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Date: 20 June 2023

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Dear Madam/Sir

DRAFT CRAWLEY BOROUGH LOCAL PLAN REVIEW - REGULATION 19 DRAFT SUBMISSION LOCAL PLAN 2023

1 Introduction

I write on behalf of my client, abrdn UK Real Estate Fund, in partnership with the Barker Trust (jointly referred to as the "Landowners"), to submit representations to the Regulation 19 Draft Crawley Borough Local Plan (May 2023) (hereafter the "Draft Local Plan 2023").

The Landowners are promoting a c.18ha parcel of land immediately adjacent to Hydehurst Lane (hereafter referred to as the "Site" and identified in a plan at **Document 1**) for employment uses to assist in meeting the substantial evidenced employment need forecast within the Borough. The redevelopment of the Site would deliver a logical and coordinated extension to the Manor Royal Business District, which continues to be identified in the Draft Local Plan 2023 (and its supporting evidence base) to be the key business location for Crawley at the heart of the Gatwick Diamond and Coast to Capital areas.

The Site is available and deliverable and as detailed in the information provided as part of the submission made as part of the Call for Sites exercise is not subject to any technical or environmental constraints.

Previous of the Regulation 19 Draft Crawley Local Plan were subject to public consultation between January and February 2020 ("Draft Local Plan 2020") and January and June 2021 (hereafter the "Draft Local Plan 2021"). Quod submitted representations on behalf of the Landowners as part of these consultations.

These representations are structured to initially provide an executive summary and overall vision for the redevelopment of the Site, before setting out the Landowners' specific comments and objections to the Draft Local Plan 2023.

2 Executive Summary and Vision

The Draft Local Plan 2023 seeks to protect and enhance Crawley's role as key economic driver, recognising that there is a significant requirement for additional land to accommodate industrial employment needs.

However, the full objectively assessed need is not provided for in the emerging plan. Therefore, in the context of the published evidence base, the National Planning Policy Framework (2021) ("NPPF") and up to date circumstances, the Local Plan will be unsound if it seeks to plan for anything less than full employment needs – Draft Policy EC1 should be updated accordingly.

The Draft Local Plan 2023 proposes the allocation of Strategic Employment Location at land east of Balcombe Road and south of the M23 spur, referred to as Gatwick Green. The Council consider this to be the only location in Crawley capable of providing the required quantum of industrial land and floorspace without prejudicing the possible future delivery of southern runway on the safeguarded land. We do not consider this site to be a suitable allocation based on a number of transport issues, the mitigation of which have not been provided as required by the NPPF. Even if this evidence was provided there is still outstanding requirement for industrial employment land.

The land promoted by the Landowners is the most appropriate location north of Manor Royal to accommodate employment floorspace. The Site is situated approximately 0.6 miles to the south of Gatwick Airport and directly to the north of Manor Royal. The Site extends to c.18ha and comprises greenfield land, the majority of which is used for agricultural purposes and is broadly divided into 4 fields, separated by vegetated boundaries.

The Site has the potential to be redeveloped for employment purposes (indicatively c.65,000sqm to 74,000sqm) as a coordinated and planned expansion of Crawley's most important employment location for business floorspace within the Borough. The Site is sustainably located immediately adjacent to the A23 which provides access into Crawley, Gatwick Airport and the M23. The Site would be accessed via an existing high-grade road (Hydehurst Lane) which currently serves units within Manor Royal. No on-site constraints to the development of the Site have been identified which cannot be resolved.

Therefore, is no robust evidence for the reinstatement of the Gatwick Airport second runaway safeguarding and Draft Policy GAT2 should be deleted, and the Site released to meet the industrial employment need. The existing passenger throughput at the airport is 46mppa and Gatwick Airport predicts 62mppa by 2038 (without the second runway) with 74mppa by 2038 (with the second runway). This sufficient capacity covers the life of the plan and there is no robust evidence that in this plan period there will be a requirement for further expansion with a second runway.

In summary, as detailed in the Call for Site submission information, the Site is an available and deliverable employment site which will assist in meeting the substantial evidenced need which exists in the Borough.

3 Representations to the Draft Local Plan 2023

Sustainable Economic Growth

The NPPF requires planning policies to help create the conditions in which businesses can invest, expand and adapt with significant weight to be placed on the need to support economic growth and productivity, taking into account both local business needs and wider opportunities for development (Paragraph 81).

Paragraph 82 explains that planning policies should:

> *"a) set out a clear economic vision and strategy which positively and proactively encourages sustainable economic growth, having regard to Local Industrial Strategies and other local policies for economic development and regeneration;*
>
> *b) set criteria, or identify strategic sites, for local and inward investment to match the strategy and to meet anticipated needs over the plan period;*
>
> *c) seek to address potential barriers to investment, such as inadequate infrastructure, services or housing, or a poor environment; and*

In practice this means the Local Plan must take the opportunity to plan for growth, taking advantage of its excellent labour market, transport and locational advantages, and ensure land availability is no-longer holding back sustainable growth.

Instead, through the updated Draft Policy EC1, the Plan seeks to reduce employment land provision from the 38.7ha previously proposed in 2021 to 26.2ha. It aims to provide only a minimum amount of employment land, despite indications this may not be sufficient, and acknowledging a recent history of land supply falling significantly short of demand, particularly for industrial land.

The reduced land allocation is the result of updated Experian employment forecasts, set out in the 2023 Economic Growth Assessment ("2023 EGA"). These forecasts assume significantly lower growth than in the forecasts undertaken three years earlier. They represent a snapshot at a lower point in growth after a period of economic turmoil through Brexit and Covid-19. The wide variation of employment projections within just the last few years demonstrates the risk of planning only for the minimum demand.

As well as the Experian forecasts, the 2023 EGA also looks at past demand and notes that take-up rates of employment floorspace *"provide some basis to plan for slightly higher industrial land requirements"*, which the Draft Local Plan 2023 does not do. In fact the EGA shows that, if past take up were used as the basis for the Draft Local Plan 2023, instead of the Experian Forecasts, industrial

land requirements would be 26% higher. This further highlights the risk of providing only a minimum provision.

Topic Paper 5 "*Employment Needs and Land Supply*" published with the Draft Local Plan 2023 states that the Experian-based figures, *"must be viewed as representing a minimum business land requirement, falling some way short of the 'past trends' scenario, which is itself a product of historically constrained land supply"* (p.29). The Topic Paper explains that *"only very limited new employment land has come forward, past development rates are likely to have been suppressed. This aligns with the consistently held market view that limited availability of suitable industrial land and premises has resulted in 'pent-up' demand that frequently is unable to be satisfied within the market, increasing rents and in some cases necessitating occupiers to locate elsewhere"* (p.26).

Therefore, the evidence base suggests very strong demand for employment land that has not been met in the past, and would not be met in the future by the proposed allocations in Draft Policy EC1. The proposal to provide only a minimum amount of land – less than has normally been needed in the past – does not meet the requirement of the NPPF to plan positively and proactively for sustainable economic growth.

The Draft Local Plan 2023 fails to meet the requirements of the NPPF. It fails to adequately account for the economic opportunities and risks facing the borough, fails to plan for its full economic potential and therefore fails to positively and proactively plan for sustainable economic growth.

The history of the Council's forecasts and the borough's economic context have been detailed in the Landowners representations in 2020 and 2021. The Economic Case for Development 2021 Update submitted with those representations tracks the historic under delivery and constraint in the borough, and the economic impact and risk associated with that. The conclusions of that report still stand:

> *"CBC has committed to sustainable economic growth and prosperity for its residents and its businesses. […]*
>
> *"In constraining its employment land commitments to this extent the borough is creating uncertainty in the local market for employment which is likely to affect both the prices of existing stock and the investor confidence in planning for new sites.*
>
> *"Crawley has a strong economic foundation and its own evidence base as well as market intelligence demonstrates it has substantial potential for continued expansion into key growth sectors such retailing logistics, as well as to capture continued growth associated with Gatwick. However, its stock is ageing and size ranges (including very large and very small sites) are currently limited compared to demand. Large sites (or more than 100,000 sqft) in particular are not currently available to meet potential needs.*
>
> *"Crawley should, in order to meet its own aspirations as well as the requirements of National planning policy, be proactively and positively planning for growth."*

Crawley fails to plan for employment land that would support even its much more modest housing growth forecast. Taking this growth forecast into account (on which the Borough heavily relies to meet housing need), employment land needs would be 69ha as a minimum rather than 26.2ha identified by the Council so as to maintain commuting patterns. Therefore, the full objectively assessed need, having regard to the Duty to Cooperate, is not provided for in the emerging plan and is not consistent with the requirements of the NPPF.

The Draft Local Plan 2023 does not meet the requirements of the NPPF as it is not effective or justified. If the Council do not prepare the plan in a more positive manner this will result in an unsound plan. As such, Draft Policy EC1 should be updated to reflect the employment land needs of a minimum of 69ha.

The Council have identified that the 22.9ha of industrial land required (of the 26.2ha), predominantly Class B8 storage & distribution warehousing, can be met through existing supply and the Strategic Employment Location (i.e., within Crawley's boundaries). The Draft Local Plan 2023 identifies an existing industrial land supply pipeline of 9.17ha.

Within Draft Policy EC4 the Council have allocated the land at Gatwick Green as a Strategic Employment Location to provide a minimum of 13.73ha new industrial land (the residual amount), predominantly for Class B8 storage and distribution use.

We do not consider the proposed Gatwick Green allocation to be suitable. The key issue relates to transport as detailed within the Transport Appraisal of Gatwick Green attached at **Document 2**.

Gatwick Green is not easily accessible by foot from residential development and there is no existing infrastructure for cyclists serving the site and suitable provision cannot be easily accommodated. Furthermore, there are currently no bus services located within reasonable walking distance of Gatwick Green and no evidence has been provided that a range of bus routes serving a variety of destinations will be delivered to support development at Gatwick Green.

There is very little spare capacity in the permitted junction system to accommodate traffic from new development. In the absence of further physical infrastructure interventions to provide the necessary capacity, traffic arising from Gatwick Green would block back onto the carriageway at the existing junctions resulting in unacceptable highway safety impacts and severe residual impacts on the road network. Sufficient evidence has not been provided to demonstrate that necessary new junction improvements are effective, deliverable or safe and suitable.

The Transport Appraisal concludes that development at Gatwick Green:

- is unsustainable in transportation terms thereby failing to meet the requirements of paragraphs 105 and 110 (a) of the NPPF;

- does not demonstrate that safe and suitable access (including access routes) can be achieved for all users thereby failing to meet the requirements of paragraph 110 (b) of the NPPF;
- relies on significant new infrastructure interventions that have neither been quantified nor demonstrated to be cost effectively deliverable thereby failing to meet the requirements of paragraph 110 (c) of the NPPF;
- would result in an unacceptable impact on highway safety thereby meeting the test at paragraph 111 of the NPPF against which development should be prevented or refused; and
- would result in severe residual cumulative impacts on the road network thereby meeting the test at paragraph 111 of the NPPF against which development should be prevented or refused.

Draft Policy EC4 requires a Transport Assessment and Mobility Strategy to be submitted with a future planning application for the development of Gatwick Green. However, the NPPF is clear that potential site allocations should be appropriately assessed and based on the assessment of existing infrastructure and required infrastructure. This has not been provided and as such the proposed site allocation is not in accordance with national policy and cannot be considered to be suitable. Furthermore, it is likely that any junction works will take a significant amount of time to deliver, potentially between 7-10 years.

Draft Policy EC1 should be updated to remove reference to Gatwick Green and Draft Policy EC4 should be deleted. Even if the proposed site allocation was demonstrated to be suitable, there still remains an outstanding industrial land need of to ensure the plan is sound.

The scale of demand for employment land in this area means that such large-scale new allocations are likely to be needed in the future. However, as development of the scale of Gatwick Green, on an entirely new site, takes considerable time – with land assembly and civil engineering works to provide access. This does not provide an immediate solution to the long-standing shortfall of employment land that is holding back sustainable economic growth.

To meet the NPPF requirements, long-term sites like Gatwick Green need to be complemented by significant additional sites that are deliverable in the meantime, in order to meet the pressing need and pent-up demand identified in the evidence base

Manor Royal is a major contributor to the Crawley and West Sussex Economies and is central to the future economic prosperity of the Borough. The Draft Local Plan 2023 states that, *"redevelopment and intensification of existing sites, and identification of appropriate extensions to Manor Royal will reinforce its vital economic function, supporting new and existing businesses as they grow"* (para 2.16, p.22).

The Site is located directly to the north of Manor Royal. As detailed in the Economic Case for Development 2021 Update, the Site's scale sets it apart as it provides the opportunity to attract larger occupiers to the area, in addition to allowing existing operators with significant growth potential to stay in the area. Crawley currently only offers a handful of units larger than 100,000sqft. The scale of the Site also allows the opportunity to effectively masterplan and phase development to provide a range of unit sizes and typologies which could then satisfy a range of business needs and be responsive over time. The redevelopment of the Site also has a number of economic benefits which are detailed in Section 5 of the Economic Case for Development 2021 Update.

The Site is sustainably located immediately adjacent to the A23 which provides immediate access into

Crawley, Gatwick Airport and the M23. The Site is surrounded by a network of footways, which are relatively wide and often set back from the carriageway by a grass verge. Bus stops are located within walking distance of the Site along the A23 and Fleming Way and provide access to several routes, including Gatwick Airport, which provides interchange opportunities with bus and rail modes. The Site would be accessed via an existing high-grade road (Hydehurst Lane) which is owned by the Landowners and currently serves units within Manor Royal. As confirmed in the Transport Appraisal the Site benefits from established sustainable travel network and highway access routes with spare capacity to adequately accommodate traffic growth during the Draft Local Plan period thereby meeting the requirements of the NPPF.

As identified in the Call for Sites submission no on-site constraints to redevelopment have been identified which cannot be resolved.

The Site represents a natural and logical extension to the adjoining the Manor Royal complementing its established role as the premier location for business floorspace within the Borough. The Site is the most appropriate location north of Manor Royal to meet part of the Borough's significant unmet employment need.

The Council's current strategy is not justified (i.e., it is not the most appropriate strategy, taking into account the reasonable alternatives, and based on proportionate evidence) as required by the NPPF. As detailed in the following section there is no robust evidence for the reinstatement of the Gatwick Airport second runway. The failure to commit to the alternative use of this land is against the requirements of the NPPF to reallocate land with no reasonable prospect of use under its current allocation via the revised Local Plan process.

As such, the Site should be released for development as part of the Draft Local Plan 2023 to meet unmet employment need as an extension to Manor Royal. The Site should be included within the Manor Royal boundary under Draft Policies EC1, EC2 and EC3 and the Draft Local Plan Map. This will assist in ensuring that the Draft Local Plan 2023 has been proactively prepared and helps create the conditions in which businesses can invest, expand and adapt in and objectively assessed need can be met in accordance with the NPPF.

Gatwick Airport Safeguarding

The NPPF states that planning policies should *"identify and protect, where there is robust evidence, sites and routes which could be critical in developing infrastructure to widen transport choice and realise opportunities for large scale development"* (Paragraph 106, our emphasis).

In line with our representations to the Regulation 18 Draft Local Plan, the Council accepted that "robust evidence" did not exist to maintain the safeguarding for a second runway and deleted draft Policy GAT2 (Safeguarded Land) in the Draft Local Plan 2020 with Paragraph 3.20 stating:

> *"The council does not consider there is, at this time, robust evidence to justify the continued safeguarding of land for a further runway at Gatwick, and in light of the other significant needs arising which this land could support, commits to commencing work on an AAP to determine the most appropriate use of this land for future development needs rather than just protecting an extensive area for one use." (our emphasis)*

Draft Local Plan 2021 deleted the North Crawley Area Action Plan ("NCAAP") and reinstated Draft Policy GAT 2 and expands the airport safeguarding corresponding to the area identified in the Gatwick Airport Masterplan 2019.

There has been no material change in the planning policy position from the publication of the Draft Local Plan 2020 to that of the Draft Local Plan 2023 to warrant the safeguarding. Paragraph 10.17 of the Draft Local Plan 2023 states:

> *"The National Infrastructure Commission Baseline report in 2021 concluded that the Second Assessment due in 2023 would not consider airport capacity because future demand and the approach to expanding runway capacity in the south east is currently unclear. There is not, therefore, any certainty in government policy that land at Gatwick is no longer required to be safeguarded. This means that it is considered land at Gatwick is still required to be safeguarded for a potential future runway, as the Local Plan must be consistent with national policy."*

This is an unsound approach to take. Uncertainty regarding the need to safeguard land does not equate to robust evidence justifying such safeguarding. The planning requirement is not that there has to be certainty that safeguarding is not required, but that robust evidence is required for land to be safeguarded. The necessary robust evidence does not exist.

The existing passenger throughput at the airport is 46mppa and Gatwick predicts 62mppa by 2038 (without second runway) with 74mppa by 2038 (with the second runway). There is sufficient capacity without the second runway for the life of the plan and there is no robust evidence that in this plan period there will be a requirement for expansion.

Furthermore, the Gatwick Airport Masterplan 2019 pre-dates Covid and its associated impacts which has not been addressed in the Draft Local Plan 2023 nor its supporting evidence.

The Draft Local Plan 2023 continues makes reference to review of the Local Plan "*should changes to national aviation policy allow for the removal of the safeguarding of all the land for Gatwick Airport expansion*" (Paragraph 1.33).

However, both Paragraph 3.66 of the Draft Aviation Strategy and Paragraph 106 of the NPPF are clear that robust evidence is required and this needs to be provided as part of the emerging Local Plan review. For the emerging local plan to be consistent with national policy and found to be sound, robust evidence must be provided as part of this review.

