

Harborough District Council New Local Plan

Regulation 19 Proposed Draft Local Plan Submission

Representations on behalf of Ashfield Land (Harborough)
Limited

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1. INTRODUCTION

- 1.1. These representations are made by Pegasus Group, on behalf of Ashfield Land (Harborough) Limited ('Ashfield Land'), in response to the Proposed Draft Local Plan Submission Plan consultation for the new Harborough District Local Plan.
- 1.2. Ashfield Land have land interests east of the A5 totalling 16.52 hectares. The Site, which is identified on the Site Location Plan at Appendix 1 and Site Constraints Plan at Appendix 2, straddles the boundary between Harborough District and Rugby Borough, with the majority falling within Harborough District. A Concept Masterplan is included at Appendix 3, with a Site Deliverability Statement and accompanying technical work at Appendix 4 although please note that is also supplemented within information within these representations.
- 1.3. These representations have had regard to the published Proposed Draft Local Plan Submission document, relevant accompanying documentation forming the current evidence base, and the national planning context.
- 1.4. The tests of soundness that Development Plans need to meet so as to be legally compliant and found sound, are set out in the National Planning Policy Framework 2024 (NPPF), Paragraph 36:
 - **Positively prepared** – providing a strategy which, as a minimum, seeks to meet the area's objectively assessed needs, and is informed by agreements with other authorities, so that unmet need from neighboring areas is accommodated where it is practical to do so and is consistent with achieving sustainable development;
 - **Justified** – an appropriate strategy, taking into account the reasonable alternatives, and based on proportionate evidence;
 - **Effective** – deliverable over the Plan period, and based on effective joint working on cross-boundary strategic matters that have been dealt with rather than deferred, as evidenced by the statement of common ground; and
 - **Consistent with national policy** – enabling the delivery of sustainable development in accordance with the policies in the Framework.



1.5. The representations have had regard to the following documents forming part of the Local Plan consultation:

- Regulation 19 – Harborough Local Plan 2020–2041 Proposed Draft Local Plan Submission (Doc S-NLP1)
- Duty to Cooperate 2025 (Doc S-NLP2)
- Policies Maps (Doc S-NLP3)
- Proposed Submission Draft Local Plan Sustainability Appraisal (February 2025) (Doc S-NLP4)
- Annual Monitoring Report 2022–2023 (Doc S-NLP9)
- Warehousing and Logistics in Leicester and Leicestershire: Managing growth and change Study (amended March 2022) (Doc EMP-NLP1)
- Harborough Local Employment Land Evidence (Doc EMP-NLP2)
- Strategic B8 Needs Sensitivity Report (Doc EMP-NLP3)
- HENA Report June 2022 (doc HSG-NLP1)
- SHELAA Site Companion guide 2024 (Doc HSG-NLP4)
- SHELAA Interactive Map 2024 (Doc HSG-NLP5)
- SHELAA Assessment Update 2024 (Doc HSG-NLP6)
- Harborough Strategic Transport Assessment (Doc TRP-NLP1)
- South Leicestershire Joint Transport Assessment Stage 1 (Doc TRP-NLP2)
- Leicestershire Local Transport Plan (Doc TRP-NLP3)
- Infrastructure Delivery Plan (Doc INF-NLP1)

1.6. The representations are submitted via email to the Strategic Planning Team at localplan@harborough.gov.uk, and are accompanied by a Representation Form as required.

2. LOCAL PLAN VISION

Local Plan Vision

- 2.1. The Proposed Submission Draft (Regulation 19) Plan sets out a vision for the Local Plan that covers a range of points.
- 2.2. Whilst there is no in principle objection to this Vision, it does not refer to how it has been derived, for example, reference to the District's issues and challenges. That said, it does largely reflect the SA 'Sustainability Framework' objectives set out in the SA itself (Doc S-NLP4).
- 2.3. NPPF paragraph 33 identifies that local plans should be informed throughout their preparation by an SA which meets the relevant legal requirements, and which should demonstrate how the Plan has addressed relevant economic, social, and environmental objectives. The purpose of the SA is to assess the sustainable development implications of the proposals presented in the Proposed Submission Draft Local Plan, where the SA outputs should have informed the Council's Vision, Objectives, Spatial Strategy and policies.
- 2.4. The SA has utilised a Framework to evaluate how the different reasonable alternatives for growth and the policies of the emerging Plan perform against the 14 SA objectives, identified in Chapter 3 of the SA. These are:
 - 1 – Minimise greenhouse gas emissions and develop a managed response to the effects of climate change
 - 2 – Protect, enhance and manage biodiversity and geodiversity
 - 3 – Support efficient use of resources, including soils
 - 4 – To conserve and enhance the historic environment including the setting of heritage features
 - 5 – Protect and improve air quality
 - 6 – Safeguard and improve health, safety and wellbeing
 - 7 – Achieve social inclusion and equality for all
 - 8 – Provide access to services, facilities and education
 - 9 – Provide affordable, sustainable, good-quality housing for all

- 10 – Support the sustainable growth of the economy and provide employment opportunities
- 11 – Reduce waste generation and increase levels of reuse and recycling
- 12 – Manage and reduce flood risk from all sources and protect the quality and quantity of water resources
- 13 – Promote sustainable transport use and active travel
- 14 – To conserve and enhance the character and distinctiveness of the landscape

2.5. However, whilst the Vision refers to the SA objectives, it is not well defined.

2.6. The Plan's Vision should inform its proposed objectives: it is the Plan's objectives, and the policies derived from those objectives that will collectively guide development in Harborough District. Crucially, this vision should include reference to sustainable economic growth and creating the conditions to allow businesses to invest and expand over the plan period. This will ensure consistency with Paragraph 86(a) of the NPPF, which states that plans should set out a clear economic vision and strategy. It should also provide a commitment to meet the needs for employment land, which will be critical to achieve growth. The inclusion of this within the Local Plan's vision will directly align with Paragraphs 85 and 86 of the NPPF. This will ensure that the vision is consistent with national policy in this regard, which is required in order for the plan to be found sound at examination.

2.7. Including such detail will accord with the Council's Corporate Plan which sets out an aim for the district to "*deliver a prosperous local economy*", encouraging further economic growth in the district. Corporate Objective 19 refers to supporting enterprise, whilst Corporate Objective 23 of the Plan encourages the generation of a variety of opportunities for employment in the district, to help create prosperity. These aspirations align with Section 6 of the NPPF which refers to building a strong and complete economy.

Chapter 3: Our Development Objectives

2.8. The proposed Local Plan objectives are supported in principle by Ashfield Land. Objective 2, which refers to "*Creating jobs and diversifying the economy*" (bullet point two) has been amended from the Issues and Options consultation which referred to attracting inward investment as well.

2.9. To be found sound, sufficient employment land needs to be identified in order to provide the floorspace and create the jobs required for there to be economic growth within the Borough, to achieve the ambitions in both the Corporate Plan and national policy. This matter is discussed in more detail within the remainder of these representations but the objective here, and indeed the Vision, should refer to the wider aspirations of the Strategic Growth Plan: Leicester and Leicestershire 2050 Vision, which refers to the aspirations and collaborative growth agenda of the relevant partners across Leicestershire.

Duty to Co-Operate

2.10. Ashfield Land support Harborough District Council's approach to cross boundary matters and the duty to co-operate.

2.11. The submitted Duty to Cooperate statement (Doc S-NLP2) identifies (page 41) that planning for growth in the logistics sector (Use Class B8 for storage) is a strategic cross boundary matter, particularly for development within the 'golden triangle' identified in the Warehousing and Logistics in Leicester and Leicestershire: Managing Growth and Change report. It also identifies that the identified need within Leicestershire for 718,875sqm of rail served and 301,293sqm of non-rail served logistics sites up to 2041. It is noted that this is to be apportioned across the Leicestershire Authorities.

2.12. In principle this is supported, but there is no indication as to how that need will be apportioned, and the Duty to Cooperate instead refers to a Leicester and Leicestershire wide strategic B8 study, which *"may impact upon the approach taken within the draft HDC Local Plan."*

2.13. The apportionment of need and how it impacts the Harborough Local Plan must be understood and fully addressed in order for the Plan to be found sound. In addition, the refusal of the Nationally Significant Infrastructure Project at the Hinckley National Rail Freight Interchange and its impact on the need for rail freight floorspace must also be understood and addressed in order for the Plan to be found sound or it will not be fully justified or effective.

3. PART 1: OUR SPATIAL STRATEGY TO MEET DEVELOPMENT NEEDS (STRATEGIC POLICIES)

Chapter 4: Overall Development Strategy

Policy DS02: Development Strategy: Creating Jobs and Diversifying the Economy

- 3.1. The draft policy seeks to encourage job creation within Harborough and to deliver 60 hectares of employment land across the Plan period between 2020 and 2041.
- 3.2. This includes for a minimum of 16.4 hectares for Business Uses (Office and Light Industry (E9g)(i)-(iii), general Industry (B2) and non-strategic Storage and Distribution (B8) in units of less than 9,000sqm, to be delivered in locations identified in Policy SA01.
- 3.3. The policy also seeks to provide for 340,000sqm of Strategic Distribution operations (B8) in units of more than 9,000sqm. Specifically, the policy and site allocations provide for this development to be delivered at Magna Park.
- 3.4. The employment development that the Council is planning for in the Proposed Submission Plan is not sound. As set out in the proceeding submissions, there is a lack of flexibility in the Policy to deliver alternatives, not enough certainty on identified sites and an incomplete evidence base about the apportionment of regional need. The matters are not justified, meaning they will not be effective with reference to the paragraph 36 tests of the NPPF.

Leicester and Leicestershire Evidence

- 3.5. The Leicester & Leicestershire Housing & Economic Needs Assessment (HENA) was produced by Icenl in April 2022 and updated two months later, in June 2022. This identifies, in Table 13.2 that 194,000 square metres of industrial and distribution floorspace (48.5 hectares) are required over the plan period to 2041. However, this is only the requirement for 'local' employment floorspace (i.e. what the draft Plan refers to as units under 9,000sqm). There is also a need, as referred below in these representations for 'strategic' Use Class B8 floorspace.
- 3.6. The 2021 (amended 2022, Doc EMP-NLPI) Warehousing and Logistics in Leicester and Leicestershire: Managing Growth and Change report recommended that the 'authorities' covered by the report plan for around 2.5 million sqm of B8 floorspace to 2041.

- 3.7. It identified a shortfall of 768,000sqm (307ha) at rail served sites which should be planned for (although it was noted that the Hinckley National Rail Freight Interchange (NRFI) would take up an amount of that if approved). A 392,000sqm (112ha) shortfall was also identified at non-rail served sites.
- 3.8. The report identifies at paragraph 17.2 that the attractiveness of the Golden Triangle for logistics employment in Harborough and wider Leicestershire is unlikely to diminish, suggesting that the demand for this land and growth of the sector will continue to increase in the longer term.
- 3.9. Whilst the Council have not sought to name the HENA in their evidence base it is an important part of the data and evidence base that informs the understanding of the amount of employment land required to be delivered in Harborough by the Local Plan.

Harborough Evidence

- 3.10. The Council's Doc EMP-NLP2, Harborough Local Housing and Employment Land Evidence (February 2025) identifies that B8 uses for storage and distribution and wholesale and retail trade make up 31% of Harborough's job opportunities. The District's Central UK location is attributed to the popularity of such economic activity and investment.
- 3.11. This document does take reference from the June 2022 Icen HENA report, reiterating the local (excluding strategic B8) industrial needs set out in that report. It goes on to update that figure, referring to a need (excluding strategic B8 uses) for 50.6ha of employment land requirements for the Plan period (Table 10.6). Paragraph 10.36 of the same report concludes that 60ha of (local, not strategic B8) employment land should be planned for across the Plan period 2020-2041. The 60ha set out in Policy DSO2 accords with this figure.
- 3.12. Of the identified need, the same report identifies at Table 12.2 that the supply position for local employment land delivery (not strategic B8) is 25.2ha. Table 12.3 identifies that in quantitative terms, at 31 March 2023 there is a residual need to plan for 11.1ha of additional non-strategic Use Class B8 units (<9,000sqm). Whilst overall there would be a modest employment land oversupply (across all uses) of 5.9ha of land, this is dependent on a number of unconsented land areas being consented/allocated. It is noted that the Council are planning for this need in Policy DSO2 for local supply employment sites.

- 3.13. Doc EMP-NLP3 Strategic B8 Needs Sensitivity Report (December 2024) was undertaken to provide an updated assessment of the need for strategic (units of >9,000sqm) additional Use Class B8 development across Leicester and Leicestershire, with specific regard to the proportion of this need that should be met in Harborough. It is noted that the Report identifies that this is an 'interim basis' and additional updated joint work across Leicester and Leicestershire will be undertaken and that that work will not be predetermined by the findings of the Dec 2024 Report.
- 3.14. The Report notes that there is ongoing and continued growth and demand for B8 units across Leicester and Leicestershire, concluding at para 5.38 that there is a residual need for strategic B8 development of 537ha to 2041 (should the Hinckley National Rail Freight Interchange (NRFI) have been approved this would reduce to 277ha, but the NRFI was refused in March 2025).
- 3.15. Harborough has historically satisfied 25.5% of the area's total absorption. Applying that to the residual need identified means Harborough should be planning for 137ha of additional strategic B8 space.
- 3.16. The Report also identifies that Harborough is within the most suitable location for the delivery of B8 development with reference to its location on the Strategic Road Network (SRN) and Main Road Network (MRN) within Leicester and Leicestershire. The most appropriate 'Areas of Opportunity' cover the area where the A5 links to the M1, and also to the M6 further south. These are areas that should be prioritised as locations for strategic B8 development, where development can be delivered within a 5 mile drive of the M1, junction 20, a key requisite.
- 3.17. Paras 6.25-6.29 refer to the residual need for strategic B8 development within Harborough, assuming that the NRFI is permitted. It was refused. The report notes that if the NRFI is refused there will be a residual rail need, which could be met at 'satellite' road-based sites with good access to a Rail Freight Interchange (RFI). This would include sites along the A5, which have good accessibility to the rail freight interchange at Birch Coppice and it would be reasonable for the Harborough Local Plan to identify needs to support this requirement.
- 3.18. The report concludes that it would be appropriate for Harborough to plan for between 100 – 140ha of land for strategic B8 development. This could be altered once the updated Leicester and Leicestershire Strategic B8 Need and Apportionment exercise is complete and agreed

via a Statement of Common Ground. Draft Policy DS02 proposes 2 sites, both at Magna Park, to meet this requirement, across 2 sites of 15.8ha and 122ha.

- 3.19. The amount of employment land proposed in the Proposed Submission version of the Plan does therefore, appear to accord with the relevant evidence base, at this time.
- 3.20. But the impacts of the refused NRFI scheme are not fully understood, the evidence base and particularly the B8 Needs Sensitivity Report are intended as an 'interim' position. The requirements should be fully understood, and an agreement reached between the Leicester and Leicestershire authorities on the apportionment of the additional need. The constrained nature of some authorities such as Oadby and Wigston and Leicester City itself, and locational considerations, with access along the A5 to other RFI facilities mean Harborough should deliver some of the additional need.

Delivery

- 3.21. The Plan figures are predicated on a number of sites that it is 'assumed' will be allocated or consented when calculating supply, reducing the overall residual figure. If any of those sites do not come forward the Plan will face an under supply of employment land.
- 3.22. Para 86e) of the NPPF states that policies should be *"flexible enough to accommodate needs not identified in the plan and allow for new and flexible working practices and spaces to enable a rapid response to changes in economic circumstances."*
- 3.23. The identification of only 2 strategic B8 sites within the Plan is not considered sound, particularly as one site is 122ha in size. Draft Policy SA01 identifies that the Magna Park draft allocation at Mere Lane may impact on existing residential properties abutting the north western boundary, and that noise impacts will need to be undertaken to assess potential impacts, stating that unacceptable impact must be appropriately mitigated, including on the amenity of existing residents close to the site and in Ullesthorpe. It also notes that lighting impacts and air quality assessment work will also be required.
- 3.24. Magna Park consists of a large amount of strategic warehousing, and it is possible that there is scope to extend it further to provide additional units. However, Ashfield Land contend that the focus should not solely be on Magna Park. Instead, the focus should be within the wider Areas of Opportunity as identified in the Warehousing and Logistics April 2021 (amended March 2022) report. Area of Opportunity 6 covers areas of Harborough District. The report

makes clear, in paragraph 11.11, that new land should be allocated within Areas of Opportunity, particularly where there is an undersupply in strategic sites. This suggests that other locations beyond those which are established like Magna Park can be brought forward.

- 3.25. Paragraph 11.17 goes on to list the criteria which should be considered when deciding whether to allocate a new site for strategic warehousing. This includes good connections to the highway network; appropriate location in relation to markets the warehouse will serve; large and flexible configuration; served from an electricity supply grid with capacity to charge battery-electric freight vehicles; accessibility to labour, able to be served by sustainable transport, and close to areas of employment need; and whether there are incompatible land-uses. It is noted that greenfield sites can be allocated for warehousing in the Areas of Opportunity providing that this criterion is met. Therefore, warehousing does not have to be restricted to Magna Park and smaller sites should also be allocated to ensure that warehousing can be provided in the immediate term, so that the shortfall and need identified in the Warehousing and Logistics can begin to be met
- 3.26. The Mere Lane site in particular, is a large draft allocation. Large sites can take significant time to come forward not least because of the infrastructure required to support them. Allocating one main site to deliver strategic B8 need also conflicts with Para 87b) of the NPPF which advocates for the delivery of storage and distribution operations *“at a variety of scales and in suitably accessible locations”*.
- 3.27. In addition, dependent on phasing matters and provision of infrastructure to link to the rest of Magna Park, the site may not be able to come forward quickly enough to meet identified demand and this may be a barrier to investment and job creation in turn, contrary to NPPF para 86d.
- 3.28. In addition, the inclusion of a range of sites is supported by Paragraph 87, which sets out a clear expectation for policies to recognise and address the specific locational requirements of different sectors, including for industry, storage and distribution at a **variety of scales**.
- 3.29. This raises a number of questions over the soundness of the proposed allocation of land to meet all strategic B8 requirements at Magna Park. If impacts cannot be mitigated, particularly when considered on a cumulative basis alongside existing development, the land will not be suitable for employment development. Mitigation may reduce the potential allocation in

terms of size and developable area. Unless such matters are fully evidenced the Proposed allocation cannot be found sound.

3.30.

3.31. On that basis, the Plan should identify additional sites to cater for B8 development, to address the shortcomings of the Plan as drafted:

- No consideration of how the Plan will meet identified 'local' need if allocated/consented sites are not delivered
- Unclear picture of the impact of the Hinckley NRFI refusal on the requirement for strategic B8 delivery in Harborough and lack of agreement between Leicester and the Leicestershire authorities
- Lack of flexibility or alternatives should a large site not deliver on infrastructure or services, or be delayed in delivery, contrary to NPPF requirements and leading to potential lack of investment.

3.32. As drafted Policy DSO2 is unsound as it is not fully justified, and will not be effective as it is not consistent with national policy.

Policy DSO5: Supporting Strategic Infrastructure

3.33. This policy is supported in principle as infrastructure is key to delivering a successful development.

3.34. Ashfield Land, however, make specific comments on the A5 infrastructure, and how development of their land interests may provide some improvement to the efficiency of existing infrastructure, which would be a public benefit. These matters are discussed further in Section 5 below.

Policy APO4: Development in the Countryside (Commercial/Non-Residential)

3.35. The draft policy sets out a number of circumstances in which development will be permitted for commercial/non-residential uses in the countryside.

3.36. There is no objection to this policy in principle, however what it does not do is set out how proposals for other uses will be considered. The policy as drafted is therefore not sound as it will not be effective. It should include consideration of other uses, which may come forward



to meet a specific need, or meet a locational requirement, and which may therefore be acceptable.

4. SUSTAINABILITY APPRAISAL

- 4.1. The Sustainability Appraisal (SA) (February 2025, Doc S-NLP4) published alongside the Reg 19 Proposed Submission Version Local Plan refers to the options and reasonable alternatives considered for employment land development in Harborough at Chapter 4.
- 4.2. NPPF paragraph 33 identifies that local plans should be informed throughout their preparation by an SA which meets the relevant legal requirements, and which should demonstrate how the Plan has addressed relevant economic, social, and environmental objectives. The purpose of the SA is to assess the sustainable development implications of the proposals presented in the Proposed Submission Draft Local Plan, where the SA outputs should have informed the Council's Vision, Objectives, Spatial Strategy and policies.
- 4.3. The SA has utilised a Framework to evaluate how the different reasonable alternatives for growth and the policies of the emerging Plan perform against the 14 SA objectives, identified in Chapter 3 of the SA. These are:
- 1 – Minimise greenhouse gas emissions and develop a managed response to the effects of climate change
 - 2 – Protect, enhance and manage biodiversity and geodiversity
 - 3 – Support efficient use of resources, including soils
 - 4 – To conserve and enhance the historic environment including the setting of heritage features
 - 5 – Protect and improve air quality
 - 6 – Safeguard and improve health, safety and wellbeing
 - 7 – Achieve social inclusion and equality for all
 - 8 – Provide access to services, facilities and education
 - 9 – Provide affordable, sustainable, good-quality housing for all
 - 10 – Support the sustainable growth of the economy and provide employment opportunities
 - 11 – Reduce waste generation and increase levels of reuse and recycling
 - 12 – Manage and reduce flood risk from all sources and protect the quality and quantity of water resources

13 – Promote sustainable transport use and active travel

14 – To conserve and enhance the character and distinctiveness of the landscape

- 4.4. Within the SA, three options were considered in terms of the amount of employment growth that the Plan would provide for. These are identified as ‘low’, ‘medium’ and ‘high’ levels of growth but no quantum or size parameters are included in the SA.
- 4.5. The SA concludes that the ‘low’ level of growth would not be appropriate, and goes on to discuss the medium and high level options, but again there is no discussion on the quantum of development that are being assessed.
- 4.6. There are also three spatial options considered in the SA for the location of employment development. None of those options include new locations that would meet locational requirements and aspirations. Particularly for B8 uses, where the Council’s own evidence base sets out the locational requirements, and identifies optimum locations, for such development, including rail freight locations that would have access to other facilities particularly now the Hinckley NRFI has been refused.
- 4.7. The SA is not considered to have fulfilled its legal requirements to justify the Local Plan strategy. In neither referring to the quantum of development being considered at each ‘growth level’ for employment land, nor including for all reasonable alternatives in terms of the location of that growth, it is failing its legal requirements and the Local Plan itself cannot be considered to have proposed a sustainable strategy.
- 4.8. The SA has appraised the Ashfield Land’s interests south of Gibbet Lane, as well as the proposed allocations of land for strategic B8 employment development at Magna Park.
- 4.9. Ashfield Land’s land interests perform better than the proposed allocation of land of 15.8 hectares south of George House, Coventry Road with reference to Objective SA6 regarding safeguarding and improving health, safety and wellbeing, and comparatively for all other objectives.
- 4.10. Further, it is considered that the assessment of the land south of Gibbet Lane in respect of SA Objectives 12 and 14 should be reconsidered. Consultant work is being undertaken on flood risk and drainage to ensure the development will not increase the risk of flooding elsewhere, and detailed advice has been provided on landscape such that the development can be adequately assimilated into the landscape with no long-term significant adverse



effects. As such the impact for both SA Objectives 12 and 14 should be neutral and minor adverse or neutral respectively. Similarly, with a requirement to deliver 10% BNG, Objective SA2 should be considered neutral, or even minor positive. The proposed development will have no impact on any heritage assets and therefore the impact should be neutral.

- 4.11. Other matters have been considered based on site knowledge and any ambiguity such as the use of 'question marks' has been addressed.
- 4.12. Taking those matters into account it will actually perform better than the two proposed strategic B8 allocations, Table 1 provides a visual comparison.
- 4.13. In order to fulfil the relevant legal requirements, the SA must be reviewed and updated, or the Plan cannot be found sound. In addition, all SA Objectives and site reviews should not result in ambiguity over potential effects but take into account site specifics for each and provide a view on the potential impact on the relevant objective.



Site ID	Nearest Settlement	Area	Site Name	SA1	SA2	SA3	SA4	SA5	SA6	SA7	SA8	SA9	SA10	SA11	SA12	SA13	SA14
21/8074	Shawell	South West (Grid 8)	Land south of Gibbet Lane	0	-	-	0	0	++	0	-	0	++	0	-/0	+	-/0
24/0595	Lutterworth	South West (Grid 6)	Land south of George House, Coventry Road, Land to the south of the A4303	0	-?	--/0?	-?	0	+	0	-	0	++	0	--/0	+	--?
24/12227	Lutterworth	South West (Grid 8)	Lant at Mere Lane, Magna Park	0	-?	00?/-?	-?	0	++	0	0	0	++	0	--/0	+	--?

Table 1: SA Assessment with updated information on land south of Gibbet Lane, Shawell

5. LAND SOUTH OF GIBBET LANE, SHAWELL

- 5.1. Ashfield Land is promoting land south of Gibbet Lane (see Site Location Plan at Appendix 1) for future employment uses. The Site is to the north east of Rugby Town Centre and north west of the settlement of Shawell. Totalling 16.52ha, the south western part of the Site, adjacent to the A5, falls within Rugby Borough Council's administrative area, whereas the majority of the site is in Harborough District.
- 5.2. The Site is bound by the A5 to the south and west, and Gibbet Lane to the north. It adjoins land associated with the BMI Redland Shawell Plant, and beyond this is the Shawell Sand and Gravel Quarry, operated by Tarmac.
- 5.3. The Site falls within Zone 1 and is at a low risk of fluvial flooding. It is also at a low risk of surface water (pluvial) flooding, although there are some parts of the Site at its southernmost extent adjacent to the A5 that are at a medium risk of surface water flooding. The Site is not in a Conservation Area, nor does it contain any listed buildings.
- 5.4. Other features in the wider vicinity include two Local Wildlife Sites, to the north of Gibbet Lane and to the east along Gibbet Lane. There is a Scheduled Ancient Monument to the south east, on the opposite side of the A5.
- 5.5. The Site has most recently been utilised for quarrying, and excavation of materials under permission granted by Leicestershire County Council on 17 December 2019 (ref: 2018/CM/O147/LCC) for an extension of the surrounding uses, to allow the extraction of sand and gravel at the Site the subject of this enquiry. All minerals (sand and gravel) have been extracted from the Site, and quarrying works have now ceased. Restoration plans have been approved for the restoration of the land to agriculture at the cessation of the quarrying. The restoration plans approved includes that the land will be returned to an agricultural use, a combination of arable and grassland (for pasture) in the form of a shallow bowl, complete with a balancing pond. There is no public access to the site and no public rights of way.
- 5.6. The Site has previously been promoted through the Council's 'call for sites' process and is identified in Harborough's Strategic Housing and Economic Land Availability Assessment (SHELAA) 2024 as Site 21/8074 (Land South of Gibbet Lane). In this, it was concluded that the site was developable, but at the time it was only considered to be potentially suitable and potentially available, but not currently achievable due to the ongoing quarrying works.



- 5.7. In the 2024 HELAA the Site was reconsidered (ref: 24/10255) and considered to be available. Concerns were raised about viability to provide a new roundabout access to the A5 affecting Achievability, and the site's location being in the open countryside and at least 1km from economic or population centres. Notwithstanding, it was considered 'developable' overall, within a timeframe of 11-15 (and beyond) years.
- 5.8. The Site sits within the logistics/employment development 'Golden Triangle' and, as referred to above, is exceptionally well located for such development and within an Area of Opportunity (as per relevant evidence base documents referred above) for the delivery of future employment floorspace, being within 5 minutes' drive of the Strategic Road Network.
- 5.9. Quarrying has now been completed and whilst the Site is to be restored in accordance with the County Council approvals, it is immediately available for development and could deliver high quality employment development to meet the needs of the District to 2041, supporting its position within the Golden Triangle, contributing to the economy and creating jobs.
- 5.10. Ashfield Land are a proven property company. The business has been established for 35 years and have a strong track record and history of development delivery across all sectors, with the ability and expertise to bring land forward and deliver development quickly.
- 5.11. It would also provide a location on the A5 to deliver some of the residual B8 strategic employment land arising from the refusal of the Hinckley NRFI. Located on the A5 it would have access directly to the Birch Coppice RFI, which would be considered suitable in accordance with the Council's evidence base referred to in Section 3 above.
- 5.12. The Applicant has considered potential site constraints and is undertaking detailed technical work on a number of matters to demonstrate its suitability and deliverability. This is summarised below.
- 5.13. In terms of highways and transport, a roundabout off the A5 would provide the most suitable access into the Site, similar to that serving Magna Park a short distance to the north. Pre-application discussions have been held with National Highways, Warwickshire County Council Highways and Leicestershire County Council Highways.
- 5.14. National Highways has confirmed that in principle a roundabout access onto the A5 would be acceptable.



- 5.15. Gibbet Lane as a whole has also been considered. Feasibility work is currently being undertaken to understand whether Gibbet Lane could be closed to traffic, with traffic being routed through the Ashfield Land site onto the A5. In turn, there is an opportunity for the Gibbet Lane arm of the Gibbet Lane roundabout to the north west to be closed. It is anticipated that removing an arm of the roundabout would deliver a significant benefit and improve the safety, efficiency and operation of a roundabout that is currently operating over capacity, with no potential solution having been identified by National Highways to address its inefficiencies.
- 5.16. In addition, discussions are being held with Arriva about the delivery of a bus service to serve development on the Site, to provide a sustainable mode of transport for future employees and improve the site's sustainability credentials, overcoming the issue flagged by the SHELAA.
- 5.17. The Site has been the subject of an Environmental Impact Screening Opinion (LPA Ref: 24/O1675/SCR), which concluded that development on the site would not require environmental impact assessment
- 5.18. A Site Layout (Concept Masterplan) has been prepared and can be found in Appendix 3 (Drawing ref: O611 P01). This demonstrates that the Site could accommodate 58,138sqm (GIA) of employment floorspace for Use Class B8 operations. The Masterplan has been prepared to allow for a bus service turning circle, to take account of landscape constraints and opportunities, ecological considerations and site levels, and indicatively identifies a range of units from 15,000 – 24,000sqm, with access off the A5. Parking is provided for each unit including level access and dock loading doors as required for operational purposes, and units would be designed to accommodate business requirements for employment operators.
- 5.19. It also shows that traffic from Gibbet Lane would be routed through the Site, enabling the Gibbet Lane roundabout improvements mentioned above.

