | 0.175 | 280 | 212 | 0.2 | 0.2 | 2.929 | A |
| B | 488 | 122 | 201 | 1643 | 0.297 | 488 | 462 | 0.3 | 0.5 | 3.359 | A |
| C | 118 | 29 | 533 | 995 | 0.118 | 118 | 156 | 0.1 | 0.1 | 4.423 | A |
| D | 449 | 112 | 146 | 1773 | 0.253 | 448 | 504 | 0.3 | 0.4 | 2.930 | A |

### 17:15 - 17:30

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 344 | 86 | 469 | 1550 | 0.222 | 343 | 260 | 0.2 | 0.3 | 3.215 | A |
| B | 598 | 149 | 246 | 1614 | 0.370 | 597 | 565 | 0.5 | 0.6 | 3.813 | A |
| C | 144 | 36 | 652 | 933 | 0.155 | 144 | 191 | 0.1 | 0.2 | 4.920 | A |
| D | 549 | 137 | 179 | 1752 | 0.314 | 549 | 617 | 0.4 | 0.5 | 3.223 | A |

### 17:30 - 17:45

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 344 | 86 | 469 | 1550 | 0.222 | 344 | 260 | 0.3 | 0.3 | 3.216 | A |
| B | 598 | 149 | 247 | 1614 | 0.370 | 598 | 566 | 0.6 | 0.6 | 3.816 | A |
| C | 144 | 36 | 653 | 932 | 0.155 | 144 | 192 | 0.2 | 0.2 | 4.924 | A |
| D | 549 | 137 | 179 | 1752 | 0.314 | 549 | 618 | 0.5 | 0.5 | 3.226 | A |

### 17:45 - 18:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 280 | 70 | 383 | 1604 | 0.175 | 281 | 212 | 0.3 | 0.2 | 2.931 | A |
| B | 488 | 122 | 202 | 1643 | 0.297 | 489 | 463 | 0.6 | 0.5 | 3.364 | A |
| C | 118 | 29 | 534 | 994 | 0.118 | 118 | 157 | 0.2 | 0.1 | 4.428 | A |
| D | 449 | 112 | 147 | 1772 | 0.253 | 449 | 505 | 0.5 | 0.4 | 2.935 | A |

### 18:00 - 18:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 235 | 59 | 321 | 1644 | 0.143 | 235 | 178 | 0.2 | 0.2 | 2.753 | A |
| B | 409 | 102 | 169 | 1663 | 0.246 | 409 | 387 | 0.5 | 0.4 | 3.097 | A |
| C | 99 | 25 | 447 | 1040 | 0.095 | 99 | 131 | 0.1 | 0.1 | 4.125 | A |
| D | 376 | 94 | 123 | 1787 | 0.210 | 376 | 423 | 0.4 | 0.3 | 2.752 | A |

# 2038 Without Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/N52 roundabout junction | Standard Roundabout | | A, B, C, D | 3.67 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D12 | 2038 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 323 | 100.000 |
| B | | ONE HOUR | ✓ | 561 | 100.000 |
| C | | ONE HOUR | ✓ | 136 | 100.000 |
| D | | ONE HOUR | ✓ | 516 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 0 | 109 | 130 | 84 |
| | B | 71 | 1 | 34 | 455 |
| | C | 76 | 19 | 1 | 40 |
| | D | 96 | 403 | 16 | 1 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 6 | 6 | 6 | 6 |
| | B | 6 | 6 | 6 | 6 |
| | C | 6 | 6 | 6 | 6 |
| | D | 6 | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.23 | 3.28 | 0.3 | A | 296 | 445 |
| B | 0.38 | 3.91 | 0.7 | A | 515 | 772 |
| C | 0.16 | 5.03 | 0.2 | A | 125 | 187 |
| D | 0.32 | 3.29 | 0.5 | A | 473 | 710 |

## Main Results for each time segment

### 16:45 - 17:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 243 | 61 | 331 | 1638 | 0.148 | 242 | 182 | 0.0 | 0.2 | 2.779 | A |
| B | 422 | 106 | 174 | 1660 | 0.254 | 421 | 399 | 0.0 | 0.4 | 3.127 | A |
| C | 102 | 26 | 459 | 1033 | 0.099 | 102 | 136 | 0.0 | 0.1 | 4.164 | A |
| D | 388 | 97 | 126 | 1785 | 0.218 | 387 | 435 | 0.0 | 0.3 | 2.773 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 290 | 73 | 396 | 1596 | 0.182 | 290 | 218 | 0.2 | 0.2 | 2.970 | A |
| B | 504 | 126 | 208 | 1638 | 0.308 | 504 | 478 | 0.4 | 0.5 | 3.418 | A |
| C | 122 | 31 | 550 | 986 | 0.124 | 122 | 163 | 0.1 | 0.2 | 4.492 | A |
| D | 464 | 116 | 151 | 1770 | 0.262 | 464 | 521 | 0.3 | 0.4 | 2.971 | A |

### 17:15 - 17:30

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 356 | 89 | 485 | 1540 | 0.231 | 355 | 267 | 0.2 | 0.3 | 3.276 | A |
| B | 618 | 154 | 255 | 1609 | 0.384 | 617 | 585 | 0.5 | 0.7 | 3.910 | A |
| C | 150 | 37 | 673 | 922 | 0.162 | 150 | 199 | 0.2 | 0.2 | 5.025 | A |
| D | 568 | 142 | 185 | 1749 | 0.325 | 568 | 638 | 0.4 | 0.5 | 3.284 | A |

### 17:30 - 17:45

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 356 | 89 | 486 | 1539 | 0.231 | 356 | 268 | 0.3 | 0.3 | 3.277 | A |
| B | 618 | 154 | 255 | 1609 | 0.384 | 618 | 586 | 0.7 | 0.7 | 3.915 | A |
| C | 150 | 37 | 674 | 921 | 0.163 | 150 | 199 | 0.2 | 0.2 | 5.029 | A |
| D | 568 | 142 | 185 | 1748 | 0.325 | 568 | 639 | 0.5 | 0.5 | 3.287 | A |

### 17:45 - 18:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 290 | 73 | 397 | 1596 | 0.182 | 291 | 219 | 0.3 | 0.2 | 2.975 | A |
| B | 504 | 126 | 209 | 1638 | 0.308 | 505 | 479 | 0.7 | 0.5 | 3.426 | A |
| C | 122 | 31 | 551 | 985 | 0.124 | 122 | 163 | 0.2 | 0.2 | 4.499 | A |
| D | 464 | 116 | 151 | 1769 | 0.262 | 464 | 522 | 0.5 | 0.4 | 2.976 | A |

### 18:00 - 18:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 243 | 61 | 332 | 1637 | 0.149 | 243 | 183 | 0.2 | 0.2 | 2.784 | A |
| B | 422 | 106 | 175 | 1660 | 0.254 | 423 | 401 | 0.5 | 0.4 | 3.138 | A |
| C | 102 | 26 | 461 | 1032 | 0.099 | 103 | 136 | 0.2 | 0.1 | 4.174 | A |
| D | 388 | 97 | 127 | 1785 | 0.218 | 389 | 437 | 0.4 | 0.3 | 2.782 | A |

# 2048 Without Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/N52 roundabout junction | Standard Roundabout | | A, B, C, D | 3.83 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D13 | 2048 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 344 | 100.000 |
| B | | ONE HOUR | ✓ | 597 | 100.000 |
| C | | ONE HOUR | ✓ | 144 | 100.000 |
| D | | ONE HOUR | ✓ | 549 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 0 | 116 | 138 | 90 |
| | B | 76 | 1 | 36 | 484 |
| | C | 81 | 20 | 1 | 42 |
| | D | 102 | 429 | 17 | 1 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 6 | 6 | 6 | 6 |
| | B | 6 | 6 | 6 | 6 |
| | C | 6 | 6 | 6 | 6 |
| | D | 6 | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.25 | 3.40 | 0.4 | A | 316 | 473 |
| B | 0.41 | 4.12 | 0.8 | A | 548 | 822 |
| C | 0.18 | 5.25 | 0.2 | A | 132 | 198 |
| D | 0.35 | 3.41 | 0.6 | A | 504 | 756 |

## Main Results for each time segment

### 16:45 - 17:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 259 | 65 | 352 | 1624 | 0.159 | 258 | 194 | 0.0 | 0.2 | 2.839 | A |
| B | 449 | 112 | 185 | 1653 | 0.272 | 448 | 425 | 0.0 | 0.4 | 3.216 | A |
| C | 108 | 27 | 489 | 1018 | 0.107 | 108 | 144 | 0.0 | 0.1 | 4.264 | A |
| D | 413 | 103 | 134 | 1780 | 0.232 | 412 | 463 | 0.0 | 0.3 | 2.834 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 309 | 77 | 421 | 1580 | 0.196 | 309 | 233 | 0.2 | 0.3 | 3.052 | A |
| B | 537 | 134 | 222 | 1630 | 0.329 | 536 | 508 | 0.4 | 0.5 | 3.546 | A |
| C | 129 | 32 | 586 | 967 | 0.134 | 129 | 172 | 0.1 | 0.2 | 4.631 | A |
| D | 494 | 123 | 161 | 1764 | 0.280 | 493 | 554 | 0.3 | 0.4 | 3.055 | A |

### 17:15 - 17:30

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 379 | 95 | 516 | 1520 | 0.249 | 378 | 285 | 0.3 | 0.4 | 3.399 | A |
| B | 657 | 164 | 272 | 1599 | 0.411 | 656 | 623 | 0.5 | 0.7 | 4.116 | A |
| C | 159 | 40 | 717 | 899 | 0.176 | 158 | 211 | 0.2 | 0.2 | 5.240 | A |
| D | 604 | 151 | 197 | 1741 | 0.347 | 604 | 678 | 0.4 | 0.6 | 3.410 | A |

### 17:30 - 17:45

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 379 | 95 | 516 | 1520 | 0.249 | 379 | 285 | 0.4 | 0.4 | 3.400 | A |
| B | 657 | 164 | 272 | 1598 | 0.411 | 657 | 623 | 0.7 | 0.8 | 4.123 | A |
| C | 159 | 40 | 718 | 898 | 0.177 | 159 | 211 | 0.2 | 0.2 | 5.246 | A |
| D | 604 | 151 | 197 | 1741 | 0.347 | 604 | 679 | 0.6 | 0.6 | 3.414 | A |

### 17:45 - 18:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 309 | 77 | 422 | 1580 | 0.196 | 310 | 233 | 0.4 | 0.3 | 3.057 | A |
| B | 537 | 134 | 222 | 1630 | 0.329 | 538 | 509 | 0.8 | 0.5 | 3.555 | A |
| C | 129 | 32 | 587 | 967 | 0.134 | 130 | 173 | 0.2 | 0.2 | 4.638 | A |
| D | 494 | 123 | 161 | 1763 | 0.280 | 494 | 556 | 0.6 | 0.4 | 3.061 | A |

### 18:00 - 18:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 259 | 65 | 353 | 1624 | 0.160 | 259 | 195 | 0.3 | 0.2 | 2.844 | A |
| B | 449 | 112 | 186 | 1652 | 0.272 | 450 | 427 | 0.5 | 0.4 | 3.227 | A |
| C | 108 | 27 | 491 | 1017 | 0.107 | 109 | 145 | 0.2 | 0.1 | 4.276 | A |
| D | 413 | 103 | 135 | 1780 | 0.232 | 414 | 465 | 0.4 | 0.3 | 2.841 | A |

# 2033 With Operational Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/N52 roundabout junction | Standard Roundabout | | A, B, C, D | 3.68 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D14 | 2033 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 313 | 100.000 |
| B | | ONE HOUR | ✓ | 543 | 100.000 |
| C | | ONE HOUR | ✓ | 172 | 100.000 |
| D | | ONE HOUR | ✓ | 500 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 0 | 105 | 126 | 82 |
| | B | 69 | 1 | 33 | 440 |
| | C | 97 | 24 | 1 | 50 |
| | D | 93 | 390 | 16 | 1 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 6 | 6 | 6 | 6 |
| | B | 6 | 6 | 6 | 6 |
| | C | 6 | 6 | 6 | 6 |
| | D | 6 | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.22 | 3.23 | 0.3 | A | 287 | 431 |
| B | 0.37 | 3.82 | 0.6 | A | 498 | 747 |
| C | 0.20 | 5.22 | 0.3 | A | 158 | 237 |
| D | 0.32 | 3.28 | 0.5 | A | 459 | 688 |

## Main Results for each time segment

### 16:45 - 17:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 236 | 59 | 325 | 1642 | 0.144 | 235 | 194 | 0.0 | 0.2 | 2.757 | A |
| B | 409 | 102 | 170 | 1663 | 0.246 | 407 | 390 | 0.0 | 0.3 | 3.089 | A |
| C | 129 | 32 | 445 | 1041 | 0.124 | 129 | 132 | 0.0 | 0.2 | 4.252 | A |
| D | 376 | 94 | 144 | 1774 | 0.212 | 375 | 430 | 0.0 | 0.3 | 2.771 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 281 | 70 | 389 | 1601 | 0.176 | 281 | 233 | 0.2 | 0.2 | 2.940 | A |
| B | 488 | 122 | 203 | 1642 | 0.297 | 488 | 467 | 0.3 | 0.5 | 3.363 | A |
| C | 155 | 39 | 533 | 995 | 0.155 | 154 | 158 | 0.2 | 0.2 | 4.615 | A |
| D | 449 | 112 | 172 | 1756 | 0.256 | 449 | 515 | 0.3 | 0.4 | 2.969 | A |

### 17:15 - 17:30

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 345 | 86 | 476 | 1545 | 0.223 | 344 | 285 | 0.2 | 0.3 | 3.231 | A |
| B | 598 | 149 | 249 | 1613 | 0.371 | 597 | 572 | 0.5 | 0.6 | 3.818 | A |
| C | 189 | 47 | 652 | 933 | 0.203 | 189 | 194 | 0.2 | 0.3 | 5.217 | A |
| D | 551 | 138 | 211 | 1732 | 0.318 | 550 | 630 | 0.4 | 0.5 | 3.280 | A |

### 17:30 - 17:45

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 345 | 86 | 477 | 1545 | 0.223 | 345 | 285 | 0.3 | 0.3 | 3.232 | A |
| B | 598 | 149 | 249 | 1613 | 0.371 | 598 | 573 | 0.6 | 0.6 | 3.822 | A |
| C | 189 | 47 | 653 | 932 | 0.203 | 189 | 194 | 0.3 | 0.3 | 5.224 | A |
| D | 551 | 138 | 211 | 1732 | 0.318 | 551 | 631 | 0.5 | 0.5 | 3.284 | A |

### 17:45 - 18:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 281 | 70 | 390 | 1600 | 0.176 | 282 | 233 | 0.3 | 0.2 | 2.942 | A |
| B | 488 | 122 | 203 | 1642 | 0.297 | 489 | 468 | 0.6 | 0.5 | 3.367 | A |
| C | 155 | 39 | 534 | 994 | 0.156 | 155 | 158 | 0.3 | 0.2 | 4.624 | A |
| D | 449 | 112 | 173 | 1756 | 0.256 | 450 | 516 | 0.5 | 0.4 | 2.974 | A |

### 18:00 - 18:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 236 | 59 | 326 | 1641 | 0.144 | 236 | 195 | 0.2 | 0.2 | 2.762 | A |
| B | 409 | 102 | 170 | 1662 | 0.246 | 409 | 392 | 0.5 | 0.4 | 3.099 | A |
| C | 129 | 32 | 447 | 1040 | 0.125 | 130 | 133 | 0.2 | 0.2 | 4.266 | A |
| D | 376 | 94 | 145 | 1774 | 0.212 | 377 | 432 | 0.4 | 0.3 | 2.780 | A |

# 2038 With Operational Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/N52 roundabout junction | Standard Roundabout | | A, B, C, D | 3.76 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D15 | 2038 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 324 | 100.000 |
| B | | ONE HOUR | ✓ | 561 | 100.000 |
| C | | ONE HOUR | ✓ | 177 | 100.000 |
| D | | ONE HOUR | ✓ | 516 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 0 | 109 | 131 | 84 |
| | B | 71 | 1 | 34 | 455 |
| | C | 100 | 24 | 1 | 52 |
| | D | 96 | 403 | 16 | 1 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 6 | 6 | 6 | 6 |
| | B | 6 | 6 | 6 | 6 |
| | C | 6 | 6 | 6 | 6 |
| | D | 6 | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.23 | 3.29 | 0.3 | A | 297 | 446 |
| B | 0.38 | 3.92 | 0.7 | A | 515 | 772 |
| C | 0.21 | 5.34 | 0.3 | A | 162 | 244 |
| D | 0.33 | 3.34 | 0.5 | A | 473 | 710 |

## Main Results for each time segment

### 16:45 - 17:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 244 | 61 | 335 | 1635 | 0.149 | 243 | 200 | 0.0 | 0.2 | 2.786 | A |
| B | 422 | 106 | 175 | 1660 | 0.255 | 421 | 403 | 0.0 | 0.4 | 3.128 | A |
| C | 133 | 33 | 459 | 1033 | 0.129 | 133 | 137 | 0.0 | 0.2 | 4.305 | A |
| D | 388 | 97 | 148 | 1772 | 0.219 | 387 | 444 | 0.0 | 0.3 | 2.800 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 291 | 73 | 401 | 1593 | 0.183 | 291 | 240 | 0.2 | 0.2 | 2.979 | A |
| B | 504 | 126 | 209 | 1638 | 0.308 | 504 | 482 | 0.4 | 0.5 | 3.420 | A |
| C | 159 | 40 | 550 | 986 | 0.161 | 159 | 163 | 0.2 | 0.2 | 4.690 | A |
| D | 464 | 116 | 177 | 1753 | 0.265 | 464 | 532 | 0.3 | 0.4 | 3.008 | A |

### 17:15 - 17:30

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 357 | 89 | 491 | 1536 | 0.232 | 356 | 294 | 0.2 | 0.3 | 3.289 | A |
| B | 618 | 154 | 256 | 1608 | 0.384 | 617 | 591 | 0.5 | 0.7 | 3.915 | A |
| C | 195 | 49 | 673 | 922 | 0.211 | 195 | 200 | 0.2 | 0.3 | 5.335 | A |
| D | 568 | 142 | 217 | 1729 | 0.329 | 568 | 651 | 0.4 | 0.5 | 3.340 | A |

### 17:30 - 17:45

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 357 | 89 | 491 | 1536 | 0.232 | 357 | 294 | 0.3 | 0.3 | 3.290 | A |
| B | 618 | 154 | 257 | 1608 | 0.384 | 618 | 591 | 0.7 | 0.7 | 3.918 | A |
| C | 195 | 49 | 674 | 921 | 0.212 | 195 | 200 | 0.3 | 0.3 | 5.342 | A |
| D | 568 | 142 | 217 | 1729 | 0.329 | 568 | 652 | 0.5 | 0.5 | 3.343 | A |

### 17:45 - 18:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 291 | 73 | 401 | 1593 | 0.183 | 292 | 240 | 0.3 | 0.2 | 2.982 | A |
| B | 504 | 126 | 210 | 1638 | 0.308 | 505 | 483 | 0.7 | 0.5 | 3.428 | A |
| C | 159 | 40 | 551 | 985 | 0.161 | 159 | 164 | 0.3 | 0.2 | 4.701 | A |
| D | 464 | 116 | 177 | 1753 | 0.265 | 464 | 533 | 0.5 | 0.4 | 3.011 | A |

### 18:00 - 18:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 244 | 61 | 336 | 1635 | 0.149 | 244 | 201 | 0.2 | 0.2 | 2.793 | A |
| B | 422 | 106 | 176 | 1659 | 0.255 | 423 | 405 | 0.5 | 0.4 | 3.139 | A |
| C | 133 | 33 | 461 | 1032 | 0.129 | 133 | 137 | 0.2 | 0.2 | 4.319 | A |
| D | 388 | 97 | 149 | 1771 | 0.219 | 389 | 446 | 0.4 | 0.3 | 2.809 | A |

# 2048 With Operational Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/N52 roundabout junction | Standard Roundabout | | A, B, C, D | 3.93 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D16 | 2048 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 345 | 100.000 |
| B | | ONE HOUR | ✓ | 598 | 100.000 |
| C | | ONE HOUR | ✓ | 185 | 100.000 |
| D | | ONE HOUR | ✓ | 549 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 0 | 116 | 139 | 90 |
| | B | 76 | 1 | 37 | 484 |
| | C | 105 | 25 | 1 | 54 |
| | D | 102 | 429 | 17 | 1 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 6 | 6 | 6 | 6 |
| | B | 6 | 6 | 6 | 6 |
| | C | 6 | 6 | 6 | 6 |
| | D | 6 | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.25 | 3.41 | 0.4 | A | 317 | 475 |
| B | 0.41 | 4.13 | 0.8 | A | 549 | 823 |
| C | 0.23 | 5.59 | 0.3 | A | 170 | 255 |
| D | 0.35 | 3.47 | 0.6 | A | 504 | 756 |

## Main Results for each time segment

### 16:45 - 17:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 260 | 65 | 356 | 1622 | 0.160 | 259 | 212 | 0.0 | 0.2 | 2.845 | A |
| B | 450 | 113 | 186 | 1652 | 0.272 | 449 | 428 | 0.0 | 0.4 | 3.219 | A |
| C | 139 | 35 | 489 | 1018 | 0.137 | 139 | 146 | 0.0 | 0.2 | 4.412 | A |
| D | 413 | 103 | 156 | 1767 | 0.234 | 412 | 472 | 0.0 | 0.3 | 2.862 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 310 | 78 | 426 | 1577 | 0.197 | 310 | 254 | 0.2 | 0.3 | 3.061 | A |
| B | 538 | 134 | 223 | 1629 | 0.330 | 537 | 513 | 0.4 | 0.5 | 3.550 | A |
| C | 166 | 42 | 586 | 967 | 0.172 | 166 | 174 | 0.2 | 0.2 | 4.842 | A |
| D | 494 | 123 | 187 | 1747 | 0.282 | 493 | 565 | 0.3 | 0.4 | 3.094 | A |

### 17:15 - 17:30

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 380 | 95 | 521 | 1517 | 0.250 | 379 | 311 | 0.3 | 0.4 | 3.412 | A |
| B | 658 | 165 | 273 | 1598 | 0.412 | 658 | 628 | 0.5 | 0.7 | 4.124 | A |
| C | 204 | 51 | 717 | 899 | 0.227 | 203 | 213 | 0.2 | 0.3 | 5.578 | A |
| D | 604 | 151 | 229 | 1721 | 0.351 | 604 | 692 | 0.4 | 0.6 | 3.471 | A |

### 17:30 - 17:45

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 380 | 95 | 522 | 1516 | 0.251 | 380 | 312 | 0.4 | 0.4 | 3.414 | A |
| B | 658 | 165 | 273 | 1598 | 0.412 | 658 | 629 | 0.7 | 0.8 | 4.131 | A |
| C | 204 | 51 | 718 | 898 | 0.227 | 204 | 214 | 0.3 | 0.3 | 5.587 | A |
| D | 604 | 151 | 229 | 1721 | 0.351 | 604 | 693 | 0.6 | 0.6 | 3.474 | A |

### 17:45 - 18:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 310 | 78 | 427 | 1577 | 0.197 | 311 | 255 | 0.4 | 0.3 | 3.067 | A |
| B | 538 | 134 | 223 | 1629 | 0.330 | 538 | 514 | 0.8 | 0.5 | 3.563 | A |
| C | 166 | 42 | 587 | 967 | 0.172 | 167 | 175 | 0.3 | 0.2 | 4.853 | A |
| D | 494 | 123 | 187 | 1747 | 0.283 | 494 | 566 | 0.6 | 0.4 | 3.098 | A |

### 18:00 - 18:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 260 | 65 | 357 | 1621 | 0.160 | 260 | 213 | 0.3 | 0.2 | 2.853 | A |
| B | 450 | 113 | 187 | 1652 | 0.273 | 451 | 430 | 0.5 | 0.4 | 3.233 | A |
| C | 139 | 35 | 491 | 1017 | 0.137 | 139 | 146 | 0.2 | 0.2 | 4.425 | A |
| D | 413 | 103 | 157 | 1766 | 0.234 | 414 | 474 | 0.4 | 0.3 | 2.872 | A |

# Junctions 9

## PICADY 9 - Priority Intersection Module



**Filename:** L5125.j9
**Path:** \\192.168.1.33
\ttrsa\projects\T241206_Westmeath_Admiral_Datacentre_Solar_Farm_EIAR_MMP_S1_RSA\eiar_chapter\modelling\L5125
**Report generation date:** 08/07/2025 11:15:33

---

»2029 Without Development, AM
»2029 With Construction, AM
»2033 Without Development, AM
»2038 Without Development, AM
»2048 Without Development, AM
»2033 With Operational Development, AM
»2038 With Operational Development, AM
»2048 With Operational Development, AM
»2029 Without Development, PM
»2029 With Construction, PM
»2033 Without Development, PM
»2038 Without Development, PM
»2048 Without Development, PM
»2033 With Operational Development, PM
»2038 With Operational Development, PM
»2048 With Operational Development, PM

## Summary of junction performance

| | AM | | | | | PM | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Set ID | Queue (PCU) | Delay (s) | RFC | LOS | Set ID | Queue (PCU) | Delay (s) | RFC | LOS |
| | 2029 Without Development | | | | | | | | | |
| Stream B-AC | D1 | 0.0 | 6.98 | 0.01 | A | D9 | 0.0 | 0.00 | 0.00 | A |
| Stream C-AB | | 0.0 | 0.00 | 0.00 | A | | 0.0 | 5.29 | 0.01 | A |
| | 2029 With Construction | | | | | | | | | |
| Stream B-AC | D2 | 0.0 | 7.12 | 0.02 | A | D10 | 0.0 | 0.00 | 0.00 | A |
| Stream C-AB | | 0.0 | 0.00 | 0.00 | A | | 0.0 | 4.89 | 0.01 | A |
| | 2033 Without Development | | | | | | | | | |
| Stream B-AC | D3 | 0.0 | 6.99 | 0.01 | A | D11 | 0.0 | 0.00 | 0.00 | A |
| Stream C-AB | | 0.0 | 0.00 | 0.00 | A | | 0.0 | 5.28 | 0.01 | A |
| | 2038 Without Development | | | | | | | | | |
| Stream B-AC | D4 | 0.0 | 7.01 | 0.01 | A | D12 | 0.0 | 0.00 | 0.00 | A |
| Stream C-AB | | 0.0 | 0.00 | 0.00 | A | | 0.0 | 5.27 | 0.01 | A |
| | 2048 Without Development | | | | | | | | | |
| Stream B-AC | D5 | 0.0 | 7.21 | 0.02 | A | D13 | 0.0 | 0.00 | 0.00 | A |
| Stream C-AB | | 0.0 | 0.00 | 0.00 | A | | 0.0 | 5.25 | 0.01 | A |
| | 2033 With Operational Development | | | | | | | | | |
| Stream B-AC | D6 | 0.0 | 7.05 | 0.02 | A | D14 | 0.0 | 0.00 | 0.00 | A |
| Stream C-AB | | 0.0 | 0.00 | 0.00 | A | | 0.0 | 5.15 | 0.01 | A |
| | 2038 With Operational Development | | | | | | | | | |
| Stream B-AC | D7 | 0.0 | 7.07 | 0.02 | A | D15 | 0.0 | 0.00 | 0.00 | A |
| Stream C-AB | | 0.0 | 0.00 | 0.00 | A | | 0.0 | 5.14 | 0.01 | A |
| | 2048 With Operational Development | | | | | | | | | |
| Stream B-AC | D8 | 0.0 | 7.27 | 0.02 | A | D16 | 0.0 | 0.00 | 0.00 | A |
| Stream C-AB | | 0.0 | 0.00 | 0.00 | A | | 0.0 | 5.12 | 0.01 | A |

*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 | Admiral |
| Location | R446/L5125 Junction |
| Site number | |
| Date | 08/07/2025 |
| Version | EIAR |
| Status | Final |
| Identifier | |
| Client | Halston |
| Jobnumber | 241206 |
| Enumerator | TTRSA |
| 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 | Calculate residual capacity | RFC Threshold | Average Delay threshold (s) | Queue threshold (PCU) |
|---|---|---|---|---|---|---|
| 5.75 | | | | 0.85 | 36.00 | 20.00 |

## Demand Set Summary

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D1 | 2029 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D2 | 2029 With Construction | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D3 | 2033 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D4 | 2038 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D5 | 2048 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D6 | 2033 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D7 | 2038 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D8 | 2048 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D9 | 2029 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D10 | 2029 With Construction | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D11 | 2033 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D12 | 2038 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D13 | 2048 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D14 | 2033 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D15 | 2038 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D16 | 2048 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

## Analysis Set Details

| ID | Include in report | Network flow scaling factor (%) | Network capacity scaling factor (%) |
|---|---|---|---|
| A1 | ✓ | 100.000 | 100.000 |

# 2029 Without Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 0.20 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Arms

### Arms

| Arm | Name | Description | Arm type |
|---|---|---|---|
| A | R446 to/from West | | Major |
| B | L5125 Local Road | | Minor |
| C | R446 to/from East | | Major |

### Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Has right turn bay | Visibility for right turn (m) | Blocks? | Blocking queue (PCU) |
|---|---|---|---|---|---|---|
| C | 7.30 | | | 215.0 | ✓ | 0.00 |

*Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.*

### Minor Arm Geometry

| Arm | Minor arm type | Lane width (m) | Visibility to left (m) | Visibility to right (m) |
|---|---|---|---|---|
| B | One lane | 3.30 | 65 | 50 |

### Slope / Intercept / Capacity

#### Priority Intersection Slopes and Intercepts

| Stream | Intercept (PCU/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|---|---|---|---|---|---|
| B-A | 539 | 0.093 | 0.234 | 0.147 | 0.335 |
| B-C | 675 | 0.098 | 0.247 | - | - |
| C-B | 698 | 0.255 | 0.255 | - | - |

*The slopes and intercepts shown above do NOT include any corrections or adjustments.*

*Streams may be combined, in which case capacity will be adjusted.*

*Values are shown for the first time segment only; they may differ for subsequent time segments.*

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D1 | 2029 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

## Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 140 | 100.000 |
| B | | ONE HOUR | ✓ | 7 | 100.000 |
| C | | ONE HOUR | ✓ | 94 | 100.000 |

# Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 2 | 138 |
| | B | 3 | 0 | 4 |
| | C | 94 | 0 | 0 |

# Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.01 | 6.98 | 0.0 | A | 6 | 10 |
| C-AB | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-A | | | | | 86 | 129 |
| A-B | | | | | 2 | 3 |
| A-C | | | | | 127 | 190 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 5 | 1 | 578 | 0.009 | 5 | 0.0 | 0.0 | 6.774 | A |
| C-AB | 0 | 0 | 672 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 71 | 18 | | | 71 | | | | |
| A-B | 2 | 0.38 | | | 2 | | | | |
| A-C | 104 | 26 | | | 104 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 6 | 2 | 572 | 0.011 | 6 | 0.0 | 0.0 | 6.859 | A |
| C-AB | 0 | 0 | 666 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 85 | 21 | | | 85 | | | | |
| A-B | 2 | 0.45 | | | 2 | | | | |
| A-C | 124 | 31 | | | 124 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 564 | 0.014 | 8 | 0.0 | 0.0 | 6.980 | A |
| C-AB | 0 | 0 | 659 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 103 | 26 | | | 103 | | | | |
| A-B | 2 | 0.55 | | | 2 | | | | |
| A-C | 152 | 38 | | | 152 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 564 | 0.014 | 8 | 0.0 | 0.0 | 6.980 | A |
| C-AB | 0 | 0 | 659 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 103 | 26 | | | 103 | | | | |
| A-B | 2 | 0.55 | | | 2 | | | | |
| A-C | 152 | 38 | | | 152 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 6 | 2 | 572 | 0.011 | 6 | 0.0 | 0.0 | 6.862 | A |
| C-AB | 0 | 0 | 666 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 85 | 21 | | | 85 | | | | |
| A-B | 2 | 0.45 | | | 2 | | | | |
| A-C | 124 | 31 | | | 124 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 5 | 1 | 578 | 0.009 | 5 | 0.0 | 0.0 | 6.777 | A |
| C-AB | 0 | 0 | 672 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 71 | 18 | | | 71 | | | | |
| A-B | 2 | 0.38 | | | 2 | | | | |
| A-C | 104 | 26 | | | 104 | | | | |

# 2029 With Construction, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 0.18 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D2 | 2029 With Construction | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 202 | 100.000 |
| B | | ONE HOUR | ✓ | 8 | 100.000 |
| C | | ONE HOUR | ✓ | 108 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 2 | 200 |
| | B | 3 | 0 | 5 |
| | C | 108 | 0 | 0 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.02 | 7.12 | 0.0 | A | 7 | 11 |
| C-AB | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-A | | | | | 99 | 149 |
| A-B | | | | | 2 | 3 |
| A-C | | | | | 184 | 275 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 6 | 2 | 574 | 0.010 | 6 | 0.0 | 0.0 | 6.832 | A |
| C-AB | 0 | 0 | 660 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 81 | 20 | | | 81 | | | | |
| A-B | 2 | 0.38 | | | 2 | | | | |
| A-C | 151 | 38 | | | 151 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 7 | 2 | 566 | 0.013 | 7 | 0.0 | 0.0 | 6.949 | A |
| C-AB | 0 | 0 | 652 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 97 | 24 | | | 97 | | | | |
| A-B | 2 | 0.45 | | | 2 | | | | |
| A-C | 180 | 45 | | | 180 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 554 | 0.016 | 9 | 0.0 | 0.0 | 7.118 | A |
| C-AB | 0 | 0 | 642 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 119 | 30 | | | 119 | | | | |
| A-B | 2 | 0.55 | | | 2 | | | | |
| A-C | 220 | 55 | | | 220 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 554 | 0.016 | 9 | 0.0 | 0.0 | 7.118 | A |
| C-AB | 0 | 0 | 642 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 119 | 30 | | | 119 | | | | |
| A-B | 2 | 0.55 | | | 2 | | | | |
| A-C | 220 | 55 | | | 220 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 7 | 2 | 566 | 0.013 | 7 | 0.0 | 0.0 | 6.949 | A |
| C-AB | 0 | 0 | 652 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 97 | 24 | | | 97 | | | | |
| A-B | 2 | 0.45 | | | 2 | | | | |
| A-C | 180 | 45 | | | 180 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 6 | 2 | 574 | 0.010 | 6 | 0.0 | 0.0 | 6.833 | A |
| C-AB | 0 | 0 | 660 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 81 | 20 | | | 81 | | | | |
| A-B | 2 | 0.38 | | | 2 | | | | |
| A-C | 151 | 38 | | | 151 | | | | |

# 2033 Without Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 0.20 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D3 | 2033 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 143 | 100.000 |
| B | | ONE HOUR | ✓ | 7 | 100.000 |
| C | | ONE HOUR | ✓ | 97 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 2 | 141 |
| | B | 3 | 0 | 4 |
| | C | 97 | 0 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.01 | 6.99 | 0.0 | A | 6 | 10 |
| C-AB | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-A | | | | | 89 | 134 |
| A-B | | | | | 2 | 3 |
| A-C | | | | | 129 | 194 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 5 | 1 | 577 | 0.009 | 5 | 0.0 | 0.0 | 6.783 | A |
| C-AB | 0 | 0 | 671 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 73 | 18 | | | 73 | | | | |
| A-B | 2 | 0.38 | | | 2 | | | | |
| A-C | 106 | 27 | | | 106 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 6 | 2 | 571 | 0.011 | 6 | 0.0 | 0.0 | 6.870 | A |
| C-AB | 0 | 0 | 666 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 87 | 22 | | | 87 | | | | |
| A-B | 2 | 0.45 | | | 2 | | | | |
| A-C | 127 | 32 | | | 127 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 562 | 0.014 | 8 | 0.0 | 0.0 | 6.994 | A |
| C-AB | 0 | 0 | 658 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 107 | 27 | | | 107 | | | | |
| A-B | 2 | 0.55 | | | 2 | | | | |
| A-C | 155 | 39 | | | 155 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 562 | 0.014 | 8 | 0.0 | 0.0 | 6.994 | A |
| C-AB | 0 | 0 | 658 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 107 | 27 | | | 107 | | | | |
| A-B | 2 | 0.55 | | | 2 | | | | |
| A-C | 155 | 39 | | | 155 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 6 | 2 | 571 | 0.011 | 6 | 0.0 | 0.0 | 6.873 | A |
| C-AB | 0 | 0 | 666 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 87 | 22 | | | 87 | | | | |
| A-B | 2 | 0.45 | | | 2 | | | | |
| A-C | 127 | 32 | | | 127 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 5 | 1 | 577 | 0.009 | 5 | 0.0 | 0.0 | 6.785 | A |
| C-AB | 0 | 0 | 671 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 73 | 18 | | | 73 | | | | |
| A-B | 2 | 0.38 | | | 2 | | | | |
| A-C | 106 | 27 | | | 106 | | | | |

# 2038 Without Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 0.19 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D4 | 2038 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 148 | 100.000 |
| B | | ONE HOUR | ✓ | 7 | 100.000 |
| C | | ONE HOUR | ✓ | 100 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 2 | 146 |
| | B | 3 | 0 | 4 |
| | C | 100 | 0 | 0 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.01 | 7.01 | 0.0 | A | 6 | 10 |
| C-AB | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-A | | | | | 92 | 138 |
| A-B | | | | | 2 | 3 |
| A-C | | | | | 134 | 201 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 5 | 1 | 576 | 0.009 | 5 | 0.0 | 0.0 | 6.796 | A |
| C-AB | 0 | 0 | 670 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 75 | 19 | | | 75 | | | | |
| A-B | 2 | 0.38 | | | 2 | | | | |
| A-C | 110 | 27 | | | 110 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 6 | 2 | 570 | 0.011 | 6 | 0.0 | 0.0 | 6.886 | A |
| C-AB | 0 | 0 | 665 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 90 | 22 | | | 90 | | | | |
| A-B | 2 | 0.45 | | | 2 | | | | |
| A-C | 131 | 33 | | | 131 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 561 | 0.014 | 8 | 0.0 | 0.0 | 7.015 | A |
| C-AB | 0 | 0 | 657 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 110 | 28 | | | 110 | | | | |
| A-B | 2 | 0.55 | | | 2 | | | | |
| A-C | 161 | 40 | | | 161 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 561 | 0.014 | 8 | 0.0 | 0.0 | 7.015 | A |
| C-AB | 0 | 0 | 657 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 110 | 28 | | | 110 | | | | |
| A-B | 2 | 0.55 | | | 2 | | | | |
| A-C | 161 | 40 | | | 161 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 6 | 2 | 570 | 0.011 | 6 | 0.0 | 0.0 | 6.886 | A |
| C-AB | 0 | 0 | 665 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 90 | 22 | | | 90 | | | | |
| A-B | 2 | 0.45 | | | 2 | | | | |
| A-C | 131 | 33 | | | 131 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 5 | 1 | 576 | 0.009 | 5 | 0.0 | 0.0 | 6.799 | A |
| C-AB | 0 | 0 | 670 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 75 | 19 | | | 75 | | | | |
| A-B | 2 | 0.38 | | | 2 | | | | |
| A-C | 110 | 27 | | | 110 | | | | |

# 2048 Without Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 0.21 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D5 | 2048 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 158 | 100.000 |
| B | | ONE HOUR | ✓ | 8 | 100.000 |
| C | | ONE HOUR | ✓ | 106 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 2 | 156 |
| | B | 4 | 0 | 4 |
| | C | 106 | 0 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.02 | 7.21 | 0.0 | A | 7 | 11 |
| C-AB | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-A | | | | | 97 | 146 |
| A-B | | | | | 2 | 3 |
| A-C | | | | | 143 | 215 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 6 | 2 | 564 | 0.011 | 6 | 0.0 | 0.0 | 6.959 | A |
| C-AB | 0 | 0 | 668 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 80 | 20 | | | 80 | | | | |
| A-B | 2 | 0.38 | | | 2 | | | | |
| A-C | 117 | 29 | | | 117 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 7 | 2 | 557 | 0.013 | 7 | 0.0 | 0.0 | 7.063 | A |
| C-AB | 0 | 0 | 662 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 95 | 24 | | | 95 | | | | |
| A-B | 2 | 0.45 | | | 2 | | | | |
| A-C | 140 | 35 | | | 140 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 547 | 0.016 | 9 | 0.0 | 0.0 | 7.212 | A |
| C-AB | 0 | 0 | 654 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 117 | 29 | | | 117 | | | | |
| A-B | 2 | 0.55 | | | 2 | | | | |
| A-C | 172 | 43 | | | 172 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 547 | 0.016 | 9 | 0.0 | 0.0 | 7.212 | A |
| C-AB | 0 | 0 | 654 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 117 | 29 | | | 117 | | | | |
| A-B | 2 | 0.55 | | | 2 | | | | |
| A-C | 172 | 43 | | | 172 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 7 | 2 | 557 | 0.013 | 7 | 0.0 | 0.0 | 7.063 | A |
| C-AB | 0 | 0 | 662 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 95 | 24 | | | 95 | | | | |
| A-B | 2 | 0.45 | | | 2 | | | | |
| A-C | 140 | 35 | | | 140 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 6 | 2 | 564 | 0.011 | 6 | 0.0 | 0.0 | 6.962 | A |
| C-AB | 0 | 0 | 668 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 80 | 20 | | | 80 | | | | |
| A-B | 2 | 0.38 | | | 2 | | | | |
| A-C | 117 | 29 | | | 117 | | | | |

# 2033 With Operational Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 0.19 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D6 | 2033 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 186 | 100.000 |
| B | | ONE HOUR | ✓ | 8 | 100.000 |
| C | | ONE HOUR | ✓ | 99 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 2 | 184 |
| | B | 3 | 0 | 5 |
| | C | 99 | 0 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.02 | 7.05 | 0.0 | A | 7 | 11 |
| C-AB | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-A | | | | | 91 | 136 |
| A-B | | | | | 2 | 3 |
| A-C | | | | | 169 | 253 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 6 | 2 | 577 | 0.010 | 6 | 0.0 | 0.0 | 6.791 | A |
| C-AB | 0 | 0 | 663 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 75 | 19 | | | 75 | | | | |
| A-B | 2 | 0.38 | | | 2 | | | | |
| A-C | 139 | 35 | | | 139 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 7 | 2 | 570 | 0.013 | 7 | 0.0 | 0.0 | 6.898 | A |
| C-AB | 0 | 0 | 656 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 89 | 22 | | | 89 | | | | |
| A-B | 2 | 0.45 | | | 2 | | | | |
| A-C | 165 | 41 | | | 165 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 559 | 0.016 | 9 | 0.0 | 0.0 | 7.052 | A |
| C-AB | 0 | 0 | 646 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 109 | 27 | | | 109 | | | | |
| A-B | 2 | 0.55 | | | 2 | | | | |
| A-C | 203 | 51 | | | 203 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 559 | 0.016 | 9 | 0.0 | 0.0 | 7.052 | A |
| C-AB | 0 | 0 | 646 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 109 | 27 | | | 109 | | | | |
| A-B | 2 | 0.55 | | | 2 | | | | |
| A-C | 203 | 51 | | | 203 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 7 | 2 | 570 | 0.013 | 7 | 0.0 | 0.0 | 6.901 | A |
| C-AB | 0 | 0 | 656 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 89 | 22 | | | 89 | | | | |
| A-B | 2 | 0.45 | | | 2 | | | | |
| A-C | 165 | 41 | | | 165 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 6 | 2 | 577 | 0.010 | 6 | 0.0 | 0.0 | 6.794 | A |
| C-AB | 0 | 0 | 663 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 75 | 19 | | | 75 | | | | |
| A-B | 2 | 0.38 | | | 2 | | | | |
| A-C | 139 | 35 | | | 139 | | | | |

# 2038 With Operational Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 0.19 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D7 | 2038 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 191 | 100.000 |
| B | | ONE HOUR | ✓ | 8 | 100.000 |
| C | | ONE HOUR | ✓ | 103 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 2 | 189 |
| | B | 3 | 0 | 5 |
| | C | 103 | 0 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.02 | 7.07 | 0.0 | A | 7 | 11 |
| C-AB | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-A | | | | | 95 | 142 |
| A-B | | | | | 2 | 3 |
| A-C | | | | | 173 | 260 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 6 | 2 | 576 | 0.010 | 6 | 0.0 | 0.0 | 6.805 | A |
| C-AB | 0 | 0 | 662 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 78 | 19 | | | 78 | | | | |
| A-B | 2 | 0.38 | | | 2 | | | | |
| A-C | 142 | 36 | | | 142 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 7 | 2 | 568 | 0.013 | 7 | 0.0 | 0.0 | 6.915 | A |
| C-AB | 0 | 0 | 655 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 93 | 23 | | | 93 | | | | |
| A-B | 2 | 0.45 | | | 2 | | | | |
| A-C | 170 | 42 | | | 170 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 557 | 0.016 | 9 | 0.0 | 0.0 | 7.074 | A |
| C-AB | 0 | 0 | 645 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 113 | 28 | | | 113 | | | | |
| A-B | 2 | 0.55 | | | 2 | | | | |
| A-C | 208 | 52 | | | 208 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 557 | 0.016 | 9 | 0.0 | 0.0 | 7.074 | A |
| C-AB | 0 | 0 | 645 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 113 | 28 | | | 113 | | | | |
| A-B | 2 | 0.55 | | | 2 | | | | |
| A-C | 208 | 52 | | | 208 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 7 | 2 | 568 | 0.013 | 7 | 0.0 | 0.0 | 6.918 | A |
| C-AB | 0 | 0 | 655 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 93 | 23 | | | 93 | | | | |
| A-B | 2 | 0.45 | | | 2 | | | | |
| A-C | 170 | 42 | | | 170 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 6 | 2 | 576 | 0.010 | 6 | 0.0 | 0.0 | 6.808 | A |
| C-AB | 0 | 0 | 662 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 78 | 19 | | | 78 | | | | |
| A-B | 2 | 0.38 | | | 2 | | | | |
| A-C | 142 | 36 | | | 142 | | | | |

# 2048 With Operational Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 0.21 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D8 | 2048 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 200 | 100.000 |
| B | | ONE HOUR | ✓ | 9 | 100.000 |
| C | | ONE HOUR | ✓ | 109 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 2 | 198 |
| | B | 4 | 0 | 5 |
| | C | 109 | 0 | 0 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.02 | 7.27 | 0.0 | A | 8 | 12 |
| C-AB | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-A | | | | | 100 | 150 |
| A-B | | | | | 2 | 3 |
| A-C | | | | | 182 | 273 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 7 | 2 | 564 | 0.012 | 7 | 0.0 | 0.0 | 6.966 | A |
| C-AB | 0 | 0 | 660 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 82 | 21 | | | 82 | | | | |
| A-B | 2 | 0.38 | | | 2 | | | | |
| A-C | 149 | 37 | | | 149 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 555 | 0.015 | 8 | 0.0 | 0.0 | 7.090 | A |
| C-AB | 0 | 0 | 653 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 98 | 24 | | | 98 | | | | |
| A-B | 2 | 0.45 | | | 2 | | | | |
| A-C | 178 | 44 | | | 178 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 10 | 2 | 544 | 0.018 | 10 | 0.0 | 0.0 | 7.270 | A |
| C-AB | 0 | 0 | 642 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 120 | 30 | | | 120 | | | | |
| A-B | 2 | 0.55 | | | 2 | | | | |
| A-C | 218 | 55 | | | 218 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 10 | 2 | 544 | 0.018 | 10 | 0.0 | 0.0 | 7.270 | A |
| C-AB | 0 | 0 | 642 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 120 | 30 | | | 120 | | | | |
| A-B | 2 | 0.55 | | | 2 | | | | |
| A-C | 218 | 55 | | | 218 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 555 | 0.015 | 8 | 0.0 | 0.0 | 7.091 | A |
| C-AB | 0 | 0 | 653 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 98 | 24 | | | 98 | | | | |
| A-B | 2 | 0.45 | | | 2 | | | | |
| A-C | 178 | 44 | | | 178 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 7 | 2 | 564 | 0.012 | 7 | 0.0 | 0.0 | 6.969 | A |
| C-AB | 0 | 0 | 660 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 82 | 21 | | | 82 | | | | |
| A-B | 2 | 0.38 | | | 2 | | | | |
| A-C | 149 | 37 | | | 149 | | | | |

# 2029 Without Development, PM

## Data Errors and Warnings

*No errors or warnings*

# Junction Network

## Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 0.10 | A |

## Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

# Traffic Demand

## Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D9 | 2029 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

## Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 118 | 100.000 |
| B | | ONE HOUR | ✓ | 2 | 100.000 |
| C | | ONE HOUR | ✓ | 135 | 100.000 |

# Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 1 | 117 |
| | B | 1 | 0 | 1 |
| | C | 131 | 4 | 0 |

# Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-AB | 0.01 | 5.29 | 0.0 | A | 4 | 7 |
| C-A | | | | | 119 | 179 |
| A-B | | | | | 0.92 | 1 |
| A-C | | | | | 107 | 161 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 568 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 3 | 0.87 | 737 | 0.005 | 3 | 0.0 | 0.0 | 5.287 | A |
| C-A | 98 | 25 | | | 98 | | | | |
| A-B | 0.75 | 0.19 | | | 0.75 | | | | |
| A-C | 88 | 22 | | | 88 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 562 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 4 | 1 | 745 | 0.006 | 4 | 0.0 | 0.0 | 5.237 | A |
| C-A | 117 | 29 | | | 117 | | | | |
| A-B | 0.90 | 0.22 | | | 0.90 | | | | |
| A-C | 105 | 26 | | | 105 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 554 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 5 | 1 | 756 | 0.007 | 5 | 0.0 | 0.0 | 5.168 | A |
| C-A | 143 | 36 | | | 143 | | | | |
| A-B | 1 | 0.28 | | | 1 | | | | |
| A-C | 129 | 32 | | | 129 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 554 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 5 | 1 | 756 | 0.007 | 5 | 0.0 | 0.0 | 5.168 | A |
| C-A | 143 | 36 | | | 143 | | | | |
| A-B | 1 | 0.28 | | | 1 | | | | |
| A-C | 129 | 32 | | | 129 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 562 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 4 | 1 | 745 | 0.006 | 4 | 0.0 | 0.0 | 5.237 | A |
| C-A | 117 | 29 | | | 117 | | | | |
| A-B | 0.90 | 0.22 | | | 0.90 | | | | |
| A-C | 105 | 26 | | | 105 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 568 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 3 | 0.87 | 737 | 0.005 | 3 | 0.0 | 0.0 | 5.289 | A |
| C-A | 98 | 25 | | | 98 | | | | |
| A-B | 0.75 | 0.19 | | | 0.75 | | | | |
| A-C | 88 | 22 | | | 88 | | | | |

# 2029 With Construction, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 0.12 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D10 | 2029 With Construction | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 125 | 100.000 |
| B | | ONE HOUR | ✓ | 2 | 100.000 |
| C | | ONE HOUR | ✓ | 277 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 1 | 124 |
| | B | 1 | 0 | 1 |
| | C | 270 | 7 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-AB | 0.01 | 4.89 | 0.0 | A | 9 | 14 |
| C-A | | | | | 245 | 367 |
| A-B | | | | | 0.92 | 1 |
| A-C | | | | | 114 | 171 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 557 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 7 | 2 | 802 | 0.009 | 7 | 0.0 | 0.0 | 4.884 | A |
| C-A | 201 | 50 | | | 201 | | | | |
| A-B | 0.75 | 0.19 | | | 0.75 | | | | |
| A-C | 93 | 23 | | | 93 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 548 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 9 | 2 | 822 | 0.011 | 9 | 0.0 | 0.0 | 4.771 | A |
| C-A | 240 | 60 | | | 240 | | | | |
| A-B | 0.90 | 0.22 | | | 0.90 | | | | |
| A-C | 111 | 28 | | | 111 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 536 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 12 | 3 | 851 | 0.014 | 12 | 0.0 | 0.0 | 4.623 | A |
| C-A | 293 | 73 | | | 293 | | | | |
| A-B | 1 | 0.28 | | | 1 | | | | |
| A-C | 137 | 34 | | | 137 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 536 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 12 | 3 | 851 | 0.014 | 12 | 0.0 | 0.0 | 4.624 | A |
| C-A | 293 | 73 | | | 293 | | | | |
| A-B | 1 | 0.28 | | | 1 | | | | |
| A-C | 137 | 34 | | | 137 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 548 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 9 | 2 | 822 | 0.011 | 9 | 0.0 | 0.0 | 4.773 | A |
| C-A | 240 | 60 | | | 240 | | | | |
| A-B | 0.90 | 0.22 | | | 0.90 | | | | |
| A-C | 111 | 28 | | | 111 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 557 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 7 | 2 | 802 | 0.009 | 7 | 0.0 | 0.0 | 4.886 | A |
| C-A | 201 | 50 | | | 201 | | | | |
| A-B | 0.75 | 0.19 | | | 0.75 | | | | |
| A-C | 93 | 23 | | | 93 | | | | |

# 2033 Without Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 0.10 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D11 | 2033 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 121 | 100.000 |
| B | | ONE HOUR | ✓ | 2 | 100.000 |
| C | | ONE HOUR | ✓ | 139 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 1 | 120 |
| | B | 1 | 0 | 1 |
| | C | 135 | 4 | 0 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-AB | 0.01 | 5.28 | 0.0 | A | 4 | 7 |
| C-A | | | | | 123 | 185 |
| A-B | | | | | 0.92 | 1 |
| A-C | | | | | 110 | 165 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 568 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 3 | 0.87 | 739 | 0.005 | 3 | 0.0 | 0.0 | 5.277 | A |
| C-A | 101 | 25 | | | 101 | | | | |
| A-B | 0.75 | 0.19 | | | 0.75 | | | | |
| A-C | 90 | 23 | | | 90 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 561 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 4 | 1 | 747 | 0.006 | 4 | 0.0 | 0.0 | 5.225 | A |
| C-A | 121 | 30 | | | 121 | | | | |
| A-B | 0.90 | 0.22 | | | 0.90 | | | | |
| A-C | 108 | 27 | | | 108 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 553 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 5 | 1 | 758 | 0.007 | 5 | 0.0 | 0.0 | 5.155 | A |
| C-A | 148 | 37 | | | 148 | | | | |
| A-B | 1 | 0.28 | | | 1 | | | | |
| A-C | 132 | 33 | | | 132 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 553 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 5 | 1 | 758 | 0.007 | 5 | 0.0 | 0.0 | 5.155 | A |
| C-A | 148 | 37 | | | 148 | | | | |
| A-B | 1 | 0.28 | | | 1 | | | | |
| A-C | 132 | 33 | | | 132 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 561 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 4 | 1 | 747 | 0.006 | 4 | 0.0 | 0.0 | 5.225 | A |
| C-A | 121 | 30 | | | 121 | | | | |
| A-B | 0.90 | 0.22 | | | 0.90 | | | | |
| A-C | 108 | 27 | | | 108 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 568 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 3 | 0.87 | 739 | 0.005 | 3 | 0.0 | 0.0 | 5.277 | A |
| C-A | 101 | 25 | | | 101 | | | | |
| A-B | 0.75 | 0.19 | | | 0.75 | | | | |
| A-C | 90 | 23 | | | 90 | | | | |

# 2038 Without Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 0.10 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D12 | 2038 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 125 | 100.000 |
| B | | ONE HOUR | ✓ | 2 | 100.000 |
| C | | ONE HOUR | ✓ | 144 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 1 | 124 |
| | B | 1 | 0 | 1 |
| | C | 140 | 4 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-AB | 0.01 | 5.27 | 0.0 | A | 4 | 7 |
| C-A | | | | | 128 | 192 |
| A-B | | | | | 0.92 | 1 |
| A-C | | | | | 114 | 171 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 566 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 4 | 0.88 | 740 | 0.005 | 3 | 0.0 | 0.0 | 5.266 | A |
| C-A | 105 | 26 | | | 105 | | | | |
| A-B | 0.75 | 0.19 | | | 0.75 | | | | |
| A-C | 93 | 23 | | | 93 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 560 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 4 | 1 | 749 | 0.006 | 4 | 0.0 | 0.0 | 5.212 | A |
| C-A | 125 | 31 | | | 125 | | | | |
| A-B | 0.90 | 0.22 | | | 0.90 | | | | |
| A-C | 111 | 28 | | | 111 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 551 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 6 | 1 | 761 | 0.007 | 6 | 0.0 | 0.0 | 5.138 | A |
| C-A | 153 | 38 | | | 153 | | | | |
| A-B | 1 | 0.28 | | | 1 | | | | |
| A-C | 137 | 34 | | | 137 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 551 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 6 | 1 | 761 | 0.007 | 6 | 0.0 | 0.0 | 5.138 | A |
| C-A | 153 | 38 | | | 153 | | | | |
| A-B | 1 | 0.28 | | | 1 | | | | |
| A-C | 137 | 34 | | | 137 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 560 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 4 | 1 | 749 | 0.006 | 4 | 0.0 | 0.0 | 5.212 | A |
| C-A | 125 | 31 | | | 125 | | | | |
| A-B | 0.90 | 0.22 | | | 0.90 | | | | |
| A-C | 111 | 28 | | | 111 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 566 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 4 | 0.88 | 740 | 0.005 | 4 | 0.0 | 0.0 | 5.268 | A |
| C-A | 105 | 26 | | | 105 | | | | |
| A-B | 0.75 | 0.19 | | | 0.75 | | | | |
| A-C | 93 | 23 | | | 93 | | | | |

# 2048 Without Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 0.09 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D13 | 2048 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 133 | 100.000 |
| B | | ONE HOUR | ✓ | 2 | 100.000 |
| C | | ONE HOUR | ✓ | 153 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 1 | 132 |
| | B | 1 | 0 | 1 |
| | C | 149 | 4 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-AB | 0.01 | 5.25 | 0.0 | A | 5 | 7 |
| C-A | | | | | 136 | 204 |
| A-B | | | | | 0.92 | 1 |
| A-C | | | | | 121 | 182 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 564 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 4 | 0.89 | 743 | 0.005 | 4 | 0.0 | 0.0 | 5.246 | A |
| C-A | 112 | 28 | | | 112 | | | | |
| A-B | 0.75 | 0.19 | | | 0.75 | | | | |
| A-C | 99 | 25 | | | 99 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 557 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 4 | 1 | 752 | 0.006 | 4 | 0.0 | 0.0 | 5.189 | A |
| C-A | 133 | 33 | | | 133 | | | | |
| A-B | 0.90 | 0.22 | | | 0.90 | | | | |
| A-C | 119 | 30 | | | 119 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 548 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 6 | 1 | 765 | 0.007 | 6 | 0.0 | 0.0 | 5.110 | A |
| C-A | 163 | 41 | | | 163 | | | | |
| A-B | 1 | 0.28 | | | 1 | | | | |
| A-C | 145 | 36 | | | 145 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 548 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 6 | 1 | 765 | 0.007 | 6 | 0.0 | 0.0 | 5.110 | A |
| C-A | 163 | 41 | | | 163 | | | | |
| A-B | 1 | 0.28 | | | 1 | | | | |
| A-C | 145 | 36 | | | 145 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 557 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 4 | 1 | 752 | 0.006 | 4 | 0.0 | 0.0 | 5.191 | A |
| C-A | 133 | 33 | | | 133 | | | | |
| A-B | 0.90 | 0.22 | | | 0.90 | | | | |
| A-C | 119 | 30 | | | 119 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 564 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 4 | 0.89 | 743 | 0.005 | 4 | 0.0 | 0.0 | 5.248 | A |
| C-A | 112 | 28 | | | 112 | | | | |
| A-B | 0.75 | 0.19 | | | 0.75 | | | | |
| A-C | 99 | 25 | | | 99 | | | | |

# 2033 With Operational Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 0.11 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D14 | 2033 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 122 | 100.000 |
| B | | ONE HOUR | ✓ | 2 | 100.000 |
| C | | ONE HOUR | ✓ | 181 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 1 | 121 |
| | B | 1 | 0 | 1 |
| | C | 176 | 5 | 0 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-AB | 0.01 | 5.15 | 0.0 | A | 6 | 9 |
| C-A | | | | | 160 | 240 |
| A-B | | | | | 0.92 | 1 |
| A-C | | | | | 111 | 167 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 564 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 5 | 1 | 758 | 0.006 | 5 | 0.0 | 0.0 | 5.151 | A |
| C-A | 132 | 33 | | | 132 | | | | |
| A-B | 0.75 | 0.19 | | | 0.75 | | | | |
| A-C | 91 | 23 | | | 91 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 557 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 6 | 1 | 770 | 0.007 | 6 | 0.0 | 0.0 | 5.078 | A |
| C-A | 157 | 39 | | | 157 | | | | |
| A-B | 0.90 | 0.22 | | | 0.90 | | | | |
| A-C | 109 | 27 | | | 109 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 548 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 7 | 2 | 786 | 0.009 | 7 | 0.0 | 0.0 | 4.980 | A |
| C-A | 192 | 48 | | | 192 | | | | |
| A-B | 1 | 0.28 | | | 1 | | | | |
| A-C | 133 | 33 | | | 133 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 548 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 7 | 2 | 786 | 0.009 | 7 | 0.0 | 0.0 | 4.982 | A |
| C-A | 192 | 48 | | | 192 | | | | |
| A-B | 1 | 0.28 | | | 1 | | | | |
| A-C | 133 | 33 | | | 133 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 557 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 6 | 1 | 770 | 0.007 | 6 | 0.0 | 0.0 | 5.078 | A |
| C-A | 157 | 39 | | | 157 | | | | |
| A-B | 0.90 | 0.22 | | | 0.90 | | | | |
| A-C | 109 | 27 | | | 109 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 564 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 5 | 1 | 758 | 0.006 | 5 | 0.0 | 0.0 | 5.153 | A |
| C-A | 132 | 33 | | | 132 | | | | |
| A-B | 0.75 | 0.19 | | | 0.75 | | | | |
| A-C | 91 | 23 | | | 91 | | | | |

# 2038 With Operational Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 0.11 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D15 | 2038 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 127 | 100.000 |
| B | | ONE HOUR | ✓ | 2 | 100.000 |
| C | | ONE HOUR | ✓ | 186 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 1 | 126 |
| | B | 1 | 0 | 1 |
| | C | 181 | 5 | 0 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-AB | 0.01 | 5.14 | 0.0 | A | 6 | 9 |
| C-A | | | | | 165 | 247 |
| A-B | | | | | 0.92 | 1 |
| A-C | | | | | 116 | 173 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 563 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 5 | 1 | 759 | 0.006 | 5 | 0.0 | 0.0 | 5.141 | A |
| C-A | 135 | 34 | | | 135 | | | | |
| A-B | 0.75 | 0.19 | | | 0.75 | | | | |
| A-C | 95 | 24 | | | 95 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 556 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 6 | 1 | 772 | 0.007 | 6 | 0.0 | 0.0 | 5.066 | A |
| C-A | 162 | 40 | | | 162 | | | | |
| A-B | 0.90 | 0.22 | | | 0.90 | | | | |
| A-C | 113 | 28 | | | 113 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 546 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 7 | 2 | 789 | 0.009 | 7 | 0.0 | 0.0 | 4.966 | A |
| C-A | 197 | 49 | | | 197 | | | | |
| A-B | 1 | 0.28 | | | 1 | | | | |
| A-C | 139 | 35 | | | 139 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 546 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 7 | 2 | 789 | 0.009 | 7 | 0.0 | 0.0 | 4.968 | A |
| C-A | 197 | 49 | | | 197 | | | | |
| A-B | 1 | 0.28 | | | 1 | | | | |
| A-C | 139 | 35 | | | 139 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 556 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 6 | 1 | 772 | 0.007 | 6 | 0.0 | 0.0 | 5.067 | A |
| C-A | 162 | 40 | | | 162 | | | | |
| A-B | 0.90 | 0.22 | | | 0.90 | | | | |
| A-C | 113 | 28 | | | 113 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 563 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 5 | 1 | 759 | 0.006 | 5 | 0.0 | 0.0 | 5.141 | A |
| C-A | 135 | 34 | | | 135 | | | | |
| A-B | 0.75 | 0.19 | | | 0.75 | | | | |
| A-C | 95 | 24 | | | 95 | | | | |

# 2048 With Operational Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 0.10 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D16 | 2048 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 135 | 100.000 |
| B | | ONE HOUR | ✓ | 2 | 100.000 |
| C | | ONE HOUR | ✓ | 195 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 1 | 134 |
| | B | 1 | 0 | 1 |
| | C | 190 | 5 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-AB | 0.01 | 5.12 | 0.0 | A | 6 | 9 |
| C-A | | | | | 173 | 259 |
| A-B | | | | | 0.92 | 1 |
| A-C | | | | | 123 | 184 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 561 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 5 | 1 | 762 | 0.006 | 5 | 0.0 | 0.0 | 5.122 | A |
| C-A | 142 | 36 | | | 142 | | | | |
| A-B | 0.75 | 0.19 | | | 0.75 | | | | |
| A-C | 101 | 25 | | | 101 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 553 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 6 | 1 | 775 | 0.007 | 6 | 0.0 | 0.0 | 5.044 | A |
| C-A | 170 | 42 | | | 170 | | | | |
| A-B | 0.90 | 0.22 | | | 0.90 | | | | |
| A-C | 120 | 30 | | | 120 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 543 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 7 | 2 | 793 | 0.009 | 7 | 0.0 | 0.0 | 4.940 | A |
| C-A | 207 | 52 | | | 207 | | | | |
| A-B | 1 | 0.28 | | | 1 | | | | |
| A-C | 148 | 37 | | | 148 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 543 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 7 | 2 | 793 | 0.009 | 7 | 0.0 | 0.0 | 4.942 | A |
| C-A | 207 | 52 | | | 207 | | | | |
| A-B | 1 | 0.28 | | | 1 | | | | |
| A-C | 148 | 37 | | | 148 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 553 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 6 | 1 | 775 | 0.007 | 6 | 0.0 | 0.0 | 5.046 | A |
| C-A | 170 | 42 | | | 170 | | | | |
| A-B | 0.90 | 0.22 | | | 0.90 | | | | |
| A-C | 120 | 30 | | | 120 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 561 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 5 | 1 | 762 | 0.006 | 5 | 0.0 | 0.0 | 5.122 | A |
| C-A | 142 | 36 | | | 142 | | | | |
| A-B | 0.75 | 0.19 | | | 0.75 | | | | |
| A-C | 101 | 25 | | | 101 | | | | |

# Junctions 9

## PICADY 9 - Priority Intersection Module



**Filename:** Site_Access.j9
**Path:** \\192.168.1.33\ttrsa\projects\T241206_Westmeath_Admiral_Datacentre_Solar_Farm_EIAR_MMP_S1_RSA\eiar_chapter\modelling\Site_Access
**Report generation date:** 08/07/2025 11:20:38

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»2029 Without Development, AM
»2029 With Construction, AM
»2033 Without Development, AM
»2038 Without Development, AM
»2048 Without Development, AM
»2033 With Operational Development, AM
»2038 With Operational Development, AM
»2048 With Operational Development, AM
»2029 Without Development, PM
»2029 With Construction, PM
»2033 Without Development, PM
»2038 Without Development, PM
»2048 Without Development, PM
»2033 With Operational Development, PM
»2038 With Operational Development, PM
»2048 With Operational Development, PM

## Summary of junction performance

| | AM | | | | | PM | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Set ID | Queue (PCU) | Delay (s) | RFC | LOS | Set ID | Queue (PCU) | Delay (s) | RFC | LOS |
| | 2029 Without Development | | | | | | | | | |
| Stream B-AC | D1 | 0.0 | 0.00 | 0.00 | A | D9 | 0.0 | 6.23 | 0.04 | A |
| Stream C-AB | | 0.0 | 5.39 | 0.03 | A | | 0.0 | 0.00 | 0.00 | A |
| | 2029 With Construction | | | | | | | | | |
| Stream B-AC | D2 | 0.0 | 6.31 | 0.04 | A | D10 | 0.7 | 10.20 | 0.41 | B |
| Stream C-AB | | 0.2 | 6.11 | 0.15 | A | | 0.0 | 5.35 | 0.01 | A |
| | 2033 Without Development | | | | | | | | | |
| Stream B-AC | D3 | 0.0 | 6.28 | 0.01 | A | D11 | 0.0 | 6.25 | 0.04 | A |
| Stream C-AB | | 0.1 | 5.39 | 0.04 | A | | 0.0 | 0.00 | 0.00 | A |
| | 2038 Without Development | | | | | | | | | |
| Stream B-AC | D4 | 0.0 | 6.30 | 0.01 | A | D12 | 0.0 | 6.26 | 0.04 | A |
| Stream C-AB | | 0.1 | 5.39 | 0.04 | A | | 0.0 | 0.00 | 0.00 | A |
| | 2048 Without Development | | | | | | | | | |
| Stream B-AC | D5 | 0.0 | 6.33 | 0.01 | A | D13 | 0.0 | 6.34 | 0.04 | A |
| Stream C-AB | | 0.1 | 5.37 | 0.04 | A | | 0.0 | 0.00 | 0.00 | A |
| | 2033 With Operational Development | | | | | | | | | |
| Stream B-AC | D6 | 0.0 | 6.48 | 0.02 | A | D14 | 0.2 | 7.11 | 0.15 | A |
| Stream C-AB | | 0.2 | 5.84 | 0.12 | A | | 0.0 | 5.31 | 0.00 | A |
| | 2038 With Operational Development | | | | | | | | | |
| Stream B-AC | D7 | 0.0 | 6.50 | 0.02 | A | D15 | 0.2 | 7.14 | 0.15 | A |
| Stream C-AB | | 0.2 | 5.83 | 0.12 | A | | 0.0 | 5.31 | 0.00 | A |
| | 2048 With Operational Development | | | | | | | | | |
| Stream B-AC | D8 | 0.0 | 6.45 | 0.02 | A | D16 | 0.2 | 7.18 | 0.16 | A |
| Stream C-AB | | 0.2 | 5.83 | 0.12 | A | | 0.0 | 5.29 | 0.00 | A |

*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** | Admiral |
| **Location** | R446/Site Access Junction |
| **Site number** | |
| **Date** | 08/07/2025 |
| **Version** | EIAR |
| **Status** | Final |
| **Identifier** | |
| **Client** | Halston |
| **Jobnumber** | 241206 |
| **Enumerator** | TTRSA |
| **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 | Calculate residual capacity | RFC Threshold | Average Delay threshold (s) | Queue threshold (PCU) |
|---|---|---|---|---|---|---|
| 5.75 | | | | 0.85 | 36.00 | 20.00 |

## Demand Set Summary

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D1 | 2029 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D2 | 2029 With Construction | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D3 | 2033 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D4 | 2038 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D5 | 2048 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D6 | 2033 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D7 | 2038 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D8 | 2048 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D9 | 2029 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D10 | 2029 With Construction | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D11 | 2033 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D12 | 2038 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D13 | 2048 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D14 | 2033 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D15 | 2038 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D16 | 2048 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

## Analysis Set Details

| ID | Include in report | Network flow scaling factor (%) | Network capacity scaling factor (%) |
|---|---|---|---|
| A1 | ✓ | 100.000 | 100.000 |

# 2029 Without Development, AM

## Data Errors and Warnings

*No errors or warnings*

# Junction Network

## Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/Site Access Junction | T-Junction | Two-way | | 0.50 | A |

## Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

# Arms

## Arms

| Arm | Name | Description | Arm type |
|---|---|---|---|
| A | R446 to/from East | | Major |
| B | Development Site Access | | Minor |
| C | R446 to/from West | | Major |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Has right turn bay | Visibility for right turn (m) | Blocks? | Blocking queue (PCU) |
|---|---|---|---|---|---|---|
| C | 7.30 | | | 215.0 | ✓ | 0.00 |

*Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.*

## Minor Arm Geometry

| Arm | Minor arm type | Lane width (m) | Visibility to left (m) | Visibility to right (m) |
|---|---|---|---|---|
| B | One lane | 4.50 | 75 | 52 |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Stream | Intercept (PCU/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|---|---|---|---|---|---|
| B-A | 607 | 0.104 | 0.264 | 0.166 | 0.377 |
| B-C | 755 | 0.109 | 0.276 | - | - |
| C-B | 698 | 0.255 | 0.255 | - | - |

*The slopes and intercepts shown above do NOT include any corrections or adjustments.*

*Streams may be combined, in which case capacity will be adjusted.*

*Values are shown for the first time segment only; they may differ for subsequent time segments.*

# Traffic Demand

## Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D1 | 2029 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 99 | 100.000 |
| B | | ONE HOUR | ✓ | 4 | 100.000 |
| C | | ONE HOUR | ✓ | 141 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 7 | 92 |
| | B | 2 | 0 | 2 |
| | C | 122 | 19 | 0 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-AB | 0.03 | 5.39 | 0.0 | A | 21 | 31 |
| C-A | | | | | 109 | 163 |
| A-B | | | | | 6 | 10 |
| A-C | | | | | 84 | 127 |

### Main Results for each time segment

#### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 641 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 16 | 4 | 737 | 0.022 | 16 | 0.0 | 0.0 | 5.387 | A |
| C-A | 90 | 22 | | | 90 | | | | |
| A-B | 5 | 1 | | | 5 | | | | |
| A-C | 69 | 17 | | | 69 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 634 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 20 | 5 | 744 | 0.027 | 20 | 0.0 | 0.0 | 5.358 | A |
| C-A | 107 | 27 | | | 107 | | | | |
| A-B | 6 | 2 | | | 6 | | | | |
| A-C | 83 | 21 | | | 83 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 626 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 25 | 6 | 755 | 0.034 | 25 | 0.0 | 0.0 | 5.319 | A |
| C-A | 130 | 32 | | | 130 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 101 | 25 | | | 101 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 626 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 25 | 6 | 755 | 0.034 | 25 | 0.0 | 0.0 | 5.322 | A |
| C-A | 130 | 32 | | | 130 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 101 | 25 | | | 101 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 634 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 20 | 5 | 744 | 0.027 | 20 | 0.0 | 0.0 | 5.361 | A |
| C-A | 107 | 27 | | | 107 | | | | |
| A-B | 6 | 2 | | | 6 | | | | |
| A-C | 83 | 21 | | | 83 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 0 | 0 | 641 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 16 | 4 | 737 | 0.022 | 16 | 0.0 | 0.0 | 5.388 | A |
| C-A | 90 | 22 | | | 90 | | | | |
| A-B | 5 | 1 | | | 5 | | | | |
| A-C | 69 | 17 | | | 69 | | | | |