There is no evidence, let alone robust evidence, to support the need for a second runway at Gatwick following the designation of the ANPS, and the Court of Appeal was clear in identifying that a second runway option at Gatwick Airport was not objectively capable of being a solution for meeting the need for additional airport capacity in the South East. Paragraph 93 states the following:

> *"Given that a central purpose of the ANPS was to promote the United Kingdom's status as an "aviation hub", we see no room for a submission that the Secretary of State acted unlawfully in rejecting the Gatwick second runway scheme on the evidence that it could not fulfil that objective. On the contrary, as we have said, since there was a clear and unassailable finding that expansion at Gatwick "would not enhance, and would consequently threaten, the UK's global aviation hub status" (paragraph 3.19 of the ANPS), a scheme for the development of a second runway at that airport could not realistically qualify as an "alternative solution" under article 6(4). **In fact, it would be no solution at all**." (Our emphasis)*

The ANPS and the Court of Appeal judgment make it clear that a second runway at Gatwick is not a solution to the need for further runway capacity in the South East. GAL's previous objection relies on the Airports Commission report, which pre-dates both the ANPS and the Court of Appeal case, and its evidence as to the criticality of further runway capacity. This is clear and robust evidence that safeguarding is not required.

The draft safeguarding area covers the previously non-safeguarded land. This is based on the Gatwick Airport Masterplan 2019. As we do not consider robust evidence exists for the safeguarding, it should not extend to land which was previously not identified as such, particularly on the basis of on an airport driven masterplan.

The NPPF requires that there is "robust evidence" for such safeguarding and in light of the designation of the ANPS and the Court of Appeal and Supreme Court decisions there is no such robust evidence as previously confirmed by the Council. For the Draft Local Plan 2023 to be found sound Draft Policy GAT2 must be deleted.

Western Relief Road

Draft Policy ST4 continues to provide for the safeguarding for a search corridor for a Crawley Western Link Road linking the A264 with the A23. As the Site is the most sensible location north of Manor Royal to provide much needed employment floorspace, there needs to be a recognition that the new road does not compromise this important site. As such, its location should be dealt with as part of the Draft Local Plan 2023.

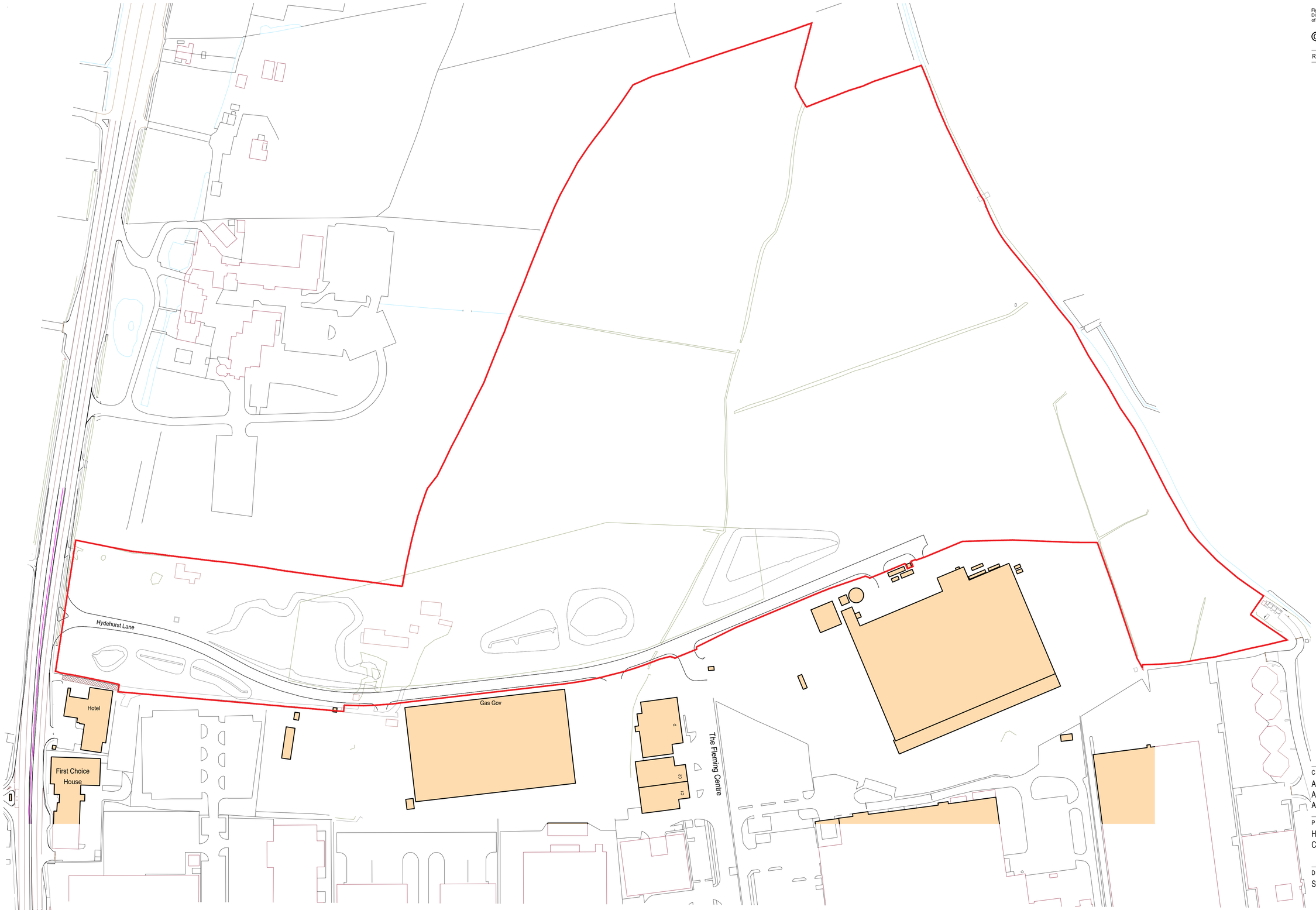
4 Conclusions

There is a significant need for employment land in Crawley and as currently drafted the Draft Local Plan 2023 is unsound. The Site is the most appropriate location north of Manor Royal to meet identified need and as such should be included within the Manor Royal boundary. There is no robust evidence for the Gatwick Airport second runway safeguarding and Draft Policy GAT2 should be deleted.

Yours faithfully

Tony Gallagher
Associate Director

DOCUMENT 1



Figured dimensions only are to be used. All dimensions to be checked onsite. Differences between drawings and between drawings and specification or bills of quantites to be reported to the PRC Group.

Revisions: Drawn/Chkd: Date:

Client:
APIF
ABERDEEN PROPERTY
AUTHORISED INVESTMENT FUND

Project:
HYDEHURST LANE
CRAWLEY

Drawing Title:
SITE PLAN

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Tender ☐

Architecture
Planning
Master Planning
Urban Design
Interiors
Landscape

Offices
Woking
London
Milton Keynes
Warsaw

PRC Architecture & Planning

DOCUMENT 2

Draft Crawley Local Plan 2024 – 2040,
Submission Consultation
Policy EC4: Strategic Employment Location

Transport Appraisal

For

abrdn UK Real Estate Fund, in partnership with the Barker Trust

motion

Document Control Sheet

Draft Crawley Local Plan 2024 – 2040, Submission Consultation

Policy EC4: Strategic Employment Location

abrdn UK Real Estate Fund, in partnership with the Barker Trust

This document has been issued and amended as follows:

Date	Issue	Prepared by	Approved by
09/06/2023	1st Draft	JNR	JNR
-	-	-	-

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Appendices

1.0 Introduction

Preamble

1.1 This report has been prepared on behalf of Aberdeen Standard Investments, in partnership with the Barker Trust (the Landowners) and considers transport matters relating to the proposed allocation of land at Gatwick Green in the Draft Crawley Local Plan 2021 – 2037, Submission Consultation (DCLP).

1.2 The allocation of land at Gatwick Green ('Gatwick Green') is proposed through policy EC4 which anticipates, inter alia, a development comprising:

a. Provide as a minimum 13.73ha new industrial land, predominantly for B8 storage and distribution use, demonstrating through appropriate evidence the justification for any further industrial floorspace beyond this amount;

b. Justify any limited complementary ancillary uses such as office floorspace, small-scale convenience retail and small-scale leisure facilities that would support the principal industrial-led storage and distribution function.

1.3 Development at Gatwick Green is being promoted by the Wilky Group and representations setting out the proposals are already submitted as part of the DCLP process.

Alternative Employment Locations

1.4 As an alternative to locating new industrial development at Gatwick Green, suitable and deliverable land is available for employment development by extending the established Manor Royal area, to the north of Hydehurst Lane (the 'Manor Royal Extension'). This land, being promoted by the Landowner, could accommodate circa 74,000sqm of new employment development and its location is shown on the plan provided at **Appendix A**.

1.5 This report assesses the relationship of the Manor Royal Extension to the established walking, cycling, public transport and highway environment serving Manor Royal.

Documents

1.6 The primary source of evidence supporting the DCLP is the *Crawley Transport Study, Transport Study of Strategic Development Options and Sustainable Transport Measures, Draft Crawley Local Plan 2021 – 2037 Revision E*, which is prepared by Stantec UK Limited on behalf of Crawley Borough Council ('the Council') and dated 23rd June 2022 ('the Transport Study').

1.7 Reference is also made to the *Gatwick Green, Gatwick, Transport Strategy* prepared by i-Transport on behalf of the Wilky Group ('the Wilky Transport Study') dated Date: 02 March 2020

General Matters

1.8 The Transport Study was first issued on 6th April 2021. This is after the date of the DCLP (January 2021). It is difficult therefore to understand how the DCLP could possibly have been developed having regard to the traffic implications of the spatial strategy being promoted in the DCLP.

1.9 The DCLP would therefore appear to have been developed in isolation of understanding the optimal spatial distribution of future land uses across Crawley having regard to making best use of existing transport infrastructure, minimising unnecessary car travel and minimising adverse air quality impacts.

1.10 Considering the timeline of the Transport Study production in more detail, the following is noted:

- December 2020 – Transport Study issued to the Council;
- January 2021 – DCLP completed;

- April 2021 – revised Transport Study issued to the Council;
- May 2021 – further revisions to the Transport Study made and second revision issued to the Council;
- September 2021 – third revision of the Transport Study issued to the Council;
- May 2022 – Fourth revision of the Transport Study issued to the Council; and,
- June 2022 – Current version of the Transport Study issued to the Council.

1.11 On the basis of the above timeline it is noted that:

- The DCLP was completed and issued without the benefit of a completed Transport Study;
- There was a four-month hiatus between the Transport Study being completed and the first revision being issued to the Council; and
- There was only a single month gap between the first revision and the second revision Transport Study being issued.

1.12 A four-month delay indicates that there were material changes made to the analysis and conclusions of the first draft Transport Study that extended beyond purely cosmetic changes. Knowing the DCLP consultation timetable and on the assumption that the Transport Study was undertaken by an experienced and competent transport consultant, it is difficult to understand why there was such a long gap between the Council receiving the results and conclusions of the Transport Study (December 2020) and finally issuing the Transport Study for public scrutiny (May 2021). This is especially the case when considering that there was only a 1-month delay between the first revision issue Transport Study (April 2021) and the final issue Transport Study (May 2021).

1.13 Furthermore it is puzzling that, knowing that there was a further four-months' worth of transport and highway assessment and analysis to be undertaken to test and inform the development of the DCLP, that the Council nonetheless published the DCLP early in this extended assessment and analysis period.

1.14 Based on the timetable set out above, it could be concluded that rather than informing the development of the DCLP, the DCLP has been fixed prior to the transport assessment and analysis work being completed. The Transport Study has subsequently been 'informed' by the fixed DCLP (January 2021) and revised accordingly and re-issued four-months later: a case of the tail wagging the dog.

1.15 In this context it is recommended that the conclusions of the Transport Study be read with caution as there is a prospect that they present a subjective appraisal of the DCLP rather than an objective and detailed analysis of transport issues affecting Crawley Borough.

Scope of report

1.16 This report comprises five sections in addition to the introduction as follows:

- Section 2 considers relevant transport policy;
- Section 3 considers sustainable travel;
- Section 4 considers highway access; and
- Section 5 considers highway impact.

1.17 A summary is provided at Section 6 together with the conclusions which are that whilst it is noted that Draft Policy EC4 requires a transport assessment to be submitted with a future planning application for the development of Gatwick Green, the NPPF is very clear that potential site allocations should be appropriately assessed and based on the assessment of existing infrastructure and required infrastructure set out herein we consider that development at Gatwick Green:

- is unsustainable in transportation terms thereby failing to meet the requirements of paragraphs 105 and 110 (a) of the NPPF;
- does not demonstrate that safe and suitable access (including access routes) can be achieved for all users thereby failing to meet the requirements of paragraph 110 (b) of the NPPF;
- Relies on significant new infrastructure interventions that have neither been quantified nor demonstrated to be cost effectively deliverable thereby failing to meet the requirements of paragraph 110 (c) of the NPPF;
- would result in an unacceptable impact on highway safety thereby meeting the test at paragraph 111 of the NPPF against which development should be prevented or refused; and
- would result in severe residual cumulative impacts on the road network thereby meeting the test at paragraph 111 of the NPPF against which development should be prevented or refused.

1.18 As a consequence, we do not consider that the level of floorspace identified at Gatwick Green is deliverable. It should therefore be removed from the DCLP because it is undeliverable in terms of highways and transportation.

1.19 In contrast, the Manor Royal Extension would benefit from:

- an established sustainable travel network thereby meeting the requirements of NPPF paragraphs 105 and 110; and
- highway access routes with spare capacity to adequately accommodate traffic growth during the DCLP period thereby meeting the requirements of NPPF paragraph 110 (c).

1.20 There is every prospect therefore that cost effective highway mitigation could be identified safely and suitably to accommodate additional traffic and travel demand arising from the Manor Royal Extension. Accordingly, it should be considered for inclusion in the DCLP as a sustainable site suitable for accommodating new employment development.

2.0 Relevant Transport Policy

2.1 The National Planning Policy Framework (NPPF) sets out a presumption in favour of sustainable development. It recognises the importance of transport policies in facilitating sustainable development, and that planning decisions should have regard to local circumstances.

2.2 Paragraph 2 of the NPPF states that:

'The National Planning Policy Framework must be taken into account in preparing the development plan and is a material consideration in planning decisions. Planning policies and decisions must also reflect relevant international obligations and statutory requirements.'

2.3 Section 9 of the NPPF deals with 'Promoting Sustainable Transport' with paragraph 104 stating the following:

'Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:

a) the potential impacts of development on transport networks can be addressed;

b) opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;

c) opportunities to promote walking, cycling and public transport use are identified and pursued;

d) the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and

e) patterns of movement, streets, parking and other transport considerations are integral to the design of schemes, and contribute to making high quality places.'

2.4 Paragraph 105 continues:

'The planning system should actively manage patterns of growth in support of these objectives [set out in paragraph 104]*. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions, and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making.'*

2.5 Paragraph 110 addresses the relationship between development and sustainable transport as follows:

'In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

a) appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;

b) safe and suitable access to the site can be achieved for all users;

c) the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and

d) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.'

2.6 The NPPF is therefore a material consideration in determining the soundness of a development plan and requires that the impacts on the transport environment associated with site allocations and subsequent design of infrastructure interventions should be sufficiently detailed to be able to understand the environmental impacts and financial costs of them.

2.7 In particular it is emphasised that:

- Paragraph 105 states that *'Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes'*; and
- Paragraph 110 (d) qualifies the provision of new infrastructure by inserting the term *'cost effectively'*.

2.8 The NPPF clearly recognise that there is always an infrastructure solution to making any site 'sustainable'. However, these two statements underscore the Government's intent that in allocating land for development, local authorities should:

- first consider sites that are already sustainable; and then
- consider the cost effectiveness of any infrastructure interventions required to cover residual shortfalls in infrastructure provision.

2.9 In short it is simply not sufficient to demonstrate that infrastructure can be provided: it must be demonstrated that existing sustainable travel opportunities have been exhausted, existing infrastructure efficiently utilised and only then, consider the provision of new infrastructure to mitigate any shortfalls which must be capable of being cost effectively delivered.

2.10 Paragraph 111 of the NPPF sets out the test that a determining authority should apply when subsequently determining the suitability of a planning application in terms of transport and highways stating that:

"Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe."

2.11 It is clear from the NPPF that planning permission for a development site will be refused if it would result in either an unacceptable impact on highway safety or a severe residual cumulative impact in the road network.

2.12 In allocating a site for development, a planning authority must therefore be sure that there is a reasonable prospect that infrastructure interventions can be delivered that would mitigate highway safety and residual cumulative road network impacts to a sufficient extent that the development is acceptable within the terms of paragraph 111.

3.0 Sustainable Travel

Journeys by foot

3.1 The Chartered Institution of Highways and Transportation (CIHT) 'Guidelines for Providing for Journeys on Foot' (2000) suggests acceptable, desirable and preferred maximum walking distances ('acceptable' walking distances would vary between individuals). These walking distances are applied consistently when assessing the reasonable walking times whether a development is in a rural or an urban location.

3.2 Table 3.1 summarises the suggested walking distances for pedestrians without mobility impairment for some common trip purposes.

	Town Centres	Commuting/ Schools	Elsewhere
Desirable	200	500	400 (5 minutes' walk)
Acceptable	400 (5 minutes' walk)	1,000 (12.5 minutes' walk)	800 (10 minutes' walk)
Preferred Maximum	800 (10 minutes' walk)	2,000 (25 minutes' walk)	1,200 (15 minutes' walk)
Source: 'Providing for Journeys on Foot', CIHT, 2000			

Table 3.1: Reasonable Walking Distances (metres)

3.3 More recent guidance is provided in Planning for Walking, Chartered Institution of Highways and Transportation ("CIHT Walking Guidance", April 2015) which sets out in section 6.4 advice on walking catchments as follows:

"Walking neighbourhoods are typically characterised as having a range of facilities within 10 minutes' walking distance (around 800 metres).

3.4 It is recognised that the above distances are not ceilings on how far people will reasonably walk to reach a facility but rather guidance on desirable distances to plan for. In this respect, it is instructive to refer to the National Travel Survey (NTS) findings on walk journeys in order to understand how far people will typically walk on a journey. The NTS identifies that 74% of journeys made on foot are shorter than 1,600 metres (source: *table NTS0308a National Travel Survey 2019*).