6. SUMMARY

- 6.1. These representations have been prepared by Pegasus Group on behalf of Ashfield Land, who have land interests east of the A5 and south of Gibbet Lane, on the boundary between Harborough District and Rugby Borough. This land is being promoted for employment uses, specifically warehousing.
- 6.2. Whilst the Reg 19 Proposed Submission Plan covers numerous matters and strategic and non-strategic policies due to our client's aspirations for the Site, representations have mostly been provided on employment land requirements and draft allocations. Comments have also been provided in relation to the overarching vision and objectives for the plan, as well as the Sustainability Appraisal. More information about the Site south of Gibbet Lane and its merits as a future employment site were set out in the preceding chapter. It is suitable, available and deliverable and could deliver employment land to meet an identified need for B8 uses within the district and also a wider regional need, particularly following the refusal of the Hinckley NRFI.
- 6.3. In line with the locational criteria set out in the set out in the HENA and the Warehousing and Logistics April 2021 (amended March 2022) report, employment growth should occur in locations with excellent links to the strategic road network, which are accessible to labour, and positioned where they can serve the market. Paragraph 8 of the NPPF is clear that the right type of land should be available in the right places to support growth, and such sites can exist in more rural locations, detached from any settlement, but optimally located for employment in this respect, particularly on the A5 corridor which provides access to the Birch Coppice RFI, as Ashfield Land's site would do.
- 6.4. On a related point, strategic warehousing should not be restricted to Magna Park, as there are other, smaller sites which can be brought forward immediately to meet the pressing need for this type of employment land. Indeed, Paragraph 87 of the NPPF makes clear that policies should recognise and address the specific locational requirements of different sectors, at a variety of scales. In addition, there are many alternatives within the district which meet the locational criteria identified within the Warehousing and Logistics April 2021 (amended March 2022) report.
- 6.5. Land south of Gibbet Lane is exceptionally well located and can be brought forward **immediately** to deliver an employment development. This can contribute towards meeting



a need in the immediate term which is identified within the evidence base reviewed as part of this consultation. Appendix 4 contains a Site Deliverability Statement which provides additional information on the Site and its potential development, including technical considerations.

- 6.6. Ashfield Land welcomes the opportunity to continue to comment upon the Local Plan Review and being kept updated of its progress.



APPENDIX 1: SITE LOCATION PLAN



Barn Yard House

A426

A5

GIBBET LANE

Green Lane Spinney

A5

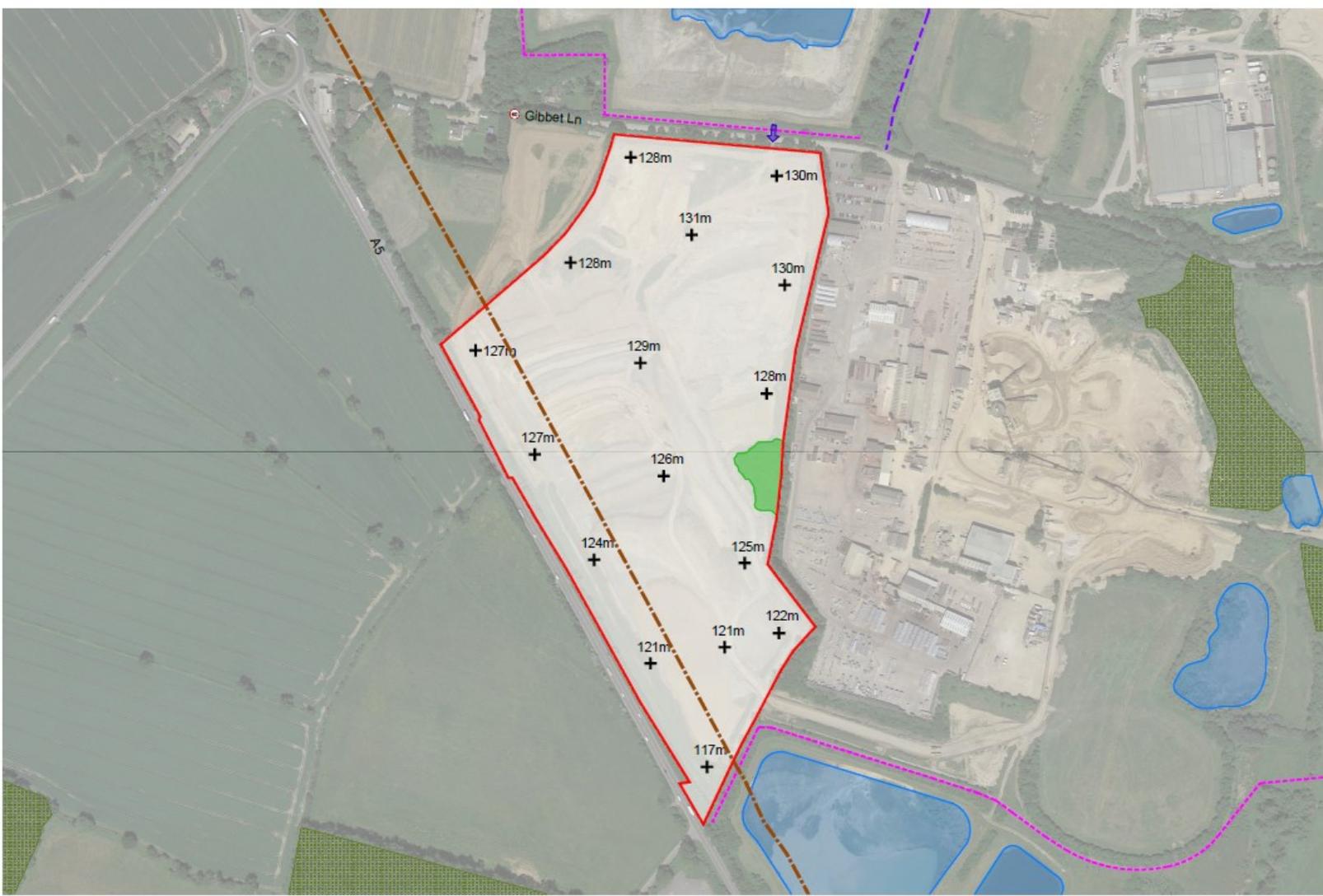
A5

Newton Spinney



APPENDIX 2: SITE CONSTRAINTS

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POI: Gibbet Lane, Shawell
 Grid: OSGB36
 Scale: 1:1000

Site Constraints	
LOD 1	LOI 1

Spot Heights: Google Earth	Indicated	Flood Zone 2	Not Present	Ancient Woodland	Not Present	COMAH DPZ	Unknown	Gas Mains	Unknown
Sensitive Viewpoints	Unknown	Flood Zone 5	Not Present	SSSI, SPA, LAMP etc.	Not Present	COMAH Inner Zone	Unknown	Water Mains	Unknown
Noise Sensitive Boundaries	Not Present	Flood Defence	Not Present	Scheduled Monuments	Not Present	COMAH Middle Zone	Unknown	Surface Water Sewer	Unknown
Speed Limits and Road Names	Indicated	River / Watercourse/ Ponds	Indicated	Cat A Root Protection Area	Unknown	COMAH Outer Zone	Unknown	Foul Water Sewer	Unknown
Vehicle Access	Indicated	Archaeological Features	Unknown	Cat B Root Protection Area	Unknown	Overhead Cables	Unknown	Major Infrastructure Cables	Unknown
Pedestrian / Cycle Access	Unknown	Protected Species	Unknown	Cat C Root Protection Area	Unknown	High Voltage	Unknown	Substation	Unknown
Rail	Not Present	Badger Setts	Unknown	Cat D Root Protection Area	Unknown	Low Voltage	Unknown	Mast	Unknown
Bus Stop	Not Present	Existing Vegetation	Indicated	Public Right of Way: Footpath	Indicated	Virgin Media	Unknown	Wind Turbine	Unknown
Height Restrictions	Unknown	Priority Habitat	Indicated	Public Right of Way: Bridleway	Indicated	BT / Conns.	Unknown	Contaminated Ground	Unknown
Listed Buildings	Not Present	Tree Protection Order	Unknown	Private Means of Access	Unknown	Oil Pipeline	Unknown		

Site Boundary	41.64 acres (16.93 ha)	Title Plans reference	Unavailable
Local Planning Authority	Rugby Borough Council Warwickshire Borough Council	Topographical Survey reference	Unavailable
Parking Standards	B2: 1:cos² B3: 1:cos²	Ordnance Survey reference	Unavailable
		Document Reference:	reference

Scale bar	0m to 200m	Scale	1:1000
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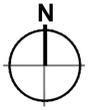
RIBA Plot Stage: 0 - Strategic Definition
 Document Authority: 01
 Design Checker: JF / MD
 Date: 09/10/2023
 Scale: 1:1000 A1
 UMC Project Number: 2304
 Document Reference: Drawing no: 001
 2304 - UMC - 2001 - 01 - DR - A - 001



APPENDIX 3: CONCEPT MASTERPLAN



- Dimensions are in millimeters, unless stated otherwise.
 - Scaling of this drawing is not recommended.
 - It is the recipient's responsibility to print this document to the correct scale.
 - All relevant drawings and specifications should be read in conjunction with this drawing.



Schedule of Accommodation

Total GIA	-	625,791 ft²	(58,137 m²)
Site Area	-	41.84 acres	16.93 ha
Site Density GIA	-		34.34%

Unit 100

Warehouse Area	-	197,635 ft ²	(18,361 m ²)
Office Area (incl. GF core)	-	10,401 ft ²	(966 m ²)
Transport Office	-	2,500 ft ²	(232 m ²)
Gatehouse	-	300 ft ²	(28 m ²)
Unit 100 GIA	-	210,836 ft²	(19,587 m²)

Unit 200

Warehouse Area	-	148,906 ft ²	(13,834 m ²)
Office Area (incl. GF core)	-	7,837 ft ²	(728 m ²)
Gatehouse	-	300 ft ²	(28 m ²)
Unit 200 GIA	-	157,043 ft²	(14,590 m²)

Unit 300

Warehouse Area	-	242,357 ft ²	(22,516 m ²)
Office Area (incl. GF core)	-	12,755 ft ²	(1,185 m ²)
Transport Office	-	2,500 ft ²	(232 m ²)
Gatehouse	-	300 ft ²	(28 m ²)
Unit 300 GIA	-	257,912 ft²	(23,961 m²)

rev	amendments	by	ckd	date
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Gibbet Lane, Shawell

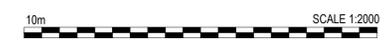
Site Layout - Gibbet Lane Junction

LOD 1	LOI 1
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RIBA PoW Stage:	0 - Strategic Definition
Document Suitability:	S1
Drawn / Checked:	TC / JMB
Date:	11/04/2025
Scale:	1:2000 A1
UMC Project Number:	23504

Document Reference:	Drawing no:	Revision:
23504 - UMC - ZZZZ - SI - DR - A	0611	P01





APPENDIX 4: SITE DELIVERABILITY STATEMENT

Land at Gibbet Lane/A5 Shawell, Lutterworth

Site Deliverability Statement



Ashfield Land

February 2024

1

Introduction

About Ashfield Land

Ashfield Land is an established property company with over 3 decades of history. With a proven track record in strategic land, development and investment they are able to deliver value for customers, occupiers, landowners and communities, creating new and sustainable property and employment solutions that benefit all involved.

About the Site

This Site Deliverability Statement has been prepared to present a vision for the promotion and development of land off Gibbet Lane, Shawell (16.52 hectares) for employment uses, primarily logistics, storage and, distribution within Use Class B8 with ancillary office space (Use Class E(g)).

The Site is located to the south of Gibbet Lane and east of the A5, and to the west of Shawell. The Site benefits from excellent links to the strategic road network in a prime employment location.

This document demonstrates the potential of the Site to contribute toward meeting employment needs through delivery of 58,705 sqm of floorspace over the next plan period, assisting the District Council in meeting its need for new employment growth.

The document provides an analysis of the site including on and off-site constraints. It comprises a review of the planning policy context, identifies key constraints and opportunities and sets out a potential development option for the site. An Illustrative Masterplan has been prepared which shows how the site can come forward in a way which will minimise impacts and provide mitigation and enhancement where appropriate, to ensure the development can be fully integrated within the existing environment.

The Team

This document provides an overview of the current position of the Site including technical issues, which are being reviewed by an experienced consultancy team to demonstrate the suitability and deliverability of the site. The team and disciplines covered include:

Masterplanning and Design – UMC Architects

Town Planning – Pegasus Group

Landscape – Pegasus Group

Transport, Traffic and Access – Pegasus Group

Ecology – Grass Roots Ecology



2

Site Context

The Site straddles the boundary between Harborough District and Rugby Borough, with the majority of its area falling within Harborough. It is located to the north east of Rugby Town Centre, south of Lutterworth, and west of the settlement of Shawell.

The Site sits adjacent to the A5, surrounded by the BMI Redland Shawell Plant and the Shawell Sand and Gravel Quarry immediately to the east. There is a concrete plant operated by Tarmac on the northern side of Gibbet Lane. Land to the west of the A5 is greenfield in nature.

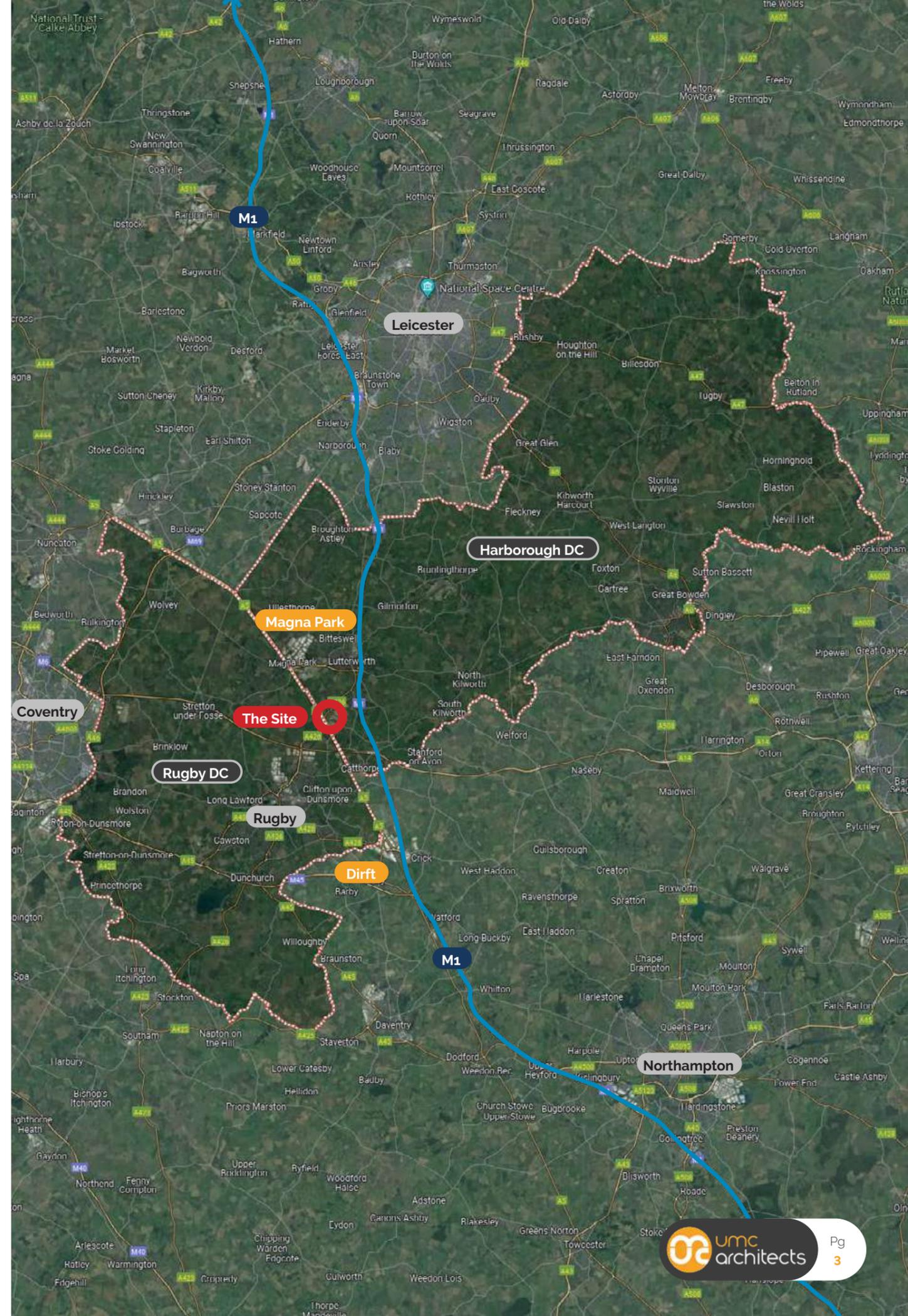
There is a roadside services facility to the north west at the junction of the A5 and A426 and scattered residential properties in the vicinity. The settlement of Shawell is approximately 1.5km to the south east.

Magna Park, a regionally significant warehousing and distribution centre is located approximately 4km to the north, accessed from the A5.

The Site has most recently been utilised for quarrying, and excavation of materials under permission granted by Leicestershire County Council on 17 December 2019 (ref: 2018/CM/0147/LCC) for an extension of the surrounding uses, to allow the extraction of sand and gravel at the site. All minerals have now been extracted from the Site, and all quarrying works have therefore ceased. Restoration plans were also approved for the restoration of the land to agriculture at the cessation of the quarrying. As part of these ongoing works, the land will be returned to an agricultural use (a combination of arable and pastureland).

The site has taken access from Gibbet Lane on its northern boundary for the purpose of the previous agricultural and quarrying. Information on the proposed access arrangements for the site are included in Section 4 of this document.

The Site sits within the Golden Triangle for logistics and is exceptionally well located for such development, located adjacent to the A5 trunk road. It also falls within an Area of Opportunity for the delivery of future employment floorspace. Through the proposed access strategy, the site will have direct access onto the A5 and the wider strategic road network: Junction 1 of the M6 is approximately 2.5km to the south west and the M1 can be accessed via Junction 20, 4.6km to the north.



3

Planning Policy Context

National Policy

In December 2023, the Government published a revised National Planning Policy Framework (NPPF) which replaces the previous guidance published in 2012. The NPPF provides the overarching planning framework for England. Central to the Framework is a presumption in favour of sustainable development which is the golden thread running through both plan-making and decision-taking (Paragraph 11). The Framework also seeks to support economic growth and productivity, allowing each area to build on its strengths (Paragraph 85).

Paragraph 8 of the NPPF sets out that sustainable development has three overarching objectives: economic, social and environmental. The proposed development accords with each of these objectives, and will contribute towards building a strong, responsive and competitive economy.

Chapter 3 on plan making requires strategic policies to set out an overall strategy for the pattern, scale and quality of development and make sufficient provision for development to meet needs, including employment land. Strategic policies should provide a clear strategy for bringing sufficient land forward and at a sufficient rate to address needs over the plan period and should include planning for and allocating sufficient sites to deliver the strategic priorities of the area.

Chapter 6 of the NPPF sets out how authorities should help create the conditions in which businesses can invest, expand and adapt. This is a key national objective, and directly relates to the economic element of sustainable development and will need to be addressed through the preparation of the new Local Plan.

The proposals for the land off Gibbet Lane, Shawell are considered to be consistent with the national planning agenda and respond to a number of national themes:

- The proposal meets the three pillars of sustainable development, and can deliver economic, social and environmental benefits (NPPF para 8).
- The proposal will enable Harborough District Council to plan positively and proactively encourage sustainable economic growth (NPPF para 85).
- There is a clear expectation embodied (NPPF para 87) for policies to recognise and address the specific locational requirements of different sectors, including for industry, storage and distribution at a variety of scales. The Planning Practice Guidance makes specific reference to needs for logistics and locational requirements, confirming the importance and distinct locational and site requirements involved in delivering successful developments in these uses.
- The proposed site has prime access to the A5, M1 and M6, offering opportunities for easy access to the national, regional and local road networks and can support a range of transport modes (NPPF chapter 9).



Current Development Plan

The Development Plan for Harborough District currently comprises the Harborough Local Plan 2011 – 2031, which was adopted by the Council in April 2019. Policy BE1 states that 51 hectares of employment land is to be provided over the plan period (2011 – 2031) and sets out the locations where this is to be provided.

Emerging Local Plan

Harborough District Council has commenced work on a new Local Plan to replace the adopted Plan for the district. The new Local Plan will provide an opportunity for the Council to comprehensively review the vision, strategic objectives, development requirements, spatial development strategy and policies for shaping detailed development proposals. The review process will also ensure consistency with the new NPPF, published in December 2023.

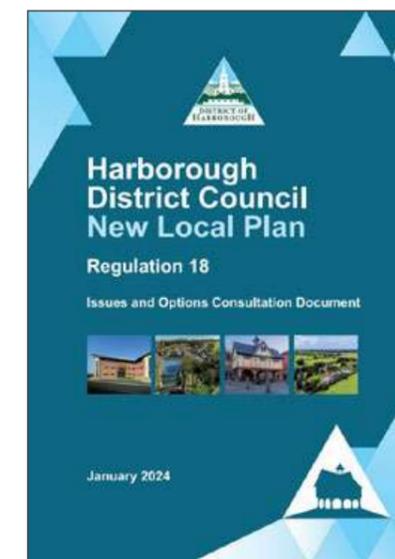
The new Local Plan is currently going through a Regulation 18 Issues and Options consultation until 27 February 2024 and a Call for Sites is running alongside this, to ensure that all potential sites are fully considered through the preparation of the local plan.

Harborough District Council are also signatory to the Leicester and Leicestershire Statement of Common Ground (SoCG) relating to housing and employment land needs. The SoCG proposes that the area will deliver employment land in accordance with the 2022 Housing and Employment Needs Assessment (HENA) to deliver 340ha of employment land between 2021 and 2036, of which Harborough would deliver 46ha.

Strategic Housing and Economic Land Availability Assessment

The Site (ref: 21/8074) was considered in the 2021 SHELAA to be developable within 11-15 years for 66,000sqm of 'non-strategic' warehousing. At the time of the 2021 SHELAA it was considered not currently achievable due to the quarrying works although it was considered potentially suitable subject to adequate highways access and capacity, and potentially available following completion of quarrying and restoration (which could impact development timescales).

Following the cessation of the quarrying, the site is now immediately available to be brought forward for development.



4

Development Proposal

The proposed development represents an opportunity for a high quality development encompassing a range of building sizes for industrial and logistics units with ancillary office space. The range of unit sizes will meet the requirements of a growing logistics industry, and the site will be developed to generate a positive environment in which to work, with building design, landscape and public realm details forming part of the ethos for the Site's development.

An Illustrative Masterplan has been produced showing how the site could be developed for a number of industrial/strategic warehousing units (Use Class E(g)). The Illustrative Masterplan shows that the site is capable of accommodating units with a combined floorspace of 58,705 square metres, which equates to a site density GIA of 34.67%. Sufficient areas for car parking, HGV parking, and loading, plus a robust landscaping strategy are also integrated into the design.

The Site is in an area of importance for the delivery of employment uses in Leicestershire, in a well-situated location for employment use, offering excellent access to major transport links and in an area with access to a large labour pool.

The Leicester & Leicestershire Housing & Economic Needs Assessment (HENA) identifies that 194,000 square metres of industrial and distribution floorspace (48.5 hectares) are required over the emerging plan period to 2041. However, this does not include larger, strategic warehouses of over 9,000 sqm, and thus does not represent the actual amount of land which needs to be provided in order to meet the need. The Warehousing and Logistics April 2021 (amended March 2022) Report identifies that land required for 'road only' operations over the period 2020-2041 is likely to range between 95ha and 112ha, and it is recommended in paragraph 10.24 that the higher amount is planned for in Leicestershire.

Paragraphs 7.52 -7.54 of the HELA and Paragraph 11.2 of the Warehousing and Logistics April 2021 (amended March 2022) report set out the locational requirements for industrial and distribution land and for strategic warehousing respectively. It is imperative for sites to be attractive to the market, and for this to be the case they should be located in accessible locations with excellent connections to the strategic highway network, preferably sitting in close proximity to A-roads and motorway junctions. They should also be accessible to labour, in areas of need, and in a location which allows them to serve the market. Given the need for land for strategic warehousing across Leicestershire, there is an opportunity for Harborough to maximise the benefits of its attractive location within the Golden Triangle, as identified in the Warehousing and Logistics Report, by delivering additional sites for this purpose, which will drive investment from the larger region, building on the existing successes at Magna Park, for example. This site represents such a location.



Creation of employment and contribution to wages



Increased local expenditure



Range of jobs and skills levels



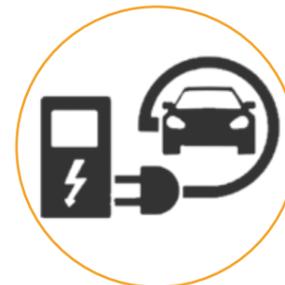
Contribution to economic output and business rates



Green travel plan



Street Lighting



EV charging points



Cycle and Pedestrian Routes



Recycling facilities



Structured landscapes for pedestrian access and amenity space



Habitat creation



CCTV



Outdoor seating provision



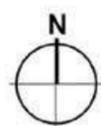
Secure parking

5

Illustrative Masterplan

The Illustrative Masterplan shows how the site could be accessed from the A5, and how a range of units could be provided within the site including access and parking plus a detailed landscaping strategy developed to support the proposals.

The site would represent a smaller development opportunity, delivering a range of unit sizes which could come forward on a shorter timescale than larger strategic site offerings. This accords with para 87 of the NPPF which encourages a range and size of sites for development.



Schedule of Accommodation

Total GIA	-	631,906 ft²	(58,705 m²)
Site Area	-	40.82 acres	16.52 ha
Site Density GIA	-		35.54%

Unit 100			
Warehouse Area	-	181,412 ft ²	(16,854 m ²)
Office Area (incl. GF core)	-	9,548 ft ²	(887 m ²)
Gatehouse	-	300 ft ²	(28 m ²)
Unit 100 GIA	-	191,260 ft²	(17,768 m²)

Unit 200			
Warehouse Area	-	62,848 ft ²	(5,839 m ²)
Office Area (incl. GF core)	-	3,307 ft ²	(307 m ²)
Unit 200 GIA	-	66,155 ft²	(6,146 m²)

Unit 300			
Warehouse Area	-	121,145 ft ²	(11,255 m ²)
Office Area (incl. GF core)	-	6,376 ft ²	(592 m ²)
Unit 300 GIA	-	127,521 ft²	(11,847 m²)

Unit 400			
Warehouse Area	-	72,449 ft ²	(6,731 m ²)
Office Area (incl. GF core)	-	3,813 ft ²	(354 m ²)
Unit 400 GIA	-	76,262 ft²	(7,085 m²)

Unit 500			
Warehouse Area	-	161,888 ft ²	(15,040 m ²)
Office Area (incl. GF core)	-	8,520 ft ²	(792 m ²)
Gatehouse	-	300 ft ²	(28 m ²)
Unit 500 GIA	-	170,708 ft²	(15,859 m²)



6

Site Specifics

Landscaping

A Landscape and Visual Constraints and Opportunities note has been produced and is appended to this document. This provides information on landscape designations, character, views and visual amenity, and a detailed analysis of constraints and opportunities.

The landscaping strategy for the site has been shaped by the recommendations of this report. It may comprise the retention and creation of green infrastructure, boundary vegetation, and landscape buffers to help provide visual screening. Additional planting and landscaping buffers can be distributed across the site.

In addition, there are further landscaping opportunities which are currently being explored. For example, there may be an opportunity to create a 'finished floor level' which sits below the adjacent landscape, which would help to maximise building heights (approx. +16m above FFL) whilst maintaining screening.

The Illustrative Masterplan has been informed by the initial landscaping work undertaken and demonstrates that, as a result of the landscape strategy, the limited landscape and visual impacts which would arise from the development can be mitigated and minimised overall.

Ecology

There are opportunities to achieve biodiversity net gain on the site through the inclusion of a robust and detailed landscaping and planting strategy plus the inclusion of sustainable urban drainage features including an attenuation pond, as shown on the Illustrative Masterplan.

Ecology work is currently being undertaken to ascertain the implications of the scheme on local ecology, and the benefits which it will be able to deliver in this regard. This information will be provided to Harborough District Council in support of the promotion of the site once complete.

Transport and Access

It is recognised that Gibbet Lane, while serving the quarrying activities and accommodating HGVs, is unlikely to be suitable to serve the proposed redevelopment of the Site. It has a relatively narrow 6.2 metre wide carriageway, no footways and narrow verges plus an existing established tree belt. The tree belt provides green infrastructure and screens the Site. In our view at this stage, these factors mean that highway improvements including a typically expected widening of the highway corridor, associated likely tree removal and street lighting (all as likely to be necessary for good access by articulated vehicles) cannot realistically be provided.

A draft Concept Transport Strategy has been developed and is appended to this report, which confirms that Gibbet Lane is unsuitable for intensified use by significant numbers of HGVs.

Instead, it is proposed that access should be provided from the A5 in the form of a new roundabout junction, around 500 metres south of the existing Gibbet Roundabout. The Illustrative Masterplan shows an initial indicative arrangement. The proposed roundabout could serve the full development in capacity terms, thus in principle the roundabout provides a resilient solution. It will provide direct access from the site onto the strategic road network and will therefore make the units attractive for prospective occupiers as well as reducing traffic accessing the Gibbet Cross roundabout via Gibbet Lane.

Dialogue with National Highways is ongoing in order to inform the issues and confirm the optimum access strategy.

Accessibility

Travel Plan objectives and initiatives would be promoted at the scheme, which are anticipated at this stage to be similar in principle to those being proposed as part of the nearby DIRFT development. This will include a comprehensive site-wide Travel Plan Strategy overseen by a Travel Plan Coordinator. The aim would be to influence the travel habits of the Site's employees from the outset and would include a range of initiatives to seek to promote and encourage sustainable travel.

The possibility of implementing a shuttle bus scheme, or something similar, would be investigated for employees of the scheme within future transportation assessment work. This could link from Rugby, Lutterworth and other local settlements to minimise Single Occupancy Vehicle (SOV) trips associated with the development.

Parking on site is anticipated to be provided in accordance with Leicestershire County Council's parking standards and national best practice prevailing at the time of any planning application.

Car sharing measures could also be promoted, such as reserving parking areas for those with two or more passengers only. Electric Vehicle (EV) charging points would also be provided on site. The details of the parking arrangements would be confirmed in as part of detailed Transport Assessment work.

Off-site mitigation strategies will be provided on the strategic and local highway networks as appropriate to accommodate forecast car trips by commuters and HGV trips. This would be confirmed further to detailed Transportation Assessment work.



7

Summary and Next Steps

This promotional document is supplied in support of a potential development of 16.52 hectares of for employment uses, primarily logistics, storage and, distribution within Use Class B8 with ancillary office space (Use Class E(g)). The site is located to the south of Gibbet Lane and adjacent to the A5, west of Shawell. The site is exceptionally located for employment uses, due to the fact that it has direct access to the strategic road network. It falls within the Golden Triangle and is in an identified Area of Opportunity for employment growth.

The site was most recently used for quarrying, but this use has now been completed. The site is therefore **immediately available** to be brought forward for employment development in the immediate term, and it is **deliverable**, with the highly experienced Ashfield Land holding interests in the land to bring it forward for development.

A Illustrative Masterplan has been produced which illustrates how the development could be accommodated on the site, with some technical work having already been completed to influence the layout, ensuring a landscape-led scheme which minimises visual impacts, delivers biodiversity benefits, and provides a safe and suitable access point. The layout will continue to evolve as further work is undertaken, and Harborough District Council will be provided with additional studies and any updates on the vision of the site as necessary.