# 2029 With Construction, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/Site Access Junction | T-Junction | Two-way | | 2.14 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D2 | 2029 With Construction | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 127 | 100.000 |
| B | | ONE HOUR | ✓ | 25 | 100.000 |
| C | | ONE HOUR | ✓ | 206 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 35 | 92 |
| | B | 8 | 0 | 17 |
| | C | 122 | 84 | 0 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.04 | 6.31 | 0.0 | A | 23 | 34 |
| C-AB | 0.15 | 6.11 | 0.2 | A | 91 | 137 |
| C-A | | | | | 98 | 147 |
| A-B | | | | | 32 | 48 |
| A-C | | | | | 84 | 127 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 19 | 5 | 661 | 0.028 | 19 | 0.0 | 0.0 | 6.040 | A |
| C-AB | 72 | 18 | 732 | 0.099 | 72 | 0.0 | 0.1 | 5.879 | A |
| C-A | 83 | 21 | | | 83 | | | | |
| A-B | 26 | 7 | | | 26 | | | | |
| A-C | 69 | 17 | | | 69 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 22 | 6 | 653 | 0.034 | 22 | 0.0 | 0.0 | 6.151 | A |
| C-AB | 89 | 22 | 738 | 0.120 | 89 | 0.1 | 0.2 | 5.974 | A |
| C-A | 96 | 24 | | | 96 | | | | |
| A-B | 31 | 8 | | | 31 | | | | |
| A-C | 83 | 21 | | | 83 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 28 | 7 | 642 | 0.043 | 27 | 0.0 | 0.0 | 6.312 | A |
| C-AB | 113 | 28 | 748 | 0.151 | 113 | 0.2 | 0.2 | 6.112 | A |
| C-A | 114 | 28 | | | 114 | | | | |
| A-B | 39 | 10 | | | 39 | | | | |
| A-C | 101 | 25 | | | 101 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 28 | 7 | 642 | 0.043 | 28 | 0.0 | 0.0 | 6.312 | A |
| C-AB | 113 | 28 | 748 | 0.151 | 113 | 0.2 | 0.2 | 6.115 | A |
| C-A | 114 | 28 | | | 114 | | | | |
| A-B | 39 | 10 | | | 39 | | | | |
| A-C | 101 | 25 | | | 101 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 22 | 6 | 653 | 0.034 | 23 | 0.0 | 0.0 | 6.155 | A |
| C-AB | 89 | 22 | 738 | 0.120 | 89 | 0.2 | 0.2 | 5.982 | A |
| C-A | 96 | 24 | | | 96 | | | | |
| A-B | 31 | 8 | | | 31 | | | | |
| A-C | 83 | 21 | | | 83 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 19 | 5 | 661 | 0.028 | 19 | 0.0 | 0.0 | 6.044 | A |
| C-AB | 72 | 18 | 732 | 0.099 | 73 | 0.2 | 0.1 | 5.890 | A |
| C-A | 83 | 21 | | | 83 | | | | |
| A-B | 26 | 7 | | | 26 | | | | |
| A-C | 69 | 17 | | | 69 | | | | |

# 2033 Without Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/Site Access Junction | T-Junction | Two-way | | 0.66 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D3 | 2033 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 101 | 100.000 |
| B | | ONE HOUR | ✓ | 6 | 100.000 |
| C | | ONE HOUR | ✓ | 145 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 7 | 94 |
| | B | 3 | 0 | 3 |
| | C | 125 | 20 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.01 | 6.28 | 0.0 | A | 6 | 8 |
| C-AB | 0.04 | 5.39 | 0.1 | A | 22 | 33 |
| C-A | | | | | 111 | 167 |
| A-B | | | | | 6 | 10 |
| A-C | | | | | 86 | 129 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 5 | 1 | 640 | 0.007 | 4 | 0.0 | 0.0 | 6.106 | A |
| C-AB | 17 | 4 | 738 | 0.023 | 17 | 0.0 | 0.0 | 5.386 | A |
| C-A | 92 | 23 | | | 92 | | | | |
| A-B | 5 | 1 | | | 5 | | | | |
| A-C | 71 | 18 | | | 71 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 5 | 1 | 633 | 0.009 | 5 | 0.0 | 0.0 | 6.178 | A |
| C-AB | 21 | 5 | 746 | 0.028 | 21 | 0.0 | 0.0 | 5.357 | A |
| C-A | 109 | 27 | | | 109 | | | | |
| A-B | 6 | 2 | | | 6 | | | | |
| A-C | 85 | 21 | | | 85 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 7 | 2 | 624 | 0.011 | 7 | 0.0 | 0.0 | 6.281 | A |
| C-AB | 27 | 7 | 756 | 0.036 | 27 | 0.0 | 0.1 | 5.318 | A |
| C-A | 133 | 33 | | | 133 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 103 | 26 | | | 103 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 7 | 2 | 624 | 0.011 | 7 | 0.0 | 0.0 | 6.281 | A |
| C-AB | 27 | 7 | 756 | 0.036 | 27 | 0.1 | 0.1 | 5.321 | A |
| C-A | 133 | 33 | | | 133 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 103 | 26 | | | 103 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 5 | 1 | 633 | 0.009 | 5 | 0.0 | 0.0 | 6.179 | A |
| C-AB | 21 | 5 | 746 | 0.028 | 21 | 0.1 | 0.0 | 5.358 | A |
| C-A | 109 | 27 | | | 109 | | | | |
| A-B | 6 | 2 | | | 6 | | | | |
| A-C | 85 | 21 | | | 85 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 5 | 1 | 640 | 0.007 | 5 | 0.0 | 0.0 | 6.109 | A |
| C-AB | 17 | 4 | 738 | 0.023 | 17 | 0.0 | 0.0 | 5.389 | A |
| C-A | 92 | 23 | | | 92 | | | | |
| A-B | 5 | 1 | | | 5 | | | | |
| A-C | 71 | 18 | | | 71 | | | | |

# 2038 Without Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/Site Access Junction | T-Junction | Two-way | | 0.67 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D4 | 2038 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 104 | 100.000 |
| B | | ONE HOUR | ✓ | 6 | 100.000 |
| C | | ONE HOUR | ✓ | 150 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 7 | 97 |
| | B | 3 | 0 | 3 |
| | C | 129 | 21 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.01 | 6.30 | 0.0 | A | 6 | 8 |
| C-AB | 0.04 | 5.39 | 0.1 | A | 23 | 35 |
| C-A | | | | | 115 | 172 |
| A-B | | | | | 6 | 10 |
| A-C | | | | | 89 | 134 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 5 | 1 | 639 | 0.007 | 4 | 0.0 | 0.0 | 6.117 | A |
| C-AB | 18 | 5 | 739 | 0.025 | 18 | 0.0 | 0.0 | 5.383 | A |
| C-A | 95 | 24 | | | 95 | | | | |
| A-B | 5 | 1 | | | 5 | | | | |
| A-C | 73 | 18 | | | 73 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 5 | 1 | 632 | 0.009 | 5 | 0.0 | 0.0 | 6.191 | A |
| C-AB | 22 | 6 | 747 | 0.030 | 22 | 0.0 | 0.0 | 5.354 | A |
| C-A | 112 | 28 | | | 112 | | | | |
| A-B | 6 | 2 | | | 6 | | | | |
| A-C | 87 | 22 | | | 87 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 7 | 2 | 623 | 0.011 | 7 | 0.0 | 0.0 | 6.298 | A |
| C-AB | 28 | 7 | 758 | 0.038 | 28 | 0.0 | 0.1 | 5.315 | A |
| C-A | 137 | 34 | | | 137 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 107 | 27 | | | 107 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 7 | 2 | 623 | 0.011 | 7 | 0.0 | 0.0 | 6.298 | A |
| C-AB | 28 | 7 | 758 | 0.038 | 28 | 0.1 | 0.1 | 5.318 | A |
| C-A | 137 | 34 | | | 137 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 107 | 27 | | | 107 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 5 | 1 | 632 | 0.009 | 5 | 0.0 | 0.0 | 6.194 | A |
| C-AB | 22 | 6 | 747 | 0.030 | 22 | 0.1 | 0.0 | 5.355 | A |
| C-A | 112 | 28 | | | 112 | | | | |
| A-B | 6 | 2 | | | 6 | | | | |
| A-C | 87 | 22 | | | 87 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 5 | 1 | 639 | 0.007 | 5 | 0.0 | 0.0 | 6.120 | A |
| C-AB | 18 | 5 | 739 | 0.025 | 18 | 0.0 | 0.0 | 5.386 | A |
| C-A | 95 | 24 | | | 95 | | | | |
| A-B | 5 | 1 | | | 5 | | | | |
| A-C | 73 | 18 | | | 73 | | | | |

# 2048 Without Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/Site Access Junction | T-Junction | Two-way | | 0.65 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D5 | 2048 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 112 | 100.000 |
| B | | ONE HOUR | ✓ | 6 | 100.000 |
| C | | ONE HOUR | ✓ | 160 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 8 | 104 |
| | B | 3 | 0 | 3 |
| | C | 138 | 22 | 0 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.01 | 6.33 | 0.0 | A | 6 | 8 |
| C-AB | 0.04 | 5.37 | 0.1 | A | 24 | 37 |
| C-A | | | | | 122 | 184 |
| A-B | | | | | 7 | 11 |
| A-C | | | | | 95 | 143 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 5 | 1 | 636 | 0.007 | 4 | 0.0 | 0.0 | 6.140 | A |
| C-AB | 19 | 5 | 742 | 0.026 | 19 | 0.0 | 0.0 | 5.370 | A |
| C-A | 101 | 25 | | | 101 | | | | |
| A-B | 6 | 2 | | | 6 | | | | |
| A-C | 78 | 20 | | | 78 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 5 | 1 | 629 | 0.009 | 5 | 0.0 | 0.0 | 6.220 | A |
| C-AB | 24 | 6 | 750 | 0.032 | 24 | 0.0 | 0.0 | 5.339 | A |
| C-A | 120 | 30 | | | 120 | | | | |
| A-B | 7 | 2 | | | 7 | | | | |
| A-C | 93 | 23 | | | 93 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 7 | 2 | 619 | 0.011 | 7 | 0.0 | 0.0 | 6.334 | A |
| C-AB | 30 | 8 | 763 | 0.040 | 30 | 0.0 | 0.1 | 5.300 | A |
| C-A | 146 | 36 | | | 146 | | | | |
| A-B | 9 | 2 | | | 9 | | | | |
| A-C | 115 | 29 | | | 115 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 7 | 2 | 619 | 0.011 | 7 | 0.0 | 0.0 | 6.334 | A |
| C-AB | 30 | 8 | 763 | 0.040 | 30 | 0.1 | 0.1 | 5.299 | A |
| C-A | 146 | 36 | | | 146 | | | | |
| A-B | 9 | 2 | | | 9 | | | | |
| A-C | 115 | 29 | | | 115 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 5 | 1 | 629 | 0.009 | 5 | 0.0 | 0.0 | 6.221 | A |
| C-AB | 24 | 6 | 750 | 0.032 | 24 | 0.1 | 0.0 | 5.342 | A |
| C-A | 120 | 30 | | | 120 | | | | |
| A-B | 7 | 2 | | | 7 | | | | |
| A-C | 93 | 23 | | | 93 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 5 | 1 | 636 | 0.007 | 5 | 0.0 | 0.0 | 6.143 | A |
| C-AB | 19 | 5 | 742 | 0.026 | 19 | 0.0 | 0.0 | 5.371 | A |
| C-A | 101 | 25 | | | 101 | | | | |
| A-B | 6 | 2 | | | 6 | | | | |
| A-C | 78 | 20 | | | 78 | | | | |

# 2033 With Operational Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/Site Access Junction | T-Junction | Two-way | | 1.59 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D6 | 2033 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 122 | 100.000 |
| B | | ONE HOUR | ✓ | 10 | 100.000 |
| C | | ONE HOUR | ✓ | 189 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 28 | 94 |
| | B | 5 | 0 | 5 |
| | C | 125 | 64 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.02 | 6.48 | 0.0 | A | 9 | 14 |
| C-AB | 0.12 | 5.84 | 0.2 | A | 70 | 105 |
| C-A | | | | | 104 | 155 |
| A-B | | | | | 26 | 39 |
| A-C | | | | | 86 | 129 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 630 | 0.012 | 7 | 0.0 | 0.0 | 6.231 | A |
| C-AB | 55 | 14 | 734 | 0.075 | 55 | 0.0 | 0.1 | 5.714 | A |
| C-A | 87 | 22 | | | 87 | | | | |
| A-B | 21 | 5 | | | 21 | | | | |
| A-C | 71 | 18 | | | 71 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 622 | 0.014 | 9 | 0.0 | 0.0 | 6.333 | A |
| C-AB | 68 | 17 | 741 | 0.092 | 68 | 0.1 | 0.1 | 5.764 | A |
| C-A | 102 | 26 | | | 102 | | | | |
| A-B | 25 | 6 | | | 25 | | | | |
| A-C | 85 | 21 | | | 85 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 610 | 0.018 | 11 | 0.0 | 0.0 | 6.480 | A |
| C-AB | 86 | 22 | 751 | 0.115 | 86 | 0.1 | 0.2 | 5.837 | A |
| C-A | 122 | 30 | | | 122 | | | | |
| A-B | 31 | 8 | | | 31 | | | | |
| A-C | 103 | 26 | | | 103 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 610 | 0.018 | 11 | 0.0 | 0.0 | 6.481 | A |
| C-AB | 86 | 22 | 751 | 0.115 | 86 | 0.2 | 0.2 | 5.842 | A |
| C-A | 122 | 30 | | | 122 | | | | |
| A-B | 31 | 8 | | | 31 | | | | |
| A-C | 103 | 26 | | | 103 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 622 | 0.014 | 9 | 0.0 | 0.0 | 6.334 | A |
| C-AB | 68 | 17 | 741 | 0.092 | 68 | 0.2 | 0.1 | 5.768 | A |
| C-A | 102 | 25 | | | 102 | | | | |
| A-B | 25 | 6 | | | 25 | | | | |
| A-C | 85 | 21 | | | 85 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 630 | 0.012 | 8 | 0.0 | 0.0 | 6.235 | A |
| C-AB | 55 | 14 | 734 | 0.075 | 55 | 0.1 | 0.1 | 5.723 | A |
| C-A | 87 | 22 | | | 87 | | | | |
| A-B | 21 | 5 | | | 21 | | | | |
| A-C | 71 | 18 | | | 71 | | | | |

# 2038 With Operational Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/Site Access Junction | T-Junction | Two-way | | 1.55 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D7 | 2038 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 126 | 100.000 |
| B | | ONE HOUR | ✓ | 10 | 100.000 |
| C | | ONE HOUR | ✓ | 193 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 29 | 97 |
| | B | 5 | 0 | 5 |
| | C | 129 | 64 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.02 | 6.50 | 0.0 | A | 9 | 14 |
| C-AB | 0.12 | 5.83 | 0.2 | A | 70 | 105 |
| C-A | | | | | 107 | 160 |
| A-B | | | | | 27 | 40 |
| A-C | | | | | 89 | 134 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 629 | 0.012 | 7 | 0.0 | 0.0 | 6.242 | A |
| C-AB | 56 | 14 | 735 | 0.076 | 55 | 0.0 | 0.1 | 5.706 | A |
| C-A | 90 | 22 | | | 90 | | | | |
| A-B | 22 | 5 | | | 22 | | | | |
| A-C | 73 | 18 | | | 73 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 620 | 0.014 | 9 | 0.0 | 0.0 | 6.346 | A |
| C-AB | 68 | 17 | 742 | 0.092 | 68 | 0.1 | 0.1 | 5.755 | A |
| C-A | 105 | 26 | | | 105 | | | | |
| A-B | 26 | 7 | | | 26 | | | | |
| A-C | 87 | 22 | | | 87 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 608 | 0.018 | 11 | 0.0 | 0.0 | 6.497 | A |
| C-AB | 87 | 22 | 753 | 0.116 | 87 | 0.1 | 0.2 | 5.827 | A |
| C-A | 126 | 31 | | | 126 | | | | |
| A-B | 32 | 8 | | | 32 | | | | |
| A-C | 107 | 27 | | | 107 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 608 | 0.018 | 11 | 0.0 | 0.0 | 6.497 | A |
| C-AB | 87 | 22 | 753 | 0.116 | 87 | 0.2 | 0.2 | 5.832 | A |
| C-A | 126 | 31 | | | 126 | | | | |
| A-B | 32 | 8 | | | 32 | | | | |
| A-C | 107 | 27 | | | 107 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 620 | 0.014 | 9 | 0.0 | 0.0 | 6.347 | A |
| C-AB | 68 | 17 | 742 | 0.092 | 68 | 0.2 | 0.1 | 5.762 | A |
| C-A | 105 | 26 | | | 105 | | | | |
| A-B | 26 | 7 | | | 26 | | | | |
| A-C | 87 | 22 | | | 87 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 629 | 0.012 | 8 | 0.0 | 0.0 | 6.245 | A |
| C-AB | 56 | 14 | 735 | 0.076 | 56 | 0.1 | 0.1 | 5.716 | A |
| C-A | 90 | 22 | | | 90 | | | | |
| A-B | 22 | 5 | | | 22 | | | | |
| A-C | 73 | 18 | | | 73 | | | | |

# 2048 With Operational Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/Site Access Junction | T-Junction | Two-way | | 1.54 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D8 | 2048 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 133 | 100.000 |
| B | | ONE HOUR | ✓ | 11 | 100.000 |
| C | | ONE HOUR | ✓ | 204 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 29 | 104 |
| | B | 5 | 0 | 6 |
| | C | 138 | 66 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.02 | 6.45 | 0.0 | A | 10 | 15 |
| C-AB | 0.12 | 5.83 | 0.2 | A | 73 | 110 |
| C-A | | | | | 114 | 171 |
| A-B | | | | | 27 | 40 |
| A-C | | | | | 95 | 143 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 635 | 0.013 | 8 | 0.0 | 0.0 | 6.192 | A |
| C-AB | 58 | 14 | 738 | 0.078 | 57 | 0.0 | 0.1 | 5.700 | A |
| C-A | 96 | 24 | | | 96 | | | | |
| A-B | 22 | 5 | | | 22 | | | | |
| A-C | 78 | 20 | | | 78 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 10 | 2 | 626 | 0.016 | 10 | 0.0 | 0.0 | 6.299 | A |
| C-AB | 71 | 18 | 746 | 0.096 | 71 | 0.1 | 0.1 | 5.750 | A |
| C-A | 112 | 28 | | | 112 | | | | |
| A-B | 26 | 7 | | | 26 | | | | |
| A-C | 93 | 23 | | | 93 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 12 | 3 | 613 | 0.020 | 12 | 0.0 | 0.0 | 6.453 | A |
| C-AB | 91 | 23 | 757 | 0.120 | 91 | 0.1 | 0.2 | 5.824 | A |
| C-A | 134 | 33 | | | 134 | | | | |
| A-B | 32 | 8 | | | 32 | | | | |
| A-C | 115 | 29 | | | 115 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 12 | 3 | 613 | 0.020 | 12 | 0.0 | 0.0 | 6.453 | A |
| C-AB | 91 | 23 | 757 | 0.120 | 91 | 0.2 | 0.2 | 5.826 | A |
| C-A | 134 | 33 | | | 134 | | | | |
| A-B | 32 | 8 | | | 32 | | | | |
| A-C | 115 | 29 | | | 115 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 10 | 2 | 626 | 0.016 | 10 | 0.0 | 0.0 | 6.300 | A |
| C-AB | 71 | 18 | 746 | 0.096 | 71 | 0.2 | 0.1 | 5.755 | A |
| C-A | 112 | 28 | | | 112 | | | | |
| A-B | 26 | 7 | | | 26 | | | | |
| A-C | 93 | 23 | | | 93 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 635 | 0.013 | 8 | 0.0 | 0.0 | 6.196 | A |
| C-AB | 58 | 14 | 738 | 0.078 | 58 | 0.1 | 0.1 | 5.708 | A |
| C-A | 96 | 24 | | | 96 | | | | |
| A-B | 22 | 5 | | | 22 | | | | |
| A-C | 78 | 20 | | | 78 | | | | |

# 2029 Without Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/Site Access Junction | T-Junction | Two-way | | 0.53 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D9 | 2029 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 121 | 100.000 |
| B | | ONE HOUR | ✓ | 22 | 100.000 |
| C | | ONE HOUR | ✓ | 118 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 0 | 121 |
| | B | 8 | 0 | 14 |
| | C | 118 | 0 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.04 | 6.23 | 0.0 | A | 20 | 30 |
| C-AB | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-A | | | | | 108 | 162 |
| A-B | | | | | 0 | 0 |
| A-C | | | | | 111 | 167 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 17 | 4 | 662 | 0.025 | 16 | 0.0 | 0.0 | 6.015 | A |
| C-AB | 0 | 0 | 675 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 89 | 22 | | | 89 | | | | |
| A-B | 0 | 0 | | | 0 | | | | |
| A-C | 91 | 23 | | | 91 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 20 | 5 | 655 | 0.030 | 20 | 0.0 | 0.0 | 6.105 | A |
| C-AB | 0 | 0 | 671 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 106 | 27 | | | 106 | | | | |
| A-B | 0 | 0 | | | 0 | | | | |
| A-C | 109 | 27 | | | 109 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 24 | 6 | 647 | 0.037 | 24 | 0.0 | 0.0 | 6.234 | A |
| C-AB | 0 | 0 | 664 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 130 | 32 | | | 130 | | | | |
| A-B | 0 | 0 | | | 0 | | | | |
| A-C | 133 | 33 | | | 133 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 24 | 6 | 647 | 0.037 | 24 | 0.0 | 0.0 | 6.234 | A |
| C-AB | 0 | 0 | 664 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 130 | 32 | | | 130 | | | | |
| A-B | 0 | 0 | | | 0 | | | | |
| A-C | 133 | 33 | | | 133 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 20 | 5 | 655 | 0.030 | 20 | 0.0 | 0.0 | 6.108 | A |
| C-AB | 0 | 0 | 671 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 106 | 27 | | | 106 | | | | |
| A-B | 0 | 0 | | | 0 | | | | |
| A-C | 109 | 27 | | | 109 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 17 | 4 | 662 | 0.025 | 17 | 0.0 | 0.0 | 6.015 | A |
| C-AB | 0 | 0 | 675 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 89 | 22 | | | 89 | | | | |
| A-B | 0 | 0 | | | 0 | | | | |
| A-C | 91 | 23 | | | 91 | | | | |

# 2029 With Construction, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/Site Access Junction | T-Junction | Two-way | | 5.15 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D10 | 2029 With Construction | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 121 | 100.000 |
| B | | ONE HOUR | ✓ | 242 | 100.000 |
| C | | ONE HOUR | ✓ | 125 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 0 | 121 |
| | B | 86 | 0 | 156 |
| | C | 118 | 7 | 0 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.41 | 10.20 | 0.7 | B | 222 | 333 |
| C-AB | 0.01 | 5.35 | 0.0 | A | 8 | 11 |
| C-A | | | | | 107 | 161 |
| A-B | | | | | 0 | 0 |
| A-C | | | | | 111 | 167 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 182 | 46 | 662 | 0.275 | 181 | 0.0 | 0.4 | 8.034 | A |
| C-AB | 6 | 1 | 731 | 0.008 | 6 | 0.0 | 0.0 | 5.354 | A |
| C-A | 88 | 22 | | | 88 | | | | |
| A-B | 0 | 0 | | | 0 | | | | |
| A-C | 91 | 23 | | | 91 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 218 | 54 | 656 | 0.332 | 217 | 0.4 | 0.5 | 8.839 | A |
| C-AB | 7 | 2 | 737 | 0.010 | 7 | 0.0 | 0.0 | 5.316 | A |
| C-A | 105 | 26 | | | 105 | | | | |
| A-B | 0 | 0 | | | 0 | | | | |
| A-C | 109 | 27 | | | 109 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 266 | 67 | 647 | 0.412 | 266 | 0.5 | 0.7 | 10.159 | B |
| C-AB | 9 | 2 | 746 | 0.013 | 9 | 0.0 | 0.0 | 5.264 | A |
| C-A | 128 | 32 | | | 128 | | | | |
| A-B | 0 | 0 | | | 0 | | | | |
| A-C | 133 | 33 | | | 133 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 266 | 67 | 647 | 0.412 | 266 | 0.7 | 0.7 | 10.203 | B |
| C-AB | 9 | 2 | 746 | 0.013 | 9 | 0.0 | 0.0 | 5.266 | A |
| C-A | 128 | 32 | | | 128 | | | | |
| A-B | 0 | 0 | | | 0 | | | | |
| A-C | 133 | 33 | | | 133 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 218 | 54 | 656 | 0.332 | 218 | 0.7 | 0.5 | 8.893 | A |
| C-AB | 7 | 2 | 737 | 0.010 | 7 | 0.0 | 0.0 | 5.316 | A |
| C-A | 105 | 26 | | | 105 | | | | |
| A-B | 0 | 0 | | | 0 | | | | |
| A-C | 109 | 27 | | | 109 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 182 | 46 | 662 | 0.275 | 183 | 0.5 | 0.4 | 8.105 | A |
| C-AB | 6 | 2 | 731 | 0.008 | 6 | 0.0 | 0.0 | 5.354 | A |
| C-A | 88 | 22 | | | 88 | | | | |
| A-B | 0 | 0 | | | 0 | | | | |
| A-C | 91 | 23 | | | 91 | | | | |

# 2033 Without Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/Site Access Junction | T-Junction | Two-way | | 0.51 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D11 | 2033 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 125 | 100.000 |
| B | | ONE HOUR | ✓ | 22 | 100.000 |
| C | | ONE HOUR | ✓ | 121 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 0 | 125 |
| | B | 8 | 0 | 14 |
| | C | 121 | 0 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.04 | 6.25 | 0.0 | A | 20 | 30 |
| C-AB | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-A | | | | | 111 | 167 |
| A-B | | | | | 0 | 0 |
| A-C | | | | | 115 | 172 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 17 | 4 | 661 | 0.025 | 16 | 0.0 | 0.0 | 6.024 | A |
| C-AB | 0 | 0 | 674 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 91 | 23 | | | 91 | | | | |
| A-B | 0 | 0 | | | 0 | | | | |
| A-C | 94 | 24 | | | 94 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 20 | 5 | 654 | 0.030 | 20 | 0.0 | 0.0 | 6.116 | A |
| C-AB | 0 | 0 | 670 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 109 | 27 | | | 109 | | | | |
| A-B | 0 | 0 | | | 0 | | | | |
| A-C | 112 | 28 | | | 112 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 24 | 6 | 645 | 0.038 | 24 | 0.0 | 0.0 | 6.248 | A |
| C-AB | 0 | 0 | 663 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 133 | 33 | | | 133 | | | | |
| A-B | 0 | 0 | | | 0 | | | | |
| A-C | 138 | 34 | | | 138 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 24 | 6 | 645 | 0.038 | 24 | 0.0 | 0.0 | 6.248 | A |
| C-AB | 0 | 0 | 663 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 133 | 33 | | | 133 | | | | |
| A-B | 0 | 0 | | | 0 | | | | |
| A-C | 138 | 34 | | | 138 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 20 | 5 | 654 | 0.030 | 20 | 0.0 | 0.0 | 6.117 | A |
| C-AB | 0 | 0 | 670 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 109 | 27 | | | 109 | | | | |
| A-B | 0 | 0 | | | 0 | | | | |
| A-C | 112 | 28 | | | 112 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 17 | 4 | 661 | 0.025 | 17 | 0.0 | 0.0 | 6.025 | A |
| C-AB | 0 | 0 | 674 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 91 | 23 | | | 91 | | | | |
| A-B | 0 | 0 | | | 0 | | | | |
| A-C | 94 | 24 | | | 94 | | | | |

# 2038 Without Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/Site Access Junction | T-Junction | Two-way | | 0.50 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D12 | 2038 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 129 | 100.000 |
| B | | ONE HOUR | ✓ | 22 | 100.000 |
| C | | ONE HOUR | ✓ | 125 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 0 | 129 |
| | B | 8 | 0 | 14 |
| | C | 125 | 0 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.04 | 6.26 | 0.0 | A | 20 | 30 |
| C-AB | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-A | | | | | 115 | 172 |
| A-B | | | | | 0 | 0 |
| A-C | | | | | 118 | 178 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 17 | 4 | 660 | 0.025 | 16 | 0.0 | 0.0 | 6.034 | A |
| C-AB | 0 | 0 | 674 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 94 | 24 | | | 94 | | | | |
| A-B | 0 | 0 | | | 0 | | | | |
| A-C | 97 | 24 | | | 97 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 20 | 5 | 653 | 0.030 | 20 | 0.0 | 0.0 | 6.129 | A |
| C-AB | 0 | 0 | 669 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 112 | 28 | | | 112 | | | | |
| A-B | 0 | 0 | | | 0 | | | | |
| A-C | 116 | 29 | | | 116 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 24 | 6 | 644 | 0.038 | 24 | 0.0 | 0.0 | 6.264 | A |
| C-AB | 0 | 0 | 662 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 138 | 34 | | | 138 | | | | |
| A-B | 0 | 0 | | | 0 | | | | |
| A-C | 142 | 36 | | | 142 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 24 | 6 | 644 | 0.038 | 24 | 0.0 | 0.0 | 6.264 | A |
| C-AB | 0 | 0 | 662 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 138 | 34 | | | 138 | | | | |
| A-B | 0 | 0 | | | 0 | | | | |
| A-C | 142 | 36 | | | 142 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 20 | 5 | 653 | 0.030 | 20 | 0.0 | 0.0 | 6.132 | A |
| C-AB | 0 | 0 | 669 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 112 | 28 | | | 112 | | | | |
| A-B | 0 | 0 | | | 0 | | | | |
| A-C | 116 | 29 | | | 116 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 17 | 4 | 660 | 0.025 | 17 | 0.0 | 0.0 | 6.037 | A |
| C-AB | 0 | 0 | 674 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 94 | 24 | | | 94 | | | | |
| A-B | 0 | 0 | | | 0 | | | | |
| A-C | 97 | 24 | | | 97 | | | | |

# 2048 Without Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/Site Access Junction | T-Junction | Two-way | | 0.52 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D13 | 2048 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 137 | 100.000 |
| B | | ONE HOUR | ✓ | 24 | 100.000 |
| C | | ONE HOUR | ✓ | 133 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 0 | 137 |
| | B | 9 | 0 | 15 |
| | C | 133 | 0 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.04 | 6.34 | 0.0 | A | 22 | 33 |
| C-AB | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-A | | | | | 122 | 183 |
| A-B | | | | | 0 | 0 |
| A-C | | | | | 126 | 189 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 18 | 5 | 655 | 0.028 | 18 | 0.0 | 0.0 | 6.088 | A |
| C-AB | 0 | 0 | 672 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 100 | 25 | | | 100 | | | | |
| A-B | 0 | 0 | | | 0 | | | | |
| A-C | 103 | 26 | | | 103 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 22 | 5 | 648 | 0.033 | 22 | 0.0 | 0.0 | 6.191 | A |
| C-AB | 0 | 0 | 667 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 120 | 30 | | | 120 | | | | |
| A-B | 0 | 0 | | | 0 | | | | |
| A-C | 123 | 31 | | | 123 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 26 | 7 | 638 | 0.041 | 26 | 0.0 | 0.0 | 6.340 | A |
| C-AB | 0 | 0 | 660 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 146 | 37 | | | 146 | | | | |
| A-B | 0 | 0 | | | 0 | | | | |
| A-C | 151 | 38 | | | 151 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 26 | 7 | 638 | 0.041 | 26 | 0.0 | 0.0 | 6.340 | A |
| C-AB | 0 | 0 | 660 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 146 | 37 | | | 146 | | | | |
| A-B | 0 | 0 | | | 0 | | | | |
| A-C | 151 | 38 | | | 151 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 22 | 5 | 648 | 0.033 | 22 | 0.0 | 0.0 | 6.194 | A |
| C-AB | 0 | 0 | 667 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 120 | 30 | | | 120 | | | | |
| A-B | 0 | 0 | | | 0 | | | | |
| A-C | 123 | 31 | | | 123 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 18 | 5 | 655 | 0.028 | 18 | 0.0 | 0.0 | 6.090 | A |
| C-AB | 0 | 0 | 672 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 100 | 25 | | | 100 | | | | |
| A-B | 0 | 0 | | | 0 | | | | |
| A-C | 103 | 26 | | | 103 | | | | |

# 2033 With Operational Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/Site Access Junction | T-Junction | Two-way | | 1.90 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D14 | 2033 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 126 | 100.000 |
| B | | ONE HOUR | ✓ | 89 | 100.000 |
| C | | ONE HOUR | ✓ | 122 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 1 | 125 |
| | B | 33 | 0 | 56 |
| | C | 121 | 1 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.15 | 7.11 | 0.2 | A | 82 | 123 |
| C-AB | 0.00 | 5.31 | 0.0 | A | 1 | 2 |
| C-A | | | | | 111 | 166 |
| A-B | | | | | 0.92 | 1 |
| A-C | | | | | 115 | 172 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 67 | 17 | 659 | 0.102 | 67 | 0.0 | 0.1 | 6.542 | A |
| C-AB | 0.86 | 0.22 | 731 | 0.001 | 0.85 | 0.0 | 0.0 | 5.312 | A |
| C-A | 91 | 23 | | | 91 | | | | |
| A-B | 0.75 | 0.19 | | | 0.75 | | | | |
| A-C | 94 | 24 | | | 94 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 80 | 20 | 653 | 0.123 | 80 | 0.1 | 0.1 | 6.773 | A |
| C-AB | 1 | 0.26 | 738 | 0.001 | 1 | 0.0 | 0.0 | 5.266 | A |
| C-A | 109 | 27 | | | 109 | | | | |
| A-B | 0.90 | 0.22 | | | 0.90 | | | | |
| A-C | 112 | 28 | | | 112 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 98 | 24 | 644 | 0.152 | 98 | 0.1 | 0.2 | 7.109 | A |
| C-AB | 1 | 0.34 | 747 | 0.002 | 1 | 0.0 | 0.0 | 5.202 | A |
| C-A | 133 | 33 | | | 133 | | | | |
| A-B | 1 | 0.28 | | | 1 | | | | |
| A-C | 138 | 34 | | | 138 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 98 | 24 | 644 | 0.152 | 98 | 0.2 | 0.2 | 7.112 | A |
| C-AB | 1 | 0.34 | 747 | 0.002 | 1 | 0.0 | 0.0 | 5.204 | A |
| C-A | 133 | 33 | | | 133 | | | | |
| A-B | 1 | 0.28 | | | 1 | | | | |
| A-C | 138 | 34 | | | 138 | | | | |

## 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 80 | 20 | 653 | 0.123 | 80 | 0.2 | 0.2 | 6.782 | A |
| C-AB | 1 | 0.26 | 738 | 0.001 | 1 | 0.0 | 0.0 | 5.268 | A |
| C-A | 109 | 27 | | | 109 | | | | |
| A-B | 0.90 | 0.22 | | | 0.90 | | | | |
| A-C | 112 | 28 | | | 112 | | | | |

## 18:00 - 18:15

| | Total Demand | Junction | Capacity | | Throughput | Start queue | End queue | | Unsignalised |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 67 | 17 | 659 | 0.102 | 67 | 0.2 | 0.1 | 6.555 | A |
| C-AB | 0.86 | 0.22 | 731 | 0.001 | 0.86 | 0.0 | 0.0 | 5.312 | A |
| C-A | 91 | 23 | | | 91 | | | | |
| A-B | 0.75 | 0.19 | | | 0.75 | | | | |
| A-C | 94 | 24 | | | 94 | | | | |

# 2038 With Operational Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/Site Access Junction | T-Junction | Two-way | | 1.87 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D15 | 2038 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 130 | 100.000 |
| B | | ONE HOUR | ✓ | 90 | 100.000 |
| C | | ONE HOUR | ✓ | 126 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 1 | 129 |
| | B | 33 | 0 | 57 |
| | C | 125 | 1 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.15 | 7.14 | 0.2 | A | 83 | 124 |
| C-AB | 0.00 | 5.31 | 0.0 | A | 1 | 2 |
| C-A | | | | | 115 | 172 |
| A-B | | | | | 0.92 | 1 |
| A-C | | | | | 118 | 178 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 68 | 17 | 659 | 0.103 | 67 | 0.0 | 0.1 | 6.554 | A |
| C-AB | 0.86 | 0.22 | 732 | 0.001 | 0.86 | 0.0 | 0.0 | 5.304 | A |
| C-A | 94 | 23 | | | 94 | | | | |
| A-B | 0.75 | 0.19 | | | 0.75 | | | | |
| A-C | 97 | 24 | | | 97 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 81 | 20 | 652 | 0.124 | 81 | 0.1 | 0.2 | 6.791 | A |
| C-AB | 1 | 0.27 | 739 | 0.001 | 1 | 0.0 | 0.0 | 5.256 | A |
| C-A | 112 | 28 | | | 112 | | | | |
| A-B | 0.90 | 0.22 | | | 0.90 | | | | |
| A-C | 116 | 29 | | | 116 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 99 | 25 | 643 | 0.154 | 99 | 0.2 | 0.2 | 7.134 | A |
| C-AB | 1 | 0.34 | 749 | 0.002 | 1 | 0.0 | 0.0 | 5.190 | A |
| C-A | 137 | 34 | | | 137 | | | | |
| A-B | 1 | 0.28 | | | 1 | | | | |
| A-C | 142 | 36 | | | 142 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 99 | 25 | 643 | 0.154 | 99 | 0.2 | 0.2 | 7.137 | A |
| C-AB | 1 | 0.34 | 749 | 0.002 | 1 | 0.0 | 0.0 | 5.190 | A |
| C-A | 137 | 34 | | | 137 | | | | |
| A-B | 1 | 0.28 | | | 1 | | | | |
| A-C | 142 | 36 | | | 142 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 81 | 20 | 652 | 0.124 | 81 | 0.2 | 0.2 | 6.800 | A |
| C-AB | 1 | 0.27 | 739 | 0.001 | 1 | 0.0 | 0.0 | 5.256 | A |
| C-A | 112 | 28 | | | 112 | | | | |
| A-B | 0.90 | 0.22 | | | 0.90 | | | | |
| A-C | 116 | 29 | | | 116 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 68 | 17 | 659 | 0.103 | 68 | 0.2 | 0.1 | 6.567 | A |
| C-AB | 0.86 | 0.22 | 732 | 0.001 | 0.87 | 0.0 | 0.0 | 5.306 | A |
| C-A | 94 | 23 | | | 94 | | | | |
| A-B | 0.75 | 0.19 | | | 0.75 | | | | |
| A-C | 97 | 24 | | | 97 | | | | |

# 2048 With Operational Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/Site Access Junction | T-Junction | Two-way | | 1.82 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D16 | 2048 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 138 | 100.000 |
| B | | ONE HOUR | ✓ | 91 | 100.000 |
| C | | ONE HOUR | ✓ | 134 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 1 | 137 |
| | B | 33 | 0 | 58 |
| | C | 133 | 1 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.16 | 7.18 | 0.2 | A | 84 | 125 |
| C-AB | 0.00 | 5.29 | 0.0 | A | 1 | 2 |
| C-A | | | | | 122 | 183 |
| A-B | | | | | 0.92 | 1 |
| A-C | | | | | 126 | 189 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 69 | 17 | 657 | 0.104 | 68 | 0.0 | 0.1 | 6.579 | A |
| C-AB | 0.87 | 0.22 | 735 | 0.001 | 0.87 | 0.0 | 0.0 | 5.287 | A |
| C-A | 100 | 25 | | | 100 | | | | |
| A-B | 0.75 | 0.19 | | | 0.75 | | | | |
| A-C | 103 | 26 | | | 103 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 82 | 20 | 650 | 0.126 | 82 | 0.1 | 0.2 | 6.824 | A |
| C-AB | 1 | 0.27 | 742 | 0.001 | 1 | 0.0 | 0.0 | 5.236 | A |
| C-A | 119 | 30 | | | 119 | | | | |
| A-B | 0.90 | 0.22 | | | 0.90 | | | | |
| A-C | 123 | 31 | | | 123 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 100 | 25 | 640 | 0.156 | 100 | 0.2 | 0.2 | 7.181 | A |
| C-AB | 1 | 0.34 | 752 | 0.002 | 1 | 0.0 | 0.0 | 5.166 | A |
| C-A | 146 | 37 | | | 146 | | | | |
| A-B | 1 | 0.28 | | | 1 | | | | |
| A-C | 151 | 38 | | | 151 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 100 | 25 | 640 | 0.156 | 100 | 0.2 | 0.2 | 7.184 | A |
| C-AB | 1 | 0.34 | 752 | 0.002 | 1 | 0.0 | 0.0 | 5.166 | A |
| C-A | 146 | 37 | | | 146 | | | | |
| A-B | 1 | 0.28 | | | 1 | | | | |
| A-C | 151 | 38 | | | 151 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 82 | 20 | 650 | 0.126 | 82 | 0.2 | 0.2 | 6.830 | A |
| C-AB | 1 | 0.27 | 742 | 0.001 | 1 | 0.0 | 0.0 | 5.238 | A |
| C-A | 119 | 30 | | | 119 | | | | |
| A-B | 0.90 | 0.22 | | | 0.90 | | | | |
| A-C | 123 | 31 | | | 123 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 69 | 17 | 657 | 0.104 | 69 | 0.2 | 0.1 | 6.595 | A |
| C-AB | 0.87 | 0.22 | 735 | 0.001 | 0.87 | 0.0 | 0.0 | 5.287 | A |
| C-A | 100 | 25 | | | 100 | | | | |
| A-B | 0.75 | 0.19 | | | 0.75 | | | | |
| A-C | 103 | 26 | | | 103 | | | | |

# Junctions 9

## PICADY 9 - Priority Intersection Module



**Filename:** L51251.j9
**Path:** \\192.168.1.33 \ttrsa\projects\T241206_Westmeath_Admiral_Datacentre_Solar_Farm_EIAR_MMP_S1_RSA\eiar_chapter\modelling\L51251
**Report generation date:** 08/07/2025 11:23:48

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»2029 Without Development, AM
»2029 With Construction, AM
»2033 Without Development, AM
»2038 Without Development, AM
»2048 Without Development, AM
»2033 With Operational Development, AM
»2038 With Operational Development, AM
»2048 With Operational Development, AM
»2029 Without Development, PM
»2029 With Construction, PM
»2033 Without Development, PM
»2038 Without Development, PM
»2048 Without Development, PM
»2033 With Operational Development, PM
»2038 With Operational Development, PM
»2048 With Operational Development, PM

## Summary of junction performance

| | AM | | | | | PM | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Set ID | Queue (PCU) | Delay (s) | RFC | LOS | Set ID | Queue (PCU) | Delay (s) | RFC | LOS |
| | 2029 Without Development | | | | | | | | | |
| Stream B-AC | D1 | 0.0 | 8.43 | 0.02 | A | D9 | 0.0 | 9.07 | 0.03 | A |
| Stream C-AB | | 0.0 | 0.00 | 0.00 | A | | 0.0 | 5.33 | 0.01 | A |
| | 2029 With Construction | | | | | | | | | |
| Stream B-AC | D2 | 0.0 | 8.42 | 0.03 | A | D10 | 0.0 | 9.30 | 0.03 | A |
| Stream C-AB | | 0.0 | 0.00 | 0.00 | A | | 0.0 | 5.09 | 0.01 | A |
| | 2033 Without Development | | | | | | | | | |
| Stream B-AC | D3 | 0.0 | 8.54 | 0.03 | A | D11 | 0.0 | 9.09 | 0.03 | A |
| Stream C-AB | | 0.0 | 0.00 | 0.00 | A | | 0.0 | 5.32 | 0.01 | A |
| | 2038 Without Development | | | | | | | | | |
| Stream B-AC | D4 | 0.0 | 8.56 | 0.03 | A | D12 | 0.0 | 9.13 | 0.03 | A |
| Stream C-AB | | 0.0 | 0.00 | 0.00 | A | | 0.0 | 5.31 | 0.01 | A |
| | 2048 Without Development | | | | | | | | | |
| Stream B-AC | D5 | 0.0 | 8.48 | 0.03 | A | D13 | 0.0 | 9.24 | 0.03 | A |
| Stream C-AB | | 0.0 | 0.00 | 0.00 | A | | 0.0 | 5.29 | 0.01 | A |
| | 2033 With Operational Development | | | | | | | | | |
| Stream B-AC | D6 | 0.0 | 8.50 | 0.03 | A | D14 | 0.0 | 9.17 | 0.03 | A |
| Stream C-AB | | 0.0 | 0.00 | 0.00 | A | | 0.0 | 5.25 | 0.01 | A |
| | 2038 With Operational Development | | | | | | | | | |
| Stream B-AC | D7 | 0.0 | 8.53 | 0.03 | A | D15 | 0.0 | 9.21 | 0.03 | A |
| Stream C-AB | | 0.0 | 0.00 | 0.00 | A | | 0.0 | 5.24 | 0.01 | A |
| | 2048 With Operational Development | | | | | | | | | |
| Stream B-AC | D8 | 0.0 | 8.57 | 0.03 | A | D16 | 0.0 | 9.33 | 0.03 | A |
| Stream C-AB | | 0.0 | 0.00 | 0.00 | A | | 0.0 | 5.22 | 0.01 | A |

*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 | Admiral |
| Location | R446/L51251 Junction |
| Site number | |
| Date | 08/07/2025 |
| Version | EIAR |
| Status | Final |
| Identifier | |
| Client | Halston |
| Jobnumber | 241206 |
| Enumerator | TTRSA |
| 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 | Calculate residual capacity | RFC Threshold | Average Delay threshold (s) | Queue threshold (PCU) |
|---|---|---|---|---|---|---|
| 5.75 | | | | 0.85 | 36.00 | 20.00 |

## Demand Set Summary

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D1 | 2029 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D2 | 2029 With Construction | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D3 | 2033 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D4 | 2038 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D5 | 2048 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D6 | 2033 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D7 | 2038 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D8 | 2048 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D9 | 2029 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D10 | 2029 With Construction | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D11 | 2033 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D12 | 2038 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D13 | 2048 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D14 | 2033 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D15 | 2038 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D16 | 2048 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

## Analysis Set Details

| ID | Include in report | Network flow scaling factor (%) | Network capacity scaling factor (%) |
|---|---|---|---|
| A1 | ✓ | 100.000 | 100.000 |

# 2029 Without Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L51251 Junction | T-Junction | Two-way | | 0.36 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Arms

### Arms

| Arm | Name | Description | Arm type |
|---|---|---|---|
| A | R446 to/from East | | Major |
| B | L51251 Local Road | | Minor |
| C | R446 to/from West | | Major |

### Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Has right turn bay | Visibility for right turn (m) | Blocks? | Blocking queue (PCU) |
|---|---|---|---|---|---|---|
| C | 7.30 | | | 215.0 | ✓ | 0.00 |

*Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.*

### Minor Arm Geometry

| Arm | Minor arm type | Lane width (m) | Visibility to left (m) | Visibility to right (m) |
|---|---|---|---|---|
| B | One lane | 2.50 | 18 | 32 |

### Slope / Intercept / Capacity

#### Priority Intersection Slopes and Intercepts

| Stream | Intercept (PCU/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|---|---|---|---|---|---|
| B-A | 474 | 0.081 | 0.206 | 0.130 | 0.294 |
| B-C | 612 | 0.088 | 0.224 | - | - |
| C-B | 698 | 0.255 | 0.255 | - | - |

*The slopes and intercepts shown above do NOT include any corrections or adjustments.*

*Streams may be combined, in which case capacity will be adjusted.*

*Values are shown for the first time segment only; they may differ for subsequent time segments.*

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D1 | 2029 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

## Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 99 | 100.000 |
| B | | ONE HOUR | ✓ | 10 | 100.000 |
| C | | ONE HOUR | ✓ | 124 | 100.000 |

# Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 4 | 95 |
| | B | 7 | 0 | 3 |
| | C | 124 | 0 | 0 |

# Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.02 | 8.43 | 0.0 | A | 9 | 14 |
| C-AB | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-A | | | | | 114 | 171 |
| A-B | | | | | 4 | 6 |
| A-C | | | | | 87 | 131 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 483 | 0.016 | 7 | 0.0 | 0.0 | 8.156 | A |
| C-AB | 0 | 0 | 679 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 93 | 23 | | | 93 | | | | |
| A-B | 3 | 0.75 | | | 3 | | | | |
| A-C | 72 | 18 | | | 72 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 478 | 0.019 | 9 | 0.0 | 0.0 | 8.268 | A |
| C-AB | 0 | 0 | 676 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 111 | 28 | | | 111 | | | | |
| A-B | 4 | 0.90 | | | 4 | | | | |
| A-C | 85 | 21 | | | 85 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 471 | 0.023 | 11 | 0.0 | 0.0 | 8.427 | A |
| C-AB | 0 | 0 | 671 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 137 | 34 | | | 137 | | | | |
| A-B | 4 | 1 | | | 4 | | | | |
| A-C | 105 | 26 | | | 105 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 471 | 0.023 | 11 | 0.0 | 0.0 | 8.427 | A |
| C-AB | 0 | 0 | 671 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 137 | 34 | | | 137 | | | | |
| A-B | 4 | 1 | | | 4 | | | | |
| A-C | 105 | 26 | | | 105 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 478 | 0.019 | 9 | 0.0 | 0.0 | 8.271 | A |
| C-AB | 0 | 0 | 676 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 111 | 28 | | | 111 | | | | |
| A-B | 4 | 0.90 | | | 4 | | | | |
| A-C | 85 | 21 | | | 85 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 483 | 0.016 | 8 | 0.0 | 0.0 | 8.159 | A |
| C-AB | 0 | 0 | 679 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 93 | 23 | | | 93 | | | | |
| A-B | 3 | 0.75 | | | 3 | | | | |
| A-C | 72 | 18 | | | 72 | | | | |

# 2029 With Construction, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L51251 Junction | T-Junction | Two-way | | 0.35 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D2 | 2029 With Construction | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 126 | 100.000 |
| B | | ONE HOUR | ✓ | 11 | 100.000 |
| C | | ONE HOUR | ✓ | 130 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 4 | 122 |
| | B | 7 | 0 | 4 |
| | C | 130 | 0 | 0 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.03 | 8.42 | 0.0 | A | 10 | 15 |
| C-AB | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-A | | | | | 119 | 179 |
| A-B | | | | | 4 | 6 |
| A-C | | | | | 112 | 168 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 487 | 0.017 | 8 | 0.0 | 0.0 | 8.107 | A |
| C-AB | 0 | 0 | 674 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 98 | 24 | | | 98 | | | | |
| A-B | 3 | 0.75 | | | 3 | | | | |
| A-C | 92 | 23 | | | 92 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 10 | 2 | 481 | 0.021 | 10 | 0.0 | 0.0 | 8.235 | A |
| C-AB | 0 | 0 | 670 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 117 | 29 | | | 117 | | | | |
| A-B | 4 | 0.90 | | | 4 | | | | |
| A-C | 110 | 27 | | | 110 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 12 | 3 | 473 | 0.026 | 12 | 0.0 | 0.0 | 8.418 | A |
| C-AB | 0 | 0 | 663 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 143 | 36 | | | 143 | | | | |
| A-B | 4 | 1 | | | 4 | | | | |
| A-C | 134 | 34 | | | 134 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 12 | 3 | 473 | 0.026 | 12 | 0.0 | 0.0 | 8.418 | A |
| C-AB | 0 | 0 | 663 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 143 | 36 | | | 143 | | | | |
| A-B | 4 | 1 | | | 4 | | | | |
| A-C | 134 | 34 | | | 134 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 10 | 2 | 481 | 0.021 | 10 | 0.0 | 0.0 | 8.236 | A |
| C-AB | 0 | 0 | 670 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 117 | 29 | | | 117 | | | | |
| A-B | 4 | 0.90 | | | 4 | | | | |
| A-C | 110 | 27 | | | 110 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 487 | 0.017 | 8 | 0.0 | 0.0 | 8.109 | A |
| C-AB | 0 | 0 | 674 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 98 | 24 | | | 98 | | | | |
| A-B | 3 | 0.75 | | | 3 | | | | |
| A-C | 92 | 23 | | | 92 | | | | |

# 2033 Without Development, AM

## Data Errors and Warnings

*No errors or warnings*

# Junction Network

## Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L51251 Junction | T-Junction | Two-way | | 0.39 | A |

## Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

# Traffic Demand

## Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D3 | 2033 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

## Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 102 | 100.000 |
| B | | ONE HOUR | ✓ | 11 | 100.000 |
| C | | ONE HOUR | ✓ | 128 | 100.000 |

# Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 4 | 98 |
| | B | 8 | 0 | 3 |
| | C | 128 | 0 | 0 |

# Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.03 | 8.54 | 0.0 | A | 10 | 15 |
| C-AB | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-A | | | | | 117 | 176 |
| A-B | | | | | 4 | 6 |
| A-C | | | | | 90 | 135 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 479 | 0.017 | 8 | 0.0 | 0.0 | 8.244 | A |
| C-AB | 0 | 0 | 679 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 96 | 24 | | | 96 | | | | |
| A-B | 3 | 0.75 | | | 3 | | | | |
| A-C | 74 | 18 | | | 74 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 10 | 2 | 474 | 0.021 | 10 | 0.0 | 0.0 | 8.365 | A |
| C-AB | 0 | 0 | 675 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 115 | 29 | | | 115 | | | | |
| A-B | 4 | 0.90 | | | 4 | | | | |
| A-C | 88 | 22 | | | 88 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 12 | 3 | 467 | 0.026 | 12 | 0.0 | 0.0 | 8.536 | A |
| C-AB | 0 | 0 | 670 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 141 | 35 | | | 141 | | | | |
| A-B | 4 | 1 | | | 4 | | | | |
| A-C | 108 | 27 | | | 108 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 12 | 3 | 467 | 0.026 | 12 | 0.0 | 0.0 | 8.536 | A |
| C-AB | 0 | 0 | 670 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 141 | 35 | | | 141 | | | | |
| A-B | 4 | 1 | | | 4 | | | | |
| A-C | 108 | 27 | | | 108 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 10 | 2 | 474 | 0.021 | 10 | 0.0 | 0.0 | 8.367 | A |
| C-AB | 0 | 0 | 675 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 115 | 29 | | | 115 | | | | |
| A-B | 4 | 0.90 | | | 4 | | | | |
| A-C | 88 | 22 | | | 88 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 479 | 0.017 | 8 | 0.0 | 0.0 | 8.246 | A |
| C-AB | 0 | 0 | 679 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 96 | 24 | | | 96 | | | | |
| A-B | 3 | 0.75 | | | 3 | | | | |
| A-C | 74 | 18 | | | 74 | | | | |

# 2038 Without Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L51251 Junction | T-Junction | Two-way | | 0.38 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D4 | 2038 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 106 | 100.000 |
| B | | ONE HOUR | ✓ | 11 | 100.000 |
| C | | ONE HOUR | ✓ | 132 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 5 | 101 |
| | B | 8 | 0 | 3 |
| | C | 132 | 0 | 0 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.03 | 8.56 | 0.0 | A | 10 | 15 |
| C-AB | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-A | | | | | 121 | 182 |
| A-B | | | | | 5 | 7 |
| A-C | | | | | 93 | 139 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 478 | 0.017 | 8 | 0.0 | 0.0 | 8.259 | A |
| C-AB | 0 | 0 | 678 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 99 | 25 | | | 99 | | | | |
| A-B | 4 | 0.94 | | | 4 | | | | |
| A-C | 76 | 19 | | | 76 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 10 | 2 | 473 | 0.021 | 10 | 0.0 | 0.0 | 8.384 | A |
| C-AB | 0 | 0 | 674 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 119 | 30 | | | 119 | | | | |
| A-B | 4 | 1 | | | 4 | | | | |
| A-C | 91 | 23 | | | 91 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 12 | 3 | 465 | 0.026 | 12 | 0.0 | 0.0 | 8.560 | A |
| C-AB | 0 | 0 | 669 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 145 | 36 | | | 145 | | | | |
| A-B | 6 | 1 | | | 6 | | | | |
| A-C | 111 | 28 | | | 111 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 12 | 3 | 465 | 0.026 | 12 | 0.0 | 0.0 | 8.560 | A |
| C-AB | 0 | 0 | 669 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 145 | 36 | | | 145 | | | | |
| A-B | 6 | 1 | | | 6 | | | | |
| A-C | 111 | 28 | | | 111 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 10 | 2 | 473 | 0.021 | 10 | 0.0 | 0.0 | 8.385 | A |
| C-AB | 0 | 0 | 674 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 119 | 30 | | | 119 | | | | |
| A-B | 4 | 1 | | | 4 | | | | |
| A-C | 91 | 23 | | | 91 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 478 | 0.017 | 8 | 0.0 | 0.0 | 8.263 | A |
| C-AB | 0 | 0 | 678 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 99 | 25 | | | 99 | | | | |
| A-B | 4 | 0.94 | | | 4 | | | | |
| A-C | 76 | 19 | | | 76 | | | | |

# 2048 Without Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L51251 Junction | T-Junction | Two-way | | 0.38 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D5 | 2048 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 113 | 100.000 |
| B | | ONE HOUR | ✓ | 12 | 100.000 |
| C | | ONE HOUR | ✓ | 140 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 5 | 108 |
| | B | 8 | 0 | 4 |
| | C | 140 | 0 | 0 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.03 | 8.48 | 0.0 | A | 11 | 17 |
| C-AB | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-A | | | | | 128 | 193 |
| A-B | | | | | 5 | 7 |
| A-C | | | | | 99 | 149 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 484 | 0.019 | 9 | 0.0 | 0.0 | 8.165 | A |
| C-AB | 0 | 0 | 677 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 105 | 26 | | | 105 | | | | |
| A-B | 4 | 0.94 | | | 4 | | | | |
| A-C | 81 | 20 | | | 81 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 479 | 0.023 | 11 | 0.0 | 0.0 | 8.294 | A |
| C-AB | 0 | 0 | 673 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 126 | 31 | | | 126 | | | | |
| A-B | 4 | 1 | | | 4 | | | | |
| A-C | 97 | 24 | | | 97 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 13 | 3 | 471 | 0.028 | 13 | 0.0 | 0.0 | 8.477 | A |
| C-AB | 0 | 0 | 667 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 154 | 39 | | | 154 | | | | |
| A-B | 6 | 1 | | | 6 | | | | |
| A-C | 119 | 30 | | | 119 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 13 | 3 | 471 | 0.028 | 13 | 0.0 | 0.0 | 8.477 | A |
| C-AB | 0 | 0 | 667 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 154 | 39 | | | 154 | | | | |
| A-B | 6 | 1 | | | 6 | | | | |
| A-C | 119 | 30 | | | 119 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 479 | 0.023 | 11 | 0.0 | 0.0 | 8.296 | A |
| C-AB | 0 | 0 | 673 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 126 | 31 | | | 126 | | | | |
| A-B | 4 | 1 | | | 4 | | | | |
| A-C | 97 | 24 | | | 97 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 484 | 0.019 | 9 | 0.0 | 0.0 | 8.168 | A |
| C-AB | 0 | 0 | 677 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 105 | 26 | | | 105 | | | | |
| A-B | 4 | 0.94 | | | 4 | | | | |
| A-C | 81 | 20 | | | 81 | | | | |

# 2033 With Operational Development, AM

## Data Errors and Warnings

*No errors or warnings*

# Junction Network

## Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L51251 Junction | T-Junction | Two-way | | 0.39 | A |

## Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

# Traffic Demand

## Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D6 | 2033 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

## Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 122 | 100.000 |
| B | | ONE HOUR | ✓ | 12 | 100.000 |
| C | | ONE HOUR | ✓ | 130 | 100.000 |

# Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 4 | 118 |
| | B | 8 | 0 | 4 |
| | C | 130 | 0 | 0 |

# Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.03 | 8.50 | 0.0 | A | 11 | 17 |
| C-AB | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-A | | | | | 119 | 179 |
| A-B | | | | | 4 | 6 |
| A-C | | | | | 108 | 162 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 483 | 0.019 | 9 | 0.0 | 0.0 | 8.178 | A |
| C-AB | 0 | 0 | 675 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 98 | 24 | | | 98 | | | | |
| A-B | 3 | 0.75 | | | 3 | | | | |
| A-C | 89 | 22 | | | 89 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 478 | 0.023 | 11 | 0.0 | 0.0 | 8.310 | A |
| C-AB | 0 | 0 | 670 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 117 | 29 | | | 117 | | | | |
| A-B | 4 | 0.90 | | | 4 | | | | |
| A-C | 106 | 27 | | | 106 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 13 | 3 | 470 | 0.028 | 13 | 0.0 | 0.0 | 8.497 | A |
| C-AB | 0 | 0 | 664 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 143 | 36 | | | 143 | | | | |
| A-B | 4 | 1 | | | 4 | | | | |
| A-C | 130 | 32 | | | 130 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 13 | 3 | 470 | 0.028 | 13 | 0.0 | 0.0 | 8.497 | A |
| C-AB | 0 | 0 | 664 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 143 | 36 | | | 143 | | | | |
| A-B | 4 | 1 | | | 4 | | | | |
| A-C | 130 | 32 | | | 130 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 478 | 0.023 | 11 | 0.0 | 0.0 | 8.311 | A |
| C-AB | 0 | 0 | 670 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 117 | 29 | | | 117 | | | | |
| A-B | 4 | 0.90 | | | 4 | | | | |
| A-C | 106 | 27 | | | 106 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 483 | 0.019 | 9 | 0.0 | 0.0 | 8.180 | A |
| C-AB | 0 | 0 | 675 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 98 | 24 | | | 98 | | | | |
| A-B | 3 | 0.75 | | | 3 | | | | |
| A-C | 89 | 22 | | | 89 | | | | |

# 2038 With Operational Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L51251 Junction | T-Junction | Two-way | | 0.37 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D7 | 2038 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 127 | 100.000 |
| B | | ONE HOUR | ✓ | 12 | 100.000 |
| C | | ONE HOUR | ✓ | 134 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 5 | 122 |
| | B | 8 | 0 | 4 |
| | C | 134 | 0 | 0 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.03 | 8.53 | 0.0 | A | 11 | 17 |
| C-AB | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-A | | | | | 123 | 184 |
| A-B | | | | | 5 | 7 |
| A-C | | | | | 112 | 168 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 482 | 0.019 | 9 | 0.0 | 0.0 | 8.195 | A |
| C-AB | 0 | 0 | 674 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 101 | 25 | | | 101 | | | | |
| A-B | 4 | 0.94 | | | 4 | | | | |
| A-C | 92 | 23 | | | 92 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 477 | 0.023 | 11 | 0.0 | 0.0 | 8.331 | A |
| C-AB | 0 | 0 | 669 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 120 | 30 | | | 120 | | | | |
| A-B | 4 | 1 | | | 4 | | | | |
| A-C | 110 | 27 | | | 110 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 13 | 3 | 468 | 0.028 | 13 | 0.0 | 0.0 | 8.525 | A |
| C-AB | 0 | 0 | 663 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 148 | 37 | | | 148 | | | | |
| A-B | 6 | 1 | | | 6 | | | | |
| A-C | 134 | 34 | | | 134 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 13 | 3 | 468 | 0.028 | 13 | 0.0 | 0.0 | 8.525 | A |
| C-AB | 0 | 0 | 663 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 148 | 37 | | | 148 | | | | |
| A-B | 6 | 1 | | | 6 | | | | |
| A-C | 134 | 34 | | | 134 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 477 | 0.023 | 11 | 0.0 | 0.0 | 8.332 | A |
| C-AB | 0 | 0 | 669 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 120 | 30 | | | 120 | | | | |
| A-B | 4 | 1 | | | 4 | | | | |
| A-C | 110 | 27 | | | 110 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 482 | 0.019 | 9 | 0.0 | 0.0 | 8.199 | A |
| C-AB | 0 | 0 | 674 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 101 | 25 | | | 101 | | | | |
| A-B | 4 | 0.94 | | | 4 | | | | |
| A-C | 92 | 23 | | | 92 | | | | |

# 2048 With Operational Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L51251 Junction | T-Junction | Two-way | | 0.36 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D8 | 2048 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 133 | 100.000 |
| B | | ONE HOUR | ✓ | 12 | 100.000 |
| C | | ONE HOUR | ✓ | 143 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 5 | 128 |
| | B | 8 | 0 | 4 |
| | C | 143 | 0 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.03 | 8.57 | 0.0 | A | 11 | 17 |
| C-AB | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-A | | | | | 131 | 197 |
| A-B | | | | | 5 | 7 |
| A-C | | | | | 117 | 176 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 481 | 0.019 | 9 | 0.0 | 0.0 | 8.224 | A |
| C-AB | 0 | 0 | 673 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 108 | 27 | | | 108 | | | | |
| A-B | 4 | 0.94 | | | 4 | | | | |
| A-C | 96 | 24 | | | 96 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 475 | 0.023 | 11 | 0.0 | 0.0 | 8.367 | A |
| C-AB | 0 | 0 | 668 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 129 | 32 | | | 129 | | | | |
| A-B | 4 | 1 | | | 4 | | | | |
| A-C | 115 | 29 | | | 115 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 13 | 3 | 466 | 0.028 | 13 | 0.0 | 0.0 | 8.571 | A |
| C-AB | 0 | 0 | 661 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 157 | 39 | | | 157 | | | | |
| A-B | 6 | 1 | | | 6 | | | | |
| A-C | 141 | 35 | | | 141 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 13 | 3 | 466 | 0.028 | 13 | 0.0 | 0.0 | 8.571 | A |
| C-AB | 0 | 0 | 661 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 157 | 39 | | | 157 | | | | |
| A-B | 6 | 1 | | | 6 | | | | |
| A-C | 141 | 35 | | | 141 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 475 | 0.023 | 11 | 0.0 | 0.0 | 8.368 | A |
| C-AB | 0 | 0 | 668 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 129 | 32 | | | 129 | | | | |
| A-B | 4 | 1 | | | 4 | | | | |
| A-C | 115 | 29 | | | 115 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 481 | 0.019 | 9 | 0.0 | 0.0 | 8.228 | A |
| C-AB | 0 | 0 | 673 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-A | 108 | 27 | | | 108 | | | | |
| A-B | 4 | 0.94 | | | 4 | | | | |
| A-C | 96 | 24 | | | 96 | | | | |

# 2029 Without Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L51251 Junction | T-Junction | Two-way | | 0.41 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D9 | 2029 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 131 | 100.000 |
| B | | ONE HOUR | ✓ | 10 | 100.000 |
| C | | ONE HOUR | ✓ | 126 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 11 | 120 |
| | B | 9 | 0 | 1 |
| | C | 123 | 3 | 0 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.03 | 9.07 | 0.0 | A | 9 | 14 |
| C-AB | 0.01 | 5.33 | 0.0 | A | 3 | 5 |
| C-A | | | | | 112 | 169 |
| A-B | | | | | 10 | 15 |
| A-C | | | | | 110 | 165 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 454 | 0.017 | 7 | 0.0 | 0.0 | 8.697 | A |
| C-AB | 3 | 0.65 | 731 | 0.004 | 3 | 0.0 | 0.0 | 5.325 | A |
| C-A | 92 | 23 | | | 92 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 90 | 23 | | | 90 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 448 | 0.020 | 9 | 0.0 | 0.0 | 8.849 | A |
| C-AB | 3 | 0.79 | 738 | 0.004 | 3 | 0.0 | 0.0 | 5.281 | A |
| C-A | 110 | 28 | | | 110 | | | | |
| A-B | 10 | 2 | | | 10 | | | | |
| A-C | 108 | 27 | | | 108 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 439 | 0.025 | 11 | 0.0 | 0.0 | 9.066 | A |
| C-AB | 4 | 1 | 747 | 0.005 | 4 | 0.0 | 0.0 | 5.220 | A |
| C-A | 135 | 34 | | | 135 | | | | |
| A-B | 12 | 3 | | | 12 | | | | |
| A-C | 132 | 33 | | | 132 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 439 | 0.025 | 11 | 0.0 | 0.0 | 9.066 | A |
| C-AB | 4 | 1 | 747 | 0.005 | 4 | 0.0 | 0.0 | 5.222 | A |
| C-A | 135 | 34 | | | 135 | | | | |
| A-B | 12 | 3 | | | 12 | | | | |
| A-C | 132 | 33 | | | 132 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 448 | 0.020 | 9 | 0.0 | 0.0 | 8.852 | A |
| C-AB | 3 | 0.79 | 738 | 0.004 | 3 | 0.0 | 0.0 | 5.283 | A |
| C-A | 110 | 28 | | | 110 | | | | |
| A-B | 10 | 2 | | | 10 | | | | |
| A-C | 108 | 27 | | | 108 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 454 | 0.017 | 8 | 0.0 | 0.0 | 8.699 | A |
| C-AB | 3 | 0.65 | 731 | 0.004 | 3 | 0.0 | 0.0 | 5.327 | A |
| C-A | 92 | 23 | | | 92 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 90 | 23 | | | 90 | | | | |

# 2029 With Construction, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L51251 Junction | T-Junction | Two-way | | 0.37 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D10 | 2029 With Construction | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 131 | 100.000 |
| B | | ONE HOUR | ✓ | 10 | 100.000 |
| C | | ONE HOUR | ✓ | 204 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 11 | 120 |
| | B | 9 | 0 | 1 |
| | C | 199 | 5 | 0 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.03 | 9.30 | 0.0 | A | 9 | 14 |
| C-AB | 0.01 | 5.09 | 0.0 | A | 6 | 9 |
| C-A | | | | | 181 | 272 |
| A-B | | | | | 10 | 15 |
| A-C | | | | | 110 | 165 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 446 | 0.017 | 7 | 0.0 | 0.0 | 8.845 | A |
| C-AB | 5 | 1 | 767 | 0.006 | 5 | 0.0 | 0.0 | 5.089 | A |
| C-A | 149 | 37 | | | 149 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 90 | 23 | | | 90 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 439 | 0.021 | 9 | 0.0 | 0.0 | 9.033 | A |
| C-AB | 6 | 1 | 781 | 0.007 | 6 | 0.0 | 0.0 | 5.006 | A |
| C-A | 178 | 44 | | | 178 | | | | |
| A-B | 10 | 2 | | | 10 | | | | |
| A-C | 108 | 27 | | | 108 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 428 | 0.026 | 11 | 0.0 | 0.0 | 9.303 | A |
| C-AB | 8 | 2 | 800 | 0.009 | 8 | 0.0 | 0.0 | 4.895 | A |
| C-A | 217 | 54 | | | 217 | | | | |
| A-B | 12 | 3 | | | 12 | | | | |
| A-C | 132 | 33 | | | 132 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 428 | 0.026 | 11 | 0.0 | 0.0 | 9.303 | A |
| C-AB | 8 | 2 | 800 | 0.009 | 8 | 0.0 | 0.0 | 4.897 | A |
| C-A | 217 | 54 | | | 217 | | | | |
| A-B | 12 | 3 | | | 12 | | | | |
| A-C | 132 | 33 | | | 132 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 439 | 0.021 | 9 | 0.0 | 0.0 | 9.035 | A |
| C-AB | 6 | 1 | 781 | 0.007 | 6 | 0.0 | 0.0 | 5.006 | A |
| C-A | 178 | 44 | | | 178 | | | | |
| A-B | 10 | 2 | | | 10 | | | | |
| A-C | 108 | 27 | | | 108 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 446 | 0.017 | 8 | 0.0 | 0.0 | 8.847 | A |
| C-AB | 5 | 1 | 767 | 0.006 | 5 | 0.0 | 0.0 | 5.091 | A |
| C-A | 149 | 37 | | | 149 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 90 | 23 | | | 90 | | | | |

# 2033 Without Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L51251 Junction | T-Junction | Two-way | | 0.40 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D11 | 2033 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 135 | 100.000 |
| B | | ONE HOUR | ✓ | 10 | 100.000 |
| C | | ONE HOUR | ✓ | 129 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 11 | 124 |
| | B | 9 | 0 | 1 |
| | C | 126 | 3 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.03 | 9.09 | 0.0 | A | 9 | 14 |
| C-AB | 0.01 | 5.32 | 0.0 | A | 3 | 5 |
| C-A | | | | | 115 | 173 |
| A-B | | | | | 10 | 15 |
| A-C | | | | | 114 | 171 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 453 | 0.017 | 7 | 0.0 | 0.0 | 8.715 | A |
| C-AB | 3 | 0.65 | 732 | 0.004 | 3 | 0.0 | 0.0 | 5.320 | A |
| C-A | 95 | 24 | | | 95 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 93 | 23 | | | 93 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 446 | 0.020 | 9 | 0.0 | 0.0 | 8.871 | A |
| C-AB | 3 | 0.80 | 739 | 0.004 | 3 | 0.0 | 0.0 | 5.275 | A |
| C-A | 113 | 28 | | | 113 | | | | |
| A-B | 10 | 2 | | | 10 | | | | |
| A-C | 111 | 28 | | | 111 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 438 | 0.025 | 11 | 0.0 | 0.0 | 9.094 | A |
| C-AB | 4 | 1 | 748 | 0.005 | 4 | 0.0 | 0.0 | 5.213 | A |
| C-A | 138 | 34 | | | 138 | | | | |
| A-B | 12 | 3 | | | 12 | | | | |
| A-C | 137 | 34 | | | 137 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 438 | 0.025 | 11 | 0.0 | 0.0 | 9.094 | A |
| C-AB | 4 | 1 | 748 | 0.005 | 4 | 0.0 | 0.0 | 5.215 | A |
| C-A | 138 | 34 | | | 138 | | | | |
| A-B | 12 | 3 | | | 12 | | | | |
| A-C | 137 | 34 | | | 137 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 446 | 0.020 | 9 | 0.0 | 0.0 | 8.872 | A |
| C-AB | 3 | 0.80 | 739 | 0.004 | 3 | 0.0 | 0.0 | 5.275 | A |
| C-A | 113 | 28 | | | 113 | | | | |
| A-B | 10 | 2 | | | 10 | | | | |
| A-C | 111 | 28 | | | 111 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 453 | 0.017 | 8 | 0.0 | 0.0 | 8.719 | A |
| C-AB | 3 | 0.65 | 732 | 0.004 | 3 | 0.0 | 0.0 | 5.320 | A |
| C-A | 95 | 24 | | | 95 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 93 | 23 | | | 93 | | | | |