3.5 Based on the above, it is reasonable to plan for people to walk up to 2,000 metres when commuting to a place of work albeit the NTS survey data suggests that only a minority of people would walk above 1,600 metres.

3.6 The GIS software TRACC has been used to plot the walk catchments identified above which are:

- 800 metres – walkable neighbourhoods (CIHT – 2015);
- 1,600 metres – NTS data; and
- 2,000 metres – suggested maximum reasonable walk distance for commuting (CIHT - 2000).

3.7 The plot of the walk catchments is provided at **Appendix B**. This shows that there is very little residential development within a two kilometre walk distance of Gatwick Green. As a consequence, it can be expected that very few, if any commuter journeys to and from Gatwick Green would be made on foot.

3.8 This relative remoteness has a secondary influence on how people might choose to travel to work. This relates to journeys made during the working day at lunchtime, for example to visit a bank, undertake top-up shopping, buy some lunch etc. or if journeys for other purposes are to be made during the working

day (visit to the dentist for example). Due to the limited time available to undertake such journeys, they are most conveniently made on foot or by car due to the flexibility of these modes to fit around time constraints. Given the remoteness of Gatwick Green to facilities, it can be expected that many people will choose to drive to Gatwick Green in order to undertake such secondary journeys during the course of the working day.

3.9 In contrast, the Manor Royal Extension is located within reasonable walk catchments of established facilities, amenities and residential areas (see **Appendix C**). Footways are provided along both sides of London Road with a signalised crossing just north of the Fleming Way roundabout which provides a traffic free route from the Manor Royal Extension to a number of retail uses, including a Tesco express, M&S food hall and Costa Express enabling future users to undertake convenience trips on foot. It can therefore be expected that commuter journeys to and from Gatwick Green would be made on foot.

3.10 The Wilky Transport Study refers to guidance in TD91/05 regarding the willingness for people to walk distances greater than 2 miles (paragraph 4.2.2). For clarity TD91/05 has been withdrawn in its entirety by the Department for Transport (DfT). No weight should therefore be given to any part of TD91/05 or any reference thereto. All the design matters relating to journeys by foot in TD91/05 which the DfT considers to be currently relevant and accurate are included in CD143, which has replaced TD91/05 in its entirety. CD143 makes no reference to the distance people are willing to walk. The Design Manual for Roads and Bridges (DMRB) is therefore now not a document that provides any guidance or recommendations concerning how far people will walk and the historic reference to "2 miles" should no longer be relied upon.

Journeys by Cycle

3.11 The Chartered Institution of Highways and Transportation (CIHT) identifies that the bicycle is a potential mode of transport for all journeys under five miles (approximately 8 kilometres) (Planning for Cycling, 2015). Other research has suggested that a 5-kilometre catchment is likely to be the most attractive for encouraging motorists to switch to cycling.

3.12 In this respect, it is again instructive to refer to the National Travel Survey (NTS) findings on cycle journeys in order to understand how far people will typically cycle on a journey. The NTS identifies that 46% of journeys made on cycle are shorter than 3.2 kilometres and 82% are shorter than 8 kilometres (source: *table NTS0308a National Travel Survey 2019*) supporting the statement in Planning for Cycling.

3.13 The GIS software TRACC has been used to plot the cycle catchments identified above which are:

- 3.2 kilometres – NTS data;
- 5.0 kilometres – NTS data; and
- 8 kilometres – suggested maximum reasonable distance for cycle journeys (CIHT - 2015).

3.14 The plot of the cycle catchments is provided at **Appendix B**. Based on the catchments shown, the distances suggest that there is a reasonable expectation that some journeys would be made by cycle subject to the provision of cycle infrastructure and safe routes.

3.15 Turning to infrastructure for cyclists, there is no infrastructure for cyclists serving Gatwick Green. Gatwick Green is remote from existing cycle infrastructure and advisory cycle routes (see Crawley Cycle Network Map provided at **Appendix D**).

3.16 The Site is accessed via the B2036 and B2037. In the vicinity of Gatwick Green, both of these routes are unlit rural roads subject to the national speed limit (60mph in this case). There is no provision for cyclists on either route. Cyclists share the carriageway with private and commercial traffic. The carriageway is circa 7.3m wide which is adequate for two-way vehicular traffic but insufficient for two-way traffic to safely pass a cyclist.

3.17 Research shows that cyclists in particular have a much higher risk of being involved in a fatal collision on a rural road than elsewhere on the road network (*RoSPA, Rural Road Safety Factsheet, February 2017*).

3.18 These deficiencies in the characteristics of the B2036 and B2037 with regards to cycling would be exacerbated during the hours of darkness or adverse weather.

3.19 Based on the above, and in the absence of providing cycle infrastructure on the access routes to Gatwick Green, it can be concluded that neither the B2036 nor the B2037 are safe or suitable routes for encouraging cyclists to utilise in order to access Gatwick Green nor routes that are conducive to encouraging people to travel by cycle because:

- The routes are too narrow for cyclists and motor vehicles to pass safely; and
- There is a higher risk of cyclists being involved in a fatal injury on roads such as these than other types of road which would deter people from cycling.

3.20 It is noted that neither the Transport Study nor the Wilky Transport Study identify how cycle infrastructure will be provided to serve Gatwick Green, neither the form of it nor if it can be delivered having regard to the fact that Balcombe Road is too narrow to accommodate cycle lanes and Gatwick Green is enclosed by third party land which would need to be crossed to deliver cycle routes. Indeed, the Transport Study provides an assessment of the impact of delivering a *'comprehensive cycle network – as detailed in Crawley's Local Cycling and Walking Infrastructure Plan (LCWIP)'*. This document neither identifies Gatwick Green as present or future employment site nor does it identify a present or future cycle route in the vicinity.

3.21 As a consequence, it can be expected that very few, if any, journeys would be made by cycle.

3.22 Development at Gatwick Green will result in a significant increase in vehicles using the B2036 as set out in Section 4 below. An increase in the number of vehicles using the B2036 (Balcombe Road) would exacerbate the existing deficiencies for cyclists travelling in the road. It is likely that such an increase in traffic travelling in the road, especially an increase in the HGV component of the traffic, would further discourage people from accessing Gatwick Green by cycle. This would be due to the combination of an increased risk of collision and a reduction in amenity arising from an increased volume of traffic as well as an increase in fear and intimidation associated with HGV volumes.

3.23 In contrast, the Manor Royal Extension would have direct access to the established Crawley Cycle Network (see **Appendix D**). Connections to the network could be achieved via land in control of the Landowners at Manor Royal Extension. It can therefore be reasonably expected that journeys would be made to and from the Manor Royal Extension by cycle.

Journeys by Bus

3.24 There are currently no bus services located within reasonable walking distance of Gatwick Green. In the absence of the provision of new bus services, there is very little prospect of people travelling to and from Gatwick Green by bus.

3.25 The Wilky Transport Study refers to dialogue purported to have taken place with the local Fastway Bus Operator. This sets out a range of aspirations but presents no evidence that development at Gatwick Green would:

- be directly served by bus; or
- benefit from a high frequency of bus service; or
- would be accessible to a wide range of destinations.

3.26 Experience of stand-alone commercial development of this scale elsewhere demonstrates that it is extremely difficult to provide and maintain frequent and diverse bus provision on a commercial basis. As

examples of what may be reasonably expected in relation to a stand-alone development such as Gatwick Green with no existing bus provision:

- Tesco Distribution Centre, Reading. Total of 87,000sqm of B8 development. Located 4.5km walk distance south of the centre of Reading and 2.8km walk distance from the centre of the Three Mile Cross / Spencers Wood / Shinfield area of Wokingham. Circa 1,200 jobs. Currently fully operational. Bus access catered for by diversion of nearby bus route for approximately 20 minutes during each shift change hour (05:24 – 05:44, 13:31 – 13:43 and 21:24-21:50). No bus services outside of these times. No conventional work-day hours' (09:00 - 17:30) service.
- Thames Valley Science Park, Wokingham. Total of 75,690sqm of Research and Development and light industrial floor space. Located adjacent to major residential development of 2,500 new houses and 3km north of further major residential development of 3,500 new houses. Yet to be completed and occupied. Aspirational aim to be served by four buses per hour as part of a network serving the combined 6,000 new dwellings located nearby. Buses serving the new residential development pass / will pass the Thames Valley Science Park.

3.27 What can be seen from the above is that a standalone strategic industrial development of the scale of Gatwick Green is unlikely to generate sufficient demand to enable a full-time permanent bus service to be commercially provided. So, whilst some employees may be able to travel to and from work by bus, this is only at limited times. Employees who require some flexibility in their work / life balance are therefore likely to choose to drive.

3.28 Furthermore, whilst the Thames Valley Science Park could have a regular bus service available, this is reliant on significant residential development being delivered nearby. Effectively the Thames Valley Science Park is relying on "existing" bus services that are being operated on a commercial basis.

3.29 In this context and having regard to the relative remoteness of Gatwick Green and paucity of existing bus provision, there is no evidence provided in support of the DCLP to indicate that a range of bus routes serving a variety of destinations could be delivered to support development at Gatwick Green.

3.30 In contrast there is an established range of bus services operating within approximately 10 minutes' walk of the Manor Royal Extension which serve the existing Manor Royal area. These serve a variety of destinations including Crawley, Three Bridges, Redhill, Gatwick Airport, Bewbush and Pound Hill. It can therefore be reasonably expected that journeys would be made to and from the Manor Royal Extension by existing bus services.

Journeys by Rail

3.31 Considering the CIHT guidance it is reasonable to assume that a person would walk up to 800m to reach a railway station. Walking at an average speed of 1.33m/s, this equates to a walk that lasts for around 10 minutes. Further guidance provided by Transport for London and used in calculating the level of accessibility to public transport suggest that people would walk up to 960m to a railway station.

3.32 Spatially the nearest railway station is located at Gatwick Airport. This is a distance of approximately 1,700m from the centre of the Site. The Transport Strategy states that access to the railway station is possible via existing pedestrian facilities on Buckingham Gate. However, signage on site at Buckingham Gate is very clear that this is private property. There is no existing public right of way. This indicates that there is in fact no general pedestrian access to the Gatwick Airport railway station from the B2036 via Buckingham Gate. People wishing to walk to and from the railway station from and to the Site will instead have a long and circuitous walk to reach it.

3.33 As a consequence, the nearest accessible railway station is Horley railway station to the north. This is located an approximately 2,300m walk from the centre of the Site.

3.34 Based on the distance between the Site and the nearest railway stations (including if a general right of access for pedestrians along Buckingham Gate can be achieved) it can be expected that very few, if any, connecting journeys would be made by foot.

3.35 It is possible, based solely on distance, that people might cycle to the railway station (s). However, given the deficiencies set out above with regards to cycling on the access routes to Gatwick Green, the prospect of many (if any) people undertaking such a combined trip is very unlikely.

3.36 As a consequence of the above, it can be expected that very few, if any, journeys would be made by rail.

3.37 In contrast, whilst the Manor Royal Extension would be located further than the reasonable walking distance to and from a railway station, it benefits from access to an established cycle network and bus network that facilitate safe and convenient linkages to train services. It can therefore be reasonably expected that journeys would be made to and from the Manor Royal Extension by rail.

4.0 Highway Access

Magnitude of Vehicular Trips

4.1 Policy EC4 identifies an area of land for commercial development (c.14ha) but does not specify a limit on floorspace nor a preferred mix of uses. The Council's viability assessment and Employment Land Trajectory assumes a total floor area of 41,315 sqm of industrial land for predominantly B8 storage and distribution use.

4.2 The Transport Study at paragraph 7.7.1 suggests that Gatwick Green could result in an additional:

- 333 two-way vehicle trips during the morning peak hour; and
- 298 two-way vehicle trips during the evening peak hour.

4.3 The above is based on an assumed split of 30% B2 land uses and 70% B8 land uses of which 60% would be Warehousing (Commercial) and 10% Parcel Distribution (paragraph 4.2.1 bullet 5). The Transport Study also notes that a significant proportion of trips would be freight/ HGV. It should be noted that the above figures are based on the following:

- B8 Parcels Distribution (10%) or 7,750 sqm
- B8 Commercial Warehousing (60%) or 46,500 sqm
- B2 Industrial estate (30%) or 23,250 sqm
- Total – 77,500 sqm

4.4 It is not clear from the Transport Study how the peak hour traffic volumes for Gatwick Green have been calculated. It is important to understand that B8 Storage and Distribution land uses can result in significant variations in traffic volumes subject to the type of end user. The table below provides a forecast of week-day peak hour and week-day 12-hour traffic flows for B2 (light industrial) uses and a variety of permitted uses that fall within the B8 land use class. The calculations assume 77,500sqm of a single land use. The data used to arrive at the traffic forecasts is provided at **Appendix E**.

Time Period	LAND USE							
	B2 Industrial		B8 Warehousing (Commercial)		B8 Warehousing (self-storage)		B8 Parcel distribution	
	All traffic	HGV	All traffic	HGV	All traffic	HGV	All traffic	HGV
AM Peak	429	36	214	74	117	26	677	145
PM Peak	378	19	185	61	129	0	862	105
12-hour	4362	409	2048	736	2399	105	8522	1747

Table 4.1: Potential Traffic Volumes associated with a single industrial use located at Policy EC4

4.5 The table above shows that if Gatwick Green was developed entirely for B8 parcel distribution purposes, there could be a total of 677 two-way vehicle movements during the morning peak hour and 862 two-way vehicle movements during the evening peak hour. Over a 12-hour weekday period (07:00-19:00) a total of 1,747 additional lorry movements could be expected on the local road network. In the absence of any policy restrictions on floor areas, assuming that only 10% of the floor space would be used for parcel distribution therefore potentially significantly underestimates the volume of traffic and hence traffic impacts.

4.6 However even if the split of floor space identified in the Transport Study is correct, it is unclear how the peak hour traffic volumes have been arrived at. The table below provides a summary of peak hour and 12-hour traffic volumes based on the data summarised in Table 4.1.

Time Period	Land Use Mix as per Transport Study paragraph 4.2.1	
	All traffic	HGV
AM Peak	325	70
PM Peak	311	53
12-hour	3389	739

Table 4.2: Potential Traffic Volumes associated with Transport Study mix of industrial uses located at Policy EC4

4.7 The table above shows that on the basis of the mix of land uses suggested in the Transport Study, a total of 325 two-way vehicle movements could be expected to arise from Gatwick Green during the morning peak hour with 311 during the evening peak hour. Both these forecasts are broadly in line with the 333 and 298 two-way vehicle movements forecast for the morning and evening peak hours respectively in the Transport Study. A total of 4,598 two-way vehicle movements could be expected over a 12-hour period (07:00-19:00) of which 788 would be HGV movements.

4.8 Notwithstanding this, it is again emphasised that Draft Policy EC4 does not place any restrictions or limits on the extent that Gatwick Green could be developed for different industrial and / or storage and distribution purposes. An alternative mix of land uses has therefore been considered to understand how sensitive traffic generation is to a change in land use mix. The sensitivity test assumes a split of 30% B2 land uses and 70% B8 land uses, with the B8 split evenly between warehousing (commercial, warehousing (self-storage) and Parcel Distribution. A summary of the traffic forecasts are provided below.

Time Period	30% B2 Industrial, 23.3% B8 Warehousing (Commercial), 23.3% B8 Warehousing (self-storage), 23.3% B8 Parcel distribution	
	All traffic	HGV
AM Peak	364	68
PM Peak	388	44
12-hour	4335	727

Table 4.3: Potential Traffic Volumes associated with a mix of industrial uses located at Policy EC4

4.9 Table 4.3 shows that, based on the mix of land uses assumed, industrial development at Gatwick Green could result in a total of 364 two-way traffic movements during the weekday morning peak hour (compared to 333 forecast in the Transport Study) and 388 traffic movements during the weekday evening peak hour (compared to 298 in the Transport Study). Over the course of a day a total of 4,335 two-way vehicle movements could be expected of which 727 would be HGVs.

4.10 This demonstrates that just a minor tweak in the land use mix can result in a material increase in road traffic. Again, there is no sensitivity test in the Transport Study to determine how resilient the future transport network would be to minor changes in land use mixes, such as these, which would not be controlled or prevented by the DCLP.

Highway Network

4.11 Unlike other allocations such as Horley Business Park, or other potential industrial sites such as the Manor Royal Extension, there is no direct vehicular access route to Gatwick Green from the strategic road network (SRN), which is formed by the M23 in this location.