Land at Gibbet Lane/A5 Shawell, Lutterworth

Site Deliverability Statement



Ashfield Land

Landscape and Visual Constraints and Opportunities

Land south of Gibbet Lane, Shawell, Leicestershire

On behalf of Ashfield Land

Date: 20 December 2023 | Pegasus Ref: P23-2051

Author: JWA





Document Management.

Version	Date	Author	Checked/ Approved by:	Reason for revision
1	20.12.2023	JWA	SB	Draft



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1. Introduction

Terms of reference

- 1.1. Pegasus Group has been instructed by Ashfield Land, to undertake a review of landscape and visual constraints and opportunities in respect of land to the south of Gibbet Lane, Shawell, Leicestershire (the site).
- 1.2. The site comprises a single parcel of land situated between the A5 and Gibbet Lane, to the south and north respectively. The site is bounded to the west by an adjacent parcel of agricultural land and to the east by a large quarry. The site is situated ca. 1.1km to the west of the settlement of Shawell and ca. 5.6km to the north-east of the centre of Rugby. The M1 motorway is located ca. 2km to the east and the M6 motorway corridor ca. 1.2km to the south.
- 1.3. The appraisal considers the site in respect of the capacity and sensitivity for potential commercial development.
- 1.4. This appraisal will consider existing landscape and visual receptors in the study area, including physical landscape resources, landscape character and views and visual amenity.
- 1.5. Principles and good practice for undertaking landscape and visual impact assessment are set out in the Landscape Institute (LI) and the Institute of Environmental Management (IEMA) Guidelines for Landscape and Visual Impact Assessment, Third Edition (2013)¹ (GLVIA3)
- 1.6. Although this document is not intended to be a formal 'landscape and visual assessment', the concepts and procedures set out in the GLVIA3 remain relevant and have been adopted as necessary.

Site context

- 1.7. The site comprises a single parcel of land situated within a strong framework of road infrastructure which includes the A5 and Gibbets Lane. Whilst to the west the adjacent land comprises agricultural grazing, this is situated in a similar position of influence, between the A5 and Gibbet Lane, but this parcel also extends to the roundabout junction and the local roadside services. To the east, the large-scale quarry is a major detracting component of the local landscape context and this extends both north and south of Gibbet Lane and includes an extensive area of landfill.
- 1.8. Outside of the quarrying and landfill activity the local landscape surrounding the site is characterised by extensive areas of agricultural land, predominantly arable set within a series of medium and large-scale enclosures. Field boundaries tend to comprise low continuous and intensively managed hedgerows. Combined with the rolling topography of broad valleys and low-slung ridgelines, this contributes to a large scale and expansive landscape context. However, some variation is present within the content in the form of

¹ Landscape Institute and Institute of Environmental Management and Assessment 2013) Guidelines for Landscape and Visual Impact Assessment, 3rd Edition



occasional woodland blocks, linear woodland belts and small copses. These add some diversity across the broad horizons.

- 1.9. Within the wider agricultural context there are some localised land-use variations. These include a large solar installation to the north-west of the site and west of the A5. the parkland landscape associated with Coton House (to the south-west) and the pocket of associated highways infrastructure formed by the Rugby Motorway Service Area (MSA).
- 1.10. In terms of settlement and transport patterns, the landscape is characterised by three main settlements, including Shawell to the east, Cotesbach to the north/north-east and Churchover to the west, each representing fairly small-scale settlements set within the rolling agricultural context. Shawell itself sits close to both the M1 and the adjacent quarry and landfill areas; outside of the more self-contained/inward aspects of the village, the landscape context to Shawell is influenced by these features.
- 1.11. The A5, M1 and M6 all form major transport routes through the area with the A5 (and its traffic) most prominent in relation to the site context. South of the M6, albeit some distance from the site, the fringes of Rugby comprise some large-scale commercial development which extends up to the motorway corridor.
- 1.12. Access to the landscape is available via the local network of public rights of way (PROW). These provide some access to the local landscape but this is not extensive and is disrupted by the nature of the local highways network. To the north-west of the site a bridleway and track with public access connects Churchover with Cotesbach; a short bridleway connection crosses the fields to the south-west, between the A426 and the A5; in both instances the routes cross the highways. There are a series of PROW around Shawell and between Shawell and Cotesbach, however many of these are subject of diversions around the current quarrying and landfill operations.

Site description

- 1.13. The site currently comprises an area of former mineral extraction (reference 2018/CM/0147/LCC), with conditions which require its reinstatement to agriculture. Extraction works appear to have ceased, but the site does not appear to have yet been subject of any landscape restoration.
- 1.14. The site is contiguous with the wider quarrying and landfill operations which extend to the east and north, including some more recent extensions (e.g. land immediately east of the A426).
- 1.15. The site boundaries are described as follows:
 - To the west, by post and wire fencing separating the site from the adjacent agricultural enclosures;
 - To the south-west by the route of the A5 and comprising linear hedgerows with some overgrown, taller sections of hedgerow along its length – occasional mature hedgerow trees are also present;

- To the east by retained vegetation which separates the site and adjacent quarry area – this includes predominantly hedgerow with some hedgerow trees and a small copse part way along the boundary; and
- To the north by Gibbet Lane which is delineated by very narrow verges set alongside gappy hedgerows with some taller hedge sections and occasional hedgerow trees.

- 1.16. The northern, western and southern boundaries are also currently defined by low earth bunds, including grass cover and some herbaceous weeds. It's anticipated that the earth mounding would be removed as part of the quarry restoration for the site.
- 1.17. Although off site, close to the site boundaries the local landscape context is influenced by several more substantial tree belts and small woodland copses, including tree belts around the isolated property off Gibbet Lane, around the Gibbet Lane local services, along Gibbet Lane itself, around the junction to the A5 and along the nearby sections of the A5. These broadly align with the localised high point of topography at Gibbet Hill, placing a green infrastructure framework on the higher ground and giving rise to sections of the horizon appearing more wooded and enclosed.
- 1.18. In respect of the quarry restoration scheme, this presents a future baseline whereby the current extraction void would be reinstated to agriculture. Current proposals approved under the relevant conditions include for the division of the site into three sub-areas. The southern and central sub-areas being broadly similar in size and scale (albeit different geometrically in plan form), with the northern sub-parcel being smaller.
- 1.19. The division of the northern and central sub-parcels appears to be based on the alignment of former field boundaries (with reference to historic mapping); the division of the central and southern parcels is only partly based on former field boundaries, but departs from the former field pattern by maintaining a single north/south hedgerow, rather than including an east/west section.
- 1.20. In respect of the restoration landform, this broadly reflects local contours in the southern part of the restored site, tying into the gentle rising slope from south to north; in the central part of the site the restoration landform is less consistent with existing topography and forms a 'bowl', with a low point in the centre of this middle sub-parcel, between ca. 4 and 8m lower than the areas immediately adjacent to the site. The northern, and smallest, sub-parcel again ties into the local contours. Each of the sub parcels is divided by proposed hedgerows with hedgerow trees (as noted these proposed divisions partly align with former field boundaries). A pond is also included in the restoration scheme, although historic mapping gives no indication of this feature previously.

Landscape related designations

- 1.21. The site does not appear to be included in any formal designations specific to landscape, nor are any present in the immediate context.
- 1.22. However, there are several designations on site and in the local landscape context which have some relevance to landscape and visual matters, including various listed buildings in and around Shawell, a Conservation Area at Shawell, some scheduled monuments to the south and south-west of Shawell and several local wildlife sites north and south of Gibbet Lane.

- 1.23. These are considered further in respect of the analysis of landscape and visual constraints and opportunities.

Landscape character

- 1.24. Reference has been made to published guidance on landscape character for the area.
- 1.25. At a regional level, the site is located in the NCA Profile: 94 Leicestershire Vales (NE532).
- 1.26. At the District level, reference to the 'Harborough District Landscape Character Assessment' (Sept 2007) shows that the site is located in an area defined by the study as the 'Lutterworth Lowlands' Landscape Character Area (LCA). The LCA is generally described as an area of predominantly open, gently rolling pasture. Regular, medium sized fields are divided by mature hedgerows that appear to be declining in extent in places. There is little woodland of any significant size within the character area and that the area is characterised by open views across the flatter expanses.
- 1.27. In terms of capacity, the study concludes that this is 'medium to high', stating that:

"The Lutterworth Lowlands character area represents a changing landscape with many recent developments around the fringes of existing settlements. Expansion due to new development areas may mean that the area is under threat of losing some of its rural characteristics. The area has some limited capacity to accommodate localised development in particular around the larger settlements but the more rural parts of the area towards the north would not be appropriate, nor would the farmland south of Bruntingthorpe Airfield.

The Lutterworth Lowlands character area has the capacity to accommodate further residential development. Lutterworth, Fleckney and Kibworth in particular have the capacity and infrastructure in place to allow for further development, within and adjacent to their current urban envelopes. The smaller villages of the area have much lower capacity and would need to be considered on a case by case basis."

- 1.28. Capacity in respect of commercial development isn't specifically referenced, although the study does note the presence of various 'distribution centres' in the LCA. In respect of Magna Park, the study notes that the layout is 'relatively successfully screened by woodland planting around the boundary', indicating the potential for mitigation to successfully integrate even larger scale developments.
- 1.29. Details of the key characteristics and any relevant landscape strategies for these areas should be considered as any proposals for development emerge.

Views and visual amenity

Visual envelope

- 1.30. The overall visual envelope of the site is variable and influenced strongly by the existing green infrastructure around the site, both along its boundaries but also along the highways corridors of the A5 and Gibbet Lane, particularly the more concentrated tree belts around the junction of the A5, Gibbet Lane and the A426.



- 1.31. The adjacent quarrying and landfill activity also restricts views to the site, particularly given the emerging restoration profile of the landfill areas which are becoming more evident as gently rising slopes around the north/north-western parts of Shawell.
- 1.32. Ongoing quarrying activity in the local landscape includes topsoil stripping and creating of artificial mounds, often extending parallel to the field boundaries and road network. Whilst initially unsightly once seeded these tend to blend somewhat with the boundary vegetation and screen views into the quarries areas and across the wider landscape.
- 1.33. Combined with the fragmented network of PROW across the landscape this leads to a fairly restricted visual envelope from the higher sensitivity receptors that would use the rights of way.
- 1.34. From the local roads, particularly the A5 where it passes the site, there are potentially views into the site, seen through the boundary hedgerows.
- 1.35. There are also some more distant views to the site from the wider landscape and wider network of PROW, where these cross through more open and elevated parts of the landscape. Overall, these do tend to see the site in the context of the localised tree cover around the Gibbet's Lane/A5 junction, so whilst the general location of the site is discernible, this doesn't necessarily translate to direct views into the site.
- 1.36. Considering potential commercial development, and the likely scale and heights of these types of building, these would potentially be prominent to a greater or lesser degree, subject to the direction of view and relationship with existing tree and woodland cover.

Visual receptors

- 1.37. As previously noted, the PROW network is relatively fragmented, often related to diversions around the quarry/landfill sites but also that there are routes which cross more open parts of the countryside. Overall there is likely to be a balance between those more limited instances of higher sensitivity receptors against medium sensitivity receptors using the local road network.
- 1.38. Based on the approximate visual envelope, the principal visual receptors are likely to include:
 - Users of the A5 as it passes directly adjacent to the site;
 - Users of a short section of the A426, approaching Gibbets Hill, although this route is more enclosed by hedgerow vegetation;
 - Users of Lutterworth Road where this connects Churchover to the A426, albeit for a short section travelling east and that these views tend to see the tree and woodland cover local to the site;
 - Users of the public bridleway between the A426 and the A5 which has more open views toward the site, but experiences these as along with the volume of traffic travelling on the A5;



- Users of Gibbet Lane, travelling to/from Shawell, albeit the route is relatively narrow and frequently trafficked by heavy goods vehicles from the quarry and landfill operations; and
- Users of the network of PROW, particularly to the north and east and south of the site, however these views tend to be heavily screened by vegetation and/or various earthwork features associated with quarrying and landfill operations.

1.39. The existing quarrying and landfill activity, local roadside services and surrounding tree belts are a notable feature in the local landscape context, however away from these the landscape becomes more open as agricultural land uses, combine with lower-level boundary vegetation and low, rolling topography, and this often affords longer distance views but to a much wider part of the landscape context.

2. Analysis of Constraints and Opportunities

- 2.1. This section presents a brief analysis of the key issues in respect of landscape and visual matters, followed by the identification of relevant constraints and opportunities that might influence potential development on the overall site area.
- 2.2. The analysis is then taken forward to inform the preliminary development and landscape strategy in later sections.

Landscape and Visual Analysis

- 2.3. The site itself represents a parcel of land in contrast to the surrounding agricultural context due to its current state of a former mineral extraction site. Although the site will change following implementation of the restoration scheme, the legacy of the restoration design will only partly address the previous impacts, given that the restoration design does not fully align with former field patterns and that the restoration landform includes a substantial depression, lowered into the landscape, which contrasts with the otherwise gradually rolling landform.
- 2.4. The site is also currently physically and visually contained by the surrounding land uses, including the sensitive areas of quarrying and landfill which screen, and will continue to screen views of the site from the east and north. For larger scale commercial development there is some scope for this to be visible above these components, but generally the rising landform of the landfill foreshortens many views from the PROW network.
- 2.5. The local road network is also influential on the site's landscape context. This includes the major highways infrastructure of the A5 but also the local road connections for the A426 and Gibbets Lane; the latter including much of the HGV traffic associated with the quarries.
- 2.6. Around the junction of the A5 and A426, the local services is a detracting feature and this gateway contrasts to other sections of the A5 where the route passes through more open parts of the landscape. The tree and woodland cover around the existing quarries and the A5/A426 junction also provide some physical and visual containment.
- 2.7. Overall, considering the approved quarry restoration scheme, the western and southern parts of the site are considered to be more sensitive to development generally, and particularly the larger scale built form of commercial development.
- 2.8. This is due to the narrower belt of vegetation which exists on the western edge of the site, alongside the route of the A5. Whilst receptors themselves will be of low or medium visual sensitivity, there is scope for built form to be more visible from the wider landscape to the east. From the north and west (and partly to the south-west) whilst the network of PROW is greater (and visual receptors more sensitive) the remaining quarry and landfill areas are likely to prevent views or at least reduce the degree of change if any views of potential development are available.
- 2.9. In respect of landscape character, development on the site will be physically well contained, however there is scope for the commercial built form to be perceptible from the local context and influence character at a local level. This will be in the context of the existing and previous quarrying activity, but is different in terms of its scale and massing and characteristics. Elsewhere in the wider landscape, areas such as Magna Park introduce very

large scale built form into the landscape, along higher and exposed ground, however commercial development on the site is not likely to result in such expansive influence across the landscape context due to the smaller scale of the site, lowering of the restoration landform and tree cover present around the A5/A426 junction.

- 2.10. The southern parts of the site are considered to be more sensitive on the basis of the receptors approaching along the A5, and that their experience is currently relatively rural, but also that the proposed restoration profile has this landform at a high level relative to the central parcel. The lowered central parcel will be physically and visually more contained. However, given the nature of commercial development it is likely that earthworks could develop a strategy across the site which balances the overall land profile, reducing the levels across the site but perhaps not to the same degree of the current restoration landform.

Constraints and Opportunities

- 2.11. The following section summarises the landscape and visual constraints and opportunities in relation to the site and it's immediate context.

Constraints

- 2.12. Landscape and visual constraints are summarised as follows:

- Existing green infrastructure surrounding the site along it's boundaries, which provide physical and visual containment and should be retained;
- The more open western edge of the site (with lower vegetation) which, in the context of commercial development, will likely not fully screen views from locations to the west;
- The approved quarry restoration scheme, which includes creation of new hedgerows, a pond and landform, and that these may not typically suit implementation of commercial development on the site; and
- Generally the slightly more elevated position of the site generally, aligned with Gibbets Hill and the local ridgeline, which may make built form prominent in longer distance views.

Opportunities

- 2.13. Landscape and visual opportunities are summarised as follows:

- The site is a former quarry and its restoration scheme will be relatively young in the short term, contributing little to the local landscape context until it is more fully established;
- Also, in respect of the former quarry restoration scheme, this sets the principle for a landform profile which is 'sunk' within the landscape and subject to further design inputs, this can reduce finished floor levels (and overall height) of proposed built form;



- Generally the site is contained by existing vegetation and surrounding land uses, albeit to varying degrees and that commercial development may still not be fully screened by this
- The scale and character of the wider landscape is such that it can accommodate some larger forms of development;
- The scale of the site itself is sufficient to accommodate a balance approach to potential development that incorporates a robust strategy for green infrastructure and open space as mitigation.

2.14. These are considered in terms of potential capacity for development and associated mitigation.

3. Preliminary Development and Landscape Strategy

Landscape Strategy

- 3.1. The following section sets out a brief summary of the key areas of mitigation which can be considered as part of a landscape led masterplan (refer also to the Sketch Development and Landscape Strategy):
- Existing green infrastructure – site boundary vegetation to be retained as this sets an effective framework of green infrastructure around the site; this recognises local landscape character in respect of scale, pattern and characteristics but also provides an initial visual screen to the site (and potential development);
 - Mineral restoration landform – based on the proposed landform of the former minerals extraction, retain the principal of reducing the ground level and creating a ‘finished floor level’ that is below that of the adjacent landscape context – this may not be possible across the site – a crude review of topography suggests potentially a split of ca. +120m AOD in the southern part of the site and ca. +124m AOD in the northern part of the site. This would give between ca. 4m and 8m depth in relation to the surrounding landform (particularly of Gibbets Hill) and which will help maximise proposed building heights whilst maintain screening;
 - Inclusion of landscape buffers – particularly along the western edge of the site on the A5, and the northern edge of the site along Gibbet Lane. Landscape buffers will have two functions: providing the width to implement earthworks, facilitating changes in landform with appropriate slopes/embankments; and to facilitate substantial landscape planting which will establish over time and help screening, whilst reinforcing local landscape character;
 - Considered building heights – at this stage it is difficult to predict what maximum building height will be acceptable in planning terms, however if the landform can be ‘sunk’ into the local context, looking at existing tree heights of ca. +12m around Gibbets Lane and the local services, this is would suggest building heights of ca +16m above FFL would not be unduly prominent. Further work will need to consider what FFL can be achieved and also the heights of existing vegetation in the local landscape context. Greater heights of proposed buildings will bring the built form above the ‘wooded horizons’ and mean that is more visible and more prominent from the surrounding landscape, with a greater risk, of higher landscape and visual impacts;
 - Defining development parcels – the spatial footprint for development (i.e. including built form, infrastructure, parking etc) will predominantly be defined by the landscape buffers in key locations around the site, however there is some merit in referencing the minerals restoration. That plan included an internal field boundary based broadly on ‘historic’ field boundary alignment. This alignment can still be referenced whether it be in the form of green infrastructure corridor, swales or even alignment of internal roads. The position of this may lend itself to forming the alignment of a break in slope between two different development platform levels.

- 3.2. A draft/initial masterplan prepared by UMC Architects (ref 23504-UMC-ZZZZ-SI-DR-A, 0601, PO1) broadly reflects the above principles. However, as an initial masterplanning exercise it aims to maximise the developable area. In respect of the above strategy, and from a landscape and visual standpoint, the development envelope proposed should be reduced considerably in order to accommodate the various topographical changes and landscape buffers.
- 3.3. The following target notes relate to the accompanying 'Preliminary Landscape Framework' (refer to **Appendix A**):
- 1A: proposed development parcel, subject to input on earthworks consider possibility of achieving FFL of ca. 124 here;
 - 1B: proposed development parcel, subject to input on earthworks consider possibility of achieving FFL of ca. 120m here;
 - 2: Land shown as part of approved quarry restoration (David Jarvis Assoc), but not included in early UMC masterplan – if this can be included it gives scope to achieve gradients/earthworks out of the main parts of the site, potentially increasing developable area;
 - 3: Landscape buffer to be utilised for earthworks gradients and landscape planting for screening and to tie in/reinforce existing green infrastructure;
 - 4: Landscape buffer to Gibbet Lane (minimum 30m), maintaining stand off to existing vegetation (to be retained) and to facilitate earthworks gradients and landscape planting for screening and to tie in/reinforce existing green infrastructure;
 - 5: Landscape buffer to A5 (and landscape further west) (minimum 30m depth) maintaining stand off to existing vegetation (to be retained) and to facilitate earthworks gradients and landscape planting for screening and to tie in/reinforce existing green infrastructure;
 - 6 Green corridor, alignment based on former field boundaries so this can be utilised for earthworks gradients/planting or to guide alignment of internal road layouts, overall referencing former scale and pattern within the landscape;
 - 7: Area suggested to reinforce woodland pocket, create green infrastructure links and implement any landscape proposals that will deliver BNG requirements;
 - 8: Attenuation area, to incorporate landscape buffers and landscape proposals that will deliver BNG requirements.

Summary

- 3.4. Overall, where these mitigation measures can be incorporated into an emerging scheme, the capacity of the site to accommodate commercial development will be further enhanced.



- 3.5. Notwithstanding an expected degree of landscape and visual impact (at the appropriate stage for these to be assessed) the masterplan will be able to demonstrate that proposals can come forward which adopt a positive 'landscape strategy' as an integral part of the masterplan, illustrating how impacts can be mitigated and minimised overall.



APPENDIX A:

Preliminary Landscape Framework



GIBBET LANE, SAWWELL
 PRELIMINARY LANDSCAPE
 FRAMEWORK
 PEGASUS GROUP
 P23-2051 | 20.12.23

REFER TO REPORT FOR
 TARGET NOTES



- Dimensions are in millimeters, unless stated otherwise.
 - Scaling of this drawing is not recommended.
 - It is the recipient's responsibility to print the document to the correct scale.
 - All relevant drawings and specifications should be read in conjunction with this drawing.



Schedule of Accommodation

Total GIA	-	631,188 ft ²	(58,639 m ²)
Site Area	-	41.84 acres	16.93 ha
Site Density GIA	-		34.63%

Unit 100

Warehouse Area	-	181,412 ft ²	(16,854 m ²)
Office Area (incl. GF core)	-	9,548 ft ²	(887 m ²)
Gatehouse	-	300 ft ²	(28 m ²)
Unit 100 GIA	-	191,260 ft ²	(17,768 m ²)

Unit 200

Warehouse Area	-	61,315 ft ²	(5,696 m ²)
Office Area (incl. GF core)	-	3,227 ft ²	(300 m ²)
Unit 200 GIA	-	64,542 ft ²	(5,996 m ²)

Unit 300

Warehouse Area	-	121,996 ft ²	(11,334 m ²)
Office Area (incl. GF core)	-	6,420 ft ²	(596 m ²)
Unit 300 GIA	-	128,416 ft ²	(11,930 m ²)

Unit 400

Warehouse Area	-	72,449 ft ²	(6,731 m ²)
Office Area (incl. GF core)	-	3,813 ft ²	(354 m ²)
Unit 400 GIA	-	76,262 ft ²	(7,085 m ²)

Unit 500

Warehouse Area	-	161,888 ft ²	(15,040 m ²)
Office Area (incl. GF core)	-	8,520 ft ²	(792 m ²)
Gatehouse	-	300 ft ²	(28 m ²)
Unit 500 GIA	-	170,708 ft ²	(15,859 m ²)

GIBBET LANE, SHAWELL
 PRELIMINARY LANDSCAPE
 FRAMEWORK

PERPTUS GROUP
 P23-2051 | 20.12.23

REFER TO REPORT FOR
 TARGET NOTES

PO1 Initial Issue	TJ MD 07.11.23
rev amendments	by dtd date

Gibbet Lane, Shawell

Site Layout

LOD 1	LOI 1
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Concept Transport Strategy.

Land south of Gibbet Lane, Shawell.

On behalf of Ashfield Land.

Date: February 2024 | Pegasus Ref: P23-2051 TR01



Document Management.

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Figure.

Figure 2.1 – Site Location and Local Highway Plan

Appendices.

Appendix A – Gibbet Roundabout Improvement Scheme

Appendix B – 2018 Traffic Data

Appendix C – TRICS Reports

Appendix D – Junctions 10 Report – Site Access

Appendix E – Junctions 10 Report – Gibbet Roundabout



1. Introduction

- 1.1. This Concept Transport Strategy (TS) has been prepared by Pegasus Group on behalf of Ashfield Land. It supports the promotion of land to the south of Gibbet Lane, Shawell, for employment uses. At this stage it is anticipated that the development will comprise logistics development and storage and distribution within Use Class B8 with ancillary office space (Use Class E(g)).
- 1.2. The majority of the Site is within Harborough District, but the southwestern part of the site, adjacent to the A5 falls within Rugby Borough Council's (and Leicestershire County Council's) administrative area.
- 1.3. The site is considered to be appropriate for logistics development in principle. It is located adjacent to the A5, which is part of the Strategic Road Network (SRN) and within close proximity to the A426, M1 and M6. It provides the opportunity for freight traffic to connect with local suppliers.
- 1.4. The report titled 'Warehousing and Logistics in Leicester and Leicestershire: Managing Growth and Change' (April 2021, amended March 2022) identifies a 'Golden Triangle' area which is broadly bound by the M1, M6 and M69 motorways. The report suggests that strategic sites should be located within this area, due to locational benefits which are unlikely to diminish into the future. The site is located within the 'Golden Triangle' area and within an identified Area of Opportunity within the report.
- 1.5. This TS addresses broad transport matters associated with the proposed development including access and potential trip attraction at a high level. It is intended to work collaboratively with the highway authorities at Leicestershire County Council, Warwickshire County Council, National Highways and other stakeholders to agree appropriate strategies associated with the scheme in due course.

2. Site Context

Site Location

- 2.1. The site comprises around 16.52 hectares and is located approximately 6.5 kilometres to the north of the Rugby town centre, and 1.5 kilometres to the west of the village of Shawell.
- 2.2. The site has an established use for quarrying, and excavation of materials. All minerals (sand and gravel) have now been extracted from the site, and all quarrying works have ceased.
- 2.3. The site is bound by Gibbet Lane in the north, the retained Shawell Sand and Gravel Quarry in the east, the A5 trunk road to the west and Public Right of Way (PRoW) X23 (a footpath) to the south. The indicative location of the site is shown on **Figure 2.1**.
- 2.4. The land parcel is currently served by Gibbet Lane via a number of field gates, as well as via a track from the existing Sand and Gravel Quarry in the east. There are existing employment land uses to the north and the south of the site along the A5 corridor, such as Magna Park to the north and the Daventry International Rail Freight Terminal (DIRFT) to the south.

Existing Highway Network

A5

- 2.5. Midlands Connect, a transport project research, development and promotion organisation, identifies the A5 as one of the Midlands’ most important road corridors, connecting businesses with ports, airports and motorways, allowing them to access major UK and international markets. Midlands Connect aims to implement a long-term corridor approach to improving the A5, initially along a 53 mile section between the M6 J12 in Staffordshire and the M1 J18 in Warwickshire.

Gibbet Lane

- 2.6. Gibbet Lane is an unlit single carriageway road measuring approximately 6.2 metres wide. It currently serves as a link between the settlement of Shawell in the east and the A5(T) in the west. It is derestricted and subject to the National Speed Limit (60mph) within the vicinity of the site.
- 2.7. Verges are provided on both sides of the carriageway which appear to be between approximately one and three metres on the southern side of the carriageway and around one to two metres on the northern side of the carriageway. Observations on site confirm that large vehicles here slow down significantly to pass each other. Tree belts are provided along the verges, characterising the lane as having green infrastructure. Some images of the existing condition of Gibbet Lane are included at **Plate 2.1** below.

Plate 2.1 – Site Visit Observations of Gibbet Lane



- 2.8. Gibbet Lane forms the easternmost arm of a roundabout junction with the A5(T) and A426 to the west of the site. The roundabout junction is currently subject to improvements secured as part of a DCO associated with the DIRFT development to the south. The secured improvement scheme is included at **Appendix A**.



- 2.9. The Warwickshire County Council Freight Strategy confirms that the A5 is already used to access several large distribution hubs and business parks and is identified as a strategically important route.

A426

- 2.10. The A426 comprises an unlit single carriageway that is subject to the National Speed Limit (60mph). It connects to Junction 1 of the M6 in the south and provides access to Junction 20 of the M1 in the north, both of which form part of the SRN.

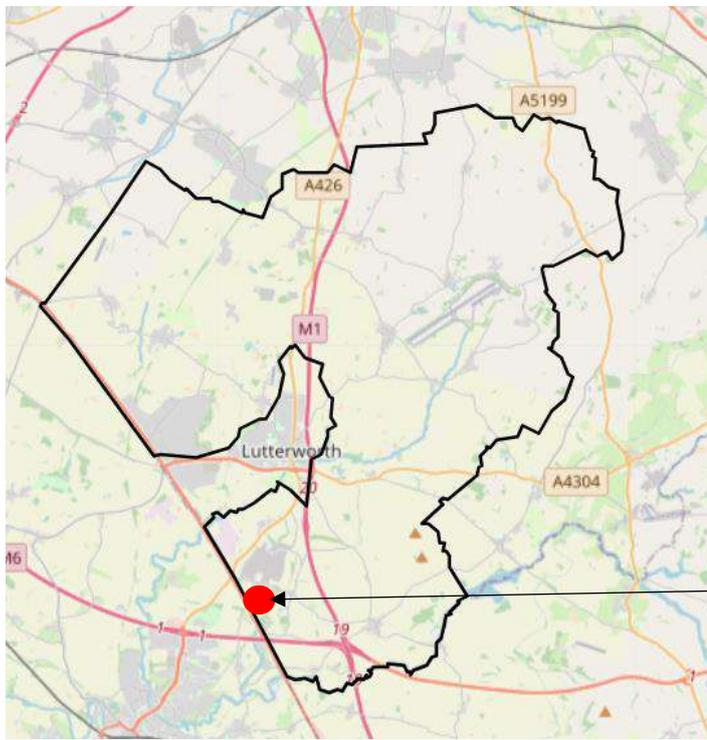
Highway Safety

- 2.11. A review of the online crashmap database has been undertaken of Gibbet Lane, the A5 along the site frontage and Gibbet Roundabout to the north for the most recent five year period of available records, excluding 2020 and 2021 due to travel patterns being influenced by Covid-19 (2018, 2019, 2022). The data indicates that there was one recorded slight incident on Gibbet Lane along the northern site boundary. There were no recorded incidents at the Gibbet Roundabout or on the A5 along the site frontage.
- 2.12. The incident on Gibbet Lane occurred on 23rd April 2018 at 21:16 in dark and dry conditions. It appears to have occurred when a car proceeding on Gibbet Lane collided with a pedestrian in the carriageway, resulting in a one minor injury.
- 2.13. It is considered that there is no material highway safety pattern or problem associated with the local highway network within the immediate vicinity of the site. It is noted that there is limited potential for a continuous footway link on Gibbet Lane.

Existing Employment Areas

- 2.14. The WU03EW 2011 census dataset has been interrogated to assess where those living within proximity of the site are travelling to work by car. The site is located within the Middle Super Output Area (MSOA) Harborough 006, shown in **Plate 2.2** below.