# 2038 Without Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L51251 Junction | T-Junction | Two-way | | 0.39 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D12 | 2038 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 139 | 100.000 |
| B | | ONE HOUR | ✓ | 10 | 100.000 |
| C | | ONE HOUR | ✓ | 134 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 11 | 128 |
| | B | 9 | 0 | 1 |
| | C | 131 | 3 | 0 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.03 | 9.13 | 0.0 | A | 9 | 14 |
| C-AB | 0.01 | 5.31 | 0.0 | A | 3 | 5 |
| C-A | | | | | 120 | 179 |
| A-B | | | | | 10 | 15 |
| A-C | | | | | 117 | 176 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 452 | 0.017 | 7 | 0.0 | 0.0 | 8.736 | A |
| C-AB | 3 | 0.65 | 734 | 0.004 | 3 | 0.0 | 0.0 | 5.308 | A |
| C-A | 98 | 25 | | | 98 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 96 | 24 | | | 96 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 445 | 0.020 | 9 | 0.0 | 0.0 | 8.897 | A |
| C-AB | 3 | 0.80 | 741 | 0.004 | 3 | 0.0 | 0.0 | 5.261 | A |
| C-A | 117 | 29 | | | 117 | | | | |
| A-B | 10 | 2 | | | 10 | | | | |
| A-C | 115 | 29 | | | 115 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 436 | 0.025 | 11 | 0.0 | 0.0 | 9.128 | A |
| C-AB | 4 | 1 | 751 | 0.005 | 4 | 0.0 | 0.0 | 5.196 | A |
| C-A | 143 | 36 | | | 143 | | | | |
| A-B | 12 | 3 | | | 12 | | | | |
| A-C | 141 | 35 | | | 141 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 436 | 0.025 | 11 | 0.0 | 0.0 | 9.128 | A |
| C-AB | 4 | 1 | 751 | 0.005 | 4 | 0.0 | 0.0 | 5.198 | A |
| C-A | 143 | 36 | | | 143 | | | | |
| A-B | 12 | 3 | | | 12 | | | | |
| A-C | 141 | 35 | | | 141 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 445 | 0.020 | 9 | 0.0 | 0.0 | 8.900 | A |
| C-AB | 3 | 0.80 | 741 | 0.004 | 3 | 0.0 | 0.0 | 5.263 | A |
| C-A | 117 | 29 | | | 117 | | | | |
| A-B | 10 | 2 | | | 10 | | | | |
| A-C | 115 | 29 | | | 115 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 452 | 0.017 | 8 | 0.0 | 0.0 | 8.740 | A |
| C-AB | 3 | 0.65 | 734 | 0.004 | 3 | 0.0 | 0.0 | 5.308 | A |
| C-A | 98 | 25 | | | 98 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 96 | 24 | | | 96 | | | | |

# 2048 Without Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L51251 Junction | T-Junction | Two-way | | 0.40 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D13 | 2048 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 148 | 100.000 |
| B | | ONE HOUR | ✓ | 11 | 100.000 |
| C | | ONE HOUR | ✓ | 142 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 12 | 136 |
| | B | 10 | 0 | 1 |
| | C | 139 | 3 | 0 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.03 | 9.24 | 0.0 | A | 10 | 15 |
| C-AB | 0.01 | 5.29 | 0.0 | A | 3 | 5 |
| C-A | | | | | 127 | 190 |
| A-B | | | | | 11 | 17 |
| A-C | | | | | 125 | 187 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 449 | 0.018 | 8 | 0.0 | 0.0 | 8.813 | A |
| C-AB | 3 | 0.66 | 736 | 0.004 | 3 | 0.0 | 0.0 | 5.293 | A |
| C-A | 104 | 26 | | | 104 | | | | |
| A-B | 9 | 2 | | | 9 | | | | |
| A-C | 102 | 26 | | | 102 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 10 | 2 | 442 | 0.022 | 10 | 0.0 | 0.0 | 8.989 | A |
| C-AB | 3 | 0.81 | 743 | 0.004 | 3 | 0.0 | 0.0 | 5.243 | A |
| C-A | 124 | 31 | | | 124 | | | | |
| A-B | 11 | 3 | | | 11 | | | | |
| A-C | 122 | 31 | | | 122 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 12 | 3 | 432 | 0.028 | 12 | 0.0 | 0.0 | 9.241 | A |
| C-AB | 4 | 1 | 754 | 0.006 | 4 | 0.0 | 0.0 | 5.174 | A |
| C-A | 152 | 38 | | | 152 | | | | |
| A-B | 13 | 3 | | | 13 | | | | |
| A-C | 150 | 37 | | | 150 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 12 | 3 | 432 | 0.028 | 12 | 0.0 | 0.0 | 9.241 | A |
| C-AB | 4 | 1 | 754 | 0.006 | 4 | 0.0 | 0.0 | 5.174 | A |
| C-A | 152 | 38 | | | 152 | | | | |
| A-B | 13 | 3 | | | 13 | | | | |
| A-C | 150 | 37 | | | 150 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 10 | 2 | 442 | 0.022 | 10 | 0.0 | 0.0 | 8.991 | A |
| C-AB | 3 | 0.81 | 743 | 0.004 | 3 | 0.0 | 0.0 | 5.245 | A |
| C-A | 124 | 31 | | | 124 | | | | |
| A-B | 11 | 3 | | | 11 | | | | |
| A-C | 122 | 31 | | | 122 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 449 | 0.018 | 8 | 0.0 | 0.0 | 8.817 | A |
| C-AB | 3 | 0.66 | 736 | 0.004 | 3 | 0.0 | 0.0 | 5.293 | A |
| C-A | 104 | 26 | | | 104 | | | | |
| A-B | 9 | 2 | | | 9 | | | | |
| A-C | 102 | 26 | | | 102 | | | | |

# 2033 With Operational Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L51251 Junction | T-Junction | Two-way | | 0.39 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D14 | 2033 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 135 | 100.000 |
| B | | ONE HOUR | ✓ | 10 | 100.000 |
| C | | ONE HOUR | ✓ | 154 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 11 | 124 |
| | B | 9 | 0 | 1 |
| | C | 150 | 4 | 0 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.03 | 9.17 | 0.0 | A | 9 | 14 |
| C-AB | 0.01 | 5.25 | 0.0 | A | 5 | 7 |
| C-A | | | | | 137 | 205 |
| A-B | | | | | 10 | 15 |
| A-C | | | | | 114 | 171 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 450 | 0.017 | 7 | 0.0 | 0.0 | 8.762 | A |
| C-AB | 4 | 0.89 | 743 | 0.005 | 4 | 0.0 | 0.0 | 5.245 | A |
| C-A | 112 | 28 | | | 112 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 93 | 23 | | | 93 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 444 | 0.020 | 9 | 0.0 | 0.0 | 8.930 | A |
| C-AB | 4 | 1 | 752 | 0.006 | 4 | 0.0 | 0.0 | 5.188 | A |
| C-A | 134 | 34 | | | 134 | | | | |
| A-B | 10 | 2 | | | 10 | | | | |
| A-C | 111 | 28 | | | 111 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 434 | 0.025 | 11 | 0.0 | 0.0 | 9.170 | A |
| C-AB | 6 | 1 | 765 | 0.007 | 6 | 0.0 | 0.0 | 5.109 | A |
| C-A | 164 | 41 | | | 164 | | | | |
| A-B | 12 | 3 | | | 12 | | | | |
| A-C | 137 | 34 | | | 137 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 434 | 0.025 | 11 | 0.0 | 0.0 | 9.170 | A |
| C-AB | 6 | 1 | 765 | 0.007 | 6 | 0.0 | 0.0 | 5.109 | A |
| C-A | 164 | 41 | | | 164 | | | | |
| A-B | 12 | 3 | | | 12 | | | | |
| A-C | 137 | 34 | | | 137 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 444 | 0.020 | 9 | 0.0 | 0.0 | 8.931 | A |
| C-AB | 4 | 1 | 752 | 0.006 | 4 | 0.0 | 0.0 | 5.190 | A |
| C-A | 134 | 34 | | | 134 | | | | |
| A-B | 10 | 2 | | | 10 | | | | |
| A-C | 111 | 28 | | | 111 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 450 | 0.017 | 8 | 0.0 | 0.0 | 8.767 | A |
| C-AB | 4 | 0.89 | 743 | 0.005 | 4 | 0.0 | 0.0 | 5.245 | A |
| C-A | 112 | 28 | | | 112 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 93 | 23 | | | 93 | | | | |

# 2038 With Operational Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L51251 Junction | T-Junction | Two-way | | 0.38 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D15 | 2038 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 140 | 100.000 |
| B | | ONE HOUR | ✓ | 10 | 100.000 |
| C | | ONE HOUR | ✓ | 159 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 11 | 129 |
| | B | 9 | 0 | 1 |
| | C | 155 | 4 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.03 | 9.21 | 0.0 | A | 9 | 14 |
| C-AB | 0.01 | 5.24 | 0.0 | A | 5 | 7 |
| C-A | | | | | 141 | 212 |
| A-B | | | | | 10 | 15 |
| A-C | | | | | 118 | 178 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 449 | 0.017 | 7 | 0.0 | 0.0 | 8.787 | A |
| C-AB | 4 | 0.89 | 745 | 0.005 | 4 | 0.0 | 0.0 | 5.235 | A |
| C-A | 116 | 29 | | | 116 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 97 | 24 | | | 97 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 442 | 0.020 | 9 | 0.0 | 0.0 | 8.961 | A |
| C-AB | 4 | 1 | 754 | 0.006 | 4 | 0.0 | 0.0 | 5.176 | A |
| C-A | 139 | 35 | | | 139 | | | | |
| A-B | 10 | 2 | | | 10 | | | | |
| A-C | 116 | 29 | | | 116 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 432 | 0.025 | 11 | 0.0 | 0.0 | 9.210 | A |
| C-AB | 6 | 1 | 767 | 0.007 | 6 | 0.0 | 0.0 | 5.094 | A |
| C-A | 169 | 42 | | | 169 | | | | |
| A-B | 12 | 3 | | | 12 | | | | |
| A-C | 142 | 36 | | | 142 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 432 | 0.025 | 11 | 0.0 | 0.0 | 9.210 | A |
| C-AB | 6 | 1 | 767 | 0.007 | 6 | 0.0 | 0.0 | 5.096 | A |
| C-A | 169 | 42 | | | 169 | | | | |
| A-B | 12 | 3 | | | 12 | | | | |
| A-C | 142 | 36 | | | 142 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 442 | 0.020 | 9 | 0.0 | 0.0 | 8.964 | A |
| C-AB | 4 | 1 | 754 | 0.006 | 4 | 0.0 | 0.0 | 5.178 | A |
| C-A | 139 | 35 | | | 139 | | | | |
| A-B | 10 | 2 | | | 10 | | | | |
| A-C | 116 | 29 | | | 116 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 449 | 0.017 | 8 | 0.0 | 0.0 | 8.790 | A |
| C-AB | 4 | 0.89 | 745 | 0.005 | 4 | 0.0 | 0.0 | 5.237 | A |
| C-A | 116 | 29 | | | 116 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 97 | 24 | | | 97 | | | | |

# 2048 With Operational Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L51251 Junction | T-Junction | Two-way | | 0.39 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D16 | 2048 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 149 | 100.000 |
| B | | ONE HOUR | ✓ | 11 | 100.000 |
| C | | ONE HOUR | ✓ | 167 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 12 | 137 |
| | B | 10 | 0 | 1 |
| | C | 163 | 4 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.03 | 9.33 | 0.0 | A | 10 | 15 |
| C-AB | 0.01 | 5.22 | 0.0 | A | 5 | 7 |
| C-A | | | | | 149 | 223 |
| A-B | | | | | 11 | 17 |
| A-C | | | | | 126 | 189 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 446 | 0.019 | 8 | 0.0 | 0.0 | 8.865 | A |
| C-AB | 4 | 0.90 | 747 | 0.005 | 4 | 0.0 | 0.0 | 5.220 | A |
| C-A | 122 | 31 | | | 122 | | | | |
| A-B | 9 | 2 | | | 9 | | | | |
| A-C | 103 | 26 | | | 103 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 10 | 2 | 438 | 0.023 | 10 | 0.0 | 0.0 | 9.054 | A |
| C-AB | 4 | 1 | 757 | 0.006 | 4 | 0.0 | 0.0 | 5.158 | A |
| C-A | 146 | 36 | | | 146 | | | | |
| A-B | 11 | 3 | | | 11 | | | | |
| A-C | 123 | 31 | | | 123 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 12 | 3 | 428 | 0.028 | 12 | 0.0 | 0.0 | 9.326 | A |
| C-AB | 6 | 1 | 771 | 0.007 | 6 | 0.0 | 0.0 | 5.073 | A |
| C-A | 178 | 45 | | | 178 | | | | |
| A-B | 13 | 3 | | | 13 | | | | |
| A-C | 151 | 38 | | | 151 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 12 | 3 | 428 | 0.028 | 12 | 0.0 | 0.0 | 9.326 | A |
| C-AB | 6 | 1 | 771 | 0.007 | 6 | 0.0 | 0.0 | 5.073 | A |
| C-A | 178 | 45 | | | 178 | | | | |
| A-B | 13 | 3 | | | 13 | | | | |
| A-C | 151 | 38 | | | 151 | | | | |

**17:45 - 18:00**

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 10 | 2 | 438 | 0.023 | 10 | 0.0 | 0.0 | 9.057 | A |
| C-AB | 4 | 1 | 757 | 0.006 | 4 | 0.0 | 0.0 | 5.160 | A |
| C-A | 146 | 36 | | | 146 | | | | |
| A-B | 11 | 3 | | | 11 | | | | |
| A-C | 123 | 31 | | | 123 | | | | |

**18:00 - 18:15**

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 446 | 0.019 | 8 | 0.0 | 0.0 | 8.870 | A |
| C-AB | 4 | 0.90 | 747 | 0.005 | 4 | 0.0 | 0.0 | 5.220 | A |
| C-A | 122 | 31 | | | 122 | | | | |
| A-B | 9 | 2 | | | 9 | | | | |
| A-C | 103 | 26 | | | 103 | | | | |

# Junctions 9

## PICADY 9 - Priority Intersection Module

Version: 9.5.2.1013






**Filename:** L11272.j9
**Path:** \\192.168.1.33\ttrsa\projects\T241206_Westmeath_Admiral_Datacentre_Solar_Farm_EIAR_MMP_S1_RSA\eiar_chapter\modelling\L11272
**Report generation date:** 08/07/2025 11:27:03

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**»2029 Without Development, AM**
**»2029 With Construction, AM**
**»2033 Without Development, AM**
**»2038 Without Development, AM**
**»2048 Without Development, AM**
**»2033 With Operational Development, AM**
**»2038 With Operational Development, AM**
**»2048 With Operational Development, AM**
**»2029 Without Development, PM**
**»2029 With Construction, PM**
**»2033 Without Development, PM**
**»2038 Without Development, PM**
**»2048 Without Development, PM**
**»2033 With Operational Development, PM**
**»2038 With Operational Development, PM**
**»2048 With Operational Development, PM**

## Summary of junction performance

| | AM | | | | | PM | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Set ID | Queue (PCU) | Delay (s) | RFC | LOS | Set ID | Queue (PCU) | Delay (s) | RFC | LOS |
| | 2029 Without Development | | | | | | | | | |
| Stream B-AC | D1 | 0.1 | 7.98 | 0.05 | A | D9 | 0.0 | 8.53 | 0.02 | A |
| Stream C-AB | | 0.0 | 5.25 | 0.00 | A | | 0.0 | 5.35 | 0.01 | A |
| | 2029 With Construction | | | | | | | | | |
| Stream B-AC | D2 | 0.1 | 8.00 | 0.05 | A | D10 | 0.0 | 8.80 | 0.02 | A |
| Stream C-AB | | 0.0 | 5.28 | 0.00 | A | | 0.0 | 5.13 | 0.02 | A |
| | 2033 Without Development | | | | | | | | | |
| Stream B-AC | D3 | 0.1 | 7.64 | 0.05 | A | D11 | 0.0 | 8.56 | 0.02 | A |
| Stream C-AB | | 0.0 | 5.13 | 0.00 | A | | 0.0 | 5.34 | 0.01 | A |
| | 2038 Without Development | | | | | | | | | |
| Stream B-AC | D4 | 0.1 | 8.02 | 0.05 | A | D12 | 0.0 | 8.59 | 0.02 | A |
| Stream C-AB | | 0.0 | 5.23 | 0.00 | A | | 0.0 | 5.33 | 0.01 | A |
| | 2048 Without Development | | | | | | | | | |
| Stream B-AC | D5 | 0.1 | 8.11 | 0.05 | A | D13 | 0.0 | 8.69 | 0.02 | A |
| Stream C-AB | | 0.0 | 5.21 | 0.00 | A | | 0.0 | 5.32 | 0.01 | A |
| | 2033 With Operational Development | | | | | | | | | |
| Stream B-AC | D6 | 0.1 | 7.98 | 0.05 | A | D14 | 0.0 | 8.64 | 0.02 | A |
| Stream C-AB | | 0.0 | 5.26 | 0.00 | A | | 0.0 | 5.27 | 0.01 | A |
| | 2038 With Operational Development | | | | | | | | | |
| Stream B-AC | D7 | 0.1 | 8.05 | 0.05 | A | D15 | 0.0 | 8.67 | 0.02 | A |
| Stream C-AB | | 0.0 | 5.25 | 0.00 | A | | 0.0 | 5.26 | 0.01 | A |
| | 2048 With Operational Development | | | | | | | | | |
| Stream B-AC | D8 | 0.1 | 8.15 | 0.06 | A | D16 | 0.0 | 8.77 | 0.02 | A |
| Stream C-AB | | 0.0 | 5.23 | 0.00 | A | | 0.0 | 5.25 | 0.02 | A |

*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 | Admiral |
| Location | R446/L11272 Junction |
| Site number | |
| Date | 08/07/2025 |
| Version | EIAR |
| Status | Final |
| Identifier | |
| Client | Halston |
| Jobnumber | 241206 |
| Enumerator | TTRSA |
| 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 | Calculate residual capacity | RFC Threshold | Average Delay threshold (s) | Queue threshold (PCU) |
|---|---|---|---|---|---|---|
| 5.75 | | | | 0.85 | 36.00 | 20.00 |

## Demand Set Summary

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D1 | 2029 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D2 | 2029 With Construction | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D3 | 2033 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D4 | 2038 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D5 | 2048 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D6 | 2033 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D7 | 2038 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D8 | 2048 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D9 | 2029 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D10 | 2029 With Construction | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D11 | 2033 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D12 | 2038 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D13 | 2048 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D14 | 2033 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D15 | 2038 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D16 | 2048 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

## Analysis Set Details

| ID | Include in report | Network flow scaling factor (%) | Network capacity scaling factor (%) |
|---|---|---|---|
| A1 | ✓ | 100.000 | 100.000 |

# 2029 Without Development, AM

## Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L11272 Junction | T-Junction | Two-way | | 0.71 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Arms

### Arms

| Arm | Name | Description | Arm type |
|---|---|---|---|
| A | R446 to/from East | | Major |
| B | L11272 Local Road | | Minor |
| C | R446 to/from West | | Major |

### Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Has right turn bay | Visibility for right turn (m) | Blocks? | Blocking queue (PCU) |
|---|---|---|---|---|---|---|
| C | 7.30 | | | 215.0 | ✓ | 0.00 |

*Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.*

### Minor Arm Geometry

| Arm | Minor arm type | Lane width (m) | Visibility to left (m) | Visibility to right (m) |
|---|---|---|---|---|
| B | One lane | 3.00 | 40 | 60 |

### Slope / Intercept / Capacity

#### Priority Intersection Slopes and Intercepts

| Stream | Intercept (PCU/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|---|---|---|---|---|---|
| B-A | 520 | 0.089 | 0.226 | 0.142 | 0.323 |
| B-C | 662 | 0.096 | 0.242 | - | - |
| C-B | 698 | 0.255 | 0.255 | - | - |

*The slopes and intercepts shown above do NOT include any corrections or adjustments.*

*Streams may be combined, in which case capacity will be adjusted.*

*Values are shown for the first time segment only; they may differ for subsequent time segments.*

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D1 | 2029 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 103 | 100.000 |
| B | | ONE HOUR | ✓ | 22 | 100.000 |
| C | | ONE HOUR | ✓ | 132 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 10 | 93 |
| | B | 16 | 0 | 6 |
| | C | 131 | 1 | 0 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.05 | 7.98 | 0.1 | A | 20 | 30 |
| C-AB | 0.00 | 5.25 | 0.0 | A | 1 | 2 |
| C-A | | | | | 120 | 180 |
| A-B | | | | | 9 | 14 |
| A-C | | | | | 85 | 128 |

### Main Results for each time segment

#### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 17 | 4 | 524 | 0.032 | 16 | 0.0 | 0.0 | 7.648 | A |
| C-AB | 0.87 | 0.22 | 740 | 0.001 | 0.86 | 0.0 | 0.0 | 5.249 | A |
| C-A | 99 | 25 | | | 99 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 70 | 18 | | | 70 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 20 | 5 | 518 | 0.038 | 20 | 0.0 | 0.0 | 7.787 | A |
| C-AB | 1 | 0.27 | 748 | 0.001 | 1 | 0.0 | 0.0 | 5.192 | A |
| C-A | 118 | 29 | | | 118 | | | | |
| A-B | 9 | 2 | | | 9 | | | | |
| A-C | 84 | 21 | | | 84 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 24 | 6 | 510 | 0.047 | 24 | 0.0 | 0.1 | 7.982 | A |
| C-AB | 1 | 0.34 | 760 | 0.002 | 1 | 0.0 | 0.0 | 5.114 | A |
| C-A | 144 | 36 | | | 144 | | | | |
| A-B | 11 | 3 | | | 11 | | | | |
| A-C | 102 | 26 | | | 102 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 24 | 6 | 510 | 0.047 | 24 | 0.1 | 0.1 | 7.982 | A |
| C-AB | 1 | 0.34 | 760 | 0.002 | 1 | 0.0 | 0.0 | 5.114 | A |
| C-A | 144 | 36 | | | 144 | | | | |
| A-B | 11 | 3 | | | 11 | | | | |
| A-C | 102 | 26 | | | 102 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 20 | 5 | 518 | 0.038 | 20 | 0.1 | 0.0 | 7.790 | A |
| C-AB | 1 | 0.27 | 748 | 0.001 | 1 | 0.0 | 0.0 | 5.194 | A |
| C-A | 118 | 29 | | | 118 | | | | |
| A-B | 9 | 2 | | | 9 | | | | |
| A-C | 84 | 21 | | | 84 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 17 | 4 | 524 | 0.032 | 17 | 0.0 | 0.0 | 7.652 | A |
| C-AB | 0.87 | 0.22 | 740 | 0.001 | 0.87 | 0.0 | 0.0 | 5.251 | A |
| C-A | 99 | 25 | | | 99 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 70 | 18 | | | 70 | | | | |

# 2029 With Construction, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L11272 Junction | T-Junction | Two-way | | 0.68 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D2 | 2029 With Construction | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 132 | 100.000 |
| B | | ONE HOUR | ✓ | 24 | 100.000 |
| C | | ONE HOUR | ✓ | 135 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 14 | 118 |
| | B | 16 | 0 | 8 |
| | C | 134 | 1 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.05 | 8.00 | 0.1 | A | 22 | 33 |
| C-AB | 0.00 | 5.28 | 0.0 | A | 1 | 2 |
| C-A | | | | | 123 | 184 |
| A-B | | | | | 13 | 19 |
| A-C | | | | | 108 | 162 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 18 | 5 | 527 | 0.034 | 18 | 0.0 | 0.0 | 7.620 | A |
| C-AB | 0.87 | 0.22 | 736 | 0.001 | 0.87 | 0.0 | 0.0 | 5.276 | A |
| C-A | 101 | 25 | | | 101 | | | | |
| A-B | 11 | 3 | | | 11 | | | | |
| A-C | 89 | 22 | | | 89 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 22 | 5 | 521 | 0.041 | 22 | 0.0 | 0.0 | 7.776 | A |
| C-AB | 1 | 0.27 | 744 | 0.001 | 1 | 0.0 | 0.0 | 5.223 | A |
| C-A | 120 | 30 | | | 120 | | | | |
| A-B | 13 | 3 | | | 13 | | | | |
| A-C | 106 | 27 | | | 106 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 26 | 7 | 512 | 0.052 | 26 | 0.0 | 0.1 | 7.995 | A |
| C-AB | 1 | 0.34 | 755 | 0.002 | 1 | 0.0 | 0.0 | 5.151 | A |
| C-A | 147 | 37 | | | 147 | | | | |
| A-B | 15 | 4 | | | 15 | | | | |
| A-C | 130 | 32 | | | 130 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 26 | 7 | 512 | 0.052 | 26 | 0.1 | 0.1 | 7.997 | A |
| C-AB | 1 | 0.34 | 755 | 0.002 | 1 | 0.0 | 0.0 | 5.153 | A |
| C-A | 147 | 37 | | | 147 | | | | |
| A-B | 15 | 4 | | | 15 | | | | |
| A-C | 130 | 32 | | | 130 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 22 | 5 | 521 | 0.041 | 22 | 0.1 | 0.0 | 7.779 | A |
| C-AB | 1 | 0.27 | 744 | 0.001 | 1 | 0.0 | 0.0 | 5.225 | A |
| C-A | 120 | 30 | | | 120 | | | | |
| A-B | 13 | 3 | | | 13 | | | | |
| A-C | 106 | 27 | | | 106 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 18 | 5 | 527 | 0.034 | 18 | 0.0 | 0.0 | 7.624 | A |
| C-AB | 0.87 | 0.22 | 736 | 0.001 | 0.87 | 0.0 | 0.0 | 5.278 | A |
| C-A | 101 | 25 | | | 101 | | | | |
| A-B | 11 | 3 | | | 11 | | | | |
| A-C | 89 | 22 | | | 89 | | | | |

# 2033 Without Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L11272 Junction | T-Junction | Two-way | | 1.01 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D3 | 2033 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 16 | 100.000 |
| B | | ONE HOUR | ✓ | 22 | 100.000 |
| C | | ONE HOUR | ✓ | 135 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 10 | 6 |
| | B | 16 | 0 | 6 |
| | C | 134 | 1 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.05 | 7.64 | 0.1 | A | 20 | 30 |
| C-AB | 0.00 | 5.13 | 0.0 | A | 1 | 2 |
| C-A | | | | | 123 | 184 |
| A-B | | | | | 9 | 14 |
| A-C | | | | | 6 | 8 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 17 | 4 | 539 | 0.031 | 16 | 0.0 | 0.0 | 7.430 | A |
| C-AB | 0.87 | 0.22 | 757 | 0.001 | 0.86 | 0.0 | 0.0 | 5.129 | A |
| C-A | 101 | 25 | | | 101 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 5 | 1 | | | 5 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 20 | 5 | 536 | 0.037 | 20 | 0.0 | 0.0 | 7.518 | A |
| C-AB | 1 | 0.27 | 769 | 0.001 | 1 | 0.0 | 0.0 | 5.054 | A |
| C-A | 120 | 30 | | | 120 | | | | |
| A-B | 9 | 2 | | | 9 | | | | |
| A-C | 5 | 1 | | | 5 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 24 | 6 | 532 | 0.046 | 24 | 0.0 | 0.1 | 7.639 | A |
| C-AB | 1 | 0.34 | 785 | 0.002 | 1 | 0.0 | 0.0 | 4.954 | A |
| C-A | 147 | 37 | | | 147 | | | | |
| A-B | 11 | 3 | | | 11 | | | | |
| A-C | 7 | 2 | | | 7 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 24 | 6 | 532 | 0.046 | 24 | 0.1 | 0.1 | 7.639 | A |
| C-AB | 1 | 0.34 | 785 | 0.002 | 1 | 0.0 | 0.0 | 4.954 | A |
| C-A | 147 | 37 | | | 147 | | | | |
| A-B | 11 | 3 | | | 11 | | | | |
| A-C | 7 | 2 | | | 7 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 20 | 5 | 536 | 0.037 | 20 | 0.1 | 0.0 | 7.522 | A |
| C-AB | 1 | 0.27 | 769 | 0.001 | 1 | 0.0 | 0.0 | 5.054 | A |
| C-A | 120 | 30 | | | 120 | | | | |
| A-B | 9 | 2 | | | 9 | | | | |
| A-C | 5 | 1 | | | 5 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 17 | 4 | 539 | 0.031 | 17 | 0.0 | 0.0 | 7.436 | A |
| C-AB | 0.87 | 0.22 | 757 | 0.001 | 0.87 | 0.0 | 0.0 | 5.131 | A |
| C-A | 101 | 25 | | | 101 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 5 | 1 | | | 5 | | | | |

# 2038 Without Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L11272 Junction | T-Junction | Two-way | | 0.73 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D4 | 2038 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 109 | 100.000 |
| B | | ONE HOUR | ✓ | 24 | 100.000 |
| C | | ONE HOUR | ✓ | 140 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 10 | 99 |
| | B | 17 | 0 | 7 |
| | C | 139 | 1 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.05 | 8.02 | 0.1 | A | 22 | 33 |
| C-AB | 0.00 | 5.23 | 0.0 | A | 1 | 2 |
| C-A | | | | | 127 | 191 |
| A-B | | | | | 9 | 14 |
| A-C | | | | | 91 | 136 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 18 | 5 | 525 | 0.034 | 18 | 0.0 | 0.0 | 7.659 | A |
| C-AB | 0.88 | 0.22 | 743 | 0.001 | 0.87 | 0.0 | 0.0 | 5.230 | A |
| C-A | 105 | 26 | | | 105 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 75 | 19 | | | 75 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 22 | 5 | 519 | 0.042 | 22 | 0.0 | 0.0 | 7.807 | A |
| C-AB | 1 | 0.27 | 752 | 0.001 | 1 | 0.0 | 0.0 | 5.169 | A |
| C-A | 125 | 31 | | | 125 | | | | |
| A-B | 9 | 2 | | | 9 | | | | |
| A-C | 89 | 22 | | | 89 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 26 | 7 | 510 | 0.052 | 26 | 0.0 | 0.1 | 8.016 | A |
| C-AB | 1 | 0.34 | 764 | 0.002 | 1 | 0.0 | 0.0 | 5.087 | A |
| C-A | 153 | 38 | | | 153 | | | | |
| A-B | 11 | 3 | | | 11 | | | | |
| A-C | 109 | 27 | | | 109 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 26 | 7 | 510 | 0.052 | 26 | 0.1 | 0.1 | 8.018 | A |
| C-AB | 1 | 0.34 | 764 | 0.002 | 1 | 0.0 | 0.0 | 5.087 | A |
| C-A | 153 | 38 | | | 153 | | | | |
| A-B | 11 | 3 | | | 11 | | | | |
| A-C | 109 | 27 | | | 109 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 22 | 5 | 519 | 0.042 | 22 | 0.1 | 0.0 | 7.810 | A |
| C-AB | 1 | 0.27 | 752 | 0.001 | 1 | 0.0 | 0.0 | 5.169 | A |
| C-A | 125 | 31 | | | 125 | | | | |
| A-B | 9 | 2 | | | 9 | | | | |
| A-C | 89 | 22 | | | 89 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 18 | 5 | 525 | 0.034 | 18 | 0.0 | 0.0 | 7.666 | A |
| C-AB | 0.88 | 0.22 | 743 | 0.001 | 0.88 | 0.0 | 0.0 | 5.232 | A |
| C-A | 105 | 26 | | | 105 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 75 | 19 | | | 75 | | | | |

# 2048 Without Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L11272 Junction | T-Junction | Two-way | | 0.72 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D5 | 2048 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 117 | 100.000 |
| B | | ONE HOUR | ✓ | 25 | 100.000 |
| C | | ONE HOUR | ✓ | 149 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 11 | 106 |
| | B | 18 | 0 | 7 |
| | C | 148 | 1 | 0 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.05 | 8.11 | 0.1 | A | 23 | 34 |
| C-AB | 0.00 | 5.21 | 0.0 | A | 1 | 2 |
| C-A | | | | | 136 | 203 |
| A-B | | | | | 10 | 15 |
| A-C | | | | | 97 | 146 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 19 | 5 | 521 | 0.036 | 19 | 0.0 | 0.0 | 7.725 | A |
| C-AB | 0.89 | 0.22 | 746 | 0.001 | 0.88 | 0.0 | 0.0 | 5.210 | A |
| C-A | 111 | 28 | | | 111 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 80 | 20 | | | 80 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 22 | 6 | 514 | 0.044 | 22 | 0.0 | 0.0 | 7.887 | A |
| C-AB | 1 | 0.27 | 755 | 0.001 | 1 | 0.0 | 0.0 | 5.146 | A |
| C-A | 133 | 33 | | | 133 | | | | |
| A-B | 10 | 2 | | | 10 | | | | |
| A-C | 95 | 24 | | | 95 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 28 | 7 | 506 | 0.054 | 27 | 0.0 | 0.1 | 8.113 | A |
| C-AB | 1 | 0.35 | 768 | 0.002 | 1 | 0.0 | 0.0 | 5.060 | A |
| C-A | 163 | 41 | | | 163 | | | | |
| A-B | 12 | 3 | | | 12 | | | | |
| A-C | 117 | 29 | | | 117 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 28 | 7 | 506 | 0.054 | 28 | 0.1 | 0.1 | 8.115 | A |
| C-AB | 1 | 0.35 | 768 | 0.002 | 1 | 0.0 | 0.0 | 5.060 | A |
| C-A | 163 | 41 | | | 163 | | | | |
| A-B | 12 | 3 | | | 12 | | | | |
| A-C | 117 | 29 | | | 117 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 22 | 6 | 514 | 0.044 | 23 | 0.1 | 0.0 | 7.890 | A |
| C-AB | 1 | 0.27 | 755 | 0.001 | 1 | 0.0 | 0.0 | 5.148 | A |
| C-A | 133 | 33 | | | 133 | | | | |
| A-B | 10 | 2 | | | 10 | | | | |
| A-C | 95 | 24 | | | 95 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 19 | 5 | 521 | 0.036 | 19 | 0.0 | 0.0 | 7.731 | A |
| C-AB | 0.89 | 0.22 | 746 | 0.001 | 0.89 | 0.0 | 0.0 | 5.212 | A |
| C-A | 111 | 28 | | | 111 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 80 | 20 | | | 80 | | | | |

# 2033 With Operational Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L11272 Junction | T-Junction | Two-way | | 0.69 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D6 | 2033 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 125 | 100.000 |
| B | | ONE HOUR | ✓ | 24 | 100.000 |
| C | | ONE HOUR | ✓ | 137 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 10 | 115 |
| | B | 16 | 0 | 8 |
| | C | 136 | 1 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.05 | 7.98 | 0.1 | A | 22 | 33 |
| C-AB | 0.00 | 5.26 | 0.0 | A | 1 | 2 |
| C-A | | | | | 125 | 187 |
| A-B | | | | | 9 | 14 |
| A-C | | | | | 106 | 158 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 18 | 5 | 528 | 0.034 | 18 | 0.0 | 0.0 | 7.611 | A |
| C-AB | 0.87 | 0.22 | 738 | 0.001 | 0.87 | 0.0 | 0.0 | 5.260 | A |
| C-A | 102 | 26 | | | 102 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 87 | 22 | | | 87 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 22 | 5 | 521 | 0.041 | 22 | 0.0 | 0.0 | 7.764 | A |
| C-AB | 1 | 0.27 | 747 | 0.001 | 1 | 0.0 | 0.0 | 5.205 | A |
| C-A | 122 | 31 | | | 122 | | | | |
| A-B | 9 | 2 | | | 9 | | | | |
| A-C | 103 | 26 | | | 103 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 26 | 7 | 513 | 0.052 | 26 | 0.0 | 0.1 | 7.980 | A |
| C-AB | 1 | 0.34 | 758 | 0.002 | 1 | 0.0 | 0.0 | 5.129 | A |
| C-A | 149 | 37 | | | 149 | | | | |
| A-B | 11 | 3 | | | 11 | | | | |
| A-C | 127 | 32 | | | 127 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 26 | 7 | 513 | 0.052 | 26 | 0.1 | 0.1 | 7.981 | A |
| C-AB | 1 | 0.34 | 758 | 0.002 | 1 | 0.0 | 0.0 | 5.131 | A |
| C-A | 149 | 37 | | | 149 | | | | |
| A-B | 11 | 3 | | | 11 | | | | |
| A-C | 127 | 32 | | | 127 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 22 | 5 | 521 | 0.041 | 22 | 0.1 | 0.0 | 7.765 | A |
| C-AB | 1 | 0.27 | 747 | 0.001 | 1 | 0.0 | 0.0 | 5.205 | A |
| C-A | 122 | 31 | | | 122 | | | | |
| A-B | 9 | 2 | | | 9 | | | | |
| A-C | 103 | 26 | | | 103 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 18 | 5 | 528 | 0.034 | 18 | 0.0 | 0.0 | 7.618 | A |
| C-AB | 0.87 | 0.22 | 738 | 0.001 | 0.88 | 0.0 | 0.0 | 5.260 | A |
| C-A | 102 | 26 | | | 102 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 87 | 22 | | | 87 | | | | |

# 2038 With Operational Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L11272 Junction | T-Junction | Two-way | | 0.70 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D7 | 2038 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 128 | 100.000 |
| B | | ONE HOUR | ✓ | 25 | 100.000 |
| C | | ONE HOUR | ✓ | 142 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 10 | 118 |
| | B | 17 | 0 | 8 |
| | C | 141 | 1 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.05 | 8.05 | 0.1 | A | 23 | 34 |
| C-AB | 0.00 | 5.25 | 0.0 | A | 1 | 2 |
| C-A | | | | | 129 | 194 |
| A-B | | | | | 9 | 14 |
| A-C | | | | | 108 | 162 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 19 | 5 | 525 | 0.036 | 19 | 0.0 | 0.0 | 7.664 | A |
| C-AB | 0.88 | 0.22 | 740 | 0.001 | 0.87 | 0.0 | 0.0 | 5.248 | A |
| C-A | 106 | 27 | | | 106 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 89 | 22 | | | 89 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 22 | 6 | 518 | 0.043 | 22 | 0.0 | 0.0 | 7.825 | A |
| C-AB | 1 | 0.27 | 749 | 0.001 | 1 | 0.0 | 0.0 | 5.190 | A |
| C-A | 127 | 32 | | | 127 | | | | |
| A-B | 9 | 2 | | | 9 | | | | |
| A-C | 106 | 27 | | | 106 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 28 | 7 | 509 | 0.054 | 27 | 0.0 | 0.1 | 8.053 | A |
| C-AB | 1 | 0.35 | 761 | 0.002 | 1 | 0.0 | 0.0 | 5.111 | A |
| C-A | 155 | 39 | | | 155 | | | | |
| A-B | 11 | 3 | | | 11 | | | | |
| A-C | 130 | 32 | | | 130 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 28 | 7 | 509 | 0.054 | 28 | 0.1 | 0.1 | 8.054 | A |
| C-AB | 1 | 0.35 | 761 | 0.002 | 1 | 0.0 | 0.0 | 5.113 | A |
| C-A | 155 | 39 | | | 155 | | | | |
| A-B | 11 | 3 | | | 11 | | | | |
| A-C | 130 | 32 | | | 130 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 22 | 6 | 518 | 0.043 | 23 | 0.1 | 0.0 | 7.827 | A |
| C-AB | 1 | 0.27 | 749 | 0.001 | 1 | 0.0 | 0.0 | 5.190 | A |
| C-A | 127 | 32 | | | 127 | | | | |
| A-B | 9 | 2 | | | 9 | | | | |
| A-C | 106 | 27 | | | 106 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 19 | 5 | 525 | 0.036 | 19 | 0.0 | 0.0 | 7.671 | A |
| C-AB | 0.88 | 0.22 | 740 | 0.001 | 0.88 | 0.0 | 0.0 | 5.248 | A |
| C-A | 106 | 27 | | | 106 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 89 | 22 | | | 89 | | | | |

# 2048 With Operational Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L11272 Junction | T-Junction | Two-way | | 0.70 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D8 | 2048 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 136 | 100.000 |
| B | | ONE HOUR | ✓ | 26 | 100.000 |
| C | | ONE HOUR | ✓ | 151 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 11 | 125 |
| | B | 18 | 0 | 8 |
| | C | 150 | 1 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.06 | 8.15 | 0.1 | A | 24 | 36 |
| C-AB | 0.00 | 5.23 | 0.0 | A | 1 | 2 |
| C-A | | | | | 137 | 206 |
| A-B | | | | | 10 | 15 |
| A-C | | | | | 115 | 172 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 20 | 5 | 521 | 0.038 | 19 | 0.0 | 0.0 | 7.732 | A |
| C-AB | 0.89 | 0.22 | 743 | 0.001 | 0.88 | 0.0 | 0.0 | 5.228 | A |
| C-A | 113 | 28 | | | 113 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 94 | 24 | | | 94 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 23 | 6 | 514 | 0.045 | 23 | 0.0 | 0.1 | 7.907 | A |
| C-AB | 1 | 0.27 | 752 | 0.001 | 1 | 0.0 | 0.0 | 5.166 | A |
| C-A | 135 | 34 | | | 135 | | | | |
| A-B | 10 | 2 | | | 10 | | | | |
| A-C | 112 | 28 | | | 112 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 29 | 7 | 505 | 0.057 | 29 | 0.1 | 0.1 | 8.153 | A |
| C-AB | 1 | 0.35 | 765 | 0.002 | 1 | 0.0 | 0.0 | 5.083 | A |
| C-A | 165 | 41 | | | 165 | | | | |
| A-B | 12 | 3 | | | 12 | | | | |
| A-C | 138 | 34 | | | 138 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 29 | 7 | 505 | 0.057 | 29 | 0.1 | 0.1 | 8.154 | A |
| C-AB | 1 | 0.35 | 765 | 0.002 | 1 | 0.0 | 0.0 | 5.083 | A |
| C-A | 165 | 41 | | | 165 | | | | |
| A-B | 12 | 3 | | | 12 | | | | |
| A-C | 138 | 34 | | | 138 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 23 | 6 | 514 | 0.045 | 23 | 0.1 | 0.1 | 7.910 | A |
| C-AB | 1 | 0.27 | 752 | 0.001 | 1 | 0.0 | 0.0 | 5.168 | A |
| C-A | 135 | 34 | | | 135 | | | | |
| A-B | 10 | 2 | | | 10 | | | | |
| A-C | 112 | 28 | | | 112 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 20 | 5 | 521 | 0.038 | 20 | 0.1 | 0.0 | 7.738 | A |
| C-AB | 0.89 | 0.22 | 743 | 0.001 | 0.89 | 0.0 | 0.0 | 5.230 | A |
| C-A | 113 | 28 | | | 113 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 94 | 24 | | | 94 | | | | |

# 2029 Without Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L11272 Junction | T-Junction | Two-way | | 0.41 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D9 | 2029 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 141 | 100.000 |
| B | | ONE HOUR | ✓ | 9 | 100.000 |
| C | | ONE HOUR | ✓ | 132 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 10 | 131 |
| | B | 9 | 0 | 0 |
| | C | 126 | 6 | 0 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.02 | 8.53 | 0.0 | A | 8 | 12 |
| C-AB | 0.01 | 5.35 | 0.0 | A | 7 | 10 |
| C-A | | | | | 115 | 172 |
| A-B | | | | | 9 | 14 |
| A-C | | | | | 120 | 180 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 7 | 2 | 482 | 0.014 | 7 | 0.0 | 0.0 | 8.160 | A |
| C-AB | 5 | 1 | 731 | 0.007 | 5 | 0.0 | 0.0 | 5.347 | A |
| C-A | 94 | 24 | | | 94 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 99 | 25 | | | 99 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 475 | 0.017 | 8 | 0.0 | 0.0 | 8.313 | A |
| C-AB | 6 | 2 | 737 | 0.009 | 6 | 0.0 | 0.0 | 5.307 | A |
| C-A | 112 | 28 | | | 112 | | | | |
| A-B | 9 | 2 | | | 9 | | | | |
| A-C | 118 | 29 | | | 118 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 10 | 2 | 465 | 0.021 | 10 | 0.0 | 0.0 | 8.532 | A |
| C-AB | 8 | 2 | 747 | 0.011 | 8 | 0.0 | 0.0 | 5.253 | A |
| C-A | 137 | 34 | | | 137 | | | | |
| A-B | 11 | 3 | | | 11 | | | | |
| A-C | 144 | 36 | | | 144 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 10 | 2 | 465 | 0.021 | 10 | 0.0 | 0.0 | 8.532 | A |
| C-AB | 8 | 2 | 747 | 0.011 | 8 | 0.0 | 0.0 | 5.255 | A |
| C-A | 137 | 34 | | | 137 | | | | |
| A-B | 11 | 3 | | | 11 | | | | |
| A-C | 144 | 36 | | | 144 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 475 | 0.017 | 8 | 0.0 | 0.0 | 8.314 | A |
| C-AB | 6 | 2 | 737 | 0.009 | 6 | 0.0 | 0.0 | 5.309 | A |
| C-A | 112 | 28 | | | 112 | | | | |
| A-B | 9 | 2 | | | 9 | | | | |
| A-C | 118 | 29 | | | 118 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 7 | 2 | 482 | 0.014 | 7 | 0.0 | 0.0 | 8.162 | A |
| C-AB | 5 | 1 | 731 | 0.007 | 5 | 0.0 | 0.0 | 5.349 | A |
| C-A | 94 | 24 | | | 94 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 99 | 25 | | | 99 | | | | |

# 2029 With Construction, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L11272 Junction | T-Junction | Two-way | | 0.41 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D10 | 2029 With Construction | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 141 | 100.000 |
| B | | ONE HOUR | ✓ | 10 | 100.000 |
| C | | ONE HOUR | ✓ | 208 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 10 | 131 |
| | B | 10 | 0 | 0 |
| | C | 199 | 9 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.02 | 8.80 | 0.0 | A | 9 | 14 |
| C-AB | 0.02 | 5.13 | 0.0 | A | 11 | 16 |
| C-A | | | | | 180 | 270 |
| A-B | | | | | 9 | 14 |
| A-C | | | | | 120 | 180 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 474 | 0.016 | 7 | 0.0 | 0.0 | 8.322 | A |
| C-AB | 8 | 2 | 765 | 0.011 | 8 | 0.0 | 0.0 | 5.126 | A |
| C-A | 148 | 37 | | | 148 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 99 | 25 | | | 99 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 465 | 0.019 | 9 | 0.0 | 0.0 | 8.515 | A |
| C-AB | 11 | 3 | 779 | 0.014 | 11 | 0.0 | 0.0 | 5.050 | A |
| C-A | 176 | 44 | | | 176 | | | | |
| A-B | 9 | 2 | | | 9 | | | | |
| A-C | 118 | 29 | | | 118 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 452 | 0.024 | 11 | 0.0 | 0.0 | 8.795 | A |
| C-AB | 14 | 3 | 798 | 0.017 | 14 | 0.0 | 0.0 | 4.949 | A |
| C-A | 215 | 54 | | | 215 | | | | |
| A-B | 11 | 3 | | | 11 | | | | |
| A-C | 144 | 36 | | | 144 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 452 | 0.024 | 11 | 0.0 | 0.0 | 8.795 | A |
| C-AB | 14 | 3 | 798 | 0.017 | 14 | 0.0 | 0.0 | 4.949 | A |
| C-A | 215 | 54 | | | 215 | | | | |
| A-B | 11 | 3 | | | 11 | | | | |
| A-C | 144 | 36 | | | 144 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 465 | 0.019 | 9 | 0.0 | 0.0 | 8.518 | A |
| C-AB | 11 | 3 | 779 | 0.014 | 11 | 0.0 | 0.0 | 5.053 | A |
| C-A | 176 | 44 | | | 176 | | | | |
| A-B | 9 | 2 | | | 9 | | | | |
| A-C | 118 | 29 | | | 118 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 474 | 0.016 | 8 | 0.0 | 0.0 | 8.326 | A |
| C-AB | 8 | 2 | 765 | 0.011 | 8 | 0.0 | 0.0 | 5.127 | A |
| C-A | 148 | 37 | | | 148 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 99 | 25 | | | 99 | | | | |

# 2033 Without Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L11272 Junction | T-Junction | Two-way | | 0.40 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D11 | 2033 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 145 | 100.000 |
| B | | ONE HOUR | ✓ | 9 | 100.000 |
| C | | ONE HOUR | ✓ | 135 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 10 | 135 |
| | B | 9 | 0 | 0 |
| | C | 129 | 6 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.02 | 8.56 | 0.0 | A | 8 | 12 |
| C-AB | 0.01 | 5.34 | 0.0 | A | 7 | 10 |
| C-A | | | | | 117 | 176 |
| A-B | | | | | 9 | 14 |
| A-C | | | | | 124 | 186 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 7 | 2 | 481 | 0.014 | 7 | 0.0 | 0.0 | 8.177 | A |
| C-AB | 5 | 1 | 732 | 0.007 | 5 | 0.0 | 0.0 | 5.342 | A |
| C-A | 96 | 24 | | | 96 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 102 | 25 | | | 102 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 474 | 0.017 | 8 | 0.0 | 0.0 | 8.334 | A |
| C-AB | 6 | 2 | 738 | 0.009 | 6 | 0.0 | 0.0 | 5.301 | A |
| C-A | 115 | 29 | | | 115 | | | | |
| A-B | 9 | 2 | | | 9 | | | | |
| A-C | 121 | 30 | | | 121 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 10 | 2 | 463 | 0.021 | 10 | 0.0 | 0.0 | 8.560 | A |
| C-AB | 8 | 2 | 748 | 0.011 | 8 | 0.0 | 0.0 | 5.246 | A |
| C-A | 140 | 35 | | | 140 | | | | |
| A-B | 11 | 3 | | | 11 | | | | |
| A-C | 149 | 37 | | | 149 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 10 | 2 | 463 | 0.021 | 10 | 0.0 | 0.0 | 8.560 | A |
| C-AB | 8 | 2 | 748 | 0.011 | 8 | 0.0 | 0.0 | 5.246 | A |
| C-A | 140 | 35 | | | 140 | | | | |
| A-B | 11 | 3 | | | 11 | | | | |
| A-C | 149 | 37 | | | 149 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 474 | 0.017 | 8 | 0.0 | 0.0 | 8.335 | A |
| C-AB | 6 | 2 | 738 | 0.009 | 6 | 0.0 | 0.0 | 5.304 | A |
| C-A | 115 | 29 | | | 115 | | | | |
| A-B | 9 | 2 | | | 9 | | | | |
| A-C | 121 | 30 | | | 121 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 7 | 2 | 481 | 0.014 | 7 | 0.0 | 0.0 | 8.181 | A |
| C-AB | 5 | 1 | 732 | 0.007 | 5 | 0.0 | 0.0 | 5.342 | A |
| C-A | 96 | 24 | | | 96 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 102 | 25 | | | 102 | | | | |

# 2038 Without Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L11272 Junction | T-Junction | Two-way | | 0.39 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D12 | 2038 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 149 | 100.000 |
| B | | ONE HOUR | ✓ | 9 | 100.000 |
| C | | ONE HOUR | ✓ | 140 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 10 | 139 |
| | B | 9 | 0 | 0 |
| | C | 134 | 6 | 0 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.02 | 8.59 | 0.0 | A | 8 | 12 |
| C-AB | 0.01 | 5.33 | 0.0 | A | 7 | 10 |
| C-A | | | | | 122 | 183 |
| A-B | | | | | 9 | 14 |
| A-C | | | | | 128 | 191 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 7 | 2 | 480 | 0.014 | 7 | 0.0 | 0.0 | 8.198 | A |
| C-AB | 5 | 1 | 733 | 0.007 | 5 | 0.0 | 0.0 | 5.330 | A |
| C-A | 100 | 25 | | | 100 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 105 | 26 | | | 105 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 472 | 0.017 | 8 | 0.0 | 0.0 | 8.360 | A |
| C-AB | 6 | 2 | 740 | 0.009 | 6 | 0.0 | 0.0 | 5.287 | A |
| C-A | 119 | 30 | | | 119 | | | | |
| A-B | 9 | 2 | | | 9 | | | | |
| A-C | 125 | 31 | | | 125 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 10 | 2 | 461 | 0.021 | 10 | 0.0 | 0.0 | 8.593 | A |
| C-AB | 8 | 2 | 750 | 0.011 | 8 | 0.0 | 0.0 | 5.229 | A |
| C-A | 146 | 36 | | | 146 | | | | |
| A-B | 11 | 3 | | | 11 | | | | |
| A-C | 153 | 38 | | | 153 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 10 | 2 | 461 | 0.021 | 10 | 0.0 | 0.0 | 8.593 | A |
| C-AB | 8 | 2 | 750 | 0.011 | 8 | 0.0 | 0.0 | 5.229 | A |
| C-A | 146 | 36 | | | 146 | | | | |
| A-B | 11 | 3 | | | 11 | | | | |
| A-C | 153 | 38 | | | 153 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 472 | 0.017 | 8 | 0.0 | 0.0 | 8.363 | A |
| C-AB | 6 | 2 | 740 | 0.009 | 6 | 0.0 | 0.0 | 5.290 | A |
| C-A | 119 | 30 | | | 119 | | | | |
| A-B | 9 | 2 | | | 9 | | | | |
| A-C | 125 | 31 | | | 125 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 7 | 2 | 480 | 0.014 | 7 | 0.0 | 0.0 | 8.200 | A |
| C-AB | 5 | 1 | 733 | 0.007 | 5 | 0.0 | 0.0 | 5.330 | A |
| C-A | 100 | 25 | | | 100 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 105 | 26 | | | 105 | | | | |

# 2048 Without Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L11272 Junction | T-Junction | Two-way | | 0.42 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D13 | 2048 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 159 | 100.000 |
| B | | ONE HOUR | ✓ | 10 | 100.000 |
| C | | ONE HOUR | ✓ | 149 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 11 | 148 |
| | B | 10 | 0 | 0 |
| | C | 142 | 7 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.02 | 8.69 | 0.0 | A | 9 | 14 |
| C-AB | 0.01 | 5.32 | 0.0 | A | 8 | 12 |
| C-A | | | | | 129 | 193 |
| A-B | | | | | 10 | 15 |
| A-C | | | | | 136 | 204 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 477 | 0.016 | 7 | 0.0 | 0.0 | 8.258 | A |
| C-AB | 6 | 2 | 735 | 0.008 | 6 | 0.0 | 0.0 | 5.323 | A |
| C-A | 106 | 27 | | | 106 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 111 | 28 | | | 111 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 469 | 0.019 | 9 | 0.0 | 0.0 | 8.435 | A |
| C-AB | 8 | 2 | 743 | 0.010 | 8 | 0.0 | 0.0 | 5.278 | A |
| C-A | 126 | 32 | | | 126 | | | | |
| A-B | 10 | 2 | | | 10 | | | | |
| A-C | 133 | 33 | | | 133 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 458 | 0.024 | 11 | 0.0 | 0.0 | 8.690 | A |
| C-AB | 10 | 2 | 753 | 0.013 | 10 | 0.0 | 0.0 | 5.218 | A |
| C-A | 154 | 39 | | | 154 | | | | |
| A-B | 12 | 3 | | | 12 | | | | |
| A-C | 163 | 41 | | | 163 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 458 | 0.024 | 11 | 0.0 | 0.0 | 8.690 | A |
| C-AB | 10 | 2 | 753 | 0.013 | 10 | 0.0 | 0.0 | 5.220 | A |
| C-A | 154 | 39 | | | 154 | | | | |
| A-B | 12 | 3 | | | 12 | | | | |
| A-C | 163 | 41 | | | 163 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 469 | 0.019 | 9 | 0.0 | 0.0 | 8.438 | A |
| C-AB | 8 | 2 | 743 | 0.010 | 8 | 0.0 | 0.0 | 5.281 | A |
| C-A | 126 | 32 | | | 126 | | | | |
| A-B | 10 | 2 | | | 10 | | | | |
| A-C | 133 | 33 | | | 133 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 477 | 0.016 | 8 | 0.0 | 0.0 | 8.262 | A |
| C-AB | 6 | 2 | 735 | 0.008 | 6 | 0.0 | 0.0 | 5.325 | A |
| C-A | 106 | 27 | | | 106 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 111 | 28 | | | 111 | | | | |

# 2033 With Operational Development, PM

## Data Errors and Warnings

*No errors or warnings*

# Junction Network

## Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L11272 Junction | T-Junction | Two-way | | 0.39 | A |

## Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

# Traffic Demand

## Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D14 | 2033 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

## Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 145 | 100.000 |
| B | | ONE HOUR | ✓ | 9 | 100.000 |
| C | | ONE HOUR | ✓ | 159 | 100.000 |

# Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 10 | 135 |
| | B | 9 | 0 | 0 |
| | C | 152 | 7 | 0 |

# Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.02 | 8.64 | 0.0 | A | 8 | 12 |
| C-AB | 0.01 | 5.27 | 0.0 | A | 8 | 12 |
| C-A | | | | | 138 | 207 |
| A-B | | | | | 9 | 14 |
| A-C | | | | | 124 | 186 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 7 | 2 | 479 | 0.014 | 7 | 0.0 | 0.0 | 8.224 | A |
| C-AB | 6 | 2 | 742 | 0.008 | 6 | 0.0 | 0.0 | 5.271 | A |
| C-A | 113 | 28 | | | 113 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 102 | 25 | | | 102 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 470 | 0.017 | 8 | 0.0 | 0.0 | 8.392 | A |
| C-AB | 8 | 2 | 751 | 0.010 | 8 | 0.0 | 0.0 | 5.218 | A |
| C-A | 135 | 34 | | | 135 | | | | |
| A-B | 9 | 2 | | | 9 | | | | |
| A-C | 121 | 30 | | | 121 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 10 | 2 | 459 | 0.022 | 10 | 0.0 | 0.0 | 8.635 | A |
| C-AB | 10 | 2 | 764 | 0.013 | 10 | 0.0 | 0.0 | 5.146 | A |
| C-A | 165 | 41 | | | 165 | | | | |
| A-B | 11 | 3 | | | 11 | | | | |
| A-C | 149 | 37 | | | 149 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 10 | 2 | 459 | 0.022 | 10 | 0.0 | 0.0 | 8.635 | A |
| C-AB | 10 | 2 | 764 | 0.013 | 10 | 0.0 | 0.0 | 5.148 | A |
| C-A | 165 | 41 | | | 165 | | | | |
| A-B | 11 | 3 | | | 11 | | | | |
| A-C | 149 | 37 | | | 149 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 470 | 0.017 | 8 | 0.0 | 0.0 | 8.393 | A |
| C-AB | 8 | 2 | 751 | 0.010 | 8 | 0.0 | 0.0 | 5.218 | A |
| C-A | 135 | 34 | | | 135 | | | | |
| A-B | 9 | 2 | | | 9 | | | | |
| A-C | 121 | 30 | | | 121 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 7 | 2 | 479 | 0.014 | 7 | 0.0 | 0.0 | 8.228 | A |
| C-AB | 6 | 2 | 742 | 0.008 | 6 | 0.0 | 0.0 | 5.273 | A |
| C-A | 113 | 28 | | | 113 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 102 | 25 | | | 102 | | | | |

# 2038 With Operational Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L11272 Junction | T-Junction | Two-way | | 0.38 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D15 | 2038 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 150 | 100.000 |
| B | | ONE HOUR | ✓ | 9 | 100.000 |
| C | | ONE HOUR | ✓ | 164 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 10 | 140 |
| | B | 9 | 0 | 0 |
| | C | 157 | 7 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.02 | 8.67 | 0.0 | A | 8 | 12 |
| C-AB | 0.01 | 5.26 | 0.0 | A | 8 | 12 |
| C-A | | | | | 142 | 214 |
| A-B | | | | | 9 | 14 |
| A-C | | | | | 128 | 193 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 7 | 2 | 477 | 0.014 | 7 | 0.0 | 0.0 | 8.248 | A |
| C-AB | 6 | 2 | 744 | 0.008 | 6 | 0.0 | 0.0 | 5.260 | A |
| C-A | 117 | 29 | | | 117 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 105 | 26 | | | 105 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 469 | 0.017 | 8 | 0.0 | 0.0 | 8.423 | A |
| C-AB | 8 | 2 | 753 | 0.010 | 8 | 0.0 | 0.0 | 5.206 | A |
| C-A | 140 | 35 | | | 140 | | | | |
| A-B | 9 | 2 | | | 9 | | | | |
| A-C | 126 | 31 | | | 126 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 10 | 2 | 457 | 0.022 | 10 | 0.0 | 0.0 | 8.674 | A |
| C-AB | 10 | 2 | 766 | 0.013 | 10 | 0.0 | 0.0 | 5.131 | A |
| C-A | 171 | 43 | | | 171 | | | | |
| A-B | 11 | 3 | | | 11 | | | | |
| A-C | 154 | 39 | | | 154 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 10 | 2 | 457 | 0.022 | 10 | 0.0 | 0.0 | 8.674 | A |
| C-AB | 10 | 2 | 766 | 0.013 | 10 | 0.0 | 0.0 | 5.133 | A |
| C-A | 171 | 43 | | | 171 | | | | |
| A-B | 11 | 3 | | | 11 | | | | |
| A-C | 154 | 39 | | | 154 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 469 | 0.017 | 8 | 0.0 | 0.0 | 8.423 | A |
| C-AB | 8 | 2 | 753 | 0.010 | 8 | 0.0 | 0.0 | 5.208 | A |
| C-A | 140 | 35 | | | 140 | | | | |
| A-B | 9 | 2 | | | 9 | | | | |
| A-C | 126 | 31 | | | 126 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 7 | 2 | 477 | 0.014 | 7 | 0.0 | 0.0 | 8.252 | A |
| C-AB | 6 | 2 | 744 | 0.008 | 6 | 0.0 | 0.0 | 5.263 | A |
| C-A | 117 | 29 | | | 117 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 105 | 26 | | | 105 | | | | |

# 2048 With Operational Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L11272 Junction | T-Junction | Two-way | | 0.41 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D16 | 2048 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 160 | 100.000 |
| B | | ONE HOUR | ✓ | 10 | 100.000 |
| C | | ONE HOUR | ✓ | 173 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 11 | 149 |
| | B | 10 | 0 | 0 |
| | C | 165 | 8 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.02 | 8.77 | 0.0 | A | 9 | 14 |
| C-AB | 0.02 | 5.25 | 0.0 | A | 9 | 14 |
| C-A | | | | | 150 | 224 |
| A-B | | | | | 10 | 15 |
| A-C | | | | | 137 | 205 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 474 | 0.016 | 7 | 0.0 | 0.0 | 8.309 | A |
| C-AB | 7 | 2 | 746 | 0.010 | 7 | 0.0 | 0.0 | 5.253 | A |
| C-A | 123 | 31 | | | 123 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 112 | 28 | | | 112 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 466 | 0.019 | 9 | 0.0 | 0.0 | 8.499 | A |
| C-AB | 9 | 2 | 756 | 0.012 | 9 | 0.0 | 0.0 | 5.197 | A |
| C-A | 147 | 37 | | | 147 | | | | |
| A-B | 10 | 2 | | | 10 | | | | |
| A-C | 134 | 33 | | | 134 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 453 | 0.024 | 11 | 0.0 | 0.0 | 8.773 | A |
| C-AB | 12 | 3 | 769 | 0.015 | 12 | 0.0 | 0.0 | 5.121 | A |
| C-A | 179 | 45 | | | 179 | | | | |
| A-B | 12 | 3 | | | 12 | | | | |
| A-C | 164 | 41 | | | 164 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 11 | 3 | 453 | 0.024 | 11 | 0.0 | 0.0 | 8.773 | A |
| C-AB | 12 | 3 | 769 | 0.015 | 12 | 0.0 | 0.0 | 5.121 | A |
| C-A | 179 | 45 | | | 179 | | | | |
| A-B | 12 | 3 | | | 12 | | | | |
| A-C | 164 | 41 | | | 164 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 9 | 2 | 466 | 0.019 | 9 | 0.0 | 0.0 | 8.500 | A |
| C-AB | 9 | 2 | 756 | 0.012 | 9 | 0.0 | 0.0 | 5.197 | A |
| C-A | 147 | 37 | | | 147 | | | | |
| A-B | 10 | 2 | | | 10 | | | | |
| A-C | 134 | 33 | | | 134 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 8 | 2 | 474 | 0.016 | 8 | 0.0 | 0.0 | 8.311 | A |
| C-AB | 7 | 2 | 746 | 0.010 | 7 | 0.0 | 0.0 | 5.253 | A |
| C-A | 123 | 31 | | | 123 | | | | |
| A-B | 8 | 2 | | | 8 | | | | |
| A-C | 112 | 28 | | | 112 | | | | |

| Junctions 9 |
| --- |
| PICADY 9 - Priority Intersection Module |
| Version: 9.5.2.1013<br>© Copyright TRL Limited, 2019 |
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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:** L1127.j9
**Path:** \\192.168.1.33
\ttrsa\projects\T241206_Westmeath_Admiral_Datacentre_Solar_Farm_EIAR_MMP_S1_RSA\eiar_chapter\modelling\L1127
**Report generation date:** 08/07/2025 11:30:36

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»2029 Without Development, AM
»2029 With Construction, AM
»2033 Without Development, AM
»2038 Without Development, AM
»2048 Without Development, AM
»2033 With Operational Development, AM
»2038 With Operational Development, AM
»2048 With Operational Development, AM
»2029 Without Development, PM
»2029 With Construction, PM
»2033 Without Development, PM
»2038 Without Development, PM
»2048 Without Development, PM
»2033 With Operational Development, PM
»2038 With Operational Development, PM
»2048 With Operational Development, PM

## Summary of junction performance

| | AM | | | | | PM | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Set ID | Queue (PCU) | Delay (s) | RFC | LOS | Set ID | Queue (PCU) | Delay (s) | RFC | LOS |
| | 2029 Without Development | | | | | | | | | |
| Stream B-AC | D1 | 0.6 | 10.54 | 0.35 | B | D9 | 0.3 | 8.83 | 0.22 | A |
| Stream C-AB | | 0.6 | 9.69 | 0.37 | A | | 0.2 | 7.23 | 0.16 | A |
| | 2029 With Construction | | | | | | | | | |
| Stream B-AC | D2 | 0.6 | 11.03 | 0.36 | B | D10 | 0.3 | 9.23 | 0.22 | A |
| Stream C-AB | | 0.7 | 9.70 | 0.37 | A | | 0.2 | 7.53 | 0.16 | A |
| | 2033 Without Development | | | | | | | | | |
| Stream B-AC | D3 | 0.6 | 10.77 | 0.36 | B | D11 | 0.3 | 8.90 | 0.22 | A |
| Stream C-AB | | 0.7 | 9.87 | 0.38 | A | | 0.2 | 7.29 | 0.16 | A |
| | 2038 Without Development | | | | | | | | | |
| Stream B-AC | D4 | 0.6 | 11.10 | 0.37 | B | D12 | 0.3 | 9.04 | 0.23 | A |
| Stream C-AB | | 0.7 | 10.11 | 0.40 | B | | 0.2 | 7.36 | 0.17 | A |
| | 2048 Without Development | | | | | | | | | |
| Stream B-AC | D5 | 0.7 | 11.76 | 0.40 | B | D13 | 0.4 | 9.34 | 0.25 | A |
| Stream C-AB | | 0.8 | 10.62 | 0.43 | B | | 0.2 | 7.50 | 0.18 | A |
| | 2033 With Operational Development | | | | | | | | | |
| Stream B-AC | D6 | 0.6 | 11.07 | 0.37 | B | D14 | 0.3 | 9.08 | 0.23 | A |
| Stream C-AB | | 0.7 | 9.87 | 0.39 | A | | 0.2 | 7.39 | 0.17 | A |
| | 2038 With Operational Development | | | | | | | | | |
| Stream B-AC | D7 | 0.7 | 11.41 | 0.38 | B | D15 | 0.3 | 9.23 | 0.23 | A |
| Stream C-AB | | 0.7 | 10.10 | 0.40 | B | | 0.2 | 7.46 | 0.17 | A |
| | 2048 With Operational Development | | | | | | | | | |
| Stream B-AC | D8 | 0.8 | 12.10 | 0.41 | B | D16 | 0.4 | 9.48 | 0.25 | A |
| Stream C-AB | | 0.8 | 10.61 | 0.43 | B | | 0.2 | 7.60 | 0.18 | A |

*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** | Admiral |
| **Location** | R446/L1127 Junction |
| **Site number** | |
| **Date** | 08/07/2025 |
| **Version** | EIAR |
| **Status** | Final |
| **Identifier** | |
| **Client** | Halston |
| **Jobnumber** | 241206 |
| **Enumerator** | TTRSA |
| **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 | Calculate residual capacity | RFC Threshold | Average Delay threshold (s) | Queue threshold (PCU) |
|---|---|---|---|---|---|---|
| 5.75 | | | | 0.85 | 36.00 | 20.00 |

## Demand Set Summary

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D1 | 2029 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D2 | 2029 With Construction | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D3 | 2033 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D4 | 2038 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D5 | 2048 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D6 | 2033 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D7 | 2038 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D8 | 2048 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D9 | 2029 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D10 | 2029 With Construction | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D11 | 2033 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D12 | 2038 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D13 | 2048 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D14 | 2033 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D15 | 2038 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D16 | 2048 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

## Analysis Set Details

| ID | Include in report | Network flow scaling factor (%) | Network capacity scaling factor (%) |
|---|---|---|---|
| A1 | ✓ | 100.000 | 100.000 |

# 2029 Without Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 5.22 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Arms

### Arms

| Arm | Name | Description | Arm type |
|---|---|---|---|
| A | R446 to/from West | | Major |
| B | L1127 Local Road | | Minor |
| C | R446 to/from East | | Major |

### Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Has right turn bay | Width for right turn (m) | Visibility for right turn (m) | Blocks? | Blocking queue (PCU) |
|---|---|---|---|---|---|---|---|
| C | 6.00 | | ✓ | 2.50 | 160.0 | ✓ | 3.00 |

*Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.*

### Minor Arm Geometry

| Arm | Minor arm type | Lane width (m) | Visibility to left (m) | Visibility to right (m) |
|---|---|---|---|---|
| B | One lane | 3.70 | 19 | 15 |

### Slope / Intercept / Capacity

#### Priority Intersection Slopes and Intercepts

| Stream | Intercept (PCU/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|---|---|---|---|---|---|
| B-A | 526 | 0.096 | 0.242 | 0.152 | 0.346 |
| B-C | 678 | 0.104 | 0.263 | - | - |
| C-B | 688 | 0.267 | 0.267 | - | - |

*The slopes and intercepts shown above do NOT include any corrections or adjustments.*

*Streams may be combined, in which case capacity will be adjusted.*

*Values are shown for the first time segment only; they may differ for subsequent time segments.*

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D1 | 2029 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 206 | 100.000 |
| B | | ONE HOUR | ✓ | 178 | 100.000 |
| C | | ONE HOUR | ✓ | 375 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 78 | 128 |
| | B | 31 | 0 | 147 |
| | C | 162 | 213 | 0 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.35 | 10.54 | 0.6 | B | 163 | 245 |
| C-AB | 0.37 | 9.69 | 0.6 | A | 198 | 296 |
| C-A | | | | | 147 | 220 |
| A-B | | | | | 72 | 107 |
| A-C | | | | | 117 | 176 |

### Main Results for each time segment

#### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 134 | 34 | 592 | 0.226 | 133 | 0.0 | 0.3 | 8.432 | A |
| C-AB | 161 | 40 | 650 | 0.248 | 160 | 0.0 | 0.4 | 7.899 | A |
| C-A | 121 | 30 | | | 121 | | | | |
| A-B | 59 | 15 | | | 59 | | | | |
| A-C | 96 | 24 | | | 96 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 160 | 40 | 580 | 0.276 | 160 | 0.3 | 0.4 | 9.214 | A |
| C-AB | 193 | 48 | 644 | 0.300 | 193 | 0.4 | 0.5 | 8.587 | A |
| C-A | 144 | 36 | | | 144 | | | | |
| A-B | 70 | 18 | | | 70 | | | | |
| A-C | 115 | 29 | | | 115 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 196 | 49 | 564 | 0.347 | 195 | 0.4 | 0.6 | 10.498 | B |
| C-AB | 239 | 60 | 639 | 0.374 | 238 | 0.5 | 0.6 | 9.653 | A |
| C-A | 174 | 44 | | | 174 | | | | |
| A-B | 86 | 21 | | | 86 | | | | |
| A-C | 141 | 35 | | | 141 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 196 | 49 | 564 | 0.347 | 196 | 0.6 | 0.6 | 10.537 | B |
| C-AB | 239 | 60 | 639 | 0.374 | 239 | 0.6 | 0.6 | 9.687 | A |
| C-A | 174 | 44 | | | 174 | | | | |
| A-B | 86 | 21 | | | 86 | | | | |
| A-C | 141 | 35 | | | 141 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 160 | 40 | 580 | 0.276 | 161 | 0.6 | 0.4 | 9.262 | A |
| C-AB | 193 | 48 | 644 | 0.300 | 194 | 0.6 | 0.5 | 8.632 | A |
| C-A | 144 | 36 | | | 144 | | | | |
| A-B | 70 | 18 | | | 70 | | | | |
| A-C | 115 | 29 | | | 115 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 134 | 34 | 592 | 0.227 | 134 | 0.4 | 0.3 | 8.495 | A |
| C-AB | 161 | 40 | 650 | 0.248 | 161 | 0.5 | 0.4 | 7.957 | A |
| C-A | 121 | 30 | | | 121 | | | | |
| A-B | 59 | 15 | | | 59 | | | | |
| A-C | 96 | 24 | | | 96 | | | | |

# 2029 With Construction, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 5.17 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D2 | 2029 With Construction | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 212 | 100.000 |
| B | | ONE HOUR | ✓ | 183 | 100.000 |
| C | | ONE HOUR | ✓ | 400 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 80 | 132 |
| | B | 36 | 0 | 147 |
| | C | 187 | 213 | 0 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.36 | 11.03 | 0.6 | B | 168 | 252 |
| C-AB | 0.37 | 9.70 | 0.7 | A | 198 | 297 |
| C-A | | | | | 169 | 254 |
| A-B | | | | | 73 | 110 |
| A-C | | | | | 121 | 182 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 138 | 34 | 583 | 0.236 | 136 | 0.0 | 0.3 | 8.659 | A |
| C-AB | 161 | 40 | 649 | 0.248 | 160 | 0.0 | 0.4 | 7.912 | A |
| C-A | 140 | 35 | | | 140 | | | | |
| A-B | 60 | 15 | | | 60 | | | | |
| A-C | 99 | 25 | | | 99 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 165 | 41 | 571 | 0.288 | 164 | 0.3 | 0.4 | 9.529 | A |
| C-AB | 193 | 48 | 643 | 0.300 | 193 | 0.4 | 0.5 | 8.604 | A |
| C-A | 166 | 42 | | | 166 | | | | |
| A-B | 72 | 18 | | | 72 | | | | |
| A-C | 119 | 30 | | | 119 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 201 | 50 | 553 | 0.364 | 201 | 0.4 | 0.6 | 10.987 | B |
| C-AB | 240 | 60 | 640 | 0.375 | 239 | 0.5 | 0.6 | 9.667 | A |
| C-A | 201 | 50 | | | 201 | | | | |
| A-B | 88 | 22 | | | 88 | | | | |
| A-C | 145 | 36 | | | 145 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 201 | 50 | 553 | 0.364 | 201 | 0.6 | 0.6 | 11.031 | B |
| C-AB | 240 | 60 | 640 | 0.375 | 240 | 0.6 | 0.7 | 9.704 | A |
| C-A | 201 | 50 | | | 201 | | | | |
| A-B | 88 | 22 | | | 88 | | | | |
| A-C | 145 | 36 | | | 145 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 165 | 41 | 571 | 0.288 | 165 | 0.6 | 0.4 | 9.585 | A |
| C-AB | 193 | 48 | 643 | 0.300 | 194 | 0.7 | 0.5 | 8.649 | A |
| C-A | 166 | 42 | | | 166 | | | | |
| A-B | 72 | 18 | | | 72 | | | | |
| A-C | 119 | 30 | | | 119 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 138 | 34 | 583 | 0.236 | 138 | 0.4 | 0.3 | 8.732 | A |
| C-AB | 161 | 40 | 649 | 0.248 | 162 | 0.5 | 0.4 | 7.972 | A |
| C-A | 140 | 35 | | | 140 | | | | |
| A-B | 60 | 15 | | | 60 | | | | |
| A-C | 99 | 25 | | | 99 | | | | |