4.12 The figure below shows the current vehicular access routes between Gatwick Green and the SRN.

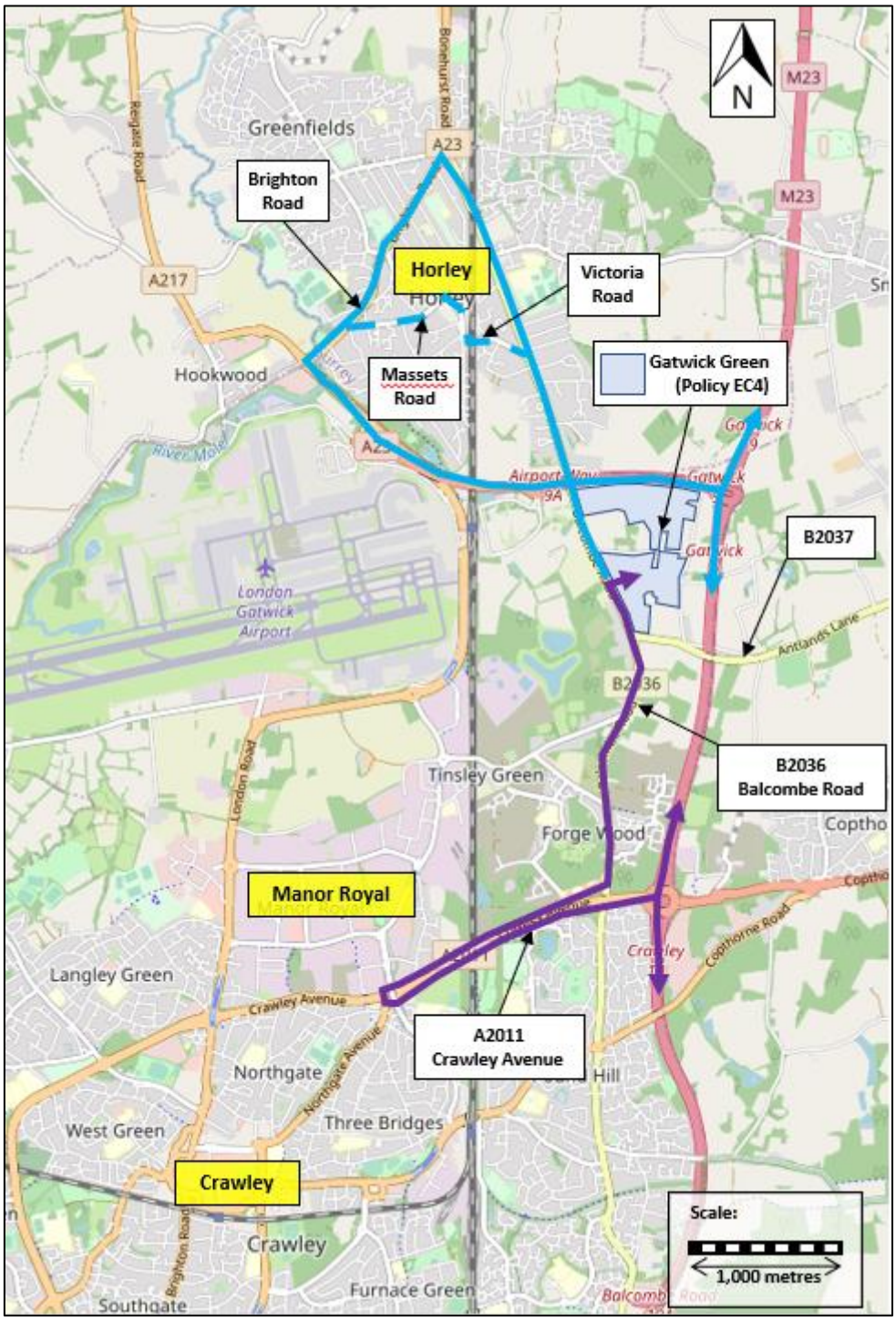

Figure 4.1 - HGV Access Routes between Gatwick Green and the SRN

4.13 As shown on the figure above, vehicular access to the SRN is currently achieved via either:

- Brighton Road through the centre of Horley and then south on Balcombe Road (the light blue line on Figure 4.1); or
- A2011 and then north on Balcombe Road (the purple line on Figure 4.1).

4.14 Considering these routes in turn:

London Road through the centre of Horley and then south on Balcombe Road

4.15 This route would route traffic associated with Gatwick Green through the centre of Horley either via the junction of Brighton Road / Balcombe Road or more likely via Massetts Road / Victoria Road (the dashed light blue line on Figure 4.1) which is a significantly shorter route.

4.16 In both cases the route brings the industrial traffic through the centre of Horley and through areas which are predominantly residential. Given the significant peak hour traffic volumes (300-400 vehicles during both peak hours) that would arise as a consequence of Policy EC4, significant detrimental highway capacity impacts can be expected. The addition of over 700 HGV movements on these local streets and roads will result in detrimental impacts on air quality, noise and resident amenity.

4.17 Notwithstanding these potentially significant traffic and environmental impacts, the Council's evidence base does not appear to assess the extent of these impacts and hence offer mitigation.

A2011 and then north on Balcombe Road.

4.18 Currently, the junction of Balcombe Road / A2011 has west facing slips only. Traffic approaching Gatwick Green from the SRN utilising this route would be required to continue past Balcombe Road, u-turn at the Hazelwick roundabout and then use the exit slip road to join Balcombe Road.

4.19 Traffic exiting Gatwick Green to reach the SRN via this route would need to join the A2011 in a westbound direction, continue westbound along the A2011 and then u-turn at the Hazelwick roundabout to return past Balcombe Road to reach the SRN.

4.20 In both cases, this will result in unnecessary increases in road mileage, especially HGV traffic travelling to and from the SRN with associated Air Quality and noise impacts. A potential additional 4,300 vehicles or more u-turning at the Hazelwick roundabout each weekday will result in significant adverse impacts on capacity at this location.

4.21 Notwithstanding these potentially significant traffic and environmental impacts, the Council's evidence base does not appear to assess the extent of these impacts and hence offer mitigation.

4.22 Moreover, given the choice of the two routes, the route via Massetts Road and Victoria Road is likely to prove more attractive as it does not involve duplication of route.

Proposed Network Changes

4.23 A review of the Transport Study reveals that the DCLP is wholly reliant on the implementation of a new junction arrangement at the B2011 / Balcombe Road. Notwithstanding the reliance on this new junction arrangement, the Council fails to provide details of it.

4.24 A review of various other documents has revealed the following potential layout for the junction:

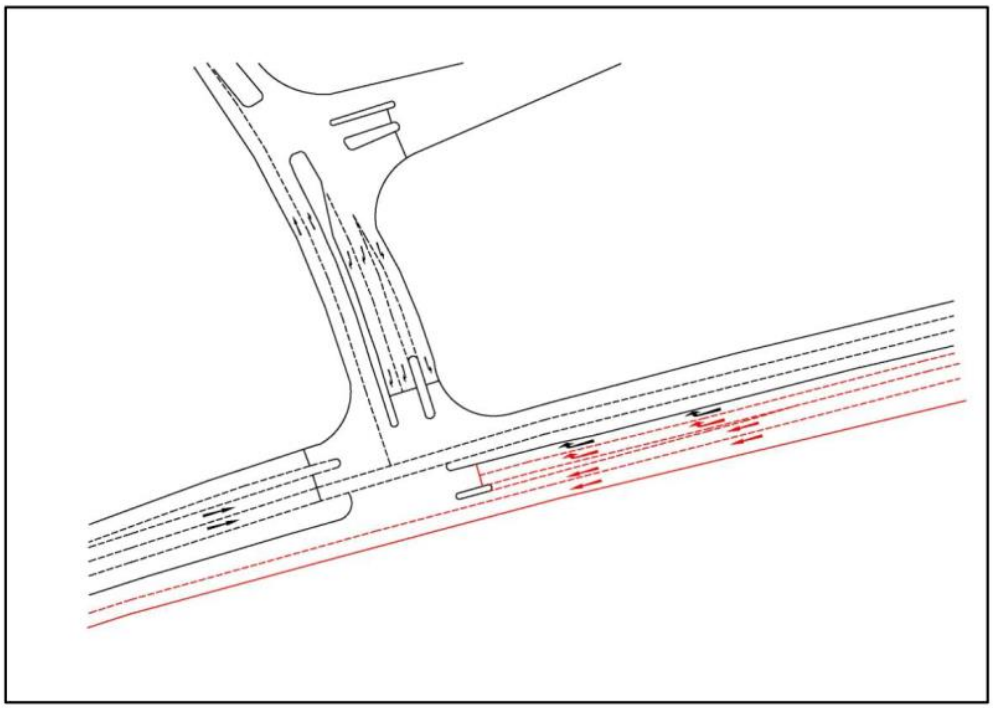

Figure 15: A2011 Crawley Avenue / B2036 Balcombe Road – Improved Right Turn Capacity and Localised Carriageway Widening

Source: Crawley Borough Council Local Plan Transport Strategy LPTS Stage 2 Report (Amey, August 2014 prepared for Crawley Borough Council).

4.25 However the following comment made by West Sussex County Council (WSCC) is presented in Appendix G of the Transport Study.

'There is a difference between the WSP plan as supplied and the agreement plan which I could not obtain permission to supply. This affects node 1690 at the A2011 end of the link. The agreement plan only has one right turn lane from A2011 for the east to north move. This is as per the planning stage plan, with the second lane having coming [sic] from the Local Plan mitigation strategy for other post-NE Sector development. I suggest we reduce to one right turn lane for the reference case. We can save the second lane for Local Plan scenarios.'

4.26 WSCC refers above to a "WSP plan" and an "agreement plan" neither of which are presented by the Council in their evidence base. WSCC also refers to a "planning stage plan" which appears to be associated with a planning application for what is referred to as the "NE Sector" (planning application reference CR/2015/0552/NCC). A review of the planning portal identifies the following junction layout for a new junction on the A2011.

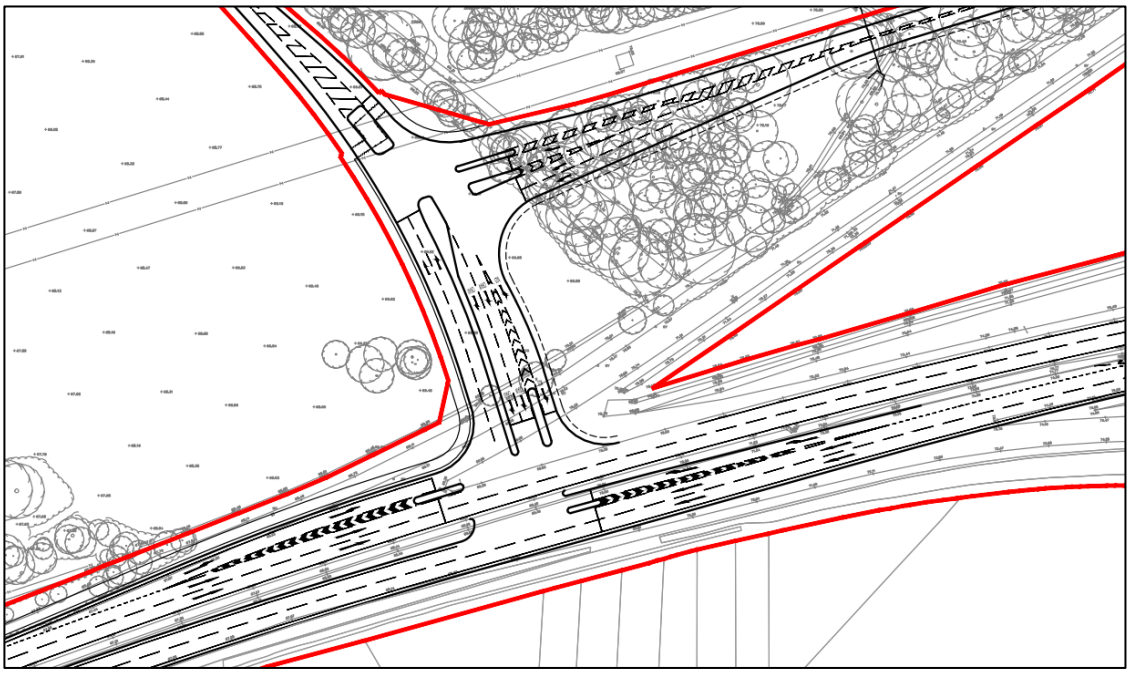

Figure 4.2 - Planning Stage Plan for A2011 Signal Junction

4.27 The Planning Stage Plan also includes a proposal to introduce a new signal junction on Balcombe Road as shown below:

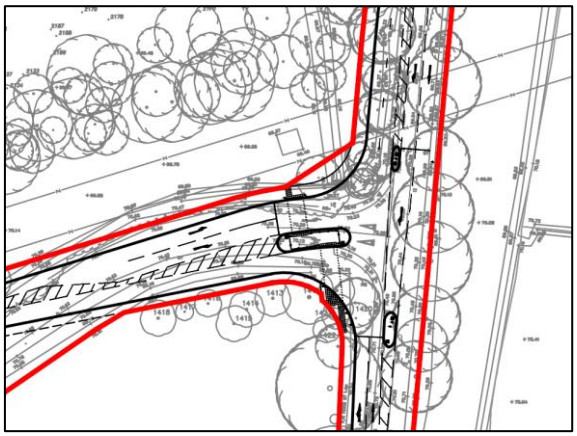

Figure 4.3 - Planning Stage Plan for Balcombe Road Signal Junction

4.28 As can be seen, the Planning Stage Plan will remove free flow conditions on the A2011 and the west facing slips and replace these with a series of three signal junctions connected by a link road. Traffic travelling from the SRN to Gatwick Green will be able to use a single right turn lane to turn north to reach a second set of traffic signals. At this point a single right turn lane is provided for traffic to turn eastwards along a new link road to reach a third set of traffic signals.

4.29 The reverse manoeuvre is achieved by southbound traffic on Balcombe Road turning right in a right turn flare lane (shared with a straight ahead lane) to travel westbound along a new link road. Traffic then turns left in a single lane (shared with a right turn flare lane) at a second set of traffic signals and then left again at a third set of traffic signals.

4.30 This proposed new junction system, which facilitates all moves between Balcombe Road and the A2011, would provide a more direct access route for traffic travelling between Gatwick Green and the SRN. The

delivery of the junction system in the format shown in figures 4.2 and 4.3 above is designed to accommodate and linked to the occupation of the NE Sector development.

4.31 However, the Council has failed to demonstrate:

- that the junction system as proposed (designed to accommodate traffic arising from the NE Sector) can accommodate the volume and type of traffic that would arise from Policy EC4; or
- that improvements to the junction system to satisfactorily accommodate traffic arising from Policy EC4 are deliverable.

4.32 Instead, the Council appears to be wholly relying on a "second lane" being deliverable by some party at some point in the future. The potentially severe consequences of this approach are discussed in Section 5 below.

5.0 Residual Cumulative Impacts

Planning Stage Plan for A2011 and Balcombe Road Signal Junction System

5.1 Detailed junction modelling of this proposed junction was undertaken by the applicants for the NE Sector planning application (the 'NES Modelling'). Relevant extracts of the NES Modelling are provided at **Appendix F**.

5.2 The NES Modelling took 2018 as its future development year. This clearly pre-dates the commencement of the DCLP (2021) and the end of the DCLP period (2037). It can, however, be taken to give an indication of 'current' traffic conditions with the NE Sector development fully occupied but no development associated with the DCLP.

5.3 The table below provides a summary of the submitted and agreed (by WSCC and Highways England) junction analysis for critical links.

Time Period	Movement	Forecast Traffic Flow	Saturation	Queue Length	Queue length capacity	
		PCU	%	PCU	PCU	Articulated Lorries
Morning Peak Hour	Right turn from Balcombe Road into link road	358	97.2	14.2	7	2
Evening Peak Hour		362	68.2	5	7	2
Morning Peak Hour	Right turn from A2011 into Link Road	65	44.3	2.2	19	6
Evening Peak Hour		158	88	7.4	19	6
Morning Peak Hour	Left turn from Link Road to A2011	153	29.5	3.7	10	3
Evening Peak Hour		104	23.5	2.7	10	3

Table 5.1 – Balcombe Road / A2011 Proposed New Junction Performance 2018

5.4 The table above shows that the right turn from Balcombe Road into the Link Road during the morning peak hour in 2018, is expected to be almost 100% saturated. This means that there is little capacity left for additional traffic. Of interest is that the queue for this movement is modelled to be 14.2 PCUs. Review of the Planning Stage Plans shows that the right turn lane can actually only accommodate 7 PCUs. This means that during the morning peak hour, traffic waiting to turn right will block the straight ahead movement. Whilst already permitted, the analysis shows that this junction will fail during the morning peak hour.

5.5 Turning to other links, it is noted that the right turn from the A2011 into the Link Road during the evening peak hour results in a saturation level of 88%. This means that there is some spare capacity for this movement in 2018.

5.6 Notwithstanding this, it is noteworthy that the traffic volumes used to assess the performance of the junction were forecast prior to the DCLP and hence do not include traffic associated with, inter alia, Policy EC4. This is immediately apparent when one considers the morning peak hour traffic forecast for traffic turning right from the A2011 into the link road which is only 65 PCUs. This compares to a forecast morning peak hour traffic volumes in excess of 300 PCUs for Gatwick Green, including a number of HGVs, which equate to as much as 2.3 PCUs per vehicle.

5.7 Also noteworthy is the relative performance of this right turn movement between the morning and evening peak hours. An increase in traffic volume from 65 PCUs in an hour to 158 PCUs in an hour results in a reduction in junction performance from 44.3% saturated to 88% saturated. Queues increase from 2.2 PCUs to 7.4 PCUs. Such a significant reduction in junction performance from a relatively modest

increase of less than 100 PCUs indicates how sensitive this right turn movement is to changes in traffic volumes.

5.8 The right turn movement would clearly be unable to cope with several hundred additional right turning movements associated with Policy EC4 in the absence of additional infrastructure interventions. Whilst WSCC indicates that the provision of a second right turn lane at this location could address this infrastructure failure, the DCLP fails to identify that this infrastructure intervention is required or furthermore, that it could be delivered given land ownership around the junction.

5.9 The analysis summary also identifies that the right turn from Balcombe Road into the Link Road has been designed to cope with a mere 358 PCUs during the morning peak hour. Even in this scenario, the queue of right turning traffic waiting at the new junction would be longer than the right turning lane provided for it. This right turn movement would clearly be unable to cope with additional right turning movements in the absence of additional infrastructure interventions.

5.10 Based on the above analysis, it is concluded that the proposed new A2011/ Balcombe Road junction system as permitted, was planned to accommodate traffic arising from the permitted NE Sector development, but only to accommodate traffic from this development. There is very little spare capacity in the permitted junction system to accommodate traffic from other development. Indeed, the right turn lane for traffic turning from Balcombe Road to the A2011 link road is unable to even accommodate forecast queues associated with the NE Sector.

5.11 As a consequence, traffic arising from Policy EC4 would block back onto the carriageway at these junctions resulting in unacceptable highway safety impacts and sever residual impacts on the road network.

5.12 It is accepted that in the face of severe queues and delays at this junction traffic arising from Policy EC4 may choose alternative routes to travel between the development and the SRN. However as described in Section 4, the alternative routes would route traffic, including HGV traffic, through town centre and residential areas with the resulting adverse highway capacity, air quality, noise and amenity impacts which simply have not been assessed in the DCLP.