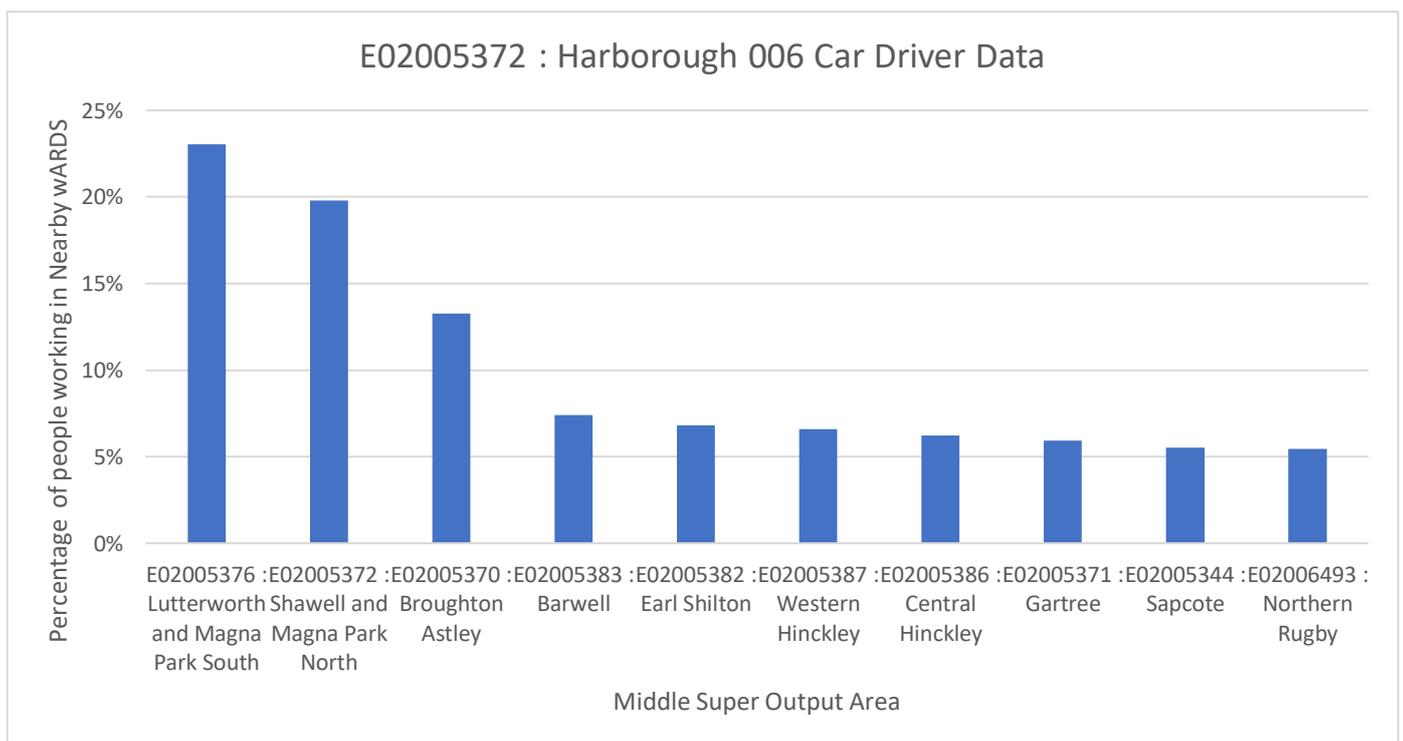
Plate 2.2 – MSOA Harborough 006



Approximate site location

2.15. The approximate location of employees' work and the associated percentage of associated car driver trips are summarised in **Plate 2.3** below.

Plate 2.3 – Summary of Car Driver Census Data



- 2.16. Approximately 43% of those who live in the local area work around Lutterworth, Shawell and Magna Park. Around 13% of the population drive to Broughton Astley and around 5% of the population commute to northern Rugby. The remaining 38% of car driver trips are associated with employment areas further afield. It is considered that a new employment scheme at the site would provide the opportunity for a number of these employees to alternatively only have to undertake short commuting trips.

Baseline Traffic Flows

- 2.17. Leicestershire County Council has provided Manual Turning Count (MTC) and queue survey data at the Gibbet Roundabout junction from Tuesday 24th April 2018 between 07:00 and 19:00. This traffic data has been used to provide an indication of the traffic flows and turning counts at the roundabout junction. The information is summarised in **Table 2.1** below and the full survey data is included at **Appendix B**. This information would be refreshed in due course as part of any detailed Transport Assessment work.

Table 2.1 – Summary of Gibbet Roundabout Turning Counts (2018)

Roundabout Arm	AM (08:00 – 09:00)		PM (17:00 – 18:00)		12-hour (07:00 – 19:00)	
	Traffic Flow (two-way)	HGVs	Traffic Flow (two-way)	HGVs	Traffic Flow (two-way)	HGVs
A5 (N)	1,385	227 (16%)	1,336	144 (11%)	12,228	2,255 (18%)
Rugby Road	1,097	165 (15%)	1,240	73 (6%)	12,222	1,653 (14%)
Gibbet Lane	168	62 (37%)	188	6 (3%)	1,963	490 (25%)
A5 (S)	1,099	245 (22%)	1,251	177 (14%)	10,612	2,662 (25%)
A426	1,745	305 (17%)	1,663	180 (11%)	18,177	941 (5%)

3. Planning Policy Context

National Policy

National Planning Policy Framework (NPPF) 2023

- 3.1. In transport terms the NPPF states that opportunities from existing transport infrastructure and changing transport technology and usage are realised, for example in relation to the scale, location and density of development that can be accommodated (paragraph 108 (b)). It also recognises that opportunities to maximise sustainable transport solutions will vary from urban to rural areas (paragraph 109).
- 3.2. It states that planning policies should identify and protect sites and routes which could be critical to realise opportunities of large scale development (paragraph 110 (c)). It also states that safe and suitable access to the site should be achieved for all users (paragraph 114).
- 3.3. The NPPF states that development should only be prevented or refused on transport grounds where there would be an unacceptable impact on highway safety or the residual cumulative impacts on the local highway network are severe (paragraph 115).

DfT Circular 01/2022: Strategic Road Network and the Delivery of Sustainable Development

- 3.4. Paragraph 28 of Circular 01/2022 states that logistics and manufacturing sectors are dependent on the SRN, and that hubs for these sectors are typically located close to the SRN (paragraph 30).

Department for Transport – Decarbonising Transport: A Better, Greener Britain (updated January 2023)

- 3.5. Page 132 states that the freight sector is critical to the economy, ensuring that the flow of goods along supply chains are reliable and efficient. The document also commits to support efficiency improvements and emission reductions in the existing HGV fleet (page 137).

Department for Transport – Future of Freight: a long-term plan (June 2022)

- 3.6. Paragraph 1.12 states that goods are typically moved by road and rail to National Distribution Centres (NDCs), many of which are located within the 'Golden Triangle'. The concentration of NDCs here supports ports, domestic suppliers and onward transport on to regional centres. Paragraph 1.13 confirms that road freight is flexible, cost effective and is not as regulatorily complex as other freight modes.

Current Local Transport Related Policy

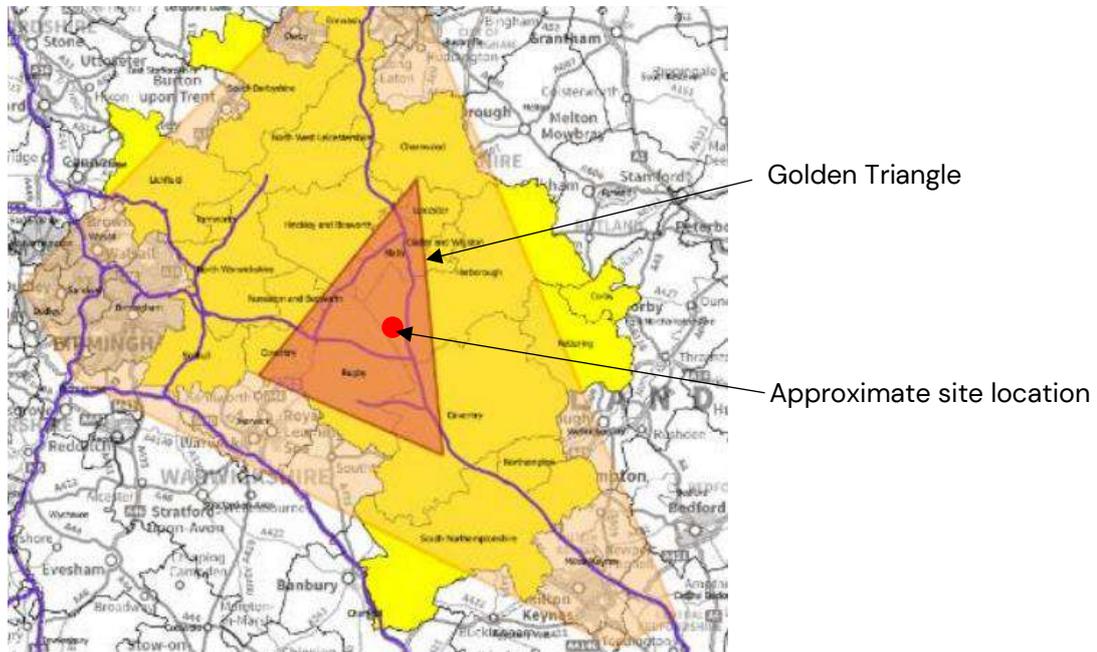
Leicestershire County Council Local Transport Plan 3 2011 – 2026 (2014)

- 3.7. The LCC Local Transport Plan 3 (LTP3) sets out a number of goals and schemes to help to achieve this. Goal one states is to achieve a transport system that supports a prosperous economy and provides successfully for population growth.

Warehousing and Logistics in Leicester and Leicestershire: Managing Growth and Change (April 2021, amended March 2022)

- 3.8. The report titled 'Warehousing and Logistics in Leicester and Leicestershire: Managing Growth and Change (April 2021, amended March 2022)' identifies the 'Golden Triangle' area bound by the M1, M6 and M69 motorways. The report suggests that strategic sites should be located within this area, due to the locational benefits which are unlikely to diminish into the future. The site is indicatively shown in the context of the 'Golden Triangle' in **Plate 3.1** below.

Plate 3.1 – Golden Triangle



- 3.9. The document also sets out aims at paragraph 10.24 for the scale of additional warehouse floorspace area to be planned for from 2020 to 2041, including between around 95ha to 112ha of land required for ‘road only’ (ie not rail) development up to 2041.

Leicester and Leicestershire Strategic Transport Priorities 2020 – 2050 (2020)

- 3.10. The Leicester and Leicestershire Strategy Transport Priorities document sets out the vision for transport investment and improvements between 2020 and 2050. It aims to support the efficient movement of freight between the ‘Golden Triangle’, Leicester and cities outside of the county at page 24. It also aims to increase the amount of freight to be moved by rail, but recognises that there is currently a lack of fast, direct cross country rail services at page 24.

Warwickshire Local Transport Plan 4 (LTP 4) (2023)

- 3.11. The Warwickshire Local Transport Plan 4 was adopted in July 2023. The Freight Strategy comprises one section of LTP 4, provided as a stand-alone document. It outlines that the M40 and M6 motorways are vital for providing links to ports and airports throughout the UK, and that the A5 is a strategically important corridor. It highlights that there are several large distribution hubs and business parks within the county, taking advantage of being located within the logistics Golden Triangle, from which 90% of the UK population can be reached within a four hour drive. It states that the logistics sector within the county is a major employer and generator of economic activity, noting that even nearby developments such as Magna Park that are close to the authority boundary have an impact on the County.

Harborough Local Plan 2011 –2031 (2019)

- 3.12. Harborough Local Plan sets out the aim for the district to have strategic distributions sites that have maintained significance within the district in terms of employment provision by 2031, set out at page 10. It also aims to allocate sufficient land for business uses to meeting employment growth and to contribute to wider sub-regional land requirements for road-based strategic distribution business space.
- 3.13. At the time of writing, a new Local Plan is currently being consulted on.

Rugby Borough Council Local Plan 2011 – 2031 (2019)

- 3.14. Rugby Borough Council Local Plan sets out objectives at page nine, including ensuring that the Borough has an expanding and diverse economy, with manufacturing, engineering, transport, logistics and distribution. It later sets out the requirements of employment land to be met within the Plan period, at around 96 to 128ha of land.
- 3.15. At the time of writing, a new Local Plan is currently being consulted on.

Summary of National and Local Policy

- 3.16. In summary, the main objective within national and local transport and freight related policy guidance is to encourage economic growth in a sustainable manner and to utilise opportunities within the Golden Triangle, taking advantage of the local highway network in this area.
- 3.17. The potential for locating employment and freight facilities on major strategic routes is considered at this stage to be a significant environmental benefit that should be considered to weigh in favour of development on this site. This is because the scheme can utilise existing Strategic Road Network (SRN) transport infrastructure appropriate for its purpose for large scale employment development.
- 3.18. It is therefore considered that the proposed development is broadly in accordance with the transport and freight policies of local and national government.

4. Proposed Transport Strategy

- 4.1. The intention is to work collaboratively with the local highway authorities at LCC, WCC and National Highways and other relevant stakeholders to agree appropriate strategies associated with the scheme in due course.

Proposed Vehicular Access Arrangements

- 4.2. Typically, guidance suggests that a carriageway for two large HGVs passing should measure around 7.3 metres wide. Gibbet Lane is around 6.2 metres wide. There are land constraints and additional environmental factors such as the existing tree belt and continuous green infrastructure that would restrict the any improvements along Gibbet Lane. It is therefore considered that appropriate access cannot be achieved from Gibbet Lane for the proposed development.

- 4.3. Vehicular access is proposed via a new roundabout junction on the A5(T) around 500 metres south of the Gibbet Roundabout. An initial indicative arrangement is included on the masterplan included as part of the wider planning submission, and it is anticipated that this will be refined in due course depending on the exact scale and details of the development scheme, in order to facilitate safe and suitable traffic movements. An emergency access point is proposed on Gibbet Lane.
- 4.4. A full design for the appropriate access arrangements will be confirmed in due course as part of detailed Transport Assessment work and through dialogue with National Highways.
- 4.5. **Chapter 5** confirms that the proposed roundabout could serve the full development of up to around 550,000sqft of B8 use in capacity terms and it demonstrates that in principle the roundabout provides a resilient solution.

Employees Travel Strategy

- 4.6. Travel Plan objectives and initiatives would be promoted at the scheme, which are anticipated at this stage to be similar in principle to those being proposed as part of the nearby DIRFT development. This will include a comprehensive site-wide Travel Plan Strategy overseen by a Travel Plan Coordinator. The aim would be to influence the travel habits of the site's employees from the outset and would include a range of initiatives and to seek to promote and encourage sustainable travel.
- 4.7. The possibility of implementing a shuttle bus scheme, or something similar, would be investigated for employees of the scheme within future transportation assessment work. This could link from Rugby, Lutterworth and other local settlements to minimise Single Occupancy Vehicle (SOV) trips associated with the development.
- 4.8. Parking on site is anticipated to be provided in accordance with Leicestershire County Council's parking standards and national best practice prevailing at the time of any planning application.
- 4.9. Car sharing measures could also be promoted, such as reserving parking areas for those with two or more passengers only. Electric Vehicle (EV) charging points would also be provided on site. The details of the parking arrangements would be confirmed in as part of detailed Transport Assessment work.
- 4.10. Off-site mitigation strategies will be provided on the strategic and local highway networks as appropriate to address residual car trips by commuters and HGV trips. This would be confirmed further to detailed Transportation Assessment work.

5. Traffic Impact

Forecast Vehicular Trips

- 5.1. The location of the site provides the opportunity for high levels of pass-by and diverted trips by cars and heavy good vehicles (HGVs). It is therefore not anticipated that all of the traffic associated with the proposed scheme will be new on the local and strategic highway network.



- 5.2. An initial broadbrush assessment has been carried out for the proposed scheme using the industry standard TRICS database (version 7.10.4). For the purposes of this assessment, the 'Warehousing (Commercial)' category has been selected as it is considered to be the most representative land use at this stage with the most sites available. The 'Parcel Distribution' category has also been interrogated to provide a range of forecast trips associated with the site. Within this category, only one site is available without Travel Plans and one site is available with an operational Travel Plan within the most recent 10 year period. As such, both surveys are selected, and a re-survey of one of the sites is deselected as it was undertaken during the Covid-19 pandemic. No account has been taken for the potential of pass-by and linked trips, in order to provide a robust assessment.
- 5.3. Using the parameters above, this forecasts that the proposed development site comprising up to around 550,000sqft (51,097sqm) could be associated with between around 165 and 721 two-way vehicular trips in the AM peak period (08:00 to 09:00) and between around 172 and 748 two-way vehicle trips in the PM peak period (17:00 to 18:00) at the scheme's access point. Of these trips, it is forecast that between around 63 and 72 two-way movements would be associated with HGVs in the AM peak and between around 48 and 56 two-way trips would be associated with HGVs in the PM peak. The HGV trips would broadly be envisaged to be contained on the SRN. The full TRICS reports are included at **Appendix C**.
- 5.4. The trip rates associated with planning application 15/O1531/OUT for an extension to Magna Park to the north of the site were much lower for B2/B8 land uses. It is therefore considered that the assessment provided is robust.

Trip Distribution

- 5.5. For the purposes of this assessment, the future development trips have been distributed on a pro rata basis, using the 2018 recorded turning counts at Gibbet Roundabout.
- 5.6. The Great Britain Freight Model is used to provide a description and forecast of freight demand to, from and within the country. The Great Britain Freight Model Version 5 – 2022 Updates document by Department for Transport (December 2022) states that the model has recently been updated to a new base year of 2018. This model hasn't been utilised at this stage, but could be in the future within detailed Transportation Assessment work, should it be considered appropriate.

Junction Capacity Assessments

- 5.7. An indicative high-level assessment has been undertaken at the proposed site access roundabout junction and at the existing Gibbet Roundabout using stand-alone Arcady junction capacity models and the flows derived from the initial broad-brush assessment work. It is anticipated at this stage that detailed Transport Assessment work would instead ultimately apply the highway authorities' prevailing area-wide models at the time of any planning submission.

Growth Factors

5.8. In order to assess the impact of the development, the existing 2018 traffic data identified at **Chapter 2** has been growthed to a future year of 2031 (in line with the current Local Plan period) using TEMPRO National Transport Model v7.2c growth factors. These have been selected for AM and PM peak highway network periods for the Harborough 006 MSOA using a trunk road type. The following growth rates have been applied:

- 2018 – 2031 AM: 1.1449
- 2018 – 2031 PM: 1.1481

Junction Modelling

5.9. The industry standard Junctions 10 modelling software has been used to carry out a first-fit assessment of the capacity of the site access roundabout junction on the A5(T) and Gibbet Roundabout.

Definition of Modelling Terms

RFC – Ratio Flow to Capacity

5.10. The ratio of flow to capacity provides a measure of the utilised capacity of a junction approach arm. Arms exceeding a ratio of 0.85 (i.e. 85% capacity utilised) are considered to be approaching capacity at times within the modelling period. Junction arms exceeding a ratio of 1.00 (i.e., 100% capacity utilised) are considered to be over capacity and are characterised as typically having heavy volumes of queued traffic at peak times.

5.11. Results that exceed RFCs of 1.00 are associated with queue lengths that are subject to exponential growth. However, the instability of flows through over-capacity approach arms results in an inherent difficulty in calibrating modelled outputs to observed conditions. For this reason, queue lengths attributed to overcapacity approach arms should be considered indicative rather than representative.

Queue Length

5.12. The queue length stated in the capacity assessment results represents the average maximum queue lengths in vehicles on each arm across the peak hour. They are therefore indicative of queuing extent at the busiest times within the peak hour.

Modelling Results

Site Access

5.13. The results for the proposed site access junction using both warehouse (commercial) trips and parcel distribution trips are summarised at **Table 5.1** and the full modelling results are included at **Appendix D**.

Table 5.1 – Site Access Roundabout Junction Modelling

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2031 Base + Development (Warehouse (Commercial))						
A5 North	1.0	4.63	0.51	1.0	4.63	0.50
Site Access	0.1	5.23	0.10	0.1	4.17	0.13
A5 South	1.1	5.81	0.52	2.0	7.50	0.67
2031 Base + Development (Parcel Distribution)						
A5 North	2.3	7.84	0.70	0.9	4.57	0.49
Site Access	0.3	4.49	0.22	0.9	5.63	0.46
A5 South	2.0	8.26	0.67	4.3	14.68	0.82

- 5.14. **Table 5.1** shows that the roundabout is forecast to operate efficiently with a maximum RFC of between 0.52 and 0.70 on the A5 South and A5 North arm respectively, with a maximum queue length of between 1.1 and 2.3 vehicles in the AM peak. In the PM peak, the roundabout is forecast to operate with a maximum RFC of between 0.67 and 0.82 on the A5 South arm with a maximum queue length of between 2.0 and 4.3 vehicles in the PM peak. It is concluded that the proposed site access roundabout would be likely to operate efficiently with spare capacity in the design year. The work would be refined in due course as part of a detailed Transportation Assessment.

Gibbet Roundabout

Percentage Impact Assessment

- 5.15. A percentage impact assessment of the total two-way vehicular development traffic on the Gibbet Roundabout during weekday traditional peak hours on the highway network has been undertaken and is summarised in **Table 5.2** below.

Table 5.2 – Gibbet Roundabout Percentage Impact Summary

Arm	AM			PM		
	2031 Base	Development Trips	Percentage Impact	2031 Base	Development Trips	Percentage Impact
Gibbet Lane	192	1	0.5%	216	1	0.5%
A5 South	1256	75	6.0%	1431	102	7.2%
A426	1998	14	0.7%	1909	11	0.6%
A5 North	1586	49	3.1%	1108	70	6.3%
Rugby Road	1255	11	0.9%	1424	19	1.4%

- 5.16. **Table 5.2** shows that the proposed scheme will have an impact of over 5% on the A5 (S) arm of the Gibbet Roundabout in both the AM and PM peaks. In the PM peak, the development would also have an impact of 6.3% on the A5 (N) arm. The impact on all other arms is below 5% in both peak periods.

Junction Model Assessment

- 5.17. The geometries for Gibbet Roundabout have been taken from the Transport Assessment contained within the Environmental Statement associated with planning application 15/O1531/OUT. It is assumed at this stage that this was agreed by the local highway authority. The model does not account for any improvement schemes under the DCO or otherwise, which are understood to be coming forwards.
- 5.18. The 2018 base model has been calibrated against the recorded queues from the traffic surveys undertaken in 2018.
- 5.19. The Gibbet Roundabout results for warehousing (commercial) trips only are summarised at **Table 5.3** and the full modelling results are included at **Appendix E**.

Table 5.3 – Gibbet Roundabout Junction Modelling

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2018 Base						
Gibbet Lane	2.3	102.89	0.75	1.5	59.23	0.63
A5 South	17.9	115.52	1.02	11.5	53.68	0.95
A426	13.6	62.67	0.96	65.1	232.21	1.14
A5 North	6.4	27.46	0.88	6.1	35.16	0.88
Rugby Road	19.2	101.35	1.01	7.7	48.81	0.91
2031 Base						
Gibbet Lane	7.3	274.39	1.04	6.0	201.15	0.98
A5 South	59.0	394.38	1.20	61.9	237.03	1.13
A426	55.1	205.91	1.11	168.0	719.05	1.33
A5 North	27.5	95.36	1.02	20.3	96.71	1.00
Rugby Road	82.9	440.01	1.25	42.0	200.60	1.11
2031 Base + Development						
Gibbet Lane	8.7	330.78	1.08	6.6	222.04	1.00
A5 South	74.1	495.58	1.24	98.6	418.52	1.22
A426	62.8	243.10	1.12	181.0	811.02	1.34
A5 North	41.9	134.33	1.06	26.7	121.03	1.03
Rugby Road	102.7	560.18	1.29	48.6	243.88	1.14

- 5.20. It is concluded that this roundabout is already operating over capacity and requires improvements to accommodate the forecast base and development traffic. **Paragraph 2.8** confirms that improvements are coming forwards at this location in connection with the DIRFT development in the south.
- 5.21. It is considered that the development scheme in this location would provide the opportunity for improvements to be secured at this roundabout (and elsewhere if necessary), should it be considered appropriate further to a more detailed review of what measures are coming forwards anyway and how the changed roundabout would perform with the addition of the scheme’s extra traffic.

6. Summary and Conclusions

- 6.1. This Concept Transport Strategy (TS) has been prepared by Pegasus Group on behalf of Ashfield Land. It supports the promotion of land to the south of Gibbet Lane, Shawell, for employment uses. At this stage it is anticipated that the development will comprise employment uses, primarily logistics development and storage and distribution within Use Class B8 with ancillary office space (Use Class E(g)).
- 6.2. The Warehousing and Logistics in Leicester and Leicestershire: Managing Growth and Change (April 2021, amended March 2022) report identifies a 'Golden Triangle' area which is broadly bound by the M1, M6 and M69 motorways. The report suggests that strategic sites should be located within this area, due to the locational benefits which are unlikely to diminish into the future. The site is located within this 'Golden Triangle'. It is concluded that the site is in a suitable location, in proximity to the strategic road network including the M1, M6 and A5, and that a scheme here can be provided broadly in accordance with local and national guidance.
- 6.3. It is concluded that Gibbet Lane is not suitable for intensified use by significant numbers of HGVs, and that safe and suitable access can be provided from the A5 in the form of a new roundabout junction. It is also concluded that the development proposal provides an opportunity to secure off-site highway schemes if considered necessary in due course.
- 6.4. It is concluded that the development of Land to the south of Gibbet Lane can be accommodated in transport terms and could provide a scheme of wider benefits in transport terms.



Figure

A3

Key:

Approximate Site Boundary



Lutterworth

A4303 - Coventry Road

M1 Junction 20

Walcote

A426 - Rugby Road

A5

M1

Gibbet Roundabout

Gibbet Lane

A426

A5

M6 Junction 1

M6

M6 Junction 19

Newton

Catthorpe

Brownsover

Clifton-upon-Dunsmore

Lilbourne Road

Rugby

REV	DATE	DESCRIPTION	REVISED BY	APPROVED BY

SITE LOCATION AND LOCAL HIGHWAY PLAN

LAND AT SHAWELL

CLIENT:
ASHFIELD LAND

STATUS:
FOR INFORMATION

DATE:
16/01/2024

SCALE:
1:25,000

DRAWN/CHECKED BY:
AG/LH

APPROVED BY:
KSS

DRAWING NUMBER:
P23-2051 - FIGURE 2.1

REVISION No:





Appendix A



Appendix B

Arms
LEICESTERSHIRE MCC - 00008027542 - GIBBET LANE - Tuesday, April 24, 2018

Towards Junction													Away From Junction													Both Directions												
Period	IC	MC	CAR	LGW	OGV1	OGV2	PSV	Total	Period	IC	MC	CAR	LGW	OGV1	OGV2	PSV	Total	Period	IC	MC	CAR	LGW	OGV1	OGV2	PSV	Total												
07:00	0	0	151	22	6	18	0	197	07:00	0	1	66	5	5	16	1	94	07:00	0	1	217	27	11	34	1	291												
07:15	0	0	143	22	6	18	0	189	07:15	0	1	190	5	5	12	1	213	07:15	0	1	310	32	12	38	1	395												
07:30	0	3	184	28	8	14	1	238	07:30	2	106	14	1	14	1	137	07:30	5	2	290	42	9	28	1	376													
07:45	0	2	192	28	8	13	0	243	07:45	0	131	14	6	14	1	163	07:45	7	3	328	44	14	27	1	416													
08:00	0	1	176	12	6	17	0	211	08:00	1	104	15	9	22	0	151	08:00	2	283	27	15	39	0	366														
08:15	0	1	144	13	6	17	0	180	08:15	0	102	17	6	14	0	141	08:15	1	210	14	14	23	0	261														
08:30	0	0	152	17	7	23	1	205	08:30	0	93	9	11	24	0	137	08:30	0	200	26	18	47	1	342														
08:45	0	0	142	21	7	21	0	191	08:45	0	142	11	11	27	0	171	08:45	0	217	31	22	51	1	322														
09:00	0	0	94	18	8	14	0	139	09:00	0	93	15	10	23	0	141	09:00	0	192	33	18	37	0	280														
09:15	0	0	113	18	8	14	0	163	09:15	0	108	15	11	24	0	154	09:15	0	208	35	19	39	0	301														
09:30	0	0	90	18	8	14	0	130	09:30	0	53	12	12	18	0	95	09:30	0	143	30	18	39	0	230														
09:45	0	0	85	12	8	14	0	119	09:45	0	108	12	12	18	0	140	09:45	0	212	34	21	41	0	320														
10:00	0	0	73	14	8	14	0	109	10:00	1	53	9	3	25	0	91	10:00	1	126	23	7	47	0	204														
10:15	0	0	65	10	8	14	0	100	10:15	0	42	12	4	24	0	83	10:15	0	107	28	13	44	0	192														
10:30	0	0	69	18	10	14	0	111	10:30	0	44	10	11	19	0	75	10:30	0	113	31	14	46	0	204														
10:45	0	0	50	10	5	25	1	91	10:45	0	42	20	9	24	0	90	10:45	0	102	30	14	34	1	171														
11:00	0	0	49	14	4	23	0	90	11:00	0	89	17	4	19	0	111	11:00	0	105	31	15	34	1	195														
11:15	0	0	69	16	5	22	0	112	11:15	0	2	47	17	19	1	105	11:15	0	2	116	33	24	41	1	217													
11:30	0	0	59	14	4	23	0	96	11:30	0	86	13	8	18	0	115	11:30	0	107	27	13	43	0	187														
11:45	0	0	63	15	11	17	1	107	11:45	0	62	11	17	22	1	113	11:45	0	105	26	29	39	2	229														
12:00	0	0	58	14	8	22	0	102	12:00	0	49	14	11	18	0	94	12:00	0	105	31	15	36	1	189														
12:15	0	0	53	11	6	14	0	84	12:15	0	57	15	13	19	0	104	12:15	0	100	26	19	33	0	188														
12:30	0	0	49	17	4	18	0	88	12:30	0	56	14	11	18	0	100	12:30	0	105	31	15	36	1	195														
12:45	0	0	61	17	6	16	1	101	12:45	0	71	11	7	14	0	103	12:45	0	132	28	13	30	1	204														
13:00	0	0	78	10	4	29	0	105	13:00	0	21	12	8	18	0	114	13:00	0	141	27	14	37	0	219														
13:15	0	0	67	4	4	16	0	91	13:15	0	64	17	12	15	1	109	13:15	0	131	21	16	31	1	200														
13:30	0	0	63	6	4	20	1	94	13:30	0	1	14	14	14	0	136	13:30	0	147	21	16	34	1	222														
13:45	0	0	63	11	7	22	0	103	13:45	0	74	14	8	18	0	114	13:45	0	137	25	15	40	0	217														
14:00	0	0	82	15	3	17	0	118	14:00	0	39	16	8	0	13	14:00	0	143	24	11	40	0	228															
14:15	0	0	63	13	9	18	0	103	14:15	0	97	12	7	19	0	135	14:15	0	160	25	16	37	0	238														
14:30	0	0	75	15	3	20	0	113	14:30	0	81	15	8	15	1	127	14:30	0	157	22	12	29	2	224														
14:45	0	2	74	7	4	14	0	102	14:45	0	83	15	8	15	1	122	14:45	0	2	157	22	12	29	2	224													
15:00	0	0	65	12	4	14	0	95	15:00	0	107	19	2	20	0	138	15:00	0	182	27	8	37	0	245														
15:15	0	0	84	8	4	9	0	105	15:15	0	89	16	13	14	0	122	15:15	0	173	24	17	23	0	237														
15:30	0	0	88	12	2	20	0	122	15:30	0	66	19	8	17	0	111	15:30	0	154	30	10	27	0	231														
15:45	0	0	82	11	1	13	0	116	15:45	0	112	14	10	11	0	147	15:45	0	141	22	12	26	0	219														
16:00	0	1	86	9	5	11	0	112	16:00	0	111	21	9	18	1	161	16:00	0	2	197	30	14	29	1	273													
16:15	0	0	81	15	3	14	0	109	16:15	0	101	15	14	16	0	136	16:15	0	186	25	19	29	0	300														
16:30	0	0	105	13	3	8	0	129	16:30	0	113	22	6	11	0	152	16:30	0	218	38	9	19	0	281														
16:45	0	0	95	12	9	5	0	117	16:45	0	146	10	4	11	0	176	16:45	0	177	1	11	24	0	202														
17:00	0	0	113	11	6	14	0	144	17:00	0	138	19	7	11	0	176	17:00	0	251	30	13	25	0	320														
17:15	0	0	129	12	4	8	0	153	17:15	0	172	12	1	11	0	203	17:15	0	323	11	5	21	0	360														
17:30	0	0	119	13	8	17	0	160	17:30	0	144	16	2	14	1	178	17:30	0	4	263	29	10	11	1	338													
17:45	0	0	124	8	2	14	0	164	17:45	0	144	17	14	5	19	0	177	17:45	0	137	14	5	19	0	206													
18:00	0	0	126	7	1	15	0	149	18:00	0	118	5	1	12	0	137	18:00	0	1	244	12	2	27	0	286													
18:15	0	0	118	7	7	2	0	135	18:15	0	115	11	1	12	0	144	18:15	0	110	14	6	27	0	257														
18:30	0	0	108	4	3	13	0	127	18:30	0	85	15	0	10	0	112	18:30	0	1	172	19	3	23	0	218													
18:45	0	0	125	5	3	0	0	133	18:45	0	92	11	5	11	0	111	18:45	0	133	14	5	21	0	274														
Total	0	17	4473	615	291	768	13	6177	Total	0	21	4170	677	336	835	12	6051	Total	0	38	8643	1292	647	1383	25	12228												