# 2033 Without Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 5.34 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D3 | 2033 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 211 | 100.000 |
| B | | ONE HOUR | ✓ | 183 | 100.000 |
| C | | ONE HOUR | ✓ | 385 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 80 | 131 |
| | B | 32 | 0 | 151 |
| | C | 166 | 219 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.36 | 10.77 | 0.6 | B | 168 | 252 |
| C-AB | 0.38 | 9.87 | 0.7 | A | 203 | 305 |
| C-A | | | | | 150 | 225 |
| A-B | | | | | 73 | 110 |
| A-C | | | | | 120 | 180 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 138 | 34 | 590 | 0.233 | 136 | 0.0 | 0.3 | 8.531 | A |
| C-AB | 166 | 41 | 649 | 0.255 | 164 | 0.0 | 0.4 | 7.983 | A |
| C-A | 124 | 31 | | | 124 | | | | |
| A-B | 60 | 15 | | | 60 | | | | |
| A-C | 99 | 25 | | | 99 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 165 | 41 | 578 | 0.284 | 164 | 0.3 | 0.4 | 9.356 | A |
| C-AB | 199 | 50 | 643 | 0.309 | 198 | 0.4 | 0.5 | 8.706 | A |
| C-A | 147 | 37 | | | 147 | | | | |
| A-B | 72 | 18 | | | 72 | | | | |
| A-C | 118 | 29 | | | 118 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 201 | 50 | 562 | 0.359 | 201 | 0.4 | 0.6 | 10.732 | B |
| C-AB | 246 | 62 | 639 | 0.385 | 245 | 0.5 | 0.7 | 9.832 | A |
| C-A | 178 | 44 | | | 178 | | | | |
| A-B | 88 | 22 | | | 88 | | | | |
| A-C | 144 | 36 | | | 144 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 201 | 50 | 562 | 0.359 | 201 | 0.6 | 0.6 | 10.773 | B |
| C-AB | 246 | 62 | 639 | 0.385 | 246 | 0.7 | 0.7 | 9.871 | A |
| C-A | 178 | 44 | | | 178 | | | | |
| A-B | 88 | 22 | | | 88 | | | | |
| A-C | 144 | 36 | | | 144 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 165 | 41 | 578 | 0.285 | 165 | 0.6 | 0.4 | 9.411 | A |
| C-AB | 199 | 50 | 643 | 0.309 | 199 | 0.7 | 0.5 | 8.756 | A |
| C-A | 147 | 37 | | | 147 | | | | |
| A-B | 72 | 18 | | | 72 | | | | |
| A-C | 118 | 29 | | | 118 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 138 | 34 | 590 | 0.234 | 138 | 0.4 | 0.3 | 8.598 | A |
| C-AB | 166 | 41 | 649 | 0.255 | 166 | 0.5 | 0.4 | 8.048 | A |
| C-A | 124 | 31 | | | 124 | | | | |
| A-B | 60 | 15 | | | 60 | | | | |
| A-C | 99 | 25 | | | 99 | | | | |

# 2038 Without Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 5.48 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D4 | 2038 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 219 | 100.000 |
| B | | ONE HOUR | ✓ | 190 | 100.000 |
| C | | ONE HOUR | ✓ | 398 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 83 | 136 |
| | B | 33 | 0 | 157 |
| | C | 172 | 226 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.37 | 11.10 | 0.6 | B | 174 | 262 |
| C-AB | 0.40 | 10.11 | 0.7 | B | 210 | 315 |
| C-A | | | | | 155 | 232 |
| A-B | | | | | 76 | 114 |
| A-C | | | | | 125 | 187 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 143 | 36 | 588 | 0.243 | 142 | 0.0 | 0.3 | 8.662 | A |
| C-AB | 171 | 43 | 648 | 0.264 | 169 | 0.0 | 0.4 | 8.091 | A |
| C-A | 129 | 32 | | | 129 | | | | |
| A-B | 62 | 16 | | | 62 | | | | |
| A-C | 102 | 26 | | | 102 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 171 | 43 | 576 | 0.296 | 170 | 0.3 | 0.4 | 9.554 | A |
| C-AB | 205 | 51 | 642 | 0.320 | 205 | 0.4 | 0.5 | 8.859 | A |
| C-A | 153 | 38 | | | 153 | | | | |
| A-B | 75 | 19 | | | 75 | | | | |
| A-C | 122 | 31 | | | 122 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 209 | 52 | 559 | 0.374 | 208 | 0.4 | 0.6 | 11.052 | B |
| C-AB | 255 | 64 | 639 | 0.399 | 254 | 0.5 | 0.7 | 10.062 | B |
| C-A | 184 | 46 | | | 184 | | | | |
| A-B | 91 | 23 | | | 91 | | | | |
| A-C | 150 | 37 | | | 150 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 209 | 52 | 559 | 0.374 | 209 | 0.6 | 0.6 | 11.101 | B |
| C-AB | 255 | 64 | 639 | 0.399 | 255 | 0.7 | 0.7 | 10.106 | B |
| C-A | 184 | 46 | | | 184 | | | | |
| A-B | 91 | 23 | | | 91 | | | | |
| A-C | 150 | 37 | | | 150 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 171 | 43 | 576 | 0.297 | 172 | 0.6 | 0.5 | 9.612 | A |
| C-AB | 205 | 51 | 642 | 0.320 | 206 | 0.7 | 0.5 | 8.914 | A |
| C-A | 153 | 38 | | | 153 | | | | |
| A-B | 75 | 19 | | | 75 | | | | |
| A-C | 122 | 31 | | | 122 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 143 | 36 | 588 | 0.243 | 143 | 0.5 | 0.4 | 8.737 | A |
| C-AB | 171 | 43 | 648 | 0.264 | 171 | 0.5 | 0.4 | 8.161 | A |
| C-A | 129 | 32 | | | 129 | | | | |
| A-B | 62 | 16 | | | 62 | | | | |
| A-C | 102 | 26 | | | 102 | | | | |

# 2048 Without Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 5.80 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D5 | 2048 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 233 | 100.000 |
| B | | ONE HOUR | ✓ | 202 | 100.000 |
| C | | ONE HOUR | ✓ | 424 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 88 | 145 |
| | B | 35 | 0 | 167 |
| | C | 183 | 241 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.40 | 11.76 | 0.7 | B | 185 | 278 |
| C-AB | 0.43 | 10.62 | 0.8 | B | 225 | 338 |
| C-A | | | | | 164 | 246 |
| A-B | | | | | 81 | 121 |
| A-C | | | | | 133 | 200 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 152 | 38 | 585 | 0.260 | 151 | 0.0 | 0.4 | 8.914 | A |
| C-AB | 183 | 46 | 646 | 0.283 | 181 | 0.0 | 0.4 | 8.320 | A |
| C-A | 137 | 34 | | | 137 | | | | |
| A-B | 66 | 17 | | | 66 | | | | |
| A-C | 109 | 27 | | | 109 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 182 | 45 | 571 | 0.318 | 181 | 0.4 | 0.5 | 9.931 | A |
| C-AB | 220 | 55 | 641 | 0.343 | 219 | 0.4 | 0.6 | 9.186 | A |
| C-A | 162 | 40 | | | 162 | | | | |
| A-B | 79 | 20 | | | 79 | | | | |
| A-C | 130 | 33 | | | 130 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 222 | 56 | 553 | 0.403 | 222 | 0.5 | 0.7 | 11.693 | B |
| C-AB | 273 | 68 | 639 | 0.428 | 272 | 0.6 | 0.8 | 10.563 | B |
| C-A | 193 | 48 | | | 193 | | | | |
| A-B | 97 | 24 | | | 97 | | | | |
| A-C | 160 | 40 | | | 160 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 222 | 56 | 552 | 0.403 | 222 | 0.7 | 0.7 | 11.757 | B |
| C-AB | 273 | 68 | 639 | 0.428 | 273 | 0.8 | 0.8 | 10.621 | B |
| C-A | 193 | 48 | | | 193 | | | | |
| A-B | 97 | 24 | | | 97 | | | | |
| A-C | 160 | 40 | | | 160 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 182 | 45 | 571 | 0.318 | 182 | 0.7 | 0.5 | 10.004 | B |
| C-AB | 220 | 55 | 641 | 0.343 | 220 | 0.8 | 0.6 | 9.254 | A |
| C-A | 162 | 40 | | | 162 | | | | |
| A-B | 79 | 20 | | | 79 | | | | |
| A-C | 130 | 33 | | | 130 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 152 | 38 | 584 | 0.260 | 153 | 0.5 | 0.4 | 9.000 | A |
| C-AB | 183 | 46 | 646 | 0.283 | 183 | 0.6 | 0.4 | 8.401 | A |
| C-A | 137 | 34 | | | 137 | | | | |
| A-B | 66 | 17 | | | 66 | | | | |
| A-C | 109 | 27 | | | 109 | | | | |

# 2033 With Operational Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 5.31 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D6 | 2033 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 214 | 100.000 |
| B | | ONE HOUR | ✓ | 186 | 100.000 |
| C | | ONE HOUR | ✓ | 401 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 81 | 133 |
| | B | 35 | 0 | 151 |
| | C | 182 | 219 | 0 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.37 | 11.07 | 0.6 | B | 171 | 256 |
| C-AB | 0.39 | 9.87 | 0.7 | A | 204 | 306 |
| C-A | | | | | 164 | 246 |
| A-B | | | | | 74 | 111 |
| A-C | | | | | 122 | 183 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 140 | 35 | 585 | 0.239 | 139 | 0.0 | 0.3 | 8.666 | A |
| C-AB | 166 | 41 | 648 | 0.255 | 164 | 0.0 | 0.4 | 7.990 | A |
| C-A | 136 | 34 | | | 136 | | | | |
| A-B | 61 | 15 | | | 61 | | | | |
| A-C | 100 | 25 | | | 100 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 167 | 42 | 573 | 0.292 | 167 | 0.3 | 0.4 | 9.548 | A |
| C-AB | 199 | 50 | 643 | 0.309 | 198 | 0.4 | 0.5 | 8.713 | A |
| C-A | 162 | 40 | | | 162 | | | | |
| A-B | 73 | 18 | | | 73 | | | | |
| A-C | 120 | 30 | | | 120 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 205 | 51 | 555 | 0.369 | 204 | 0.4 | 0.6 | 11.028 | B |
| C-AB | 247 | 62 | 640 | 0.385 | 246 | 0.5 | 0.7 | 9.835 | A |
| C-A | 195 | 49 | | | 195 | | | | |
| A-B | 89 | 22 | | | 89 | | | | |
| A-C | 146 | 37 | | | 146 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 205 | 51 | 555 | 0.369 | 205 | 0.6 | 0.6 | 11.075 | B |
| C-AB | 247 | 62 | 640 | 0.385 | 247 | 0.7 | 0.7 | 9.874 | A |
| C-A | 195 | 49 | | | 195 | | | | |
| A-B | 89 | 22 | | | 89 | | | | |
| A-C | 146 | 37 | | | 146 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 167 | 42 | 573 | 0.292 | 168 | 0.6 | 0.5 | 9.606 | A |
| C-AB | 199 | 50 | 643 | 0.309 | 200 | 0.7 | 0.5 | 8.761 | A |
| C-A | 162 | 40 | | | 162 | | | | |
| A-B | 73 | 18 | | | 73 | | | | |
| A-C | 120 | 30 | | | 120 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 140 | 35 | 585 | 0.239 | 140 | 0.5 | 0.3 | 8.741 | A |
| C-AB | 166 | 41 | 648 | 0.255 | 166 | 0.5 | 0.4 | 8.055 | A |
| C-A | 136 | 34 | | | 136 | | | | |
| A-B | 61 | 15 | | | 61 | | | | |
| A-C | 100 | 25 | | | 100 | | | | |

# 2038 With Operational Development, AM

## Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 5.46 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D7 | 2038 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 221 | 100.000 |
| B | | ONE HOUR | ✓ | 193 | 100.000 |
| C | | ONE HOUR | ✓ | 414 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 84 | 137 |
| | B | 36 | 0 | 157 |
| | C | 188 | 226 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.38 | 11.41 | 0.7 | B | 177 | 266 |
| C-AB | 0.40 | 10.10 | 0.7 | B | 211 | 316 |
| C-A | | | | | 169 | 254 |
| A-B | | | | | 77 | 116 |
| A-C | | | | | 126 | 189 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 145 | 36 | 584 | 0.249 | 144 | 0.0 | 0.4 | 8.796 | A |
| C-AB | 171 | 43 | 647 | 0.264 | 170 | 0.0 | 0.4 | 8.094 | A |
| C-A | 141 | 35 | | | 141 | | | | |
| A-B | 63 | 16 | | | 63 | | | | |
| A-C | 103 | 26 | | | 103 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 174 | 43 | 571 | 0.304 | 173 | 0.4 | 0.5 | 9.744 | A |
| C-AB | 205 | 51 | 642 | 0.320 | 205 | 0.4 | 0.5 | 8.860 | A |
| C-A | 167 | 42 | | | 167 | | | | |
| A-B | 76 | 19 | | | 76 | | | | |
| A-C | 123 | 31 | | | 123 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 212 | 53 | 553 | 0.385 | 212 | 0.5 | 0.7 | 11.354 | B |
| C-AB | 255 | 64 | 640 | 0.399 | 254 | 0.5 | 0.7 | 10.056 | B |
| C-A | 201 | 50 | | | 201 | | | | |
| A-B | 92 | 23 | | | 92 | | | | |
| A-C | 151 | 38 | | | 151 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 212 | 53 | 553 | 0.385 | 212 | 0.7 | 0.7 | 11.410 | B |
| C-AB | 255 | 64 | 640 | 0.399 | 255 | 0.7 | 0.7 | 10.098 | B |
| C-A | 201 | 50 | | | 201 | | | | |
| A-B | 92 | 23 | | | 92 | | | | |
| A-C | 151 | 38 | | | 151 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 174 | 43 | 571 | 0.304 | 174 | 0.7 | 0.5 | 9.809 | A |
| C-AB | 205 | 51 | 642 | 0.320 | 206 | 0.7 | 0.5 | 8.916 | A |
| C-A | 167 | 42 | | | 167 | | | | |
| A-B | 76 | 19 | | | 76 | | | | |
| A-C | 123 | 31 | | | 123 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 145 | 36 | 583 | 0.249 | 146 | 0.5 | 0.4 | 8.876 | A |
| C-AB | 171 | 43 | 647 | 0.264 | 172 | 0.5 | 0.4 | 8.163 | A |
| C-A | 141 | 35 | | | 141 | | | | |
| A-B | 63 | 16 | | | 63 | | | | |
| A-C | 103 | 26 | | | 103 | | | | |

# 2048 With Operational Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 5.78 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D8 | 2048 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 235 | 100.000 |
| B | | ONE HOUR | ✓ | 205 | 100.000 |
| C | | ONE HOUR | ✓ | 440 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 89 | 146 |
| | B | 38 | 0 | 167 |
| | C | 199 | 241 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.41 | 12.10 | 0.8 | B | 188 | 282 |
| C-AB | 0.43 | 10.61 | 0.8 | B | 226 | 338 |
| C-A | | | | | 178 | 267 |
| A-B | | | | | 82 | 123 |
| A-C | | | | | 134 | 201 |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 154 | 39 | 580 | 0.266 | 153 | 0.0 | 0.4 | 9.054 | A |
| C-AB | 183 | 46 | 646 | 0.283 | 181 | 0.0 | 0.4 | 8.323 | A |
| C-A | 149 | 37 | | | 149 | | | | |
| A-B | 67 | 17 | | | 67 | | | | |
| A-C | 110 | 27 | | | 110 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 184 | 46 | 566 | 0.326 | 184 | 0.4 | 0.5 | 10.137 | B |
| C-AB | 220 | 55 | 641 | 0.343 | 219 | 0.4 | 0.6 | 9.186 | A |
| C-A | 176 | 44 | | | 176 | | | | |
| A-B | 80 | 20 | | | 80 | | | | |
| A-C | 131 | 33 | | | 131 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 226 | 56 | 546 | 0.413 | 225 | 0.5 | 0.7 | 12.032 | B |
| C-AB | 274 | 69 | 640 | 0.428 | 273 | 0.6 | 0.8 | 10.552 | B |
| C-A | 210 | 53 | | | 210 | | | | |
| A-B | 98 | 24 | | | 98 | | | | |
| A-C | 161 | 40 | | | 161 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 226 | 56 | 546 | 0.413 | 226 | 0.7 | 0.8 | 12.099 | B |
| C-AB | 274 | 69 | 640 | 0.428 | 274 | 0.8 | 0.8 | 10.610 | B |
| C-A | 210 | 53 | | | 210 | | | | |
| A-B | 98 | 24 | | | 98 | | | | |
| A-C | 161 | 40 | | | 161 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 184 | 46 | 566 | 0.326 | 185 | 0.8 | 0.5 | 10.215 | B |
| C-AB | 220 | 55 | 641 | 0.343 | 221 | 0.8 | 0.6 | 9.254 | A |
| C-A | 176 | 44 | | | 176 | | | | |
| A-B | 80 | 20 | | | 80 | | | | |
| A-C | 131 | 33 | | | 131 | | | | |

### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 154 | 39 | 580 | 0.266 | 155 | 0.5 | 0.4 | 9.149 | A |
| C-AB | 183 | 46 | 646 | 0.283 | 183 | 0.6 | 0.4 | 8.405 | A |
| C-A | 149 | 37 | | | 149 | | | | |
| A-B | 67 | 17 | | | 67 | | | | |
| A-C | 110 | 27 | | | 110 | | | | |

# 2029 Without Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 3.02 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D9 | 2029 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 175 | 100.000 |
| B | | ONE HOUR | ✓ | 110 | 100.000 |
| C | | ONE HOUR | ✓ | 257 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 29 | 146 |
| | B | 28 | 0 | 82 |
| | C | 165 | 92 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.22 | 8.83 | 0.3 | A | 101 | 151 |
| C-AB | 0.16 | 7.23 | 0.2 | A | 85 | 127 |
| C-A | | | | | 151 | 227 |
| A-B | | | | | 27 | 40 |
| A-C | | | | | 134 | 201 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 83 | 21 | 584 | 0.142 | 82 | 0.0 | 0.2 | 7.727 | A |
| C-AB | 69 | 17 | 653 | 0.106 | 69 | 0.0 | 0.1 | 6.631 | A |
| C-A | 124 | 31 | | | 124 | | | | |
| A-B | 22 | 5 | | | 22 | | | | |
| A-C | 110 | 27 | | | 110 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 99 | 25 | 574 | 0.172 | 99 | 0.2 | 0.2 | 8.159 | A |
| C-AB | 83 | 21 | 647 | 0.128 | 83 | 0.1 | 0.2 | 6.875 | A |
| C-A | 148 | 37 | | | 148 | | | | |
| A-B | 26 | 7 | | | 26 | | | | |
| A-C | 131 | 33 | | | 131 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 121 | 30 | 561 | 0.216 | 121 | 0.2 | 0.3 | 8.821 | A |
| C-AB | 101 | 25 | 638 | 0.159 | 101 | 0.2 | 0.2 | 7.228 | A |
| C-A | 181 | 45 | | | 181 | | | | |
| A-B | 32 | 8 | | | 32 | | | | |
| A-C | 161 | 40 | | | 161 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 121 | 30 | 560 | 0.216 | 121 | 0.3 | 0.3 | 8.832 | A |
| C-AB | 101 | 25 | 638 | 0.159 | 101 | 0.2 | 0.2 | 7.231 | A |
| C-A | 181 | 45 | | | 181 | | | | |
| A-B | 32 | 8 | | | 32 | | | | |
| A-C | 161 | 40 | | | 161 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 99 | 25 | 574 | 0.172 | 99 | 0.3 | 0.2 | 8.180 | A |
| C-AB | 83 | 21 | 647 | 0.128 | 83 | 0.2 | 0.2 | 6.885 | A |
| C-A | 148 | 37 | | | 148 | | | | |
| A-B | 26 | 7 | | | 26 | | | | |
| A-C | 131 | 33 | | | 131 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 83 | 21 | 584 | 0.142 | 83 | 0.2 | 0.2 | 7.757 | A |
| C-AB | 69 | 17 | 653 | 0.106 | 69 | 0.2 | 0.1 | 6.644 | A |
| C-A | 124 | 31 | | | 124 | | | | |
| A-B | 22 | 5 | | | 22 | | | | |
| A-C | 110 | 27 | | | 110 | | | | |

# 2029 With Construction, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 2.78 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D10 | 2029 With Construction | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 248 | 100.000 |
| B | | ONE HOUR | ✓ | 110 | 100.000 |
| C | | ONE HOUR | ✓ | 257 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 41 | 207 |
| | B | 28 | 0 | 82 |
| | C | 165 | 92 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.22 | 9.23 | 0.3 | A | 101 | 151 |
| C-AB | 0.16 | 7.53 | 0.2 | A | 85 | 127 |
| C-A | | | | | 151 | 227 |
| A-B | | | | | 38 | 56 |
| A-C | | | | | 190 | 285 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 83 | 21 | 571 | 0.145 | 82 | 0.0 | 0.2 | 7.930 | A |
| C-AB | 69 | 17 | 639 | 0.108 | 69 | 0.0 | 0.1 | 6.802 | A |
| C-A | 124 | 31 | | | 124 | | | | |
| A-B | 31 | 8 | | | 31 | | | | |
| A-C | 156 | 39 | | | 156 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 99 | 25 | 558 | 0.177 | 99 | 0.2 | 0.2 | 8.437 | A |
| C-AB | 83 | 21 | 629 | 0.132 | 83 | 0.1 | 0.2 | 7.095 | A |
| C-A | 148 | 37 | | | 148 | | | | |
| A-B | 37 | 9 | | | 37 | | | | |
| A-C | 186 | 47 | | | 186 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 121 | 30 | 541 | 0.224 | 121 | 0.2 | 0.3 | 9.219 | A |
| C-AB | 101 | 25 | 617 | 0.165 | 101 | 0.2 | 0.2 | 7.529 | A |
| C-A | 181 | 45 | | | 181 | | | | |
| A-B | 45 | 11 | | | 45 | | | | |
| A-C | 228 | 57 | | | 228 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 121 | 30 | 541 | 0.224 | 121 | 0.3 | 0.3 | 9.232 | A |
| C-AB | 101 | 25 | 617 | 0.165 | 101 | 0.2 | 0.2 | 7.530 | A |
| C-A | 181 | 45 | | | 181 | | | | |
| A-B | 45 | 11 | | | 45 | | | | |
| A-C | 228 | 57 | | | 228 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 99 | 25 | 558 | 0.177 | 99 | 0.3 | 0.2 | 8.457 | A |
| C-AB | 83 | 21 | 629 | 0.132 | 83 | 0.2 | 0.2 | 7.103 | A |
| C-A | 148 | 37 | | | 148 | | | | |
| A-B | 37 | 9 | | | 37 | | | | |
| A-C | 186 | 47 | | | 186 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 83 | 21 | 571 | 0.145 | 83 | 0.2 | 0.2 | 7.962 | A |
| C-AB | 69 | 17 | 639 | 0.108 | 69 | 0.2 | 0.1 | 6.818 | A |
| C-A | 124 | 31 | | | 124 | | | | |
| A-B | 31 | 8 | | | 31 | | | | |
| A-C | 156 | 39 | | | 156 | | | | |

# 2033 Without Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 3.03 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D11 | 2033 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 180 | 100.000 |
| B | | ONE HOUR | ✓ | 112 | 100.000 |
| C | | ONE HOUR | ✓ | 265 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 30 | 150 |
| | B | 28 | 0 | 84 |
| | C | 170 | 95 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.22 | 8.90 | 0.3 | A | 103 | 154 |
| C-AB | 0.16 | 7.29 | 0.2 | A | 87 | 131 |
| C-A | | | | | 156 | 234 |
| A-B | | | | | 28 | 41 |
| A-C | | | | | 138 | 206 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 84 | 21 | 583 | 0.145 | 84 | 0.0 | 0.2 | 7.757 | A |
| C-AB | 72 | 18 | 653 | 0.110 | 71 | 0.0 | 0.1 | 6.668 | A |
| C-A | 128 | 32 | | | 128 | | | | |
| A-B | 23 | 6 | | | 23 | | | | |
| A-C | 113 | 28 | | | 113 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 101 | 25 | 573 | 0.176 | 100 | 0.2 | 0.2 | 8.204 | A |
| C-AB | 85 | 21 | 646 | 0.132 | 85 | 0.1 | 0.2 | 6.922 | A |
| C-A | 153 | 38 | | | 153 | | | | |
| A-B | 27 | 7 | | | 27 | | | | |
| A-C | 135 | 34 | | | 135 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 123 | 31 | 559 | 0.220 | 123 | 0.2 | 0.3 | 8.884 | A |
| C-AB | 105 | 26 | 637 | 0.165 | 105 | 0.2 | 0.2 | 7.291 | A |
| C-A | 187 | 47 | | | 187 | | | | |
| A-B | 33 | 8 | | | 33 | | | | |
| A-C | 165 | 41 | | | 165 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 123 | 31 | 559 | 0.220 | 123 | 0.3 | 0.3 | 8.897 | A |
| C-AB | 105 | 26 | 637 | 0.165 | 105 | 0.2 | 0.2 | 7.294 | A |
| C-A | 187 | 47 | | | 187 | | | | |
| A-B | 33 | 8 | | | 33 | | | | |
| A-C | 165 | 41 | | | 165 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 101 | 25 | 573 | 0.176 | 101 | 0.3 | 0.2 | 8.221 | A |
| C-AB | 85 | 21 | 646 | 0.132 | 86 | 0.2 | 0.2 | 6.932 | A |
| C-A | 153 | 38 | | | 153 | | | | |
| A-B | 27 | 7 | | | 27 | | | | |
| A-C | 135 | 34 | | | 135 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 84 | 21 | 583 | 0.145 | 85 | 0.2 | 0.2 | 7.786 | A |
| C-AB | 72 | 18 | 653 | 0.110 | 72 | 0.2 | 0.1 | 6.682 | A |
| C-A | 128 | 32 | | | 128 | | | | |
| A-B | 23 | 6 | | | 23 | | | | |
| A-C | 113 | 28 | | | 113 | | | | |

# 2038 Without Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 3.07 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D12 | 2038 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 186 | 100.000 |
| B | | ONE HOUR | ✓ | 116 | 100.000 |
| C | | ONE HOUR | ✓ | 274 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 31 | 155 |
| | B | 29 | 0 | 87 |
| | C | 176 | 98 | 0 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.23 | 9.04 | 0.3 | A | 106 | 160 |
| C-AB | 0.17 | 7.36 | 0.2 | A | 90 | 135 |
| C-A | | | | | 161 | 242 |
| A-B | | | | | 28 | 43 |
| A-C | | | | | 142 | 213 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 87 | 22 | 582 | 0.150 | 87 | 0.0 | 0.2 | 7.829 | A |
| C-AB | 74 | 18 | 651 | 0.113 | 73 | 0.0 | 0.1 | 6.708 | A |
| C-A | 132 | 33 | | | 132 | | | | |
| A-B | 23 | 6 | | | 23 | | | | |
| A-C | 117 | 29 | | | 117 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 104 | 26 | 571 | 0.183 | 104 | 0.2 | 0.2 | 8.303 | A |
| C-AB | 88 | 22 | 644 | 0.137 | 88 | 0.1 | 0.2 | 6.973 | A |
| C-A | 158 | 40 | | | 158 | | | | |
| A-B | 28 | 7 | | | 28 | | | | |
| A-C | 139 | 35 | | | 139 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 128 | 32 | 557 | 0.229 | 127 | 0.2 | 0.3 | 9.028 | A |
| C-AB | 108 | 27 | 635 | 0.170 | 108 | 0.2 | 0.2 | 7.361 | A |
| C-A | 194 | 48 | | | 194 | | | | |
| A-B | 34 | 9 | | | 34 | | | | |
| A-C | 171 | 43 | | | 171 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 128 | 32 | 557 | 0.229 | 128 | 0.3 | 0.3 | 9.041 | A |
| C-AB | 108 | 27 | 635 | 0.170 | 108 | 0.2 | 0.2 | 7.362 | A |
| C-A | 194 | 48 | | | 194 | | | | |
| A-B | 34 | 9 | | | 34 | | | | |
| A-C | 171 | 43 | | | 171 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 104 | 26 | 571 | 0.183 | 105 | 0.3 | 0.2 | 8.323 | A |
| C-AB | 88 | 22 | 644 | 0.137 | 88 | 0.2 | 0.2 | 6.983 | A |
| C-A | 158 | 40 | | | 158 | | | | |
| A-B | 28 | 7 | | | 28 | | | | |
| A-C | 139 | 35 | | | 139 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 87 | 22 | 581 | 0.150 | 88 | 0.2 | 0.2 | 7.860 | A |
| C-AB | 74 | 18 | 651 | 0.113 | 74 | 0.2 | 0.1 | 6.721 | A |
| C-A | 132 | 33 | | | 132 | | | | |
| A-B | 23 | 6 | | | 23 | | | | |
| A-C | 117 | 29 | | | 117 | | | | |

# 2048 Without Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 3.16 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D13 | 2048 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 198 | 100.000 |
| B | | ONE HOUR | ✓ | 124 | 100.000 |
| C | | ONE HOUR | ✓ | 291 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 33 | 165 |
| | B | 31 | 0 | 93 |
| | C | 187 | 104 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.25 | 9.34 | 0.4 | A | 114 | 171 |
| C-AB | 0.18 | 7.50 | 0.2 | A | 96 | 143 |
| C-A | | | | | 171 | 257 |
| A-B | | | | | 30 | 45 |
| A-C | | | | | 151 | 227 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 93 | 23 | 578 | 0.161 | 93 | 0.0 | 0.2 | 7.976 | A |
| C-AB | 78 | 20 | 649 | 0.121 | 78 | 0.0 | 0.1 | 6.786 | A |
| C-A | 141 | 35 | | | 141 | | | | |
| A-B | 25 | 6 | | | 25 | | | | |
| A-C | 124 | 31 | | | 124 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 111 | 28 | 567 | 0.197 | 111 | 0.2 | 0.3 | 8.505 | A |
| C-AB | 94 | 23 | 642 | 0.146 | 93 | 0.1 | 0.2 | 7.076 | A |
| C-A | 168 | 42 | | | 168 | | | | |
| A-B | 30 | 7 | | | 30 | | | | |
| A-C | 148 | 37 | | | 148 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 137 | 34 | 552 | 0.247 | 136 | 0.3 | 0.3 | 9.327 | A |
| C-AB | 115 | 29 | 632 | 0.182 | 115 | 0.2 | 0.2 | 7.496 | A |
| C-A | 206 | 51 | | | 206 | | | | |
| A-B | 36 | 9 | | | 36 | | | | |
| A-C | 182 | 45 | | | 182 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 137 | 34 | 552 | 0.247 | 137 | 0.3 | 0.4 | 9.342 | A |
| C-AB | 115 | 29 | 632 | 0.182 | 115 | 0.2 | 0.2 | 7.502 | A |
| C-A | 206 | 51 | | | 206 | | | | |
| A-B | 36 | 9 | | | 36 | | | | |
| A-C | 182 | 45 | | | 182 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 111 | 28 | 567 | 0.197 | 112 | 0.4 | 0.3 | 8.529 | A |
| C-AB | 94 | 23 | 642 | 0.146 | 94 | 0.2 | 0.2 | 7.087 | A |
| C-A | 168 | 42 | | | 168 | | | | |
| A-B | 30 | 7 | | | 30 | | | | |
| A-C | 148 | 37 | | | 148 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 93 | 23 | 578 | 0.161 | 94 | 0.3 | 0.2 | 8.012 | A |
| C-AB | 78 | 20 | 649 | 0.121 | 78 | 0.2 | 0.1 | 6.805 | A |
| C-A | 141 | 35 | | | 141 | | | | |
| A-B | 25 | 6 | | | 25 | | | | |
| A-C | 124 | 31 | | | 124 | | | | |

# 2033 With Operational Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 2.98 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D14 | 2033 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 203 | 100.000 |
| B | | ONE HOUR | ✓ | 113 | 100.000 |
| C | | ONE HOUR | ✓ | 265 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 34 | 169 |
| | B | 29 | 0 | 84 |
| | C | 170 | 95 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.23 | 9.08 | 0.3 | A | 104 | 156 |
| C-AB | 0.17 | 7.39 | 0.2 | A | 87 | 131 |
| C-A | | | | | 156 | 234 |
| A-B | | | | | 31 | 47 |
| A-C | | | | | 155 | 233 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 85 | 21 | 578 | 0.147 | 84 | 0.0 | 0.2 | 7.854 | A |
| C-AB | 72 | 18 | 648 | 0.110 | 71 | 0.0 | 0.1 | 6.722 | A |
| C-A | 128 | 32 | | | 128 | | | | |
| A-B | 26 | 6 | | | 26 | | | | |
| A-C | 127 | 32 | | | 127 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 102 | 25 | 567 | 0.179 | 101 | 0.2 | 0.2 | 8.333 | A |
| C-AB | 85 | 21 | 640 | 0.134 | 85 | 0.1 | 0.2 | 6.991 | A |
| C-A | 153 | 38 | | | 153 | | | | |
| A-B | 31 | 8 | | | 31 | | | | |
| A-C | 152 | 38 | | | 152 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 124 | 31 | 552 | 0.225 | 124 | 0.2 | 0.3 | 9.066 | A |
| C-AB | 105 | 26 | 630 | 0.166 | 105 | 0.2 | 0.2 | 7.384 | A |
| C-A | 187 | 47 | | | 187 | | | | |
| A-B | 37 | 9 | | | 37 | | | | |
| A-C | 186 | 47 | | | 186 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 124 | 31 | 552 | 0.225 | 124 | 0.3 | 0.3 | 9.079 | A |
| C-AB | 105 | 26 | 630 | 0.166 | 105 | 0.2 | 0.2 | 7.387 | A |
| C-A | 187 | 47 | | | 187 | | | | |
| A-B | 37 | 9 | | | 37 | | | | |
| A-C | 186 | 47 | | | 186 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 102 | 25 | 567 | 0.179 | 102 | 0.3 | 0.2 | 8.353 | A |
| C-AB | 85 | 21 | 640 | 0.134 | 86 | 0.2 | 0.2 | 6.998 | A |
| C-A | 153 | 38 | | | 153 | | | | |
| A-B | 31 | 8 | | | 31 | | | | |
| A-C | 152 | 38 | | | 152 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 85 | 21 | 578 | 0.147 | 85 | 0.2 | 0.2 | 7.887 | A |
| C-AB | 72 | 18 | 648 | 0.110 | 72 | 0.2 | 0.1 | 6.735 | A |
| C-A | 128 | 32 | | | 128 | | | | |
| A-B | 26 | 6 | | | 26 | | | | |
| A-C | 127 | 32 | | | 127 | | | | |

# 2038 With Operational Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 3.02 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D15 | 2038 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 209 | 100.000 |
| B | | ONE HOUR | ✓ | 117 | 100.000 |
| C | | ONE HOUR | ✓ | 274 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 35 | 174 |
| | B | 30 | 0 | 87 |
| | C | 176 | 98 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.23 | 9.23 | 0.3 | A | 107 | 161 |
| C-AB | 0.17 | 7.46 | 0.2 | A | 90 | 135 |
| C-A | | | | | 161 | 242 |
| A-B | | | | | 32 | 48 |
| A-C | | | | | 160 | 239 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 88 | 22 | 576 | 0.153 | 87 | 0.0 | 0.2 | 7.941 | A |
| C-AB | 74 | 18 | 647 | 0.114 | 73 | 0.0 | 0.1 | 6.762 | A |
| C-A | 132 | 33 | | | 132 | | | | |
| A-B | 26 | 7 | | | 26 | | | | |
| A-C | 131 | 33 | | | 131 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 105 | 26 | 565 | 0.186 | 105 | 0.2 | 0.2 | 8.434 | A |
| C-AB | 88 | 22 | 639 | 0.138 | 88 | 0.1 | 0.2 | 7.043 | A |
| C-A | 158 | 40 | | | 158 | | | | |
| A-B | 31 | 8 | | | 31 | | | | |
| A-C | 156 | 39 | | | 156 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 129 | 32 | 549 | 0.235 | 128 | 0.2 | 0.3 | 9.213 | A |
| C-AB | 108 | 27 | 628 | 0.172 | 108 | 0.2 | 0.2 | 7.450 | A |
| C-A | 194 | 48 | | | 194 | | | | |
| A-B | 39 | 10 | | | 39 | | | | |
| A-C | 192 | 48 | | | 192 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 129 | 32 | 549 | 0.235 | 129 | 0.3 | 0.3 | 9.228 | A |
| C-AB | 108 | 27 | 628 | 0.172 | 108 | 0.2 | 0.2 | 7.457 | A |
| C-A | 194 | 48 | | | 194 | | | | |
| A-B | 39 | 10 | | | 39 | | | | |
| A-C | 192 | 48 | | | 192 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 105 | 26 | 565 | 0.186 | 105 | 0.3 | 0.2 | 8.454 | A |
| C-AB | 88 | 22 | 639 | 0.138 | 88 | 0.2 | 0.2 | 7.050 | A |
| C-A | 158 | 40 | | | 158 | | | | |
| A-B | 31 | 8 | | | 31 | | | | |
| A-C | 156 | 39 | | | 156 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 88 | 22 | 576 | 0.153 | 88 | 0.2 | 0.2 | 7.963 | A |
| C-AB | 74 | 18 | 647 | 0.114 | 74 | 0.2 | 0.1 | 6.776 | A |
| C-A | 132 | 33 | | | 132 | | | | |
| A-B | 26 | 7 | | | 26 | | | | |
| A-C | 131 | 33 | | | 131 | | | | |

# 2048 With Operational Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/L5125 Junction | T-Junction | Two-way | | 3.09 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D16 | 2048 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 221 | 100.000 |
| B | | ONE HOUR | ✓ | 124 | 100.000 |
| C | | ONE HOUR | ✓ | 292 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 37 | 184 |
| | B | 31 | 0 | 93 |
| | C | 188 | 104 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| B-AC | 0.25 | 9.48 | 0.4 | A | 114 | 171 |
| C-AB | 0.18 | 7.60 | 0.2 | A | 96 | 143 |
| C-A | | | | | 172 | 259 |
| A-B | | | | | 34 | 51 |
| A-C | | | | | 169 | 253 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 93 | 23 | 574 | 0.163 | 93 | 0.0 | 0.2 | 8.045 | A |
| C-AB | 78 | 20 | 644 | 0.122 | 78 | 0.0 | 0.1 | 6.841 | A |
| C-A | 141 | 35 | | | 141 | | | | |
| A-B | 28 | 7 | | | 28 | | | | |
| A-C | 139 | 35 | | | 139 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 111 | 28 | 562 | 0.198 | 111 | 0.2 | 0.3 | 8.598 | A |
| C-AB | 94 | 23 | 636 | 0.147 | 93 | 0.1 | 0.2 | 7.148 | A |
| C-A | 169 | 42 | | | 169 | | | | |
| A-B | 33 | 8 | | | 33 | | | | |
| A-C | 165 | 41 | | | 165 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 137 | 34 | 546 | 0.250 | 136 | 0.3 | 0.4 | 9.463 | A |
| C-AB | 115 | 29 | 625 | 0.184 | 115 | 0.2 | 0.2 | 7.595 | A |
| C-A | 207 | 52 | | | 207 | | | | |
| A-B | 41 | 10 | | | 41 | | | | |
| A-C | 203 | 51 | | | 203 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 137 | 34 | 546 | 0.250 | 137 | 0.4 | 0.4 | 9.481 | A |
| C-AB | 115 | 29 | 625 | 0.184 | 115 | 0.2 | 0.2 | 7.601 | A |
| C-A | 207 | 52 | | | 207 | | | | |
| A-B | 41 | 10 | | | 41 | | | | |
| A-C | 203 | 51 | | | 203 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 111 | 28 | 562 | 0.198 | 112 | 0.4 | 0.3 | 8.623 | A |
| C-AB | 94 | 23 | 636 | 0.147 | 94 | 0.2 | 0.2 | 7.159 | A |
| C-A | 169 | 42 | | | 169 | | | | |
| A-B | 33 | 8 | | | 33 | | | | |
| A-C | 165 | 41 | | | 165 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 93 | 23 | 574 | 0.163 | 94 | 0.3 | 0.2 | 8.081 | A |
| C-AB | 78 | 20 | 644 | 0.122 | 78 | 0.2 | 0.2 | 6.858 | A |
| C-A | 141 | 35 | | | 141 | | | | |
| A-B | 28 | 7 | | | 28 | | | | |
| A-C | 139 | 35 | | | 139 | | | | |

# Junctions 9

## ARCADY 9 - Roundabout Module

Version: 9.5.2.1013




**Filename:** R400.j9
**Path:** \\192.168.1.33\ttrsa\projects\T241206_Westmeath_Admiral_Datacentre_Solar_Farm_EIAR_MMP_S1_RSA\eiar_chapter\modelling\R400
**Report generation date:** 08/07/2025 11:35:40

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»2029 Without Development, AM
»2029 With Construction, AM
»2033 Without Development, AM
»2038 Without Development, AM
»2048 Without Development, AM
»2033 With Operational Development, AM
»2038 With Operational Development, AM
»2048 With Operational Development, AM
»2029 Without Development, PM
»2029 With Construction, PM
»2033 Without Development, PM
»2038 Without Development, PM
»2048 Without Development, PM
»2033 With Operational Development, PM
»2038 With Operational Development, PM
»2048 With Operational Development, PM

## Summary of junction performance

| | AM | | | | | PM | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Set ID | Queue (PCU) | Delay (s) | RFC | LOS | Set ID | Queue (PCU) | Delay (s) | RFC | LOS |
| | 2029 Without Development | | | | | | | | | |
| Arm A | D1 | 0.6 | 4.72 | 0.35 | A | D9 | 0.4 | 4.12 | 0.27 | A |
| Arm B | | 0.4 | 6.80 | 0.28 | A | | 0.3 | 5.82 | 0.23 | A |
| Arm C | | 0.4 | 4.09 | 0.25 | A | | 0.3 | 3.85 | 0.20 | A |
| | 2029 With Construction | | | | | | | | | |
| Arm A | D2 | 0.6 | 4.85 | 0.37 | A | D10 | 0.4 | 4.13 | 0.27 | A |
| Arm B | | 0.4 | 7.05 | 0.29 | A | | 0.3 | 5.83 | 0.23 | A |
| Arm C | | 0.4 | 4.10 | 0.25 | A | | 0.3 | 3.88 | 0.21 | A |
| | 2033 Without Development | | | | | | | | | |
| Arm A | D3 | 0.6 | 4.80 | 0.36 | A | D11 | 0.4 | 4.17 | 0.28 | A |
| Arm B | | 0.4 | 6.94 | 0.29 | A | | 0.3 | 5.91 | 0.24 | A |
| Arm C | | 0.4 | 4.13 | 0.26 | A | | 0.3 | 3.89 | 0.21 | A |
| | 2038 Without Development | | | | | | | | | |
| Arm A | D4 | 0.6 | 4.91 | 0.37 | A | D12 | 0.4 | 4.24 | 0.29 | A |
| Arm B | | 0.5 | 7.14 | 0.30 | A | | 0.4 | 6.03 | 0.25 | A |
| Arm C | | 0.4 | 4.19 | 0.26 | A | | 0.3 | 3.94 | 0.22 | A |
| | 2048 Without Development | | | | | | | | | |
| Arm A | D5 | 0.7 | 5.14 | 0.40 | A | D13 | 0.5 | 4.36 | 0.31 | A |
| Arm B | | 0.5 | 7.56 | 0.32 | A | | 0.4 | 6.25 | 0.27 | A |
| Arm C | | 0.4 | 4.33 | 0.28 | A | | 0.3 | 4.05 | 0.23 | A |
| | 2033 With Operational Development | | | | | | | | | |
| Arm A | D6 | 0.6 | 4.88 | 0.37 | A | D14 | 0.4 | 4.19 | 0.28 | A |
| Arm B | | 0.4 | 7.11 | 0.29 | A | | 0.3 | 5.91 | 0.24 | A |
| Arm C | | 0.4 | 4.14 | 0.26 | A | | 0.3 | 3.97 | 0.23 | A |
| | 2038 With Operational Development | | | | | | | | | |
| Arm A | D7 | 0.7 | 5.00 | 0.39 | A | D15 | 0.4 | 4.26 | 0.29 | A |
| Arm B | | 0.5 | 7.31 | 0.31 | A | | 0.4 | 6.03 | 0.25 | A |
| Arm C | | 0.4 | 4.20 | 0.27 | A | | 0.3 | 4.04 | 0.24 | A |
| | 2048 With Operational Development | | | | | | | | | |
| Arm A | D8 | 0.8 | 5.24 | 0.41 | A | D16 | 0.5 | 4.39 | 0.31 | A |
| Arm B | | 0.5 | 7.76 | 0.33 | A | | 0.4 | 6.26 | 0.27 | A |
| Arm C | | 0.4 | 4.34 | 0.28 | A | | 0.4 | 4.14 | 0.25 | A |

*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** | Admiral |
| **Location** | R446/R400 mini-roundabout junction |
| **Site number** | |
| **Date** | 08/07/2025 |
| **Version** | EIAR |
| **Status** | Final |
| **Identifier** | |
| **Client** | Halston |
| **Jobnumber** | 241206 |
| **Enumerator** | TTRSA |
| **Description** | |

## Units

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

## Analysis Options

| Mini-roundabout model | Vehicle length (m) | Calculate Queue Percentiles | Calculate detailed queueing delay | Calculate residual capacity | RFC Threshold | Average Delay threshold (s) | Queue threshold (PCU) |
|---|---|---|---|---|---|---|---|
| JUNCTIONS 9 | 5.75 | | | | 0.85 | 36.00 | 20.00 |

## Demand Set Summary

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D1 | 2029 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D2 | 2029 With Construction | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D3 | 2033 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D4 | 2038 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D5 | 2048 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D6 | 2033 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D7 | 2038 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D8 | 2048 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |
| D9 | 2029 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D10 | 2029 With Construction | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D11 | 2033 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D12 | 2038 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D13 | 2048 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D14 | 2033 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D15 | 2038 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D16 | 2048 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

## Analysis Set Details

| ID | Include in report | Network flow scaling factor (%) | Network capacity scaling factor (%) |
|---|---|---|---|
| A1 | ✓ | 100.000 | 100.000 |

# 2029 Without Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/R400 mini-roundabout junction | Mini-roundabout | | A, B, C | 4.98 | A |

### Junction Network Options

| Driving side | Lighting | Road surface | In London |
|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | |

## Arms

### Arms

| Arm | Name | Description |
|---|---|---|
| A | R446 to/from East | |
| B | R400 to/from South | |
| C | R446 to/from West | |

### Mini Roundabout Geometry

| Arm | Approach road half-width (m) | Minimum approach road half-width (m) | Entry width (m) | Effective flare length (m) | Distance to next arm (m) | Entry corner kerb line distance (m) | Gradient over 50m (%) | Kerbed central island |
|---|---|---|---|---|---|---|---|---|
| A | 6.53 | 6.53 | 8.15 | 4.2 | 14.35 | 11.76 | 0.0 | |
| B | 3.43 | 3.37 | 7.30 | 8.3 | 15.90 | 13.35 | 0.0 | |
| C | 3.12 | 3.12 | 6.51 | 6.1 | 19.50 | 19.24 | 0.0 | |

### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

| Arm | Final slope | Final intercept (PCU/hr) |
|---|---|---|
| A | 0.757 | 1348 |
| B | 0.674 | 1018 |
| C | 0.849 | 1378 |

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

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D1 | 2029 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 405 | 100.000 |
| B | | ONE HOUR | ✓ | 198 | 100.000 |
| C | | ONE HOUR | ✓ | 285 | 100.000 |

# Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 10 | 105 | 290 |
| | B | 113 | 0 | 85 |
| | C | 189 | 87 | 9 |

# Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.35 | 4.72 | 0.6 | A | 372 | 557 |
| B | 0.28 | 6.80 | 0.4 | A | 182 | 273 |
| C | 0.25 | 4.09 | 0.4 | A | 262 | 392 |

### 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 305 | 76 | 72 | 1293 | 0.236 | 304 | 234 | 0.0 | 0.3 | 3.917 | A |
| B | 149 | 37 | 232 | 862 | 0.173 | 148 | 144 | 0.0 | 0.2 | 5.430 | A |
| C | 215 | 54 | 92 | 1300 | 0.165 | 214 | 288 | 0.0 | 0.2 | 3.572 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 364 | 91 | 86 | 1282 | 0.284 | 364 | 280 | 0.3 | 0.4 | 4.222 | A |
| B | 178 | 44 | 277 | 831 | 0.214 | 178 | 172 | 0.2 | 0.3 | 5.937 | A |
| C | 256 | 64 | 110 | 1285 | 0.199 | 256 | 345 | 0.2 | 0.3 | 3.772 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 446 | 111 | 106 | 1268 | 0.352 | 445 | 343 | 0.4 | 0.6 | 4.716 | A |
| B | 218 | 55 | 340 | 789 | 0.276 | 218 | 211 | 0.3 | 0.4 | 6.784 | A |
| C | 314 | 78 | 135 | 1264 | 0.248 | 313 | 422 | 0.3 | 0.4 | 4.083 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 446 | 111 | 106 | 1268 | 0.352 | 446 | 344 | 0.6 | 0.6 | 4.722 | A |
| B | 218 | 55 | 340 | 789 | 0.276 | 218 | 211 | 0.4 | 0.4 | 6.798 | A |
| C | 314 | 78 | 135 | 1263 | 0.248 | 314 | 423 | 0.4 | 0.4 | 4.086 | A |

### 09:00 - 09:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 364 | 91 | 86 | 1282 | 0.284 | 365 | 281 | 0.6 | 0.4 | 4.232 | A |
| B | 178 | 44 | 278 | 831 | 0.214 | 178 | 173 | 0.4 | 0.3 | 5.957 | A |
| C | 256 | 64 | 111 | 1284 | 0.199 | 257 | 346 | 0.4 | 0.3 | 3.779 | A |

### 09:15 - 09:30

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 305 | 76 | 72 | 1293 | 0.236 | 305 | 235 | 0.4 | 0.3 | 3.931 | A |
| B | 149 | 37 | 233 | 861 | 0.173 | 149 | 145 | 0.3 | 0.2 | 5.454 | A |
| C | 215 | 54 | 93 | 1300 | 0.165 | 215 | 289 | 0.3 | 0.2 | 3.576 | A |

# 2029 With Construction, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/R400 mini-roundabout junction | Mini-roundabout | | A, B, C | 5.11 | A |

### Junction Network Options

| Driving side | Lighting | Road surface | In London |
|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D2 | 2029 With Construction | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 424 | 100.000 |
| B | | ONE HOUR | ✓ | 204 | 100.000 |
| C | | ONE HOUR | ✓ | 288 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 10 | 105 | 309 |
| | B | 113 | 0 | 91 |
| | C | 191 | 88 | 9 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.37 | 4.85 | 0.6 | A | 389 | 584 |
| B | 0.29 | 7.05 | 0.4 | A | 187 | 281 |
| C | 0.25 | 4.10 | 0.4 | A | 264 | 396 |

## 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 319 | 80 | 73 | 1293 | 0.247 | 318 | 235 | 0.0 | 0.4 | 3.976 | A |
| B | 154 | 38 | 246 | 852 | 0.180 | 153 | 145 | 0.0 | 0.2 | 5.540 | A |
| C | 217 | 54 | 92 | 1300 | 0.167 | 216 | 306 | 0.0 | 0.2 | 3.573 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 381 | 95 | 87 | 1282 | 0.297 | 381 | 282 | 0.4 | 0.5 | 4.306 | A |
| B | 183 | 46 | 295 | 820 | 0.224 | 183 | 173 | 0.2 | 0.3 | 6.095 | A |
| C | 259 | 65 | 110 | 1285 | 0.202 | 259 | 367 | 0.2 | 0.3 | 3.782 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 467 | 117 | 107 | 1267 | 0.369 | 466 | 345 | 0.5 | 0.6 | 4.842 | A |
| B | 225 | 56 | 361 | 775 | 0.290 | 224 | 212 | 0.3 | 0.4 | 7.039 | A |
| C | 317 | 79 | 135 | 1264 | 0.251 | 317 | 450 | 0.3 | 0.4 | 4.097 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 467 | 117 | 107 | 1267 | 0.369 | 467 | 346 | 0.6 | 0.6 | 4.851 | A |
| B | 225 | 56 | 361 | 775 | 0.290 | 225 | 212 | 0.4 | 0.4 | 7.054 | A |
| C | 317 | 79 | 135 | 1263 | 0.251 | 317 | 450 | 0.4 | 0.4 | 4.100 | A |

### 09:00 - 09:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 381 | 95 | 87 | 1281 | 0.297 | 382 | 283 | 0.6 | 0.5 | 4.316 | A |
| B | 183 | 46 | 295 | 819 | 0.224 | 184 | 174 | 0.4 | 0.3 | 6.114 | A |
| C | 259 | 65 | 111 | 1284 | 0.202 | 259 | 368 | 0.4 | 0.3 | 3.786 | A |

### 09:15 - 09:30

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 319 | 80 | 73 | 1292 | 0.247 | 320 | 237 | 0.5 | 0.4 | 3.993 | A |
| B | 154 | 38 | 247 | 851 | 0.180 | 154 | 145 | 0.3 | 0.2 | 5.567 | A |
| C | 217 | 54 | 93 | 1300 | 0.167 | 217 | 308 | 0.3 | 0.2 | 3.587 | A |

# 2033 Without Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/R400 mini-roundabout junction | Mini-roundabout | | A, B, C | 5.06 | A |

### Junction Network Options

| Driving side | Lighting | Road surface | In London |
|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D3 | 2033 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 415 | 100.000 |
| B | | ONE HOUR | ✓ | 204 | 100.000 |
| C | | ONE HOUR | ✓ | 292 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 10 | 108 | 297 |
| | B | 116 | 0 | 88 |
| | C | 194 | 89 | 9 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.36 | 4.80 | 0.6 | A | 381 | 571 |
| B | 0.29 | 6.94 | 0.4 | A | 187 | 281 |
| C | 0.26 | 4.13 | 0.4 | A | 268 | 402 |

## 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 312 | 78 | 73 | 1292 | 0.242 | 311 | 240 | 0.0 | 0.3 | 3.950 | A |
| B | 154 | 38 | 237 | 858 | 0.179 | 153 | 148 | 0.0 | 0.2 | 5.492 | A |
| C | 220 | 55 | 94 | 1298 | 0.169 | 219 | 295 | 0.0 | 0.2 | 3.591 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 373 | 93 | 88 | 1281 | 0.291 | 373 | 287 | 0.3 | 0.4 | 4.270 | A |
| B | 183 | 46 | 284 | 827 | 0.222 | 183 | 177 | 0.2 | 0.3 | 6.026 | A |
| C | 263 | 66 | 113 | 1282 | 0.205 | 262 | 354 | 0.2 | 0.3 | 3.803 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 457 | 114 | 108 | 1266 | 0.361 | 456 | 352 | 0.4 | 0.6 | 4.788 | A |
| B | 225 | 56 | 347 | 784 | 0.287 | 224 | 217 | 0.3 | 0.4 | 6.927 | A |
| C | 321 | 80 | 138 | 1261 | 0.255 | 321 | 433 | 0.3 | 0.4 | 4.129 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 457 | 114 | 108 | 1266 | 0.361 | 457 | 352 | 0.6 | 0.6 | 4.796 | A |
| B | 225 | 56 | 348 | 784 | 0.287 | 225 | 217 | 0.4 | 0.4 | 6.942 | A |
| C | 321 | 80 | 139 | 1261 | 0.255 | 321 | 434 | 0.4 | 0.4 | 4.131 | A |

### 09:00 - 09:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 373 | 93 | 88 | 1281 | 0.291 | 374 | 288 | 0.6 | 0.4 | 4.282 | A |
| B | 183 | 46 | 285 | 826 | 0.222 | 184 | 177 | 0.4 | 0.3 | 6.047 | A |
| C | 263 | 66 | 114 | 1282 | 0.205 | 263 | 355 | 0.4 | 0.3 | 3.811 | A |

### 09:15 - 09:30

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 312 | 78 | 74 | 1292 | 0.242 | 313 | 241 | 0.4 | 0.3 | 3.966 | A |
| B | 154 | 38 | 238 | 858 | 0.179 | 154 | 148 | 0.3 | 0.2 | 5.519 | A |
| C | 220 | 55 | 95 | 1298 | 0.169 | 220 | 297 | 0.3 | 0.2 | 3.603 | A |

# 2038 Without Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/R400 mini-roundabout junction | Mini-roundabout | | A, B, C | 5.18 | A |

### Junction Network Options

| Driving side | Lighting | Road surface | In London |
|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D4 | 2038 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 430 | 100.000 |
| B | | ONE HOUR | ✓ | 211 | 100.000 |
| C | | ONE HOUR | ✓ | 301 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 10 | 112 | 308 |
| | B | 120 | 0 | 91 |
| | C | 200 | 92 | 9 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.37 | 4.91 | 0.6 | A | 395 | 592 |
| B | 0.30 | 7.14 | 0.5 | A | 194 | 290 |
| C | 0.26 | 4.19 | 0.4 | A | 276 | 414 |

## 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 324 | 81 | 76 | 1290 | 0.251 | 322 | 247 | 0.0 | 0.4 | 4.003 | A |
| B | 159 | 40 | 245 | 853 | 0.186 | 158 | 153 | 0.0 | 0.2 | 5.575 | A |
| C | 227 | 57 | 97 | 1296 | 0.175 | 226 | 306 | 0.0 | 0.2 | 3.622 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 387 | 97 | 91 | 1279 | 0.302 | 386 | 296 | 0.4 | 0.5 | 4.345 | A |
| B | 190 | 47 | 294 | 820 | 0.231 | 189 | 183 | 0.2 | 0.3 | 6.150 | A |
| C | 271 | 68 | 117 | 1279 | 0.212 | 270 | 366 | 0.2 | 0.3 | 3.845 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 473 | 118 | 111 | 1264 | 0.375 | 473 | 363 | 0.5 | 0.6 | 4.903 | A |
| B | 232 | 58 | 359 | 776 | 0.299 | 232 | 224 | 0.3 | 0.5 | 7.126 | A |
| C | 331 | 83 | 143 | 1257 | 0.264 | 331 | 448 | 0.3 | 0.4 | 4.188 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 473 | 118 | 111 | 1263 | 0.375 | 473 | 363 | 0.6 | 0.6 | 4.912 | A |
| B | 232 | 58 | 360 | 775 | 0.300 | 232 | 225 | 0.5 | 0.5 | 7.145 | A |
| C | 331 | 83 | 143 | 1257 | 0.264 | 331 | 449 | 0.4 | 0.4 | 4.192 | A |

### 09:00 - 09:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 387 | 97 | 91 | 1279 | 0.302 | 387 | 297 | 0.6 | 0.5 | 4.357 | A |
| B | 190 | 47 | 294 | 820 | 0.231 | 190 | 184 | 0.5 | 0.3 | 6.173 | A |
| C | 271 | 68 | 117 | 1279 | 0.212 | 271 | 368 | 0.4 | 0.3 | 3.851 | A |

### 09:15 - 09:30

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 324 | 81 | 76 | 1290 | 0.251 | 324 | 249 | 0.5 | 0.4 | 4.019 | A |
| B | 159 | 40 | 247 | 852 | 0.186 | 159 | 154 | 0.3 | 0.2 | 5.604 | A |
| C | 227 | 57 | 98 | 1295 | 0.175 | 227 | 308 | 0.3 | 0.2 | 3.632 | A |

# 2048 Without Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/R400 mini-roundabout junction | Mini-roundabout | | A, B, C | 5.42 | A |

### Junction Network Options

| Driving side | Lighting | Road surface | In London |
|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D5 | 2048 Without Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 457 | 100.000 |
| B | | ONE HOUR | ✓ | 224 | 100.000 |
| C | | ONE HOUR | ✓ | 321 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 11 | 119 | 327 |
| | B | 127 | 0 | 97 |
| | C | 213 | 98 | 10 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.40 | 5.14 | 0.7 | A | 419 | 629 |
| B | 0.32 | 7.56 | 0.5 | A | 206 | 308 |
| C | 0.28 | 4.33 | 0.4 | A | 295 | 442 |

## 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 344 | 86 | 81 | 1286 | 0.267 | 342 | 263 | 0.0 | 0.4 | 4.105 | A |
| B | 169 | 42 | 261 | 842 | 0.200 | 168 | 163 | 0.0 | 0.3 | 5.742 | A |
| C | 242 | 60 | 103 | 1291 | 0.187 | 241 | 325 | 0.0 | 0.2 | 3.692 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 411 | 103 | 97 | 1274 | 0.322 | 410 | 315 | 0.4 | 0.5 | 4.491 | A |
| B | 201 | 50 | 312 | 807 | 0.249 | 201 | 195 | 0.3 | 0.4 | 6.397 | A |
| C | 289 | 72 | 124 | 1273 | 0.227 | 288 | 390 | 0.2 | 0.3 | 3.939 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 503 | 126 | 119 | 1258 | 0.400 | 502 | 386 | 0.5 | 0.7 | 5.132 | A |
| B | 247 | 62 | 383 | 760 | 0.324 | 246 | 239 | 0.4 | 0.5 | 7.537 | A |
| C | 353 | 88 | 152 | 1250 | 0.283 | 353 | 477 | 0.3 | 0.4 | 4.325 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 503 | 126 | 119 | 1258 | 0.400 | 503 | 386 | 0.7 | 0.7 | 5.143 | A |
| B | 247 | 62 | 383 | 760 | 0.325 | 247 | 239 | 0.5 | 0.5 | 7.561 | A |
| C | 353 | 88 | 152 | 1249 | 0.283 | 353 | 478 | 0.4 | 0.4 | 4.330 | A |

### 09:00 - 09:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 411 | 103 | 97 | 1274 | 0.322 | 412 | 316 | 0.7 | 0.5 | 4.505 | A |
| B | 201 | 50 | 313 | 807 | 0.250 | 202 | 195 | 0.5 | 0.4 | 6.424 | A |
| C | 289 | 72 | 124 | 1273 | 0.227 | 289 | 391 | 0.4 | 0.3 | 3.946 | A |

### 09:15 - 09:30

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 344 | 86 | 81 | 1286 | 0.268 | 345 | 265 | 0.5 | 0.4 | 4.124 | A |
| B | 169 | 42 | 262 | 841 | 0.200 | 169 | 164 | 0.4 | 0.3 | 5.775 | A |
| C | 242 | 60 | 104 | 1290 | 0.187 | 242 | 327 | 0.3 | 0.2 | 3.705 | A |

# 2033 With Operational Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/R400 mini-roundabout junction | Mini-roundabout | | A, B, C | 5.14 | A |

### Junction Network Options

| Driving side | Lighting | Road surface | In London |
|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D6 | 2033 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 428 | 100.000 |
| B | | ONE HOUR | ✓ | 207 | 100.000 |
| C | | ONE HOUR | ✓ | 293 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 10 | 108 | 310 |
| | B | 116 | 0 | 91 |
| | C | 195 | 89 | 9 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.37 | 4.88 | 0.6 | A | 393 | 589 |
| B | 0.29 | 7.11 | 0.4 | A | 190 | 285 |
| C | 0.26 | 4.14 | 0.4 | A | 269 | 403 |

## 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 322 | 81 | 73 | 1292 | 0.249 | 321 | 241 | 0.0 | 0.4 | 3.990 | A |
| B | 156 | 39 | 247 | 852 | 0.183 | 155 | 148 | 0.0 | 0.2 | 5.562 | A |
| C | 221 | 55 | 94 | 1298 | 0.170 | 220 | 307 | 0.0 | 0.2 | 3.594 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 385 | 96 | 88 | 1281 | 0.300 | 384 | 288 | 0.4 | 0.5 | 4.326 | A |
| B | 186 | 47 | 295 | 819 | 0.227 | 186 | 177 | 0.2 | 0.3 | 6.127 | A |
| C | 263 | 66 | 113 | 1282 | 0.205 | 263 | 368 | 0.2 | 0.3 | 3.807 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 471 | 118 | 108 | 1266 | 0.372 | 471 | 353 | 0.5 | 0.6 | 4.874 | A |
| B | 228 | 57 | 362 | 774 | 0.294 | 227 | 217 | 0.3 | 0.4 | 7.091 | A |
| C | 323 | 81 | 138 | 1261 | 0.256 | 322 | 451 | 0.3 | 0.4 | 4.131 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 471 | 118 | 108 | 1266 | 0.372 | 471 | 353 | 0.6 | 0.6 | 4.883 | A |
| B | 228 | 57 | 362 | 774 | 0.295 | 228 | 217 | 0.4 | 0.4 | 7.107 | A |
| C | 323 | 81 | 139 | 1261 | 0.256 | 323 | 451 | 0.4 | 0.4 | 4.136 | A |

### 09:00 - 09:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 385 | 96 | 88 | 1281 | 0.300 | 385 | 289 | 0.6 | 0.5 | 4.337 | A |
| B | 186 | 47 | 296 | 818 | 0.227 | 187 | 177 | 0.4 | 0.3 | 6.147 | A |
| C | 263 | 66 | 114 | 1282 | 0.205 | 264 | 369 | 0.4 | 0.3 | 3.814 | A |

### 09:15 - 09:30

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 322 | 81 | 74 | 1292 | 0.249 | 323 | 242 | 0.5 | 0.4 | 4.006 | A |
| B | 156 | 39 | 248 | 851 | 0.183 | 156 | 148 | 0.3 | 0.2 | 5.587 | A |
| C | 221 | 55 | 95 | 1298 | 0.170 | 221 | 309 | 0.3 | 0.2 | 3.603 | A |

# 2038 With Operational Development, AM

## Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/R400 mini-roundabout junction | Mini-roundabout | | A, B, C | 5.26 | A |

### Junction Network Options

| Driving side | Lighting | Road surface | In London |
|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D7 | 2038 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 442 | 100.000 |
| B | | ONE HOUR | ✓ | 214 | 100.000 |
| C | | ONE HOUR | ✓ | 303 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 10 | 112 | 320 |
| | B | 120 | 0 | 94 |
| | C | 201 | 93 | 9 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.39 | 5.00 | 0.7 | A | 406 | 608 |
| B | 0.31 | 7.31 | 0.5 | A | 196 | 295 |
| C | 0.27 | 4.20 | 0.4 | A | 278 | 417 |

## 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 333 | 83 | 76 | 1290 | 0.258 | 331 | 248 | 0.0 | 0.4 | 4.044 | A |
| B | 161 | 40 | 254 | 847 | 0.190 | 160 | 154 | 0.0 | 0.3 | 5.643 | A |
| C | 228 | 57 | 97 | 1296 | 0.176 | 227 | 317 | 0.0 | 0.2 | 3.627 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 397 | 99 | 92 | 1278 | 0.311 | 397 | 297 | 0.4 | 0.5 | 4.401 | A |
| B | 192 | 48 | 304 | 813 | 0.237 | 192 | 184 | 0.3 | 0.3 | 6.248 | A |
| C | 272 | 68 | 117 | 1279 | 0.213 | 272 | 380 | 0.2 | 0.3 | 3.852 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 487 | 122 | 112 | 1263 | 0.385 | 486 | 364 | 0.5 | 0.7 | 4.992 | A |
| B | 236 | 59 | 373 | 767 | 0.307 | 235 | 225 | 0.3 | 0.5 | 7.290 | A |
| C | 334 | 83 | 143 | 1257 | 0.265 | 333 | 465 | 0.3 | 0.4 | 4.198 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 487 | 122 | 112 | 1263 | 0.385 | 487 | 364 | 0.7 | 0.7 | 5.001 | A |
| B | 236 | 59 | 373 | 766 | 0.307 | 236 | 226 | 0.5 | 0.5 | 7.309 | A |
| C | 334 | 83 | 143 | 1257 | 0.265 | 334 | 466 | 0.4 | 0.4 | 4.202 | A |

### 09:00 - 09:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 397 | 99 | 92 | 1278 | 0.311 | 398 | 298 | 0.7 | 0.5 | 4.415 | A |
| B | 192 | 48 | 305 | 812 | 0.237 | 193 | 185 | 0.5 | 0.3 | 6.273 | A |
| C | 272 | 68 | 117 | 1279 | 0.213 | 273 | 381 | 0.4 | 0.3 | 3.859 | A |

### 09:15 - 09:30

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 333 | 83 | 77 | 1289 | 0.258 | 333 | 250 | 0.5 | 0.4 | 4.060 | A |
| B | 161 | 40 | 256 | 846 | 0.190 | 161 | 155 | 0.3 | 0.3 | 5.675 | A |
| C | 228 | 57 | 98 | 1295 | 0.176 | 228 | 319 | 0.3 | 0.2 | 3.640 | A |

# 2048 With Operational Development, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/R400 mini-roundabout junction | Mini-roundabout | | A, B, C | 5.52 | A |

### Junction Network Options

| Driving side | Lighting | Road surface | In London |
|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D8 | 2048 With Operational Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 470 | 100.000 |
| B | | ONE HOUR | ✓ | 227 | 100.000 |
| C | | ONE HOUR | ✓ | 322 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 11 | 119 | 340 |
| | B | 127 | 0 | 100 |
| | C | 214 | 98 | 10 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.41 | 5.24 | 0.8 | A | 431 | 647 |
| B | 0.33 | 7.76 | 0.5 | A | 208 | 312 |
| C | 0.28 | 4.34 | 0.4 | A | 295 | 443 |

## 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 354 | 88 | 81 | 1286 | 0.275 | 352 | 264 | 0.0 | 0.4 | 4.148 | A |
| B | 171 | 43 | 271 | 836 | 0.204 | 170 | 163 | 0.0 | 0.3 | 5.818 | A |
| C | 242 | 61 | 103 | 1291 | 0.188 | 241 | 337 | 0.0 | 0.2 | 3.694 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 423 | 106 | 97 | 1274 | 0.332 | 422 | 316 | 0.4 | 0.5 | 4.551 | A |
| B | 204 | 51 | 324 | 800 | 0.255 | 204 | 195 | 0.3 | 0.4 | 6.508 | A |
| C | 289 | 72 | 124 | 1273 | 0.227 | 289 | 404 | 0.2 | 0.3 | 3.942 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 517 | 129 | 119 | 1258 | 0.411 | 517 | 387 | 0.5 | 0.7 | 5.229 | A |
| B | 250 | 62 | 397 | 751 | 0.333 | 249 | 239 | 0.4 | 0.5 | 7.731 | A |
| C | 355 | 89 | 152 | 1250 | 0.284 | 354 | 495 | 0.3 | 0.4 | 4.331 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 517 | 129 | 119 | 1258 | 0.411 | 517 | 388 | 0.7 | 0.8 | 5.243 | A |
| B | 250 | 62 | 397 | 750 | 0.333 | 250 | 239 | 0.5 | 0.5 | 7.758 | A |
| C | 355 | 89 | 152 | 1249 | 0.284 | 355 | 495 | 0.4 | 0.4 | 4.336 | A |

### 09:00 - 09:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 423 | 106 | 97 | 1274 | 0.332 | 423 | 317 | 0.8 | 0.5 | 4.566 | A |
| B | 204 | 51 | 325 | 799 | 0.255 | 205 | 195 | 0.5 | 0.4 | 6.540 | A |
| C | 289 | 72 | 124 | 1273 | 0.227 | 290 | 405 | 0.4 | 0.3 | 3.951 | A |

### 09:15 - 09:30

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 354 | 88 | 81 | 1286 | 0.275 | 354 | 265 | 0.5 | 0.4 | 4.169 | A |
| B | 171 | 43 | 272 | 835 | 0.205 | 171 | 164 | 0.4 | 0.3 | 5.853 | A |
| C | 242 | 61 | 104 | 1290 | 0.188 | 243 | 339 | 0.3 | 0.3 | 3.708 | A |

# 2029 Without Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/R400 mini-roundabout junction | Mini-roundabout | | A, B, C | 4.46 | A |

### Junction Network Options

| Driving side | Lighting | Road surface | In London |
|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D9 | 2029 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 320 | 100.000 |
| B | | ONE HOUR | ✓ | 183 | 100.000 |
| C | | ONE HOUR | ✓ | 234 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 2 | 124 | 194 |
| | B | 119 | 0 | 64 |
| | C | 170 | 58 | 6 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.27 | 4.12 | 0.4 | A | 294 | 440 |
| B | 0.23 | 5.82 | 0.3 | A | 168 | 252 |
| C | 0.20 | 3.85 | 0.3 | A | 215 | 322 |

## Main Results for each time segment

### 16:45 - 17:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 241 | 60 | 48 | 1311 | 0.184 | 240 | 218 | 0.0 | 0.2 | 3.619 | A |
| B | 138 | 34 | 151 | 916 | 0.150 | 137 | 136 | 0.0 | 0.2 | 4.978 | A |
| C | 176 | 44 | 91 | 1302 | 0.135 | 175 | 198 | 0.0 | 0.2 | 3.444 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 288 | 72 | 57 | 1304 | 0.221 | 287 | 261 | 0.2 | 0.3 | 3.817 | A |
| B | 165 | 41 | 181 | 896 | 0.184 | 164 | 163 | 0.2 | 0.2 | 5.304 | A |
| C | 210 | 53 | 109 | 1286 | 0.164 | 210 | 237 | 0.2 | 0.2 | 3.606 | A |

### 17:15 - 17:30

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 352 | 88 | 70 | 1294 | 0.272 | 352 | 320 | 0.3 | 0.4 | 4.116 | A |
| B | 201 | 50 | 222 | 868 | 0.232 | 201 | 200 | 0.2 | 0.3 | 5.814 | A |
| C | 258 | 64 | 133 | 1266 | 0.204 | 257 | 290 | 0.2 | 0.3 | 3.848 | A |