Transport Study Modelling

5.13 Tables 5-1 and 5-2 of the Transport Study identify that in the reference case and for all three scenarios tested, the new A2011 Boscombe Road signal junction is significantly over capacity. This compares to the Tushmore Gyratory and the Hazelwick Roundabout, both of which have significant amounts of spare capacity throughout most of the day in all scenarios.

5.14 Tables 7-2 and 7-3 of the Transport Study show that with Gatwick Green fully occupied and after the proposed sustainable mitigation measures identified in the Transport Study have been taken into account, the new A2011 Boscombe Road signal junction continues to fail both on the A2011 and on Balcombe Road. This is notwithstanding the significant underestimate of the volume of traffic arising from Gatwick Green used in the Transport Study. The addition of several hundred additional vehicle movements would further worsen predicted conditions at these locations. This aligns with the outcomes of the NES Modelling.

5.15 The Transport Study purports to have considered further mitigation at the new A2011 Boscombe Road signal junction and claims (paragraph 7.5.6, Scenario 2 bullets iii. And iv.) that the significant over capacity outcomes identified in the assessment could be overcome stating:

'It is considered that in both the AM and PM peaks, signal optimisation addresses the Local Plan impacts.'

5.16 The Transport Study however fails to present any evidence that this hypothesis is correct. Instead, it merely makes the assertion that severe traffic problems at a junction that is already significantly overcapacity in the reference case, before the several hundred vehicle movements associated with Gatwick Green are added to existing demands, can be resolved by "tweaking" the signals.

5.17 Moreover, it is noted that the new A2011 Boscombe Road signal junction has yet to be built. If the Transport Study is correct in its hypothesis that optimisation of the signals will resolve the impacts arising from Policy EC4 in the DCLP, then this will have meant that a new signal junction will have been designed and built with the intention of it operating sub-optimally otherwise there would no scope for the significant, further optimisation required to accommodate Gatwick Green. This proposition is simply not credible and one which should be given no weight.

5.18 In reality, as shown by the NES Modelling and confirmed by the Transport Study, the new A2011 Boscombe Road signal junction has been designed to "just about" accommodate traffic arising from the NE Sector development but not to accommodate traffic arising from Gatwick Green. As a consequence, in the absence of further physical infrastructure interventions to provide the capacity necessary, traffic arising from Policy EC4 would block back onto the carriageway at these junctions resulting in unacceptable highway safety impacts and sever residual impacts on the road network.

5.19 In comparison, the Transport Study identifies that both the Tushmore Roundabout and Hazelwick Roundabout would operate with spare capacity for much of the time in the reference case. These are the two junctions that would be most used by traffic travelling to and from the Manor Royal Extension. In this context it is difficult to understand why the DCLP should be proposing to allocate significant commercial development at a location at which the highway network is predicted to already be over capacity before the development even commences when there is an alternative location that benefits from residual highway capacity.

6.0 Summary and Conclusions

Sustainable Travel

Journeys by Foot

6.1 Very little residential development is located within a 2km walk distance of Gatwick Green. As a consequence, it can be expected that very few, if any commuter journeys to and from Gatwick Green would be made on foot.

6.2 This relative remoteness has a secondary influence on how people might choose to travel to work. This relates to journeys made during the working day at lunchtime, for example to visit a bank, undertake top-up shopping, buy some lunch etc. or if journeys for other purposes are to be made during the working day (visit to the dentist for example). Due to the limited time available to undertake such journeys, they are most conveniently made on foot or by car due to the flexibility of these modes to fit around time constraints. Given the remoteness of Gatwick Green to facilities and amenities that are commonly accessed by people at work, it can be expected that many people will choose to drive to Gatwick Green in order to undertake such secondary journeys during the course of the working day.

6.3 In contrast, the Manor Royal Extension is located within reasonable walk catchments of established facilities, amenities and residential areas. Footways are provided along both sides of London Road with a signalised crossing just north of the Fleming Way roundabout which provides a traffic free route from the Manor Royal Extension to a number of retail uses, including a Tesco express, M&S food hall and Costa Express enabling future users to undertake convenience trips on foot. It can therefore be expected that commuter journeys to and from Gatwick Green would be made on foot.

Journeys by Cycle

6.4 The Gatwick Green cycle catchments suggest that there is a reasonable expectation that some journeys would be made by cycle subject to the provision of cycle infrastructure and safe routes.

6.5 However, there is no infrastructure for cyclists serving Gatwick Green. Gatwick Green is remote from existing cycle infrastructure and advisory cycle routes. In the absence of providing cycle infrastructure on the access routes to Gatwick Green, it can be concluded that neither the B2036 nor the B2037 are safe or suitable routes for encouraging cyclists to utilise in order to access Gatwick Green nor routes that are conducive to encouraging people to travel by cycle because:

- The routes are too narrow for cyclists and motor vehicles to pass safely; and
- There is a higher risk of cyclists being involved in a fatal injury on roads such as these than other types of road.

6.6 Neither the Transport Study nor the Wilky Transport Study identify how cycle infrastructure will be provided to serve Gatwick Green, neither the form of it nor if it can be delivered having regard to the fact that Balcombe Road is too narrow to accommodate cycle lanes and Gatwick Green is enclosed by third party land which would need to be crossed to deliver cycle routes.

6.7 As a consequence, it can be expected that very few, if any, functional journeys would be made by cycle.

6.8 Development at Gatwick Green will in itself result in a significant increase in vehicles using the B2036 Balcombe Road. Such an increase in traffic travelling in the road, especially an increase in the HGV component of the traffic, would further discourage people from accessing Gatwick Green by cycle due to the combination of an increased risk of collision and a reduction in amenity arising from an increased volume of traffic as well as an increase in fear and intimidation associated with HGV volumes.

6.9 In contrast, the Manor Royal Extension would have direct access to the existing Crawley Cycle Network. Connections to the network could be achieved via land in control of developers at Manor Royal Extension.

It can therefore be reasonably expected that journeys would be made to and from the Manor Royal Extension by cycle.

Journeys by Bus

6.10 There are currently no bus services located within reasonable walking distance of Gatwick Green. In the absence of the provision of new bus services, there is very little prospect of people travelling to and from Gatwick Green by bus. There is no evidence provided in support of the DCLP that a range of bus routes serving a variety of destinations will be delivered to support development at Gatwick Green.

6.11 In contrast there is an established range of bus services operating within approximately 10 minutes' walk of the Manor Royal Extension which serve the existing Manor Royal area. These serve a variety of destinations including Crawley, Three Bridges, Redhill, Gatwick Airport, Bewbush and Pound Hill. It can therefore be reasonably expected that journeys would be made to and from the Manor Royal Extension by bus.

Journeys by Rail

6.12 The nearest accessible railway station to Gatwick Green is Horley railway station to the north. This is located an approximately 2,300m walk from the centre of the Site. Based on the distance between the Site and the nearest railway stations (including if a general right of access for pedestrians along Buckingham Gate can be achieved) it can be expected that very few, if any, connecting journeys would be made by foot.

6.13 It is possible, based solely on distance, that people might cycle to the railway station (s). However given the deficiencies set out above with regards to cycling on the access routes to Gatwick Green, the prospect of many (if any) people undertaking such a combined trip is very unlikely. There are no existing bus services.

6.14 As a consequence, it can be expected that very few, if any, journeys would be made to and from Gatwick Green by rail.

6.15 In contrast, whilst the Manor Royal Extension would be located further than the reasonable walking distance to and from a railway station, it benefits from access to an established cycle network and bus network that facilitate safe and convenient linkages to train services. It can therefore be reasonably expected that journeys would be made to and from the Manor Royal Extension by rail.

Highway Access

Magnitude of Vehicular Trips

6.16 It is not clear from the Transport Study how the peak hour traffic volumes for Gatwick Green have been calculated. A suggested mix of floor areas is put forward in the Transport Study which assume only 10% of floorspace used for parcel distribution. However even if the split of floor space identified in the Transport Study is realistic, it is clear that the Transport Study has significantly under-estimated the volume of traffic that is likely to arise from allocating land at Gatwick Green for a mix of industrial uses.

6.17 Due to the wide variety of end users covered by a land use class B8 permission, just a minor tweak in the land use mix can result in a material increase in road traffic. There is no sensitivity test in the Transport Study to determine how resilient the future transport network would be to minor changes in land use mixes, such as these, which would not be controlled or prevented by the DCLP

6.18 By incorrectly underestimating the peak hour traffic volumes by nearly 50% combined with failing to undertake any sensitivity tests on likely end users, the Transport Study cannot be relied upon to assess the ability of the local road network to accommodate traffic associated with Policy EC4.

Highway Network

6.19 Gatwick Green has no direct access route to the SRN. The routes between Gatwick Green and the SRN would result in large volumes of traffic (up to 600 vehicles in a single hour and over 700 HGVs between 07:00-19:00) travelling through Horley town centre and / or residential areas. This will result in detrimental impacts on air quality, noise and resident amenity. Notwithstanding these potentially significant traffic and environmental impacts, the Council's evidence base does not appear to assess the extent of these impacts and hence offer mitigation.

6.20 It is understood that an alternative access route to Gatwick Green could be achieved by providing a new junction arrangement at the A2011 Balcombe Road junction and that the Transport Study relies on this being delivered by a 3rd party developer unrelated to proposals for Gatwick Green. It is further understood that this would remove limited moves slip roads and replace these with a system of three signal controlled junctions in close proximity to each other.

6.21 Notwithstanding the reliance placed on the delivery of a new junction arrangement at this location, the Council fails to provide even an outline sketch of what this proposal would look like. It is therefore impossible to determine if this junction improvement is either effective, deliverable or safe and suitable for the type of traffic arising from the Gatwick Green proposal.

6.22 In contrast, the Manor Royal Extension has direct access routes to the SRN via roads purpose built to carry large volumes of traffic including large volumes of HGV traffic. No new junctions are required. No reliance on 3rd parties is required. Safe and suitable vehicular access routes to development at Manor Royal Extension are available now.

Residual Cumulative Impacts

Planning Stage Plan for A2011 and Balcombe Road Signal Junction System

6.23 NES Modelling submitted to and agreed by WSCC and Highways England demonstrates that the proposed new A2011 Balcombe Road junction system as permitted, was planned to accommodate traffic arising from the permitted NE Sector development, but only to accommodate traffic from this development. There is very little spare capacity in the permitted junction system to accommodate traffic from other development. Indeed the right turn lane for traffic turning from Balcombe Road to the A2011 link road is unable to even accommodate forecast queues associated with the NE Sector.

6.24 As a consequence, traffic arising from Gatwick Green would block back onto the carriageway at these junctions resulting in unacceptable highway safety impacts and severe residual impacts on the road network.

6.25 It is accepted that in the face of severe queues and delays at this junction traffic arising from Policy EC4 may choose alternative routes to travel between the development and the SRN. However, the alternative routes would route traffic, including HGV traffic, through town centre and residential areas with the resulting adverse highway capacity, air quality, noise and amenity impacts which simply have not been assessed in the DCLP.

Transport Study Modelling

6.26 The Transport Study demonstrates that planned improvements to the A2011 Balcombe Road junction would fail to adequately accommodate traffic growth during the DCLP period even in the absence of development at Gatwick Green.

6.27 With the inclusion of traffic arising from the development at Gatwick Green and mitigation measures alluded to in the Transport Study, the Transport Study still predicts that future highway conditions at this junction will severely deteriorate. This is in a scenario in which traffic forecasts for Gatwick Green included in the Transport Study are severely underestimate by several hundred vehicle movements during peak hours.

The Transport Study purports to have considered further mitigation at the new A2011 Boscombe Road signal junction and claims that the significant over capacity outcomes identified in the assessment could be overcome through signal optimisation. The Transport Study however fails to present any evidence that this hypothesis is correct. Instead it merely makes the assertion that severe traffic problems at a junction that is already significantly overcapacity in the reference case, before the several hundred vehicle movements associated with Gatwick Green try and fit through it, can be resolved by "tweaking" the signals. This is simply an incredulous proposition and one which should be given no weight.

6.28 In reality, the new A2011 Boscombe Road signal junction has been designed to "just about" accommodate traffic arising from the North East Sector permitted development for which it was designed, but not to accommodate traffic arising from Gatwick Green. As a consequence, in the absence of further physical infrastructure interventions to provide the capacity necessary, traffic arising from Policy EC4 would block back onto the carriageway at these junctions resulting in unacceptable highway safety impacts and sever residual impacts on the road network.

6.29 In comparison, the Transport Study identifies that both the Tushmore Roundabout and Hazelwick Roundabout would operate with spare capacity for much of the time in the reference case. These are the two junctions that would be most used by traffic travelling to and from the Manor Royal Extension.

Conclusion

6.30 For the reasons set out above, it is concluded that development at Gatwick Green:

- is unsustainable in transportation terms thereby failing to meet the requirements of paragraphs 105 and 110 (a) of the NPPF;
- does not demonstrate that safe and suitable access (including access routes) can be achieved for all users thereby failing to meet the requirements of paragraph 110 (b) of the NPPF;
- Relies on significant new infrastructure interventions that have neither been quantified nor demonstrated to be cost effectively deliverable thereby failing to meet the requirements of paragraph 110 (c) of the NPPF;
- would result in an unacceptable impact on highway safety thereby meeting the test at paragraph 111 of the NPPF against which development should be prevented or refused; and
- would result in severe residual cumulative impacts on the road network thereby meeting the test at paragraph 111 of the NPPF against which development should be prevented or refused.

6.31 As a consequence, we do not consider that the level of floorspace identified at Gatwick Green is deliverable. It should therefore be removed from the DCLP because it is undeliverable in terms of highways and transportation.

6.32 In contrast, the Manor Royal Extension would benefit from:

- an established sustainable travel network thereby meeting the requirements of NPPF paragraphs 105 and 110; and
- highway access routes with spare capacity to adequately accommodate traffic growth during the DCLP period thereby meeting the requirements of NPPF paragraph 110 (c).

6.33 There is every prospect therefore that cost effective highway mitigation could be identified safely and suitably to accommodate additional traffic and travel demand arising from the Manor Royal Extension. Accordingly it should be considered for inclusion in the DCLP as a sustainable site suitable for accommodating new employment development.

Appendix A

Manor Royal Extension

Revisions:	Drawn/Chkd:	Date:
A. Line marking hatch above hotel removed	SA	SEP 19

KEY		AREA
	DEVELOPABLE AREA	16.3 H / 40.4 A

Hydehurst Lane

Hotel

First Choice House

Gas Gov

The Fleming Centre

C3

C3

Client:
ABERDEEN STANDARD INVESTMENTS

Project:
HYDEHURST LANE
CRAWLEY

Drawing Title:
NET DEVELOPABLE SITE PLAN

Scale @ A1: 1:1250
Checked by : JR
Date : SEP 19

Job No: 10699
Stage : FE
Drawing No : 004
Rev : A

Issue Status:
Construction ☐ Preliminary ☐
Information ☐ Approval ☐
Tender ☐

PRC

12 Warren Yard,
Warren Park,
Milton Keynes,
MK12 5NW
01908 305 246

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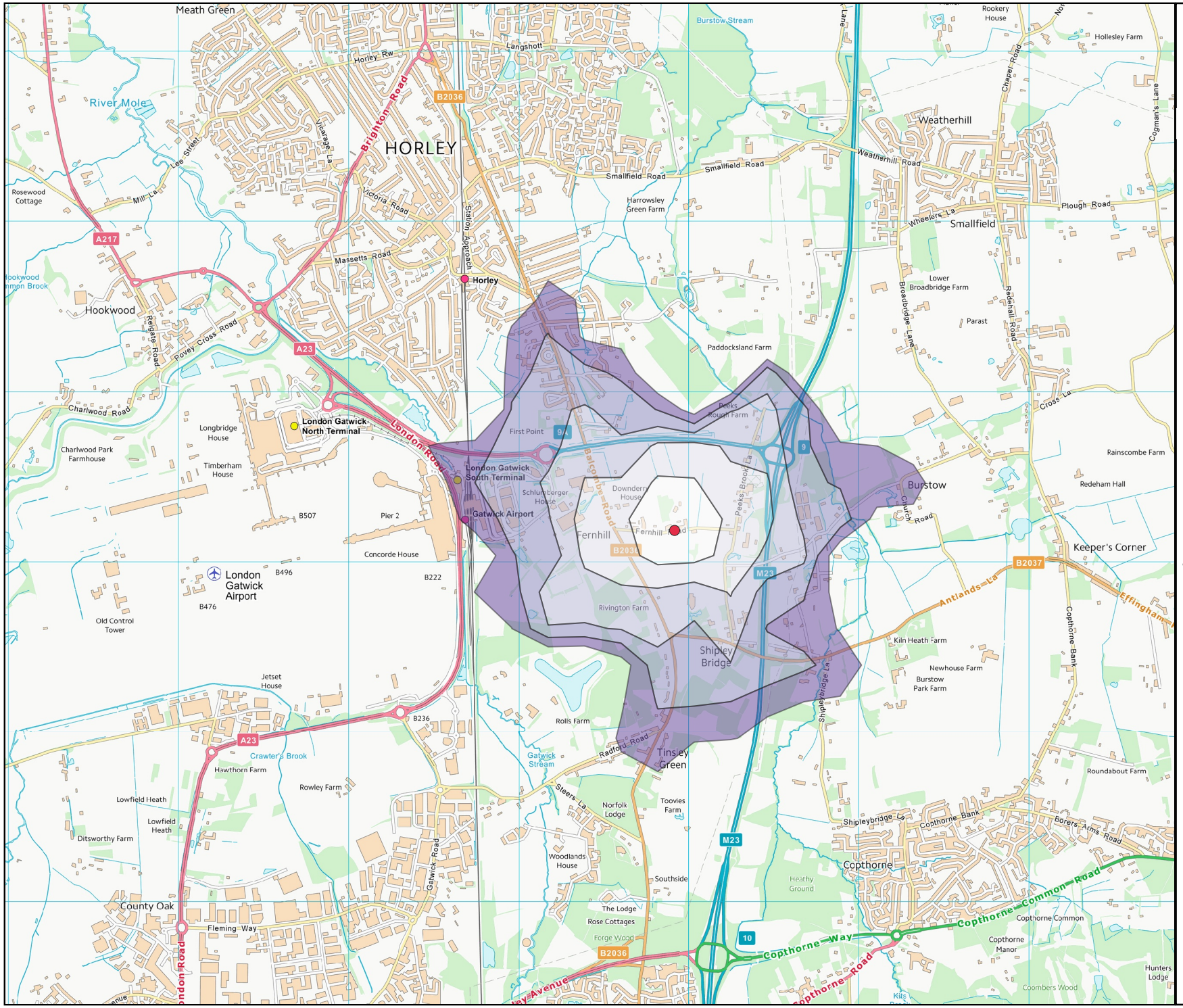
Architecture
Planning
Master Planning
Urban Design
Interiors
Landscape