Towards Junction													Away From Junction													Both Directions												
Period	IC	MC	CAR	LGW	OGV1	OGV2	PSV	Total	Period	IC	MC	CAR	LGW	OGV1	OGV2	PSV	Total	Period	IC	MC	CAR	LGW	OGV1	OGV2	PSV	Total												
07:00	0	0	128	26	10	14	0	178	07:00	0	82	12	4	13	0	112	07:00	0	1	207	38	14	27	0	287													
07:15	0	0	128	26	10	14	0	178	07:15	0	82	12	4	13	0	112	07:15	0	1	207	38	14	27	0	287													
07:30	0	2	95	24	5	9	0	135	07:30	0	104	14	5	9	0	136	07:30	0	1	199	40	10	18	0	271													
07:45	0	0	122	27	4	15	0	178	07:45	0	100	16	10	5	1	123	07:45	0	202	43	8	20	1	294														
08:00	0	0	121	21	10	15	0	177	08:00	0	100	16	10	5	1	123	08:00	0	204	43	8	20	1	296														
08:15	0	0	97	20	4	12	0	133	08:15	0	92	11	2	18	0	123	08:15	0	189	31	6	30	0	256														
08:30	0	0	114	20	4	12	0	150	08:30	0	114	20	4	12	0	150	08:30	0	214	32	6	31	0	284														
08:45	0	0	122	9	5	20	0	156	08:45	0	83	8	8	10	0	110	08:45	0	205	17	13	30	1	266														
09:00	0	0	114	22	4	11	0	151	09:00	0	114	22	4	11	0	151	09:00	0	209	20	13	26	0	268														
09:15	0	0	114	14	8	11	0	147	09:15	0	65	15	7	14	0	101	09:15	0	179	29	15	25	0	248														
09:30	0	0	111	26	7	16	0	161	09:30	0	127	14	9	13	0	163	09:30	0	173	36	16	30	0	255														
09:45	0	0	124	19	8	9	0	160	09:45	0	1	62	15	4	13	0	95	09:45	0	1	186	34	12	22	0	255												
10:00</																																						

18:00	0	0	11	2	0	1	0	14	18:00	0	0	18	1	0	0	0	19	18:00	0	0	20	3	0	1	0	33
18:15	0	0	18	0	0	0	0	18	18:15	0	0	21	1	0	1	0	1	18:15	0	0	30	1	1	1	0	41
18:30	0	0	13	0	0	0	0	13	18:30	0	0	14	2	0	1	0	17	18:30	0	0	27	2	0	1	0	30
18:45	0	0	0	0	0	0	0	0	18:45	0	0	1	0	0	0	0	1	18:45	0	0	2	0	0	0	0	2
Total	1	1	623	120	56	191	1	1002	Total	0	3	627	120	61	180	1	961	Total	1	4	1210	258	117	371	2	1963

AWAY JUNCTION

Period	PC	Towards Junction					Away From Junction					Both Directions														
		INC	CAR	LEV	DDV1	PSV	Total	Period	PC	INC	CAR	LEV	DDV1	DDV2	PSV	Total	Period	PC	INC	CAR	LEV	DDV1	DDV2	PSV	Total	
07:00	0	1	72	6	5	22	0	106	07:00	0	1	111	17	6	22	0	150	07:00	0	1	183	23	11	44	0	262
07:15	0	0	24	15	11	21	0	112	07:15	0	1	130	20	11	10	0	184	07:15	0	1	204	20	11	44	0	280
07:30	0	0	82	15	11	21	0	129	07:30	0	1	139	20	11	10	0	194	07:30	0	1	221	40	22	35	0	323
07:45	0	0	88	9	13	11	0	125	07:45	0	1	136	16	12	16	0	181	07:45	0	1	204	25	25	31	0	305
08:00	0	0	11	11	0	0	0	22	08:00	0	1	132	7	7	13	0	170	08:00	0	1	200	19	18	49	0	276
08:15	0	0	100	16	8	19	0	143	08:15	0	0	98	17	9	18	2	144	08:15	0	0	198	33	17	37	2	287
08:30	0	0	73	8	5	20	0	112	08:30	0	1	115	15	5	20	0	155	08:30	0	1	188	23	10	46	1	268
08:45	0	0	78	10	12	28	1	126	08:45	0	0	84	17	9	18	0	127	08:45	0	0	162	27	21	42	1	253
09:00	0	0	71	8	7	19	0	107	09:00	0	1	115	15	5	20	0	159	09:00	0	1	188	18	10	46	1	264
09:15	0	0	54	12	7	16	0	86	09:15	0	0	52	7	8	23	0	80	09:15	0	0	103	19	15	30	0	178
09:30	0	0	38	15	12	8	0	80	09:30	0	0	44	14	7	17	0	72	09:30	0	0	84	27	18	46	0	175
09:45	0	0	31	9	5	25	0	70	09:45	0	1	49	15	13	26	1	95	09:45	0	2	108	24	18	41	1	174
10:00	0	0	41	7	4	22	0	81	10:00	0	0	65	12	5	26	0	102	10:00	0	0	132	19	16	48	0	170
10:15	0	0	49	6	6	21	0	82	10:15	0	0	54	7	10	30	0	105	10:15	0	0	103	13	16	54	0	187
10:30	0	0	37	9	5	20	0	71	10:30	0	0	45	12	6	30	0	93	10:30	0	1	83	20	15	50	0	170
10:45	0	0	35	20	11	25	0	91	10:45	0	1	23	5	8	23	0	60	10:45	0	1	58	25	19	48	0	151
11:00	0	0	39	5	5	20	0	73	11:00	0	1	38	15	7	24	0	85	11:00	0	1	70	20	12	54	0	158
11:15	0	2	35	10	13	23	1	84	11:15	0	0	52	9	3	22	0	86	11:15	0	2	87	19	16	45	1	170
11:30	0	1	39	11	22	23	0	84	11:30	0	0	46	11	1	22	0	70	11:30	0	1	85	25	12	54	0	158
11:45	0	0	37	10	14	23	0	83	11:45	0	0	39	12	10	23	0	84	11:45	0	0	76	22	24	45	0	167
12:00	0	0	38	11	5	22	0	84	12:00	0	0	45	15	8	19	0	79	12:00	0	0	87	18	12	41	0	167
12:15	0	0	42	11	36	20	0	89	12:15	0	0	40	9	10	21	0	80	12:15	0	0	82	20	26	41	0	169
12:30	0	0	46	10	30	16	1	83	12:30	0	0	31	13	5	20	0	69	12:30	0	0	77	23	15	36	1	152
12:45	0	0	45	15	9	19	0	87	12:45	0	0	35	12	7	17	0	81	12:45	0	0	109	27	17	31	0	178
13:00	0	0	40	13	33	17	0	83	13:00	0	0	57	6	8	19	0	90	13:00	0	0	97	19	21	36	0	173
13:15	0	0	43	16	6	18	0	83	13:15	0	0	42	5	6	10	0	75	13:15	0	0	88	21	12	37	0	158
13:30	0	1	68	9	10	24	0	112	13:30	0	0	53	6	4	18	1	82	13:30	0	1	124	15	14	42	1	194
13:45	0	0	43	16	9	19	0	108	13:45	0	0	49	7	8	19	0	86	13:45	0	0	96	27	17	46	0	176
14:00	0	0	74	11	10	20	0	115	14:00	0	0	57	14	8	24	0	103	14:00	0	0	131	25	18	46	0	214
14:15	0	0	76	7	7	19	0	108	14:15	0	0	51	18	7	18	0	95	14:15	0	0	117	26	17	43	1	214
14:30	0	1	75	14	10	23	1	124	14:30	0	0	57	5	7	20	0	90	14:30	0	2	132	19	17	43	1	214
14:45	0	0	77	18	10	20	0	123	14:45	0	0	59	5	9	22	0	92	14:45	0	0	122	15	15	46	0	206
15:00	0	1	70	10	6	22	0	109	15:00	0	0	55	7	7	13	0	82	15:00	0	1	125	17	13	35	0	191
15:15	0	1	71	11	7	14	0	114	15:15	0	0	60	7	7	14	0	88	15:15	0	0	140	15	14	40	0	209
15:30	0	1	64	22	14	22	0	123	15:30	0	0	62	8	7	23	1	101	15:30	0	1	126	30	21	45	1	224
15:45	0	0	63	20	7	19	0	112	15:45	0	0	56	12	12	19	0	93	15:45	0	0	119	29	19	47	0	205
16:00	0	1	93	21	9	22	1	147	16:00	0	0	59	7	9	20	0	95	16:00	0	1	152	28	18	42	1	242
16:15	0	0	92	23	6	19	0	139	16:15	0	0	61	10	11	20	0	102	16:15	0	0	137	29	19	40	0	235
16:30	0	0	122	26	11	21	0	180	16:30	0	0	60	14	7	15	0	120	16:30	0	1	212	40	18	36	0	306
16:45	0	0	146	8	11	20	0	184	16:45	0	0	64	12	8	14	0	126	16:45	0	0	239	29	17	36	0	325
17:00	0	1	159	17	7	19	0	194	17:00	0	0	100	8	8	18	0	134	17:00	0	1	289	25	15	28	0	328
17:15	0	1	159	19	2	15	0	188	17:15	0	0	98	10	7	20	0	134	17:15	0	1	289	25	9	17	0	326
17:30	0	1	156	19	2	15	0	182	17:30	0	0	98	10	7	20	0	134	17:30	0	1	289	25	9	17	0	326
17:45	0	0	135	15	6	19	0	174	17:45	0	0	90	2	7	15	0	118	17:45	0	0	225	18	13	32	0	286
18:00	0	0	109	6	1	19	0	132	18:00	0	0	74	4	1	24	0	104	18:00	0	0	184	10	7	36	0	230
18:15	0	2	103	11	2	11	0	129	18:15	0	0	73	2	7	28	0	107	18:15	0	2	176	13	9	26	0	236
18:30	0	1	41	10	1	18	0	61	18:30	0	0	39	3	6	6	0	60	18:30	0	1	200	16	7	47	0	191
18:45	0	0	54	8	2	16	0	77	18:45	0	0	49	3	4	9	0	65	18:45	0	0	102	8	6	36	0	152
Total	0	20	354	615	384	970	8	5551	Total	0	32	492	326	266	0	5961	Total	0	30	6813	1107	710	1901	18	19612	

AWAY JUNCTION

Period	PC	Towards Junction					Away From Junction					Both Directions														
		INC	CAR	LEV	DDV1	PSV	Total	Period	PC	INC	CAR	LEV	DDV1	DDV2	PSV	Total	Period	PC	INC	CAR	LEV	DDV1	DDV2	PSV	Total	
07:00	0	1	110	16	9	33	1	169	07:00	0	1	201	29	14	31	0	276	07:00	0	1	312	41	23	63	1	445
07:15	0	1	152	15	11	25	1	205	07:15	0	1	228	37	11	27	0	304	07:15	0	2	380	52	22	52	1	509
07:30	0	1	156	24	7	19	0	207	07:30	0	1	175	35	13	26	1	248	07:30	0	1	331	56	20	42	1	458
07:45	0	0	162	26	10	15	0	213	07:45	1	0	198	29	19	25	0	272	07:45	1	0	360	55	29	40	0	485
08:00	0	1	142	15	10	21	0	189	08:00	0	1	189	25	16	28	0	258	08:00	0	1	334	40	26	40	0	469
08:15	0	0	132	23	7	21	0	185	08:15	0	1	159	30	16	20	0	226	08:15	0	1	291	53	23	43	0	4

Movement Summary
LEICESTERSHIRE MCC - 000008027542 - GIBBET LANE - Tuesday, April 24, 2018

From: AS north											
To: AS north		To: Rugby Road		To: Gibbet Lane		To: AS south		To: A426		Total	
Total	5	Total	56	Total	183	Total	2604	Total	3329		
AM Peak 11:00 - 1	2	AM Peak 11:00 - 1	8	AM Peak 07:00 - 0	20	AM Peak 07:30 - 0	420	AM Peak 07:15 - 0	499		
PM Peak 12:30 - 1	1	PM Peak 12:00 - 1	11	PM Peak 12:00 - 1	31	PM Peak 13:00 - 1	283	PM Peak 17:15 - 1	317		
From: Rugby Road											
To: AS north		To: Rugby Road		To: Gibbet Lane		To: AS south		To: A426		Total	
Total	70	Total	8	Total	265	Total	1183	Total	4558		
AM Peak 07:00 - 0	13	AM Peak 08:30 - 0	2	AM Peak 07:45 - 0	41	AM Peak 07:15 - 0	155	AM Peak 09:00 - 1	499		
PM Peak 12:30 - 1	9	PM Peak 12:00 - 1	1	PM Peak 14:15 - 1	31	PM Peak 16:15 - 1	131	PM Peak 17:00 - 1	413		
From: Gibbet Lane											
To: AS north		To: Rugby Road		To: Gibbet Lane		To: AS south		To: A426		Total	
Total	126	Total	287	Total	0	Total	114	Total	475		
AM Peak 07:15 - 0	14	AM Peak 08:45 - 0	32	AM Peak -	-	AM Peak 07:15 - 0	16	AM Peak 07:00 - 0	55		
PM Peak 15:30 - 1	13	PM Peak 16:00 - 1	42	PM Peak -	-	PM Peak 12:00 - 1	14	PM Peak 13:45 - 1	48		
From: AS south											
To: AS north		To: Rugby Road		To: Gibbet Lane		To: AS south		To: A426		Total	
Total	3317	Total	1098	Total	88	Total	50	Total	998		
AM Peak 07:45 - 0	335	AM Peak 07:00 - 0	105	AM Peak 07:00 - 0	14	AM Peak 07:15 - 0	9	AM Peak 07:00 - 0	101		
PM Peak 16:45 - 1	524	PM Peak 17:00 - 1	141	PM Peak 13:45 - 1	9	PM Peak 13:30 - 1	7	PM Peak 14:00 - 1	107		
From: A426											
To: AS north		To: Rugby Road		To: Gibbet Lane		To: AS south		To: A426		Total	
Total	2533	Total	4689	Total	425	Total	1110	Total	0		
AM Peak 07:15 - 0	292	AM Peak 07:45 - 0	400	AM Peak 07:00 - 0	41	AM Peak 07:00 - 0	113	AM Peak -	-		
PM Peak 12:45 - 1	233	PM Peak 16:45 - 1	514	PM Peak 17:00 - 1	43	PM Peak 14:00 - 1	123	PM Peak -	-		

Arm Summary

LEICESTERSHIRE MCC - 000008027542 - GIBBET LANE - Tuesday, April 24, 2018

AS north					
Towards Junction	Away From Junction	Both Directions		Total	
Total	6172	Total	6051	12228	
AM Peak 07:15 - 0	905	AM Peak 07:30 - 0	614	AM Peak 07:30 - 0	1505
PM Peak 17:15 - 1	608	PM Peak 16:45 - 1	733	PM Peak 17:00 - 1	1336
Rugby Road					
Towards Junction	Away From Junction	Both Directions		Total	
Total	6084	Total	6138	12222	
AM Peak 07:00 - 0	678	AM Peak 07:15 - 0	520	AM Peak 07:15 - 0	1193
PM Peak 17:00 - 1	556	PM Peak 17:00 - 1	684	PM Peak 17:00 - 1	1240
Gibbet Lane					
Towards Junction	Away From Junction	Both Directions		Total	
Total	1002	Total	961	1963	
AM Peak 07:15 - 0	108	AM Peak 07:00 - 0	108	AM Peak 07:00 - 0	213
PM Peak 16:00 - 1	108	PM Peak 17:00 - 1	97	PM Peak 17:00 - 1	188
AS south					
Towards Junction	Away From Junction	Both Directions		Total	
Total	5551	Total	5061	10612	
AM Peak 07:30 - 0	518	AM Peak 07:15 - 0	697	AM Peak 07:30 - 0	1205
PM Peak 16:45 - 1	757	PM Peak 17:00 - 1	506	PM Peak 16:45 - 1	1253
A426					
Towards Junction	Away From Junction	Both Directions		Total	
Total	8757	Total	9260	18117	
AM Peak 07:15 - 0	817	AM Peak 07:00 - 0	1100	AM Peak 07:15 - 0	1899
PM Peak 17:30 - 1	884	PM Peak 17:15 - 1	832	PM Peak 17:15 - 1	1699

Total Flow

LEICESTERSHIRE MCC - 000008027542 - GIBBET LANE - Tuesday, April 24, 2018

Period	MC	MC	MC	MC	MC	MC	MC	Total
07:00	0	2	474	71	30	88	1	666
07:15	0	3	532	85	34	78	1	757
07:30	0	8	552	89	31	68	1	757
07:45	1	2	580	85	40	66	1	775
08:00	0	2	522	43	43	85	1	720
08:15	0	1	485	27	33	78	2	676
08:30	0	0	492	64	34	98	1	692
08:45	0	0	477	54	45	82	1	659
09:00	0	1	419	69	37	81	0	607
09:15	0	0	347	85	41	72	1	526
09:30	0	0	339	77	66	93	0	555
09:45	0	3	328	89	39	75	1	506
10:00	0	2	315	44	28	50	0	500
10:15	0	1	278	53	17	98	2	470
10:30	0	1	252	45	39	86	1	447
10:45	0	1	246	85	41	91	1	445
11:00	0	1	253	78	31	92	1	454
11:15	0	2	292	75	46	89	2	506
11:30	0	4	276	75	40	69	0	463
11:45	0	2	315	67	99	86	2	531
12:00	0	0	268	71	31	83	0	451
12:15	0	0	272	53	48	78	0	451
12:30	0	0	294	68	35	84	1	482
12:45	0	0	329	69	39	79	0	507
13:00	0	1	328	57	33	69	0	489
13:15	0	0	308	52	34	78	1	473
13:30	0	1	335	58	36	75	1	506
13:45	0	0	369	64	37	82	0	474
14:00	0	1	394	69	31	78	0	571
14:15	0	0	376	56	31	78	0	544
14:30	0	2	396	58	34	85	1	576
14:45	0	2	374	70	31	86	2	561
15:00	0	2	411	62	31	65	0	571
15:15	0	0	399	67	34	61	2	555
15:30	0	1	356	69	32	76	1	535
15:45	0	0	393	82	30	78	1	583
16:00	0	2	440	85	31	68	1	607
16:15	0	0	452	87	24	68	1	630
16:30	0	1	453	70	30	44	0	600
16:45	0	0	509	52	30	44	2	644
17:00	0	2	573	61	23	51	0	710
17:15	0	1	606	50	15	56	1	729
17:30	0	4	588	50	15	56	1	726
17:45	1	4	549	46	16	55	0	671
18:00	0	1	521	39	8	60	0	631
18:15	0	4	496	36	16	58	0	610
18:30	0	1	469	48	7	61	0	528
18:45	0	0	352	31	6	56	0	445
Total	3	67	19393	3048	1500	3611	37	27571

Total Summary

LEICESTERSHIRE MCC - 000008027542 - GIBBET LANE - Tuesday, April 24, 2018

Traffic Summary	
Total	27571
AM Peak 07:15 - 0	2950
PM Peak 17:00 - 1	2839



Lutterworth LCC Microsim Studies: Queue Length Survey -

Produced by Streetwise Services Ltd.

Junction: A - (North) A5 / B - Rugby Road / C - Gibbet Lane / D - (South) A5 / E - A426

Survey Period	A - (North) A5		B - Rugby Road		C - Gibbet Lane		D - (South) A5		E - A426	
	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
07:00 - 07:05	5	2	32	0	2	0	14	1	5	0
07:05 - 07:10	5	15	35	0	1	1	7	4	8	0
07:10 - 07:15	5	10	22	0	2	0	5	5	12	0
07:15 - 07:20	6	9	17	0	7	0	10	2	14	0
07:20 - 07:25	6	14	8	1	4	0	10	2	20	0
07:25 - 07:30	8	16	24	1	3	0	9	1	18	0
07:30 - 07:35	5	4	6	1	8	0	18	2	12	0
07:35 - 07:40	9	10	5	4	5	0	17	4	12	0
07:40 - 07:45	9	4	16	4	4	0	16	3	11	0
07:45 - 07:50	4	4	33	3	2	0	12	2	4	0
07:50 - 07:55	9	6	38	0	2	0	18	3	6	2
07:55 - 08:00	7	5	37	1	2	0	7	5	22	0
08:00 - 08:05	6	3	50	1	4	0	11	4	12	0
08:05 - 08:10	5	7	22	0	4	1	15	3	12	0
08:10 - 08:15	6	5	17	3	6	0	27	2	16	0
08:15 - 08:20	7	6	12	1	2	0	28	3	17	1
08:20 - 08:25	4	6	10	0	4	0	15	2	14	1
08:25 - 08:30	6	5	8	1	3	0	14	2	22	1
08:30 - 08:35	9	7	8	6	7	0	12	6	11	2
08:35 - 08:40	10	6	12	0	3	0	9	2	6	0
08:40 - 08:45	6	5	38	0	3	0	14	3	16	3
08:45 - 08:50	6	7	23	2	6	0	13	5	6	4
08:50 - 08:55	5	5	21	2	3	0	24	0	10	0
08:55 - 09:00	5	3	9	0	3	0	27	3	20	2
09:00 - 09:05	7	3	16	0	5	0	17	3	16	4
09:05 - 09:10	3	4	4	1	3	0	5	4	14	0
09:10 - 09:15	5	6	18	1	4	0	8	2	9	0
09:15 - 09:20	3	2	9	2	5	0	8	3	6	0
09:20 - 09:25	6	3	24	3	5	0	9	3	24	0
09:25 - 09:30	5	7	11	0	4	0	4	2	6	2
09:30 - 09:35	8	6	15	2	2	0	7	1	5	0
09:35 - 09:40	3	2	7	0	6	0	8	1	4	4
09:40 - 09:45	4	3	20	4	2	0	4	4	21	2
09:45 - 09:50	4	4	12	4	2	0	13	3	0	0
09:50 - 09:55	3	4	10	0	2	0	6	1	7	4
09:55 - 10:00	4	4	5	2	3	0	7	3	8	3
10:00 - 10:05	3	4	5	3	2	1	4	2	12	2
10:05 - 10:10	7	3	7	0	3	1	6	2	14	2
10:10 - 10:15	3	6	7	0	3	0	6	1	12	0
10:15 - 10:20	8	4	8	0	3	0	4	3	10	0
10:20 - 10:25	3	4	9	3	2	0	4	5	14	6
10:25 - 10:30	3	3	5	1	4	0	5	2	10	0
10:30 - 10:35	2	3	6	0	3	0	12	1	6	3

10:35 - 10:40	2	4	5	0	3	0	15	2	23	0
10:40 - 10:45	6	3	4	1	2	0	8	1	20	0
10:45 - 10:50	5	4	22	0	3	0	6	2	24	3
10:50 - 10:55	2	3	22	0	5	0	5	4	34	0
10:55 - 11:00	2	3	9	0	2	0	5	2	6	2
11:00 - 11:05	5	5	10	0	2	0	2	2	12	2
11:05 - 11:10	4	3	9	1	4	0	7	1	0	0
11:10 - 11:15	4	5	4	0	2	0	7	2	13	0
11:15 - 11:20	3	3	11	0	7	0	14	2	10	0
11:20 - 11:25	4	3	10	0	2	0	10	2	8	0
11:25 - 11:30	5	3	7	0	1	0	5	1	3	2
11:30 - 11:35	4	2	6	0	1	0	4	4	12	2
11:35 - 11:40	3	3	5	0	1	0	9	1	8	2
11:40 - 11:45	3	4	16	0	1	0	8	3	8	0
11:45 - 11:50	5	4	5	0	4	0	17	2	12	0
11:50 - 11:55	4	5	7	0	3	0	2	1	16	2
11:55 - 12:00	5	3	8	0	4	0	5	4	6	4
12:00 - 12:05	4	5	6	0	2	0	6	3	12	0
12:05 - 12:10	2	1	8	0	2	0	10	2	22	2
12:10 - 12:15	4	5	7	0	4	0	6	1	6	0
12:15 - 12:20	3	2	0	0	2	0	5	3	16	3
12:20 - 12:25	4	3	4	1	3	0	10	2	8	2
12:25 - 12:30	2	2	2	0	1	0	5	4	7	2
12:30 - 12:35	3	3	4	0	0	0	9	1	8	3
12:35 - 12:40	4	6	8	0	0	0	11	4	14	0
12:40 - 12:45	4	5	8	0	2	0	3	2	16	0
12:45 - 12:50	3	5	6	2	3	0	6	4	12	2
12:50 - 12:55	4	5	10	0	2	0	18	5	7	4
12:55 - 13:00	3	3	9	1	2	0	18	3	8	2
13:00 - 13:05	4	4	7	0	3	0	5	4	4	4
13:05 - 13:10	4	3	7	0	4	0	4	2	3	2
13:10 - 13:15	5	4	8	1	1	0	8	3	16	2
13:15 - 13:20	3	4	7	0	3	0	10	3	16	2
13:20 - 13:25	5	4	4	1	2	0	5	1	0	0
13:25 - 13:30	4	4	4	0	2	0	5	2	8	2
13:30 - 13:35	2	4	12	1	2	0	14	2	8	3
13:35 - 13:40	5	3	12	1	2	0	7	2	17	0
13:40 - 13:45	12	4	9	1	2	0	13	3	20	0
13:45 - 13:50	6	6	6	1	1	0	10	2	9	0
13:50 - 13:55	6	5	4	4	1	0	10	1	0	0
13:55 - 14:00	4	4	4	0	2	0	12	1	5	0
14:00 - 14:05	3	5	4	0	1	0	13	2	12	0
14:05 - 14:10	3	6	9	1	8	0	5	2	8	2
14:10 - 14:15	2	7	4	0	3	0	11	3	14	0
14:15 - 14:20	3	5	7	0	4	0	6	3	23	0
14:20 - 14:25	2	6	6	2	1	0	11	4	11	1
14:25 - 14:30	8	5	6	1	4	0	10	2	16	1
14:30 - 14:35	4	6	9	0	3	0	14	1	11	0

14:35 - 14:40	5	9	8	2	1	0	10	3	17	2
14:40 - 14:45	4	5	9	0	4	0	12	1	18	0
14:45 - 14:50	4	3	9	3	2	0	6	3	17	0
14:50 - 14:55	6	5	9	0	2	0	12	3	11	0
14:55 - 15:00	4	7	8	3	1	0	18	2	8	2
15:00 - 15:05	3	4	11	1	1	0	7	3	6	0
15:05 - 15:10	5	8	3	0	3	0	5	4	6	1
15:10 - 15:15	4	8	4	0	4	0	14	3	21	3
15:15 - 15:20	3	7	10	0	2	0	13	2	15	0
15:20 - 15:25	4	4	3	1	2	0	7	3	18	2
15:25 - 15:30	2	2	6	0	1	0	3	2	7	0
15:30 - 15:35	5	5	6	2	1	0	10	3	9	2
15:35 - 15:40	4	5	5	0	3	0	11	2	10	0
15:40 - 15:45	4	5	4	1	1	0	13	2	20	0
15:45 - 15:50	4	4	5	1	2	0	15	3	48	0
15:50 - 15:55	3	4	8	1	2	0	8	3	11	4
15:55 - 16:00	4	4	6	0	2	0	10	2	10	0
16:00 - 16:05	3	4	8	0	4	0	11	6	6	2
16:05 - 16:10	3	4	7	0	3	0	10	1	65	2
16:10 - 16:15	6	7	10	1	2	0	13	1	46	2
16:15 - 16:20	4	4	9	0	2	0	28	2	58	3
16:20 - 16:25	4	5	10	2	3	0	27	3	43	2
16:25 - 16:30	6	5	12	1	2	0	25	2	52	2
16:30 - 16:35	3	4	9	1	2	0	18	2	46	0
16:35 - 16:40	6	3	7	1	1	0	8	3	55	0
16:40 - 16:45	7	4	8	1	3	0	18	4	46	3
16:45 - 16:50	5	3	10	0	3	0	30	4	55	2
16:50 - 16:55	4	8	6	1	2	0	10	4	59	2
16:55 - 17:00	5	6	3	1	3	0	14	1	60	2
17:00 - 17:05	8	4	9	2	2	0	5	3	78	3
17:05 - 17:10	4	5	9	0	4	0	9	6	87	4
17:10 - 17:15	4	5	10	0	2	0	18	2	87	3
17:15 - 17:20	8	5	7	1	2	0	10	3	55	2
17:20 - 17:25	5	10	5	1	2	0	16	4	55	4
17:25 - 17:30	5	9	10	1	2	1	18	7	70	4
17:30 - 17:35	4	6	4	2	1	1	13	6	62	4
17:35 - 17:40	8	7	6	2	1	0	7	6	67	4
17:40 - 17:45	7	10	7	2	4	0	8	4	52	4
17:45 - 17:50	4	5	7	0	2	0	9	3	53	3
17:50 - 17:55	6	4	9	1	2	0	10	2	65	2
17:55 - 18:00	4	3	9	2	2	0	15	2	50	5
18:00 - 18:05	4	3	8	0	4	0	10	5	18	2
18:05 - 18:10	6	8	4	1	1	0	16	3	14	0
18:10 - 18:15	5	8	4	1	2	0	5	3	19	3
18:15 - 18:20	3	3	9	1	2	0	16	3	19	0
18:20 - 18:25	4	5	3	1	2	0	16	2	26	4
18:25 - 18:30	5	3	24	2	2	0	10	4	24	0
18:30 - 18:35	6	5	9	2	1	0	6	1	15	4
18:35 - 18:40	2	2	10	0	2	0	11	1	6	0
18:40 - 18:45	3	3	8	0	1	0	3	1	8	0
18:45 - 18:50	0	0	7	0	2	0	1	1	14	0
18:50 - 18:55	0	0	9	1	2	0	10	1	8	0
18:55 - 19:00	2	4	6	0	2	0	5	1	10	0



Appendix C

Calculation Reference: AUDIT-563501-240118-0117

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : F - WAREHOUSING (COMMERCIAL)
TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	EX ESSEX	1 days
	HC HAMPSHIRE	1 days
	MW MEDWAY	1 days
03	SOUTH WEST	
	TB TORBAY	1 days
04	EAST ANGLIA	
	SF SUFFOLK	1 days
06	WEST MIDLANDS	
	WM WEST MIDLANDS	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	BD BRADFORD	1 days
09	NORTH	
	TW TYNE & WEAR	1 days
10	WALES	
	BG BRIDGEND	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
 Actual Range: 190 to 31000 (units: sqm)
 Range Selected by User: 190 to 80100 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 18/01/2014 to 18/01/2024

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday 3 days
 Thursday 1 days
 Friday 5 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count 9 days
 Directional ATC Count 0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Edge of Town 9

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Industrial Zone 8
 Commercial Zone 1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included 1 days - Selected
 Servicing vehicles Excluded 10 days - Selected

Secondary Filtering selection:

Use Class:

n/a 2 days
 B8 7 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order (England) 2020 has been used for this purpose, which can be found within the Library module of TRICS®.