### 17:30 - 17:45

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 352 | 88 | 70 | 1294 | 0.272 | 352 | 320 | 0.4 | 0.4 | 4.119 | A |
| B | 201 | 50 | 222 | 868 | 0.232 | 201 | 200 | 0.3 | 0.3 | 5.820 | A |
| C | 258 | 64 | 133 | 1265 | 0.204 | 258 | 291 | 0.3 | 0.3 | 3.850 | A |

### 17:45 - 18:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 288 | 72 | 58 | 1304 | 0.221 | 288 | 262 | 0.4 | 0.3 | 3.820 | A |
| B | 165 | 41 | 182 | 896 | 0.184 | 165 | 164 | 0.3 | 0.2 | 5.313 | A |
| C | 210 | 53 | 109 | 1286 | 0.164 | 211 | 238 | 0.3 | 0.2 | 3.611 | A |

### 18:00 - 18:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 241 | 60 | 48 | 1311 | 0.184 | 241 | 219 | 0.3 | 0.2 | 3.630 | A |
| B | 138 | 34 | 152 | 915 | 0.150 | 138 | 137 | 0.2 | 0.2 | 4.992 | A |
| C | 176 | 44 | 91 | 1301 | 0.135 | 176 | 199 | 0.2 | 0.2 | 3.452 | A |

# 2029 With Construction, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/R400 mini-roundabout junction | Mini-roundabout | | A, B, C | 4.47 | A |

### Junction Network Options

| Driving side | Lighting | Road surface | In London |
|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D10 | 2029 With Construction | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 320 | 100.000 |
| B | | ONE HOUR | ✓ | 183 | 100.000 |
| C | | ONE HOUR | ✓ | 241 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 2 | 124 | 194 |
| | B | 119 | 0 | 64 |
| | C | 174 | 60 | 7 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.27 | 4.13 | 0.4 | A | 294 | 440 |
| B | 0.23 | 5.83 | 0.3 | A | 168 | 252 |
| C | 0.21 | 3.88 | 0.3 | A | 221 | 332 |

## Main Results for each time segment

### 16:45 - 17:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 241 | 60 | 50 | 1310 | 0.184 | 240 | 221 | 0.0 | 0.2 | 3.625 | A |
| B | 138 | 34 | 152 | 915 | 0.150 | 137 | 138 | 0.0 | 0.2 | 4.981 | A |
| C | 181 | 45 | 91 | 1302 | 0.139 | 181 | 199 | 0.0 | 0.2 | 3.461 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 288 | 72 | 60 | 1302 | 0.221 | 287 | 265 | 0.2 | 0.3 | 3.824 | A |
| B | 165 | 41 | 182 | 895 | 0.184 | 164 | 165 | 0.2 | 0.2 | 5.308 | A |
| C | 217 | 54 | 109 | 1286 | 0.168 | 216 | 238 | 0.2 | 0.2 | 3.627 | A |

### 17:15 - 17:30

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 352 | 88 | 74 | 1292 | 0.273 | 352 | 324 | 0.3 | 0.4 | 4.127 | A |
| B | 201 | 50 | 223 | 868 | 0.232 | 201 | 202 | 0.2 | 0.3 | 5.821 | A |
| C | 265 | 66 | 133 | 1266 | 0.210 | 265 | 291 | 0.2 | 0.3 | 3.878 | A |

### 17:30 - 17:45

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 352 | 88 | 74 | 1292 | 0.273 | 352 | 325 | 0.4 | 0.4 | 4.130 | A |
| B | 201 | 50 | 224 | 867 | 0.232 | 201 | 203 | 0.3 | 0.3 | 5.827 | A |
| C | 265 | 66 | 133 | 1265 | 0.210 | 265 | 292 | 0.3 | 0.3 | 3.880 | A |

### 17:45 - 18:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 288 | 72 | 60 | 1302 | 0.221 | 288 | 266 | 0.4 | 0.3 | 3.828 | A |
| B | 165 | 41 | 183 | 895 | 0.184 | 165 | 166 | 0.3 | 0.2 | 5.319 | A |
| C | 217 | 54 | 109 | 1286 | 0.168 | 217 | 239 | 0.3 | 0.2 | 3.633 | A |

### 18:00 - 18:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 241 | 60 | 50 | 1309 | 0.184 | 241 | 222 | 0.3 | 0.2 | 3.633 | A |
| B | 138 | 34 | 153 | 915 | 0.151 | 138 | 139 | 0.2 | 0.2 | 4.995 | A |
| C | 181 | 45 | 91 | 1301 | 0.139 | 182 | 200 | 0.2 | 0.2 | 3.469 | A |

# 2033 Without Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/R400 mini-roundabout junction | Mini-roundabout | | A, B, C | 4.51 | A |

### Junction Network Options

| Driving side | Lighting | Road surface | In London |
|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D11 | 2033 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 328 | 100.000 |
| B | | ONE HOUR | ✓ | 188 | 100.000 |
| C | | ONE HOUR | ✓ | 241 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 2 | 127 | 199 |
| | B | 122 | 0 | 66 |
| | C | 174 | 60 | 7 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.28 | 4.17 | 0.4 | A | 301 | 451 |
| B | 0.24 | 5.91 | 0.3 | A | 173 | 259 |
| C | 0.21 | 3.89 | 0.3 | A | 221 | 332 |

## Main Results for each time segment

### 16:45 - 17:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 247 | 62 | 50 | 1310 | 0.189 | 246 | 223 | 0.0 | 0.2 | 3.645 | A |
| B | 142 | 35 | 156 | 913 | 0.155 | 141 | 140 | 0.0 | 0.2 | 5.020 | A |
| C | 181 | 45 | 93 | 1300 | 0.140 | 181 | 204 | 0.0 | 0.2 | 3.466 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 295 | 74 | 60 | 1302 | 0.226 | 295 | 268 | 0.2 | 0.3 | 3.851 | A |
| B | 169 | 42 | 187 | 892 | 0.189 | 169 | 168 | 0.2 | 0.3 | 5.364 | A |
| C | 217 | 54 | 111 | 1284 | 0.169 | 216 | 244 | 0.2 | 0.2 | 3.635 | A |

### 17:15 - 17:30

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 361 | 90 | 74 | 1292 | 0.280 | 361 | 328 | 0.3 | 0.4 | 4.166 | A |
| B | 207 | 52 | 229 | 864 | 0.240 | 207 | 206 | 0.3 | 0.3 | 5.902 | A |
| C | 265 | 66 | 136 | 1263 | 0.210 | 265 | 299 | 0.2 | 0.3 | 3.889 | A |

### 17:30 - 17:45

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 361 | 90 | 74 | 1292 | 0.280 | 361 | 328 | 0.4 | 0.4 | 4.169 | A |
| B | 207 | 52 | 229 | 864 | 0.240 | 207 | 206 | 0.3 | 0.3 | 5.908 | A |
| C | 265 | 66 | 137 | 1263 | 0.210 | 265 | 299 | 0.3 | 0.3 | 3.891 | A |

### 17:45 - 18:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 295 | 74 | 60 | 1302 | 0.226 | 295 | 268 | 0.4 | 0.3 | 3.857 | A |
| B | 169 | 42 | 187 | 892 | 0.190 | 169 | 168 | 0.3 | 0.3 | 5.375 | A |
| C | 217 | 54 | 112 | 1284 | 0.169 | 217 | 245 | 0.3 | 0.2 | 3.638 | A |

### 18:00 - 18:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 247 | 62 | 50 | 1309 | 0.189 | 247 | 225 | 0.3 | 0.3 | 3.653 | A |
| B | 142 | 35 | 157 | 912 | 0.155 | 142 | 141 | 0.3 | 0.2 | 5.038 | A |
| C | 181 | 45 | 93 | 1299 | 0.140 | 182 | 205 | 0.2 | 0.2 | 3.475 | A |

# 2038 Without Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/R400 mini-roundabout junction | Mini-roundabout | | A, B, C | 4.59 | A |

### Junction Network Options

| Driving side | Lighting | Road surface | In London |
|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D12 | 2038 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 340 | 100.000 |
| B | | ONE HOUR | ✓ | 195 | 100.000 |
| C | | ONE HOUR | ✓ | 249 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 2 | 132 | 206 |
| | B | 127 | 0 | 68 |
| | C | 180 | 62 | 7 |

## Vehicle Mix

#### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.29 | 4.24 | 0.4 | A | 312 | 468 |
| B | 0.25 | 6.03 | 0.4 | A | 179 | 268 |
| C | 0.22 | 3.94 | 0.3 | A | 228 | 343 |

## Main Results for each time segment

### 16:45 - 17:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 256 | 64 | 52 | 1308 | 0.196 | 255 | 232 | 0.0 | 0.3 | 3.680 | A |
| B | 147 | 37 | 161 | 909 | 0.161 | 146 | 145 | 0.0 | 0.2 | 5.078 | A |
| C | 187 | 47 | 97 | 1296 | 0.145 | 187 | 211 | 0.0 | 0.2 | 3.495 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 306 | 76 | 62 | 1301 | 0.235 | 305 | 278 | 0.3 | 0.3 | 3.898 | A |
| B | 175 | 44 | 193 | 888 | 0.197 | 175 | 174 | 0.2 | 0.3 | 5.443 | A |
| C | 224 | 56 | 116 | 1280 | 0.175 | 224 | 252 | 0.2 | 0.2 | 3.673 | A |

### 17:15 - 17:30

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 374 | 94 | 76 | 1290 | 0.290 | 374 | 340 | 0.3 | 0.4 | 4.234 | A |
| B | 215 | 54 | 236 | 859 | 0.250 | 214 | 213 | 0.3 | 0.4 | 6.018 | A |
| C | 274 | 69 | 142 | 1258 | 0.218 | 274 | 309 | 0.2 | 0.3 | 3.942 | A |

### 17:30 - 17:45

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 374 | 94 | 76 | 1290 | 0.290 | 374 | 340 | 0.4 | 0.4 | 4.237 | A |
| B | 215 | 54 | 237 | 859 | 0.250 | 215 | 214 | 0.4 | 0.4 | 6.027 | A |
| C | 274 | 69 | 142 | 1258 | 0.218 | 274 | 309 | 0.3 | 0.3 | 3.944 | A |

### 17:45 - 18:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 306 | 76 | 62 | 1301 | 0.235 | 306 | 278 | 0.4 | 0.3 | 3.903 | A |
| B | 175 | 44 | 194 | 888 | 0.198 | 176 | 175 | 0.4 | 0.3 | 5.453 | A |
| C | 224 | 56 | 116 | 1280 | 0.175 | 224 | 253 | 0.3 | 0.2 | 3.676 | A |

### 18:00 - 18:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 256 | 64 | 52 | 1308 | 0.196 | 256 | 233 | 0.3 | 0.3 | 3.692 | A |
| B | 147 | 37 | 162 | 909 | 0.162 | 147 | 146 | 0.3 | 0.2 | 5.097 | A |
| C | 187 | 47 | 97 | 1296 | 0.145 | 188 | 212 | 0.2 | 0.2 | 3.501 | A |

# 2048 Without Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/R400 mini-roundabout junction | Mini-roundabout | | A, B, C | 4.73 | A |

### Junction Network Options

| Driving side | Lighting | Road surface | In London |
|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D13 | 2048 Without Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 361 | 100.000 |
| B | | ONE HOUR | ✓ | 207 | 100.000 |
| C | | ONE HOUR | ✓ | 265 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 2 | 140 | 219 |
| | B | 135 | 0 | 72 |
| | C | 192 | 66 | 7 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.31 | 4.36 | 0.5 | A | 331 | 497 |
| B | 0.27 | 6.25 | 0.4 | A | 190 | 285 |
| C | 0.23 | 4.05 | 0.3 | A | 243 | 365 |

## Main Results for each time segment

### 16:45 - 17:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 272 | 68 | 55 | 1306 | 0.208 | 271 | 247 | 0.0 | 0.3 | 3.745 | A |
| B | 156 | 39 | 171 | 903 | 0.173 | 155 | 154 | 0.0 | 0.2 | 5.182 | A |
| C | 200 | 50 | 103 | 1291 | 0.154 | 199 | 223 | 0.0 | 0.2 | 3.550 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 325 | 81 | 66 | 1298 | 0.250 | 324 | 295 | 0.3 | 0.4 | 3.985 | A |
| B | 186 | 47 | 205 | 880 | 0.211 | 186 | 185 | 0.2 | 0.3 | 5.589 | A |
| C | 238 | 60 | 123 | 1274 | 0.187 | 238 | 268 | 0.2 | 0.2 | 3.745 | A |

### 17:15 - 17:30

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 397 | 99 | 80 | 1287 | 0.309 | 397 | 362 | 0.4 | 0.5 | 4.359 | A |
| B | 228 | 57 | 251 | 849 | 0.268 | 227 | 227 | 0.3 | 0.4 | 6.239 | A |
| C | 292 | 73 | 151 | 1251 | 0.233 | 291 | 328 | 0.2 | 0.3 | 4.045 | A |

### 17:30 - 17:45

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 397 | 99 | 80 | 1287 | 0.309 | 397 | 362 | 0.5 | 0.5 | 4.363 | A |
| B | 228 | 57 | 251 | 849 | 0.268 | 228 | 227 | 0.4 | 0.4 | 6.249 | A |
| C | 292 | 73 | 151 | 1250 | 0.233 | 292 | 328 | 0.3 | 0.3 | 4.047 | A |

### 17:45 - 18:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 325 | 81 | 66 | 1298 | 0.250 | 325 | 296 | 0.5 | 0.4 | 3.992 | A |
| B | 186 | 47 | 205 | 880 | 0.212 | 186 | 185 | 0.4 | 0.3 | 5.603 | A |
| C | 238 | 60 | 123 | 1274 | 0.187 | 239 | 268 | 0.3 | 0.2 | 3.749 | A |

### 18:00 - 18:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 272 | 68 | 55 | 1306 | 0.208 | 272 | 248 | 0.4 | 0.3 | 3.756 | A |
| B | 156 | 39 | 172 | 902 | 0.173 | 156 | 155 | 0.3 | 0.2 | 5.204 | A |
| C | 200 | 50 | 103 | 1291 | 0.155 | 200 | 225 | 0.2 | 0.2 | 3.559 | A |

# 2033 With Operational Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/R400 mini-roundabout junction | Mini-roundabout | | A, B, C | 4.53 | A |

### Junction Network Options

| Driving side | Lighting | Road surface | In London |
|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D14 | 2033 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 328 | 100.000 |
| B | | ONE HOUR | ✓ | 188 | 100.000 |
| C | | ONE HOUR | ✓ | 260 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 2 | 127 | 199 |
| | B | 122 | 0 | 66 |
| | C | 188 | 65 | 7 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.28 | 4.19 | 0.4 | A | 301 | 451 |
| B | 0.24 | 5.91 | 0.3 | A | 173 | 259 |
| C | 0.23 | 3.97 | 0.3 | A | 239 | 358 |

## Main Results for each time segment

### 16:45 - 17:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 247 | 62 | 54 | 1307 | 0.189 | 246 | 234 | 0.0 | 0.2 | 3.655 | A |
| B | 142 | 35 | 156 | 913 | 0.155 | 141 | 144 | 0.0 | 0.2 | 5.020 | A |
| C | 196 | 49 | 93 | 1300 | 0.151 | 195 | 204 | 0.0 | 0.2 | 3.511 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 295 | 74 | 65 | 1299 | 0.227 | 295 | 280 | 0.2 | 0.3 | 3.864 | A |
| B | 169 | 42 | 187 | 892 | 0.189 | 169 | 172 | 0.2 | 0.3 | 5.363 | A |
| C | 234 | 58 | 111 | 1284 | 0.182 | 234 | 244 | 0.2 | 0.2 | 3.694 | A |

### 17:15 - 17:30

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 361 | 90 | 79 | 1288 | 0.280 | 361 | 343 | 0.3 | 0.4 | 4.185 | A |
| B | 207 | 52 | 229 | 864 | 0.240 | 207 | 211 | 0.3 | 0.3 | 5.902 | A |
| C | 286 | 72 | 136 | 1263 | 0.227 | 286 | 299 | 0.2 | 0.3 | 3.972 | A |

### 17:30 - 17:45

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 361 | 90 | 79 | 1288 | 0.280 | 361 | 344 | 0.4 | 0.4 | 4.188 | A |
| B | 207 | 52 | 229 | 864 | 0.240 | 207 | 211 | 0.3 | 0.3 | 5.908 | A |
| C | 286 | 72 | 137 | 1263 | 0.227 | 286 | 299 | 0.3 | 0.3 | 3.974 | A |

### 17:45 - 18:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 295 | 74 | 65 | 1299 | 0.227 | 295 | 281 | 0.4 | 0.3 | 3.869 | A |
| B | 169 | 42 | 187 | 892 | 0.190 | 169 | 173 | 0.3 | 0.3 | 5.375 | A |
| C | 234 | 58 | 112 | 1284 | 0.182 | 234 | 245 | 0.3 | 0.2 | 3.700 | A |

### 18:00 - 18:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 247 | 62 | 54 | 1306 | 0.189 | 247 | 235 | 0.3 | 0.3 | 3.663 | A |
| B | 142 | 35 | 157 | 912 | 0.155 | 142 | 145 | 0.3 | 0.2 | 5.036 | A |
| C | 196 | 49 | 93 | 1299 | 0.151 | 196 | 205 | 0.2 | 0.2 | 3.517 | A |

# 2038 With Operational Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/R400 mini-roundabout junction | Mini-roundabout | | A, B, C | 4.61 | A |

### Junction Network Options

| Driving side | Lighting | Road surface | In London |
|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D15 | 2038 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 340 | 100.000 |
| B | | ONE HOUR | ✓ | 195 | 100.000 |
| C | | ONE HOUR | ✓ | 271 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 2 | 132 | 206 |
| | B | 127 | 0 | 68 |
| | C | 197 | 67 | 7 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.29 | 4.26 | 0.4 | A | 312 | 468 |
| B | 0.25 | 6.03 | 0.4 | A | 179 | 268 |
| C | 0.24 | 4.04 | 0.3 | A | 249 | 373 |

## Main Results for each time segment

### 16:45 - 17:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 256 | 64 | 55 | 1306 | 0.196 | 255 | 244 | 0.0 | 0.3 | 3.690 | A |
| B | 147 | 37 | 161 | 909 | 0.161 | 146 | 149 | 0.0 | 0.2 | 5.078 | A |
| C | 204 | 51 | 97 | 1296 | 0.157 | 203 | 211 | 0.0 | 0.2 | 3.548 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 306 | 76 | 66 | 1297 | 0.236 | 305 | 293 | 0.3 | 0.3 | 3.911 | A |
| B | 175 | 44 | 193 | 888 | 0.197 | 175 | 179 | 0.2 | 0.3 | 5.443 | A |
| C | 244 | 61 | 116 | 1280 | 0.190 | 243 | 252 | 0.2 | 0.3 | 3.743 | A |

### 17:15 - 17:30

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 374 | 94 | 81 | 1286 | 0.291 | 374 | 358 | 0.3 | 0.4 | 4.253 | A |
| B | 215 | 54 | 236 | 859 | 0.250 | 214 | 219 | 0.3 | 0.4 | 6.018 | A |
| C | 298 | 75 | 142 | 1258 | 0.237 | 298 | 309 | 0.3 | 0.3 | 4.041 | A |

### 17:30 - 17:45

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 374 | 94 | 81 | 1286 | 0.291 | 374 | 359 | 0.4 | 0.4 | 4.257 | A |
| B | 215 | 54 | 237 | 859 | 0.250 | 215 | 219 | 0.4 | 0.4 | 6.027 | A |
| C | 298 | 75 | 142 | 1258 | 0.237 | 298 | 309 | 0.3 | 0.3 | 4.044 | A |

### 17:45 - 18:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 306 | 76 | 67 | 1297 | 0.236 | 306 | 294 | 0.4 | 0.3 | 3.918 | A |
| B | 175 | 44 | 194 | 888 | 0.198 | 176 | 179 | 0.4 | 0.3 | 5.453 | A |
| C | 244 | 61 | 116 | 1280 | 0.190 | 244 | 253 | 0.3 | 0.3 | 3.749 | A |

### 18:00 - 18:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 256 | 64 | 56 | 1305 | 0.196 | 256 | 246 | 0.3 | 0.3 | 3.699 | A |
| B | 147 | 37 | 162 | 909 | 0.162 | 147 | 150 | 0.3 | 0.2 | 5.097 | A |
| C | 204 | 51 | 97 | 1296 | 0.157 | 204 | 212 | 0.3 | 0.2 | 3.557 | A |

# 2048 With Operational Development, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | R446/R400 mini-roundabout junction | Mini-roundabout | | A, B, C | 4.76 | A |

### Junction Network Options

| Driving side | Lighting | Road surface | In London |
|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D16 | 2048 With Operational Development | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.30 |

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 362 | 100.000 |
| B | | ONE HOUR | ✓ | 207 | 100.000 |
| C | | ONE HOUR | ✓ | 284 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 2 | 140 | 220 |
| | B | 135 | 0 | 72 |
| | C | 206 | 71 | 7 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 6 | 6 | 6 |
| | B | 6 | 6 | 6 |
| | C | 6 | 6 | 6 |

# 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) |
|---|---|---|---|---|---|---|
| A | 0.31 | 4.39 | 0.5 | A | 332 | 498 |
| B | 0.27 | 6.26 | 0.4 | A | 190 | 285 |
| C | 0.25 | 4.14 | 0.4 | A | 261 | 391 |

## Main Results for each time segment

### 16:45 - 17:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 273 | 68 | 58 | 1303 | 0.209 | 271 | 257 | 0.0 | 0.3 | 3.758 | A |
| B | 156 | 39 | 172 | 902 | 0.173 | 155 | 158 | 0.0 | 0.2 | 5.185 | A |
| C | 214 | 53 | 103 | 1291 | 0.166 | 213 | 224 | 0.0 | 0.2 | 3.593 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 325 | 81 | 70 | 1295 | 0.251 | 325 | 308 | 0.3 | 0.4 | 4.002 | A |
| B | 186 | 47 | 206 | 879 | 0.212 | 186 | 190 | 0.2 | 0.3 | 5.594 | A |
| C | 255 | 64 | 123 | 1274 | 0.200 | 255 | 269 | 0.2 | 0.3 | 3.808 | A |

### 17:15 - 17:30

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 399 | 100 | 86 | 1283 | 0.311 | 398 | 377 | 0.4 | 0.5 | 4.385 | A |
| B | 228 | 57 | 252 | 848 | 0.269 | 227 | 232 | 0.3 | 0.4 | 6.247 | A |
| C | 313 | 78 | 151 | 1251 | 0.250 | 312 | 329 | 0.3 | 0.4 | 4.135 | A |

### 17:30 - 17:45

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 399 | 100 | 86 | 1283 | 0.311 | 399 | 378 | 0.5 | 0.5 | 4.389 | A |
| B | 228 | 57 | 252 | 848 | 0.269 | 228 | 232 | 0.4 | 0.4 | 6.256 | A |
| C | 313 | 78 | 151 | 1250 | 0.250 | 313 | 329 | 0.4 | 0.4 | 4.138 | A |

### 17:45 - 18:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 325 | 81 | 70 | 1294 | 0.251 | 326 | 309 | 0.5 | 0.4 | 4.010 | A |
| B | 186 | 47 | 206 | 879 | 0.212 | 186 | 190 | 0.4 | 0.3 | 5.608 | A |
| C | 255 | 64 | 123 | 1274 | 0.200 | 256 | 269 | 0.4 | 0.3 | 3.812 | A |

### 18:00 - 18:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 273 | 68 | 59 | 1303 | 0.209 | 273 | 259 | 0.4 | 0.3 | 3.770 | A |
| B | 156 | 39 | 173 | 902 | 0.173 | 156 | 159 | 0.3 | 0.2 | 5.206 | A |
| C | 214 | 53 | 103 | 1291 | 0.166 | 214 | 225 | 0.3 | 0.2 | 3.606 | A |

APPENDIX 13.5

# Proposed vehicular site accesses for proposed Data Centre Facility and Decentralised Energy Resource at Gneevebane, Oldtown, Farthingstown, Castlelost and Kiltotan and Collinstown, Co. Westmeath

Stage 1 Road Safety Audit

Final Report

8th July 2025

Prepared for

Red Admiral DC Ltd.

**Traffic Transport and Road Safety Associates Ltd.**
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Co. Cavan

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TTRSA
Traffic : Transport : Road Safety

# Document Control Sheet

| | |
|---|---|
| **Project Title** | Proposed vehicular site accesses for proposed Data Centre Facility and Decentralised Energy Resource at Gneevebane, Oldtown, Farthingstown, Castlelost and Kiltotan and Collinstown, Co. Westmeath |
| **Report Title** | Stage 1 Road Safety Audit |
| **TTRSA Ref.** | T241206-002 |
| **Revision** | 1 |
| **Status** | Final Report |
| **Control Date** | 8th July 2025 |

**Record of Issue**

| Revision | Issue | Status | Date | Comment |
|---|---|---|---|---|
| 1 | 1 | Draft | 07/07/2025 | Draft for completion of RSA Feedback Form |
| 1 | 2 | Final | 08/07/2025 | Final report with completed RSA Feedback Form |

**Distribution**

| Organisation | Copies |
|---|---|
| Red Admiral DC Ltd. c/o Halston | 1 Electronic (pdf) copy |

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**Appendix A – Stage 1 Road Safety Audit Brief**

**Appendix B – Road Safety Audit Feedback Form**

# 1 Introduction

This report presents the findings of a Stage 1 Road Safety Audit (RSA) limited to the proposed highway design of four proposed vehicular site accesses for the proposed Data Centre Facility and Decentralised Energy Resource, at Gneevebane, Oldtown, Farthingstown, Castlelost and Kiltotan and Collinstown, Co. Westmeath. Two of these vehicular site accesses will access onto the R446 regional road, one vehicular site access will access onto the L11272 local road, and one vehicular site access will access onto the L51251 local road.

This RSA was commissioned by Halston on behalf of Red Admiral DC Ltd. The preliminary design drawings for the scheme have been prepared by Halston.

This RSA has been undertaken by Traffic Transport and Road Safety Associates Limited (TTRSA) in accordance with the requirements of Transport Infrastructure Ireland (TII) GE-STY-01024 Road Safety Audit standard. The Audit Team members comprised: Matthew Steele (TII Auditor Ref. No. MS88315) and Pamela Townley (TII Auditor Ref. No. PT90300). A brief for this RSA, in accordance with the requirements of TII GE-STY-01024, is included as Appendix A of this report.

A site visit for this RSA was undertaken by both Audit Team members during the evening of 26$^{th}$ June 2025. During the RSA site visit the weather was rain showers and the road surface was wet. The RSA was undertaken by the aforementioned Audit Team during the time period 30$^{th}$ May 2024 to 7$^{th}$ July 2025.

This Road Safety Audit examines the documents relating to the proposed scheme and on-site observations at the time of the Road Safety Audit site visit, and identifies issues which may have an adverse impact on road safety. The Road Safety Audit does not examine or verify: the proposed scheme for compliance with any other standards or criteria; the spatial accuracy of the design information provided; nor, road safety issues related to site construction traffic.

Issues which impact on road safety are listed as problems within this Road Safety Audit report, and relate to the documentation provided upon commencement of the Road Safety Audit and associated clarification. The problems identified are considered to require action in order to improve the safety of the scheme and minimise collision occurrence.

The scheme employer and designer are required to respond to this Road Safety Audit report by completing a Road Safety Audit Feedback Form, included as Appendix B of this Road Safety Audit report. If any of the recommendations within this RSA are not accepted, a written response is required within the Road Safety Audit Feedback Form stating the reasons for non-acceptance.

Where the scheme employer and designer amend the scheme design in response to their completion of the Road Safety Audit Feedback Form, such design amendments are <u>not assessed</u> within this Road Safety Audit.

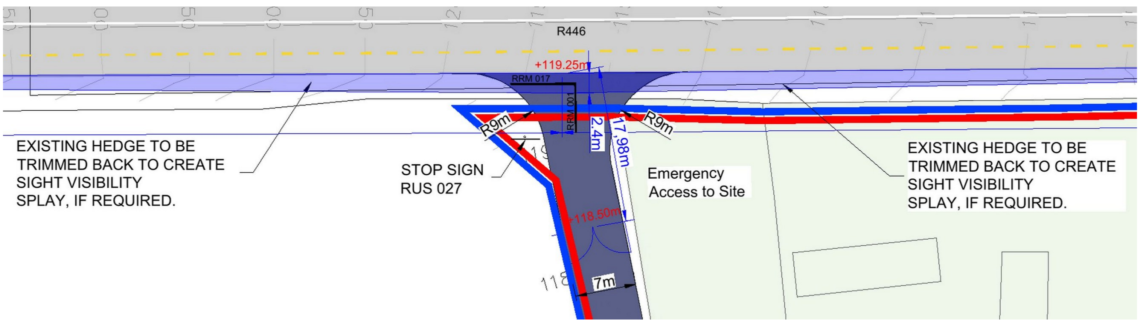
In addition to this Stage 1 Road Safety Audit, TII GE-STY-01024 requires both: a Stage 2 Road Safety Audit to be undertaken prior to construction; and, a Stage 3 Road Safety Audit to be undertaken prior to opening to traffic.

# 2 Scheme Background

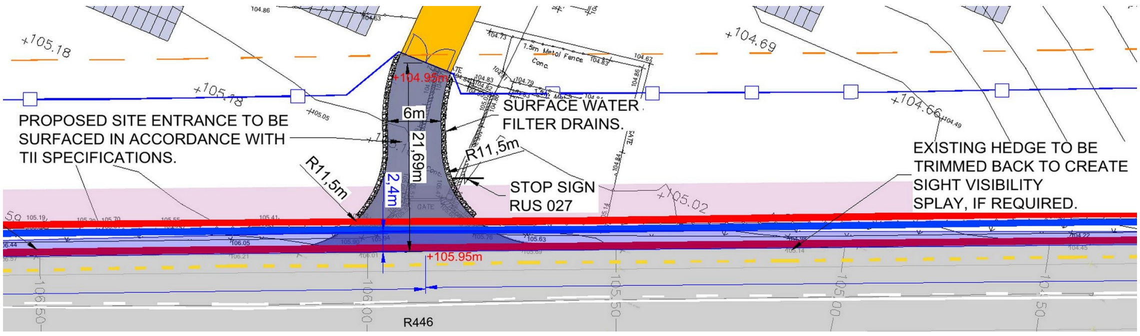
## 2.1 The proposed scheme and existing situation

The proposed scheme and scope of this RSA comprises the proposed highway design of the following four proposed vehicular site accesses for the proposed Data Centre Facility and Decentralised Energy Resource site:

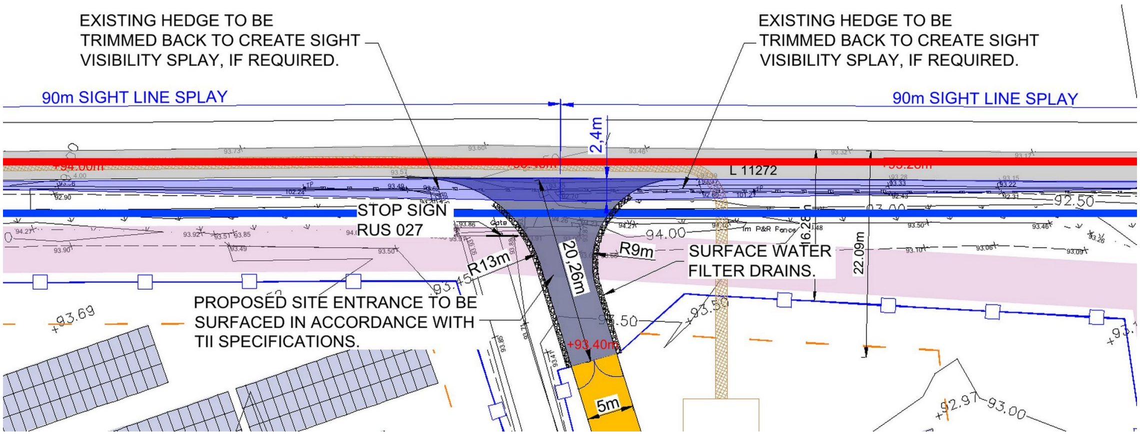
- One proposed emergency (vehicle) access onto the southern side of the carriageway of the R446 regional road to the west of the proposed Data Centre campus at approximately ITM 643980,739150 and labelled as Access 02 within Halston site design drawing reference SEP-0374 CLDC-HAL-DC-XX-PL-10020 Rev P01; dated: June 2025 provided to TTRSA on 26th June 2025. This proposed site access will comprise a stop controlled junction with a 24m bellmouth and 9m radii. A 7m wide roadway of 'tar' surfacing will extend 17.98m southwards from this junction to a security gate. This site access will subsume an existing stone surfaced agricultural access which has 6.1m wide agricultural gates positioned at a 13m setback from the southern edge of the R446 carriageway. A field gate and residential access are located within the eastern vicinity of this proposed site access. The R446 carriageway at this location has a crowned sealed width of approximately 12m including a 2m wide shoulder on its northern side and 2.4m wide shoulder on its southern side bounded by verge backed by hedge vegetation. This section of the R446 carriageway has a straight horizontal alignment on a falling west to east vertical grade. The carriageway is demarcated by edge-line road markings with road studs and by short double dashed centreline road markings with road studs. The posted speed limit of this section of the R446 is 100km/h.



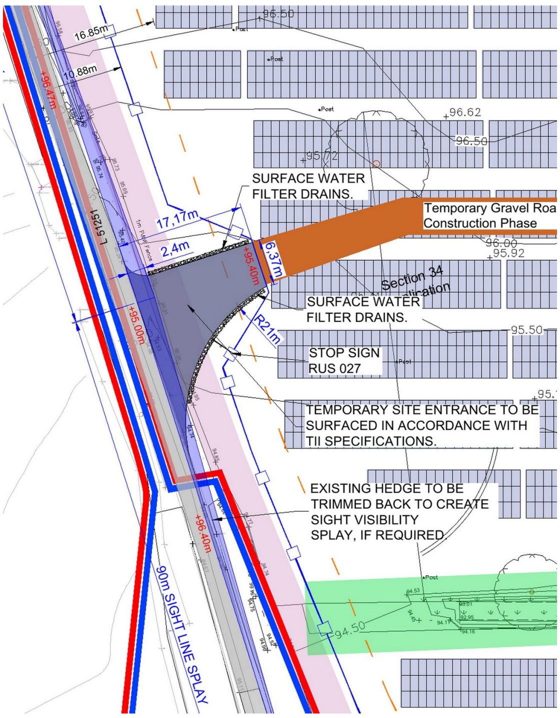
- One vehicle access onto the northern side of the carriageway of the R446 regional road at approximately ITM 645230,739745 and labelled as Access 03 within Halston site design drawing reference SEP-0374 CLDC-HAL-DC-XX-PL-10020 Rev P01; dated: June 2025 provided to TTRSA on 26th June 2025. This proposed site access will serve the northern portion of the solar farm and will comprise a stop controlled junction with a 30m bellmouth and 11.5m radii. A 6m wide roadway of 'tar' surfacing will extend 21.69m northwards from this junction to a security gate. This site access will subsume an existing stone surfaced gated agricultural access with flared block work entrance feature. The R446 carriageway at this location has a crowned sealed width of approximately 11.8m including a 2m wide shoulder on its northern side and a 2m wide shoulder on its southern side. Grass verge backed by mature hedgerow bound the northern side of the carriageway whilst a residential property is present on the southern side of the carriageway at this location. This section of the R446 carriageway has a straight horizontal alignment on a falling west to east vertical grade. The carriageway is demarcated by edge-line road markings with road studs and by centreline road studs and road markings indicating overtaking permitted for R446 eastbound traffic. The posted speed limit of this section of the R446 is 100km/h.



- One access from the western side of the L11272 local road at approximately ITM 645995,739885 and labelled as Access 04 within Halston site design drawing reference SEP-0374 CLDC-HAL-DC-XX-PL-10020 Rev P01; dated: June 2025 provided to TTRSA on 26th June 2025. This proposed site access will serve the (central) portion of the solar farm located between the R446 and M6, and will comprise a stop controlled junction with a 27m bellmouth and 9m radii. A 5m wide roadway of 'tar' surfacing will extend 20.26m southwards from this junction to a security gate. This site access will subsume an existing stone surfaced roller type gated access serving residential and farmland property. The existing gate infrastructure is positioned approximately 6m setback from the southern edge of the L11272 carriageway. The carriageway at this location has a crowned sealed width of approximately 3.2m with a section of 1.75m wide stone surfaced informal passing place positioned opposite the existing gated access. A grass verge and open ditch backed by mature hedgerow bounds the southern side of the carriageway and an open ditch backed by mature hedgerow bounds the northern side of the carriageway either side of the informal passing place. A residential property is also located further eastwards of this existing gated access. The alignment of the L11272 carriageway at the locality of the proposed site access junction is relatively straight with a minor falling vertical grade west to east. No road markings or road signing are present. The default rural speed limit applies to this section of the L11272 local road.



- One access onto the eastern side of the L51251 local road at approximately ITM 645485,739005 and labelled as Access 06 within Halston site design drawing reference SEP-0374 CLDC-HAL-DC-XX-PL-10020 Rev P01; dated: June 2025 provided to TTRSA on 26th June 2025. This proposed stop controlled site access junction will form a temporary access related to site construction for the (central) portion of the solar farm located between the R446 and the M6. This site access junction will incorporate a 27m bellmouth and a 21m southern radius, and is intended only to provide access to and from the south between the central portion of the solar farm and the southern portion of the solar farm (to the south of the M6 motorway). A roadway of 'tar' surfacing indicated as 6.37m will extend 17.17m eastward from the bellmouth to a security gate. The carriageway at this location has a sealed width of approximately 3m bounded by narrow verge backed by ditch and hedgerow on its eastern side and by verge, hedgerow and stockproof fencing on its western side. The alignment of this section of the L51251 carriageway is relatively straight with a falling vertical grade north to south. No road markings or road signing are present. The default rural speed limit applies to this section of the L51251 local road.




The highway design of these four proposed site accesses is further depicted within the drawing information contained within Appendix A of this report.

## 2.2 Design Standards and Departures from Standards

The proposed highway design information provided for this Stage 1 RSA states that all proposed site accesses are to be *'surfaced in accordance with TII specifications'* and all four of the proposed site accesses will include stop sign RUS027 [Traffic Signs Manual 2024]. The RSA audit team has not been informed of any departures from standards.

## 2.3 Traffic Collision Information

Collision data is not currently publicly available due to ongoing issues in relation to GDPR and associated data-sharing agreements between An Garda Síochána and the Road Safety Authority.

### 2.4 Information provided for this RSA

Documents and information provided for this RSA are detailed with the RSA audit brief contained in Appendix A.

# 3 Stage 1 Road Safety Audit Findings

**3.1 Problem: Visibility to, from and of the proposed site access junctions**

It is unclear from the drawing information provided for this Stage 1 RSA of the position of existing (retained) boundary treatment and utility infrastructure relative to the four proposed site access junctions, therefore it is unclear whether adequate visibility (including inter-visibility) will be provided from, to, or of the four proposed site access junctions. Inadequate visibility to, from, and of, site access junctions can increase the risk of a range of collision types.

**Recommendation:**

Provide adequate visibility (including inter-visibility) to, from, and of, the four proposed site access junctions on both the horizontal and vertical plane at all times.

**3.2 Problem: Awareness of priority control of proposed site access junctions labelled 03, 04, and 06**

The lack of priority control road markings relating to the stop controlled site access junctions labelled 03, 04 and 06 will reduce awareness for those egressing these site access junctions of: the position of these junctions; and, also the traffic priority at these site junction. This situation increases the risk of collision involving those egressing these site access junctions, including overshoot collisions.

**Recommendation:**

Provide priority control road markings for these proposed site access junctions.

**3.3 Problem: Awareness of presence of proposed site access junctions**

Through-traffic of the R446 regional road will not be made aware of the presence of the proposed site access junctions and associated potential for slowing traffic/turning movements at these localities. This situation increases the risk of collisions.

**Recommendation:**

Provide appropriate warning signing to indicate the presence of these proposed site access junctions.

**3.4 Problem: Surface water drainage at site access junctions**

It is unclear from the drawing information provided for this Stage 1 RSA of whether adequate surface water drainage will be provided in the vicinity of the four proposed site access junctions, noting that surface water will potentially drain across the site access junctions labelled 02 and 03, whilst site access junctions labelled 04 and 06 will potentially drain onto the existing carriageway. Inadequate surface water drainage at site access junctions can increases the risk of loss-of-control type collisions.

**Recommendation:**

Provide adequate surface water drainage for the four proposed site access junctions, ensuring that surface water does not drain onto the carriageway or onto/across the site access roadway, taking full account of the construction tie-in and levels at the interface between the proposed site access junction and existing carriageway.

**3.5 Problem: Vertical level differences in the vicinity of site access junctions**

There is potential for injury to road-users accessing/egressing the site access junctions as they inadvertently traverse over sharp vertical profiles at the site access junctions, for example either adjacent to/aligning the site access roadway or ditches aligning the carriageway in the vicinity of the proposed site access junctions.

**Recommendation:**

Ensure that road-users cannot traverse over sharp vertical profiles in the vicinity of the site access junctions.

**3.6 Problem: Inadequate dimensions of northern radius of site access junction labelled 06**

Whilst it is acknowledged that the site access junction labelled 06 is intended only to provide access to and from the south between the central portion of the solar farm and the southern portion of the solar farm (to the south of the M6 motorway), the lack of adequate dimensions of the northern radius of the proposed site access junction labelled 06 for vehicular right-turn egress/left-turn entry at this site access junction increases the risk of road-users attempting to undertake these turning manoeuvres, entering the adjacent ditch or colliding with road-side boundaries.

**Recommendation:**

Provide measures to prohibit vehicular right-turn egress and left-turn entry at this proposed site access junction.

**3.7 Problem: Dimensions of proposed site access junctions and access roadway for vehicles to safely pass one another**

It is unclear from the drawing information provided for this Stage 1 RSA of whether adequate dimensions will be provided at the proposed site access junctions (including associate site access route roadway) to enable vehicles in opposing directions to safely simultaneously pass one another. Inadequate dimensions of site access junctions and associated roadway/carriageway in the vicinity of these site access junctions, can increase the risk of collisions between these road-users.

**Recommendation:**

Provide adequate dimensions of site access junctions and the associated roadway/carriageway in the vicinity of these site access junctions to accommodate vehicles to safely pass one another simultaneously in opposing directions, taking full account of vehicle swept path access and visibility.

**3.8 Problem: Retention of existing accesses redundant through replacement by proposed site access junctions**

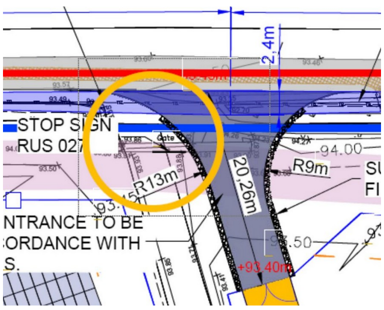
It is unclear from the drawing information provided for this Stage 1 RSA of how existing site accesses which will be made redundant through the proposed site access junctions will be treated in relation to highway design. The retention of redundant site accesses can create road-user confusion of the location of the correct site access junction destination and subsequently result in misinterpretation and hazardous vehicle manoeuvres/collisions at these localities.

**Recommendation:**

Provide measures (such as verge and boundary treatment reinstatement) at redundant site access locations to ensure that these access locations cannot be misinterpreted as the route alignment for the proposed site access junctions.

**3.9 Problem: Tie-in between parallel routes at proposed site access junction labelled 04**

No information has been provided for this Stage 1 RSA of where and how the existing (retained) lane-way positioned immediately parallel to the internal roadway at proposed site access junction labelled 04 will tie-in with the proposed site access junction and the associated roadway. Inadequate tie-in, including for example horizontal, vertical, construction, surface water drainage and boundary tie-in, and inadequate vehicle swept path access and inter-visibility for road-users at this locality, can adversely impact road-user safety.

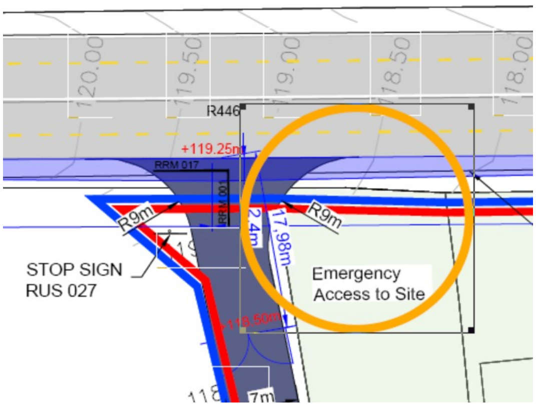



**Recommendation:**

Provide safe access for all types of road-users using this existing (retained) lane-way and adjacent proposed site access junction and junction roadway.

**3.10 Problem: Tie-in between adjacent accesses at proposed site access junction labelled 02**

No information has been provided for this Stage 1 RSA of how the existing field access positioned immediately east of the proposed site access junction labelled 02 will tie-in with the proposed site access junction. Inadequate tie-in, including for example horizontal, vertical, construction, surface water drainage and boundary tie-in, and inadequate vehicle swept path access and inter-visibility for road-users at this locality, can adversely impact road-user safety.




**Recommendation:**

Provide safe access for all types of road-users using this existing field access and adjacent proposed site access junction.

# 4 Audit Statement

We certify that we have examined the documentation provided for this RSA as detailed in Section 2 of this report, and visited the site as detailed in Section 1 of this report. This RSA has been carried out in accordance with TII GE-STY-01024 with the sole purpose of identifying any features of the design that could be removed or modified in order to improve the safety of the scheme. The problems that we have identified have been noted in this RSA report, together with suggestions for safety improvement that in our opinion should be studied for implementation. This RSA has been conducted by the persons named below who are independent from the design team for the scheme.

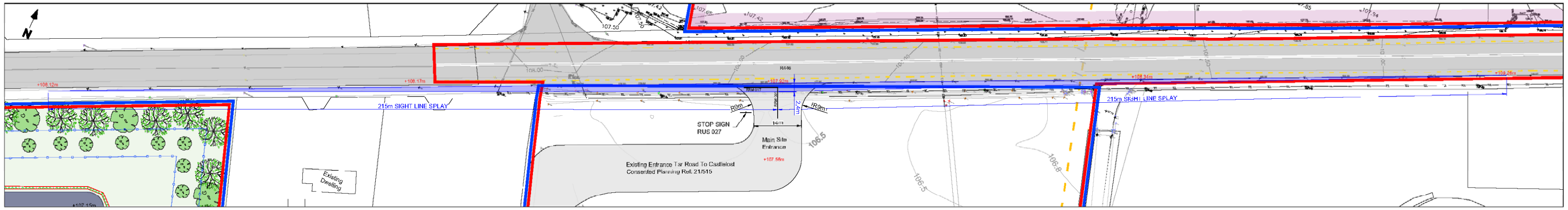
| | | |
|---|---|---|
| Matthew Steele<br>(Audit Team Leader) | Signed: | Date:<br><br>7th July 2025 |
| Pamela Townley<br>(Audit Team Member) | Signed: | Date:<br><br>7th July 2025 |

# Appendix A – Stage 1-2 Road Safety Audit Brief

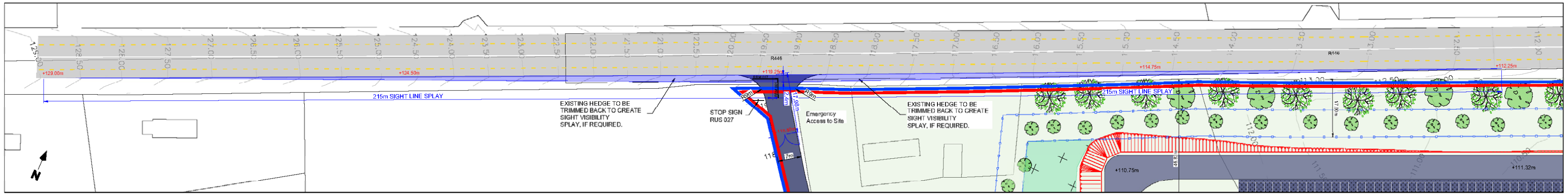
### Scheme: Proposed vehicular site accesses for proposed Data Centre Facility and Decentralised Energy Resource at Gneevebane, Oldtown, Farthingstown, Castlelost and Kiltotan and Collinstown, Co. Westmeath

| TII Checklist Item | Yes/No/Not Applicable (N/A) | Comment |
|---|---|---|
| Client Organisation and Contact | Yes | Red Admiral DC Ltd. – Paul Collins |
| Design Organisation and Contact | Yes | Halston – Colm Staunton |
| Design Brief | Yes | Undertake a Stage 1 Road Safety Audit limited to the proposed highway design of four proposed vehicular site access junctions for the proposed Data Centre Facility and Decentralised Energy Resource at Gneevebane, Oldtown, Farthingstown, Castlelost and Kiltotan and Collinstown, Co. Westmeath. Two of these vehicular site accesses will access onto the R446 regional road, one vehicular site access will access onto the L11272 local road and one vehicular site access will access onto the L51251 local road. |
| Design Standards Applied | Yes | The proposed highway design information provided for this Stage 1 RSA states that all proposed site access junctions are to be *'surfaced in accordance with TII specifications'* and all four of the proposed site access junctions will include stop sign RUS027 [Traffic Signs Manual 2024]. |
| Design Speed Applied | No | |
| Departures from Standard | No | |
| Scheme Drawings | Yes | Documents prepared by Halston and provided to TTRSA by Halston on 30th May 2025:<br>• Drawing Title: 'Site Access Visibility Splays'; Drawing Reference: SEP-0374 CLDC-HAL-DC-XX-PL-10020 Rev P01; dated: May 2025.<br><br>Documents prepared by Halston and provided to TTRSA by Halston on 27th June 2025:<br>• PDF document referenced: Drawing Title: CLDC-HAL-DC-XX-PL-10000 P01 Site Layouts.<br>• Drawing Title: 'Site Access Visibility Splays'; Drawing Reference: SEP-0374 CLDC-HAL-DC-XX-PL-10020 Rev P01; dated: June 2025. |
| Other scheme details, e.g. signs schedules, traffic signal staging | No | |
| Collision data for existing roads affected by the scheme | Yes | Collision data is not currently publicly available due to ongoing issues in relation to GDPR and associated data-sharing agreements between An Garda Síochána and the Road Safety Authority. |
| Traffic surveys | Yes | Traffic count surveys were undertaken as part of an EIAR Traffic and transport chapter associated with the proposed development. |
| Previous RSA Reports and Designer Responses /Feedback | No | |

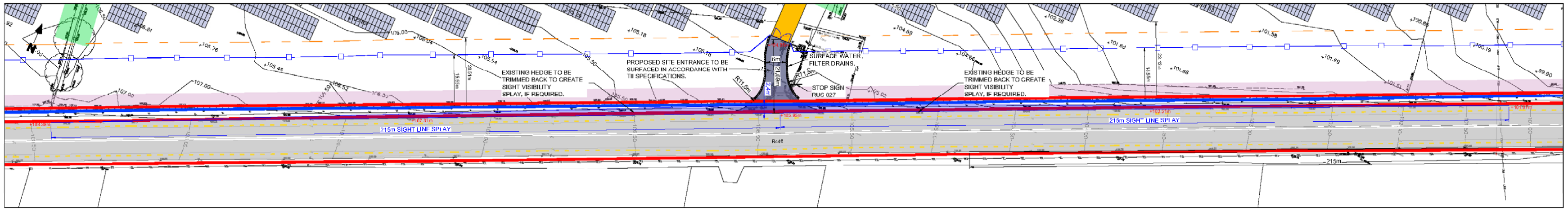
| | | |
|---|---|---|
| Form | | |
| Previous Exception Reports | N/A | |
| Start date for construction and expected opening date | Yes | Scheme is expected to be constructed over a five year period from 2028/29, opening in 2033. |
| Any elements to be excluded from RSA | No | |
| Any other information (list separately) | No | |



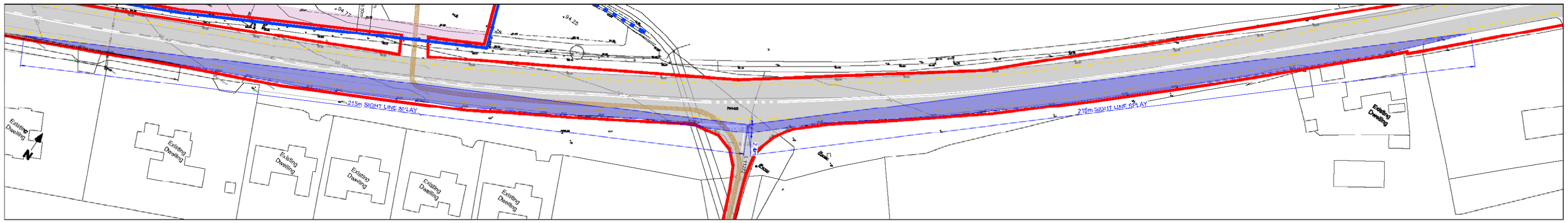

DATA HALL ACCESS TO R 446 (ACCESS 01)
SCALE 1:500



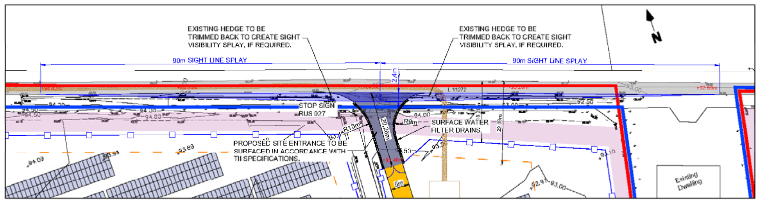

EMERGENCY ACCESS TO R 446 (ACCESS 02)
SCALE 1:500



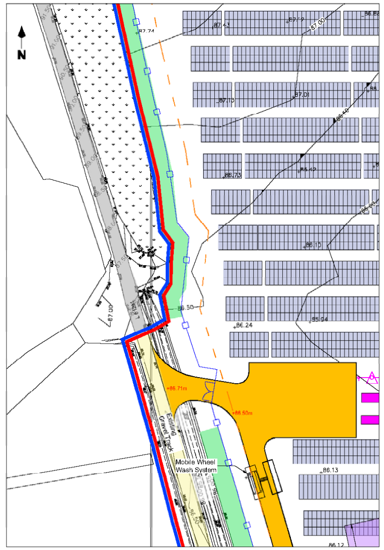

SOLAR ACCESS NORTH OF R 446 (ACCESS 03)
SCALE 1:500



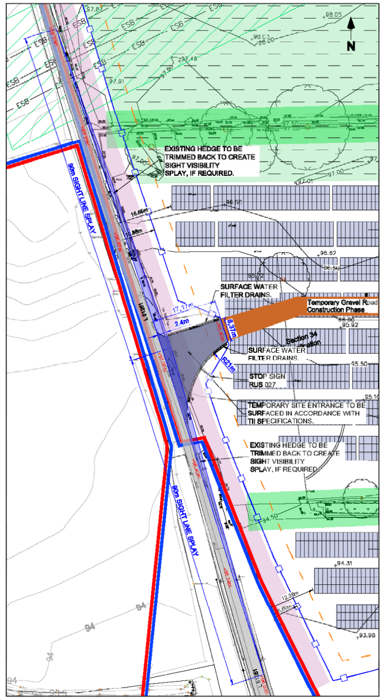

SOLAR ACCESS (SOUTH OF R 446)
SCALE 1:500




SOLAR ACCESS OFF L 11272 (ACCESS 04)
SCALE 1:500




SOLAR ACCESS OFF L 11272 (ACCESS 05)
SCALE 1:500




TEMPORARY SOLAR ACCESS OFF L 51251 (ACCESS 06)
SCALE 1:500

NOTES:
1 FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
2 THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.

| Rev. | Modifications | By | Date |
|---|---|---|---|
| P01 | PLANNING | SK | June 25 |

LEGEND:
- OWNERSHIP BOUNDARY
- SITE BOUNDARY
- PROPOSED TAR ROAD
- GRASS
- PAVED AREA
- SECURITY FENCE
- POST & RAIL FENCE
- CUT AREA
- FILL AREA
- COMPENSATORY WOODLAND
- GOLDEN PLOVER HABITAT
- CABLE ROUTE

LEGEND (SOLAR):
- 4.5m SECURITY FENCE OFFSET
- SECURITY FENCE
- 5m WIDE GRAVEL ROAD
- PROPOSED TAR ROAD
- 20m BUFFER ZONE (10m Each Side)
- 10m BUFFER ZONE (One Side)
- 5m BUFFER ZONE (One Side)
- 10m BUFFER ZONE (5m Each Side)
- WEATHER STATION
- MEDIUM VOLTAGE POWER STATION (MVPS)
- SOLAR PANEL ARRAY
- COMPENSATORY WOODLAND
- GOLDEN PLOVER HABITAT
- HORIZONTAL DIRECTIONAL DRILLING
- CABLE ROUTE



HALSTON
Email: info@halston.ie
Tel: 094 9010111
IHUB BUILDING
WESTPORT ROAD
CASTLEBAR
CO. MAYO.
F23 K162

| | | | |
|---|---|---|---|
| Client | RED ADMIRAL DC LTD | Drawn: SK | Checked: WD | 
| Project | ADMIRAL | Approved: CS | Date: May 2025 |
| Title | SITE ACCESS VISIBILITY SPLAYS | Scales: As Shown | Sheet: 1 of 1 |
| Stage | PLANNING | Sheet Size: A0 | Job No.: SEP-0374 |
| | | Rev: P01 | Dwg. No.: CLDC-HAL-DC-XX-PL-10020 |

# Appendix B – Road Safety Audit Feedback Form

**Scheme:** Proposed vehicular site accesses for proposed Data Centre Facility and Decentralised Energy Resource
**Location:** R446 regional road, L11272 local road, and L51251 local road at Gneevebane, Oldtown, Farthingstown, Castlelost and Kiltotan and Collinstown, Co. Westmeath
**Audit Stage:** 1

| To be completed by Design Team | | | | To be completed by Audit Team Leader |
|---|---|---|---|---|
| **Paragraph Number in RSA Report** | **Problem accepted (Yes / No)** | **Recommended measures(s) accepted (Yes/ No)** | **Describe alternative measure(s). Give reasons for not accepting recommended measure. (Only to be completed if recommended measure is not accepted)** | **Alternative measures or reasons accepted by Audit Team (Yes / No)** |
| 3.1 | **Yes** | **Yes** | | |
| 3.2 | **Yes** | **Yes** | | |
| 3.3 | **Yes** | **Yes** | | |
| 3.4 | **Yes** | **Yes** | | |
| 3.5 | **Yes** | **Yes** | | |
| 3.6 | **Yes** | **Yes** | | |
| 3.7 | **Yes** | **Yes** | | |
| 3.8 | **Yes** | **Yes** | | |
| 3.9 | **Yes** | **Yes** | | |
| 3.10 | **Yes** | **Yes** | | |

Design Team Representative:
(Halston)

**Print Name: Stephen Kelly**

**Signature:** Stephen Kelly

**Date: 08/07/2025**

Scheme Client Representative
(Red Admiral DC Ltd./Halston):

**Print Name: Paul Collins**

**Signature:**

**Date: 08/07/2025**

Road Safety Audit signed of by:
**Matthew Steele**
BA(Hons) MSc FCILT FRGS MCIHT
**(Audit Team Leader)**

**Signature:**

**Date:** 8 July 2025

***Audit sign-off note:*** *In accordance with current TII guidance, no revised drawings are assessed as part of signing-off this feedback form. The information audited is limited to that contained within Appendix A of this Stage 1 RSA.*

APPENDIX 13.6

# Admiral

## Framework Mobility Management Plan

8 July 2025

TTRSA
Traffic : Transport : Road Safety

## Document Control Sheet

| | |
|---|---|
| Project Title | Admiral |
| Report Title | Framework Mobility Management Plan |
| TTRSA Ref: | 241206-002 |
| Revision | 1 |
| Status | Final |
| Control Date | 8th July 2025 |

**Record of Issue**

| Revision | Issue | Status | Date |
|---|---|---|---|
| 1 | 1 | Draft | 07/07/2025 |
| 1 | 2 | Final | 08/07/2025 |

**Distribution**

| Organisation | Copies |
|---|---|
| Red Admiral DC Ltd. c/o Halston | 1 Electronic |

# 1 Introduction

## 1.1 Admiral

The Admiral Project (proposed development) comprises a Data Centre (DC) facility and Decentralised Energy Resource (DER), the latter including: a Fuel Cell Power System; Battery Energy Storage System (BESS); Solar PV Farm; and, Grid Connection to the Castlelost GIS substation (herewith referred to as the Admiral site). When all six data halls are fully constructed, the operation of the proposed DC including DER is expected to have approximately 360-400 staff. The staff would be expected to work over a number of different shifts, for example: two 12-hour shifts for security; one 8-hour shift for management and office staff; three 8-hour shifts for M&E staff; and one 8-10-hour shift for facilities and DER related staff. In addition, contractors and visitors would be expected to require access to the Admiral site.

This Framework MMP has been prepared as part of a forthcoming planning application of the proposed development.

## 1.2 The Background to Mobility Management Plans

### 1.2.1 What is a Mobility Management Plan?

A Mobility Management Plan is a package of measures resulting from a collaborative process in which organisations and individuals can work together to reduce the negative impact which their travel and transportation related activities have on the environment. This is achieved by promoting the use of the most appropriate mode of transport for each journey. Mobility Management Plans are not 'anti-car', but typically result in reduced car-dependency. The concept originated in the USA during the 1980s and has become established business practice. Put simply a Mobility Management Plan is the start of a new and better way of living and working.

### 1.2.2 What policies inform the development of a Mobility Management Plan?

Local policies related to Mobility Management Plans are contained within Section 10.6 of the '*Westmeath County Development Plan 2023-2029*'[1] which requires that Mobility Management Plans must address:

- The need to provide adequate, affordable and sustainable means of access;
- The need to promote and support alternative means of transport to the private car;
- The need to minimise the impact of traffic and parking generated by the business; and,
- The need to manage on-site parking.

1 https://www.westmeathcoco.ie/en/media/Volume%201%20Written%20Statement.pdf

Nationally, the National Transport Authority (NTA) document '*Achieving Effective Workplace Travel Plans: Guidance for Local Authorities*'[2], seeks to implement policies such as the '*National Sustainable Mobility Policy*'[3] which has the target of 'a 10% reduction in kilometres driven by fossil fuelled cars by 2030'. The National Climate Action Plan[4] seeks to achieve a '*51% reduction in overall greenhouse gas emissions by 2030 and setting us on a path to reach net-zero emissions by no later than 2050, as committed to in the Programme for Government and set out in the Climate Act 2021*'.

### 1.2.3 What are the main benefits resulting from a Mobility Management Plan?

For a facility such as the Admiral site, the main benefits resulting from the implementation of the Mobility Management Plan will typically include:

- Providing means of access by sustainable transport modes, with an associated reduction in the impact of the development on the environment;
- Helping staff to establish and maintain a healthy lifestyle;
- Helping to minimise accessibility related issues; and,
- Maximising employment potential through efficient use of on-site car parking.

### 1.2.4 Who has developed this Framework Mobility Management Plan?

This Mobility Management Plan has been developed by Traffic Transport and Road Safety Associates Ltd. (TTRSA), a specialist traffic and transport consultancy, working in collaboration with Red Admiral DC Ltd. and Halston.

## 1.3 This Scope of this Framework Mobility Management Plan

This Framework Mobility Management Plan provides the basis for the future of mobility management for staff travel to and from the Admiral site. It also covers staff travel for business. This Mobility Management Plan is intended to detail the obligations on Red Admiral DC Ltd. in relation to the management and provision of travel related to the Admiral site.

### 1.3.1 The Structure of this Framework Mobility Management Plan

This Framework Mobility Management Plan is comprised of a number of sections:

- Section 2 outlines the roles and responsibilities for the management and implementation of the Mobility Management Plan;
- Section 3 considers existing travel patterns and behaviour;
- Section 4 sets out the objectives of the Mobility Management Plan, with targets and indicators to guide the successful implementation of the Mobility Management Plan;

2 https://www.nationaltransport.ie/wp-content/uploads/2012/03/Achieving-Effective-Workplace-Travel-Plans-Guidance-for-Local-Authorities11.pdf
3 https://assets.gov.ie/220939/15aab892-f189-4ab6-8448-0c886176faac.pdf
4 https://www.gov.ie/en/campaigns/2f87c-climate-action-plan-2021/

- Section 5 outlines existing sustainable transport provision in the vicinity of the Admiral site;
- Section 6 details the range of Mobility Management Plan (Action Plan) measures that it is intended to implement; and,
- Section 7 provides a framework for monitoring and evaluation of the Mobility Management Plan.

# 2 Roles and Responsibilities

## 2.1 Responsibility and commitment to delivery

The organisation with overall responsibility for delivery of this Mobility Management Plan will be Red Admiral DC Ltd. who will work collaboratively to deliver this Mobility Management Plan through a Mobility Management Plan Working Group likely to consist of the following team:

- An identified Mobility Management Plan Co-ordinator for the Admiral site;
- Representatives of the staff working at the Admiral site; and,
- A representative of Westmeath County Council.

## 2.2 The role of the Mobility Management Plan Co-ordinator

The Mobility Management Plan Co-ordinator will be appointed in due course by the senior leadership team, and will work within Red Admiral DC Ltd. to allocate appropriate training, support and resources as necessary to enable successful delivery of this Mobility Management Plan.

The role of the Mobility Management Plan Co-ordinator will include:

- Day-to-day management of the Mobility Management Plan;
- Taking responsibility for implementation of the Mobility Management Plan measures, including regular dissemination of travel related information;
- Ensuring that traffic and transportation implications are considered within decision making related to the operation, maintenance and management of the Admiral site;
- Acting as the focal point for the Mobility Management Plan Working Group; and,
- Coordinating Mobility Management Plan monitoring and evaluation (with third party support as necessary), including undertaking related traffic and travel surveys.

## 2.3 The role of the Mobility Management Plan Working Group

The Mobility Management Plan Working Group, comprising those listed in Section 2.1, should meet as often as required, but not less than once every six months.

# 3 Existing Travel Patterns and Behaviour

## 3.1 Background to available travel data

Travel data, including modal split and origin and destinations for journeys to work is available from national sources including the 2016 Census and 2022 Census. As this Framework Mobility Management Plan has been prepared in advance of the proposed development, the staff are currently not known and therefore staff related travel data is not available.

## 3.2 Census travel to work data

### 3.2.1 Census data limitations

Neither workplace zone data, nor commuting data, from the Census 2022 has been published by the Central Statistics Office (CSO). The latest available workplace zone and commuting data is therefore from Census 2016. The 2016 data is still considered by TTRSA to be broadly representative, but may become less so over time as for example, Government capital spending on active travel schemes and revenue spending on supporting public transport, increases. Workplace zone data from the Census 2016 does not differentiate between journeys to work and journeys to school and for the Census workplace zone covering the Admiral site and Rochfortbridge[5] significantly skews modal split towards journeys by walking and public transport due to the proportion of journeys to school. Baseline modal split data has therefore been based on the Census 2022 Electoral Division of Castlelost (including Rochfortbridge) which disaggregates journeys to work for those living within the Electoral District.

### 3.2.2 Mode of travel to work for those living within Census 2022 Electoral Division of Castlelost

Table 3.1 shows the main mode of travel to work stated by those living within Census 2022 Electoral Division of Castlelost.

***Table 3.1: Main mode of travel to work for those living in the Census 2022 Electoral Division of Castlelost***

| Walk | Bicycle | Public Transport | Car/Van (alone)[6] | Car share[7] | Other^ |
|---|---|---|---|---|---|
| 5% | 0% | 5% | 83% | 5% | 2% |

*Note: Data rounded to whole percentages; excludes those residents working from home; ^including lorry*

5 Census 2016 Workplace Zone WH0085
6 Car Driver and Van
7 Car Passenger

### 3.2.3 Average travel time for those working within the Census workplace zone covering the Admiral site and Rochfortbridge

The average commuting journey travel time for those working within the Census 2016 workplace zone covering the Admiral site and Rochfortbridge was 28.8 minutes.

### 3.2.4 Residential locations for those working within the Census Castlelost/Rochfortbridge POWSCAR zone

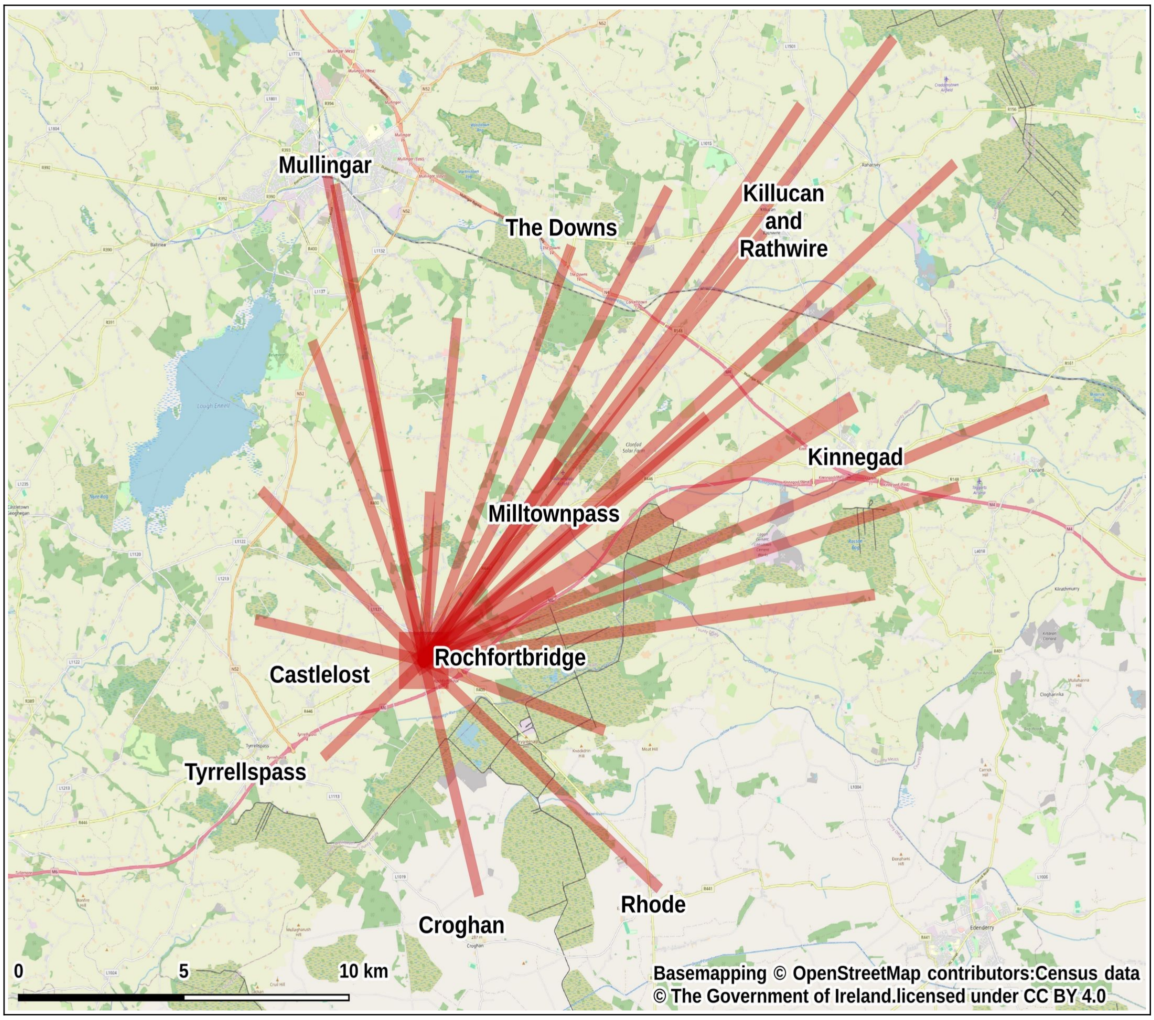
Whilst commuting origin data is not publicly available for Census 2022, the data was provided by the CSO for POWSCAR zones for the Census 2016. Table 3.2 details the residential locations of employees working within the Castlelost/Rochfortbridge POWSCAR zone, also shown graphically in Figure 3.1, noting that 31% of trips are internal to Castlelost/Rochfortbridge.

***Table 3.2: Residential locations of those working in the Castlelost/Rochfortbridge POWSCAR zone reported in the 2016 Census (by percentage of total employees)***

| Residential location | Percentage of total employees |
|---|---|
| Castlelost/Rochfortbridge | 31% |
| Kinnegad | 12% |
| Gaybrook (ED) | 6% |
| Killucan | 5% |
| Rhode | 4% |
| Milltownpass | 4% |
| Mullingar | 3% |
| Elsewhere in County Westmeath | 28% |
| Outside County Westmeath | 7% |

*Note: Data rounded to whole percentages*

*Figure 3.1: Spatial distribution of residential locations of those reported in the 2016 Census as working in the Castlelost/Rochfortbridge POWSCAR zone*



# 4 Objectives, Targets and Indicators

## 4.1 Objectives

The main objective of this Mobility Management Plan is to '***Reduce private-car dependency, cut congestion and emissions, and improve accessibility for all users of the Admiral site***'.

## 4.2 Outcome based indicators & targets

### 4.2.1 Being SMART

The difficulty in setting relevant indicators and targets has been recognised for decades. However, it is generally accepted that if indicators meet certain criteria then they are more effective at guiding a team or organisation towards their ultimate goal. The criteria are given the acronym 'SMART', which can have several interpretations. For the purposes of setting the indicators and targets within this Mobility Management Plan, the traditional interpretation developed by Doran[8] has been applied.

- **Specific** – target a specific area for improvement.
- **Measurable** – quantify or at least suggest an indicator of progress.
- **Assignable** – specify who will do it.
- **Realistic** – state what results can realistically be achieved, given available resources.
- **Time-related** – specify when the result(s) can be achieved.

### 4.2.2 Being focused on outcomes

Being SMART is not enough. In the past, targets related to SMART indicators were often written in the form, for example, '*to install an fifty secure covered bicycle stands at the Admiral site prior to initial opening*'. Whilst this meets the requirements of being SMART, the provision of a certain number of bicycle stands by a certain date or point in time, this does not necessarily result in an increase in the number of staff cycling regularly to and from work. The starting point for selecting outcome-based indicators and targets is understanding the desired outcome itself. For example: a more sustainable mix of travel modes being used to access the Admiral site; an increased level of active travel by staff for travel to work; or, being able to increase the number of staff employed at the Admiral site without increasing the number of car parking spaces required.