Offices
Woking
London
Milton Keynes
Warsaw

PRC Architecture & Planning

Appendix B

Walk and Cycle Catchments – Gatwick Green



north

Legend

- Site Location

Walking

- 400m
- 800m
- 1.2km
- 1.6km
- 2km

Project

Gatwick Green

Title

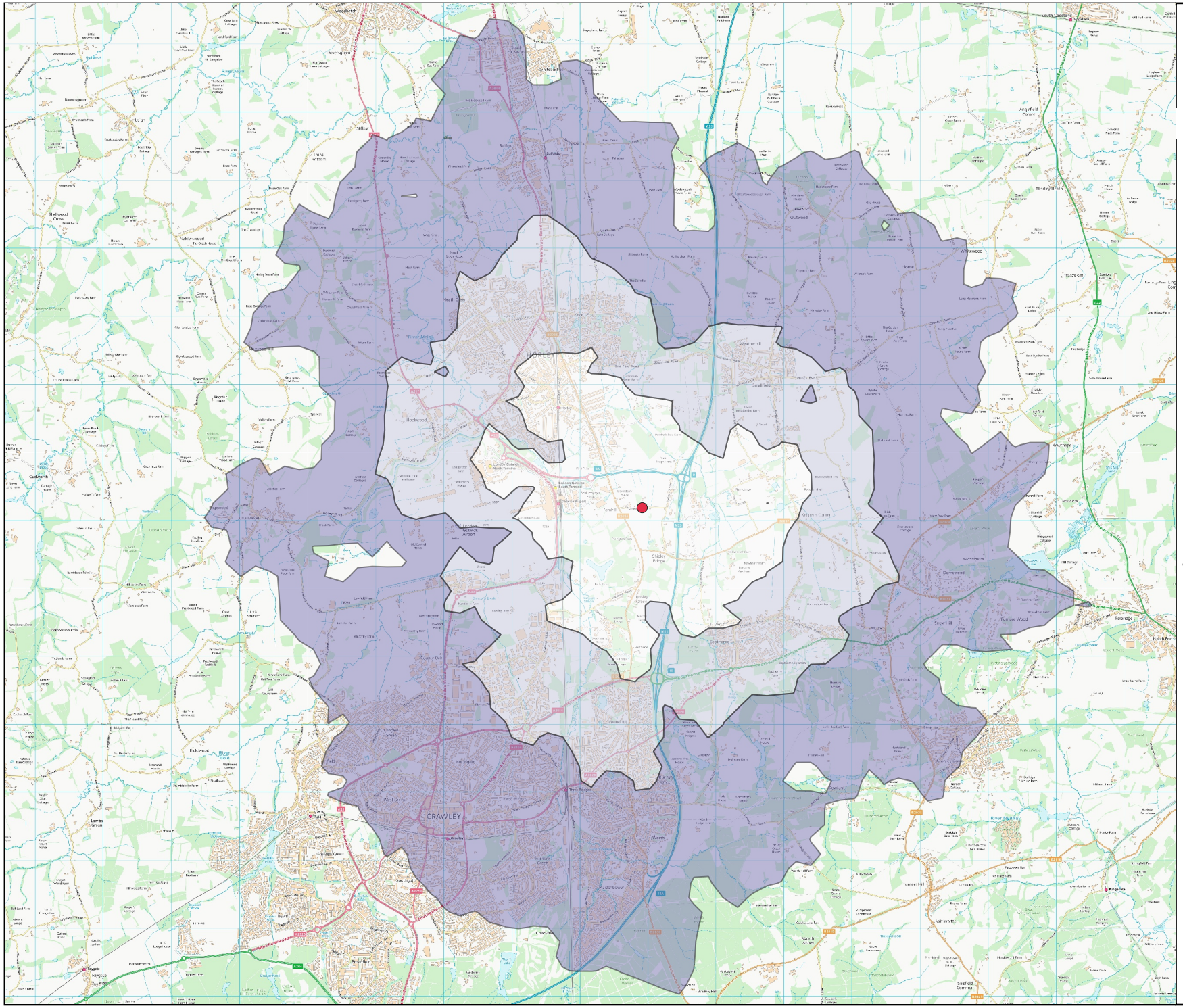
Accessibility by Walking

motion

9 Greyfriars Road, Reading, RG1 1NU
Tel: +44 (0) 118 206 2930

scale	drawn by	date
stated	AN	29/06/2021

drawing number	rev
2003051	-



north

Legend

- Site Location

Cycling Catchment

- 3.2km
- 5km
- 8km

Project

Gatwick Green

Title

Accessibility by Cycle

motion

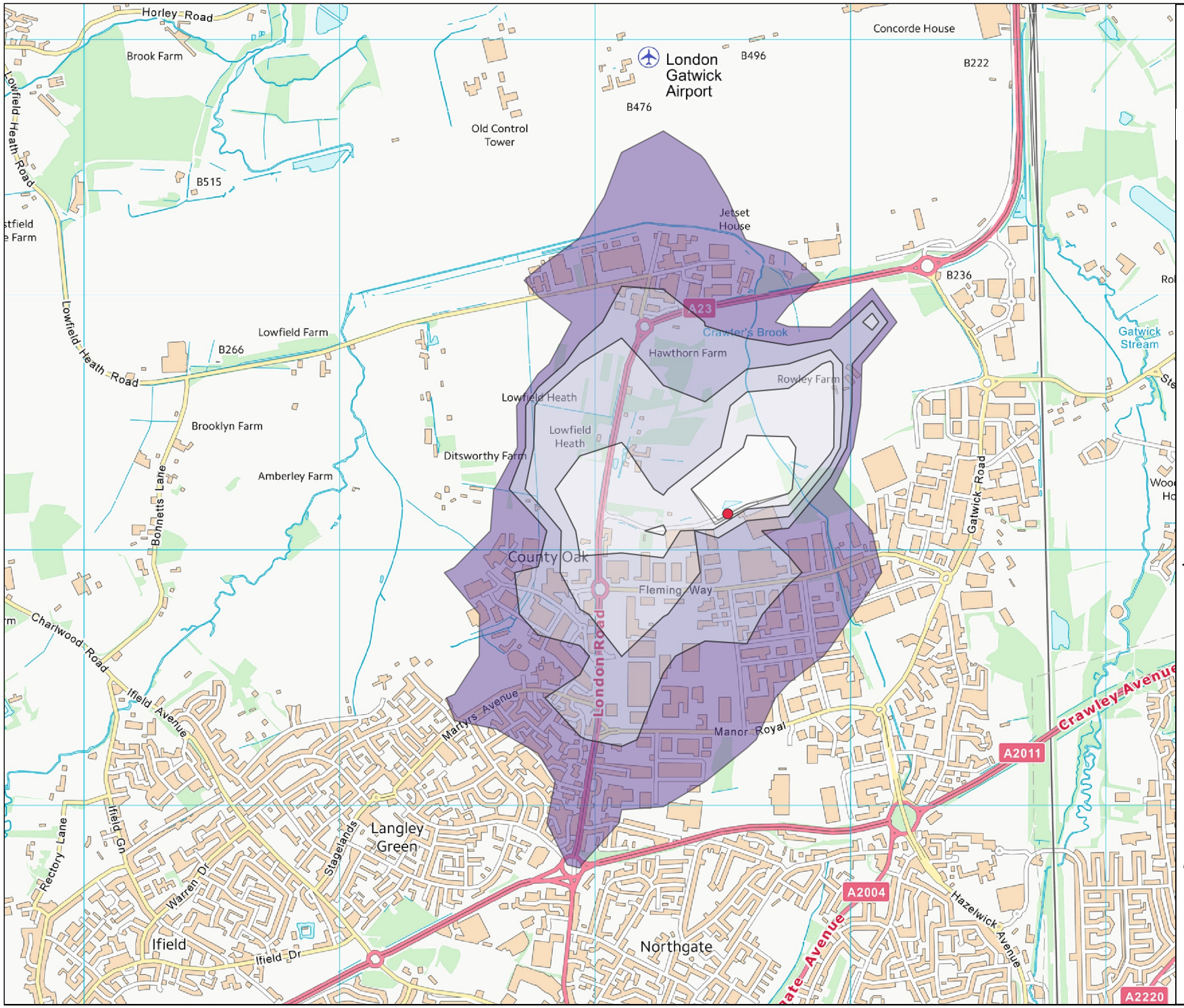
9 Greyfriars Road, Reading, RG1 1NU
Tel: +44 (0) 118 206 2930

scale	drawn by	date
stated	AN	29/06/2021

drawing number	rev
2003051	-

Appendix C

Walk Catchments – Manor Royal Extension



north

Legend

- Site Location

walking catchment

- 400m
- 800m
- 1.2km
- 1.6km
- 2km

Project

Manor Royal Extension

Title

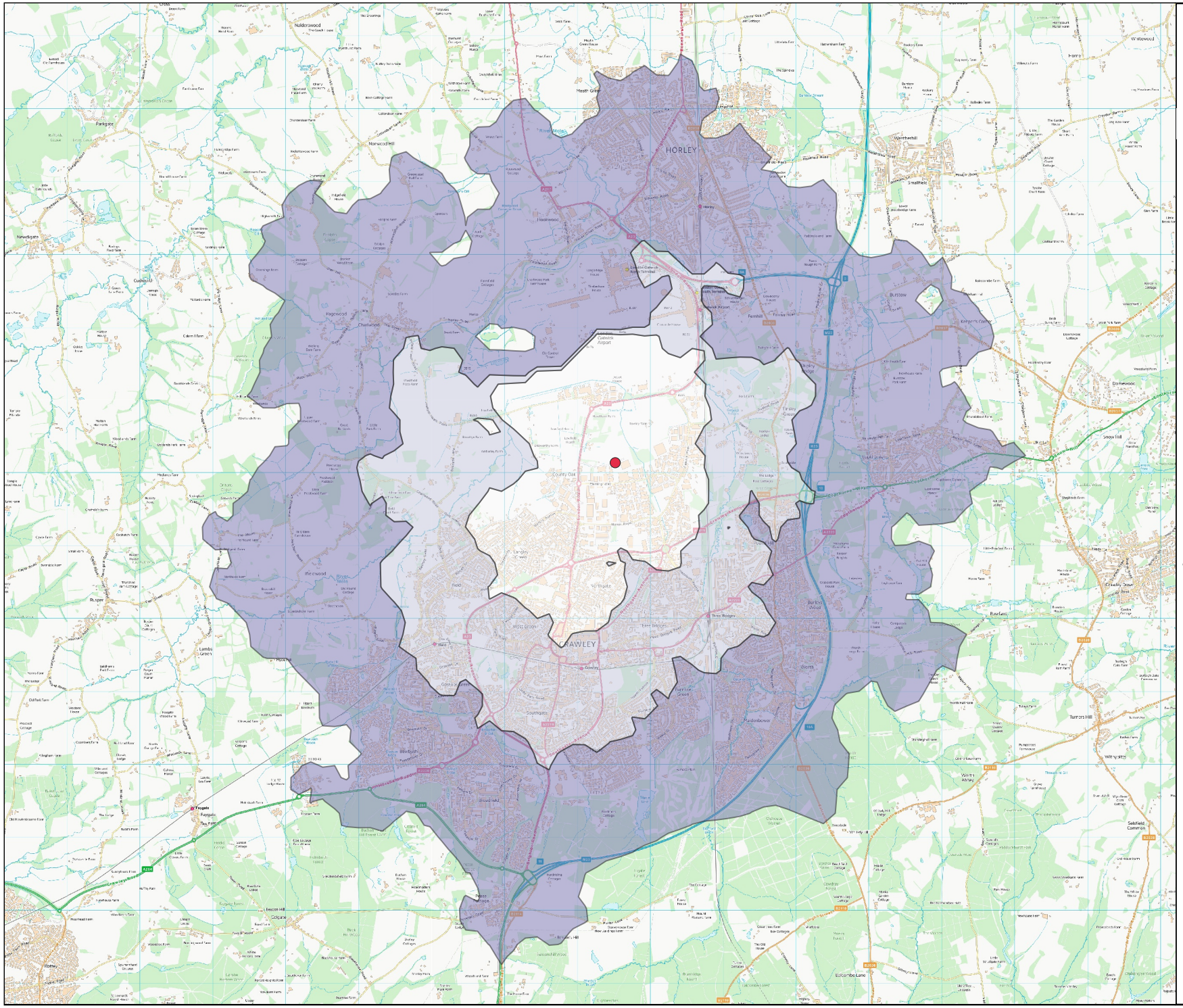
Accessibility by Walking

motion

9 Greyfriars Road, Reading, RG1 1NU
Tel: +44 (0) 118 206 2930

scale	drawn by	date
stated	AN	30/06/2021

drawing number	rev
2003051	-



north

Legend

- Site Location

cycling catchment

- 3.2km
- 5km
- 8km

Project

Manor Royal Extension

Title

Accessibility by Cycle

motion

9 Greyfriars Road, Reading, RG1 1NU
Tel: +44 (0) 118 206 2930

scale	drawn by	date
stated	AN	30/06/2021

drawing number	rev
2003051	-

Appendix D

Crawley Cycle Network Map

CYCLE CRAWLEY

Crawley is fairly flat and cycle facilities make cycling even easier and safer. With panniers or a trailer, a lot of shopping can be done by bike. Many trips are short enough to go easily by bike, often more quickly than by car. Cycle parking is free, readily available and you can stop and walk at any time.

Cycling:

- Is quick and direct
- Avoids traffic jams
- Helps keep you fit
- Saves money
- Avoids parking problems
- Is good for the planet
- Is a great way to socialise.

Maps and other information can be downloaded at www.crawley.gov.uk/cycling

National network maps can be viewed and ordered at www.sustrans.org.uk

Visit cyclejourneyplanner.westsussex.gov.uk to plan your cycle route or use the Cycle Crawley Easy Way map.

CRAWLEY LEISURE ROUTES

Crawley to East Grinstead – the Worth Way

The former rail line from Three Bridges is now a shared use route for walkers, horse riders and cyclists. It is part of the National Cycle Route 21 from London to Eastbourne via Gatwick Airport.

It is mostly rural and part is designated Country Park (bylaws apply). It links to a path to Imberhorne School. It is easily accessed by rail stations, including Three Bridges and Crawley, and joins a cycle route to Crawley town centre and National Cycle Route 20 to Brighton and Hove. At East Grinstead, a signed route links to the Forest Way Country Park shared use route, which continues into East Sussex.

Visit www.crawley.gov.uk/cycling to download a map and information.

Tilgate Forest

National Cycle Route 20 links paths from Furnace Green to Pease Pottage, through Tilgate Park and across the M23 to the surrounding forest paths.

Avenue Verte

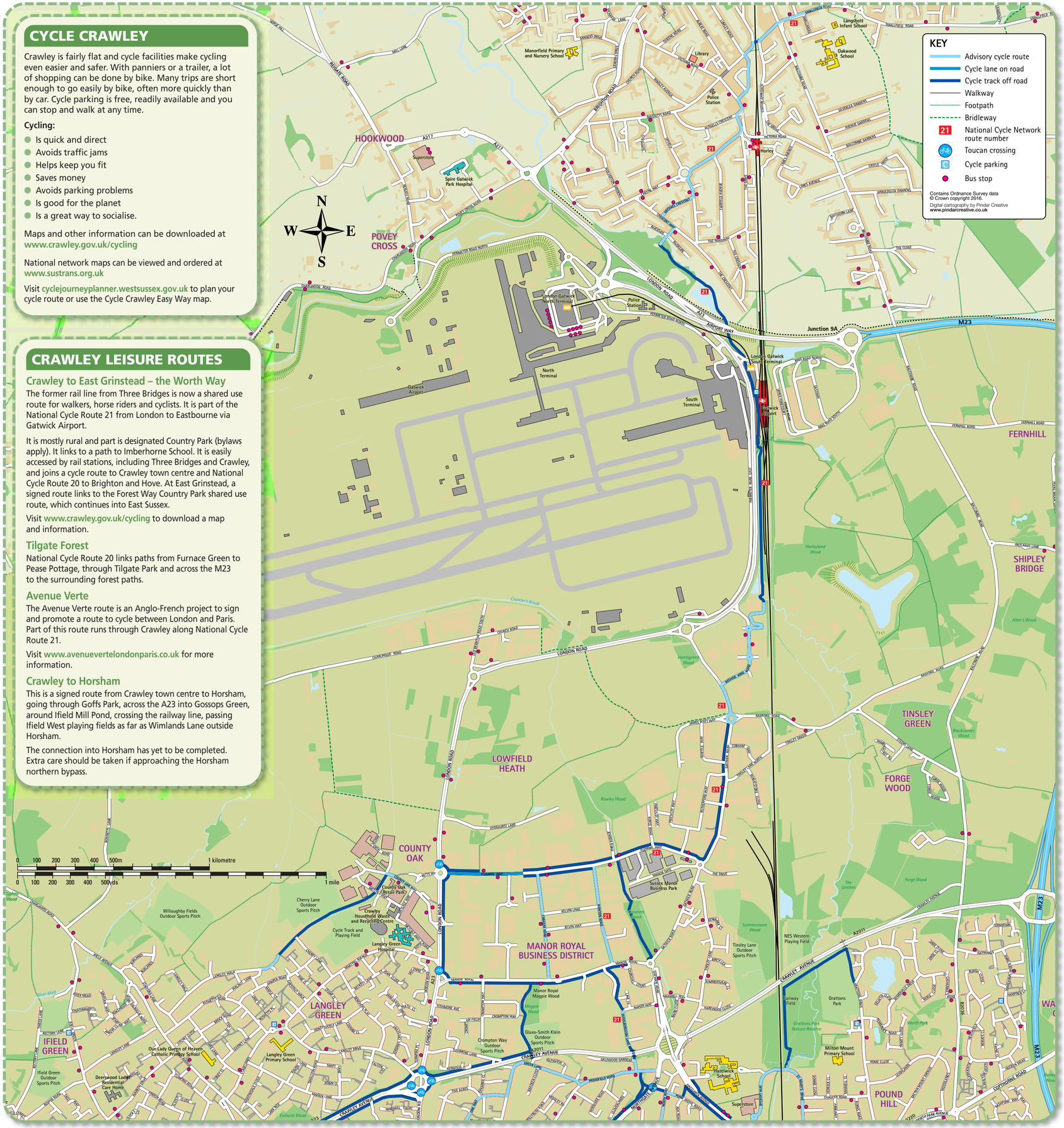
The Avenue Verte route is an Anglo-French project to sign and promote a route to cycle between London and Paris. Part of this route runs through Crawley along National Cycle Route 21.