Filter by Site Operations Breakdown:

All Surveys Included

Population within 500m Range:

All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,000 or Less	1 days
1,001 to 5,000	1 days
5,001 to 10,000	2 days
10,001 to 15,000	2 days
15,001 to 20,000	2 days
25,001 to 50,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	1 days
75,001 to 100,000	1 days
125,001 to 250,000	4 days
250,001 to 500,000	2 days
500,001 or More	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	3 days
1.1 to 1.5	6 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No	9 days
----	--------

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	9 days
-----------------	--------

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	BD-02-F-01 STAITHGATE LANE BRADFORD NEWHALL Edge of Town Industrial Zone Total Gross floor area: 10446 sqm <i>Survey date: THURSDAY 14/03/19</i>	DISTRIBUTION COMPANY BRADFORD	
2	BG-02-F-01 PARC CRESCENT BRIDGEND WATERTON IND. EST. Edge of Town Industrial Zone Total Gross floor area: 3050 sqm <i>Survey date: MONDAY 13/10/14</i>	LOGISTICS COMPANY BRIDGEND	<i>Survey Type: MANUAL</i>
3	EX-02-F-01 BRUNEL WAY COLCHESTER SEVERALLS INDUSTRIAL PK Edge of Town Industrial Zone Total Gross floor area: 6560 sqm <i>Survey date: FRIDAY 18/05/18</i>	SPORTS SUPPLEMENTS ESSEX	<i>Survey Type: MANUAL</i>
4	HC-02-F-03 WARSASH ROAD PARK GATE Edge of Town Industrial Zone Total Gross floor area: 3665 sqm <i>Survey date: MONDAY 27/09/21</i>	PPE DISTRIBUTION HAMPSHIRE	<i>Survey Type: MANUAL</i>
5	MW-02-F-02 MILLS ROAD AYLESFORD QUARRY WOOD Edge of Town Industrial Zone Total Gross floor area: 11200 sqm <i>Survey date: FRIDAY 22/09/17</i>	COMMERCIAL WAREHOUSING MEDWAY	<i>Survey Type: MANUAL</i>
6	SF-02-F-03 CENTRAL AVENUE IPSWICH WARREN HEATH Edge of Town Industrial Zone Total Gross floor area: 4700 sqm <i>Survey date: FRIDAY 18/09/15</i>	ROAD HAULAGE SUFFOLK	<i>Survey Type: MANUAL</i>
7	TB-02-F-01 ALDERS WAY PAIGNTON Edge of Town Industrial Zone Total Gross floor area: 190 sqm <i>Survey date: FRIDAY 29/03/19</i>	OPTICS WAREHOUSE TORBAY	<i>Survey Type: MANUAL</i>
8	TW-02-F-01 MANDARIN WAY WASHINGTON PATTISON IND. ESTATE Edge of Town Industrial Zone Total Gross floor area: 31000 sqm <i>Survey date: FRIDAY 13/11/15</i>	ASDA DISTRIBUTION CENTRE TYNE & WEAR	<i>Survey Type: MANUAL</i>

LIST OF SITES relevant to selection parameters (Cont.)

9 WM-02-F-02 LOGISTICS FIRM WEST MIDLANDS
 SOVEREIGN ROAD
 BIRMINGHAM
 KINGS NORTON
 Edge of Town
 Commercial Zone
 Total Gross floor area: 3625 sqm
 Survey date: MONDAY 09/11/15 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address; the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

MANUALLY DESELECTED SURVEYS

Site Ref	Survey Date	Reason for Deselection
BO-02-F-01	15/10/20	Survey undertaken during Covid-19 Pandemic
LO-02-F-01	08/06/21	Survey undertaken during Covid-19 Pandemic

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
 TOTAL VEHICLES
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	2	5318	0.348	2	5318	0.169	2	5318	0.517
06:00 - 07:00	2	5318	0.555	2	5318	0.244	2	5318	0.799
07:00 - 08:00	9	8271	0.212	9	8271	0.118	9	8271	0.330
08:00 - 09:00	9	8271	0.193	9	8271	0.130	9	8271	0.323
09:00 - 10:00	9	8271	0.165	9	8271	0.094	9	8271	0.259
10:00 - 11:00	9	8271	0.132	9	8271	0.132	9	8271	0.264
11:00 - 12:00	9	8271	0.126	9	8271	0.132	9	8271	0.258
12:00 - 13:00	9	8271	0.140	9	8271	0.117	9	8271	0.257
13:00 - 14:00	9	8271	0.159	9	8271	0.138	9	8271	0.297
14:00 - 15:00	9	8271	0.130	9	8271	0.160	9	8271	0.290
15:00 - 16:00	9	8271	0.130	9	8271	0.191	9	8271	0.321
16:00 - 17:00	9	8271	0.122	9	8271	0.208	9	8271	0.330
17:00 - 18:00	9	8271	0.113	9	8271	0.224	9	8271	0.337
18:00 - 19:00	9	8271	0.054	9	8271	0.129	9	8271	0.183
19:00 - 20:00	2	5318	0.094	2	5318	0.244	2	5318	0.338
20:00 - 21:00	2	5318	0.103	2	5318	0.085	2	5318	0.188
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.776			2.515			5.291

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

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Parameter summary

Trip rate parameter range selected:	190 - 31000 (units: sqm)
Survey date date range:	18/01/14 - 18/01/24
Number of weekdays (Monday-Friday):	11
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	2
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
 TAXIS
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	2	5318	0.000	2	5318	0.000	2	5318	0.000
06:00 - 07:00	2	5318	0.009	2	5318	0.009	2	5318	0.018
07:00 - 08:00	9	8271	0.005	9	8271	0.005	9	8271	0.010
08:00 - 09:00	9	8271	0.000	9	8271	0.000	9	8271	0.000
09:00 - 10:00	9	8271	0.000	9	8271	0.000	9	8271	0.000
10:00 - 11:00	9	8271	0.001	9	8271	0.001	9	8271	0.002
11:00 - 12:00	9	8271	0.000	9	8271	0.000	9	8271	0.000
12:00 - 13:00	9	8271	0.000	9	8271	0.000	9	8271	0.000
13:00 - 14:00	9	8271	0.000	9	8271	0.000	9	8271	0.000
14:00 - 15:00	9	8271	0.000	9	8271	0.000	9	8271	0.000
15:00 - 16:00	9	8271	0.000	9	8271	0.000	9	8271	0.000
16:00 - 17:00	9	8271	0.004	9	8271	0.004	9	8271	0.008
17:00 - 18:00	9	8271	0.003	9	8271	0.003	9	8271	0.006
18:00 - 19:00	9	8271	0.000	9	8271	0.000	9	8271	0.000
19:00 - 20:00	2	5318	0.000	2	5318	0.000	2	5318	0.000
20:00 - 21:00	2	5318	0.000	2	5318	0.000	2	5318	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.022			0.022			0.044

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
 OGVS
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	2	5318	0.075	2	5318	0.113	2	5318	0.188
06:00 - 07:00	2	5318	0.085	2	5318	0.160	2	5318	0.245
07:00 - 08:00	9	8271	0.042	9	8271	0.070	9	8271	0.112
08:00 - 09:00	9	8271	0.051	9	8271	0.073	9	8271	0.124
09:00 - 10:00	9	8271	0.047	9	8271	0.042	9	8271	0.089
10:00 - 11:00	9	8271	0.058	9	8271	0.062	9	8271	0.120
11:00 - 12:00	9	8271	0.051	9	8271	0.056	9	8271	0.107
12:00 - 13:00	9	8271	0.064	9	8271	0.040	9	8271	0.104
13:00 - 14:00	9	8271	0.054	9	8271	0.051	9	8271	0.105
14:00 - 15:00	9	8271	0.047	9	8271	0.038	9	8271	0.085
15:00 - 16:00	9	8271	0.067	9	8271	0.052	9	8271	0.119
16:00 - 17:00	9	8271	0.069	9	8271	0.052	9	8271	0.121
17:00 - 18:00	9	8271	0.066	9	8271	0.044	9	8271	0.110
18:00 - 19:00	9	8271	0.036	9	8271	0.027	9	8271	0.063
19:00 - 20:00	2	5318	0.019	2	5318	0.056	2	5318	0.075
20:00 - 21:00	2	5318	0.028	2	5318	0.047	2	5318	0.075
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.859			0.983			1.842

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
 CYCLISTS
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	2	5318	0.000	2	5318	0.000	2	5318	0.000
06:00 - 07:00	2	5318	0.000	2	5318	0.000	2	5318	0.000
07:00 - 08:00	9	8271	0.003	9	8271	0.000	9	8271	0.003
08:00 - 09:00	9	8271	0.012	9	8271	0.000	9	8271	0.012
09:00 - 10:00	9	8271	0.000	9	8271	0.001	9	8271	0.001
10:00 - 11:00	9	8271	0.001	9	8271	0.000	9	8271	0.001
11:00 - 12:00	9	8271	0.001	9	8271	0.000	9	8271	0.001
12:00 - 13:00	9	8271	0.001	9	8271	0.000	9	8271	0.001
13:00 - 14:00	9	8271	0.000	9	8271	0.000	9	8271	0.000
14:00 - 15:00	9	8271	0.001	9	8271	0.004	9	8271	0.005
15:00 - 16:00	9	8271	0.008	9	8271	0.008	9	8271	0.016
16:00 - 17:00	9	8271	0.003	9	8271	0.001	9	8271	0.004
17:00 - 18:00	9	8271	0.001	9	8271	0.007	9	8271	0.008
18:00 - 19:00	9	8271	0.000	9	8271	0.004	9	8271	0.004
19:00 - 20:00	2	5318	0.000	2	5318	0.000	2	5318	0.000
20:00 - 21:00	2	5318	0.000	2	5318	0.000	2	5318	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.031			0.025			0.056

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
 CARS
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	2	5318	0.263	2	5318	0.047	2	5318	0.310
06:00 - 07:00	2	5318	0.432	2	5318	0.056	2	5318	0.488
07:00 - 08:00	9	8271	0.129	9	8271	0.021	9	8271	0.150
08:00 - 09:00	9	8271	0.116	9	8271	0.024	9	8271	0.140
09:00 - 10:00	9	8271	0.075	9	8271	0.023	9	8271	0.098
10:00 - 11:00	9	8271	0.040	9	8271	0.034	9	8271	0.074
11:00 - 12:00	9	8271	0.039	9	8271	0.043	9	8271	0.082
12:00 - 13:00	9	8271	0.044	9	8271	0.051	9	8271	0.095
13:00 - 14:00	9	8271	0.071	9	8271	0.056	9	8271	0.127
14:00 - 15:00	9	8271	0.059	9	8271	0.099	9	8271	0.158
15:00 - 16:00	9	8271	0.040	9	8271	0.112	9	8271	0.152
16:00 - 17:00	9	8271	0.031	9	8271	0.130	9	8271	0.161
17:00 - 18:00	9	8271	0.031	9	8271	0.160	9	8271	0.191
18:00 - 19:00	9	8271	0.015	9	8271	0.094	9	8271	0.109
19:00 - 20:00	2	5318	0.066	2	5318	0.179	2	5318	0.245
20:00 - 21:00	2	5318	0.056	2	5318	0.028	2	5318	0.084
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.507			1.157			2.664

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
 LGVS
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	2	5318	0.000	2	5318	0.009	2	5318	0.009
06:00 - 07:00	2	5318	0.028	2	5318	0.019	2	5318	0.047
07:00 - 08:00	9	8271	0.035	9	8271	0.021	9	8271	0.056
08:00 - 09:00	9	8271	0.026	9	8271	0.034	9	8271	0.060
09:00 - 10:00	9	8271	0.043	9	8271	0.030	9	8271	0.073
10:00 - 11:00	9	8271	0.030	9	8271	0.035	9	8271	0.065
11:00 - 12:00	9	8271	0.035	9	8271	0.031	9	8271	0.066
12:00 - 13:00	9	8271	0.026	9	8271	0.026	9	8271	0.052
13:00 - 14:00	9	8271	0.032	9	8271	0.031	9	8271	0.063
14:00 - 15:00	9	8271	0.024	9	8271	0.020	9	8271	0.044
15:00 - 16:00	9	8271	0.023	9	8271	0.024	9	8271	0.047
16:00 - 17:00	9	8271	0.017	9	8271	0.021	9	8271	0.038
17:00 - 18:00	9	8271	0.013	9	8271	0.015	9	8271	0.028
18:00 - 19:00	9	8271	0.003	9	8271	0.008	9	8271	0.011
19:00 - 20:00	2	5318	0.009	2	5318	0.009	2	5318	0.018
20:00 - 21:00	2	5318	0.019	2	5318	0.009	2	5318	0.028
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.363			0.342			0.705

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
 MOTOR CYCLES
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	2	5318	0.009	2	5318	0.000	2	5318	0.009
06:00 - 07:00	2	5318	0.000	2	5318	0.000	2	5318	0.000
07:00 - 08:00	9	8271	0.001	9	8271	0.000	9	8271	0.001
08:00 - 09:00	9	8271	0.001	9	8271	0.000	9	8271	0.001
09:00 - 10:00	9	8271	0.000	9	8271	0.000	9	8271	0.000
10:00 - 11:00	9	8271	0.003	9	8271	0.000	9	8271	0.003
11:00 - 12:00	9	8271	0.001	9	8271	0.001	9	8271	0.002
12:00 - 13:00	9	8271	0.005	9	8271	0.000	9	8271	0.005
13:00 - 14:00	9	8271	0.001	9	8271	0.000	9	8271	0.001
14:00 - 15:00	9	8271	0.000	9	8271	0.003	9	8271	0.003
15:00 - 16:00	9	8271	0.000	9	8271	0.003	9	8271	0.003
16:00 - 17:00	9	8271	0.001	9	8271	0.000	9	8271	0.001
17:00 - 18:00	9	8271	0.000	9	8271	0.003	9	8271	0.003
18:00 - 19:00	9	8271	0.000	9	8271	0.000	9	8271	0.000
19:00 - 20:00	2	5318	0.000	2	5318	0.000	2	5318	0.000
20:00 - 21:00	2	5318	0.000	2	5318	0.000	2	5318	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.022			0.010			0.032

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Calculation Reference: AUDIT-563501-240124-0105

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : G - PARCEL DISTRIBUTION CENTRES
TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	SO SLOUGH	1 days
05	EAST MIDLANDS	
	LN LINCOLNSHIRE	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
Actual Range: 1496 to 15583 (units: sqm)
Range Selected by User: 763 to 37161 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 24/01/2014 to 24/01/2024

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Tuesday 1 days
Friday 1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count 2 days
Directional ATC Count 0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Edge of Town 2

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Industrial Zone 1
Development Zone 1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included 2 days - Selected
Servicing vehicles Excluded 1 days - Selected

Secondary Filtering selection:

Use Class:

B8 2 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order (England) 2020 has been used for this purpose, which can be found within the Library module of TRICS@.

Filter by Site Operations Breakdown:

All Surveys Included

Population within 500m Range:

All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,001 to 5,000	1 days
10,001 to 15,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

125,001 to 250,000	1 days
250,001 to 500,000	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

1.1 to 1.5	2 days
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This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	1 days
No	1 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	2 days
-----------------	--------

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

- | | | | |
|---|--|-----------------------|----------------------------|
| 1 | LN-02-G-01
WHISBY WAY
LINCOLN
BIRCHWOOD
Edge of Town
Industrial Zone | PARCELFORCE WORLDWIDE | LINCOLNSHIRE |
| | Total Gross floor area: | 1496 sqm | |
| | Survey date: <i>FRIDAY</i> | <i>28/06/19</i> | <i>Survey Type: MANUAL</i> |
| 2 | SO-02-G-01
HORTON ROAD
SLOUGH
COLNBROOK
Edge of Town
Development Zone | DHL | SLOUGH |
| | Total Gross floor area: | 15583 sqm | |
| | Survey date: <i>TUESDAY</i> | <i>06/03/18</i> | <i>Survey Type: MANUAL</i> |

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
SO-02-G-02	Resurvey undertaken during Covid-19 pandemic

MANUALLY DESELECTED SURVEYS

Site Ref	Survey Date	Reason for Deselection
SO-02-G-02	11/05/21	Survey undertaken during Covid-19 Pandemic

TRIP RATE for Land Use 02 - EMPLOYMENT/G - PARCEL DISTRIBUTION CENTRES
 TOTAL VEHICLES
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	1	15583	0.077	1	15583	0.096	1	15583	0.173
01:00 - 02:00	1	15583	0.160	1	15583	0.083	1	15583	0.243
02:00 - 03:00	1	15583	0.186	1	15583	0.148	1	15583	0.334
03:00 - 04:00	1	15583	0.218	1	15583	0.167	1	15583	0.385
04:00 - 05:00	1	15583	0.225	1	15583	0.218	1	15583	0.443
05:00 - 06:00	2	8540	0.574	2	8540	0.182	2	8540	0.756
06:00 - 07:00	2	8540	0.586	2	8540	0.580	2	8540	1.166
07:00 - 08:00	2	8540	0.627	2	8540	0.463	2	8540	1.090
08:00 - 09:00	2	8540	1.013	2	8540	0.398	2	8540	1.411
09:00 - 10:00	2	8540	0.509	2	8540	0.345	2	8540	0.854
10:00 - 11:00	2	8540	0.345	2	8540	0.310	2	8540	0.655
11:00 - 12:00	2	8540	0.386	2	8540	0.386	2	8540	0.772
12:00 - 13:00	2	8540	0.275	2	8540	0.410	2	8540	0.685
13:00 - 14:00	2	8540	0.416	2	8540	0.451	2	8540	0.867
14:00 - 15:00	2	8540	0.381	2	8540	0.433	2	8540	0.814
15:00 - 16:00	2	8540	0.369	2	8540	0.486	2	8540	0.855
16:00 - 17:00	2	8540	0.427	2	8540	0.785	2	8540	1.212
17:00 - 18:00	2	8540	0.480	2	8540	0.984	2	8540	1.464
18:00 - 19:00	2	8540	0.451	2	8540	0.597	2	8540	1.048
19:00 - 20:00	2	8540	0.597	2	8540	0.404	2	8540	1.001
20:00 - 21:00	2	8540	0.299	2	8540	0.381	2	8540	0.680
21:00 - 22:00	1	15583	0.173	1	15583	0.321	1	15583	0.494
22:00 - 23:00	1	15583	0.205	1	15583	0.282	1	15583	0.487
23:00 - 24:00	1	15583	0.141	1	15583	0.212	1	15583	0.353
Total Rates:			9.120			9.122			18.242

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

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Parameter summary

Trip rate parameter range selected:	1496 - 15583 (units: sqm)
Survey date date range:	24/01/14 - 24/01/24
Number of weekdays (Monday-Friday):	2
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	1

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 02 - EMPLOYMENT/G - PARCEL DISTRIBUTION CENTRES
 TAXIS
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	1	15583	0.000	1	15583	0.000	1	15583	0.000
01:00 - 02:00	1	15583	0.000	1	15583	0.000	1	15583	0.000
02:00 - 03:00	1	15583	0.000	1	15583	0.000	1	15583	0.000
03:00 - 04:00	1	15583	0.000	1	15583	0.000	1	15583	0.000
04:00 - 05:00	1	15583	0.000	1	15583	0.000	1	15583	0.000
05:00 - 06:00	2	8540	0.000	2	8540	0.000	2	8540	0.000
06:00 - 07:00	2	8540	0.000	2	8540	0.000	2	8540	0.000
07:00 - 08:00	2	8540	0.000	2	8540	0.000	2	8540	0.000
08:00 - 09:00	2	8540	0.023	2	8540	0.023	2	8540	0.046
09:00 - 10:00	2	8540	0.018	2	8540	0.012	2	8540	0.030
10:00 - 11:00	2	8540	0.006	2	8540	0.006	2	8540	0.012
11:00 - 12:00	2	8540	0.000	2	8540	0.000	2	8540	0.000
12:00 - 13:00	2	8540	0.000	2	8540	0.000	2	8540	0.000
13:00 - 14:00	2	8540	0.000	2	8540	0.000	2	8540	0.000
14:00 - 15:00	2	8540	0.000	2	8540	0.000	2	8540	0.000
15:00 - 16:00	2	8540	0.000	2	8540	0.000	2	8540	0.000
16:00 - 17:00	2	8540	0.006	2	8540	0.006	2	8540	0.012
17:00 - 18:00	2	8540	0.006	2	8540	0.006	2	8540	0.012
18:00 - 19:00	2	8540	0.000	2	8540	0.000	2	8540	0.000
19:00 - 20:00	2	8540	0.000	2	8540	0.000	2	8540	0.000
20:00 - 21:00	2	8540	0.000	2	8540	0.000	2	8540	0.000
21:00 - 22:00	1	15583	0.000	1	15583	0.000	1	15583	0.000
22:00 - 23:00	1	15583	0.000	1	15583	0.000	1	15583	0.000
23:00 - 24:00	1	15583	0.000	1	15583	0.000	1	15583	0.000
Total Rates:			0.059			0.053			0.112

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 02 - EMPLOYMENT/G - PARCEL DISTRIBUTION CENTRES
 OGVS
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	1	15583	0.051	1	15583	0.013	1	15583	0.064
01:00 - 02:00	1	15583	0.058	1	15583	0.032	1	15583	0.090
02:00 - 03:00	1	15583	0.032	1	15583	0.064	1	15583	0.096
03:00 - 04:00	1	15583	0.039	1	15583	0.064	1	15583	0.103
04:00 - 05:00	1	15583	0.058	1	15583	0.083	1	15583	0.141
05:00 - 06:00	2	8540	0.176	2	8540	0.100	2	8540	0.276
06:00 - 07:00	2	8540	0.117	2	8540	0.146	2	8540	0.263
07:00 - 08:00	2	8540	0.088	2	8540	0.176	2	8540	0.264
08:00 - 09:00	2	8540	0.076	2	8540	0.064	2	8540	0.140
09:00 - 10:00	2	8540	0.105	2	8540	0.076	2	8540	0.181
10:00 - 11:00	2	8540	0.082	2	8540	0.105	2	8540	0.187
11:00 - 12:00	2	8540	0.076	2	8540	0.064	2	8540	0.140
12:00 - 13:00	2	8540	0.076	2	8540	0.076	2	8540	0.152
13:00 - 14:00	2	8540	0.064	2	8540	0.053	2	8540	0.117
14:00 - 15:00	2	8540	0.064	2	8540	0.070	2	8540	0.134
15:00 - 16:00	2	8540	0.088	2	8540	0.070	2	8540	0.158
16:00 - 17:00	2	8540	0.076	2	8540	0.094	2	8540	0.170
17:00 - 18:00	2	8540	0.035	2	8540	0.059	2	8540	0.094
18:00 - 19:00	2	8540	0.059	2	8540	0.070	2	8540	0.129
19:00 - 20:00	2	8540	0.053	2	8540	0.082	2	8540	0.135
20:00 - 21:00	2	8540	0.088	2	8540	0.070	2	8540	0.158
21:00 - 22:00	1	15583	0.064	1	15583	0.071	1	15583	0.135
22:00 - 23:00	1	15583	0.128	1	15583	0.051	1	15583	0.179
23:00 - 24:00	1	15583	0.083	1	15583	0.039	1	15583	0.122
Total Rates:			1.836			1.792			3.628

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 02 - EMPLOYMENT/G - PARCEL DISTRIBUTION CENTRES
 PSVS
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	1	15583	0.000	1	15583	0.000	1	15583	0.000
01:00 - 02:00	1	15583	0.000	1	15583	0.000	1	15583	0.000
02:00 - 03:00	1	15583	0.000	1	15583	0.000	1	15583	0.000
03:00 - 04:00	1	15583	0.000	1	15583	0.000	1	15583	0.000
04:00 - 05:00	1	15583	0.000	1	15583	0.000	1	15583	0.000
05:00 - 06:00	2	8540	0.000	2	8540	0.006	2	8540	0.006
06:00 - 07:00	2	8540	0.018	2	8540	0.018	2	8540	0.036
07:00 - 08:00	2	8540	0.012	2	8540	0.018	2	8540	0.030
08:00 - 09:00	2	8540	0.018	2	8540	0.012	2	8540	0.030
09:00 - 10:00	2	8540	0.012	2	8540	0.006	2	8540	0.018
10:00 - 11:00	2	8540	0.000	2	8540	0.006	2	8540	0.006
11:00 - 12:00	2	8540	0.012	2	8540	0.006	2	8540	0.018
12:00 - 13:00	2	8540	0.000	2	8540	0.012	2	8540	0.012
13:00 - 14:00	2	8540	0.012	2	8540	0.006	2	8540	0.018
14:00 - 15:00	2	8540	0.018	2	8540	0.006	2	8540	0.024
15:00 - 16:00	2	8540	0.012	2	8540	0.012	2	8540	0.024
16:00 - 17:00	2	8540	0.018	2	8540	0.023	2	8540	0.041
17:00 - 18:00	2	8540	0.023	2	8540	0.023	2	8540	0.046
18:00 - 19:00	2	8540	0.018	2	8540	0.023	2	8540	0.041
19:00 - 20:00	2	8540	0.018	2	8540	0.006	2	8540	0.024
20:00 - 21:00	2	8540	0.006	2	8540	0.006	2	8540	0.012
21:00 - 22:00	1	15583	0.006	1	15583	0.006	1	15583	0.012
22:00 - 23:00	1	15583	0.019	1	15583	0.019	1	15583	0.038
23:00 - 24:00	1	15583	0.032	1	15583	0.039	1	15583	0.071
Total Rates:			0.254			0.253			0.507

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 02 - EMPLOYMENT/G - PARCEL DISTRIBUTION CENTRES
 CYCLISTS
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	1	15583	0.000	1	15583	0.000	1	15583	0.000
01:00 - 02:00	1	15583	0.000	1	15583	0.000	1	15583	0.000
02:00 - 03:00	1	15583	0.000	1	15583	0.000	1	15583	0.000
03:00 - 04:00	1	15583	0.000	1	15583	0.000	1	15583	0.000
04:00 - 05:00	1	15583	0.000	1	15583	0.000	1	15583	0.000
05:00 - 06:00	2	8540	0.000	2	8540	0.000	2	8540	0.000
06:00 - 07:00	2	8540	0.000	2	8540	0.006	2	8540	0.006
07:00 - 08:00	2	8540	0.012	2	8540	0.000	2	8540	0.012
08:00 - 09:00	2	8540	0.000	2	8540	0.006	2	8540	0.006
09:00 - 10:00	2	8540	0.012	2	8540	0.000	2	8540	0.012
10:00 - 11:00	2	8540	0.000	2	8540	0.000	2	8540	0.000
11:00 - 12:00	2	8540	0.000	2	8540	0.000	2	8540	0.000
12:00 - 13:00	2	8540	0.000	2	8540	0.000	2	8540	0.000
13:00 - 14:00	2	8540	0.000	2	8540	0.000	2	8540	0.000
14:00 - 15:00	2	8540	0.006	2	8540	0.000	2	8540	0.006
15:00 - 16:00	2	8540	0.000	2	8540	0.000	2	8540	0.000
16:00 - 17:00	2	8540	0.000	2	8540	0.018	2	8540	0.018
17:00 - 18:00	2	8540	0.006	2	8540	0.012	2	8540	0.018
18:00 - 19:00	2	8540	0.006	2	8540	0.000	2	8540	0.006
19:00 - 20:00	2	8540	0.012	2	8540	0.000	2	8540	0.012
20:00 - 21:00	2	8540	0.000	2	8540	0.000	2	8540	0.000
21:00 - 22:00	1	15583	0.000	1	15583	0.000	1	15583	0.000
22:00 - 23:00	1	15583	0.000	1	15583	0.000	1	15583	0.000
23:00 - 24:00	1	15583	0.000	1	15583	0.006	1	15583	0.006
Total Rates:			0.054			0.048			0.102