8 Doran, G. T. (1981). "There's a S.M.A.R.T. way to write management's goals and objectives". Management Review (AMA FORUM) 70 (11): 35–36

## 4.3 Primary indicator & targets

### 4.3.1 Modal split

The primary outcome-based indicator in terms of the effective delivery of this Mobility Management Plan will be the modal split of staff access to the Admiral site. This will be expressed as a target percentage by main mode of travel. Table 4.1 shows indicative modal split targets based on encouraging staff towards an increasing use of: feasible active and sustainable modes of travel; and, car-sharing.

The primary drivers towards meeting the modal split targets will be: the provision of demand responsive mini-bus access and actively promoting car sharing for staff.

***Table 4.1: Indicative modal split targets for staff access to the Admiral site***

| Year | Walk | Bicycle | Public Transport/ Taxi | Car Driver | Carshare | Other* |
|---|---|---|---|---|---|---|
| *Baseline (2022)^* | *5%* | *0%* | *5%* | *83%* | *5%* | *2%* |
| 2033 | 0% | 1% | 5% | 82% | 5% | 2% |
| 2035 | 0% | 2% | 10% | 71% | 10% | 2% |
| 2037 | 0% | 3% | 15% | 60% | 15% | 2% |

*Note: Percentages rounded to the nearest whole number : ^ Electoral Division of Castlelost: * including Motorcycle*

## 4.4 Secondary Indicators

Secondary indicators are useful in assessing trajectories towards the primary indicator where additional data can be collected without incurring significant time or cost penalties that could impact on delivery of the Mobility Management Plan. Some suggested indicators are listed below. These can be developed further by the Mobility Management Plan Co-ordinator and the Mobility Management Plan Working Group.

- The daily number of staff using minibus services;
- The number of cars entering the Admiral site; and,
- The occupancy of cars entering the Admiral site.

# 5 Existing Sustainable Transport Provision

## 5.1 Walking

There is currently no specific pedestrian provision to access the Admiral site.

## 5.2 Cycling

There is currently no specific cycle provision to access the Admiral site. A recreational loop cycle route from Mullingar utilises the L1137 local road, passing approximately 3km to the north of the Admiral site, accessible via the L5152 local road.

## 5.3 Public transport

A number of bus services currently utilise the R446 regional road adjacent to the Admiral site:

- Bus Service 763 operates from Galway to Dublin via the R446 regional road with a service interval of approximately two-hours. Local tickets can be purchased on the route, for example a return ticket from Tyrrellspass to Rochfortbridge is currently €7.00.
- Bus service 837 operates from Tullamore to Mullingar four times daily;
- Bus service 845 operates from Birr and Tullamore to Dublin via the R446 regional road primarily for commuters, with most weekday Dublin-bound services departing from Tyrrellspass between 06:02 and 07:47, with additional services at 09:52 and 14:52, and all Dublin-originating services arriving at Tyrrellspass between 17:35 and 19:40.
- Bus service 847 operates from Birr to Dublin via the R446 regional road twice daily.

# 6 Actions and Measures

## 6.1 The Action Plan

The actions and measures included in this Mobility Management Plan have been developed as an integrated package (Action Plan) to specifically deliver the overall objective of the Mobility Management Plan (stated in Section 4.1) by encouraging rather than force behavioural change. The Action Plan measures are shown diagrammatically with time-frames for implementation in Appendix 1.

### 6.1.1 The role of the Action Plan

The main roles of the Action Plan are: to provide focus to the delivery of the Mobility Management Plan for the Admiral site to achieve the objectives detailed in Section 4.1; to ensure that maximum benefit is derived from the investment in Mobility Management Plan related measures; and, to ensure that staff are provided with travel choices including the optimal modes for their individual journeys.

### 6.1.2 The role of communication in delivery of the Action Plan

Communication and openness is critical to the successful implementation of this Action Plan. The measures containing within the Action Plan may challenge the pre-conceptions of staff in relation to their travel choices and entitlements. Communication will be managed through a number of channels including: direct communication with staff; communication through groups of staff such as team meetings; and, wider raising of awareness through the use of mobility management related noticeboards, including for example, car sharing and information related to public transport services.

## 6.2 Suggested Action Plan measures to encourage cycling to/from the Admiral site

Whilst the speed limit on the R446 regional road is not particularly conducive to cycling, the presence of shoulders and local road access, for example via the L5125 local road, means that a number of staff may choose to cycle to the Admiral site. Cycling to work will be facilitated through:

- Providing staff access to the Cycle to Work Scheme[9]
- Providing secure cycle parking; and,
- Providing basic cycle maintenance facilities on site.

Staff could also be encouraged to participate in team cycling events.

9 https://www.revenue.ie/en/jobs-and-pensions/taxation-of-employer-benefits/cycle-to-work-scheme.aspx

The Cycle to Work scheme, which encourages cycling as a mode of transport through facilitating an employer to purchase a bicycle and related equipment for a member of staff, who then pays the employer back through a salary sacrifice arrangement for up to 12 months. The member of staff is not liable for tax, PRSI or the Universal Social Charge on their repayments. Staff can only obtain a bicycle and equipment through the scheme once every five years and the bicycle must be mainly used for journeys between their home and place of work, although employers are not expected to monitor this.

## 6.3 Suggested Action Plan measures to encourage public transport use to/from the Admiral site

As covered in Section 5.3, there is currently limited potential to increase the use of existing bus services to access the Admiral site, and based on the NTA Connecting Ireland Rural Mobility Plan this situation is unlikely to change in the short to medium term. The provision of demand responsive minibus access for those living in the local area, and using longer distance public transport should be implemented. Such services typically run at times related to the start and end of the working day, including shift changes. Potential routes for such services would be: from Mullingar (including the railway station) to the site via Tyrrellspass (serving those staff living on the north-south N52 corridor); and, from Kinnegad to the site via Rochfortbridge (serving those staff living on the east-west R446 corridor).

## 6.4 Suggested Action Plan measures to encourage carsharing to/from the Admiral site

Carsharing is typically a feasible means of travelling to and from work for a significant proportion of staff at developments such as the Admiral site. Measures to encourage the use of car sharing for journeys to and from work included within the Action Plan, are;

- Creating a formal internal carsharing scheme to assist staff in finding carsharing partners; and,
- Promoting carsharing to staff, including through information and events and for example, raffles for staff who actively participate in car sharing.

## 6.5 Suggested Action Plan measures to reduce car-dependency

### 6.5.1 Encouraging employment from the local area

Encouraging employment from the local area is effective in reducing the distances that staff need to travel to and from work, and encouraging access by active travel modes.

### 6.5.2 Car parking and parking management

Car parking within the Admiral site should be prioritised for those staff most in need, for example, staff who are required to travel as part of their daily work, those living in locations that are difficult to access or service by other modes of transport; and, those needing access by car/van due to other commitments such as dropping or collecting children from school or college as part of their journey to and/or from work.

### 6.5.3 Reducing the Need for Business Travel

Due to the nature of the DC element of the Admiral site, technology including remote system monitoring and video-meetings will be used to reduce the need to travel during the course of the working day; and, allow staff to work remotely where appropriate.

# 7 Monitoring and Evaluation

## 7.1 Monitoring

Monitoring of the implementation of this Mobility Management Plan is a key role of the Mobility Management Plan Coordinator.

The primary form of monitoring will be staff travel surveys. The surveys will be focused on travel behaviour and the monitoring of action plan related measures. The surveys will also be used to monitor the uptake of Mobility Management Plan measures.

A monitoring report, including current trajectories towards established targets will be prepared by the Mobility Management Plan Coordinator and submitted to the Mobility Management Plan Working Group within two months of completion of the surveys.

## 7.2 Evaluation

This Mobility Management Plan will be reviewed biennially by the Mobility Management Plan Working Group, taking full account of the results of the aforementioned f travel surveys and the trajectories toward established targets.

The review of the Mobility Management Plan may involve:

- Changing priorities within the implementation of the Action Plan based on progress and experience to ensure that the Mobility Management Plan modal split targets within Sections 4.3 are achieved;
- The setting of increasingly challenging targets if the proposed targets are achieved ahead of schedule;
- Introducing additional activities and/or measures to the Action Plan through the following of national best practice or local innovation; and,
- Recommending the level of annual budget required to implement the measures contained within the Action Plan.

The findings of this Mobility Management Plan review will be disseminated to staff and Westmeath County Council within four months of completion of the review.

# Appendix 1 – Action Plan

| Action / Mode | Measure | Infrastructure | Management | Promotion | Individual / Organisation(s) | 2033 | 2035 | 2037 | 2038 onwards |
|---|---|---|---|---|---|---|---|---|---|
| Overarching Coordination | Appoint the Mobility Management Plan Coordinator | | | | Admiral | | | | |
| | Establish the MMP Working Group and define its remit and operating procedures | | | | MMP Coordinator / Admiral | | | | |
| Cycling | Provide and maintain secure cycle parking facilities | | | | Admiral | | | | |
| | Provide staff access to the Cycle to Work scheme | | | | Admiral | | | | |
| | Provide basic cycle maintenance facilities | | | | Admiral | | | | |
| | Encourage staff to participate in team cycling events | | | | MMP Coordinator | | | | |
| Public Transport | Implement demand responsive mini-bus service, for example from Mullingar via Tyrrellspass and Kinnegad via Rochfortbridge | | | | MMP Coordinator / Admiral | | | | |
| Reducing Car Dependency | Encourage recruitment from the local area | | | | Admiral | | | | |
| | Promoting carsharing to staff | | | | MMP Coordinator | | | | |
| | Actively manage public car parking within the development | | | | Admiral | | | | |
| | Utilise remote system monitoring and video-meetings | | | | Admiral | | | | |
| | Allow staff to work remotely where appropriate | | | | Admiral | | | | |
| Communication | Regular communication with those working on, and visiting, the site to promote, and ensure the implementation of this Framework MMP and Action Plan | | | | MMP Coordinator / MMP Working Group | | | | |

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# APPENDIX 13.7

TRASKY

# Admiral Data Centre Facility and Decentralised Energy Resource Project

## Outline Construction Traffic Management Plan

Red Admiral DC Ltd.

February 2026

TRASKY

## Notice

This document and its contents have been prepared and are intended solely for Red Admiral DC Ltd., information and use in relation to the proposed Admiral Data Centre Facility and Decentralised Energy Resource Project.

Trasky Ltd. assumes no responsibility to any other party in respect of or arising out of or in connection with this document and / or its contents.

## Document History

| JOB NUMBER: | 500587 | DOCUMENT REF: | 500587-REP-0001-Rev 0 | | | |
|---|---|---|---|---|---|---|
| Revision | Purpose Description | Originated | Checked | Reviewed | Authorised | Date |
| 0 | Issue | JW | JW | JW | JW | 09/02/2026 |
| | | | | | | |
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# 1. Introduction

## 1.1 Background

This Outline CTMP is produced to accompany the Admiral Data Centre Facility and Decentralised Energy Resource Project planning application by Red Admiral DC Ltd. This report responds to Further Information Item 2)i for planning application ref: 2560344.

The development site is located between Rochfortbridge and Tyrrellspass, Co. Westmeath as detailed in the figure below.

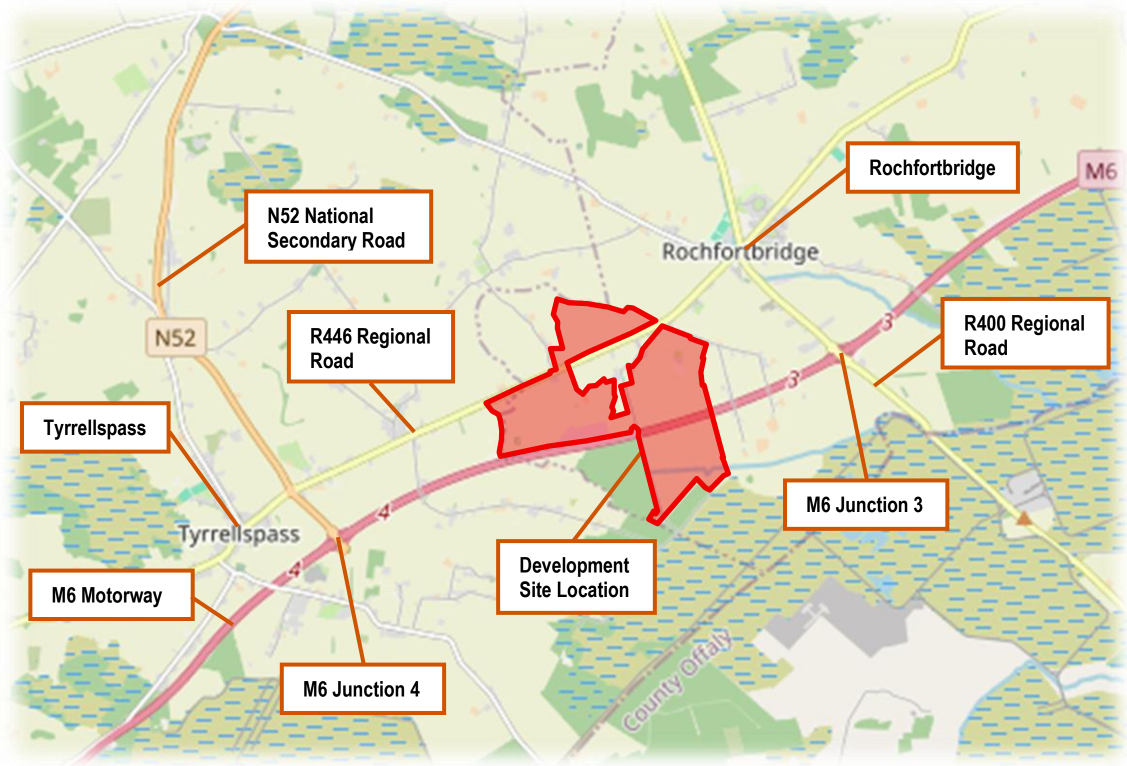


Figure 1.1 – Development Site Location

The project includes two main elements, namely:

- The Data Centre (DC) facility, comprising six two-storey Data Centre buildings, car parking, landscaping, drainage and other associated works. The DC facility will be constructed and secured within a 39ha campus. Each DC building will have a footprint of 13,978 m2 (sqm) and have a gross floor area of 28,561 sqm.
- Decentralised Energy Resource (DER), which will be constructed across approximately 200ha of lands adjoining the DC facility. The DER incorporates several power assets which will generate, store and manage electricity close to the DC facility.

A full description of the proposed development is provided in Section 2 of the report.

The purpose of the CTMP is to manage the movement of vehicles, plant and pedestrians that are present both on the construction site and adjacent road network and ensure that safety is not compromised. The responsibility for preparing, revising and implementation of this Plan will be the Principal Contractor when appointed.

## 1.2 Objective and Strategies

The objectives of the CTMP are:

- To provide protection to site personnel and the general public from traffic hazards that may arise as a result of the construction activities.
- To manage potential adverse impacts on traffic flows.
- To ensure network performance is maintained at an acceptable level.
- To minimise adverse impacts on users of the road and adjacent properties and facilities.
- To ensure public and private roads and passageways will remain open to traffic.
- To adhere to the commitments described in the planning application.

In an effort to meet these objectives the CTMP will incorporate the following strategies:

- Managing construction vehicle activity to and from site to ensuring delays and queue lengths on the adjacent road network and in the nearby towns of Tyrellspass and Rochfortbridge are avoided.
- Ensuring all road users are managed (motorists, cyclists, pedestrians, etc.)
- Ensuring work activities are carried out sequentially to minimise adverse impacts.
- Ensuring that the provision will be made for site personnel to enter the work area in a safe manner in accordance with safety procedures.
- Ensuring that all precautions are taken to prevent dirt, mud and other material being dropped or spread by traffic associated with the works and operation.

This traffic management plan will have to be agreed with the Westmeath County Council before implementation and take recognition of local requirements. The plan will include measures to direct construction traffic, as much as practicable, along the planned haul route via M6 Junction 4, the N52 National Secondary Road and the R446 Regional Road.

This Plan has been developed in line with the following documents:

- Environmental Impact Assessment Reports (EIAR)
- EIAR – Chapter 13 – Traffic & Transport

## 1.3 Structure of the Outline Construction Traffic Management Plan

The Outline CTMP document is comprised of the following sections:

- Section 2: Project Description
- Section 3: Existing Environment
- Section 4: Construction Traffic Details
- Section 5: Construction Traffic Management Plan
- Section 6: Key Organisations, Roles & Responsibilities

# 2. Project Description

## 2.1 Development Location

The development is located at Gneevebane, Oldtown, Farthingstown, Castlelost, and Kiltotan & Collinstown Co. Westmeath as detailed in the figure below.

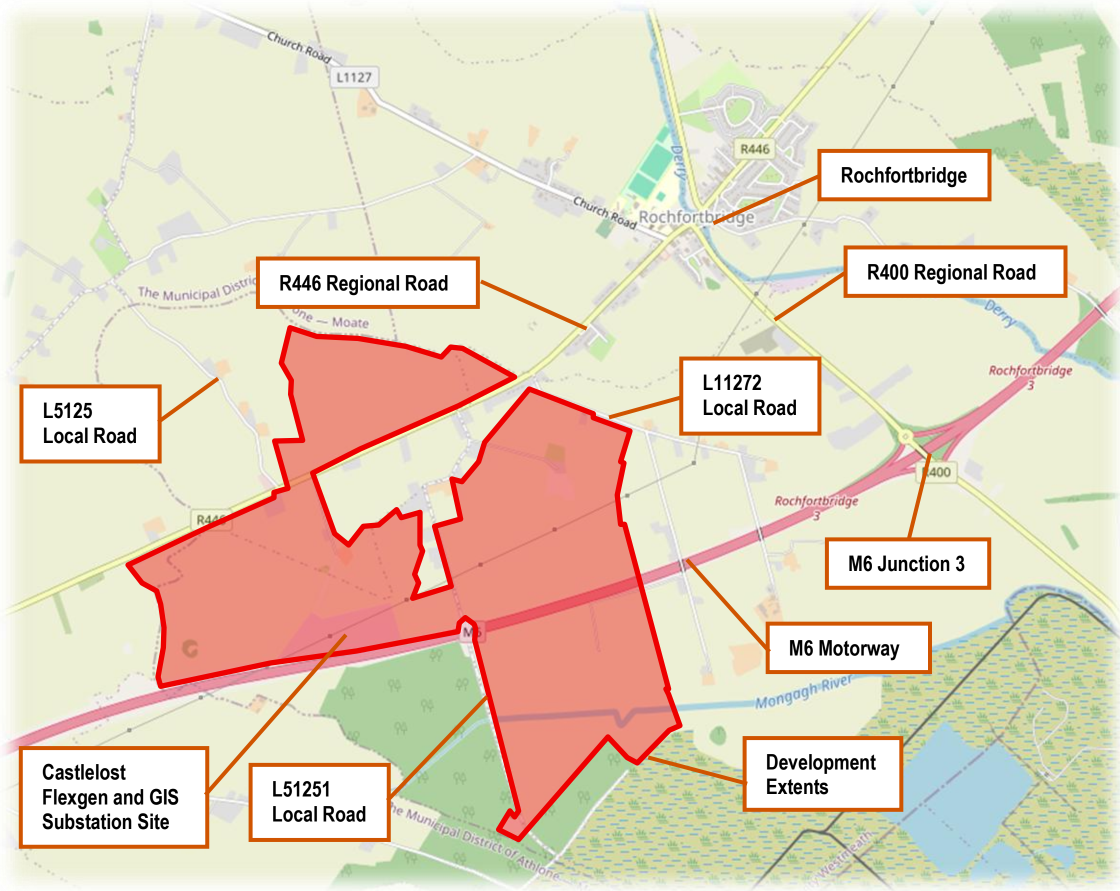


Figure 2.1 – Development Location & Extents

## 2.2 Development Description

This development will consist of:

- 1 No. Security control building (floor area 23.5m2).
- 6 No. new data buildings including administration blocks (each 228m x 62m x 18m high), 6 No. MV switch room buildings, within a secure campus having an area of 39 hectares, 1 No. fire water tank (Volume: 2000m3), pump house and proprietary modular water treatment plant.
- 6 No. fuel cell towers (each 89m x 29m x 20m high), 2 No. chilled water tanks (Volume: 1000m3 each), pump house, ancillary water tank (Volume: 2000m3), carbon dioxide process building (30.7m x 15.7m x 11.3m high) and 16 No. carbon dioxide storage tanks (100 tonnes each).
- Ancillary equipment compound including a storage building (30.7m x 10.7m x 9.7m high), 2 No. diesel generators, fire water tank (Volume: 2000m3) and pump house and proprietary modular water treatment plant.

- Above ground gas installation (AGI) compound including a boiler/instrument kiosk, regulator/metal skid kiosk and connection to the existing gas network within the site.
- 33kV IPP building (60.9m x 18.4m x 16.8m high), 1 No. telecoms tower 36m high and compound.
- Fuel cell IPP building (40m x 9.8m x 7.1m high) and compound.
- Solar farm IPP building (30m x 9.8m x 7.1m high) and compound.
- Battery compound including 138 No. battery enclosures & 138 No. medium voltage power stations (MVPS), IPP building (40m x 9.8m x 7.1m high) and fire water tank (Volume: 500m3).
- Proprietary modular water treatment plant serving the solar farm IPP building and battery compound IPP building.
- Solar farm (168 hectares) to the east of the data campus facility including solar arrays measuring (10.2m x 6.9m), (20.4m x 6.9m) & (30.6 x 6.9m), 45 No. medium voltage power stations (MVPS), 5 No. weather stations, river crossings, internal gravel access roads, security fencing and gates, 3 No. temporary construction compounds, cable crossings in the R446, L11272 & L51251 public roads, and cable crossing under the M6 using horizontal directional drilling.
- Connection to public sewer under the R446 public road.
- New emergency only access/egress from the R446 public road.
- Access/egress to the data centre campus facility through the existing Castlelost Flexgen and GIS substation access to the R446.
- Demolition of the existing derelict dwelling and agricultural sheds.
- All associated site works including internal roads, footpaths, car parking and bicycle shelters, utility connections, power cables, signage, gates, attenuation ponds, soil stripping and berm creation, landscaping and native woodland planting, lighting, security fencing, temporary construction compounds, surface water and foul water drainage, watermains, wells and water and treatment units.

# 3. Existing Environment

## 3.1 Local Road Network

The adjacent local road network to the development is detailed in the figure below with key junctions highlighted.

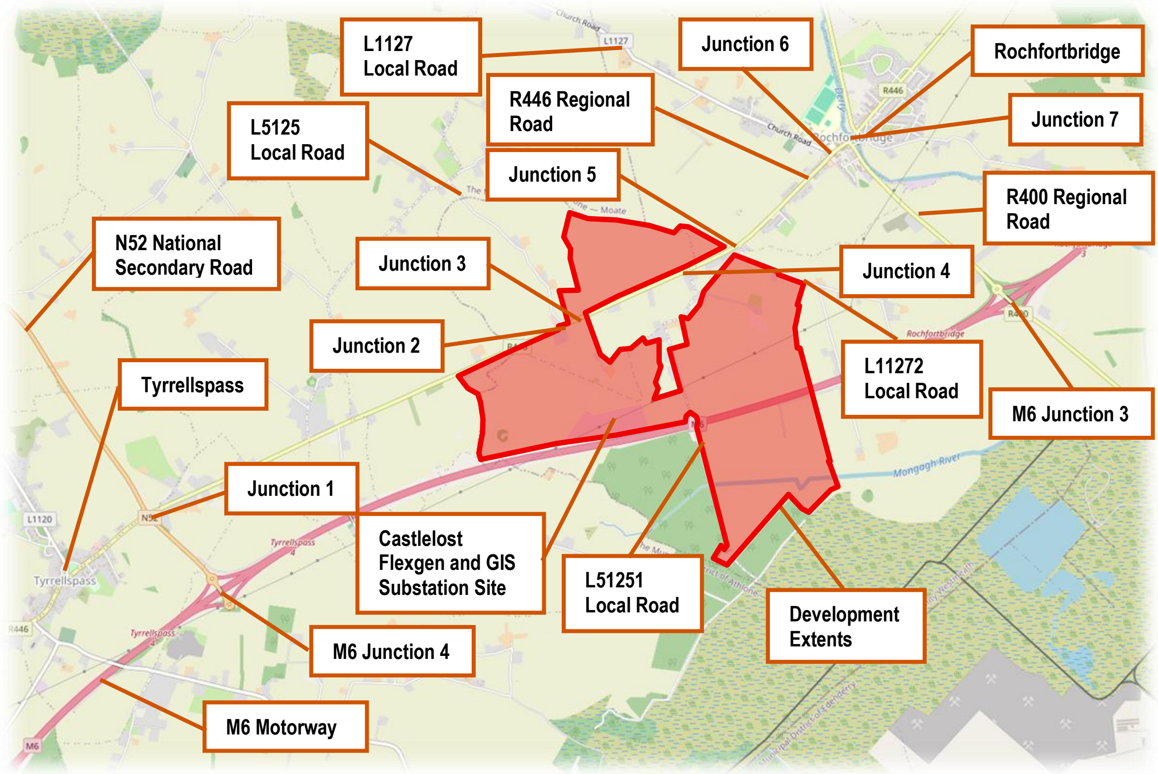


Figure 3.1 – Local Road Network

The key junctions are detailed below:

- Junction 1: R446/N52 roundabout junction
- Junction 2: R446/L5125 T-junction
- Junction 3: R446/Castlelost Flexgen and GIS Substation Site access T-junction
- Junction 4: R446/L51251 local road T-junction
- Junction 5: R446/L11272 local road T-junction
- Junction 6: R446/L1127 local road T-junction
- Junction 7: R446/R400 mini-roundabout junction

## 3.2 Existing Traffic Conditions

Manual classified traffic count surveys were undertaken during the AM and PM peak periods (between 07:45-09:14 and 16:30-17:59 hours) at the key junctions noted in Section 3.1 on Thursday 22 May 2025.

These traffic count surveys were utilised to assess in terms of the impact of the traffic generated by the proposed development on the operation of the local road network as detailed in Chapter 13 Traffic & Transport of EIAR Volume 2.

The peak construction year is forecast to be 2029 and the opening (completion year) is forecast to be 2033.

A summary of the maximum Ratio of Flow to Capacity (RFC) values at the key junctions without proposed construction traffic for the above years is detailed in the table below.

| Junction | 2029 | 2033 |
|---|---|---|
| Junction 1: R446/N52 roundabout junction | 0.37 | 0.39 |
| Junction 2: R446/L5125 T-junction | 0.01 | 0.01 |
| Junction 3: R446/Castlelost Flexgen and GIS Substation Site access T-junction | 0.04 | 0.04 |
| Junction 4: R446/L51251 local road T-junction | 0.03 | 0.03 |
| Junction 5: R446/L11272 local road T-junction | 0.05 | 0.05 |
| Junction 6: R446/L1127 local road T-junction | 0.37 | 0.38 |
| Junction 7: R446/R400 mini-roundabout junction | 0.35 | 0.36 |

Table 3.1 – Maximum RFC values at Key Junctions – Without Construction Traffic

A figure of 0.85 the maximum acceptable RFC value for priority and roundabout junctions before the junctions are considered to be congested. The values in the above table are well below this threshold indicating the junctions are currently operating well within capacity.

# 4. Construction Phase Traffic Details

## 4.1 Construction Staffing Levels

Construction staff levels during the development will vary depending on the construction programme and the extent of activities occurring on the site. During the peak construction activities there will be up to 900 construction staff on site.

## 4.2 Construction Programme & Construction Phasing

It is anticipated that the proposed development would be constructed over a period of approximately 60–62-months across three phases. Details of the phases are provided below:

- Phase 1 – from month 1 to month 26 - Data Centre Buildings 1 & 2, Fuel Cell 1, Battery Energy Storage System, Solar PV Farm 1, Grid Connection
- Phase 2 – from month 14 to month 45 - Data Centre Buildings 3 & 4, Fuel Cell 2, Solar PV Farm 2
- Phase 3 – from month 35 to month 64 - Data Centre Buildings 5 & 6, Fuel Cell 3

The figure below shows the construction phasing locations within the development site.

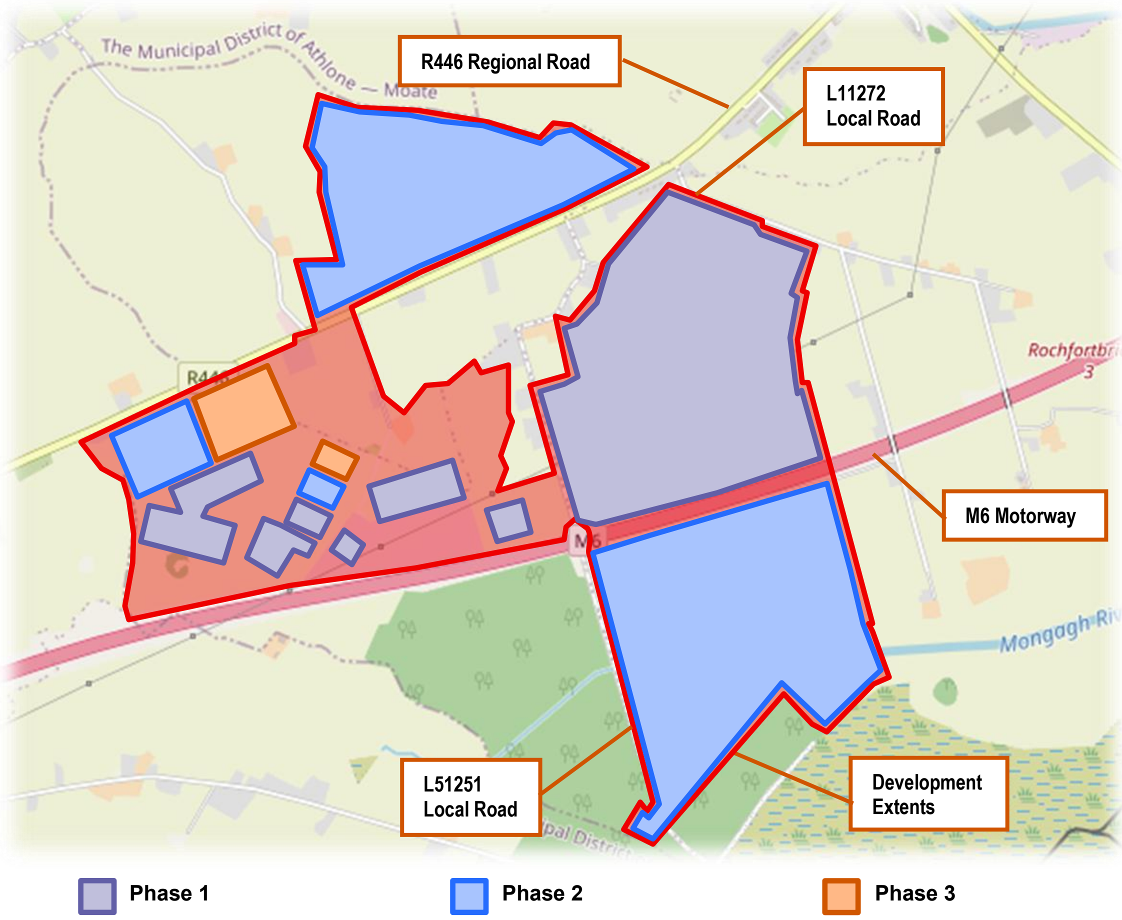


Figure 4.1 – Construction Phasing

## 4.3 Construction Staff Vehicle Occupancy

The Contractor will operate a continuous incentive scheme to encourage carpooling and lift sharing by all construction staff. It is envisaged that this will achieve an average construction staff vehicle occupancy rate of 2 construction staff per vehicle during the proposed construction.

## 4.4 Construction Working Hours

Subject to agreement with the planning authority, it is anticipated that the following times will constitute the standard working hours on the construction site:

- Monday to Friday 08:00 to 19:00
- Saturdays 08:00 to 14:00
- Site closed on Sundays and Bank Holidays

Working hours may vary slightly depending on weather conditions and daylight hours during winter months. Heavy construction activities will be avoided where possible outside the normal working hours outlined above.

## 4.5 Construction Site Access

The development site will be accessed via the accesses detailed blow:

- Access 01 – Site Entrance - R446
- Access 02 – Emergency Site Entrance - R446
- Access 03 – Site Entrance - R446
- Access 04 – Site Entrance - L11272
- Access 05 – Site Entrance - L51251
- Access 06 – Temporary Site Entrance L51251

Access 01, the current Castlelost Flexgen and GIS Substation Site access, will be utilised as a construction access and will be retained as a service access during the operational phase of the development.

Access 02 is an emergency access and will not be utilised as a construction access. It serves as an emergency fire-service access during the operational phase of the development.

Accesses 03 to 05 will be utilised as construction accesses and will be retained as service accesses during the operational phase of the development.

Access 06 is a temporary construction access onto the L51251 to avoid routing construction traffic south along the L51251 from the R446, no construction traffic will be permitted to route from or to the R446 from the temporary access, Access 06. This access will be removed prior to the operational phase of the development.

The locations of the accesses to be utilised for the construction access points are detailed in the figure below.

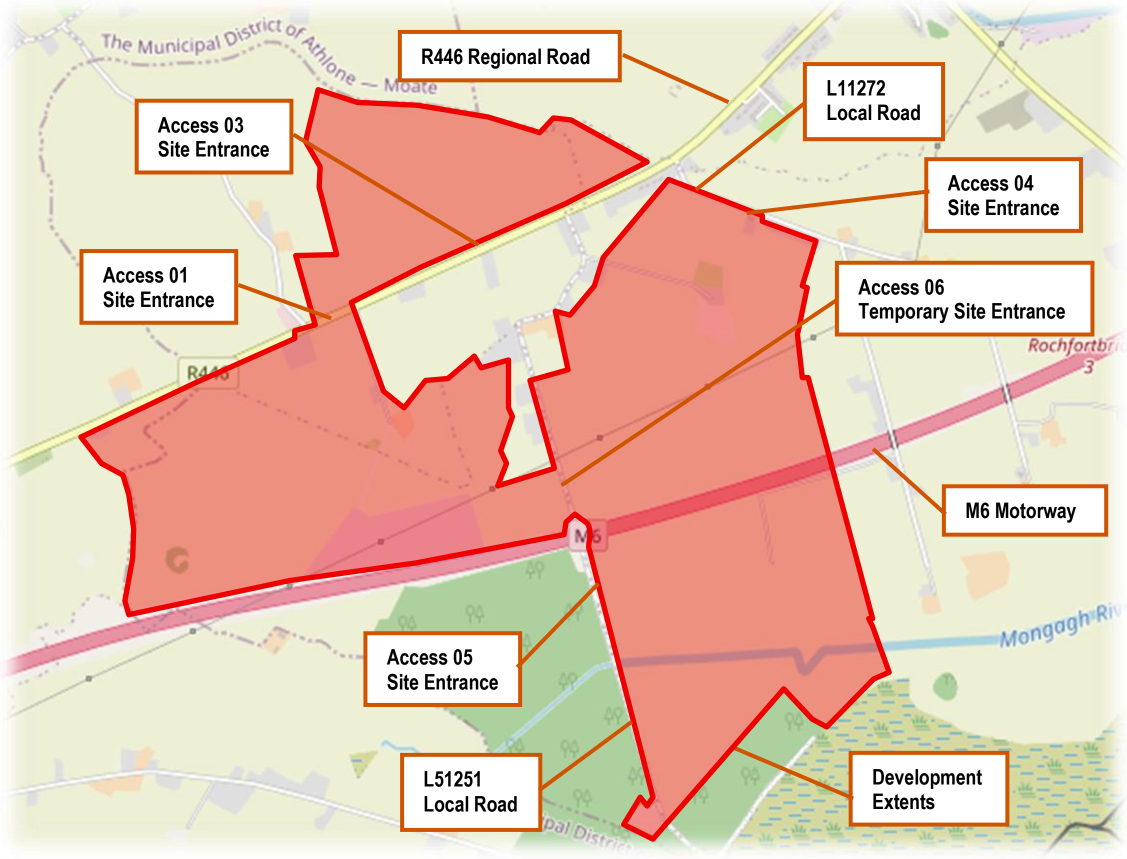


Figure 4.2 – Construction Site Accesses

The entrances to the proposed development site will be security manned with barrier control, at the end of each working day the entrances will be secured with a gate.

## 4.6 Construction Compounds

For the construction of the proposed development, it is proposed to provide 6 no. temporary construction compounds. These are detailed below:

- Temporary Construction Compound 01 – For Phase 1 - Office, Meeting Room, Welfare Facilities & 27 no. car parking spaces
- Temporary Construction Compound 02 – For Phase 1 - Office, Meeting Room, Welfare Facilities & 27 no. car parking spaces
- Temporary Construction Compound 03 – For Phase 2 - Office, Meeting Room, Welfare Facilities & 27 no. car parking spaces
- Temporary Construction Compound 04 – For Phase 1 - Offices, Meeting Rooms, Welfare Facilities & 39 no. car parking spaces
- Temporary Construction Compound 05 – For Phase 3 - Offices, Meeting Rooms, Welfare Facilities, 350 no. car parking spaces & 390 no. overflow car parking spaces
- Temporary Construction Compound 06 – For Phase 1 & 2 - Offices, Meeting Rooms, Welfare Facilities & 830 no. car parking spaces

The figure below shows the temporary construction compounds locations within the development site.

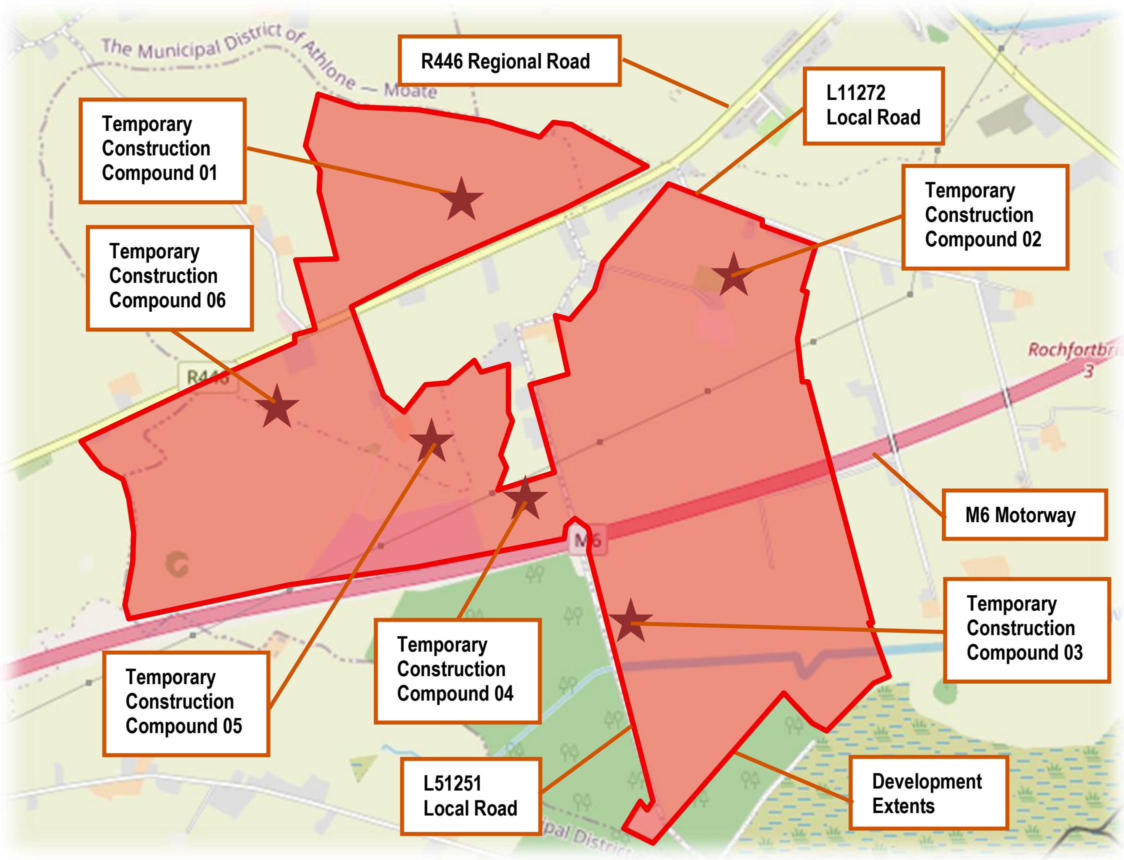


Figure 4.3 – Temporary Construction Compound Locations

## 4.7 Construction Delivery Haul Route

The haul route and for the purpose of construction deliveries (solar panels, aggregate, construction material, etc.)  for the development site shall be via the M6; exiting at junction 4 of the M6 motorway onto the N52; via the N52 to the R446/N52 roundabout; and, via the R446 and via parts of the L11272 & L51251 Local Roads to access the proposed development site as indicated on the figure below. The haul route does not pass through either Rochfortbridge or Tyrrellspass.

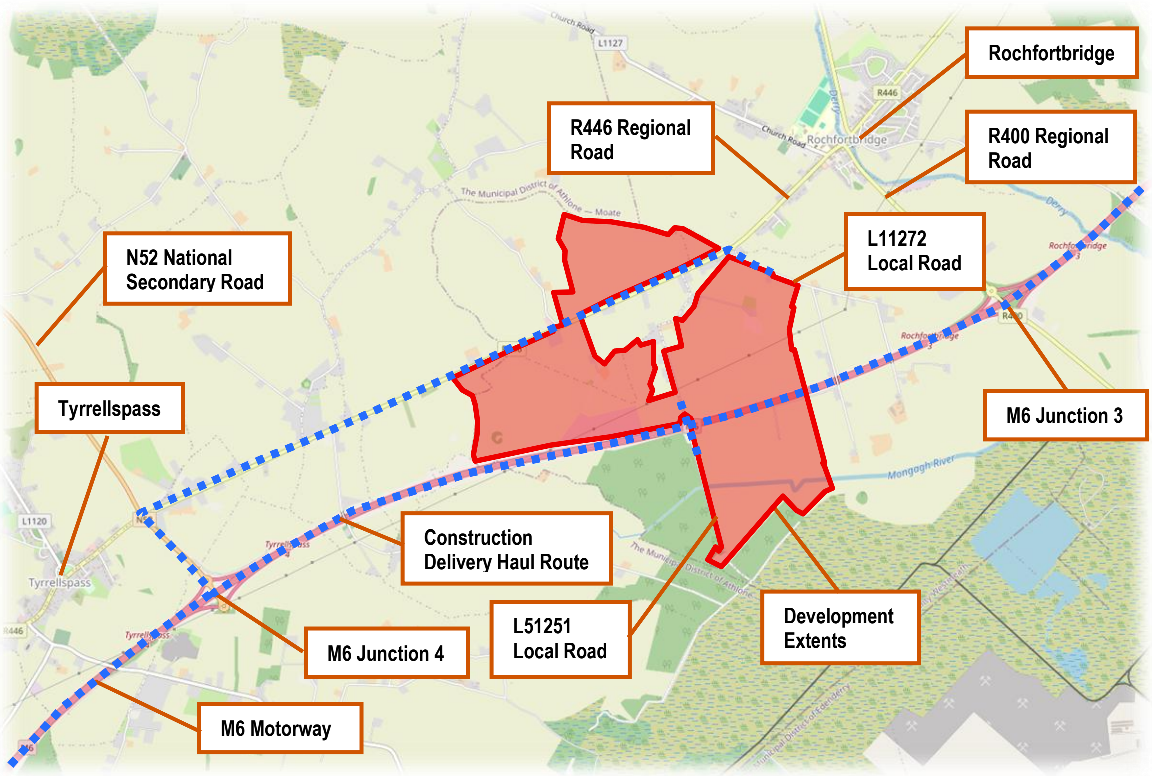


Figure 4.4 – Construction Delivery Haul Routes

## 4.8 Construction Related Delivery Times

Construction materials will be expected to arrive during the daytime. Deliveries to be spread evenly throughout the day and planned to avoid peak traffic times and school drop off/pick up times.

The majority of non-essential time-based construction deliveries will not take place during the morning and evening peak traffic periods from 07:00 to 08:00 and 16:00 to 17:00.

Exceptional time essential construction deliveries will take place during peak traffic periods and will not generate significant delivery vehicle volumes.

## 4.9 Predicted Construction Traffic Generation

The trip generation related to the construction phases of the proposed development has been predicted taking account of the proposed workforce associated with the proposed development and typical volumes of construction related HGV traffic associated with the elements of the proposed development.

Detailed calculations in relation to construction related trip generation are provided in EIAR Volume 3 Appendix 13-2. In summary, the peak hour construction related trip generation is predicted to be:

- A maximum of peak of three two-way HGV trips in each of the AM and PM peak hours;
- 85 employee related arrivals and 13 employee related departures in the AM peak hour; and,
- 213 employee related departures in the PM peak hour

## 4.10 Construction Traffic Impact

A traffic impact assessment has been undertaken on the construction related traffic generation in Chapter 13 Traffic & Transport of EIAR Volume 2. The construction traffic distribution has been based on the vehicle distributions below:

- HGV trips associated with the proposed development have been routed along the construction delivery haul route note in Section 4.7
- Employee related trips have been distributed taking account of existing proportional traffic movements at the existing junctions noted in Section 3.1

The results of the assessment are summarised in the table below.

| Junction | 2029 | 2033 |
|---|---|---|
| Junction 1: R446/N52 roundabout junction | 0.39 | 0.40 |
| Junction 2: R446/L5125 T-junction | 0.02 | 0.02 |
| Junction 3: R446/Castlelost Flexgen and GIS Substation Site access T-junction | 0.14 | 0.15 |
| Junction 4: R446/L51251 local road T-junction | 0.03 | 0.03 |
| Junction 5: R446/L11272 local road T-junction | 0.05 | 0.05 |
| Junction 6: R446/L1127 local road T-junction | 0.37 | 0.39 |
| Junction 7: R446/R400 mini-roundabout junction | 0.37 | 0.37 |

Table 4.1 – Maximum RFC values at Key Junctions – With Construction Traffic

The traffic impact of the proposed development construction traffic is short term and not significant.

# 5. Operation Phase Traffic Details

## 5.1 Operation Staffing Levels

The main trip generation associated with the operational phase of the proposed development are related to the Data Centre facility. The operation of the proposed Data Centre & Decentralised Energy Resource when fully operational is expected to have approximately 360-400 staff.

## 5.2 Operation Staff Vehicle Occupancy

An occupancy of one staff per vehicle based on car/LGV access is predicted for the operational phase of the phase of the development. This represents a worst-case scenario and one of the Mobility Management Plan/Travel Plan aims will be to improve upon this occupancy ratio.

## 5.3 Operation Work Shifts

The staff would be expected to work over a number of different shifts, for example: two 12-hour shifts for security; one 8-hour shift for management and office staff; three 8-hour shifts for M&E staff; and one 8-hour shift for facilities and Decentralised Energy Resource related staff.

## 5.4 Operation Site Access

The development site when operational will be accessed via the accesses detailed blow:

- Access 01 – Site Entrance - R446
- Access 02 – Emergency Site Entrance - R446
- Access 03 – Site Entrance - R446
- Access 04 – Site Entrance - L11272
- Access 05 – Site Entrance - L51251

Access 01, the current Castlelost Flexgen and GIS Substation Site access, will be utilised as the main operational and service access during the operational phase of the development.

Access 02 is an emergency access and will serves as an emergency fire-service access during the operational phase of the development.

Accesses 03 to 05 will be utilised as service accesses during the operational phase of the development.

The locations of the accesses to be utilised for the operational access points are detailed in figure 4.2.

## 5.5 Predicted Operation Traffic Generation

The trip generation related to the operation phase of the proposed development has been predicted taking account of the proposed workforce associated with the proposed development.

The peak hour operational trip phase trips related to the Data Centre aspect of the development are predicted to be:

- 167 employee related arrivals and 11 employee related departures in the AM peak hour; and,
- 2 employee related arrivals and 91 employee related departures in the PM peak hour

The operation of the Decentralised Energy Resource (DER) elements of the development are typically remotely monitored and operational phase trips related to the DER elements are predicted to be:

- Fuel Cell Power System – Less than on two-way Car/LGV trip per week
- Battery Energy Storage System (BESS) – Less than on two-way Car/LGV trip per week
- Solar PV Farm – Less than on two-way Car/LGV trip per week

## 5.6 Operation Traffic Impact

A traffic impact assessment has been undertaken on the operational related traffic generation in Chapter 13 Traffic & Transport of EIAR Volume 2. The operational traffic distribution has been based on the vehicle distributions taking account of existing proportional traffic movements at the existing junctions noted in Section 3.1.

The opening year is forecast to be 2033 with future assessment years of 2038 and 2048. The results of the assessment are summarised in the table below.

| Junction | 2033 | 2038 | 2048 |
|---|---|---|---|
| Junction 1: R446/N52 roundabout junction | 0.40 | 0.41 | 0.44 |
| Junction 2: R446/L5125 T-junction | 0.02 | 0.02 | 0.02 |
| Junction 3: R446/Castlelost Flexgen and GIS Substation Site access T-junction | 0.15 | 0.15 | 0.16 |
| Junction 4: R446/L51251 local road T-junction | 0.03 | 0.03 | 0.03 |
| Junction 5: R446/L11272 local road T-junction | 0.05 | 0.05 | 0.06 |
| Junction 6: R446/L1127 local road T-junction | 0.39 | 0.40 | 0.43 |
| Junction 7: R446/R400 mini-roundabout junction | 0.37 | 0.39 | 0.41 |

Table 5.1 – Maximum RFC values at Key Junctions – With Operational Traffic

The traffic impact of the proposed development operational traffic is not significant.

# 6. Decommissioning Phase Traffic Details

The decommissioning phase traffic details are largely in line with the constriction phase details provided in Section 4. A Decommissioning Plan has been provided in Appendix 2.4 of EIAR Volume 3.

# 7. Construction Traffic Management Plan

## 7.1 Overview

This section describes the measures that will be implemented to manage traffic on the road network during the construction of the development. The Principal Contractor will be required to ensure that the contents of this Outline Construction Traffic Management Plan are further developed into a Construction Stage Traffic Management Plan prior to the commencement of works and in accordance with the commitments made in the EIAR and any relevant conditions of permission.

The Construction Stage Traffic Management Plan will be termed a 'Live Document', such that any changes to the outline construction programme or operations can be incorporated into the Construction Stage Traffic Management Plan.

The Principal Contractor will also agree and implement monitoring measures to confirm the effectiveness of the mitigation measures outlined in the Construction Stage Traffic Management Plan.

The Principal Contractor will apply to the relevant road authority (Westmeath County Council or Transport Infrastructure Ireland (TII)) for a road opening licence for consent to allow works to be carried out on a public road. The contractor will comply with restrictions and/or conditions relating to the road opening licence.

Furthermore, the Principal Contractor shall agree and implement suitable monitoring measures to assess the effectiveness of the mitigation strategies identified. Upon finalisation, the Principal Contractor shall adopt and adhere to the Construction Stage Traffic Management Plan and its associated monitoring protocols for the duration of the works.

The Final Construction Stage Traffic Management Plan shall address, at a minimum, the following key elements (including all aspects identified in this Outline Construction Traffic Management Plan):

- Site Access and Egress Arrangements
- Construction Traffic Routing
- Construction Staff Parking and Deliveries
- Pedestrian and Cyclist Safety
- Public Transport Considerations
- Traffic Signage and Temporary Traffic Control Measures
- Pre and Post Road Condition Survey
- Emergency Access Arrangements
- Emergency Procedures During Construction
- Noise, Dust and Vibration Control (Traffic-Related)
- Monitoring and Review Procedures
- Communication and Public Notification
- Recommended Traffic Management Speed Limits
- Details of Working Hours and Days
- Enforcement of Traffic Management Plan

## 7.2 Site Access and Egress Arrangements

Access to the development site will be via the locations detailed in Section 4.5 of this document. This access junctions have been designed to accommodate the largest expected vehicle types accessing the development site.

All accesses will be secured outside working hours and monitored during construction hours to prevent unauthorised access. To maintain public road safety the access gate will be setback from the public road carriageway to allow vehicles pull in fully off the public road if the gate is closed.

Mobile wheel wash facilities will be provided in the vicinity of the accesses to maintain public road cleanliness.

## 7.3 Construction Traffic Routing

Construction traffic will access the site via the routes as detailed in detailed in Section 4.7 & 4.10 of this document. The HGV haul route roads have been selected due to their capacity to accommodate heavy vehicles and ensure that HGV's do not drive through either Rochfortbridge or Tyrrellspass. Clear signage will be installed along these routes to guide construction traffic and reduce the risk of driver error.

The Principal Contractor will prepare a Construction Vehicle Routing Plan prior to works commencing, identifying specific delivery paths, turnaround areas, and designated holding zones if required.

## 7.4 Construction Staff Parking and Deliveries

Construction staff parking is provided in the temporary construction compounds detailed in Section 4.7 & 4.10 of this document.

Construction deliveries will be coordinated through a designated logistics manager who will ensure all deliveries follow the approved route and timing. Loading and unloading will take place within the site boundary to avoid obstruction of public roads.

## 7.5 Pedestrian and Cyclist Safety

There is no dedicated pedestrian or cycling infrastructure on the roads surrounding the proposed development, pedestrians & cyclists currently share the road space with vehicles. Measures to protect pedestrians or cyclists near the site accesses should be provided, such as warning signage, reduced speed zones, and clear lane markings. Construction vehicle drivers will be briefed on cyclist safety, and mirrors or sensors may be used on larger vehicles to enhance visibility.

## 7.6 Public Transport Considerations

There are no bus stops in the on the roads surrounding the proposed development or along the proposed HGV haul route. Bus routes run along the R346 which forms part of the HGV haul route, construction vehicle drivers will be briefed to afford priority to public transport.

## 7.7 Traffic Signage and Temporary Traffic Control Measures

Appropriate traffic signage and control measures will be implemented to ensure the safe movement of all road users in the vicinity of the construction site. All temporary signage will comply with the Traffic Signs Manual issued by the Department of Transport. Advance warning signs will be installed on the road surrounding the proposed development to inform motorists of the site access points, heavy vehicle activity, or any temporary traffic arrangements.

Where necessary, additional temporary traffic control measures such as flagmen, traffic lights, or barriers will be used to manage vehicle and pedestrian flows, especially during peak delivery times or major construction phases. Any proposed traffic management schemes that affect public roads will be submitted to Westmeath County Council for review and approval in advance of implementation. A qualified traffic management contractor may be appointed to install, maintain, and adjust signage and controls as required.

## 7.8 Pre and Post Road Condition Survey

A pre-condition survey of the road structure of the R446 in the immediate vicinity of the proposed development and the impacted local road network will be carried out prior to construction commencement to verify and record the condition of the road. The pre-condition survey extents and survey type will be agreed with Westmeath County Council.

Annual condition surveys and a post completion condition survey will be carried out to determine defects deemed to be resulting from the construction of the proposed development. Theses defects should be 'made good' within an agreed timescale with Westmeath County Council.

If defects to the structure of local road which have the potential to impact on road safety are observed outside of the aforementioned reviews, the defects should be made good within an agreed timescale with Westmeath County Council.

## 7.9 Emergency Access Arrangements

Uninterrupted access for emergency services will be maintained throughout the construction period. The Principal Contractor will ensure that no part of the site access or surrounding road Network is obstructed in a way that could impede emergency response vehicles. Site gates and internal roads will be designed to accommodate the turning radii and access requirements of fire engines, ambulances, and Garda vehicles.

Prior to the commencement of works, the Contractor shall consult with An Garda Síochána, the Fire Service, and the National Ambulance Service to confirm the adequacy of access arrangements and establish clear communication protocols. Emergency contact details will be displayed at all access points, and all site personnel will be briefed on emergency response procedures, including facilitating rapid access to and from the site.

## 7.10 Visitors

Visitors to site must first report to the main compound office for induction and sign in. Visitors will be directed to the appropriate compound car park and shown the designated area to park their vehicle. Visitors must be supervised at all times whilst on site and sign out when leaving. Visitors will be accompanied to all other sites where necessary.

## 7.11 Emergency Procedures During Construction

Robust emergency procedures will be implemented during the construction phase to ensure that all personnel and site operations are prepared to respond swiftly and effectively to any incident or hazard. These procedures are essential to protect the health and safety of workers, the public, and emergency responders, and to minimise disruption to the surrounding area.

The Principal Contractor shall develop a site-specific Emergency Response Plan (ERP) prior to commencement of works. This plan will outline actions to be taken in the event of incidents such as fire, chemical spill, serious injury, structural collapse, or traffic collision involving construction vehicles. Key components of the ERP shall include:

- Clearly defined emergency contact numbers displayed at all site entrances and within the site compound.
- Designated assembly points for staff and visitors in case of evacuation.
- Internal access routes maintained to always accommodate emergency vehicles.
- Daily attendance logs and visitor records to ensure accurate headcounts during emergencies.
- Site-specific risk assessments informing emergency response actions for hazardous activities.
- First-aid facilities and trained personnel on-site always.

## 7.12 Noise, Dust and Vibration Control (Traffic-Related)

Although general noise, dust, and vibration management measures are typically addressed in the Construction Environmental Management Plan, specific attention will be given to traffic-related impacts in the Construction Stage Traffic Management Plan. The movement of HGVs and construction traffic can generate nuisance for nearby residents, particularly if not properly managed.

Mitigation measures will include restricting heavy vehicle movements to designated hours (e.g. 08:00–16:00 Monday to Friday), covering loads to reduce dust emissions, and ensuring engines are turned off when vehicles are stationary for extended periods. If required, acoustic barriers or dust suppression systems may be installed near particularly sensitive receptors. Vibration monitoring may be considered in areas where road conditions or ground stability pose potential concerns due to traffic movement.

## 7.13 Monitoring and Review Procedures

The Construction Stage Traffic Management Plan will be monitored regularly to ensure all measures remain effective and are being properly implemented. The Principal Contractor will appoint a Traffic Coordinator or Site Manager responsible for overseeing compliance, maintaining traffic logs, and reporting any incidents or deviations. These records will include delivery schedules, inspection reports, and any complaints received from the public.

The Construction Stage Traffic Management Plan will be reviewed and updated as necessary, especially if the construction programme changes significantly or if feedback from the public or local authority highlights issues. Any amendments will be submitted to Westmeath County Council for review and kept on file for inspection. Regular audits may be carried out to assess performance and inform improvements

## 7.14 Communication and Public Notification

Effective communication with the local community and stakeholders is vital to minimising disruption during the construction period. The Principal Contractor will issue timely notifications to residents, businesses, and relevant organisations regarding key construction activities, particularly those involving changes to traffic flow or deliveries.

A site notice board will be erected at the entrance to the development, displaying contact details for the Site Manager or Traffic Coordinator, hours of work, and emergency numbers. Where appropriate, letters or leaflets may be distributed to nearby properties in advance of high impact works. The Construction Stage Traffic Management Plan may also include a complaint handling procedure to ensure that concerns are documented, responded to, and used to inform future planning

## 7.15 Recommended Traffic Management Speed Limits

To ensure the safety of all construction workers, and site visitors an on-site speed restriction of 15km/hour will apply to all vehicles.

Speed compliance may be monitored using temporary speed detection signage or by site security staff where necessary.

## 7.16 Details of Working Hours and Days

To minimise disruption to residents and traffic the working hours as detailed in Section 4.4 will apply during the construction phase of the proposed development, or as directed by condition of Planning. These hours shall be selected in consultation with Westmeath County Council and in compliance with local regulations to ensure that construction activities are carried out with minimal disturbance to the surrounding area.

## 7.17 Enforcement of Traffic Management Plan

All project staff and material suppliers will be required to adhere to the final Construction Stage Traffic Management Plan. As outlined above, the principal contractor shall agree and implement monitoring measures to confirm the effectiveness of the Construction Stage Traffic Management Plan. Regular inspections / spot checks will also be carried out to ensure that all project staff and material supplies follow the agreed measures adopted in the Construction Stage Traffic Management Plan.

# 8. Key Organisations and Responsibilities

The following parties will have an input into the Construction Stage Traffic Management Plan for this development and should be kept informed of developments in relation to traffic management:

- PSCS/ Principal Contractor;
- Employer's Representative;
- Westmeath County Council;
- Garda Siochána & Emergency Services;
- PSDP.

The Principal Contractor shall consult with the Gardaí, the emergency services and other relevant authorities (listed above) during the preparation of the Construction Stage Traffic Management Plan. The Principal Contractor shall have due regard to the impact of the proposals on the general traffic situation and possible conflicts with other contracts, activities or events.

The Principal Contractor shall co-ordinate the implementation of the developed traffic management plan during the works. Where problems associated with temporary traffic management are observed by or notified to the Principal Contractor, the Principal Contractor shall consult with the Employers Representative, PSDP and Westmeath County Council to revise or modify the traffic management plan as necessary.

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APPENDIX 14.1

## Appendix 14-A

**Archaeological and Cultural Heritage – Figures**

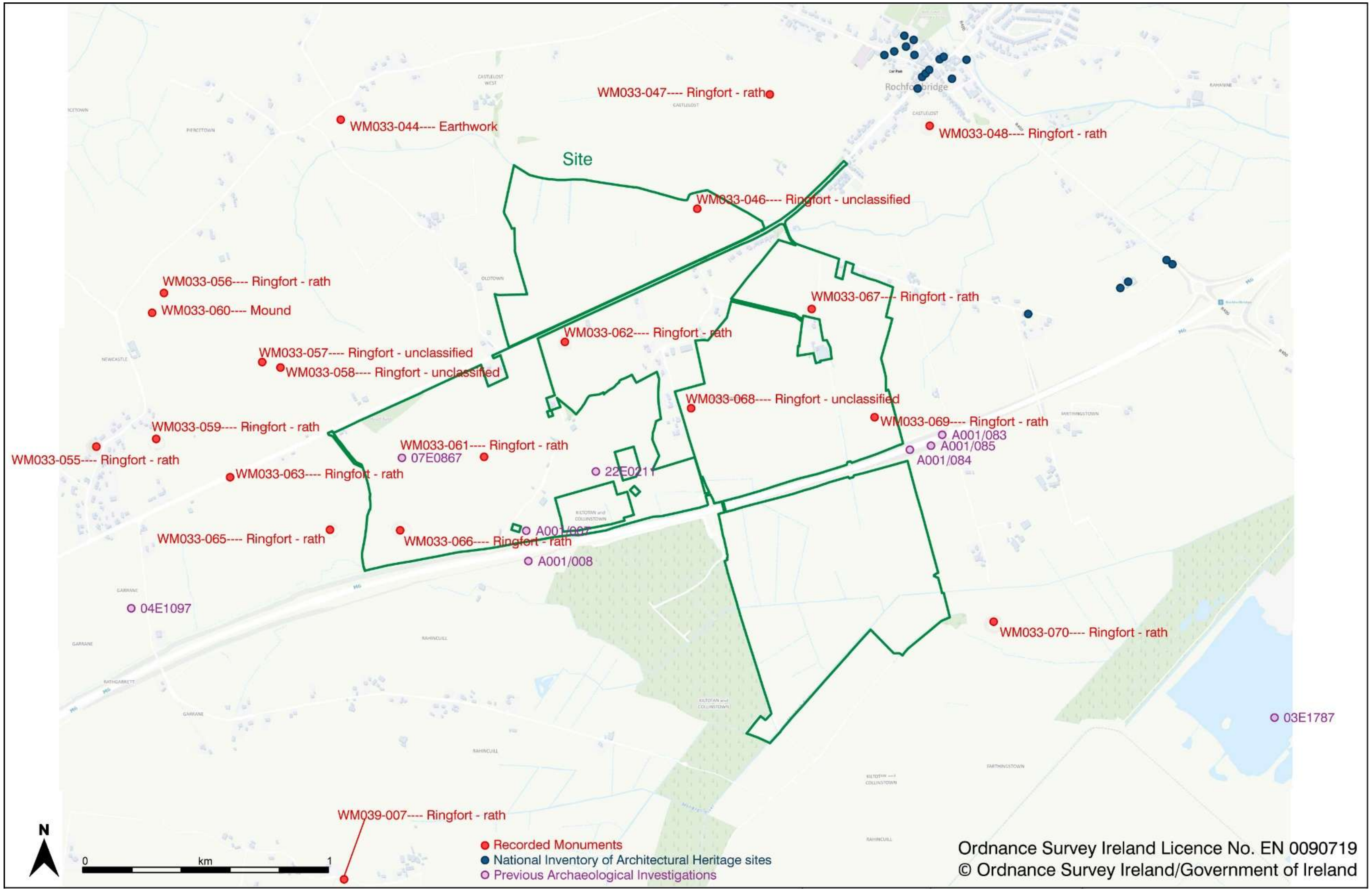


Figure 1: Location of site and nearby Recorded Monuments.

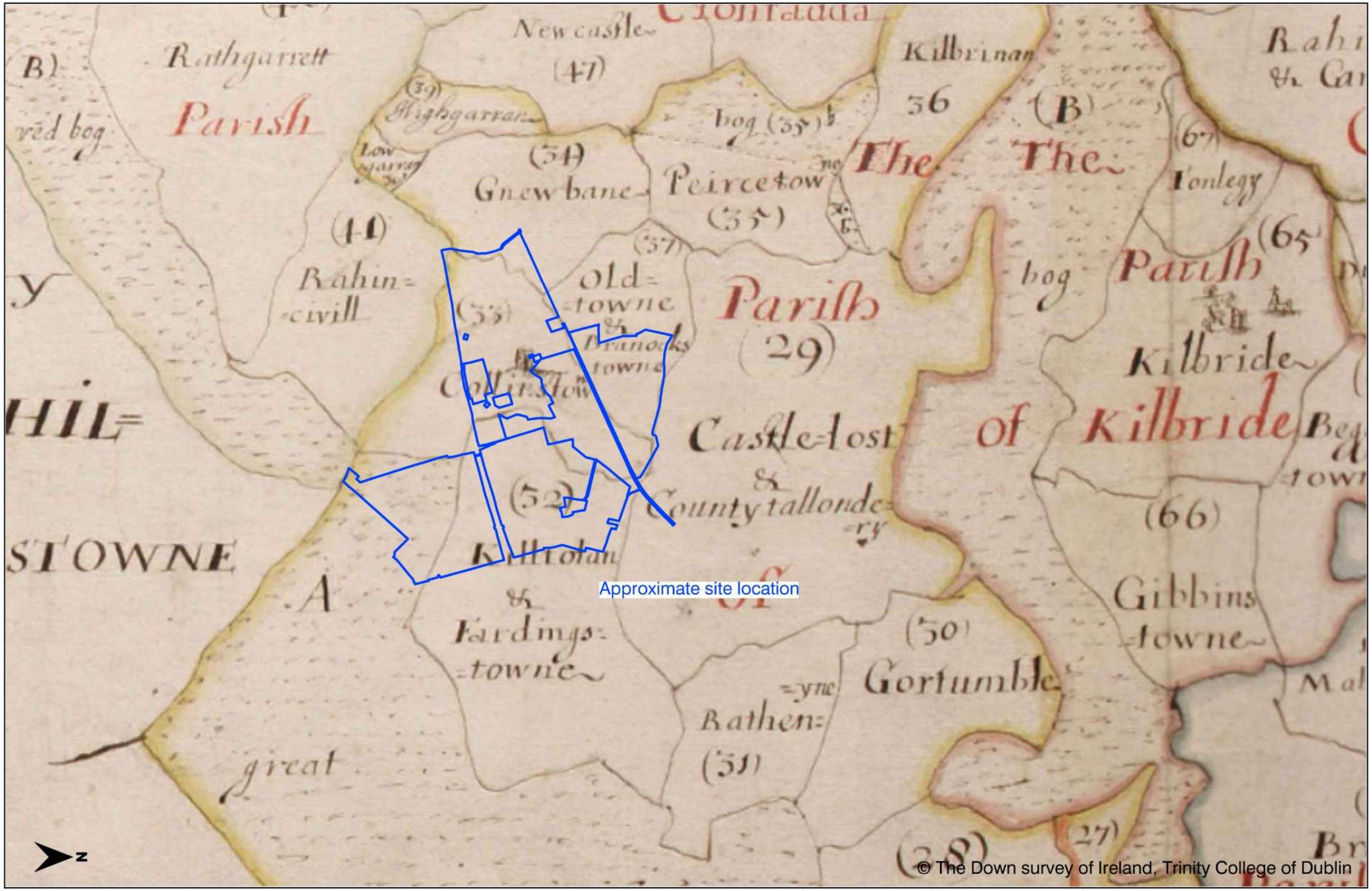


Figure 2: Extract from Down Survey map of County Westmeath, Barony of Turtullagh (1656), showing approximate location of site

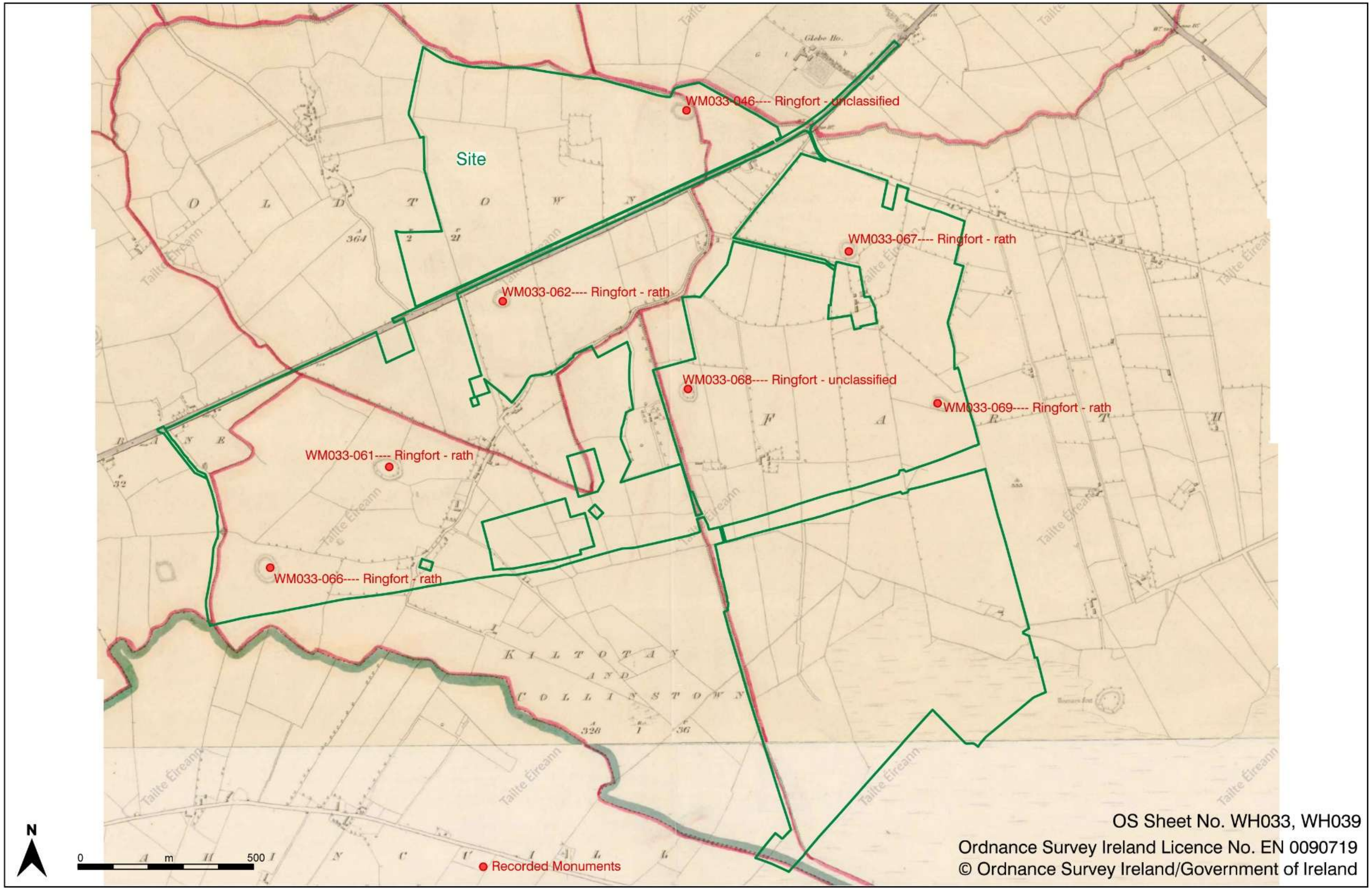


Figure 3: Extract from first edition OS 6-inch map (surveyed 1836 – published 1839), showing location of site.

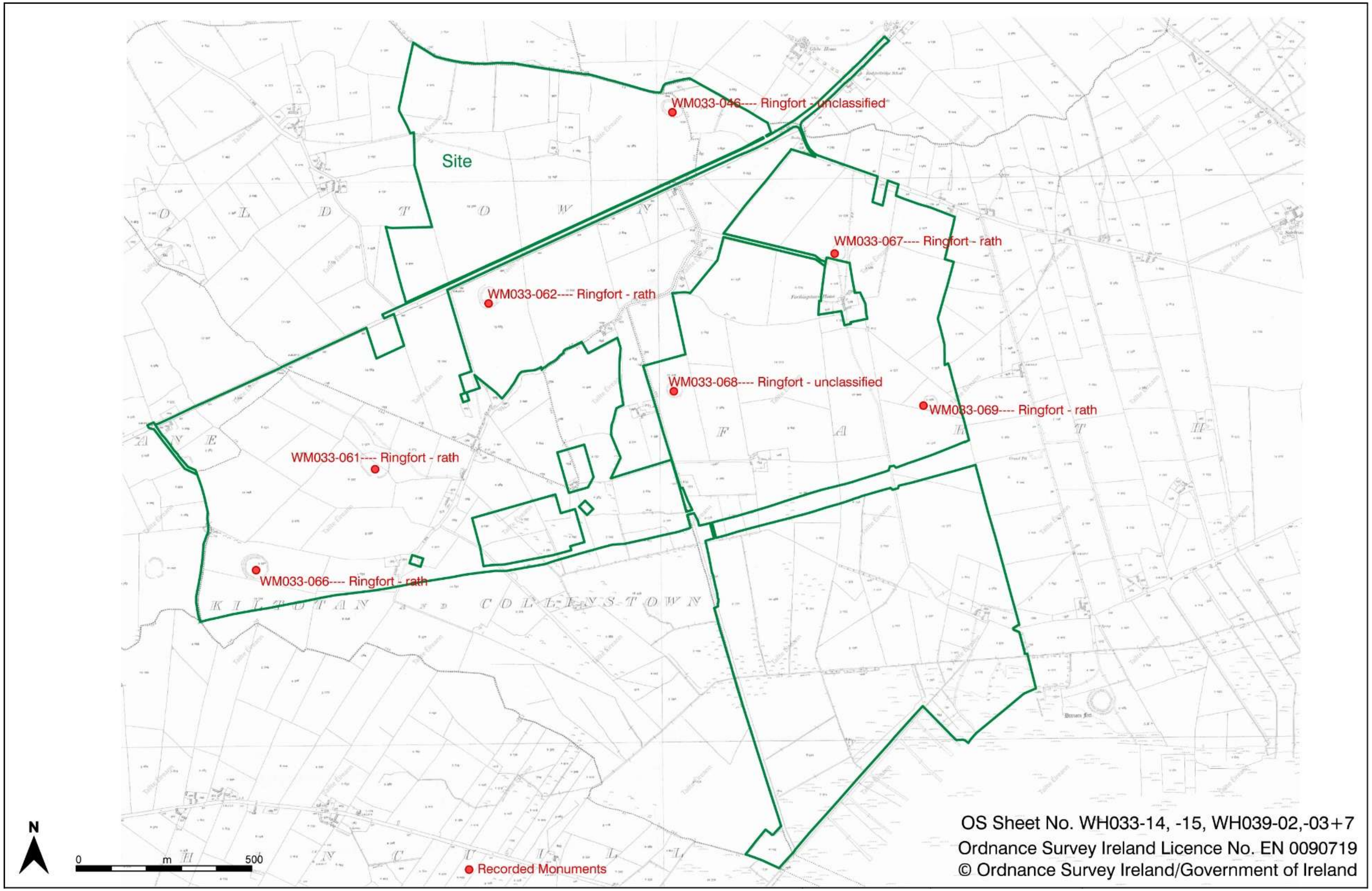


Figure 7: Extract from third edition OS 25-inch map (surveyed 1911/12 – published 1913), showing location of site.