Visit www.avenuevertelondonparis.co.uk for more information.

Crawley to Horsham

This is a signed route from Crawley town centre to Horsham, going through Goffs Park, across the A23 into Gossops Green, around Ifield Mill Pond, crossing the railway line, passing Ifield West playing fields as far as Wimlands Lane outside Horsham.

The connection into Horsham has yet to be completed. Extra care should be taken if approaching the Horsham northern bypass.



ON YOUR BIKE

People driving cars typically look for other vehicles and may not notice you on your bike, even when you are in front of them. Make sure you are seen by positioning yourself well in view – the 'primary' position is about one metre from the kerb – and observing where drivers are looking when you want to turn.

Think carefully about overtaking on the inside, even when vehicles are stationary. Be aware that lorry and bus drivers cannot see you there.

On shared paths, a sudden appearance of a bike can be an unpleasant shock for a pedestrian, particularly for people with visual or hearing impairment, even if you allow enough space. People may not know you're there, so slow down and let them know you're coming, or stop if necessary.

A good thing about riding a bike is you can instantly become a pedestrian. If in doubt, just get off and walk.

TIPS

✔ Security

Buy a good quality lock and use it – even better, use two different types of lock. Lock at least one wheel and the bike frame to a stand – not just a wheel. Lock any quick-release parts or take them with you, e.g. saddle, lights.

✔ Be seen

Use lights in mist and rain as well as the dark. Ensure lights work properly and are not obscured by clothing or bags. A bright rear light is useful even in daylight. High visibility wear and reflectors are a good idea.

✔ Helmets

Make sure they are the right size and conform to BSEN1078 or Snell Foundation B90 standards. Damage to used helmets may not be obvious.

✔ Maintenance

Check brakes, cables, tyres, chain and lights regularly. Ensure tyres are at high enough pressure, usually at least 60psi, to reduce punctures and cycling effort.

✔ Sitting comfortably

A good riding position makes all the difference. The best saddle height for least effort allows your legs to be almost fully extended when the pedal is at the bottom of its cycle. Start with the saddle at the most comfortable level and raise it as you become more confident.

CYCLE ROUTES

Off-road cycle path

These can be a dedicated cycle track or a shared use path. They are signposted and may have cycle markings on the ground. Shared use paths may not have markings showing separation of walking and cycling.

On-road cycle lane

Advisory lanes have a dashed line. Mandatory lanes have a solid line. Drivers must not drive or park in mandatory cycle lanes and only in advisory cycle lanes if unavoidable.

Advisory cycle route

Relatively quiet residential and country roads suitable for cycling. They are signposted to aid cyclists, but also to raise drivers' awareness of cyclists.

Toucan crossing

Crossing shared by pedestrians and cyclists with no formal separation. Cyclists can ride across, but should give way to pedestrians.

National Cycle Network route

Indicated by blue signs such as: 21

COMMON SIGNS

- Route for pedal cycles only
- Recommended cycle route on roads
- Contra-flow cycle lane ahead
- Start of cycle lane
- Segregated cycle track and pedestrian path ahead
- Shared route for cyclists and pedestrians
- Cycle parking available
- No cycling
- Motor vehicles prohibited (cycles permitted)
- Cycle route ahead (warning motorists)

map

CYCLE CRAWLEY

cycling, pedestrian and public transport information

October 2016

www.crawley.gov.uk/cycling

Crawley Borough Council

CONTACTS

Crawley Borough Council: cycling@crawley.gov.uk
Cycling information: www.crawley.gov.uk/cycling

West Sussex County Council Cycle Journey Planner: cyclejourneyplanner.westsussex.gov.uk

Cycling UK - national cyclists' organisation. Local group organises rides and provides advice: www.cyclinguk.org/local-groups/horsham-cycling-club

Crawley BikeIT - cycling to school schemes: south@sustrans.org.uk

Crawley Wheelers Cycling Club - leisure and competitive cycling: www.crawleywheelers.co.uk

Dynamic Adventures - training and bike hire: www.dynamicadventures.co.uk

Metrobus - bus timetables: www.metrobus.co.uk/travel-info

Public transport and cycle journey planner: www.travelwestsussex.co.uk

Report cycle path problem: http://love.westsussex.gov.uk

Rail journey planning and tickets: www.nationalrail.co.uk

Sustrans - develops the National Cycle Network: www.sustrans.org.uk

Wheels for Wellbeing for people with disabilities: www.crawley.gov.uk/wfw

Crawley Borough Council

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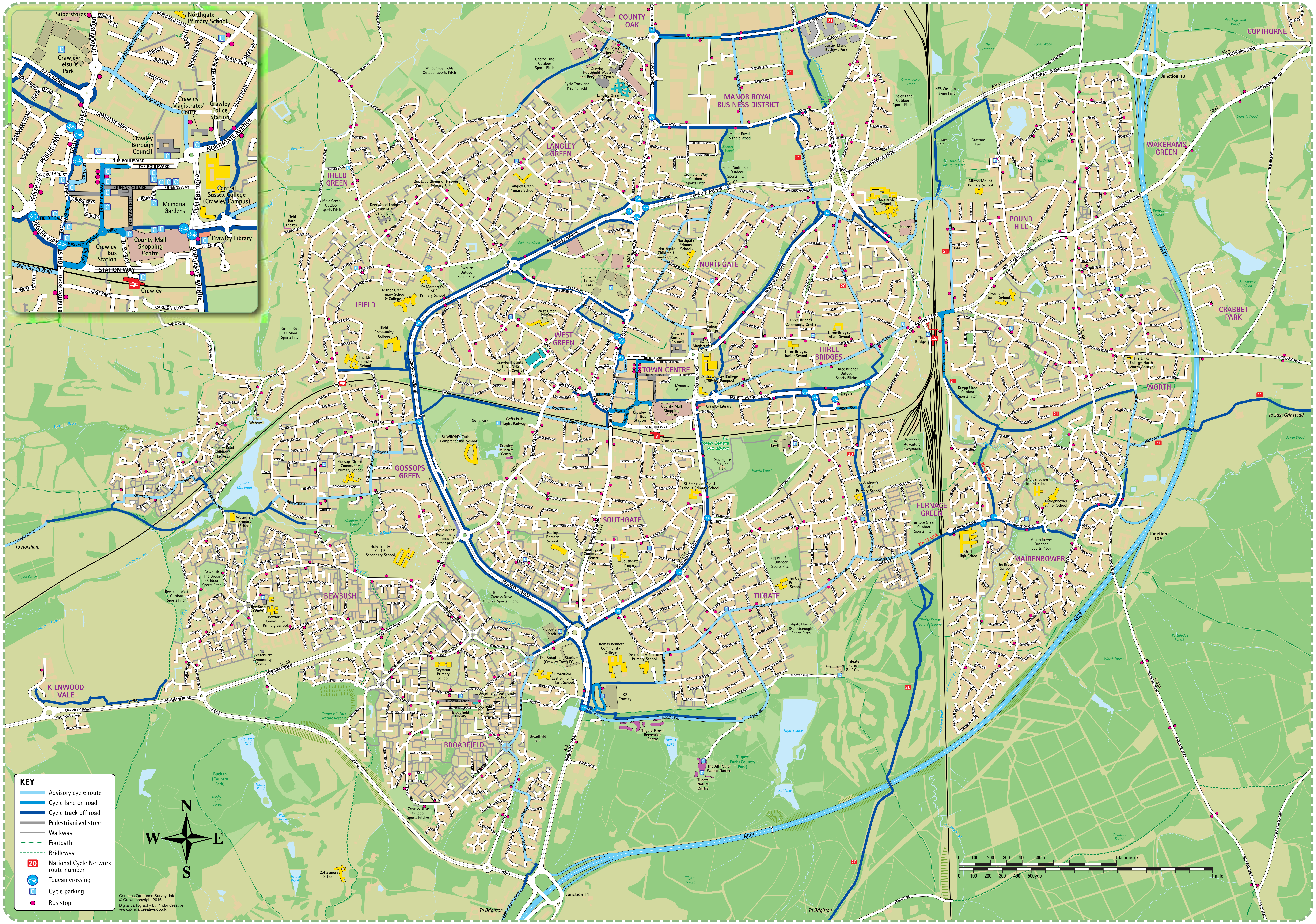
10.16


COUNTY OAK
MANOR ROYAL BUSINESS DISTRICT
LANGLEY GREEN
IFIELD GREEN
IFIELD
WEST GREEN
NORTHGATE
TOWN CENTRE
THREE BRIDGES
POUND HILL
WAKEHAMS GREEN
COPTHORNE
CRABBET PARK
WORTH
GOSSOPS GREEN
SOUTHGATE
TILGATE
FURNACE GREEN
MAIDENBOWER
BEWBUSH
BROADFIELD
KILNWOOD VALE
Junction 10
Junction 10A
Junction 11
To Horsham
To Brighton
To East Grinstead
for Town Centre see above
Superstores
Northgate Primary School
Crawley Leisure Park
Crawley Magistrates' Court
Crawley Police Station
Crawley Borough Council
Central Sussex College (Crawley Campus)
Memorial Gardens
County Mall Shopping Centre
Crawley Library
Crawley Bus Station
Crawley
Manor Royal Magpie Wood
Glaxo-Smith Klein Outdoor Sports Pitch
Crompton Way Outdoor Sports Pitch
Sussex Manor Business Park
County Oak Retail Park
Crawley Household Waste and Recycling Centre
Cycle Track and Playing Field
Langley Green Hospital
Cherry Lane Outdoor Sports Pitch
Willoughby Fields Outdoor Sports Pitch
Langley Green Primary School
Our Lady Queen of Heaven Catholic Primary School
Deerswood Lodge Residential Care Home
Ifield Green Outdoor Sports Pitch
Ifield Barn Theatre
Ewhurst Outdoor Sports Pitch
St Margaret's C of E Primary School
Manor Green Primary School & College
Ifield Community College
The Mill Primary School
Rusper Road Outdoor Sports Pitch
Ifield Watermill
Ifield Mill Pond
West Green Primary School
Crawley Hospital (incl. NHS Walk-in Centre)
Northgate Primary School
Northgate Children & Family Centre
Three Bridges Community Centre
Three Bridges Infant School
Three Bridges Junior School
Three Bridges Outdoor Sports Pitches
Hazelwick School
Superstore
Milton Mount Primary School
Grattons Park
Grattons Park Nature Reserve
Railway Field
NES Western Playing Field
Tinsley Lane Outdoor Sports Pitch
Pound Hill Junior School
The Links College North (Worth Annexe)
Knepp Close Outdoor Sports Pitch
Waterlea Adventure Playground
Goffs Park
Goffs Park Light Railway
St Wilfrid's Catholic Comprehensive School
Crawley Museum Centre
The Hawth
Southgate Playing Field
Hawth Woods
St Francis of Assisi Catholic Primary School
St Andrew's C of E Primary School
Gossops Green Community Primary School
Hanbury Road Children's Play Area
Waterfield Primary School
Holy Trinity C of E Secondary School
Dangerous cycle access Recommend dismount/ other path
Hilltop Primary School
Southgate Community Centre
Southgate Primary School
Loppetts Road Outdoor Sports Pitch
The Oaks Primary School
Furnace Green Outdoor Sports Pitch
Oriel High School
Maidenbower Infant School
Maidenbower Junior School
Maidenbower Outdoor Sports Pitch
The Brook School
Bewbush The Green Outdoor Sports Pitch
Bewbush West Outdoor Sports Pitch
BewBush Centre
Bewbush Community Primary School
Breezehurst Community Pavilion
Broadfield Creasys Drive Outdoor Sports Pitches
Sports Pitch
The Broadfield Stadium (Crawley Town FC)
Broadfield East Junior & Infant School
Seymour Primary School
Broadfield Youth and Community Centre
Broadfield Health Centre
Broadfield Library
Broadfield Park
Thomas Bennett Community College
Desmond Anderson Primary School
K2 Crawley
Tilgate Playing (Gainsborough) Sports Pitch
Tilgate Forest Golf Club
Tilgate Forest Recreation Centre
Tilgate Park (Country Park)
The Alf Pegler Walled Garden
Tilgate Nature Centre
Tilgate Lake
Titmus Lake
Silt Lake
Tilgate Forest
Tilgate Forest Nature Reserve
Target Hill Park Nature Reserve
Buchan (Country Park)
Buchan Hill Forest
Douster Pond
Island Pond
Fish Pond
House Pond
Cottesmore School
Creasys Drive Outdoor Sports Pitches
Worth Forest
Worthlodge Forest
Cowdray Forest
Oaken Wood
Brewhouse Wood
Driver's Wood
Burleys Wood
Heathyground Wood
Forge Wood
The Larches
Summersvere Wood
Worth Park
Ewhurst Wood
Woldhurstlea Wood
Capon Grove
20-21 Link
M23
A23
A264
A2220
A2011
A2219
A2004
B2036
CRAWLEY AVENUE
HORSHAM ROAD
BRIGHTON ROAD
LONDON ROAD
NORTHGATE AVENUE
SOUTHGATE AVENUE
HASLETT AVENUE EAST
COPTHORNE ROAD
COPTHORNE WAY
WORTH PARK AVENUE
BALCOMBE ROAD
TURNERS HILL ROAD
STATION WAY
THE BOULEVARD
KEY
Advisory cycle route
Cycle lane on road
Cycle track off road
Pedestrianised street
Walkway
Footpath
Bridleway
20 National Cycle Network route number
Toucan crossing
Cycle parking
Bus stop
N
W
E
S
0 100 200 300 400 500m 1 kilometre
0 100 200 300 400 500yds 1 mile
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Appendix E

TRICs Reports

Calculation Reference: AUDIT-734001-230607-0629

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 24154 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/15 to 11/05/21

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 undertaking 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

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

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.

Covid-19 Restrictions	Yes	At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions

LIST OF SITES relevant to selection parameters

1	LN-02-G-01	PARCELFORCE WORLDWIDE		LINCOLNSHIRE
	WHISBY WAY			
	LINCOLN			
	BIRCHWOOD			
	Edge of Town			
	Industrial Zone			
	Total Gross floor area:		1496 sqm	
	Survey date: FRIDAY		*28/06/19*	*Survey Type: MANUAL*
2	SO-02-G-02	DHL		SLOUGH
	HORTON ROAD			
	SLOUGH			
	COLNBROOK			
	Edge of Town			
	Development Zone			
	Total Gross floor area:		15583 sqm	
	Survey date: TUESDAY		*11/05/21*	*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.