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 02 - EMPLOYMENT/G - PARCEL DISTRIBUTION CENTRES
 CARS
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	1	15583	0.013	1	15583	0.064	1	15583	0.077
01:00 - 02:00	1	15583	0.090	1	15583	0.051	1	15583	0.141
02:00 - 03:00	1	15583	0.116	1	15583	0.071	1	15583	0.187
03:00 - 04:00	1	15583	0.090	1	15583	0.045	1	15583	0.135
04:00 - 05:00	1	15583	0.135	1	15583	0.071	1	15583	0.206
05:00 - 06:00	2	8540	0.258	2	8540	0.053	2	8540	0.311
06:00 - 07:00	2	8540	0.310	2	8540	0.182	2	8540	0.492
07:00 - 08:00	2	8540	0.386	2	8540	0.094	2	8540	0.480
08:00 - 09:00	2	8540	0.802	2	8540	0.082	2	8540	0.884
09:00 - 10:00	2	8540	0.310	2	8540	0.088	2	8540	0.398
10:00 - 11:00	2	8540	0.170	2	8540	0.100	2	8540	0.270
11:00 - 12:00	2	8540	0.193	2	8540	0.205	2	8540	0.398
12:00 - 13:00	2	8540	0.105	2	8540	0.170	2	8540	0.275
13:00 - 14:00	2	8540	0.269	2	8540	0.304	2	8540	0.573
14:00 - 15:00	2	8540	0.193	2	8540	0.240	2	8540	0.433
15:00 - 16:00	2	8540	0.199	2	8540	0.304	2	8540	0.503
16:00 - 17:00	2	8540	0.082	2	8540	0.527	2	8540	0.609
17:00 - 18:00	2	8540	0.141	2	8540	0.744	2	8540	0.885
18:00 - 19:00	2	8540	0.176	2	8540	0.392	2	8540	0.568
19:00 - 20:00	2	8540	0.369	2	8540	0.187	2	8540	0.556
20:00 - 21:00	2	8540	0.088	2	8540	0.164	2	8540	0.252
21:00 - 22:00	1	15583	0.058	1	15583	0.167	1	15583	0.225
22:00 - 23:00	1	15583	0.039	1	15583	0.193	1	15583	0.232
23:00 - 24:00	1	15583	0.019	1	15583	0.122	1	15583	0.141
Total Rates:			4.611			4.620			9.231

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 02 - EMPLOYMENT/G - PARCEL DISTRIBUTION CENTRES
 LGVS
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	1	15583	0.013	1	15583	0.000	1	15583	0.013
01:00 - 02:00	1	15583	0.013	1	15583	0.000	1	15583	0.013
02:00 - 03:00	1	15583	0.039	1	15583	0.013	1	15583	0.052
03:00 - 04:00	1	15583	0.083	1	15583	0.051	1	15583	0.134
04:00 - 05:00	1	15583	0.019	1	15583	0.064	1	15583	0.083
05:00 - 06:00	2	8540	0.129	2	8540	0.023	2	8540	0.152
06:00 - 07:00	2	8540	0.111	2	8540	0.222	2	8540	0.333
07:00 - 08:00	2	8540	0.141	2	8540	0.176	2	8540	0.317
08:00 - 09:00	2	8540	0.082	2	8540	0.217	2	8540	0.299
09:00 - 10:00	2	8540	0.064	2	8540	0.164	2	8540	0.228
10:00 - 11:00	2	8540	0.088	2	8540	0.094	2	8540	0.182
11:00 - 12:00	2	8540	0.105	2	8540	0.111	2	8540	0.216
12:00 - 13:00	2	8540	0.094	2	8540	0.146	2	8540	0.240
13:00 - 14:00	2	8540	0.070	2	8540	0.082	2	8540	0.152
14:00 - 15:00	2	8540	0.105	2	8540	0.111	2	8540	0.216
15:00 - 16:00	2	8540	0.070	2	8540	0.094	2	8540	0.164
16:00 - 17:00	2	8540	0.246	2	8540	0.129	2	8540	0.375
17:00 - 18:00	2	8540	0.275	2	8540	0.135	2	8540	0.410
18:00 - 19:00	2	8540	0.187	2	8540	0.105	2	8540	0.292
19:00 - 20:00	2	8540	0.158	2	8540	0.129	2	8540	0.287
20:00 - 21:00	2	8540	0.117	2	8540	0.141	2	8540	0.258
21:00 - 22:00	1	15583	0.045	1	15583	0.077	1	15583	0.122
22:00 - 23:00	1	15583	0.019	1	15583	0.019	1	15583	0.038
23:00 - 24:00	1	15583	0.006	1	15583	0.013	1	15583	0.019
Total Rates:			2.279			2.316			4.595

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 02 - EMPLOYMENT/G - PARCEL DISTRIBUTION CENTRES
 MOTOR CYCLES
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	1	15583	0.000	1	15583	0.000	1	15583	0.000
01:00 - 02:00	1	15583	0.000	1	15583	0.000	1	15583	0.000
02:00 - 03:00	1	15583	0.000	1	15583	0.000	1	15583	0.000
03:00 - 04:00	1	15583	0.006	1	15583	0.006	1	15583	0.012
04:00 - 05:00	1	15583	0.013	1	15583	0.000	1	15583	0.013
05:00 - 06:00	2	8540	0.012	2	8540	0.000	2	8540	0.012
06:00 - 07:00	2	8540	0.029	2	8540	0.012	2	8540	0.041
07:00 - 08:00	2	8540	0.000	2	8540	0.000	2	8540	0.000
08:00 - 09:00	2	8540	0.012	2	8540	0.000	2	8540	0.012
09:00 - 10:00	2	8540	0.000	2	8540	0.000	2	8540	0.000
10:00 - 11:00	2	8540	0.000	2	8540	0.000	2	8540	0.000
11:00 - 12:00	2	8540	0.000	2	8540	0.000	2	8540	0.000
12:00 - 13:00	2	8540	0.000	2	8540	0.006	2	8540	0.006
13:00 - 14:00	2	8540	0.000	2	8540	0.006	2	8540	0.006
14:00 - 15:00	2	8540	0.000	2	8540	0.006	2	8540	0.006
15:00 - 16:00	2	8540	0.000	2	8540	0.006	2	8540	0.006
16:00 - 17:00	2	8540	0.000	2	8540	0.006	2	8540	0.006
17:00 - 18:00	2	8540	0.000	2	8540	0.018	2	8540	0.018
18:00 - 19:00	2	8540	0.012	2	8540	0.006	2	8540	0.018
19:00 - 20:00	2	8540	0.000	2	8540	0.000	2	8540	0.000
20:00 - 21:00	2	8540	0.000	2	8540	0.000	2	8540	0.000
21:00 - 22:00	1	15583	0.000	1	15583	0.000	1	15583	0.000
22:00 - 23:00	1	15583	0.000	1	15583	0.000	1	15583	0.000
23:00 - 24:00	1	15583	0.000	1	15583	0.000	1	15583	0.000
Total Rates:			0.084			0.072			0.156

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*



Appendix D

Junctions 10
ARCADY 10 - Roundabout Module
Version: 10.0.4.1693 © Copyright TRL Software Limited, 2021
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Filename: A5-Site Access Roundabout_720m Option_Warehouse_FINAL.j10
Path: X:\Bristol Projects\Bristol - Live Projects\P23\P23-2001-3000\P23-2051 - ASHFIELD LAND - LAND AT SHAWELL\05 PG Work\08 Calcs\TR\Junction Modelling\Site Access
Report generation date: 23/02/2024 14:40:15

«2031 + Dev (Warehouse (Commercial)), PM

- »Junction Network
- »Arms
- »Traffic Demand
- »Origin-Destination Data
- »Vehicle Mix
- »Results

Summary of junction performance

	AM					PM				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
2031 + Dev (Warehouse (Commercial))										
1 - A5 (N)	D5	1.0	4.63	0.51	A	D6	1.0	4.63	0.50	A
2 - Site Access		0.1	5.23	0.10	A		0.1	4.17	0.13	A
3 - A5 (S)		1.1	5.81	0.52	A		2.0	7.50	0.67	A

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

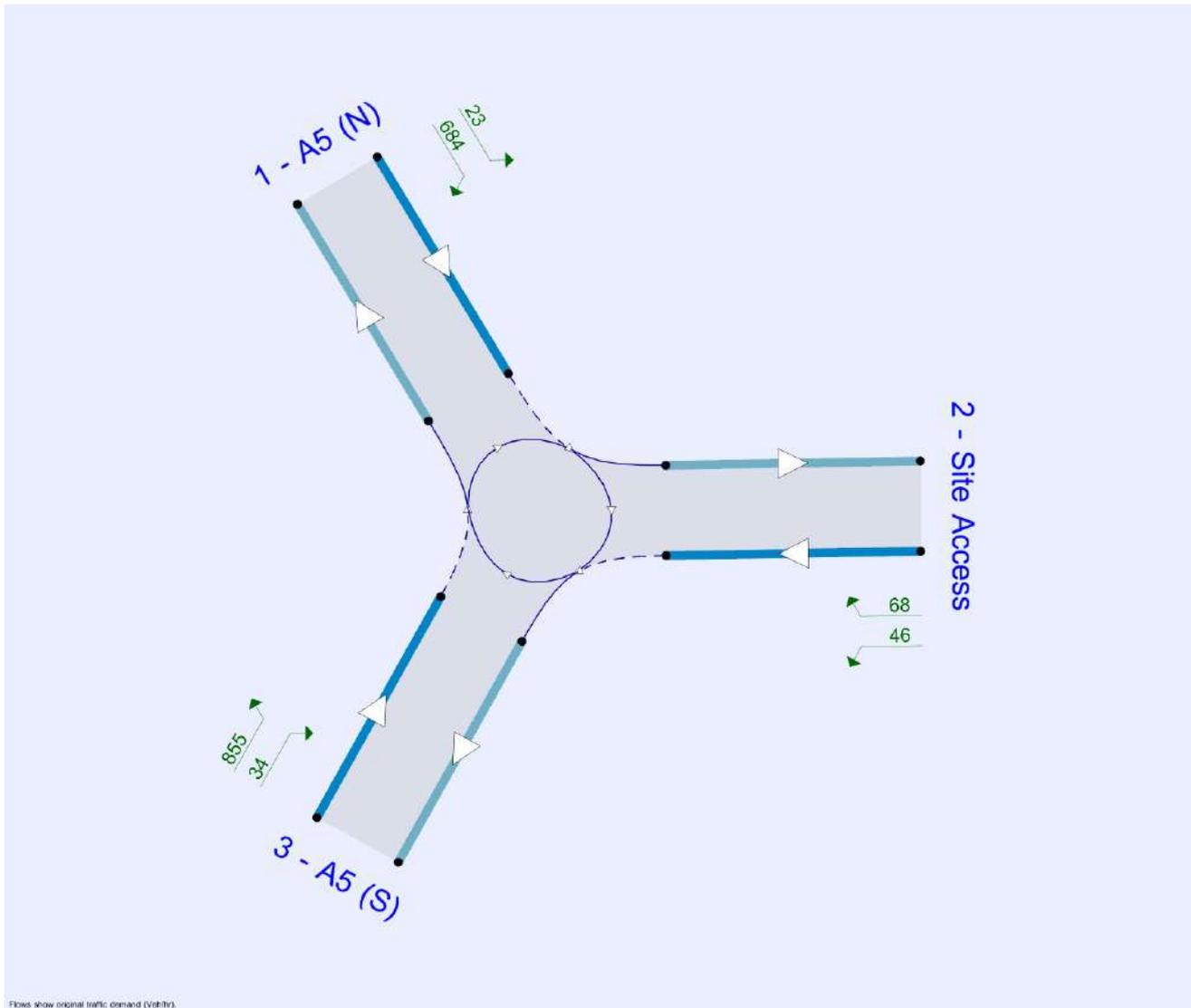
File summary

File Description

Title	
Location	
Site number	
Date	09/01/2024
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	PEGASUSGROUP\PG.Transport
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	Veh	Veh	perHour	s	-Min	perMin



Flows show original traffic demand (Veh/hr).

The junction diagram reflects the last run of Junctions.

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2031 + Dev (Warehouse (Commercial))	PM	ONE HOUR	16:45	18:15	15

2031 + Dev (Warehouse (Commercial)), 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	A5-Site Access Roundabout	Standard Roundabout		1, 2, 3	6.04	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.04	A

Arms

Arms

Arm	Name	Description	No give-way line
1	A5 (N)		
2	Site Access		
3	A5 (S)		

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)	Entry only	Exit only
1 - A5 (N)	4.15	7.50	14.3	25.0	55.0	19.0		
2 - Site Access	3.65	7.50	10.0	30.0	55.0	17.0		
3 - A5 (S)	3.65	7.50	8.3	35.0	55.0	16.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - A5 (N)	0.639	1926
2 - Site Access	0.606	1729
3 - A5 (S)	0.601	1685

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

Traffic Demand

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5 (N)		✓	707	100.000
2 - Site Access		✓	114	100.000
3 - A5 (S)		✓	889	100.000

Origin-Destination Data

Demand (Veh/hr)

From	To			
	1 - A5 (N)	2 - Site Access	3 - A5 (S)	
1 - A5 (N)	0	23	684	
2 - Site Access	68	0	46	
3 - A5 (S)	855	34	0	

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	1 - A5 (N)	2 - Site Access	3 - A5 (S)	
1 - A5 (N)	0	61	20	
2 - Site Access	19	0	20	
3 - A5 (S)	10	59	0	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - A5 (N)	0.50	4.63	1.0	A
2 - Site Access	0.13	4.17	0.1	A
3 - A5 (S)	0.67	7.50	2.0	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5 (N)	532	25	1566	0.340	530	0.5	3.468	A
2 - Site Access	86	513	1135	0.076	85	0.1	3.430	A
3 - A5 (S)	669	51	1474	0.454	666	0.8	4.440	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5 (N)	636	31	1562	0.407	635	0.7	3.882	A
2 - Site Access	102	614	1073	0.095	102	0.1	3.707	A
3 - A5 (S)	799	61	1467	0.545	798	1.2	5.365	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5 (N)	778	37	1556	0.500	777	1.0	4.615	A
2 - Site Access	126	752	989	0.127	125	0.1	4.166	A
3 - A5 (S)	979	75	1458	0.671	976	2.0	7.405	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5 (N)	778	37	1556	0.500	778	1.0	4.630	A
2 - Site Access	126	753	989	0.127	126	0.1	4.170	A
3 - A5 (S)	979	75	1458	0.671	979	2.0	7.502	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5 (N)	636	31	1561	0.407	637	0.7	3.899	A
2 - Site Access	102	616	1072	0.096	103	0.1	3.715	A
3 - A5 (S)	799	61	1467	0.545	802	1.2	5.441	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5 (N)	532	26	1566	0.340	533	0.5	3.490	A
2 - Site Access	86	516	1133	0.076	86	0.1	3.436	A
3 - A5 (S)	669	51	1473	0.454	671	0.8	4.492	A

Junctions 10
ARCADY 10 - Roundabout Module
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Filename: A5-Site Access Roundabout_720m Option_Parcel Dist_FINAL.j10
Path: X:\Bristol Projects\Bristol - Live Projects\P23\P23-2001-3000\P23-2051 - ASHFIELD LAND - LAND AT SHAWELL\05 PG Work\08 Calcs\TR\Junction Modelling\Site Access
Report generation date: 23/02/2024 14:35:35

«2031 + Dev (Parcel Distribution), PM

- »Junction Network
- »Arms
- »Traffic Demand
- »Origin-Destination Data
- »Vehicle Mix
- »Results

Summary of junction performance

	AM					PM				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
2031 + Dev (Parcel Distribution)										
1 - A5 (N)	D5	2.3	7.84	0.70	A	D6	0.9	4.57	0.49	A
2 - Site Access		0.3	4.49	0.22	A		0.9	5.63	0.46	A
3 - A5 (S)		2.0	8.26	0.67	A		4.3	14.68	0.82	B

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

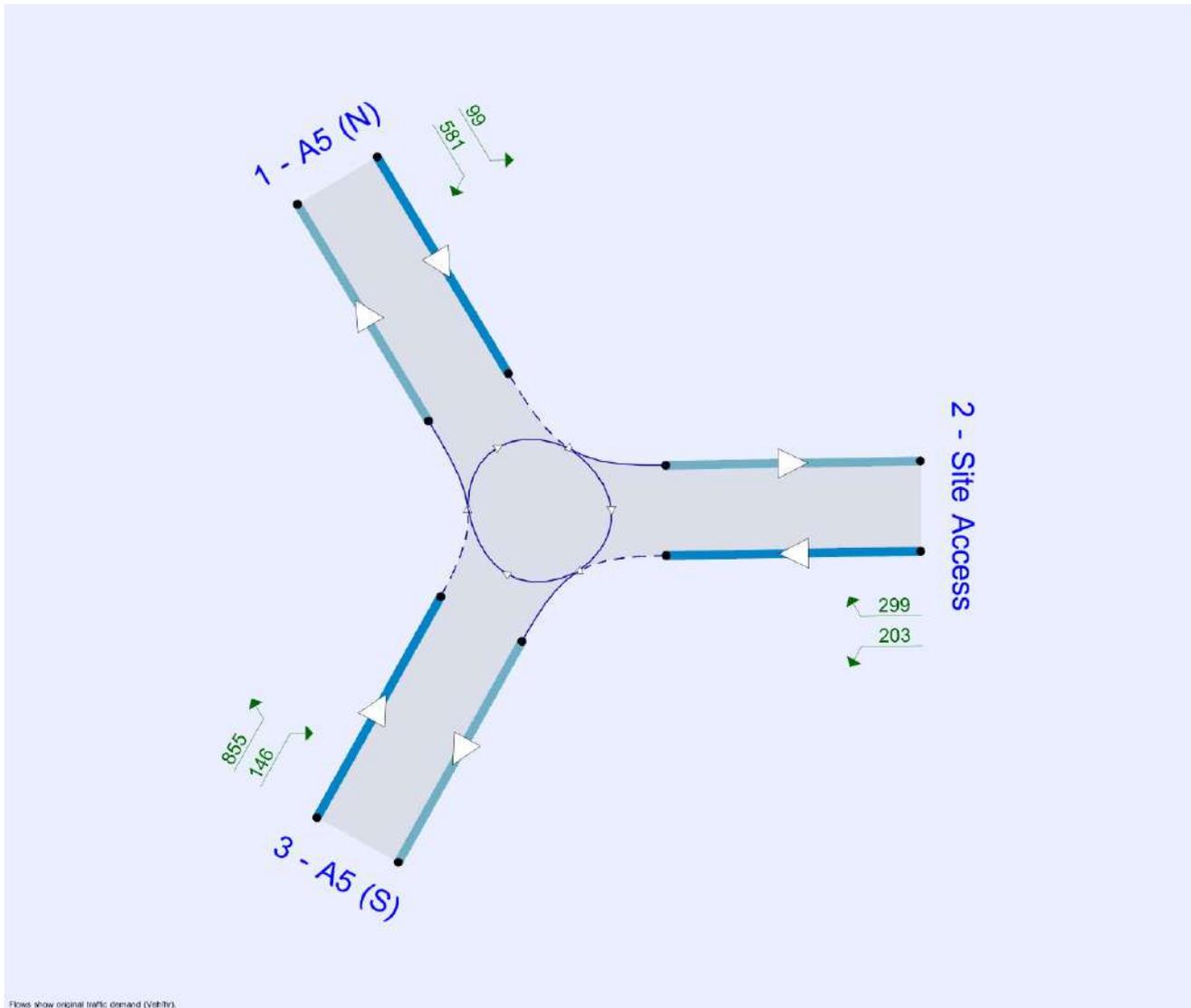
File summary

File Description

Title	
Location	
Site number	
Date	09/01/2024
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	PEGASUSGROUP\PG.Transport
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	Veh	Veh	perHour	s	-Min	perMin



Flows show original traffic demand (Veh/hr).

The junction diagram reflects the last run of Junctions.

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2031 + Dev (Parcel Distribution)	PM	ONE HOUR	16:45	18:15	15

2031 + Dev (Parcel Distribution), 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	A5-Site Access Roundabout	Standard Roundabout		1, 2, 3	9.37	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	9.37	A

Arms

Arms

Arm	Name	Description	No give-way line
1	A5 (N)		
2	Site Access		
3	A5 (S)		

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)	Entry only	Exit only
1 - A5 (N)	4.15	7.50	14.3	25.0	55.0	19.0		
2 - Site Access	3.65	7.50	10.0	30.0	55.0	17.0		
3 - A5 (S)	3.65	7.50	8.3	35.0	55.0	16.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - A5 (N)	0.639	1926
2 - Site Access	0.606	1729
3 - A5 (S)	0.601	1685

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

Traffic Demand

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5 (N)		✓	680	100.000
2 - Site Access		✓	502	100.000
3 - A5 (S)		✓	1001	100.000

Origin-Destination Data

Demand (Veh/hr)

From	To			
	1 - A5 (N)	2 - Site Access	3 - A5 (S)	
1 - A5 (N)	0	99	581	
2 - Site Access	299	0	203	
3 - A5 (S)	855	146	0	

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	1 - A5 (N)	2 - Site Access	3 - A5 (S)	
1 - A5 (N)	0	7	20	
2 - Site Access	6	0	6	
3 - A5 (S)	10	8	0	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - A5 (N)	0.49	4.57	0.9	A
2 - Site Access	0.46	5.63	0.9	A
3 - A5 (S)	0.82	14.68	4.3	B

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5 (N)	512	109	1567	0.327	510	0.5	3.401	A
2 - Site Access	378	436	1332	0.284	376	0.4	3.762	A
3 - A5 (S)	754	224	1406	0.536	749	1.1	5.445	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5 (N)	611	131	1554	0.393	611	0.6	3.814	A
2 - Site Access	451	522	1273	0.355	451	0.5	4.377	A
3 - A5 (S)	900	268	1380	0.652	897	1.8	7.410	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5 (N)	749	159	1537	0.487	748	0.9	4.551	A
2 - Site Access	553	639	1192	0.464	551	0.9	5.608	A
3 - A5 (S)	1102	328	1345	0.819	1093	4.2	13.759	B

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5 (N)	749	161	1537	0.487	749	0.9	4.568	A
2 - Site Access	553	640	1192	0.464	553	0.9	5.634	A
3 - A5 (S)	1102	329	1345	0.820	1101	4.3	14.684	B

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5 (N)	611	133	1553	0.394	612	0.7	3.834	A
2 - Site Access	451	523	1271	0.355	453	0.6	4.403	A
3 - A5 (S)	900	270	1380	0.652	910	1.9	7.814	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5 (N)	512	110	1566	0.327	513	0.5	3.418	A
2 - Site Access	378	438	1330	0.284	379	0.4	3.784	A
3 - A5 (S)	754	225	1405	0.536	757	1.2	5.578	A



Appendix E

Junctions 10
ARCADY 10 - Roundabout Module
Version: 10.0.4.1693 © Copyright TRL Software Limited, 2021
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Filename: Gibbet Roundabout_AM.j10

Path: X:\Bristol Projects\Bristol - Live Projects\P23\P23-2001-3000\P23-2051 - ASHFIELD LAND - LAND AT SHAWELL\05 PG Work\08 Calcs\TR\Junction Modelling\Gibbet Roundabout

Report generation date: 23/02/2024 14:43:32

- »2018, AM
- »2031, AM
- »2031 + Dev, AM

Summary of junction performance

AM					
Set ID	Queue (Veh)	Delay (s)	RFC	LOS	
2018					
1 - Gibbet Lane	2.3	102.89	0.75	F	
2 - A5 (S)	17.9	115.52	1.02	F	
3 - A426	13.6	62.67	0.96	F	
4 - A5 (N)	6.4	27.46	0.88	D	
5 - Rugby Road	19.2	101.35	1.01	F	
2031					
1 - Gibbet Lane	7.3	274.39	1.04	F	
2 - A5 (S)	59.0	394.38	1.20	F	
3 - A426	55.1	205.91	1.11	F	
4 - A5 (N)	27.5	95.36	1.02	F	
5 - Rugby Road	82.9	440.01	1.25	F	
2031 + Dev					
1 - Gibbet Lane	8.7	330.78	1.08	F	
2 - A5 (S)	74.1	495.58	1.24	F	
3 - A426	62.8	243.10	1.12	F	
4 - A5 (N)	41.9	134.33	1.06	F	
5 - Rugby Road	102.7	560.18	1.29	F	

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

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

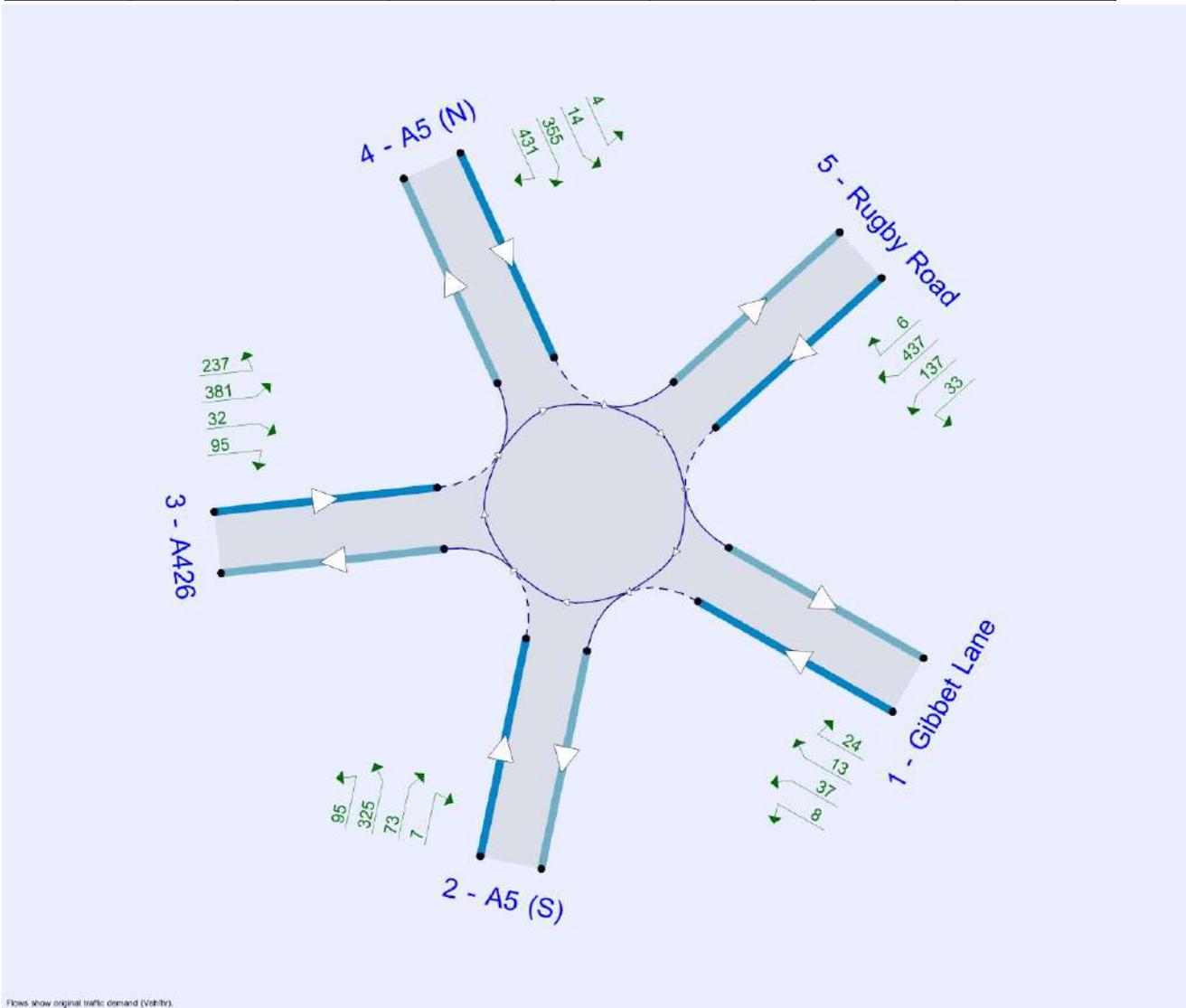
File summary

File Description

Title	
Location	
Site number	
Date	09/01/2024
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	PEGASUSGROUP\PG.Transport
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	Veh	Veh	perHour	s	-Min	perMin



Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2018	AM	ONE HOUR	07:45	09:15	15	✓
D5	2031	AM	ONE HOUR	07:45	09:15	15	✓
D7	2031 + Dev	AM	ONE HOUR	07:45	09:15	15	✓

Analysis Set Details

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

2018, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	4 - A5 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Gibbet Hill Roundabout	Standard Roundabout		1, 2, 3, 4, 5	72.99	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	72.99	F

Arms

Arms

Arm	Name	Description	No give-way line
1	Gibbet Lane		
2	A5 (S)		
3	A426		
4	A5 (N)		
5	Rugby Road		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1 - Gibbet Lane	2.90	8.00	10.0	19.0	70.0	68.0		
2 - A5 (S)	4.70	7.30	25.0	24.0	70.0	40.0		
3 - A426	3.65	6.90	20.0	44.0	70.0	56.0		
4 - A5 (N)	4.00	8.80	36.0	15.0	70.0	54.0		
5 - Rugby Road	3.65	7.20	27.0	100.0	70.0	52.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Gibbet Lane	0.406	1269
2 - A5 (S)	0.540	1962
3 - A426	0.481	1642
4 - A5 (N)	0.530	2009
5 - Rugby Road	0.511	1794

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct capacity adjustment (PCU/hr)
1 - Gibbet Lane	Direct	To reflect recorded queues	-366
2 - A5 (S)	Direct	To reflect recorded queues	-638
3 - A426	Direct	To reflect recorded queues	-356
4 - A5 (N)	Direct	To reflect recorded queues	-445
5 - Rugby Road	Direct	To reflect recorded queues	-421

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	2018	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Gibbet Lane		ONE HOUR	✓	82	100.000
2 - A5 (S)		ONE HOUR	✓	502	100.000
3 - A426		ONE HOUR	✓	745	100.000
4 - A5 (N)		ONE HOUR	✓	804	100.000
5 - Rugby Road		ONE HOUR	✓	614	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1 - Gibbet Lane	2 - A5 (S)	3 - A426	4 - A5 (N)	5 - Rugby Road
From	1 - Gibbet Lane	0	8	37	13	24
	2 - A5 (S)	7	2	95	325	73
	3 - A426	32	95	0	237	381
	4 - A5 (N)	14	355	431	0	4
	5 - Rugby Road	33	137	437	6	1

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1 - Gibbet Lane	2 - A5 (S)	3 - A426	4 - A5 (N)	5 - Rugby Road
From	1 - Gibbet Lane	0	50	22	46	63
	2 - A5 (S)	57	100	60	19	18
	3 - A426	13	36	0	20	13
	4 - A5 (N)	0	14	13	0	25
	5 - Rugby Road	64	12	11	17	100

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Gibbet Lane	0.75	102.89	2.3	F	75	113
2 - A5 (S)	1.02	115.52	17.9	F	461	691
3 - A426	0.96	62.67	13.6	F	684	1025
4 - A5 (N)	0.88	27.46	6.4	D	738	1107
5 - Rugby Road	1.01	101.35	19.2	F	563	845