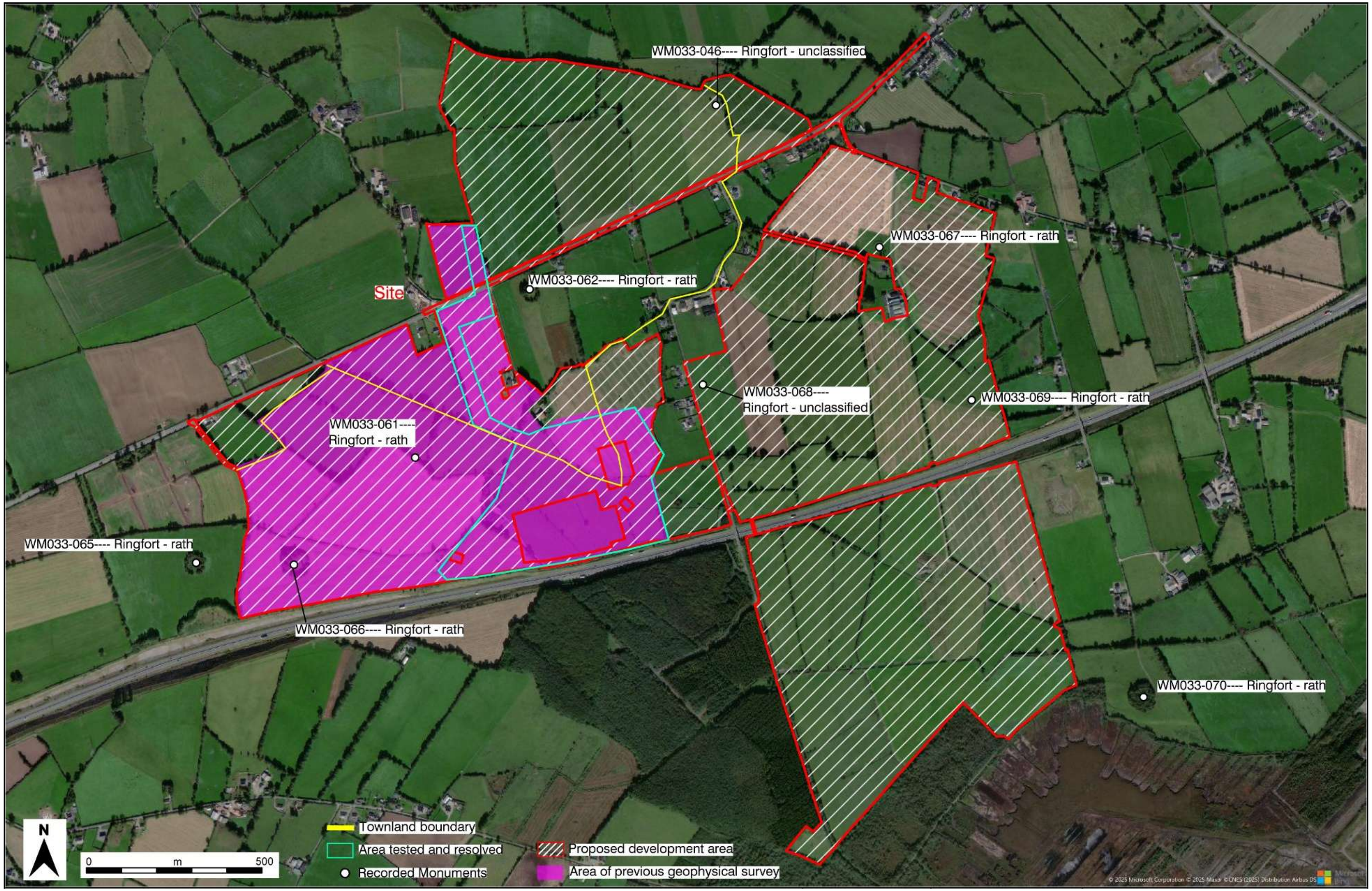


Figure 4 Aerial view of the site showing areas subject to geophysical survey, test trenching and excavation; townland boundary and areas not assessed.


Figure 5: Aerial view of site, showing geophysical survey interpretation (21R0317;24R0163;24R0194).

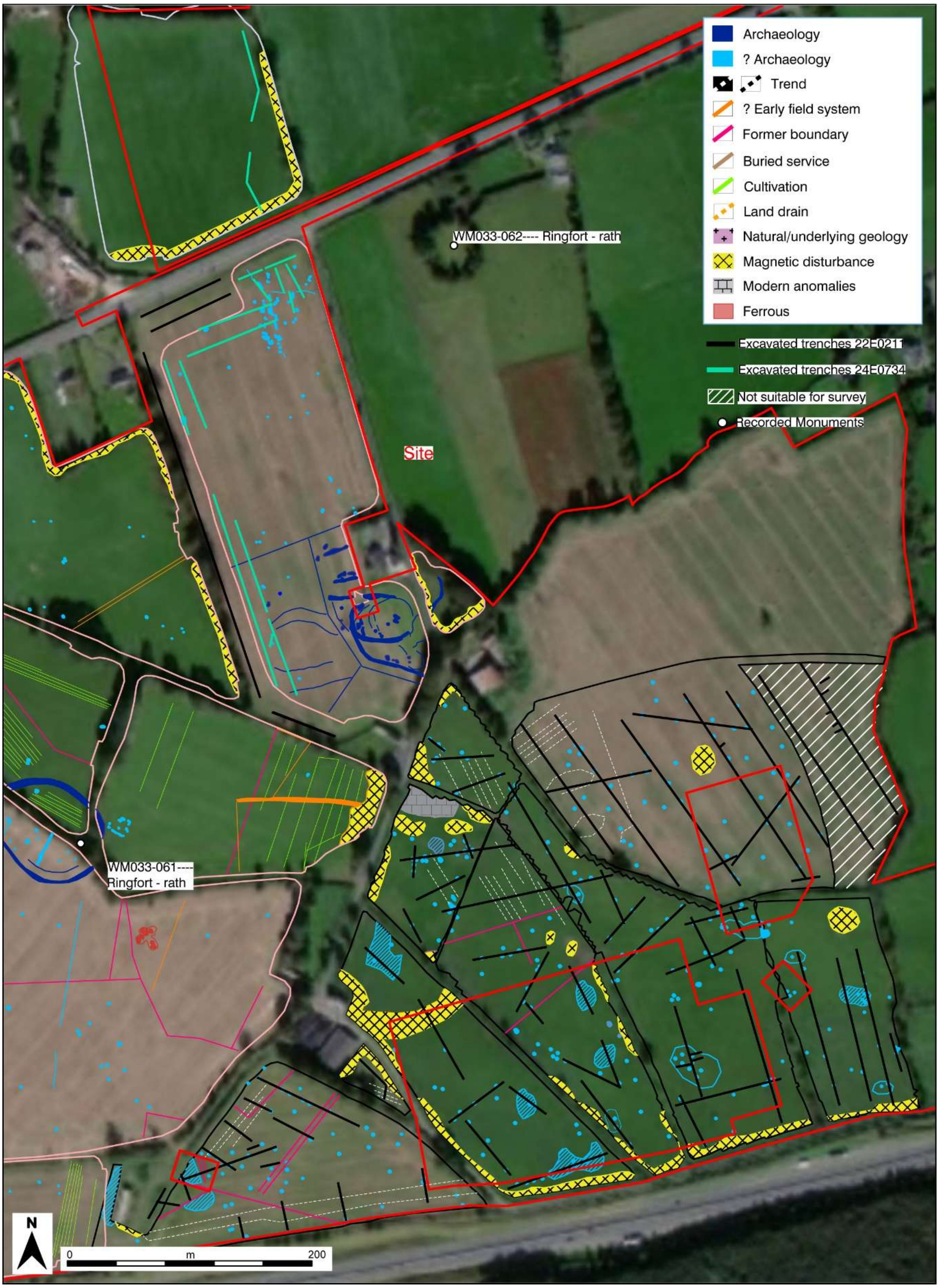


Figure 6: Aerial view of, showing geophysical surveys interpretation and test trenches excavated (22E0211; 24E0734)

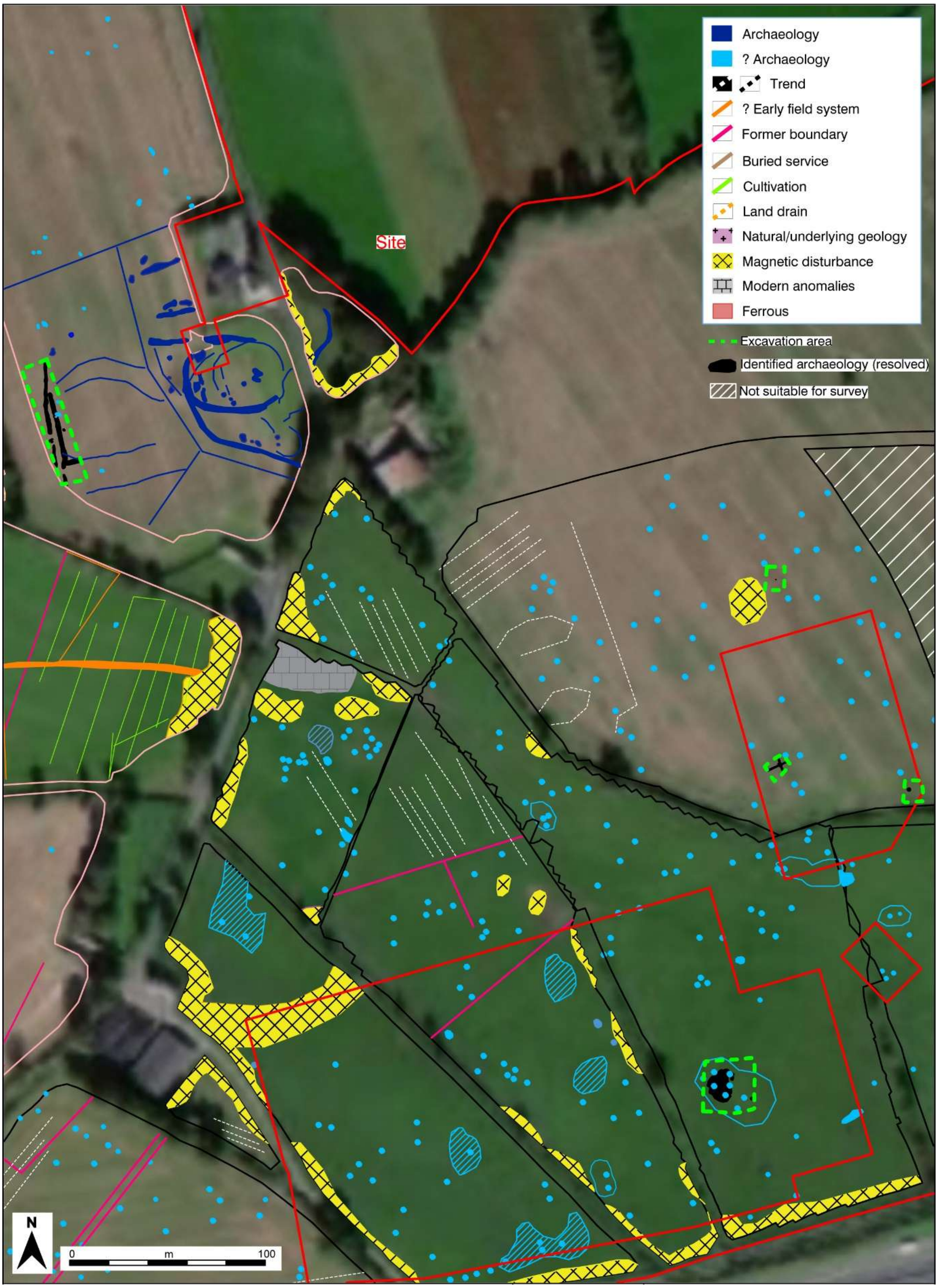


Figure 7: Aerial view of, showing geophysical surveys interpretation and excavation areas (22E0211; 24E1071)

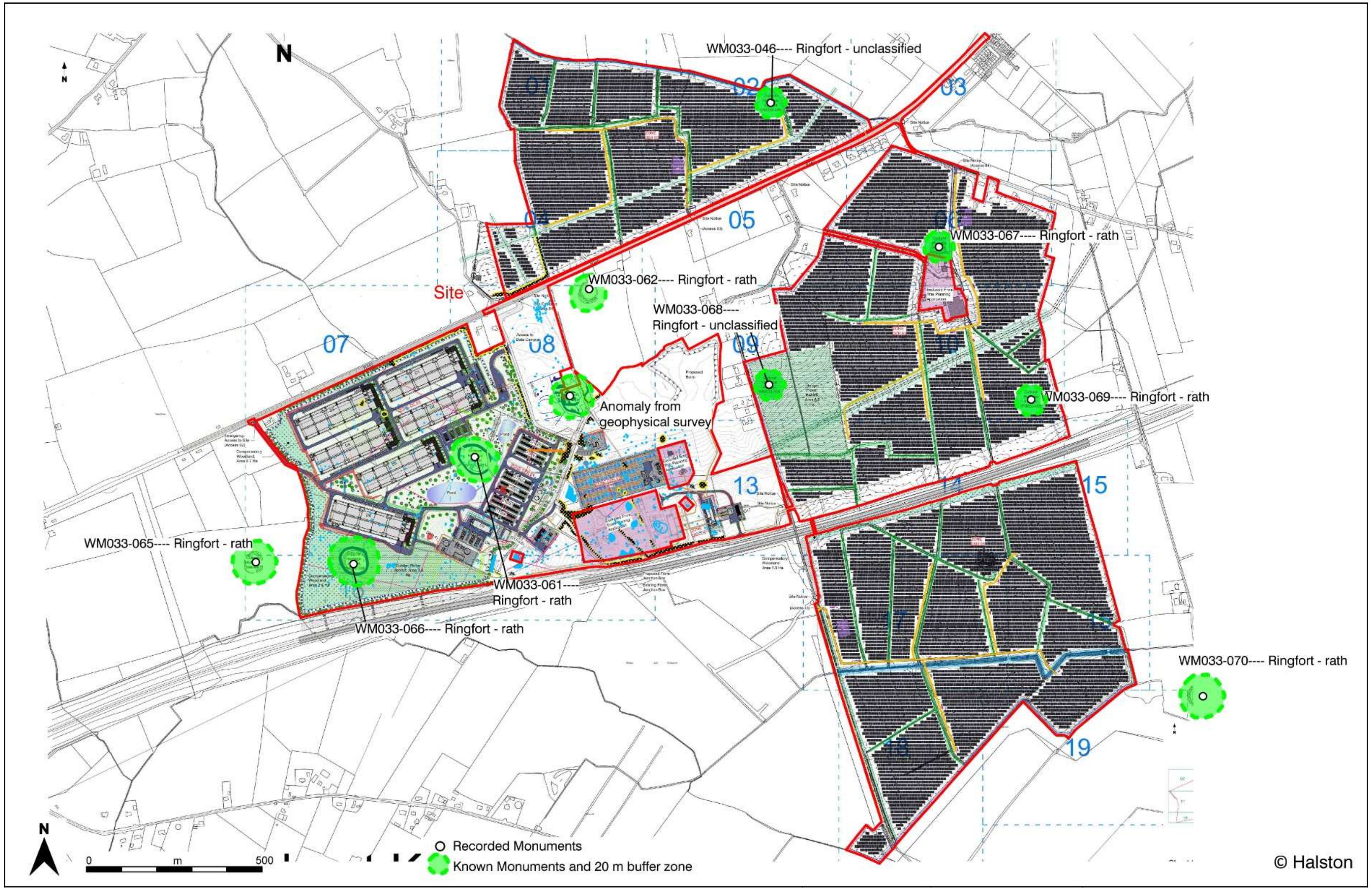


Figure 8: Proposed development detail; showing 20m buffer zones associated with the known archaeological monuments..

APPENDIX 14.2

# Appendix 14-B

**Archaeological and Cultural Heritage – Plates**

Plate 1: Eastern portion of the site, facing southeast.

Plate 2: Eastern portion of the site, facing northeast.

Plate 3 Southeast portion of the site, facing southeast.

Plate 4 Southeast portion of the site, facing west

Plate 4 Northern portion of the site, facing northwest.

Plate 5 Forge/smithy (RPS 033-001; NIAH Reg. No. 15320002) located along the proposed access route.

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APPENDIX 14.3

past | present | future

ACS

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# Report on Geophysical Survey at Kiltotan and Collinstown, Gneevebane, and Oldtown, Co. Westmeath

## Detection Device Licence No.: 24R0163

ITM: 644558, 739081

RMP No.: WM033-066---- : Ringfort – rath

WM033-061----: Ringfort - rath

RPS Id: N/A

Donald Murphy

22 February 2024

ACSU Ref.: 23182

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# PROJECT DETAILS

| | |
|---|---|
| Project | Geophysical Survey at Kiltotan and Collinstown, Gneevebane, and Oldtown, Co. Westmeath |
| Report Type | Geophysical Survey Report |
| Licence No. | 24R0163 |
| Townland(s) | Kiltotan and Collinstown, Gneevebane, and Oldtown |
| RMP/SMR No. | WM033-066---- : Ringfort – rath<br>WM033-061----: Ringfort - rath |
| RPS Id. | N/A |
| ITM Ref. | 644558, 739081 |
| Consultant | Archaeological Consultancy Services Unit,<br>21 Boyne Business Park,<br>Greenhills, Drogheda, County Louth |
| Archaeologist | Donald Murphy |
| Report Author | Donald Murphy and Jeanne Rochford |
| Report Status | Final |
| Report Date | 22 February 2024 |
| ACSU Ref. | 23182 |

| Revision | Date | Description | Status | Author | Reviewed | Approved |
|---|---|---|---|---|---|---|
| 0 | 22.02.2024 | Geophysical Survey Report | Final | D.M & J.R | M.L | D.M |
| | | | | | | |
| | | | | | | |

## NON-TECHNICAL SUMMARY

This report details the results of a Geophysical Survey carried out at Kiltotan and Collinstown, Gneevebane, and Oldtown, Co. Westmeath (ITM 644558, 739081). The survey was requested by the client in advance of a proposed development. The site is adjacent to and north of the M6 Motorway and south of the R446 between Tyrellspass and Rochfortbridge. The site area is c. 50 hectares and consists of 11 arable and pasture fields bounded by mature hedges and wet ditches.

There are two monuments located within the site, WM033-066----: Ringfort – rath and WM033-061----: Ringfort – rath. There are no Protected Structures within the site as listed in the *Westmeath County Development Plan 2021 – 2027*. Previously archaeological investigations took place within the site. These investigations were in advance of quarrying works that did not go ahead. An area measuring 16.9ha was assessed. The site was described as comprising of two fields that were subject to a geophysical survey with eleven test trenches excavated (Dehaene, 07E0867). This identified a hearth and a former field boundary, the latter of which was depicted on the first-edition 6-inch Ordnance Survey map. No further information is given on the excavations.ie database.

Cartographic and aerial imagery was examined as part of the assessment. There are at least seven buildings depicted within the site on the 6-inch 1836 Ordnance Survey (OS) map, all located just inside the eastern boundary of the site. By the 25-inch 1911 map, a structure on the southeast boundary has been removed/demolished. The Recorded Monuments WM033-066---- : Ringfort – rath and WM033-061----: Ringfort – rath are illustrated with hachures on both the 6-inch 1836 OS map and the 25-inch 1911 OS map as large suboval enclosures. The field boundaries remain the same throughout the aerial photography. There are some faint linears visible in the larger fields throughout the aerial photography that may represent earlier field boundaries.

The geophysical survey was conducted by Donald Murphy, Robert Breen, and Jeanne Rochford of Archaeological Consultancy Services Unit Ltd. (ACSU) under licence 24R0163 issued by the Department of Housing, Local Government and Heritage. A full detailed gradiometer survey was undertaken throughout the application area using a Bartington GRAD 601-2 dual-sensor fluxgate gradiometer cart system.

The geophysical survey successfully identified the location of buried archaeological remains. Definite archaeological features were detected within Fields 2, 4, 5, 9 and 10 (M3 – M6, M8 and M9), with features of potential archaeological significance recorded in Fields 1, 2, 4 and Field 9, with more tentative responses recorded across Fields 1-9 and Field 11, that may have a natural origin. (See Figures 5-14). In Field 2, 4 and 5 the Recorded Monument Ringfort – rath (WM033-061----) was identified (M9), with some possible contemporary linears or field systems (M10-M11). This Recorded Monument had previously been levelled and was only visible as a cropmark. In Field 9, a large settlement complex was identified in the south section of the field which includes a sub-oval enclosure, a possible annex (extending eastwards into Field 10), a possible internal structure in the annex and several linears (M3-M6).

It is recommended that an Archaeological Impact Assessment, including a test trenching programme targeting the identified anomalies, should be conducted. Features exposed shall be sufficiently sectioned in order to assess their depth and nature. This must be carried out by a licence-eligible archaeologist prior to any groundworks taking place. Once test trenching is complete, further mitigation might include preservation in situ (avoidance), excavation (preservation by record), and/or monitoring.

As a minimum measure, an exclusion zone should be placed around the Recorded Monument; Ringfort – rath WM033-066---- in Field 1, the Recorded Monument WM033-061---- Ringfort – rath in Field 2, 4 and 5 and the previously unrecorded sub-oval enclosure with associated features in Field 9 and 10. The exclusion zone should include the remains of the monuments as shown on the geophysical survey and the upstanding monument WM033-066---- in Field 1 together with a 20m buffer from the outer edge of each monument. The Department of Housing, Local Government, and Heritage shall be consulted in this regard.

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Figure 4 Extract from 3rd edition Ordnance Survey (OS) 25-inch map (surveyed 1911 - published 1913), showing location of site

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## 1. INTRODUCTION

This report details the results of a Geophysical Survey carried out at Kiltotan and Collinstown, Gneevebane, and Oldtown, Co. Westmeath (ITM 644558, 739081). The survey was requested by the client in advance of a proposed development. The site is adjacent to and north of the M6 Motorway and south of the R446 between Tyrellspass and Rochfortbridge. The site area is c. 50 hectares and consists of 11 arable and pasture fields bounded by mature hedges and wet ditches.

A full detailed gradiometer survey was undertaken throughout the application area using a Bartington GRAD 601-2 dual-sensor fluxgate gradiometer cart system. The geophysical survey was conducted by Donald Murphy, Robert Breen, and Jeanne Rochford of Archaeological Consultancy Services Unit Ltd (ACSU) under licence 24R0163 issued by the Department of Housing, Local Government and Heritage.

## 2. ARCHAEOLOGICAL CONDITION

The geophysical survey was carried out at the request of the client in advance of a proposed development, currently at the pre-planning phase.

## 3. METHODOLOGY

The gradiometer survey was undertaken using a Bartington GRAD 601-2 dual-sensor fluxgate gradiometer system mounted on a non-magnetic cart (see also Appendix 1). A detailed survey was conducted with a sample interval of 0.25m and a traverse interval of 0.5m for all the survey areas within the proposed development site, with variations in the magnetic field between -100nT to +107.834nT.

All work was carried out in accordance with the *IAI Code of Professional Conduct* (Institute of Archaeologists of Ireland 2006) and in accordance with the *EAC Guidelines for the use of Geophysics in Archaeology* (Schmidt et al. 2016), as well as English Heritage's *Geophysical Survey In Archaeological Field Evaluation* (David et al. 2008).

## 4. SURVEY OBJECTIVES

The survey aimed to establish the presence of any potentially existing but previously unknown monuments and any other archaeological features within the site to inform a future programme of archaeological test trenching and plan for the development of the site.

## 5. SOILS, GEOLOGY & TOPOGRAPHY

The site has an elevation of c. 125-130m Ordnance Datum (O.D.). The underlying geology within the site consists of massive, unbedded lime-mudstone and is part of the Waulsortian Limestones Formation. The underlying geology is overlaid by deep, well drained, mineral (mainly basic) soils. (Geological Survey of Ireland).

## 6. ARCHAEOLOGICAL ASSESSMENT

### 6.1 Archaeological & Historical Background

The site is located in Kiltotan and Collinstown, Gneevebane, and Oldtown townlands within the Barony of Fartullagh in the civil parish of Castlelost in County Westmeath. The landscape surrounding the site has been subject to human development and settlement since prehistoric times. The monuments listed in the Record of Monuments and Places (RMP) clearly demonstrate that the surrounding landscape is dominated by recorded monuments classed as ringfort – raths. There are ten ringfort raths located within 300m radius from the edges of the site, two of these are located within the site boundary; WM033-066---- and WM033-061----. Both of these ringforts were depicted on the Ordnance Survey (OS) maps of 1836 and 1911 as hachured suboval enclosures.

The Ringfort, as the name suggests, implies a circular enclosure with a minimum of one ditch and possible accompanying banks. They were generally circular, measuring circa. 24 – 60 metres in diameter. Early Irish laws stated that circularity was a feature of the model ringfort (Stout 1997). However, with the increase of development, more and more non-circular enclosures are coming to light. Therefore, for the purpose of this discussion, all of the above enclosures will be discussed under the category 'ditched enclosures'.

The majority of early medieval ditched enclosures date to the sixth to ninth centuries AD, and we see a significant decline in their use in the tenth century (O'Sullivan, Nicholl 2010). Though a site in Laytown, Co. Meath (McConway, 2002) could have a fourth-century date, other sites such as Ballynacarriga, Co. Cork (Noonan, 2004) and Raystown, Co. Meath (Seaver 2005) were probably occupied from the 5th century well into the 11th century.

Ditched enclosures are generally regarded as enclosed farmsteads, and the defences are thought to have been built in order to protect against cattle raids (Stout 1997). Some have provided little evidence for structures, suggesting the enclosure was used for storing cattle, known as a 'bodun', though the majority provide evidence to suggest they were inhabited settlements, with houses, farmyards, outbuildings and animals (O'Sullivan, Nicholl 2010). Excavated items retrieved from ringforts are of a domestic, craft or agricultural nature (Monk, 1995). Some larger sites such as Raystown, Co Meath fulfilled many functions; there was evidence for animal husbandry, cereal and grain processing, milling, burial and metallurgy (Seaver, 2016).

Ditched enclosures are the commonest field monument in Ireland. The majority of ditched enclosures were univallate with one bank and fosse. In many cases, the banks do not survive. There are, however, bivallate enclosures, for example, Cloonaboy, Co. Mayo (Gillespie & Kerrigan, 2010) and multivallate enclosures, such as Garranes, Co. Cork (O'Riordan 1942). While ringforts were generally 24 – 60 metres in diameter, the majority of non-circular enclosures were between 50m and 70 metres in diameter. Ditched enclosures tend to be situated on sloping or well-drained hilly ground with good views (Stout, 1997). Ditched enclosures usually are found in clusters within a townland (Edwards, 1990).

Ditched enclosures usually have an entrance at the southeast. This is to avoid the prevailing cold westerly and northerly winds that the enclosure would be exposed to (Stout 1997). The entrance passage at Rath II at Ballypalady, Co. Antrim ranged from 0.76m at the outer end to 1.5m at the inner opening, suggesting it was not intended for keeping large livestock (O'Sullivan, Nicholl, 2010).

Evidence from excavations shows that enclosing ditches were, in some cases, allowed to silt up and had refuse deliberately dumped into them. Layers of slag were dumped into the ditch at Lisleagh, Co. Cork (Monk,1995).

Many sites, like that at Lissachiggel, Co. Louth had either cobbles or paving stones providing a dry passage into the enclosure. These entrances were known in early Irish literature and legal sources as the 'airdrocht' and were to be kept clean (O'Sullivan, Nicholl, 2010). O'Sullivan wrote that it was not unusual to see pathways laid within the interior to steer movement towards a particular direction and "upon entering the site, a person was often persuaded by laid pathways to move directly and immediately to the house doorway" (ibid.). The pathway was meant to be kept clean and dry, and likely, ditches and gullies would function as drainage features to keep the area dry.

Early Medieval houses within ditched enclosures tended to be circular or round, made of stone or post-and wattle walls. The roofs were thatched with reeds, turf or straw. According to the eight- century law text Críth Gablach, a typical farmer's house was 6-8 metres in diameter. Archaeological evidence shows that the majority were 4 to 5 metres in diameter, and some were significantly larger, at 6 to 10 metres in diameter (ibid). As pointed out by Mc Cormick, Kerr, Mc Clatchie and O'Sullivan, because of the basket-like construction any recuts or changes to the early medieval houses, are rarely seen in the archaeological record (McCormick, Kerr, McClatchie, O'Sullivan 2011). It was likely that the lifespan of a medieval house would have lasted for just a short period of time (20 to 30 years); with good maintenance a house could have stood for 50 to 60 years (O'Sullivan, Nicholl, 2010).

Associated with the enclosures and often found in its environs are fire pits, storage pits, refuse pits, a cooking pit and cereal-drying kilns. O'Sullivan and Nicholls wrote that pits are "one of the more enigmatic elements to be found within the enclosure…their function…difficult to discern. They would have been used for a variety of purposes; probably reused and cleaned-out many times and countless, no doubt, had multiple functions over their lifetime" (ibid). According to Mc Cormick, Kerr, Mc Clatchie and O'Sullivan cereal drying kilns are generally not associated with ditched enclosures, however there are several examples of sites with associated kilns, such as Johnstown 1, Co. Meath, Gortygrigane, Co. Tipperary and Camlin, Co. Tipperary (Cited in McCormick, Kerr, McClatchie & O'Sullivan 2011).

Often associated with the ringforts, are curvilinear field systems. At Cush, Co. Limerick a line of rectangular fields were excavated by O Riordain (1940) that were located along the west-facing slopes of the Slieve Reagh hillside with many of the field boundaries respecting the ringfort ditches. The field enclosures are generally long and thin, and run down the hillslope, while those at the northern end appear square in plan. Some of the fields are as long as c. 200m while others are considerably smaller (see plan in Mytum 1992). The use of some of the fields for crop husbandry was noted by Fowler (1966, 69-71) when he identified a block of ridge and furrow running east-west across part of the rectangular enclosure attached to the southern group of ringforts which may have been early medieval in date.

Excavations at Lough Gur in Limerick, again by Ó Ríordáin (1949), uncovered field systems associated with hut sites known as the 'Spectacles'. Each unenclosed house site was situated in a small rectangular field overlooking Lough Gur. The fields were only half an acre in size and the field boundaries comprised of double-stoned walls with rubble fills, ranging in width between 1m and 3m, except for one which was made from earth. Their close proximity to the houses and small size suggest they were probably used for tillage. Another field bank was situated up the hillside and was probably part of a wider field system used for pasture (Ó Ríordáin 1949).

A field system of bank and ditches preceded the construction of ringforts I and II at Lisduggan North, Co Cork. Twohig (1990) however, suggested that the older linear trenches provided the building material for a series of contemporary field banks. A third ringfort, in proximity to the west of ringfort's I and II, also post dated a series of linear bank and ditches which were again probably utilised for the construction of the early medieval field banks. The building material was used in a series of banks which enclosed a range of fields on part of Knocknanuss Hill. The pattern of field systems at Lisduggan North were very irregular and Twohig (1990) has suggested that they most clearly resemble the field systems uncovered at Cush, Co. Limerick.

At Ballyutoag, Co. Antrim, a group of curvilinear enclosures, representing field systems, were associated with three smaller curvilinear enclosures which enclosed a number of hut sites. The series of curvilinear fields (Williams 1984) covered an area of approximately 24 acres and were formed by low earthen banks. A group of fields to the west of Enclosure's I and II contained cultivation ridges. Ballyutoag was probably an upland transhumance settlement where cattle grazed for the summer months and small levels of crop husbandry were undertaken. Excavation of some of the hut sites produced a meagre collection of artefacts which ties in with the evidence from the historical sources stating that booleying was the work of the impoverished classes and mainly women and children (Patterson 1994). The finds and radiocarbon dates from the excavations confirm an early medieval date for the settlement and field systems (ibid).

A ringfort, associated with curvilinear field systems, was situated on the townland boundary between Glebe and Laughanstown, Co. Dublin. Two small ditches, radiating from the south of the enclosure, represented early medieval field enclosures. The ditches probably had low banks topped by hawthorn or blackthorn and both species were represented in the charcoal samples. The curving hedgerow of the townland boundary complemented one of the field enclosures suggesting a large elongated field system attached to the south of the ringfort. Radiocarbon dates confirmed an early medieval date, between the seventh and ninth centuries, for one of the field boundaries (Seaver 2005).

By far the closest example of a similar site type excavated to date is the early medieval field complex at Boyerstown, Co. Meath which was excavated in advance of the M3 motorway project. Here five circular enclosures and an array of sub-rectangular and curvilinear enclosures were excavated. The earliest enclosure (60m x 30m) contained three internal divisions, and there were no internal features, or finds, with the exception of small amounts of animal bone. One of the internal divisions cut an earlier ditch which was dated to AD 460-650, so Enclosure 1 post-dated this period. Enclosure 2 (45m x 25m), also sub-rectangular, cut through the S-SE extent of Enclosure 1 and was dated to AD 700-900. An annex was visible to the north and was dated to AD 630-780. Two additional radiocarbon dates were recovered from ditch features. One ran into/was cut by Enclosure 1 and was dated to AD 580-680, and a small curvilinear ditch, the function of which is not clear, was cut by Enclosure 2 and was dated to AD 620-700. It is likely to have been associated with Enclosure 1. It is likely that all features on this site represent successive phases of enclosure activity and were broadly contemporary. It is probable that all of the ditches functioned as animal enclosures as there is an almost total absence of finds and only a small amount of animal bone was recovered. What appears to be a ringfort, based on the geophysical evidence, is located to the northwest of the field systems and is probably related to them.

The Boyerstown field systems display a range of rectangular, sub-rectangular and curvilinear fields. It is common to find ringforts, or open settlements, from the early medieval period associated with these types of fields (see examples above) but what is unusual about the Boyerstown evidence is that the clustering of fields occur away from the main settlement. The first and most difficult question that has to be asked is what the field systems at Boyerstown were used for. Only a tiny number of artefacts, five knives, were uncovered from the ditches at Boyerstown. No evidence for plough marks, such as ridge or furrow, were detected on either site. Animal bone was retrieved only in tiny quantities at Boyerstown so what we are dealing with essentially are a number of successive field systems, annexes and ditches which have returned radiocarbon dates between AD 460 and AD 900. It appears most likely that the fields enclosed livestock and that although the radiocarbon dates for the majority of the features, including Enclosures' I and II, the annex to Enclosure II and the small curvilinear ditch that was cut by Enclosure II, demonstrate broad contemporaneity, the geophysical signatures suggest various phases mainly concentrated within a 200-year period between the seventh and eighth centuries. It, therefore, appears that the archaeological evidence at Boyerstown represents successive phases of land enclosure where the purpose was to enclose livestock. The lack of animal bone from the ditches is not surprising because the majority of animals were slaughtered within, or close, to the settlement during the early middle ages hence the common retrieval of large quantities of cattle, sheep and pig bone from the vast majority of ringfort enclosing ditches.

## 6.2 Previous Archaeological Investigations

The site was subject to archaeological investigations previously, quarrying works were proposed within two fields across the site comprising c. 16.9ha. Eleven test trenches were excavated (07E0867; Dehaene 2007); a hearth was identified, and a former field boundary depicted on the first-edition 6-inch Ordnance Survey map was also identified. The site adjacent and to the east was subject to a geophysical survey (21R0317; Murphy 2022a); six areas of archaeological potential were identified, with four areas of archaeological significance confirmed during subsequent test trenching by ACSU. The features consisted of a fulacht fia and charcoal-rich pits that were excavated (22E0211; Murphy 2022b).

*Table 1: Previous archaeological investigations*

| Excavation.ie reference | Licence No. | RMP No. | Site Type | Investigation type |
|---|---|---|---|---|
| 2007:1914 – Kiltotan and Collinstown, Westmeath | 07E0867 | N/A | Hearth and a former field boundary | Archaeological Test Trenching ahead of proposed quarrying works. |
| 2022: 257 – Kiltotan and Collinstown, Oldcastle, Westmeath | 21R0317<br>22E0211 | N/A | Fulacht Fia, kiln and pits | Geophysical Survey, Archaeological Test Trenching and subsequent Excavation |

| Excavation.ie reference | Licence No. | RMP No. | Site Type | Investigation type |
|---|---|---|---|---|
| 2005:1570 - Kiltotan/Collinstown, Westmeath | A001/007 | N/A | Burnt mound, pits and post-medieval agricultural features | Excavations in advance of the realignement of the N6 Kinnegad to Kilbeggan, Co. Westmeath |
| 2005:1571 - Kiltotan/Collinstown, Westmeath | A001/008 | N/A | Late medieval/early modern – ditches and pit | Excavations in advance of the realignement of the N6 Kinnegad to Kilbeggan, Co. Westmeath |

## 6.3 Recorded Monuments

There are two monuments located within the site, WM033-066---- : Ringfort – rath and WM033-061----: Ringfort – rath. The following is a list of the recorded monuments located in the environs of the site. These descriptions are derived from the National Monuments Service Archaeological Survey Database (http://maps.archaeology.ie/historicenvironment/).

*Table 2: Recorded Monuments in the environs of the site*

| WM033-066---- | Ringfort - rath |
|---|---|
| On a slight rise of ground with good views to the E. Ringfort (WM033-065----) 210m to the W, and second ringfort (WM033-061----) 370m to the NNE. Oval-shaped area (diam. 55m N-S; 64m NW-SE) defined by a substantial earthen bank covered in trees and bushes and wide flat-bottomed fosse with low external bank. The inner bank and fosse are best preserved from W-N-NE. The banks have been levelled and fosse filled in from E-S-SSW. No indication of an original entrance feature. | |
| WM033-061---- | Ringfort - rath |
| In pasture, on gentle NNE-SSW slope of low rise of ground with good views in all directions. Ringfort (WM033-066----) 370m to the SSW. Only the cropmark of a levelled ringfort is visible on the 2005 OSI aerial photograph. Hachured as a large oval-shaped enclosure on the 1837 ed. OS 6-inch map. Monument described in 1976 as a roughly circular-shaped area (diam. 75m E-W) defined by an earthen bank and external fosse which are best preserved at N and are barely visible elsewhere. There is a small causeway across the fosse at N which may be an original entrance feature. The ringfort was bisected by a 19th century field boundary running NW-SE. The field to the S of this field boundary was in tillage in 2005, while the field to the N is in pasture. | |
| WM033-065---- | Ringfort -rath |
| In pasture on high ground with extensive views to N and E. Ringfort (WM033-066----) 210m to the E, and second ringfort (WM033-063----) 420m to the NNW. Roughly sub-rectangular-shaped area (dims. 54.8m N-S; 44.7m E-W) defined by an earth and stone bank covered with trees and bushes with shallow external fosse. There is no indication of an original entrance feature and there are several gaps in the bank especially at S, all of which appear to be modern. The bank is best preserved from W-N and the fosse is well preserved from N-NE. A large concrete base for a silage pit has been constructed in the W quadrant of the ringfort interior. | |

## 6.4 Protected Structures and National Inventory of Architectural Heritage

There are no Protected Structures within the site as listed in the *Westmeath County Development Plan 2021 – 2027*.

## 6.5 Finds listed within the Topographical Files of the National Museum of Ireland

The Topographical Files of the National Museum of Ireland were requested to assess the area's archaeological potential. These files list all archaeological artefacts in the care of or known to the museum. Such a record can provide evidence for human settlement or activity in the absence of physical remains or documentary references. No such finds are registered for the townlands of Kiltotan and Collinstown, Gneevebane or Oldtown.

## 6.6 Cartographical evidence

A review of available historic mapping for the area was carried out to include the Ordnance Survey of Ireland 6-inch (1836) and 25-inch (1911) maps. Potential archaeological or cultural heritage features are marked on such maps and provide a useful resource in identifying sites, particularly if they no longer have any above ground remains.

There are at least seven buildings depicted within the site on the 6-inch 1836 Ordnance Survey (OS) map, all located just inside the eastern boundary of the site. By the 25-inch 1911 map, a structure on the southeast boundary has been removed/demolished.

The Recorded Monuments WM033-066---- : Ringfort – rath and WM033-061----: Ringfort – rath are illustrated with hachures on both the 6-inch 1836 OS map and the 25-inch 1911 map as large suboval enclosures. Some of the field divisions remain unchanged since the 1836 OS map and other large fields have been subdivided further. A wet ditch is illustrated traversing the site from the northwest to southeast on the 25-inch map of 1911.

## 6.7 Aerial photography

In addition to the OS maps, aerial photographs from the Geological Survey of Ireland, dating from between 1995 and 2013, and Google aerial imagery dating between 2005 and 2020 were consulted.

The field boundaries remain the same throughout the aerial photography. There are some faint linears visible in the larger fields throughout the aerial photography that may represent earlier field boundaries.

## 7. METHOD OF DATA INTERPRETATION

The gradiometer survey was conducted with a Bartington GRAD 601-2 dual-sensor fluxgate gradiometer system. A detailed survey was conducted with a sample interval of 0.25m and a traverse interval of 0.5m for all the survey areas. This allows the detection of potential archaeological responses. Data was collected using a GPS-based non-magnetic cart system with four mounted sensors.

The Bartington GRAD 601-2 instrument is a specifically designed gradiometer for use in archaeological prospection. Extremely sensitive, these instruments can detect variations in soil magnetism to 0.01nT, affording diverse applications throughout various archaeological, soil morphological and geological conditions. The survey is geo-referenced with a Trimble R10 unit accurate to within 1cm. The results were interpreted by examining the raw data as greyscale images, X.Y. trace, relief and data plots. Archived raw data is presented in Figure 5, and an interpretation is illustrated in Figure 6.

## 8. SURVEY RESULTS

The geophysical survey was conducted by Donald Murphy, Robert Breen and Jeanne Rochford of Archaeological Consultancy Services Unit Ltd (ACSU) under licence 24R0163 (Figures 5-14).

The geophysical survey successfully identified the location of buried archaeological remains. These are located within Field 2, 4, 5, 9 and 10 and are listed in detail in the table below. Further small-scale positive anomalies are present throughout the survey area that may represent archaeological remains, these potential features would need to be further assessed through test trenching.

Linear anomalies that are not recorded field boundaries on the examined Ordnance Survey mapping were also detected. They likely represent early field systems drains or paths/access. Anomalies marked as Cultivation represent furrows/plough marks or possible land drains.

The anomalies identified are listed in the table below:

*Table 3: Geophysical survey results*

| Anomaly Ref. | Form/Nature of Anomaly | Possible Source(s) of Anomaly | Description |
|---|---|---|---|
| M1 | ? Archaeology | May be the result of a spread of thermorem-nant material such as brick, ash or industrial material. | Magnetic debris consisting of numerous dipolar re-sponses spread over an area located east of Recorded Monument WM033-066---- Ringfort – rath in Field 1. This type of response may suggest industrial activity such as a kiln or metalworking area. |
| M2 | ? Archaeology | Ploughed out structure | Series of positive anomalies that may represent a ploughed-out structure located along the western boundary in Field 4. Could also represent a change in natural geology. |
| M3 | Archaeology | Enclosure with annexe ditch | Very clearly defined remains of a sub-circular enclo-sure with an annexe to the south, located in Field 9. Possibly associated with a number of other features |

| Anomaly Ref. | Form/Nature of Anomaly | Possible Source(s) of Anomaly | Description |
|---|---|---|---|
| | | | M4-M6 consisting of linears, curvilinears, and a possible structure. |
| M4 | Archaeology | Series of linear anomalies/ditches | Linear anomalies adjacent to and likely associated with enclosure M3, could represent a large outer enclosure along the west, north and south of M3 or a series of field systems around the settlement site. |
| M5 | Archaeology | Possible structure | A curvilinear positive anomaly that may represent a structure located within the annexe to the south of enclosure M3. |
| M6 | Archaeology | Curvilinear anomalies/ditches | Curvilinear anomalies adjacent to and west of the north-south section of linear M4. Possible early field systems or drainage ditches associated with the enclosure M3. |
| M7 | ? Archaeology | Possible ditches, pits, spreads, kilns or similar archaeological features. | Faint scatter of positive anomalies located in the north-east corner of Field 9 that may represent cut features of archaeological potential such as ditches, pits, posts, or kilns. May also be natural in origin. |
| M8 | Archaeology | Annex ditch | Positive anomaly in Field 10 that appears to represent a continuation to the east of the annex ditch M3 in Field 9. |
| M9 | Archaeology | Enclosure | Positive anomaly representing the Recorded Monument WM033-061---- Ringfort – rath predominantly in Field 2, with a northeast section located in Field 5 and eastern section in Field 4. |
| M10 | ? Archaeology | Linear feature | Positive linear anomaly that appears to be projecting from the enclosure M9 and may be an associated field system. |
| M11 | ? Archaeology | Linear feature | Positive linear anomaly that appears to be projecting from the enclosure M9 and may be an associated field system. |
| - | ? Archaeology | Scatter of possible pits, spreads, kilns or similar archaeological features. | Sporadic scatter of positive anomalies located throughout Fields 1-9 that may represent cut features of archaeological potential such as pits, posts or kilns or could represent natural occurring depressions in the ground. |
| - | Former boundary | Former boundaries | Former field boundaries are located in Fields 1, 2, 4, 5 and 6 and represent linear features that correspond with field boundaries depicted on the Historic OS maps of 1837 and 1911. |
| - | Early field systems | Linear ditches | Linear ditches occurring in Fields 1, 2, 3, 4 and 8 that are not recorded on OS mapping and therefore may represent earlier field systems. |

| Anomaly Ref. | Form/Nature of Anomaly | Possible Source(s) of Anomaly | Description |
|---|---|---|---|
| - | Modern anomalies/Magnetic disturbance/Increased magnetism | Modern disturbances | Areas of increased magnetism mostly along the edges of the fields, associated with modern groundworks, some associated with establishing site boundaries. Areas of increased magnetism in Fields 4, 6, 7, 8 and 10. |
| - | Cultivation | Cultivation furrows – agricultural | Consistent linear trends, representing cultivation furrows or land-drains occurring in Fields 1,4,5 and 6. |

## 9. ARCHAEOLOGICAL IMPACT ASSESSMENT

The purpose of this impact assessment was to establish whether or not the site contained any evidence for the presence of previously unrecorded areas or features of historical, built heritage or archaeological significance and determine the potential impacts that the proposed development may have on such features.

Definite archaeological features were detected within Fields 2, 4, 5, 9 and 10 (M3 – M6, M8 and M9), with features of potential archaeological significance recorded in Fields 1, 2, 4 and Field 9, with more tentative responses recorded across Fields 1-9 and 11, that may have a natural origin. (See Figures 5-14). In Field 2, 4 and 5 the Recorded Monument Ringfort – rath (WM033-061----) was identified (M9), with some possible contemporary linears or field systems (M10-M11). This Recorded Monument had previously been levelled and was only visible as a cropmark. In Field 9, a large settlement complex was identified in the south section of the field which includes a sub-oval enclosure, a possible annex (extending eastwards into Field 10), a possible internal structure in the annex and several linears (M3-M6).

The proposed development has the potential to impact negatively on the archaeological features identified at the following locations:

- The Recorded Monument; Ringfort – rath WM033-066---- in the mid-west of Field 1.
- The Recorded Monument; Ringfort – rath WM033-061---- predominantly in Field 2, with sections in Field 4 and 5.
- The entire southern section of Field 9 where the survey identified a large settlement complex field which includes a sub-oval enclosure, a possible annex, a possible internal structure in the annex and several linears (M3-M6). A possible annex ditch continues to the east in Field 10.

## 10. CONCLUSIONS & RECOMMENDATIONS

The geophysical survey at Kiltotan and Collinstown, Gneevebane, and Oldtown, Co. Westmeath was carried out to assess the site's archaeological potential. The survey was carried out across eleven fields (Fields 1-11).

The geophysical survey successfully identified the location of buried archaeological remains. These are located within Field 2, 4, 5, 9 and 10. The results in Field 2, 4 and 5 represent the Recorded Monument WM033-061---- Ringfort – rath. The results from Field 9 and Field 10 include a previously unrecorded sub-oval enclosure, a possible annexe located south of the enclosure and smaller features within and adjacent to the monument including a possible structure within the annexe. Other features of potential archaeological interest were recorded in Fields 1-11.

Linear anomalies that are not recorded field boundaries on the examined Ordnance Survey mapping were also detected. They likely represent early field systems drains or paths/access. Anomalies marked as Cultivation represent furrows/plough marks or possible land drains.

It is recommended that:

- An Archaeological Impact Assessment be conducted, including targeted archaeological test trenching of the identified anomalies. The test trenches should target the enclosures, annexes, associated linear features, curvilinears, field systems, pits, spreads and any features of archaeological significance and potential. Any exposed features shall be sufficiently sectioned to assess their depth, nature and archaeological potential. Following the testing the National Monuments Service should be consulted to agree an appropriate mitigation strategy for the development of the site.
- As a minimum measure, an exclusion zone should be placed around the Recorded Monument; Ringfort – rath WM033-066---- in Field 1, the Recorded Monument WM033-061---- Ringfort – rath in Field 2, 4 and 5 and the previously unrecorded sub-oval enclosure with associated features in Field 9 and Field 10. The exclusion zone should include the Recorded Monument as shown on the geophysical survey and the upstanding monument WM033-066---- in Field 1 together with a 20m buffer from the outer edge of the monument. This exclusion zone will be established prior to the construction phase to highlight the archaeologically sensitive area surrounding the recorded monuments and ensure that no excavation or other temporary works takes place at this location. Prior to construction commencing a temporary protective fence should be erected on site and should remain for the duration of the proposed construction works. The exclusion zone should not be used for storage of construction material or plant and the planting of any trees or shrubs must also be avoided.
- If preservation in-situ is not an option in some areas and any archaeological features will be directly impacted by the proposed development, preservation by record (full excavation) is recommended.
- All further groundworks within the proposed development site should also be monitored and any further archaeological features identified should be preserved in situ or by record (excavation) in consultation with the National Monuments Service.

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Topographical files of the National Museum of Ireland

Westmeath County Development Plan 2021–2027

## Appendix 1 - Summary Technical Information & Glossary of Terms

Fluxgate Gradiometer Survey is a non-intrusive method of archaeological prospection that is most often used in Irish Archaeology. This method allows for rapidly mapping archaeological objects, structures, deposits and other features, including geological anomalies, that survive beneath the ground. It allows the most rapid ground coverage and records a variety of anomalies caused by human activity and changes in the natural subsoil. The results are presented as a greyscale map of anomalies detected that are interpreted by an experienced archaeologist.

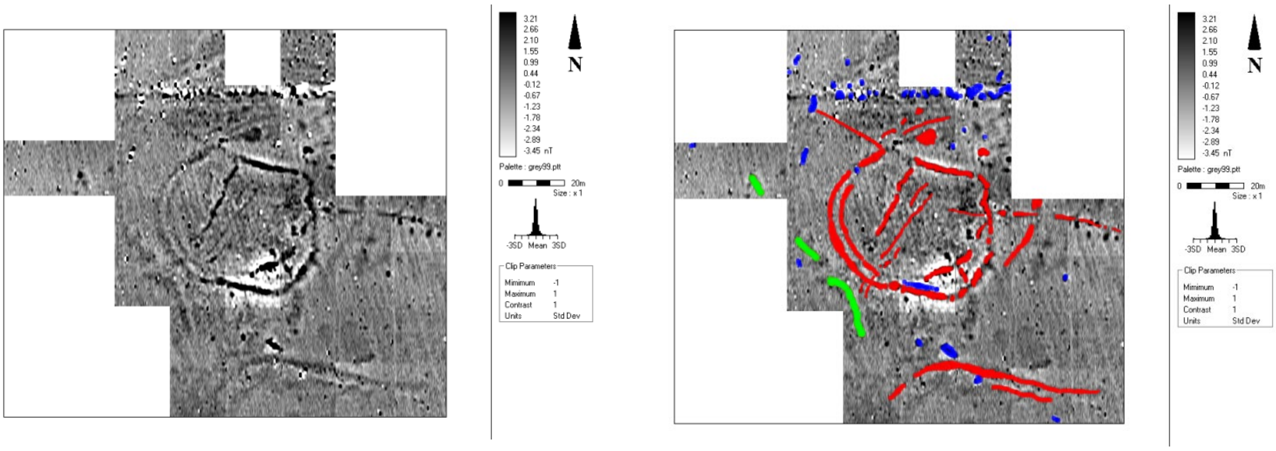
Surveys are undertaken using GPS-based lightweight Bartington Grad 601-2 mounted on the Bartington Cart system. Ground cover must be 0.30m or less. The instrument used is operated by an experienced, skilled geophysical survey technician. The data is collected by hand-wheeling the cart over the survey area in evenly spaced parallel transects. The equipment was specifically designed for archaeological prospection. It includes highly stable sensors, minimising requirements for excess data processing. The instrument has a vertical 0.5 m sensor separation permitting finite resolution of buried archaeological features. Surveys can be undertaken in a scan or detailed (zig-zag traverse) modes for reconnaissance or high-density mapping. The fluxgate enables reliable flexibility during fieldwork. Regular realignment of the instruments and zero drift correction ensure constant high data quality. These extremely sensitive instruments can detect variations in soil magnetism to 0.1nT, affording diverse applications throughout a variety of archaeological, soil morphological and geological conditions.

The instrument can be employed in both commercial and research-based investigations allowing for the completion of projects within short timescales. Regular grid sample densities from standard 1600 readings to 12800 readings per 20m by 20m grid are permitted. A constant high quality of data is assured by experienced field staff operating in accordance with E*AC Guidelines for the use of Geophysics in Archaeology* (Schmidt et al. 2015) and English Heritage's *Geophysical Survey In Archaeological Field Evaluation* (David et al. 2008).


Bartington Grad 601-2 mounted on Bartington Cart.

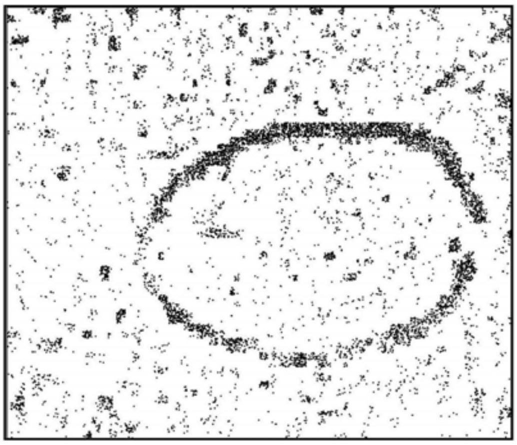
## Data Display Format

**Greyscale:** The greyscale format assigns a cell to each datum according to its location on the grid. The display of each data point is conducted at very fine increments, allowing the full range of values to be displayed within the given data set. This display method also enables the identification of discrete responses that may be at the limits of instrument detection.

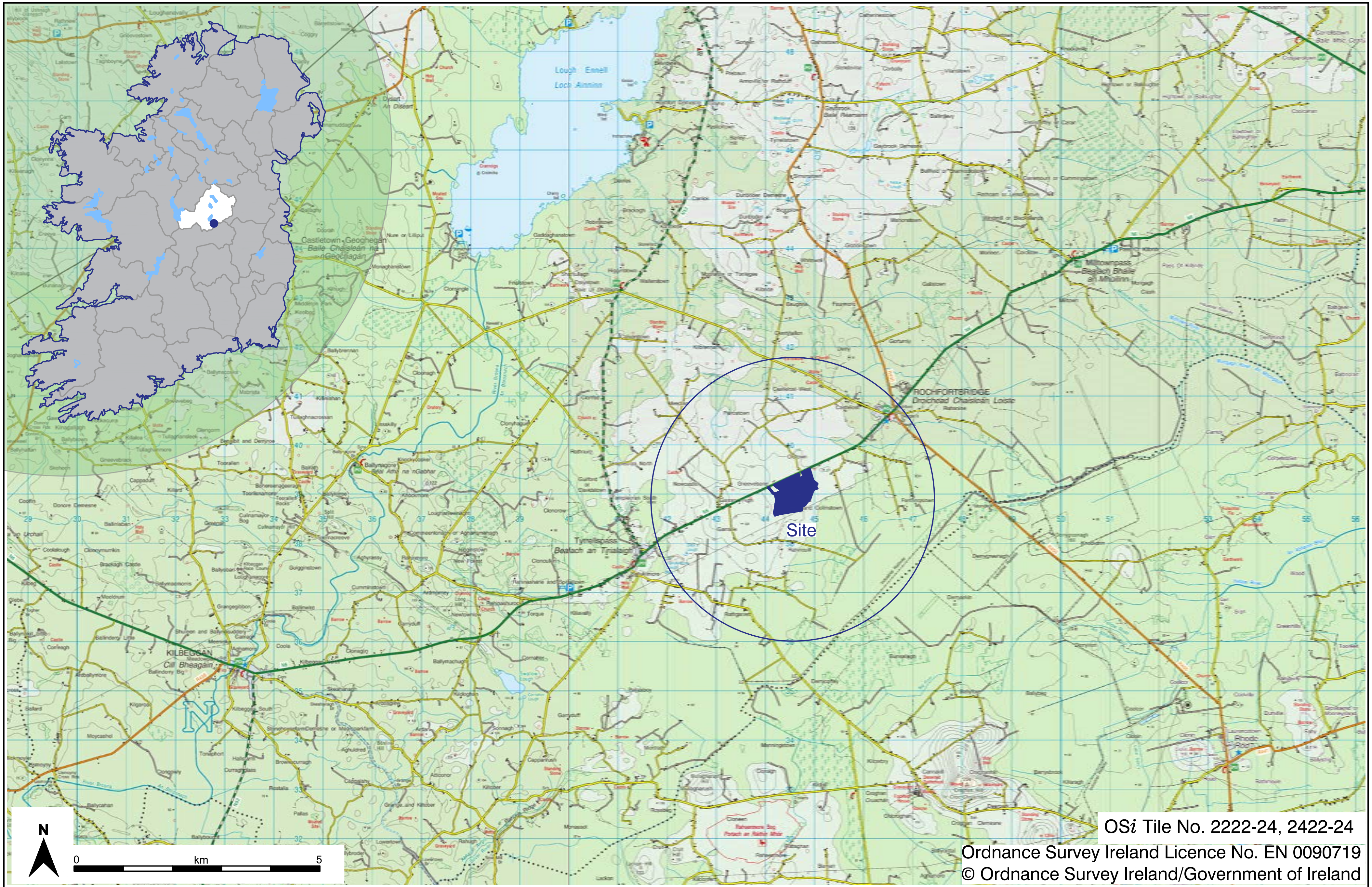



Early medieval enclosure greyscale

**Dot Density Plot:** Each datum is assigned a cell in which the intensity or number of dots displayed is proportional to the magnitude of the individual response. The visibility or presentation of responses within a given survey area is governed by numeric parameters specific to both soil morphological and archaeological conditions observed on site. Typically, the range of weak to strong responses is manifested by a low to a high level of dot density. The format is useful for displaying gradiometer and resistance data, particularly for identifying low-level responses.



Dot Density plot of an oval-shaped enclosure



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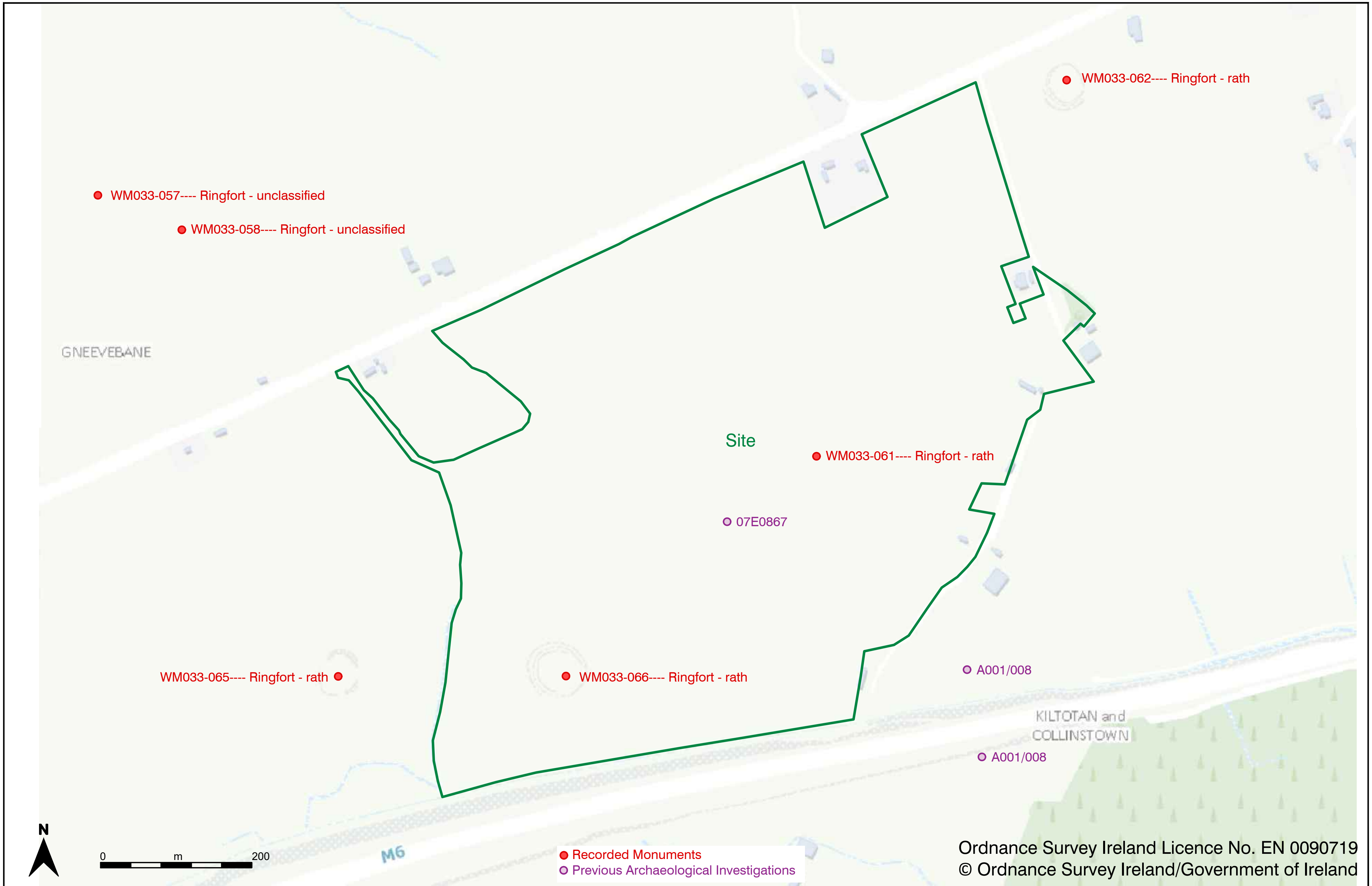
|---|---|---|---|---|---|
| **Project** | Kiltotan and Collinstown, Co. Westmeath | **Date** | February 2024 | **Drawing No.** | 23182_C1001 |
| **Figure 1** | Location of site | | | **Scale** | 1:100,000 @ A4 |

ARCHAEOLOGICAL CONSULTANCY SERVICES UNIT

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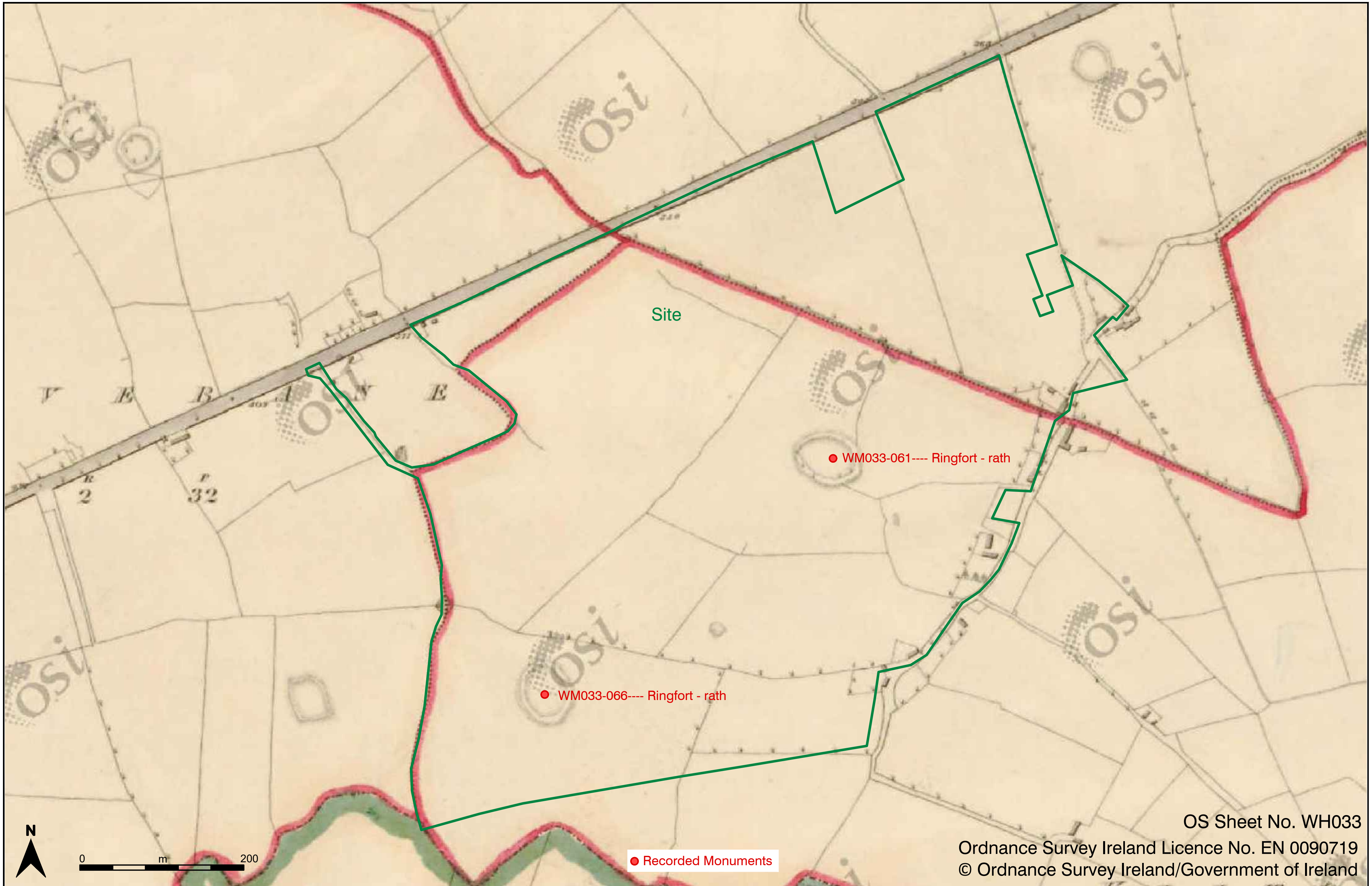
|---|---|---|---|
| **Project** Kiltotan and Collinstown, Co. Westmeath | **Date** February 2024 | **Drawing No.** 23182_C1002 | ARCHAEOLOGICAL CONSULTANCY SERVICES UNIT |
| **Figure 2** Location of site, previous archaeological investigations and nearby *Sites and Monuments Record* sites | | **Scale** 1:6,500 @ A4 | |

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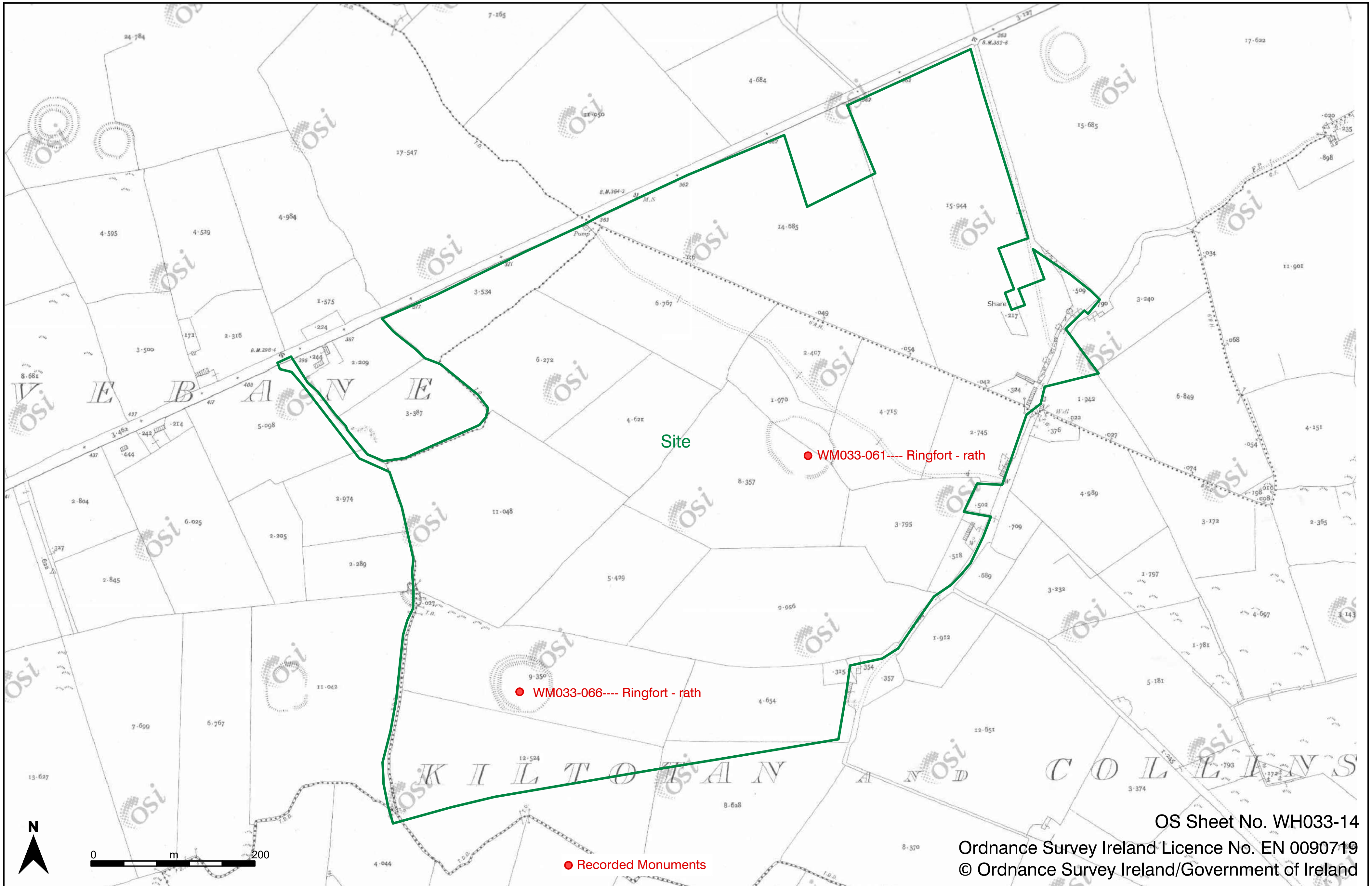
|---|---|---|---|
| **Project** Kiltotan and Collinstown, Co. Westmeath | **Date** February 2024 | **Drawing No.** 23182_C1003 | ARCHAEOLOGICAL CONSULTANCY SERVICES UNIT |
| **Figure 3** Extract from 1st edition Ordnance Survey (OS) 6-inch map (surveyed 1836 - published 1838), showing location of site | | **Scale** 1:6,000 @ A4 | |