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	62	15	1092	282	0.219	61	64	0.0	0.3	16.178	C
2 - A5 (S)	378	94	708	696	0.543	373	445	0.0	1.2	11.000	B
3 - A426	561	140	335	921	0.609	555	746	0.0	1.5	9.689	A
4 - A5 (N)	605	151	458	1124	0.539	601	432	0.0	1.1	6.827	A
5 - Rugby Road	462	116	699	838	0.551	457	360	0.0	1.2	9.341	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	74	18	1307	211	0.349	73	77	0.3	0.5	25.829	D
2 - A5 (S)	451	113	847	629	0.718	446	533	1.2	2.4	19.251	C
3 - A426	670	167	401	888	0.755	664	892	1.5	2.9	15.735	C
4 - A5 (N)	723	181	548	1073	0.674	719	517	1.1	2.0	10.085	B
5 - Rugby Road	552	138	837	767	0.720	547	430	1.2	2.4	16.047	C

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	90	23	1555	130	0.697	85	90	0.5	1.8	74.191	F
2 - A5 (S)	553	138	1003	553	0.999	516	637	2.4	11.5	65.982	F
3 - A426	820	205	464	856	0.958	790	1055	2.9	10.4	42.287	E
4 - A5 (N)	885	221	649	1016	0.871	871	605	2.0	5.6	22.724	C
5 - Rugby Road	676	169	1010	677	0.999	635	509	2.4	12.7	58.544	F

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	90	23	1583	120	0.751	88	92	1.8	2.3	102.887	F
2 - A5 (S)	553	138	1023	543	1.017	527	648	11.5	17.9	115.522	F
3 - A426	820	205	475	851	0.964	808	1075	10.4	13.6	62.668	F
4 - A5 (N)	885	221	664	1008	0.878	882	619	5.6	6.4	27.462	D
5 - Rugby Road	676	169	1025	669	1.010	650	521	12.7	19.2	101.351	F

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	74	18	1398	181	0.406	80	84	2.3	0.7	37.491	E
2 - A5 (S)	451	113	914	596	0.757	508	564	17.9	3.6	54.576	F
3 - A426	670	167	455	861	0.778	709	967	13.6	3.9	28.158	D
4 - A5 (N)	723	181	591	1049	0.689	739	573	6.4	2.3	12.186	B
5 - Rugby Road	552	138	865	751	0.735	617	465	19.2	3.0	36.401	E

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	62	15	1114	275	0.225	63	66	0.7	0.3	17.161	C
2 - A5 (S)	378	94	723	688	0.549	387	454	3.6	1.3	12.305	B
3 - A426	561	140	348	914	0.614	570	763	3.9	1.6	10.705	B
4 - A5 (N)	605	151	471	1116	0.542	610	447	2.3	1.2	7.171	A
5 - Rugby Road	462	116	711	832	0.556	469	370	3.0	1.3	10.106	B

2031, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	4 - A5 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Gibbet Hill Roundabout	Standard Roundabout		1, 2, 3, 4, 5	265.07	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	265.07	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2031	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Gibbet Lane		ONE HOUR	✓	93	100.000
2 - A5 (S)		ONE HOUR	✓	575	100.000
3 - A426		ONE HOUR	✓	853	100.000
4 - A5 (N)		ONE HOUR	✓	920	100.000
5 - Rugby Road		ONE HOUR	✓	703	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1 - Gibbet Lane	2 - A5 (S)	3 - A426	4 - A5 (N)	5 - Rugby Road
From	1 - Gibbet Lane	0	9	42	15	27
	2 - A5 (S)	8	2	109	372	84
	3 - A426	37	109	0	271	436
	4 - A5 (N)	16	406	493	0	5
	5 - Rugby Road	38	157	500	7	1

Vehicle Mix

Heavy Vehicle Percentages

From	To				
	1 - Gibbet Lane	2 - A5 (S)	3 - A426	4 - A5 (N)	5 - Rugby Road
1 - Gibbet Lane	0	50	22	46	63
2 - A5 (S)	57	100	60	19	18
3 - A426	13	36	0	20	13
4 - A5 (N)	0	14	13	0	25
5 - Rugby Road	64	12	11	17	100

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Gibbet Lane	1.04	274.39	7.3	F	85	128
2 - A5 (S)	1.20	394.38	59.0	F	528	791
3 - A426	1.11	205.91	55.1	F	783	1174
4 - A5 (N)	1.02	95.36	27.5	F	844	1266
5 - Rugby Road	1.25	440.01	82.9	F	645	968

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	70	18	1246	232	0.302	68	73	0.0	0.4	21.828	C
2 - A5 (S)	433	108	806	649	0.667	425	508	0.0	1.9	15.627	C
3 - A426	642	161	381	898	0.715	633	850	0.0	2.4	13.155	B
4 - A5 (N)	693	173	522	1088	0.637	686	492	0.0	1.7	8.813	A
5 - Rugby Road	529	132	798	787	0.672	521	410	0.0	2.0	13.193	B

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	84	21	1480	154	0.542	81	87	0.4	1.1	47.558	E
2 - A5 (S)	517	129	957	576	0.898	500	604	1.9	6.0	40.920	E
3 - A426	767	192	449	864	0.888	752	1008	2.4	6.2	28.798	D
4 - A5 (N)	827	207	619	1033	0.800	819	582	1.7	3.7	16.232	C
5 - Rugby Road	632	158	952	707	0.894	615	486	2.0	6.2	34.238	D

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	102	26	1632	104	0.986	88	94	1.1	4.6	162.487	F
2 - A5 (S)	633	158	1042	534	1.185	527	678	6.0	32.7	151.157	F
3 - A426	939	235	474	851	1.103	836	1095	6.2	31.9	96.627	F
4 - A5 (N)	1013	253	683	997	1.016	955	627	3.7	18.1	54.025	F
5 - Rugby Road	774	194	1103	630	1.229	623	536	6.2	43.8	160.863	F

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	102	26	1647	99	1.037	92	94	4.6	7.3	274.385	F
2 - A5 (S)	633	158	1052	529	1.197	528	687	32.7	59.0	326.251	F
3 - A426	939	235	476	850	1.105	846	1103	31.9	55.1	196.514	F
4 - A5 (N)	1013	253	691	993	1.020	975	631	18.1	27.5	95.365	F
5 - Rugby Road	774	194	1124	619	1.251	618	543	43.8	82.9	375.475	F

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	84	21	1609	111	0.750	96	94	7.3	4.2	217.387	F
2 - A5 (S)	517	129	1041	534	0.968	534	664	59.0	54.8	394.379	F
3 - A426	767	192	483	846	0.907	831	1092	55.1	39.1	205.910	F
4 - A5 (N)	827	207	683	997	0.830	914	631	27.5	5.8	55.503	F
5 - Rugby Road	632	158	1060	651	0.971	643	536	82.9	80.1	440.011	F

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	70	18	1503	147	0.475	83	94	4.2	1.0	63.402	F
2 - A5 (S)	433	108	996	558	0.776	548	590	54.8	26.1	270.240	F
3 - A426	642	161	490	844	0.761	783	1054	39.1	3.8	85.855	F
4 - A5 (N)	693	173	649	1016	0.681	707	624	5.8	2.2	12.138	B
5 - Rugby Road	529	132	847	760	0.697	750	509	80.1	24.8	255.856	F

2031 + Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	4 - A5 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Gibbet Hill Roundabout	Standard Roundabout		1, 2, 3, 4, 5	334.44	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	334.44	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2031 + Dev	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Gibbet Lane		ONE HOUR	✓	94	100.000
2 - A5 (S)		ONE HOUR	✓	605	100.000
3 - A426		ONE HOUR	✓	861	100.000
4 - A5 (N)		ONE HOUR	✓	952	100.000
5 - Rugby Road		ONE HOUR	✓	715	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1 - Gibbet Lane	2 - A5 (S)	3 - A426	4 - A5 (N)	5 - Rugby Road
From	1 - Gibbet Lane	0	10	42	15	27
	2 - A5 (S)	8	2	115	392	88
	3 - A426	37	117	0	271	436
	4 - A5 (N)	16	438	493	0	5
	5 - Rugby Road	38	169	500	7	1

Vehicle Mix

Heavy Vehicle Percentages

		To				
From		1 - Gibbet Lane	2 - A5 (S)	3 - A426	4 - A5 (N)	5 - Rugby Road
	1 - Gibbet Lane	0	50	21	47	63
	2 - A5 (S)	63	100	59	21	19
	3 - A426	14	35	0	20	13
	4 - A5 (N)	0	15	13	0	20
	5 - Rugby Road	63	13	11	14	100

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Gibbet Lane	1.08	330.78	8.7	F	86	129
2 - A5 (S)	1.24	495.58	74.1	F	555	833
3 - A426	1.12	243.10	62.8	F	790	1185
4 - A5 (N)	1.06	134.33	41.9	F	874	1310
5 - Rugby Road	1.29	560.18	102.7	F	656	984

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	71	18	1283	218	0.324	69	73	0.0	0.5	23.812	C
2 - A5 (S)	455	114	805	643	0.709	446	547	0.0	2.3	17.609	C
3 - A426	648	162	398	886	0.731	638	853	0.0	2.6	13.980	B
4 - A5 (N)	717	179	530	1078	0.665	709	506	0.0	1.9	9.564	A
5 - Rugby Road	538	135	827	770	0.699	529	412	0.0	2.2	14.511	B

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	85	21	1517	141	0.601	81	86	0.5	1.3	57.655	F
2 - A5 (S)	544	136	950	573	0.949	519	648	2.3	8.4	51.966	F
3 - A426	774	194	464	853	0.908	756	1006	2.6	7.1	32.283	D
4 - A5 (N)	856	214	626	1024	0.836	845	593	1.9	4.5	19.090	C
5 - Rugby Road	643	161	985	687	0.935	619	487	2.2	8.1	42.737	E

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	103	26	1641	99	1.042	87	92	1.3	5.4	189.983	F
2 - A5 (S)	666	167	1014	542	1.228	537	714	8.4	40.6	181.986	F
3 - A426	948	237	481	844	1.123	832	1071	7.1	36.0	107.739	F
4 - A5 (N)	1048	262	683	993	1.056	966	630	4.5	25.1	68.862	F
5 - Rugby Road	787	197	1118	618	1.273	614	531	8.1	51.3	190.275	F

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	103	26	1652	95	1.085	90	92	5.4	8.7	330.778	F
2 - A5 (S)	666	167	1022	538	1.237	538	721	40.6	72.7	391.922	F
3 - A426	948	237	483	843	1.124	841	1077	36.0	62.8	222.610	F
4 - A5 (N)	1048	262	690	989	1.060	981	633	25.1	41.9	134.326	F
5 - Rugby Road	787	197	1135	610	1.291	609	536	51.3	95.8	444.472	F

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	85	21	1646	98	0.866	86	92	8.7	8.4	330.669	F
2 - A5 (S)	544	136	1016	541	1.005	538	716	72.7	74.1	495.583	F
3 - A426	774	194	481	844	0.917	831	1073	62.8	48.6	243.102	F
4 - A5 (N)	856	214	682	993	0.861	970	630	41.9	13.3	108.254	F
5 - Rugby Road	643	161	1123	616	1.043	615	530	95.8	102.7	560.184	F

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	71	18	1535	135	0.524	99	93	8.4	1.3	129.165	F
2 - A5 (S)	455	114	991	553	0.824	545	643	74.1	51.7	417.573	F
3 - A426	648	162	494	837	0.775	820	1042	48.6	5.6	127.332	F
4 - A5 (N)	717	179	680	994	0.721	759	634	13.3	2.7	17.830	C
5 - Rugby Road	538	135	911	724	0.743	717	528	102.7	58.0	405.749	F

Junctions 10
ARCADY 10 - Roundabout Module
Version: 10.0.4.1693 © Copyright TRL Software Limited, 2021
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Filename: Gibbet Roundabout_PM.j10

Path: X:\Bristol Projects\Bristol - Live Projects\P23\P23-2001-3000\P23-2051 - ASHFIELD LAND - LAND AT SHAWELL\05 PG Work\08 Calcs\TR\Junction Modelling\Gibbet Roundabout

Report generation date: 23/02/2024 14:44:32

- »2018, PM
- »2031, PM
- »2031 + Dev, PM

Summary of junction performance

PM					
Set ID	Queue (Veh)	Delay (s)	RFC	LOS	
2018					
1 - Gibbet Lane	D2	1.5	59.23	0.63	F
2 - A5 (S)		11.5	53.68	0.95	F
3 - A426		65.1	232.21	1.14	F
4 - A5 (N)		6.1	35.16	0.88	E
5 - Rugby Road		7.7	48.81	0.91	E
2031					
1 - Gibbet Lane	D6	6.0	201.15	0.98	F
2 - A5 (S)		61.9	237.03	1.13	F
3 - A426		168.0	719.05	1.33	F
4 - A5 (N)		20.3	96.71	1.00	F
5 - Rugby Road		42.0	200.60	1.11	F
2031 + Dev					
1 - Gibbet Lane	D8	6.6	222.04	1.00	F
2 - A5 (S)		98.6	418.52	1.22	F
3 - A426		181.0	811.02	1.34	F
4 - A5 (N)		26.7	121.03	1.03	F
5 - Rugby Road		48.6	243.88	1.14	F

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

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

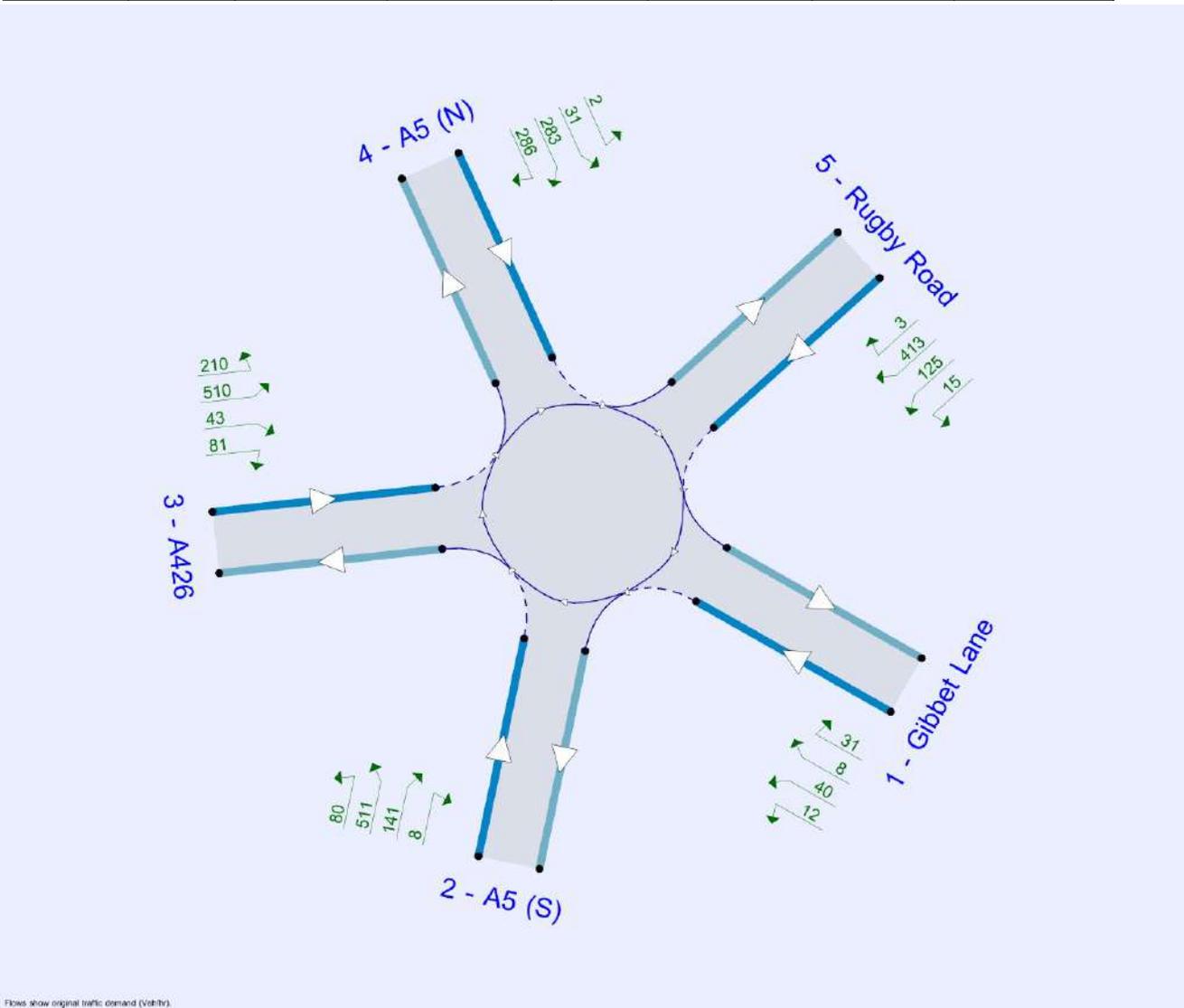
File summary

File Description

Title	
Location	
Site number	
Date	09/01/2024
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	PEGASUSGROUP\PG.Transport
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	Veh	Veh	perHour	s	-Min	perMin



Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2018	PM	ONE HOUR	16:45	18:15	15	✓
D6	2031	PM	ONE HOUR	16:45	18:15	15	✓
D8	2031 + Dev	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

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

2018, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	4 - A5 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Gibbet Hill Roundabout	Standard Roundabout		1, 2, 3, 4, 5	103.10	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	103.10	F

Arms

Arms

Arm	Name	Description	No give-way line
1	Gibbet Lane		
2	A5 (S)		
3	A426		
4	A5 (N)		
5	Rugby Road		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1 - Gibbet Lane	2.90	8.00	10.0	19.0	70.0	68.0		
2 - A5 (S)	4.70	7.30	25.0	24.0	70.0	40.0		
3 - A426	3.65	6.90	20.0	44.0	70.0	56.0		
4 - A5 (N)	4.00	8.80	36.0	15.0	70.0	54.0		
5 - Rugby Road	3.65	7.20	27.0	100.0	70.0	52.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Gibbet Lane	0.406	1269
2 - A5 (S)	0.540	1962
3 - A426	0.481	1642
4 - A5 (N)	0.530	2009
5 - Rugby Road	0.511	1794

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct capacity adjustment (PCU/hr)
1 - Gibbet Lane	Direct	To reflect recorded queues	-514
2 - A5 (S)	Direct	To reflect recorded queues	-515
3 - A426	Direct	To reflect recorded queues	-328
4 - A5 (N)	Direct	To reflect recorded queues	-688
5 - Rugby Road	Direct	To reflect recorded queues	-610

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	2018	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Gibbet Lane		ONE HOUR	✓	91	100.000
2 - A5 (S)		ONE HOUR	✓	745	100.000
3 - A426		ONE HOUR	✓	844	100.000
4 - A5 (N)		ONE HOUR	✓	603	100.000
5 - Rugby Road		ONE HOUR	✓	556	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1 - Gibbet Lane	2 - A5 (S)	3 - A426	4 - A5 (N)	5 - Rugby Road
From	1 - Gibbet Lane	0	12	40	8	31
	2 - A5 (S)	8	5	80	511	141
	3 - A426	43	81	0	210	510
	4 - A5 (N)	31	283	286	1	2
	5 - Rugby Road	15	125	413	3	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1 - Gibbet Lane	2 - A5 (S)	3 - A426	4 - A5 (N)	5 - Rugby Road
From	1 - Gibbet Lane	0	0	0	0	10
	2 - A5 (S)	0	40	38	7	7
	3 - A426	5	51	0	18	5
	4 - A5 (N)	0	15	9	100	50
	5 - Rugby Road	7	12	5	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Gibbet Lane	0.63	59.23	1.5	F	84	125
2 - A5 (S)	0.95	53.68	11.5	F	684	1025
3 - A426	1.14	232.21	65.1	F	774	1162
4 - A5 (N)	0.88	35.16	6.1	E	554	831
5 - Rugby Road	0.91	48.81	7.7	E	510	765

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	69	17	892	336	0.204	68	72	0.0	0.3	13.339	B
2 - A5 (S)	561	140	583	1006	0.557	556	377	0.0	1.2	7.913	A
3 - A426	635	159	528	925	0.687	627	610	0.0	2.1	11.790	B
4 - A5 (N)	454	114	609	864	0.526	450	546	0.0	1.1	8.598	A
5 - Rugby Road	419	105	550	805	0.520	414	509	0.0	1.1	9.110	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	82	20	1068	259	0.316	81	86	0.3	0.4	20.146	C
2 - A5 (S)	670	167	698	946	0.708	665	451	1.2	2.3	12.633	B
3 - A426	759	190	632	877	0.865	746	731	2.1	5.3	25.278	D
4 - A5 (N)	543	136	725	803	0.675	539	653	1.1	2.0	13.423	B
5 - Rugby Road	500	125	658	746	0.670	496	606	1.1	1.9	14.234	B

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	100	25	1276	169	0.594	97	99	0.4	1.3	48.117	E
2 - A5 (S)	820	205	838	873	0.940	794	535	2.3	9.0	36.836	E
3 - A426	929	232	754	821	1.132	808	878	5.3	35.6	105.962	F
4 - A5 (N)	664	166	804	762	0.871	651	758	2.0	5.4	29.154	D
5 - Rugby Road	612	153	781	679	0.902	594	674	1.9	6.4	36.593	E

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	100	25	1300	158	0.632	99	100	1.3	1.5	59.229	F
2 - A5 (S)	820	205	855	864	0.949	810	544	9.0	11.5	53.679	F
3 - A426	929	232	770	814	1.142	812	895	35.6	65.1	232.211	F
4 - A5 (N)	664	166	811	759	0.876	662	771	5.4	6.1	35.165	E
5 - Rugby Road	612	153	793	672	0.910	607	680	6.4	7.7	48.808	E

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	82	20	1119	236	0.347	86	93	1.5	0.6	24.593	C
2 - A5 (S)	670	167	729	930	0.720	705	476	11.5	2.7	18.224	C
3 - A426	759	190	670	860	0.883	847	764	65.1	43.1	230.664	F
4 - A5 (N)	543	136	811	759	0.715	556	705	6.1	2.7	18.835	C
5 - Rugby Road	500	125	691	726	0.688	521	676	7.7	2.3	19.178	C

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	69	17	927	319	0.215	70	82	0.6	0.3	14.493	B
2 - A5 (S)	561	140	596	999	0.561	567	401	2.7	1.3	8.424	A
3 - A426	635	159	539	920	0.691	798	624	43.1	2.4	61.974	F
4 - A5 (N)	454	114	740	795	0.571	460	596	2.7	1.4	10.882	B
5 - Rugby Road	419	105	585	784	0.534	423	615	2.3	1.2	10.102	B

2031, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	4 - A5 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Gibbet Hill Roundabout	Standard Roundabout		1, 2, 3, 4, 5	345.16	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	345.16	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2031	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Gibbet Lane		ONE HOUR	✓	105	100.000
2 - A5 (S)		ONE HOUR	✓	856	100.000
3 - A426		ONE HOUR	✓	969	100.000
4 - A5 (N)		ONE HOUR	✓	692	100.000
5 - Rugby Road		ONE HOUR	✓	638	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1 - Gibbet Lane	2 - A5 (S)	3 - A426	4 - A5 (N)	5 - Rugby Road
From	1 - Gibbet Lane	0	14	46	9	36
	2 - A5 (S)	9	6	92	587	162
	3 - A426	49	93	0	241	586
	4 - A5 (N)	36	325	328	1	2
	5 - Rugby Road	17	144	474	3	0

Vehicle Mix

Heavy Vehicle Percentages

From	To				
	1 - Gibbet Lane	2 - A5 (S)	3 - A426	4 - A5 (N)	5 - Rugby Road
1 - Gibbet Lane	0	0	0	0	10
2 - A5 (S)	0	40	38	7	7
3 - A426	5	51	0	18	5
4 - A5 (N)	0	15	9	100	50
5 - Rugby Road	7	12	5	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Gibbet Lane	0.98	201.15	6.0	F	96	145
2 - A5 (S)	1.13	237.03	61.9	F	785	1178
3 - A426	1.33	719.05	168.0	F	889	1334
4 - A5 (N)	1.00	96.71	20.3	F	635	952
5 - Rugby Road	1.11	200.60	42.0	F	585	878

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	79	20	1020	280	0.282	78	82	0.0	0.4	17.640	C
2 - A5 (S)	644	161	666	963	0.669	637	432	0.0	2.0	10.809	B
3 - A426	730	182	604	890	0.820	713	698	0.0	4.0	18.991	C
4 - A5 (N)	521	130	694	820	0.635	514	624	0.0	1.7	11.532	B
5 - Rugby Road	480	120	628	762	0.630	474	580	0.0	1.6	12.226	B

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	94	24	1212	196	0.481	92	96	0.4	0.9	34.086	D
2 - A5 (S)	770	192	794	896	0.859	757	511	2.0	5.1	23.909	C
3 - A426	871	218	719	837	1.041	807	832	4.0	20.0	68.476	F
4 - A5 (N)	622	156	795	767	0.811	614	731	1.7	3.8	22.243	C
5 - Rugby Road	574	143	743	699	0.821	564	665	1.6	4.0	25.119	D

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	116	29	1371	127	0.907	104	103	0.9	3.8	118.273	F
2 - A5 (S)	942	236	899	841	1.121	827	576	5.1	34.0	99.891	F
3 - A426	1067	267	786	806	1.324	805	939	20.0	85.6	247.567	F
4 - A5 (N)	762	190	811	759	1.004	720	780	3.8	14.3	59.966	F
5 - Rugby Road	702	176	850	642	1.094	624	681	4.0	23.5	96.619	F

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	116	29	1392	118	0.977	107	105	3.8	6.0	201.150	F
2 - A5 (S)	942	236	913	834	1.131	831	586	34.0	61.9	218.726	F
3 - A426	1067	267	792	804	1.328	803	953	85.6	151.4	538.465	F
4 - A5 (N)	762	190	812	759	1.004	738	783	14.3	20.3	96.710	F
5 - Rugby Road	702	176	868	632	1.111	628	682	23.5	42.0	200.603	F

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	94	24	1357	134	0.703	106	102	6.0	3.0	140.819	F
2 - A5 (S)	770	192	900	841	0.915	828	563	61.9	47.4	237.027	F
3 - A426	871	218	788	805	1.082	805	939	151.4	168.0	719.046	F
4 - A5 (N)	622	156	812	758	0.820	681	781	20.3	5.5	57.352	F
5 - Rugby Road	574	143	812	662	0.866	647	682	42.0	23.6	185.194	F

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	79	20	1139	228	0.347	89	92	3.0	0.6	27.488	D
2 - A5 (S)	644	161	755	917	0.703	823	474	47.4	2.7	78.707	F
3 - A426	730	182	776	811	0.900	806	802	168.0	148.9	708.070	F
4 - A5 (N)	521	130	806	762	0.684	534	776	5.5	2.3	16.586	C
5 - Rugby Road	480	120	665	741	0.648	567	675	23.6	2.0	31.244	D

2031 + Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	4 - A5 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Gibbet Hill Roundabout	Standard Roundabout		1, 2, 3, 4, 5	432.78	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	432.78	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2031 + Dev	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Gibbet Lane		ONE HOUR	✓	105	100.000
2 - A5 (S)		ONE HOUR	✓	924	100.000
3 - A426		ONE HOUR	✓	973	100.000
4 - A5 (N)		ONE HOUR	✓	705	100.000
5 - Rugby Road		ONE HOUR	✓	643	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1 - Gibbet Lane	2 - A5 (S)	3 - A426	4 - A5 (N)	5 - Rugby Road
From	1 - Gibbet Lane	0	14	46	9	36
	2 - A5 (S)	10	6	99	634	175
	3 - A426	49	97	0	241	586
	4 - A5 (N)	36	338	328	1	2
	5 - Rugby Road	17	149	474	3	0

Vehicle Mix

Heavy Vehicle Percentages

From	To				
	1 - Gibbet Lane	2 - A5 (S)	3 - A426	4 - A5 (N)	5 - Rugby Road
1 - Gibbet Lane	0	0	0	0	8
2 - A5 (S)	0	41	36	8	8
3 - A426	4	51	0	18	5
4 - A5 (N)	0	17	9	100	50
5 - Rugby Road	6	14	5	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Gibbet Lane	1.00	222.04	6.6	F	96	145
2 - A5 (S)	1.22	418.52	98.6	F	848	1272
3 - A426	1.34	811.02	181.0	F	893	1339
4 - A5 (N)	1.03	121.03	26.7	F	647	970
5 - Rugby Road	1.14	243.88	48.6	F	590	885

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	79	20	1035	272	0.291	77	83	0.0	0.4	18.370	C
2 - A5 (S)	696	174	665	958	0.726	686	447	0.0	2.5	12.796	B
3 - A426	733	183	648	866	0.846	714	703	0.0	4.7	21.526	C
4 - A5 (N)	531	133	705	806	0.658	523	657	0.0	1.8	12.423	B
5 - Rugby Road	484	121	641	749	0.646	477	588	0.0	1.8	12.919	B

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	94	24	1227	187	0.504	92	95	0.4	0.9	36.980	E
2 - A5 (S)	831	208	792	892	0.931	807	527	2.5	8.5	35.004	E
3 - A426	875	219	763	813	1.076	792	835	4.7	25.2	83.282	F
4 - A5 (N)	634	158	795	760	0.834	624	761	1.8	4.3	24.784	C
5 - Rugby Road	578	145	755	687	0.842	567	663	1.8	4.5	27.892	D

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	116	29	1371	124	0.935	103	102	0.9	4.2	128.946	F
2 - A5 (S)	1017	254	885	844	1.206	838	589	8.5	53.4	146.511	F
3 - A426	1071	268	796	798	1.342	797	927	25.2	93.8	279.561	F
4 - A5 (N)	776	194	808	753	1.031	723	785	4.3	17.6	70.025	F
5 - Rugby Road	708	177	855	633	1.119	619	676	4.5	26.8	108.534	F

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	116	29	1389	116	1.000	106	103	4.2	6.6	222.035	F
2 - A5 (S)	1017	254	898	837	1.215	836	598	53.4	98.6	336.016	F
3 - A426	1071	268	796	798	1.342	798	938	93.8	162.1	584.694	F
4 - A5 (N)	776	194	809	752	1.032	740	785	17.6	26.7	121.027	F
5 - Rugby Road	708	177	872	624	1.135	621	677	26.8	48.6	231.547	F

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	94	24	1368	125	0.753	105	102	6.6	4.0	180.063	F
2 - A5 (S)	831	208	887	843	0.986	833	585	98.6	98.0	418.517	F
3 - A426	875	219	793	800	1.094	799	928	162.1	181.0	786.902	F
4 - A5 (N)	634	158	810	752	0.842	712	783	26.7	7.2	86.578	F
5 - Rugby Road	578	145	844	638	0.905	626	677	48.6	36.7	243.882	F

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Gibbet Lane	79	20	1209	197	0.402	92	93	4.0	0.7	38.244	E
2 - A5 (S)	696	174	798	890	0.782	881	503	98.0	51.6	307.992	F
3 - A426	733	183	830	783	0.936	778	849	181.0	169.6	811.017	F
4 - A5 (N)	531	133	799	758	0.700	550	809	7.2	2.5	18.646	C
5 - Rugby Road	484	121	680	727	0.666	622	669	36.7	2.2	68.612	F

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