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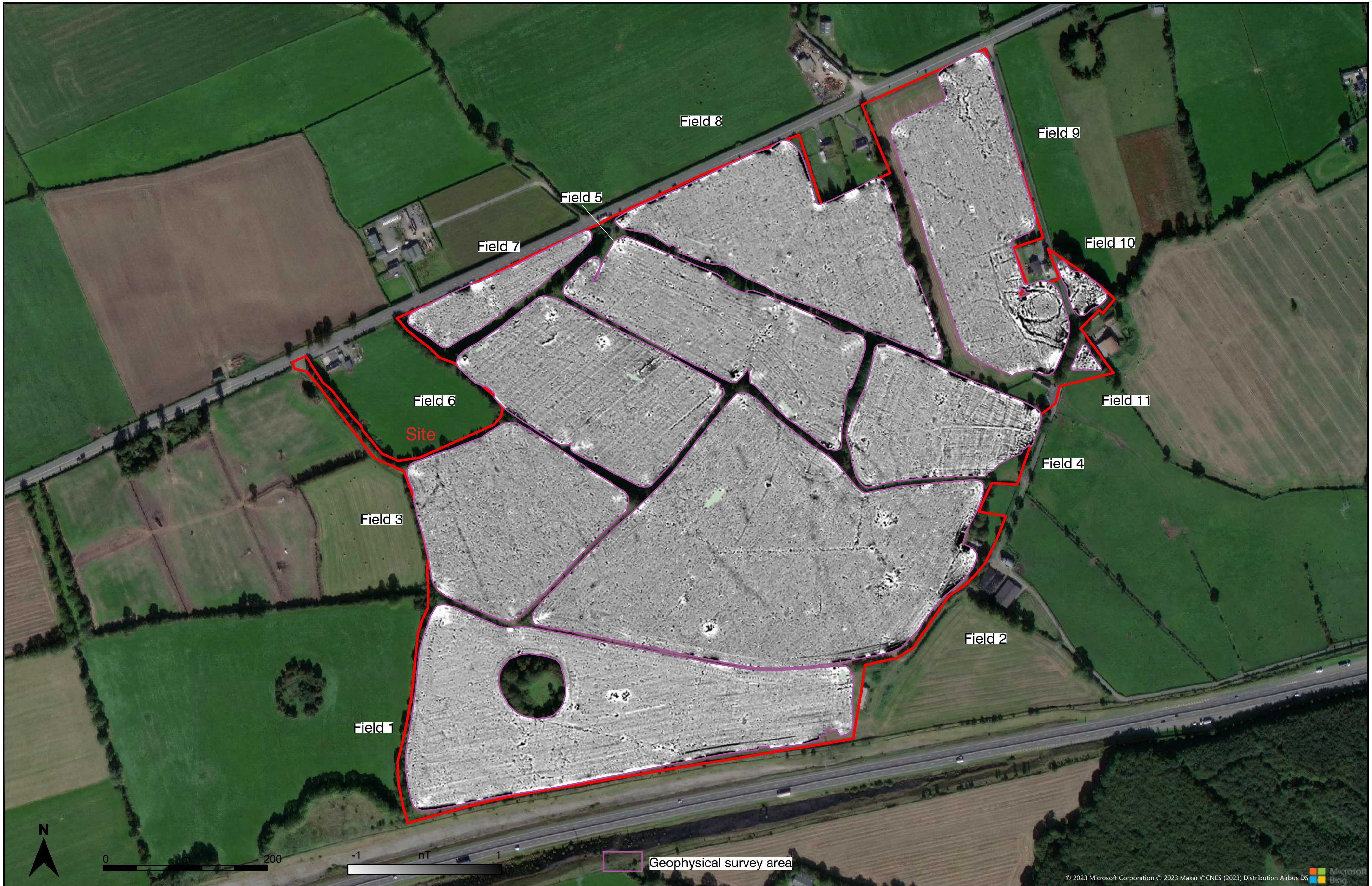
| **Project** Kiltotan and Collinstown, Co. Westmeath | **Date** February 2024 | **Drawing No.** 23182_C1004 | ARCHAEOLOGICAL CONSULTANCY SERVICES UNIT |
| **Figure 4** Extract from 3rd edition Ordnance Survey (OS) 25-inch map (surveyed 1911 - published 1913), showing location of site | | **Scale** 1:6,000 @ A4 | |

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| **Project** Kiltotan and Collinstown, Co. Westmeath | **Date** February 2024 | **Drawing No.** 23182_C1005 | ARCHAEOLOGICAL CONSULTANCY SERVICES UNIT |
| **Figure 5** Aerial view of site, showing geophysical survey results (greyscale images) | | **Scale** 1:6,000 @ A4 | |


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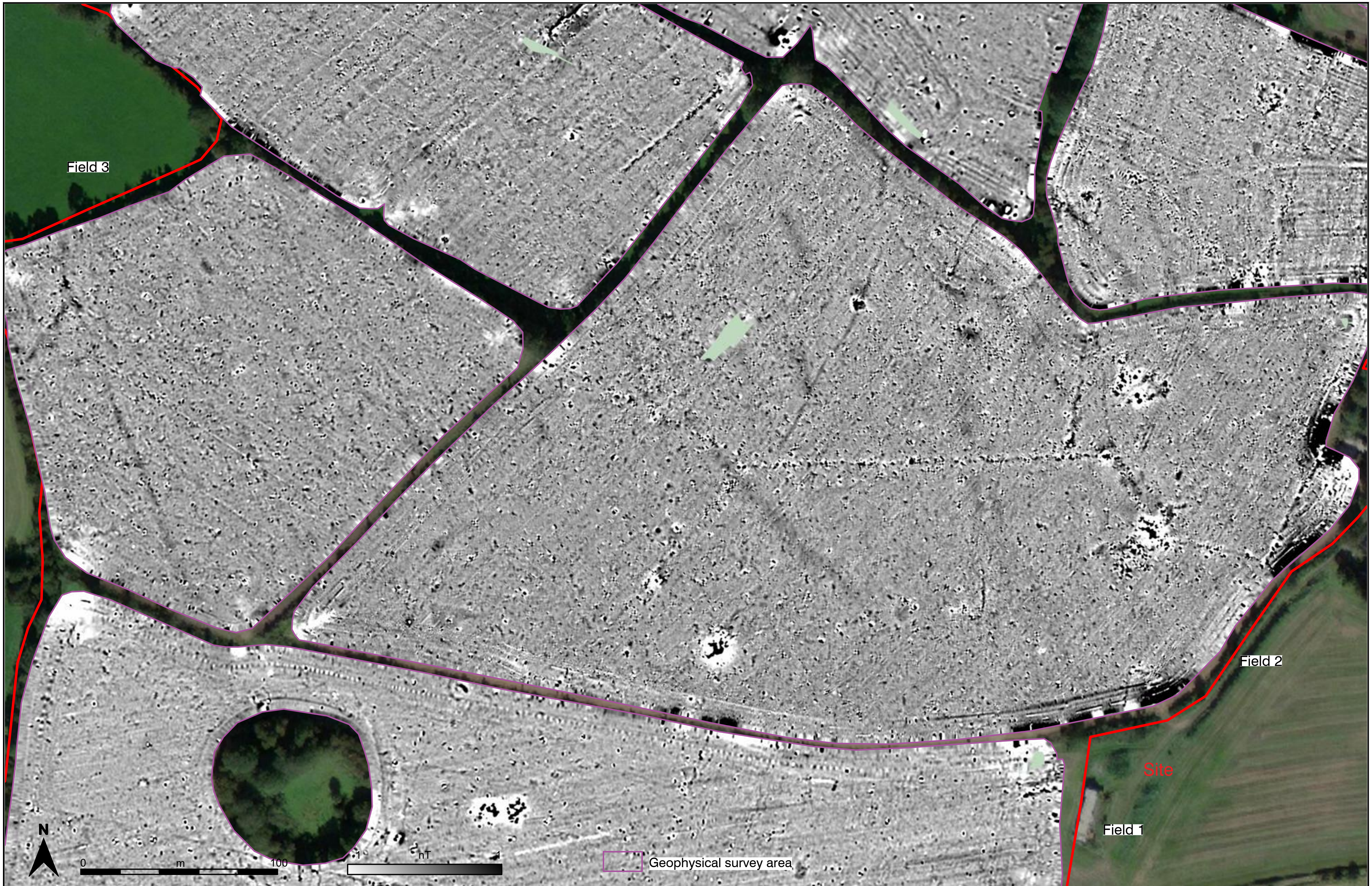
| **Project** | Kiltotan and Collinstown, Co. Westmeath | **Date** February 2024 | **Drawing No.** | 23182_C1006 | ARCHAEOLOGICAL CONSULTANCY SERVICES UNIT |
| **Figure 6** | Aerial view of site, showing geophysical survey results (greyscale images) of field 1 | | **Scale** | 1:2,500 @ A4 | |

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| **Project** Kiltotan and Collinstown, Co. Westmeath | **Date** February 2024 | **Drawing No.** 23182_C1007 | ARCHAEOLOGICAL CONSULTANCY SERVICES UNIT |
| **Figure 7** Aerial view of site, showing geophysical survey results (greyscale images) of fields 2 and 3 | | **Scale** 1:2,500 @ A4 | |


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|---|---|---|---|
| **Project** Kiltotan and Collinstown, Co. Westmeath | **Date** February 2024 | **Drawing No.** 23182_C1008 | ARCHAEOLOGICAL CONSULTANCY SERVICES UNIT |
| **Figure 8** Aerial view of site, showing geophysical survey results (greyscale images) of fields 5 to 8 | | **Scale** 1:2,500 @ A4 | |


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|---|---|
| **Project** Kiltotan and Collinstown, Co. Westmeath | **Date** February 2024 |
| **Figure 9** Aerial view of site, showing geophysical survey results (greyscale images) of field 4 and fields 9 to 11 | ARCHAEOLOGICAL CONSULTANCY SERVICES UNIT |
| **Scale** 1:2,000 @ A4 | **Drawing No.** 23182_C1009 |


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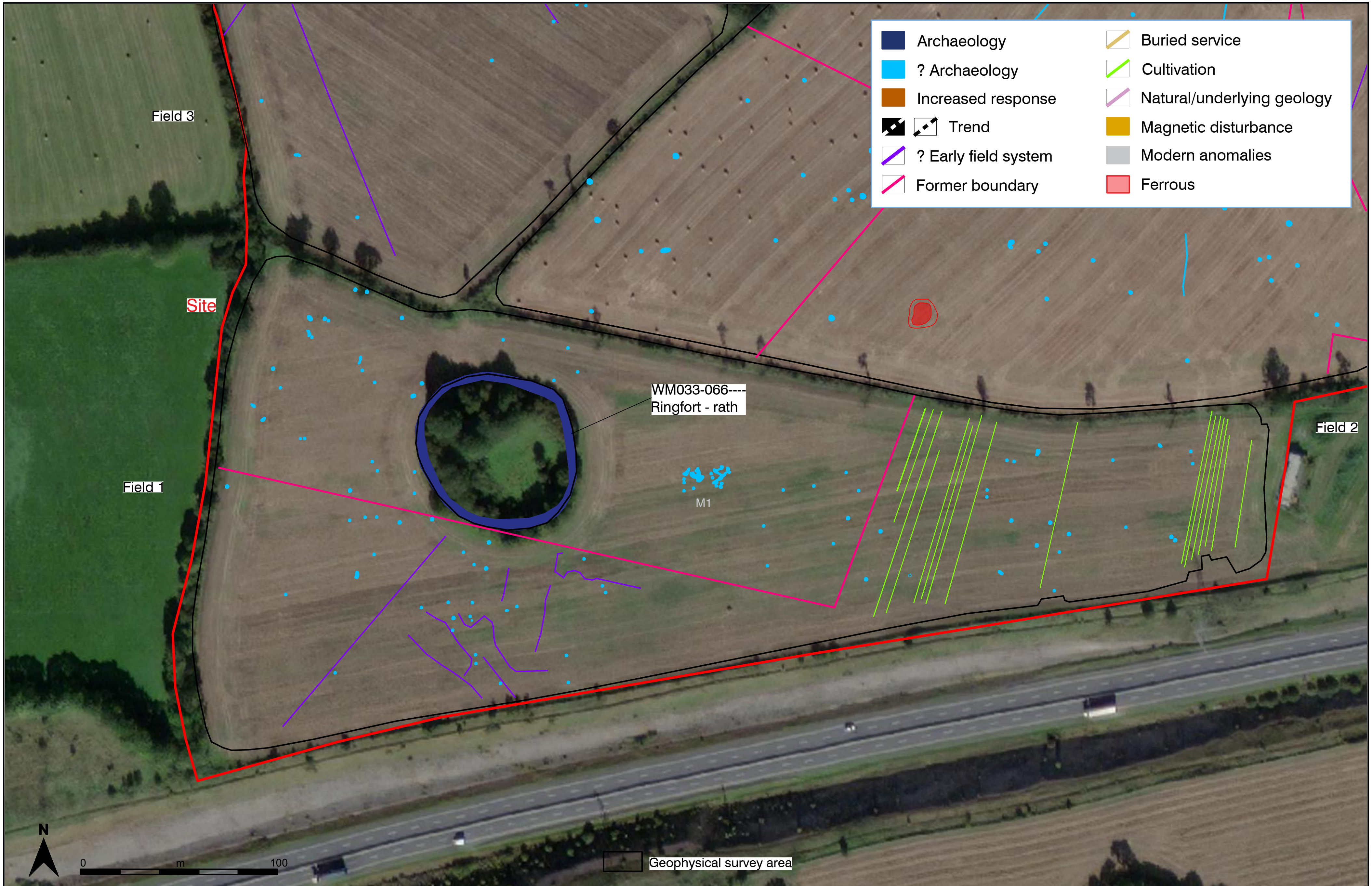
|---|---|---|---|
| **Project** Kiltotan and Collinstown, Co. Westmeath | **Date** February 2024 | **Drawing No.** 23182_C1010 | ARCHAEOLOGICAL CONSULTANCY SERVICES UNIT |
| **Figure 10** Aerial view of site, showing geophysical survey interpretation | | **Scale** 1:6,000 @ A4 | |

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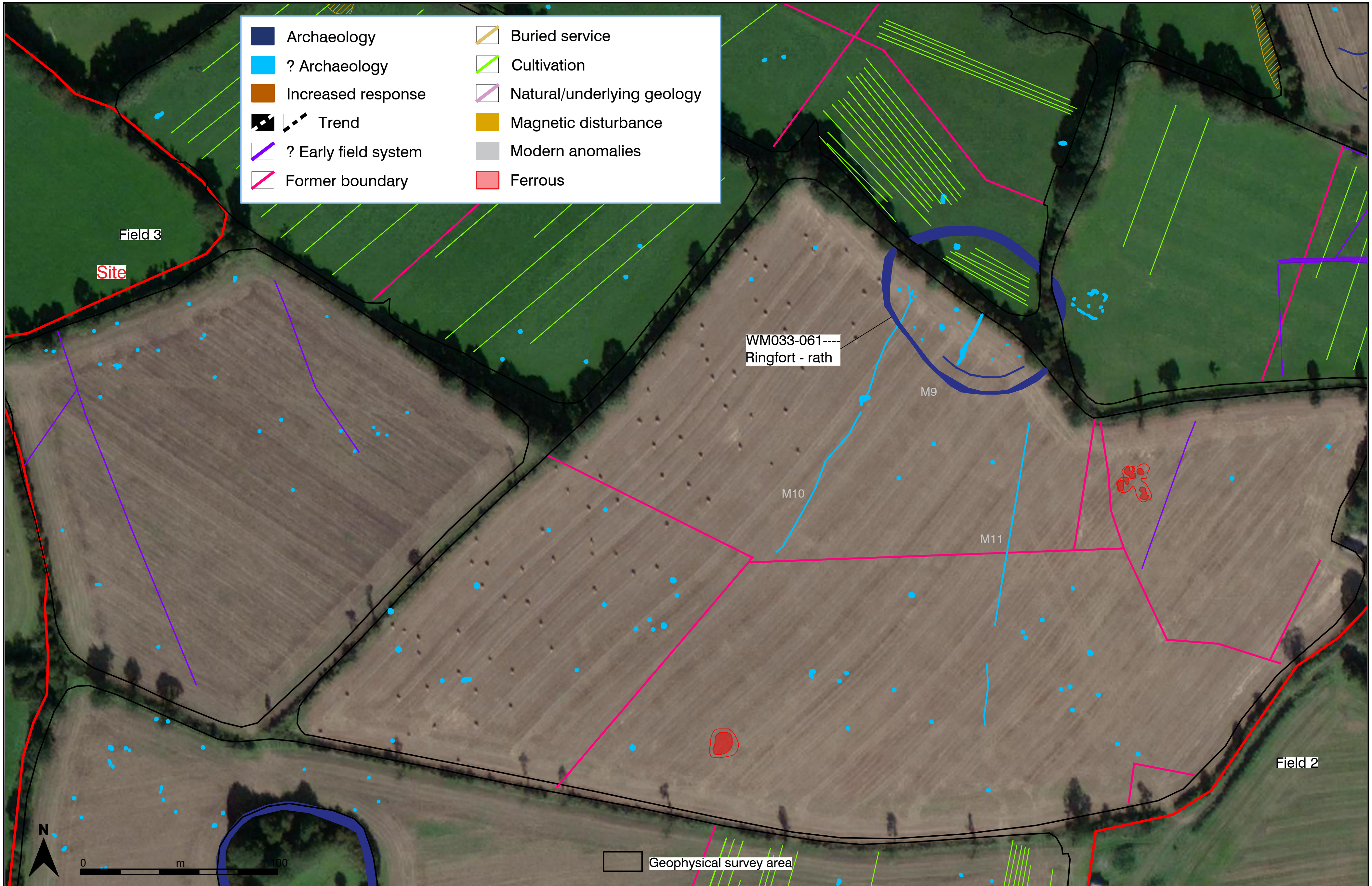
| **Project** Kiltotan and Collinstown, Co. Westmeath | **Date** February 2024 | **Drawing No.** 23182_C1011 | ARCHAEOLOGICAL CONSULTANCY SERVICES UNIT |
| **Figure 11** Aerial view of site, showing geophysical survey interpretation of field 1 | | **Scale** 1:2,500 @ A4 | |

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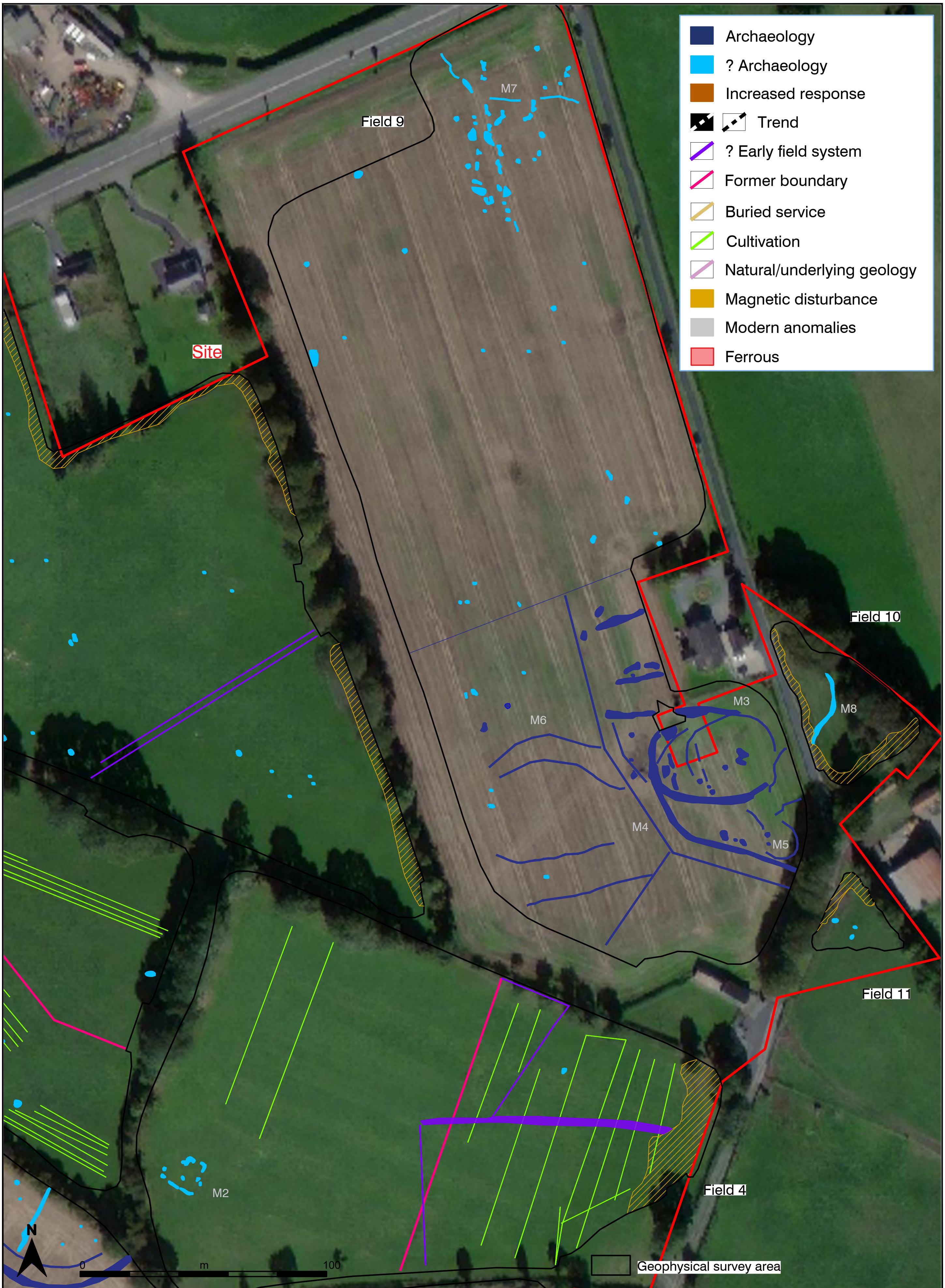
| **Project** Kiltotan and Collinstown, Co. Westmeath | **Date** February 2024 | **Drawing No.** 23182_C1012 | ARCHAEOLOGICAL CONSULTANCY SERVICES UNIT |
| **Figure 12** Aerial view of site, showing geophysical survey interpretation of fields 2 and 3 | | **Scale** 1:2,500 @ A4 | |


| | | | |
|---|---|---|---|
| **Project** Kiltotan and Collinstown, Co. Westmeath | **Date** February 2024 | **Drawing No.** 23182_C1013 | ARCHAEOLOGICAL CONSULTANCY SERVICES UNIT |
| **Figure 13** Aerial view of site, showing geophysical survey interpretation of fields 5 to 8 | | **Scale** 1:2,500 @ A4 | |




**Project** Kiltotan and Collinstown, Co. Westmeath

**Date** February 2024

**Figure 14** Aerial view of site, showing geophysical survey interpretation of field 4 and fields 9 to 11

ARCHAEOLOGICAL CONSULTANCY SERVICES UNIT

**Scale** 1:2,000 @ A4

**Drawing No.** 23182_C1014

HALSTON

# APPENDIX 15.1

# Planning Stage
# Project Carbon Management Plan (PCMP)

Admiral Data Centre and Decentralised Energy Resources (DER) Project

Version: v5 (Planning Stage)

March 2026

Prepared for:
Red Admiral DC Limited (Project Admiral)

Prepared by:
Halston Environmental & Planning Ltd

# Document Control

| | |
|---|---|
| Client: | Red Admiral DC Limited |
| Project Name | Admiral |
| Project Ref. | SEP-0374 |
| Document Ref. | SEP-0374/WF/Reports/PCMP |

Document Checking:

| | | | |
|---|---|---|---|
| Originator: | Various | Signed: | - |

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|---|---|---|---|
| Checked By: | C Staunton | Signed: | CS |

| | | | |
|---|---|---|---|
| Approved By: | Client | Signed: | RADC |

| Issue | Date | Status |
|---|---|---|
| v1 | 23.12.2025 | Draft |
| v2 | 26.02.2026 | Draft |
| v3 | 06.03.2026 | Draft |
| v4 | 09.03.2026 | Draft for client review |
| v5 | 11.03.2026 | Final |

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# 1 INTRODUCTION

This Project Carbon Management Plan (PCMP) sets out how greenhouse gas (GHG) emissions will be managed across the whole life of the proposed infrastructure project comprising a data centre and associated decentralised energy resources (DER). It has been prepared for planning purposes and follows the intent and requirements of PAS 2080 (Carbon Management in Infrastructure)[1].

The PCMP defines the assessment scope and boundaries, establishes a carbon baseline approach, describes the method for quantifying embodied and operational carbon, and sets out governance, targets, reduction actions, and reporting processes to drive continual carbon reduction through design, construction, operation, and end-of-life.

For construction, direct emissions typically arise from on-site combustion of fuels for machinery and vehicle movements, while indirect emissions include grid electricity consumption and the production and transport of materials and equipment to site. During operation, direct and indirect GHG emissions arise from energy and water use, maintenance, repair and replacement, and ultimately from decommissioning and end-of-life processing. Operational GHG emissions from the DER are separately dealt with and quantified in supporting Bitpower reports submitted with this planning application; please refer to:

- EIAR Vol3, Appendix 3.1 *Energy Statement and Approach to Sustainable Data Centre Development*, and
- EIAR Vol3, Appendix 3.3 Updated Energy Report entitled *Carbon Impact Statement & Alignment with National Large Energy User Policies.*

Accordingly, these reports should be read in conjunction with this PCMP.

# 2 PROJECT OVERVIEW

## 2.1 Project description

The proposed development (Project Admiral) comprises two main elements within an overall development boundary of approximately 243ha in County Westmeath, Ireland: (i) a data

[1] British Standards Institution (BSI) (2023) *PAS 2080:2023 Carbon management in buildings and infrastructure*. London: BSI Standards Limited.

centre (DC) facility of six identical two-storey data centre buildings arranged as a campus within a secured area of approximately 39ha (within an overall DC facility site of approximately 48ha), together with a 33kV IPP building and AIS compound, ancillary compounds, internal roads and parking, landscaping and drainage; and (ii) a co-located Decentralised Energy Resource (DER) comprising a 160MWe Solid Oxide Fuel Cell (SOFC) system, a 250MW (x 2-hour) Battery Energy Storage System (BESS), a c.180MWp solar PV farm and a grid connection to the adjoining 220kV Castlelost GIS substation. Each data centre building has a footprint of 13,978$m^2$ and a gross floor area of 28,561$m^2$, with collocated medium-voltage (MV) switchroom infrastructure. The DER is intended to optimise use of on-site generation and storage to track the DC load and reduce reliance on higher-carbon grid electricity.

## 2.2 PCMP objectives

The objectives of this PCMP are to:

- Embed carbon management into decision-making from the earliest stage and throughout the project life cycle.
- Quantify whole-life carbon (embodied and operational) using a transparent, module-based approach.
- Identify carbon hotspots and implement a reduction hierarchy: avoid, reduce, replace, and offset as a last resort.
- Allocate roles and responsibilities across the value chain, enabling effective governance and reporting.
- Provide a basis for target setting, monitoring and continual improvement as design information matures.

# 3 STANDARDS, GUIDANCE AND DEFINITIONS

This PCMP aligns with and has been prepared in accordance with How to Calculate Embodied Carbon (IStructE, 2025)[2], and the principles of PAS 2080 for whole-life carbon management. The approach also follows the methodology set out by the Sustainable Energy Authority of Ireland (SEAI) for life-cycle global warming potential (GWP) calculations (SEAI, 2025),

[2] Gibbons, O.P., Orr, J.J. and Arnold, W. (2025) *How to calculate embodied carbon*. 3rd edn. Version 1.1 (March 2025). London: The Institution of Structural Engineers.

Life cycle stages and information modules are defined in EN 15978:2011 (sustainability of construction works – assessment of environmental performance of buildings) and EN 17472:2022 (sustainability of construction works sustainability assessment of civil engineering works – calculation method). Carbon results are reported as carbon dioxide equivalent emissions ($kgCO_2e$). Embodied carbon is quantified by multiplying material quantities by appropriate carbon factors for the relevant life cycle modules:

$$\text{quantity} \times \text{carbon factor} = kgCO_2e.$$

# 4 ASSESSMENT SCOPE AND BOUNDARIES

## 4.1 Purpose of assessment and study stage

The assessment is prepared for planning and development purposes. At this stage, the carbon baseline is screening-level with conservative assumptions and will be progressively refined through detailed design, procurement, construction, and as-built stages.

## 4.2 Reporting unit and reference study period

The reporting unit is the proposed development (Data Centre and DER) delivered to the required functional performance. For operational and replacement impacts, a reference study period) will be defined (e.g., 15-60 years depending on project component).

## 4.3 Organisational boundary and value chain

PAS 2080 requires collaboration across the value chain. This PCMP covers emissions influenced by the project client, designers, constructors, operators and key suppliers. The assessment boundary includes activities that occur on-site and off-site where they are attributable to the project (e.g., manufacturing of materials and equipment).

## 4.4 System boundary and life cycle stages

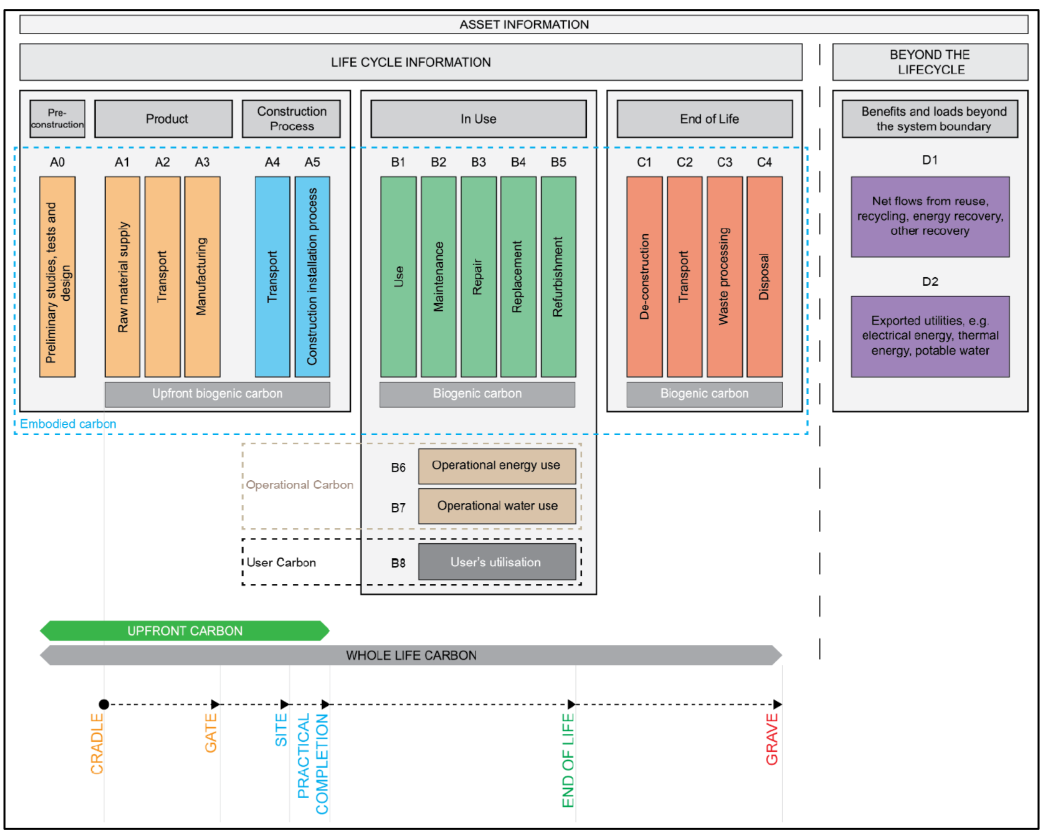
The life cycle is divided into stages and modules. For infrastructure projects, best practice is to report whole life embodied carbon (A0-A5, B1-B5, C1-C4) with Module D reported separately. Operational energy and water are reported in B6 and B7 respectively.

Table 4-1 summarises the life cycle stages and modules applied in this PCMP. Figure 4-1 illustrates the building and infrastructure life cycle stages and information modules.

**Table 4-1 Life cycle stages and modules applied in this PCMP**

| Life cycle stage | Modules | Description (summary) | Included in planning-stage baseline? |
|---|---|---|---|
| Pre-construction | A0 | Studies, surveys, design activities, stakeholder engagement, land acquisition (where material). | Screening (project specific where significant) |
| Product (cradle-to-gate) | A1-A3 | Raw material supply, transport and manufacturing of construction products and equipment. | Yes (using generic/average factors initially) |
| Construction process | A4-A5 | Transport to site (A4); site energy and plant, waste and wastage (A5). | Yes (assumptions for logistics, plant and wastage) |
| In use (embodied) | B1-B5 | Use, maintenance, repair, replacement, refurbishment of asset components. | Yes (high-level replacement cycles) |
| In use (operational) | B6-B7 | Operational energy and water use. | Yes (energy model /metered projections) |
| End of life | C1-C4 | Deconstruction/demolition, transport, waste processing and disposal. | Screening (scenario-based) |
| Beyond system boundary | D | Net benefits/loads from reuse/recycling and exported energy/utilities. | Reported separately (scenario-based) |

**Figure 4-1 Building and infrastructure life cycle stages and information modules (adapted from RICS[3], BS EN 15978, BS EN17472, and BS EN 15643)**

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[3] Royal Institute of Chartered Surveyors (RICS) (2024) *Whole life carbon assessment for the built environment* Professional Standard. London

### 4.5 Assessment boundary for construction

The construction-phase boundary covers all emissions arising from pre-construction and construction process activities necessary to deliver the asset to practical completion. The construction stage is expected to be delivered over an approximate 62-month period across three overlapping phases.

- Phase 1 (26 months) comprises DC Buildings 1-2, Fuel Cell Power Tower 1, the BESS facility, Solar Farm (parcel 1) and the grid connection (including the 220kV IPP GIS building).
- Phase 2 (31 months) comprises DC Buildings 3-4, Fuel Cell Power Tower 2 and the Solar Farm (northern and southern parcels).
- Phase 3 (28 months) comprises DC Buildings 5-6 and Fuel Cell Power Tower 3. Site evaluation, preparation and enabling works are expected within the first six months of works. Peak construction employment is anticipated to be up to 900 workers.

The construction phase boundary includes:

- Upfront embodied carbon of materials, products and equipment installed in the asset (Modules A1-A3).
- Transport of materials and equipment to site (Module A4).
- On-site energy use, fuel combustion for plant and machinery, temporary power, welfare facilities, and site waste and wastage (Module A5).
- Where material, pre-construction activities (Module A0), such as extensive surveys, enabling works, temporary design offices, and significant business travel.

Direct emissions during construction generally include combustion of fossil fuels for machinery operation and vehicle movements on site. Indirect emissions include emissions associated with grid electricity consumption and emissions arising from the production and transport to site of construction materials and installed equipment.

### 4.6 Assessment boundary for operation

The operational-phase boundary covers emissions from operating and maintaining the asset over the reference study period (refer to Bitpower reports). The operational phase commences following commissioning and integrated-systems testing and is intended to operate continuously (24 hours /day, 365 days/year) to support DC operations.

The cooling strategy is designed to minimise water use through the use of free fresh-air cooling and air handling units, with electric and absorption chillers used only during periods of high ambient temperatures; evaporative cooling is not proposed. Operational decarbonisation is supported by the on-site DER; the SOFC generates electricity using natural gas via an electrochemical (non-combustion) process and can provide recoverable waste heat for absorption chillers. The solar PV farm and BESS provide renewable generation and storage which will be used to serve demand. The data centre will also have a grid connection and will import power during periods where low carbon /renewable electricity is available and it is more advantageous to avail of this from a carbon perspective.

The operational phase boundary includes:

- Operational energy consumption (electricity and fuels) for DC load, cooling, lighting, pumps, fans and auxiliary systems (Module B6).
- Operational water use associated with cooling and domestic use, where included (Module B7).
- Planned and reactive maintenance, repair and replacement of components (e.g., batteries, cooling plant, switchgear, inverters) (Modules B2-B5).
- Operational refrigerant leakage (if relevant to scope and data availability) (Module B1 or B2, depending on reporting convention).

After construction, direct and indirect GHG emissions arise from the operation and maintenance of the project over its operational life and from end-of-life decommissioning. End-of-life impacts are assessed in Modules C1-C4 and reported with scenario assumptions, with Module D reported separately.

## 4.7 Data Centre and DER

The following provides an indicative breakdown of asset elements to be included in the whole-life carbon assessment for the data centre and DER systems. The breakdown will be aligned with the project work breakdown structure and responsibilities across disciplines to avoid omissions or double counting. Cognisance of proposed phasing of development works (as discussed above) should also be taken into consideration.

**Table 4-2 Breakdown of development elements**

| Asset element | Typical components | Lifecycle modules (A/B/C/D) | Construction / Operation relevance | Notes |
|---|---|---|---|---|
| Site enabling & earthworks | Site clearance, excavation, earthworks, temporary works | A0, A5, C1-C4 | Construction + End-of-life | Quantities from civil design/QS; plant fuel and waste assumptions |
| Building Substructures | Foundations, piles, basement slab/retaining walls | A1-A5, B4, C1-C4, D | Construction + Replacement (limited) | Concrete and steel quantities; Environmental Product Declarations (EPD) as design develops |
| Building Superstructures & envelope | Frame, floors, roof, facade, cladding | A1-A5, B2-B5, C1-C4, D | Construction + Maintenance/Replacement | Durability assumptions; replacement cycles for facade components |
| MEP - electrical | Switchgear, transformers, UPS, cabling, busbars | A1-A5, B2-B5, C1-C4, D | Construction + Operation (replacement) | Major replacement drivers; use product EPDs where available |
| MEP - mechanical | Chillers, cooling towers/dry coolers, pumps, pipes, motors, CRAH/CRAC | A1-A5, B1-B5, B6, C1-C4, D | Construction + Operation | Operational energy model; refrigerants considered where data available |
| DER – Solar PV | PV modules, mounting, inverters, cabling | A1-A5, B2-B5, B6 (generation/export), C1-C4, D2 | Construction + Operation | Module D2 not included as not exporting electricity |
| DER - BESS | Battery racks, MVPS /inverters, enclosures, HVAC, controls | A1-A5, B4, B6, C1-C4, D | Construction + Operation | Replacement cycle critical; include safety systems |
| DER - SOFC | SOFC power towers/modules, natural gas connection, heat recovery/absorption chillers interface, CO2 management (if applicable), controls | A1-A5, B1-B5, B6, C1-C4, D | Construction + Operation | Operational carbon depends on fuel consumption and duty cycle; planning stage uses energy and carbon modelling assumptions |
| Grid connection and ancillary | Substation, cables, ducting, metering | A1-A5, B2-B5, C1-C4, D | Construction + Operation | May be partially off-site |
| External works | Roads, paving, drainage, fencing, lighting | A1-A5, B2-B5, C1-C4, D | Construction + Operation | Include as material to function; coordinate with civil /landscape |

### 4.8 Key exclusions and assumptions (planning stage)

The following exclusions /assumptions apply at planning stage and will be reviewed as design develops:

- IT equipment (servers, storage, networking) is excluded as detailed design has not been completed, i.e. full fit-out.
- Employee commuting and business travel during operation are excluded unless required by the client reporting boundary.
- For sustainability reporting alignment, the project is preparing for certification to LEED BD+C v4 for Data Centres using a campus approach. At pre-assessment stage, key site assumptions include no permanent irrigation, photovoltaic fields area of approximately 168.62 ha, and provision of up to 80 car parking spaces per building with 5% fitted with EV charging points.
- Embodied carbon of minor consumables and small tools is excluded as there are considered immaterial in terms of the overall development.
- Grid upstream emissions are included through the selected electricity emission factors used in operational energy modelling.
- Module D benefits /loads are reported separately and are not used to offset Modules A-C results.

## 5 CARBON QUANTIFICATION METHODOLOGY

### 5.1 Overview

Carbon quantification will follow a module-based whole life carbon approach. Embodied carbon for each asset element is calculated as the sum over relevant modules (A0-A5, B1-B5, C1-C4), with Module D reported separately. Operational carbon is calculated from energy and water demand profiles multiplied by appropriate emission factors.

### 5.2 Embodied carbon calculation approach (A1-A5, B1-B5, C1-C4)

The fundamental calculation is:

$$\textit{material or product quantity} \times \textit{module-specific carbon factor} = \textit{emissions } (kgCO_2e).$$

Because the project is at planning stage, quantities are derived from early design models, benchmarks, or high-level bills of quantities and will be refined over time as the project evolves.

Planning-stage embodied carbon benchmarks are informed by the project's preliminary embodied carbon / Life Cycle Assessment (LCA) study for a representative data hall/building shell. The LCA quantified embodied carbon emissions for the principal construction elements including substructure, superstructure, façade/envelope, internal finishes (where applicable), and building services allowances, together with associated external works/infrastructure included within the representative building scope. The study modelled Building Shell Scope (modules A-C) for an internal floor area of 14,000m$^2$ over a 60-year service life. The baseline scenario reported 567kg$CO_2$e/m$^2$, with hotspots in concrete (ground floor slab and upper floor slab), structural steel and facade/secondary steel. A low-carbon upgrade scenario achieved 445kg$CO_2$e/m$^2$ (approximately 21.5% reduction) through higher GGBS cement replacement in concrete (e.g., 60% GGBS ground floor slab and 50% GGBS upper floor slab) and lower-carbon steel options (e.g., XCarb steel (low-$CO_2$ emission brand); low-carbon secondary steel and floor decking options).

- A1-A3: Use regional/national consumption average carbon factors for early design; transition to product-specific Environmental Product Declarations (EPDs) as procurement is defined.
- A4: Estimate transport distances and modes from likely supply chain and logistics plan.
- A5: Estimate site energy/fuel, plant utilisation, and material wastage rates; include waste processing and disposal where practicable.
- B4/B5: Apply replacement cycles and refurbishment assumptions for key components over the reference study period.
- C1-C4: Apply end-of-life scenarios for deconstruction, transport, waste processing and disposal consistent with local practice and regulations.

## 5.3 Operational carbon calculation approach (B6-B7)

Operational carbon is estimated using an energy model appropriate to the planning stage (e.g., annual electricity demand for DC load, cooling and auxiliaries, and any on-site fuel use). Where DER supplies electricity, the model will track on-site generation, storage losses, self-consumption and any export. Water use at the proposed development is relatively low and air-cooling technologies will be employed.

## 5.4 Data quality, uncertainty and progressive assurance

Uncertainty is highest at planning stage due to incomplete design and supply chain information. The PCMP adopts a progressive assurance approach: assumptions are documented, data quality is tracked, and calculations are updated at defined project gateways (concept, developed design, technical design, construction, as-built, and operational review).

## 5.5 Planning-stage baseline carbon estimates

The figures presented in this section are screening-level and will be refined as design, specification, procurement and contractor method statements mature. The updated assessment expands the construction-phase embodied carbon to include the full scope of the overall development (data centre campus and all DER elements) and updates operational modelling based on the revised energy report assumptions.

### 5.5.1 <u>Updated construction-phase embodied carbon (Modules A1–A5)</u>

Key construction-phase emission sources include: (i) embodied carbon in construction materials and equipment (A1–A3), (ii) transport of materials to site (A4), (iii) on-site construction activities, temporary power site waste, and wastage etc (A5), and (iv) excavation and off-site disposal of excavated material where applicable (A5/C).

#### *5.5.1.1 Construction transport emissions:*

Construction-stage transport emissions have been estimated using UK Government GHG conversion factors (2025)[4]. Traffic and transport data for weekday total trip schedules is provided Appendix 13.2 (EIAR Volume 2), which show an average of approximately 315 two-way employee vehicle trips per weekday and 21 two-way HGV trips per weekday across the construction programme (62 months).

Applying an assumed average travel distance of 50km per trip, emission factors of 0.1717 kg$CO_2$e/km for a medium diesel car and 0.9369 kgCO2e/km for a fully laden diesel HGV, and scaling over 286 annual construction days across a 62 month programme, yields an estimated construction transport impact of approximately 5,425 t$CO_2$e (see Table 5-1).

[4] Department for Energy Security and Net Zero (2025) Greenhouse gas reporting: conversion factors 2025.

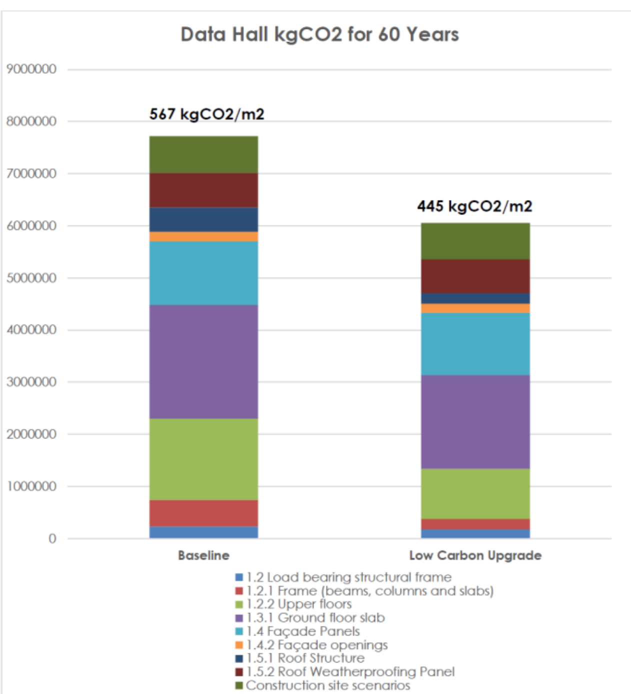
**Table 5-1 Construction Transport**

| Item | Basis | Calculation | Result |
|---|---|---|---|
| Average employee trips per weekday | Average of monthly "Two-way Employee trips per weekday" | 19,540/62 | 315.2 trips/day |
| Average HGV trips per weekday | Average of monthly "Two-way HGV trips per weekday" totals | 1,278/62 | 20.6 trips/day |
| Employee emissions per day | 315.2 × 50 km × 0.1717 $kgCO_2e/km$ | 2,706.7kg/day | 2.707 $tCO_2e/day$ |
| HGV emissions per day | 20.6 × 50 km × 0.9369 $kgCO_2e/km$ | 964.5kg/day | 0.965 $tCO_2e/day$ |
| Total transport emissions per day | Employee + HGV | 3,671.3kg/day | 3.671 $tCO_2e/day$ |
| Total over 62 months | 3.671 t/day × (286 × 62/12 years) | 3.671 × 1,477.7 | 5,424.9 $tCO_2e$ |

*5.5.1.2 Data centre campus (six identical data centre buildings):*

The LCA completed for the project specific representative data centre building indicates a baseline embodied carbon intensity of 567 $kgCO_2e/m^2$ (internal floor area basis, 14,000$m^2$), equivalent to 7,938 $tCO_2e$ per building. Scaled to six buildings, this equates to 47,628 $tCO_2e$ for the campus construction stage. A low-carbon material upgrade scenario focusing on identified hotspots (notably concrete floor slabs, structural steel, façade panels and secondary steel) indicates a potential reduction of approximately 21.5%, reducing intensity to 445 $kgCO_2e/m^2$ (6,230 $tCO_2e$ per building; 37,380 $tCO_2e$ for the campus).

**Figure 5-1 Graphical representation of carbon optimisation of Data Centre building**




*(source: Admiral EIAR Vol 3, Appendix 3.2 –Meehan Green Admiral LCA Report, 2025)*

*5.5.1.3 Solar PV farm (nominal 180 MWp)*

The embodied carbon (EC) values (kg$CO_2$e) reported for the c.180MWp solar PV farm were calculated using the general methodology set out in How to Calculate Embodied Carbon (IStructE, 2025) and in accordance with PAS 2080 principles – see Table 5-2.

The assessment focuses on construction-stage embodied carbon, comprising the product stage (A1–A3) and construction process stage (A4–A5), with PV modules, the principal balance-of-system (BOS) steel mounting structure, and MV Power Station (MVPS) units treated as the primary carbon contributors. A1–A3 values were derived by multiplying the relevant quantity metric (installed capacity in Wp for PV modules, and unit mass for steelwork and packaged equipment) by appropriate embodied carbon factors sourced from published LCA /EPD-informed references, and then scaling by the installed capacity (up to ~180MWp) and equipment counts. In the absence of confirmed logistics routes, transport modes and installation energy/waste data, A4–A5 was estimated using a consistent proportional allowance applied to A1–A3, to be replaced with calculated A4 and A5 values once delivery distances, plant fuel use, and waste rates are confirmed. Use-stage (B1–B7) and end-of-life modules (C1–C4) are not reported within this table and are addressed separately (see Bitpower reports). Module D (reuse /recovery beyond the system boundary) is reported as an indicative recovery credit using a conservative approach consistent with the planning-stage level of information and is intended to be refined when end-of-life treatment routes and recovery efficiencies are confirmed.

**Table 5-2 Calculated Embodied Carbon – Solar PV Farm**

| Unit | Product | Construction Process | Use | End of Life | | Reuse /Recovery |
|---|---|---|---|---|---|---|
| | A1-A3 | A4-A5 | B1-B7 | C1 | C2-C4 | D |
| | (kg $CO_2$) | (kg $CO_2$) | (kg $CO_2$) | (kg $CO_2$) | | kg (kg CO2)[1] |
| PV Modules (180 MWp -620W modules) | 66,240,000 | 1,987,200 | Covered elsewhere in other documents (Bitpower reports) | No data available | - | -13,662,000 |
| BOS (mounting frames + piles only) (~4,999t) | 12,846,150 | 385,385 | | | - | -8,547,438 |
| MVPS (45 units; placeholder 18t /unit (per datasheet basis) | 2,081,700 | 62,451 | | | - | -104,085 |
| Total | 81,167,850 | 2,435,035 | - | - | - | -22,313,523 |

*5.5.1.4 BESS (250 MW / 2-hour)*

The EC values (kg$CO_2$e) reported for the battery energy storage system (BESS) were calculated using the general methodology set out in *"How to Calculate Embodied Carbon"*

(IStructE, 2025) and in accordance with PAS 2080 principles. The assessment quantifies the product stage (A1–A3) and construction process stage (A4–A5) for the principal packaged items, namely the battery modules, the battery enclosures (non-module balance-of-system) and the MVPS/PCS enclosures. The use stage (B1–B7) and end-of-life stages (C1–C4) are outside the scope of this reporting table and are therefore not included (and are either addressed elsewhere or remain to be confirmed once operational and decommissioning information is available).

For each product, the A1–A3 embodied carbon was calculated by applying an appropriate embodied carbon factor to the best available quantification metric for that product and multiplying by the installed quantity (138 units). Where mass and composition data are available, the underlying approach follows the standard relationship that embodied carbon is the sum of the quantities of constituent materials/components multiplied by their respective embodied carbon factors. In practice, because a full material composition breakdown and product-specific EPDs were not available for all packaged equipment, a simplified approach was applied using supplier specification data. Battery modules were quantified using an energy-capacity basis, which is widely used for lithium-ion module manufacturing where the dominant impacts relate to cell production processes and are commonly expressed per unit of energy capacity. Accordingly, the total installed battery energy was calculated as the number of battery enclosures (138) multiplied by the supplier-stated energy per enclosure (4,917.78 kWh), giving a total installed energy of 678,653.64 kWh. This installed energy was then multiplied by the selected battery manufacturing A1–A3 embodied carbon factor ($kgCO_2e/kWh$) to produce the A1–A3 value reported for the battery modules (67,865,400 $kgCO_2e$, rounded). Table 5-3. presents the calculated embodied carbon figures associated with the construction of the BESS.

**Table 5-3 Calculated Embodied Carbon - BESS**

| Unit | Product | Construction Process | Use | End of Life | | Reuse /Recovery |
|---|---|---|---|---|---|---|
| | A1-A3 | A4-A5 | B1-B7 | C1 | C2-C4 | D |
| | (kg $CO_2$) | (kg $CO_2$) | (kg $CO_2$) | (kg $CO_2$) | | kg (kg CO2)[1] |
| Battery modules (138 enclosures @ 4,917.78 kWh each) | 67,865,400 | 2,035,962 | Covered elsewhere in other documents (Bitpower reports) | No data available | - | -3,393,270 |
| Battery enclosure non-module BOS (138 units) | 5,177,760 | 155,333 | | | - | -258,888 |
| MVPS (138 units, inverter mass only per datasheet basis) | 8,694,000 | 260,820 | | | - | -434,700 |

| Unit | Product | Construction Process | Use | End of Life | | Reuse /Recovery |
|---|---|---|---|---|---|---|
| | A1-A3 | A4-A5 | B1-B7 | C1 | C2-C4 | D |
| | (kg $CO_2$) | (kg $CO_2$) | (kg $CO_2$) | (kg $CO_2$) | | kg (kg CO2)[1] |
| Total | 81,737,160 | 2,452,115 | - | - | - | -4,086,858 |

Note
1 5% conservative estimate of A1-A3 figures used for Module D.
2 Values calculated from technology supplier data specification sheet
3 Factor of 100 $kgCO_2e/kWh$ used

For the packaged enclosure systems, where the table inputs provide overall unit weights but not a verified bill of materials with material percentages, A1–A3 was calculated on a mass basis by multiplying the unit mass by an appropriate A1–A3 embodied carbon factor ($kgCO_2e/kg$) for the equipment category and then multiplying by the installed quantity. The battery enclosure "non-module BOS" line represents the portion of each battery enclosure excluding the battery modules (i.e., ancillary equipment such as HVAC/thermal management, racks, control units and other auxiliaries). Using the stated battery container unit weight of 49 tonnes per enclosure and 138 units installed, the mass-based A1–A3 calculation yields the value shown in the table (5,177,760 $kgCO_2e$, rounded) based on the selected A1–A3 factor. The MVPS/PCS enclosure line was calculated using the same mass-based approach, using the stated MVPS container unit weight of 18 tonnes per unit and 138 units installed, resulting in an A1–A3 value of 8,694,000 $kgCO_2e$ (rounded) using the selected A1–A3 factor for the MVPS equipment.

Construction process impacts (A4–A5) were calculated as an interim estimate due to the absence of confirmed logistics information (transport mode and distances) and construction-stage data (site energy use, waste rates and installation activities). For the purposes of this planning-stage assessment, A4–A5 was taken as a consistent proportional uplift of the corresponding A1–A3 value for each product line, in line with the approach adopted in the table. Specifically, A4–A5 was set at 3% of A1–A3 for each product, producing A4–A5 values of 2,035,962 $kgCO_2e$ for the battery modules, 155,333 $kgCO_2e$ for the battery enclosure non-module BOS, and 260,820 $kgCO_2e$ for the MVPS units (rounded). This proportional method is intended for early-stage reporting only and should be replaced with calculated A4 (transport) and A5 (site activities/waste) figures once supplier origin locations, delivery routes, transport mode and installation energy and waste data are confirmed.

Module D is included in the Table as a conservative estimate of potential benefits associated with reuse, recycling and recovery of materials at end of life, expressed as a credit (negative value). In the absence of a defined decommissioning strategy and confirmed recycling routes and recovery efficiencies, Module D was calculated as a fixed conservative proportion of the

A1–A3 value for each product line, consistent with the note in the table. A 5% factor was applied to A1–A3 and recorded as a negative value to represent potential recovery benefits, giving Module D values of −3,393,270 kg$CO_2$e for the battery modules, −258,888 kg$CO_2$e for the battery enclosure non-module BOS, and −434,700 kg$CO_2$e for the MVPS units (rounded). This Module D treatment should be refined as the project progresses using evidence-based inputs, including the intended end-of-life routes (reuse vs recycling), recovery rates for key material streams (e.g., steel, aluminium and copper), and an agreed substitution methodology consistent with the reporting basis.

Based on the stated inputs and assumptions, total A1–A3 embodied carbon is 81,737,160 kg$CO_2$e and total A4–A5 is 2,452,115 kg$CO_2$e (rounded), with a total Module D credit of −4,086,858 kg$CO_2$e. These figures are suitable for planning-stage reporting and provide a transparent basis for future updates as higher-quality supplier data (e.g., product EPDs, detailed bills of materials, confirmed logistics and installation data, and defined end-of-life routes) becomes available.

#### *5.5.1.5 SOFC*

For the purposes of calculating EC of the SOFC, a fuel cell technology supplier based on the east coast of the USA (Delaware) was used. The calculation also assumes that the fuel cell units are supplied directly from this location. A road transport distance of approximately 150 km was assumed from the manufacturing facility to the port of departure. The units were then assumed to be shipped directly from Delaware to Dublin Port, with no intermediate stops. Finally, a further road transport distance of approximately 150km was assumed from Dublin Port to the project site.

In the calculations, the steel columns and beams were both assumed to be structural steel and therefore assigned the same embodied carbon factors from the database. The density value provided in the database was used to convert the concrete floor and foundation volumes from $m^3$/building to tonnes /building, as required for the embodied carbon calculations in Table 5-5. The EC factors for each lifecycle stage were then multiplied by the corresponding material masses to determine the embodied carbon contribution of each stage.

### Table 5-4 Embodied Carbon Factors for each stage for the various materials-SOFC

| Material | Density (Tonnes/m$^3$) | Embodied Carbon Factors (kg $CO_2$e/kg) | | | |
|---|---|---|---|---|---|
| | | A1-A3 | A1-A5 | C2-C4 | D |
| Concrete Insitu | 2.4 | 0.162 | 0.447 | 0.01 | -0.007 |
| Reinforced Concrete | 2 | 0.207 | 0.228 | 0.01 | 0.025 |
| Structural Steel | 7.85 | 1.660 | 1.944 | 0.011 | -0.3 |

### Table 5-5 Structural Components and their respective weights - SOFC

| Structural Component | Material Weight | Material Weight (Tonnes/structure) | Material Weight (kg/structure) | Material Weight for 6 SOFC structures (kg) |
|---|---|---|---|---|
| Steel Columns | 63.3 (tonne /structure) | 63.3 | 63,300 | 379,800 |
| Steel Beams | 111 (tonne /structure) | 111 | 111,000 | 666,000 |
| Concrete Floor | 725 (m$^3$/structure) | 1,740 | 1,740,000 | 10,440,000 |
| Concrete Foundation | 100 (m$^3$/structure) | 200 | 200,000 | 1,200,000 |

Note
1. Estimate of SOFC supporting structure material weights provided by Project Engineering Team

The embodied carbon value (kg$CO_2$) for each stage was calculated using the relevant formula, where for each stage the unit weight was multiplied by the material composition percentage and the relevant Carbon factor:

Embodied Carbon = ∑ Tot Unit Weight x % Composition x Stage Embodied Carbon Factor

Values in Table 5-6 were calculated using the EC factors presented in the preceding tables. Module D was included as a conservative indicative recovery credit.

### Table 5-6 Calculated Embodied Carbon - SOFC

| Unit /Module | Product | Construction Process | Use kg | End of Life | | Reuse /Recovery |
|---|---|---|---|---|---|---|
| | A1-A3 | A4-A5 | B1-B7 | C1 | C2-C4 | D |
| | (kg CO2) | (kg CO2) | (kg CO2) | (kg CO2) | | (kg CO2) |
| PM5 | - | Covered Elsewhere | Covered elsewhere in other documents (Bitpower reports) | No data available | | |
| PM7 | 10,561,924 | | | | 45,467 | -5,928,863 |
| AC7 | 1,492,209 | | | | 7,097 | -865,872 |
| FP5 | 1,339,926 | | | | 5,768 | -752,158 |
| WDM | 33,218 | | | | 153 | -19,052 |
| Telemetry | 12,227 | | | | 50 | -6732 |
| Steel Columns | 630,468 | 107,863 | | | 4,178 | -113,940 |

| Unit /Module | Product | Construction Process | Use kg | End of Life | | Reuse /Recovery |
|---|---|---|---|---|---|---|
| | A1-A3 | A4-A5 | B1-B7 | C1 | C2-C4 | D |
| | (kg $CO_2$) | (kg $CO_2$) | (kg $CO_2$) | (kg $CO_2$) | | (kg $CO_2$) |
| Steel Beams | 1,105,560 | 189,144 | | | 7,326 | 199,800 |
| Concrete Floor | 1,691,280 | 2,975,400 | | | 104,400 | -73,080 |
| Concrete Foundation | 248,400 | 25,200 | | | 12,000 | -30,000 |
| Total | 17,115,212 | 3,297,607 | - | - | 186,439 | -7,989,497 |

*5.5.1.6 Grid Connection and Ancillary DER Connections*

The EC values (kg$CO_2$e) reported for the grid connection and ancillary DER connections were calculated using the general methodology set out in *How to Calculate Embodied Carbon* (IStructE, 2025) and in accordance with PAS 2080 principles – see Table 5-7.

Planning-stage EC values for the 220kV GIS substation and associated works have been estimated using the EirGrid functional specification and standard arrangement drawings to define the scope and derive indicative quantities, supplemented by material emission factors applied to the available project quantities (e.g., cabling material tonnages) and benchmark rates where detailed design information is not yet available. Stage A1–A3 impacts were calculated by multiplying material quantities estimates (tonnes) by the relevant embodied carbon factors (t$CO_2$e/tonne) and summing across components. Modules A4–A5 were estimated using a consistent allowance pending confirmation of transport routes and site installation activities; and Module D was included as a conservative indicative recovery credit. These values are provisional because full design details are not yet available and the assessment will be updated at the detailed design stage.

**Table 5-7 Calculated Embodied Carbon – Grid Connection and Ancillary DER connections**

| Unit | Product | Construction Process | Use | End of Life | | Reuse /Recovery |
|---|---|---|---|---|---|---|
| | A1-A3 | A4-A5 | B1-B7 | C1 | C2-C4 | D |
| Unit | (kg $CO_2$) | (kg $CO_2$) | (kg $CO_2$) | (kg $CO_2$) | | kg (kg $CO_2$)[1] |
| GIS primary plant – 12 bays | 4,924,452 | 147,734 | No data available | No data available | - | -246,223 |
| Building (slab and steel frame, façade panels | 331,431 | 9,943 | | | - | -8,735 |
| Cabling & ducts – Copper + Aluminium + PE + Insulation | 1,400,015 | 42,000 | | | - | -53,723 |
| Total | 6,655,983 | 199,680 | - | - | - | -308,683 |

Note

1. The estimate values are provisional as full details are not available– to be further developed at detailed design stage

### 5.5.2 Updated construction-phase embodied carbon

Table 5-8 summarises the updated construction-stage embodied carbon estimates currently available for the overall proposed development.

**Table 5-8 Updated Construction Phase Embodied Carbon Estimates**

| Project element | Lifecycle stage | Module(s) | Embodied carbon estimate ($tCO_2e$) |
|---|---|---|---|
| Construction transport | Construction | A4–A5 | 5,425 |
| Data centre campus (baseline) | Construction | A1–A5 | [47,628] |
| Data centre campus (low-carbon option) | Construction | A1–A5 | 37,380 |
| Solar PV farm (180 MWp) | Construction | A1–A5 | 83,603 |
| BESS (250 MW x 2hr) | Construction | A1–A5 | 84,189 |
| SOFC (160MW) | Construction | A1–A5 | 20,413 |
| Grid connection (including 220kV GIS) and ancillary DER connection works | Construction | A1–A5 | 6,856 |
| Total Project | Construction | A1–A5 | 237,866 |

Note 1 Module D values (benefits and loads beyond the system boundary) for Solar PV farm, BESS and SOFC are reported in Table 5-2, Table 5-3, and Table 5-6.

### 5.5.3 Updated operational-phase GHG assessment (Module B6)

Operational GHG emissions arise primarily from energy use (electricity and fuels) to operate IT load, cooling and auxiliary systems (B6), and from maintenance/replacement activities (B2–B5) where included.

Operational energy and carbon modelling for the project is based on energy modelling undertaken by Bitpower. Updated operational modelling assumes a conservative steady operating profile of 66% of maximum demand, 24 hours /day, 365 days /year, yielding an annual electricity demand of 1,445,400 MWh. The modelling uses 2023 EirGrid 15-minute grid carbon intensity data aggregated to hourly values (range 97–478 $gCO_2e/kWh$; annual average 249.1$gCO_2e/kWh$).

For planning purposes, operational emissions are assessed over a 15-year reference study period (2029–2043) – see Table 5-9. This period is considered appropriate because it aligns with the disclosed project energy model, captures the full transition from opening-year and phased ramp-up to steady-state operation, and provides a planning-stage assessment horizon over which utilisation, DER dispatch and grid-carbon assumptions can be modelled with a reasonable degree of confidence. A longer operational assessment window would introduce materially greater uncertainty at this stage in relation to future load growth, replacement cycles, technology performance and grid decarbonisation, whereas the 15-year period captures the project's principal Module B6 operational carbon effects during the period most relevant to planning determination and climate-policy screening. The period should therefore be understood as a planning-stage operational assessment, rather than the full physical life of all project components, and should be updated at detailed design and operational review stages using metered and procurement-informed data.

As mentioned, the model assumes the data centre demand and DER resources ramp from Year 1 to Year 8, reaching a steady-state operation thereafter. The DER configuration includes 184MWp of on-site solar PV, 160MW SOFC and a 500MWh BESS along with grid import. It should also be noted that the BESS is not explicitly credited in the carbon calculations and is therefore a conservative assumption. The operational assessment is presented at an industry-standard average utilisation of 66% of design capacity.

**Table 5-9 DER Operational GHG Emissions**

| Year | Solar PV ($tCO_2e$) | SOFC ($tCO_2e$) | Grid ($tCO_2e$) | DER total ($tCO_2e$) | Notes |
|---|---|---|---|---|---|
| 2029 | 0 | 5,552 | 4,420 | 9,972 | Opening year (ramp-up) |
| 2030 | 0 | 31,630 | 19,290 | 50,920 | Ramp-up |
| 2031 | 0 | 57,740 | 34,810 | 92,550 | Ramp-up |
| 2032 | 0 | 83,840 | 50,410 | 135,250 | Ramp-up |
| 2033 | 0 | 110,110 | 66,120 | 176,230 | Ramp-up |
| 2034 | 0 | 135,740 | 81,480 | 217,220 | Ramp-up |
| 2035 | 0 | 161,210 | 96,770 | 257,980 | Ramp-up |
| 2036 | 0 | 185,920 | 117,830 | 303,750 | Steady-state (66% utilisation) |
| 2037 | 0 | 185,920 | 117,830 | 303,750 | Steady-state (66% utilisation) |
| 2038 | 0 | 185,920 | 117,830 | 303,750 | Steady-state (66% utilisation) |
| 2039 | 0 | 185,920 | 117,830 | 303,750 | Steady-state (66% utilisation) |
| 2040 | 0 | 185,920 | 117,830 | 303,750 | Steady-state (66% utilisation) |
| 2041 | 0 | 185,920 | 117,830 | 303,750 | Steady-state (66% utilisation) |
| 2042 | 0 | 185,920 | 117,830 | 303,750 | Steady-state (66% utilisation) |
| 2043 | 0 | 185,920 | 117,830 | 303,750 | Steady-state (66% utilisation) |

| Year | Solar PV ($tCO_2e$) | SOFC ($tCO_2e$) | Grid ($tCO_2e$) | DER total ($tCO_2e$) | Notes |
|---|---|---|---|---|---|
| Total (2029 - 2043) | 0 | 2,073,182 | 1,295,940 | 3,369,122 | Cumulative operational emissions (66% utilisation) |

The energy model shows that, compared with using the national grid alone, the DER achieves lower electricity carbon intensity across a range of demand levels. At full 250MW demand (worst case, 24/7), the DER achieves 225 $gCO_2e/kWh$ (a 9.7% improvement on the 2023 grid average). At 50MW demand, the DER achieves 94.9 $gCO_2e/kWh$ (a 61.9% improvement on grid). At 66% utilisation, total operational emissions are 3,369,122 $tCO_2e$ over the period 2029–2043 (SOFC: 2,073,182 $tCO_2e$; grid imports: 1,295,940 $tCO_2e$; solar PV: 0$tCO_2e$), peaking at 303,750 $tCO_2e$ per annum from 2036 onwards (steady state).

Based on the operational staffing and trip-generation data stated in the EIAR) (Traffic & Transport chapter) which is part of the EIAR submitted in support of the planning application the following presents the operational traffic carbon emissions for the proposed development

Conservatively applying an indicative travel distance of 50 km per trip, a UK Government GHG conversion factor of 0.1717 $kgCO_2e/km$ for a medium diesel car, and operation over 365 days/year, yields an estimated operational traffic impact of approximately 1,129–1,255 $tCO_2e$/year, equivalent to approximately 16,941–18,822 $tCO_2e$ over a 15-year operational assessment period.

# 6 CARBON MANAGEMENT GOVERNANCE (PAS 2080)

## 6.1 Roles and responsibilities

Indicative PAS 2080-aligned roles are outlined below and will be confirmed in the project governance plan:

- Client /Asset owner: set carbon ambition and targets; ensure carbon requirements are embedded in procurement and decision-making.
- Design team: develop low-carbon options; quantify and report carbon impacts; integrate carbon reduction into design.
- Contractor: develop low-carbon construction methods; manage site emissions, logistics and waste; provide as-built carbon data.
- Operator: manage operational energy and maintenance; collect metered data and update operational carbon performance.

- Suppliers /manufacturers: provide EPDs and product data; support low-carbon procurement and logistics.

### 6.2 Carbon reduction hierarchy and decision process

Carbon reduction will follow a hierarchy consistent with PAS 2080:

- Avoid: challenge the need, right-size capacity, use existing assets where feasible.
- Reduce: optimise structural and MEP design, improve efficiency, minimise waste and over-specification.
- Replace: substitute with lower-carbon materials/technologies (e.g., low-carbon concrete mixes, high recycled-content steel, low-GWP refrigerants).
- Offset /neutralise: only for residual emissions where reduction is demonstrably not practicable, subject to client policy.

### 6.3 Targets and key performance indicators

Project-specific carbon targets will be set once the baseline is established and benchmarked against comparable assets. KPIs should include upfront carbon (A0-A5), whole life embodied carbon (A-C), operational carbon (B6/B7), and intensity metrics relevant to data centres (e.g., $kgCO_2e$ per kW IT load, per $m^2$ gross internal area, and/or per MWh delivered).

## 7 REPORTING, MONITORING AND HANDOVER

### 7.1 Reporting outputs

The following outputs will be produced and updated at each project gateway:

- Carbon baseline and option comparison summary (planning/concept).
- Carbon register of reduction opportunities and decisions (with approvals).
- Embodied carbon report by element and module, including assumptions and data sources.
- Construction emissions and logistics reporting (monthly during construction).
- As-built whole life carbon assessment at completion.
- Operational performance review using metered energy and water (post-occupancy).

### 7.2 Data management and audit trail

A project carbon data room will be maintained to store quantities, emission factors, EPDs, transport assumptions, site fuel and electricity data, and calculation models. Changes will be version controlled to maintain a clear audit trail.

## 8 LIFE CYCLE MODULE DEFINITIONS (SUMMARY)

Life cycle module definitions follow EN 15978 and EN 17472 conventions. The modules referenced in this PCMP are summarised:

| Stage | Module | Typical contents |
|---|---|---|
| A | A0 | Pre-construction activities (studies, surveys, design, stakeholder engagement). |
| A | A1-A3 | Product stage: raw material supply, transport, manufacturing. |
| A | A4 | Transport of products to site. |
| A | A5 | Construction/installation processes, site energy, wastage and waste processing. |
| B | B1 | Use (including fugitive emissions where applicable). |
| B | B2-B3 | Maintenance and repair. |
| B | B4 | Replacement of components over the RSP. |
| B | B5 | Refurbishment. |
| B | B6 | Operational energy use. |
| B | B7 | Operational water use. |
| C | C1-C4 | Deconstruction/demolition, transport, waste processing and disposal. |
| D | D | Benefits and loads beyond the system boundary (reuse/recycling, exported energy). |

## 9 ASSESSMENT - CLIMATE

The proposed development is a carefully considered and technically justified, policy-compliant and climate-responsive form of strategic digital infrastructure. It is not a conventional or legacy “plug-and-play” data centre development. It has been conceived from the outset as a next-generation campus whose design is driven by energy efficiency, decarbonisation, resilience, grid responsiveness and environmental performance. The project materially departs from traditional data centre models by integrating a DER system, rather than relying on a passive grid-only model, and by pairing the data centre campus with renewable generation, battery storage, high-efficiency /low emission fuel cell technology and water-conscious cooling systems.

The wider sustainability strategy is reinforced by the LEED process and this PCMP assessment. The LEED process was used as a design manual during the planning stage, and the LEED pre-assessment recommended pursuit of the LEED Campus Approach, with LEED Gold identified as a likely certification target subject to detailed energy analysis.

This development strategy is consistent with, and gives practical effect to, the prevailing planning, climate and energy policy framework. Ireland's position on data centre development is framed by the 2022 Government Statement on the Role of Data Centres in Ireland's Enterprise Strategy and the Digital Ireland Framework along with CRU policy. These require that new data-centre projects demonstrate economic benefit, efficient use of the electricity grid, renewables additionality, co-location with future-proof power or storage, decarbonisation by design, and wider community and SME benefits. The proposed development aligns with those principles. It is located outside the constrained Dublin area, makes use of existing transmission infrastructure, avoids intensifying grid stress, and provides substantial on-site renewable generation and storage in a regional location where capacity is available. In that respect, the proposed development is not merely policy-compliant; it exemplifies the type of future-facing envisaged by policy.

The DER assets are central to the planning and climate justification for the development and comprising the solar PV farm, BESS, SOFC and a grid connection that allows for the import of low-carbon and /or renewable electricity. This configuration was selected following the consideration of reasonable alternatives and is designed to optimise energy supply on an hourly basis using demand data, DER availability and grid carbon intensity. The evidence provided shows that this is a future-proof and operationally flexible system rather than a conventional grid-reliant data centre model. Comparative assessment of other technologies such as islanded OCGT, islanded CCGT, islanded SOFC, grid-only and grid-plus-solar were included in the Bitpower reports. This found that OCGT would emit approximately 736,000 tonnes of $CO_2$ annually, CCGT approximately 590,000 tonnes, and islanded SOFC approximately 504,000 tonnes. A grid-only approach would be associated with approximately 369,000 tonnes annually, while grid plus solar PV would reduce that to approximately 326,000 tonnes. The selected DER option reduces annual emissions to approximately 304,000 tonnes of $CO_2$, with the benefit of lower on-site air pollutant emissions than conventional combustion technologies. This evidence demonstrates that the DER was not selected arbitrarily and the technologies were chosen with the objective of minimising operational emissions while maintaining resilience and policy compliance.

Project Admiral is aligned with the overarching electricity market and regulatory framework. In terms of grid connection, the development will apply and progress an electricity connection through the competent system operators and comply with all relevant legislation, codes and regulatory policy, including the CRU Large Energy Users (LEU) connection policy and the

EirGrid framework. Renewable electricity procurement arrangements, including any CPPA, will be progressed through the relevant market and regulatory mechanisms.

### 9.1 Ireland's Carbon Budgets (Contextual Screening)

The submitted LCA data provided within this PCMP makes clear that the comparison against Ireland's carbon budgets is intended as a contextual benchmark only, and not as any formal allocation of budget share. The project's construction embodied emissions of approximately 237,866 $tCO_2e$ equate, on a conservative whole-project basis, to approximately 0.124% of the 2026–2030 budget and 0.15% of the 2031–2035 budget. These comparisons are intended to provide context only; they do not constitute a legal allocation of part of the national carbon budget to the proposed development.

The project's modelled operational emissions equate to approximately 0.03% of the 2026–2030 budget, 0.55% of the 2031–2035 budget, and 1.26% of the provisional 2036–2040 budget. When assessed on a time-aligned basis across the budget periods currently available, the project's operational emissions for 2029–2040 represent approximately 0.51% of the combined carbon budgets for 2026–2040.

It is noteworthy that energy modelling undertaken is conservative and does not yet account for a number of further decarbonisation pathways likely to arise over the life of the project, including gas-network decarbonisation, the introduction of biomethane and hydrogen, carbon capture and storage, and renewable electricity procurement through CPPAs. The DER system is expected to perform 20% to 25% better than grid-only operation in annual $CO_2$ terms, with further reductions anticipated through absorption chilling, grid decarbonisation and future market opportunities. While these future measures are not relied upon to establish the acceptability of the proposal today, they reinforce the conclusion that the project has been designed in a way that is capable of decarbonising further over time rather than locking in a static emissions profile.