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	1	15583	0.039	1	15583	0.032	1	15583	0.071
01:00 - 02:00	1	15583	0.096	1	15583	0.071	1	15583	0.167
02:00 - 03:00	1	15583	0.141	1	15583	0.135	1	15583	0.276
03:00 - 04:00	1	15583	0.205	1	15583	0.193	1	15583	0.398
04:00 - 05:00	1	15583	0.308	1	15583	0.225	1	15583	0.533
05:00 - 06:00	2	8540	0.609	2	8540	0.187	2	8540	0.796
06:00 - 07:00	2	8540	0.667	2	8540	0.375	2	8540	1.042
07:00 - 08:00	2	8540	0.492	2	8540	0.925	2	8540	1.417
08:00 - 09:00	2	8540	0.504	2	8540	0.369	2	8540	0.873
09:00 - 10:00	2	8540	0.351	2	8540	0.263	2	8540	0.614
10:00 - 11:00	2	8540	0.252	2	8540	0.316	2	8540	0.568
11:00 - 12:00	2	8540	0.217	2	8540	0.328	2	8540	0.545
12:00 - 13:00	2	8540	0.340	2	8540	0.310	2	8540	0.650
13:00 - 14:00	2	8540	0.445	2	8540	0.404	2	8540	0.849
14:00 - 15:00	2	8540	0.281	2	8540	0.316	2	8540	0.597
15:00 - 16:00	2	8540	0.351	2	8540	0.492	2	8540	0.843
16:00 - 17:00	2	8540	0.568	2	8540	0.492	2	8540	1.060
17:00 - 18:00	2	8540	0.404	2	8540	0.708	2	8540	1.112
18:00 - 19:00	2	8540	0.404	2	8540	0.422	2	8540	0.826
19:00 - 20:00	2	8540	0.580	2	8540	0.422	2	8540	1.002
20:00 - 21:00	2	8540	0.281	2	8540	0.222	2	8540	0.503
21:00 - 22:00	1	15583	0.218	1	15583	0.520	1	15583	0.738
22:00 - 23:00	1	15583	0.340	1	15583	0.314	1	15583	0.654
23:00 - 24:00	1	15583	0.116	1	15583	0.160	1	15583	0.276
Total Rates:			8.209			8.201			16.410

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.*

Parameter summary

Trip rate parameter range selected:	1496 - 15583 (units: sqm)
Survey date date range:	01/01/15 - 11/05/21
Number of weekdays (Monday-Friday):	2
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
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/G - PARCEL DISTRIBUTION CENTRES
OGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	1	15583	0.032	1	15583	0.032	1	15583	0.064
01:00 - 02:00	1	15583	0.019	1	15583	0.019	1	15583	0.038
02:00 - 03:00	1	15583	0.064	1	15583	0.083	1	15583	0.147
03:00 - 04:00	1	15583	0.116	1	15583	0.103	1	15583	0.219
04:00 - 05:00	1	15583	0.109	1	15583	0.122	1	15583	0.231
05:00 - 06:00	2	8540	0.193	2	8540	0.111	2	8540	0.304
06:00 - 07:00	2	8540	0.129	2	8540	0.111	2	8540	0.240
07:00 - 08:00	2	8540	0.094	2	8540	0.258	2	8540	0.352
08:00 - 09:00	2	8540	0.111	2	8540	0.076	2	8540	0.187
09:00 - 10:00	2	8540	0.111	2	8540	0.076	2	8540	0.187
10:00 - 11:00	2	8540	0.123	2	8540	0.152	2	8540	0.275
11:00 - 12:00	2	8540	0.053	2	8540	0.053	2	8540	0.106
12:00 - 13:00	2	8540	0.088	2	8540	0.070	2	8540	0.158
13:00 - 14:00	2	8540	0.053	2	8540	0.053	2	8540	0.106
14:00 - 15:00	2	8540	0.064	2	8540	0.105	2	8540	0.169
15:00 - 16:00	2	8540	0.076	2	8540	0.064	2	8540	0.140
16:00 - 17:00	2	8540	0.111	2	8540	0.146	2	8540	0.257
17:00 - 18:00	2	8540	0.041	2	8540	0.094	2	8540	0.135
18:00 - 19:00	2	8540	0.082	2	8540	0.100	2	8540	0.182
19:00 - 20:00	2	8540	0.059	2	8540	0.123	2	8540	0.182
20:00 - 21:00	2	8540	0.105	2	8540	0.047	2	8540	0.152
21:00 - 22:00	1	15583	0.090	1	15583	0.122	1	15583	0.212
22:00 - 23:00	1	15583	0.212	1	15583	0.083	1	15583	0.295
23:00 - 24:00	1	15583	0.083	1	15583	0.051	1	15583	0.134
Total Rates:			2.218			2.254			4.472

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-734001-230607-0642

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : E - WAREHOUSING (SELF STORAGE)
TOTAL VEHICLES

Selected regions and areas:

04	EAST ANGLIA		
	SF	SUFFOLK	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NY	NORTH YORKSHIRE	1 days
09	NORTH		
	CB	CUMBRIA	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: 1350 to 3100 (units: sqm)
Range Selected by User: 1350 to 14000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/15 to 15/10/21

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
Thursday	1 days
Friday	1 days

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

Selected survey types:

Manual count	3 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 undertaking using machines.

Selected Locations:

Edge of Town	3

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	3

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	X days - Selected
Servicing vehicles Excluded	3 days - Selected

Secondary Filtering selection:

Use Class:

B8	3 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

Population within 1 mile:

5,001 to 10,000	1 days
10,001 to 15,000	1 days
15,001 to 20,000	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	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	1 days
1.1 to 1.5	1 days
1.6 to 2.0	1 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	3 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	3 days

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

Covid-19 Restrictions	Yes	At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions

LIST OF SITES relevant to selection parameters

1	CB-02-E-01	BOX CLEVER SELF STORAGE		CUMBRIA
	MILLBROOK ROAD			
	CARLISLE			
	KINGSTOWN IND. ESTATE			
	Edge of Town			
	Industrial Zone			
	Total Gross floor area:		3100 sqm	
	Survey date: FRIDAY		*15/10/21*	*Survey Type: MANUAL*
2	NY-02-E-01	SELF STORAGE		NORTH YORKSHIRE
	OAKNEY WOOD ROAD			
	SELBY			
	Edge of Town			
	Industrial Zone			
	Total Gross floor area:		1350 sqm	
	Survey date: TUESDAY		*21/09/21*	*Survey Type: MANUAL*
3	SF-02-E-01	SELF STORAGE		SUFFOLK
	WHITE HOUSE ROAD			
	IPSWICH			
	Edge of Town			
	Industrial Zone			
	Total Gross floor area:		1530 sqm	
	Survey date: THURSDAY		*24/06/21*	*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.

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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									
06:00 - 07:00									
07:00 - 08:00	3	1993	0.050	3	1993	0.050	3	1993	0.100
08:00 - 09:00	3	1993	0.084	3	1993	0.067	3	1993	0.151
09:00 - 10:00	3	1993	0.217	3	1993	0.134	3	1993	0.351
10:00 - 11:00	3	1993	0.151	3	1993	0.234	3	1993	0.385
11:00 - 12:00	3	1993	0.134	3	1993	0.134	3	1993	0.268
12:00 - 13:00	3	1993	0.201	3	1993	0.151	3	1993	0.352
13:00 - 14:00	3	1993	0.100	3	1993	0.067	3	1993	0.167
14:00 - 15:00	3	1993	0.251	3	1993	0.251	3	1993	0.502
15:00 - 16:00	3	1993	0.134	3	1993	0.201	3	1993	0.335
16:00 - 17:00	3	1993	0.117	3	1993	0.084	3	1993	0.201
17:00 - 18:00	3	1993	0.050	3	1993	0.117	3	1993	0.167
18:00 - 19:00	3	1993	0.067	3	1993	0.050	3	1993	0.117
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.556			1.540			3.096

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.*

Parameter summary

Trip rate parameter range selected:	1350 - 3100 (units: sqm)
Survey date date range:	01/01/15 - 15/10/21
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
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/E - WAREHOUSING (SELF STORAGE)
OGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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									
06:00 - 07:00									
07:00 - 08:00	3	1993	0.000	3	1993	0.000	3	1993	0.000
08:00 - 09:00	3	1993	0.017	3	1993	0.017	3	1993	0.034
09:00 - 10:00	3	1993	0.000	3	1993	0.017	3	1993	0.017
10:00 - 11:00	3	1993	0.017	3	1993	0.017	3	1993	0.034
11:00 - 12:00	3	1993	0.000	3	1993	0.000	3	1993	0.000
12:00 - 13:00	3	1993	0.000	3	1993	0.000	3	1993	0.000
13:00 - 14:00	3	1993	0.017	3	1993	0.017	3	1993	0.034
14:00 - 15:00	3	1993	0.000	3	1993	0.000	3	1993	0.000
15:00 - 16:00	3	1993	0.000	3	1993	0.000	3	1993	0.000
16:00 - 17:00	3	1993	0.000	3	1993	0.000	3	1993	0.000
17:00 - 18:00	3	1993	0.000	3	1993	0.000	3	1993	0.000
18:00 - 19:00	3	1993	0.017	3	1993	0.000	3	1993	0.017
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.068			0.068			0.136

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 CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST		
	BO	BEDFORD	1 days
	EX	ESSEX	1 days
	HC	HAMPSHIRE	1 days
	MW	MEDWAY	1 days
03	SOUTH WEST		
	DV	DEVON	1 days
	TB	TORBAY	1 days
04	EAST ANGLIA		
	SF	SUFFOLK	1 days
06	WEST MIDLANDS		
	WM	WEST MIDLANDS	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	WY	WEST YORKSHIRE	1 days
09	NORTH		
	TW	TYNE & WEAR	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 49081 (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: 01/01/15 to 22/11/21

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	2 days
Friday	5 days

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

Selected survey types:

Manual count	10 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 undertaking using machines.

Selected Locations:

Edge of Town	9
Free Standing (PPS6 Out of Town)	1

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
Out of Town	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.

Secondary Filtering selection:

Use Class:

n/a	2 days
B8	8 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

Population within 1 mile:

1,001 to 5,000	2 days
5,001 to 10,000	3 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
100,001 to 125,000	1 days
125,001 to 250,000	5 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	7 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	10 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	10 days

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

Covid-19 Restrictions	Yes	At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions

LIST OF SITES relevant to selection parameters

1 BO-02-F-01 DRINKS WHOLESALER BEDFORD
CAMBRIDGE ROAD
BEDFORD

Edge of Town
Industrial Zone
Total Gross floor area: 3500 sqm
Survey date: THURSDAY 15/10/20 *Survey Type: MANUAL*

2 DV-02-F-03 LIDL DISTRIBUTION CENTRE DEVON
CHILLPARK BRAKE
NEAR EXETER
CLYST HONITON
Free Standing (PPS6 Out of Town)
Out of Town
Total Gross floor area: 49081 sqm
Survey date: MONDAY 22/11/21 *Survey Type: MANUAL*

3 EX-02-F-01 SPORTS SUPPLEMENTS ESSEX
BRUNEL WAY
COLCHESTER
SEVERALLS INDUSTRIAL PK
Edge of Town
Industrial Zone
Total Gross floor area: 6560 sqm
Survey date: FRIDAY 18/05/18 *Survey Type: MANUAL*

4 HC-02-F-03 PPE DISTRIBUTION HAMPSHIRE
WARSASH ROAD
PARK GATE

Edge of Town
Industrial Zone
Total Gross floor area: 3665 sqm
Survey date: MONDAY 27/09/21 *Survey Type: MANUAL*

5 MW-02-F-02 COMMERCIAL WAREHOUSING MEDWAY
MILLS ROAD
AYLESFORD
QUARRY WOOD
Edge of Town
Industrial Zone
Total Gross floor area: 11200 sqm
Survey date: FRIDAY 22/09/17 *Survey Type: MANUAL*

6 SF-02-F-03 ROAD HAULAGE SUFFOLK
CENTRAL AVENUE
IPSWICH
WARREN HEATH
Edge of Town
Industrial Zone
Total Gross floor area: 4700 sqm
Survey date: FRIDAY 18/09/15 *Survey Type: MANUAL*

7 TB-02-F-01 OPTICS WAREHOUSE TORBAY
ALDERS WAY
PAIGNTON

Edge of Town
Industrial Zone
Total Gross floor area: 190 sqm
Survey date: FRIDAY 29/03/19 *Survey Type: MANUAL*

8 TW-02-F-01 ASDA DISTRIBUTION CENTRE TYNE & WEAR
MANDARIN WAY
WASHINGTON
PATTISON IND. ESTATE
Edge of Town
Industrial Zone
Total Gross floor area: 31000 sqm
Survey date: FRIDAY 13/11/15 *Survey Type: MANUAL*

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*
10	WY-02-F-02	DISTRIBUTION COMPANY	WEST YORKSHIRE
	STAITHGATE LANE		
	BRADFORD		
	NEWHALL		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	10446 sqm	
	Survey date: THURSDAY	*14/03/19*	*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.

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	4	15804	0.176	4	15804	0.054	4	15804	0.230
06:00 - 07:00	4	15804	0.166	4	15804	0.082	4	15804	0.248
07:00 - 08:00	10	12397	0.156	10	12397	0.087	10	12397	0.243
08:00 - 09:00	10	12397	0.177	10	12397	0.099	10	12397	0.276
09:00 - 10:00	10	12397	0.129	10	12397	0.080	10	12397	0.209
10:00 - 11:00	10	12397	0.107	10	12397	0.096	10	12397	0.203
11:00 - 12:00	10	12397	0.100	10	12397	0.102	10	12397	0.202
12:00 - 13:00	10	12397	0.111	10	12397	0.111	10	12397	0.222
13:00 - 14:00	10	12397	0.119	10	12397	0.124	10	12397	0.243
14:00 - 15:00	10	12397	0.094	10	12397	0.152	10	12397	0.246
15:00 - 16:00	10	12397	0.085	10	12397	0.136	10	12397	0.221
16:00 - 17:00	10	12397	0.075	10	12397	0.135	10	12397	0.210
17:00 - 18:00	10	12397	0.078	10	12397	0.161	10	12397	0.239
18:00 - 19:00	10	12397	0.035	10	12397	0.093	10	12397	0.128
19:00 - 20:00	4	15804	0.035	4	15804	0.063	4	15804	0.098
20:00 - 21:00	4	15804	0.044	4	15804	0.038	4	15804	0.082
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.687			1.613			3.300

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.*

Parameter summary

Trip rate parameter range selected:	190 - 49081 (units: sqm)
Survey date date range:	01/01/15 - 22/11/21
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
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)
OGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	4	15804	0.032	4	15804	0.028	4	15804	0.060
06:00 - 07:00	4	15804	0.047	4	15804	0.046	4	15804	0.093
07:00 - 08:00	10	12397	0.041	10	12397	0.056	10	12397	0.097
08:00 - 09:00	10	12397	0.044	10	12397	0.052	10	12397	0.096
09:00 - 10:00	10	12397	0.052	10	12397	0.040	10	12397	0.092
10:00 - 11:00	10	12397	0.052	10	12397	0.050	10	12397	0.102
11:00 - 12:00	10	12397	0.040	10	12397	0.044	10	12397	0.084
12:00 - 13:00	10	12397	0.043	10	12397	0.040	10	12397	0.083
13:00 - 14:00	10	12397	0.032	10	12397	0.044	10	12397	0.076
14:00 - 15:00	10	12397	0.030	10	12397	0.032	10	12397	0.062
15:00 - 16:00	10	12397	0.038	10	12397	0.028	10	12397	0.066
16:00 - 17:00	10	12397	0.039	10	12397	0.034	10	12397	0.073
17:00 - 18:00	10	12397	0.048	10	12397	0.031	10	12397	0.079
18:00 - 19:00	10	12397	0.022	10	12397	0.018	10	12397	0.040
19:00 - 20:00	4	15804	0.013	4	15804	0.016	4	15804	0.029
20:00 - 21:00	4	15804	0.013	4	15804	0.011	4	15804	0.024
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.586			0.570			1.156

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.*

Calculation Reference: AUDIT-734001-230607-0632

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : D - INDUSTRIAL ESTATE
TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	EX	ESSEX	3 days
03	SOUTH WEST		
	DV	DEVON	1 days
	NS	NORTH SOMERSET	1 days
	SM	SOMERSET	1 days
04	EAST ANGLIA		
	NF	NORFOLK	1 days
05	EAST MIDLANDS		
	LN	LINCOLNSHIRE	1 days
	NM	WEST NORTHAMPTONSHIRE	1 days
06	WEST MIDLANDS		
	WK	WARWICKSHIRE	4 days
	WO	WORCESTERSHIRE	2 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NY	NORTH YORKSHIRE	1 days
	WY	WEST YORKSHIRE	5 days
08	NORTH WEST		
	LC	LANCASHIRE	2 days
09	NORTH		
	TW	TYNE & WEAR	2 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: 1776 to 150564 (units: sqm)
Range Selected by User: 708 to 167416 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/15 to 18/11/22

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	4 days
Tuesday	3 days
Wednesday	8 days
Thursday	5 days
Friday	5 days

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

Selected survey types:

Manual count	25 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 undertaking using machines.

Selected Locations:

Edge of Town	24
Free Standing (PPS6 Out of Town)	1

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.

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	8 days - Selected
Servicing vehicles Excluded	18 days - Selected

Secondary Filtering selection:

Use Class:

n/a	1 days
Not Known	24 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

Population within 1 mile:

1,000 or Less	1 days
1,001 to 5,000	1 days
5,001 to 10,000	5 days
10,001 to 15,000	8 days
15,001 to 20,000	5 days
20,001 to 25,000	2 days
25,001 to 50,000	3 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
25,001 to 50,000	2 days
50,001 to 75,000	2 days
75,001 to 100,000	3 days
100,001 to 125,000	1 days
125,001 to 250,000	13 days
250,001 to 500,000	3 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	12 days
1.1 to 1.5	12 days
1.6 to 2.0	1 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	25 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	25 days

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

Covid-19 Restrictions	Yes	At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions

LIST OF SITES relevant to selection parameters

1 DV-02-D-07 INDUSTRIAL ESTATE DEVON
BITTERN ROAD
EXETER
SOWTON IND. ESTATE
Edge of Town
Industrial Zone
Total Gross floor area: 3600 sqm
Survey date: MONDAY 03/07/17 Survey Type: MANUAL

2 EX-02-D-03 INDUSTRIAL ESTATE ESSEX
WYNCOLLS ROAD
COLCHESTER
SEVERALLS INDUSTRIAL PK
Edge of Town
Industrial Zone
Total Gross floor area: 4876 sqm
Survey date: FRIDAY 18/05/18 Survey Type: MANUAL

3 EX-02-D-04 INDUSTRIAL ESTATE ESSEX
PASTURE ROAD
WITHAM

Edge of Town
Industrial Zone
Total Gross floor area: 37130 sqm
Survey date: THURSDAY 10/05/18 Survey Type: MANUAL

4 EX-02-D-05 INDUSTRIAL ESTATE ESSEX
HECKWORTH CLOSE
COLCHESTER
SEVERALLS INDUSTRIAL PK
Edge of Town
Industrial Zone
Total Gross floor area: 7280 sqm
Survey date: FRIDAY 18/05/18 Survey Type: MANUAL

5 LC-02-D-07 INDUSTRIAL ESTATE LANCASHIRE
CHAIN CAUL WAY
PRESTON
ASHTON-ON-RIBBLE
Edge of Town
Industrial Zone
Total Gross floor area: 4700 sqm
Survey date: FRIDAY 17/11/17 Survey Type: MANUAL

6 LC-02-D-08 INDUSTRIAL ESTATE LANCASHIRE
NOOK LANE
BAMBER BRIDGE

Edge of Town
Industrial Zone
Total Gross floor area: 4000 sqm
Survey date: TUESDAY 06/11/18 Survey Type: MANUAL

7 LN-02-D-03 INDUSTRIAL ESTATE LINCOLNSHIRE
DEACON ROAD
LINCOLN

Edge of Town
Industrial Zone
Total Gross floor area: 11265 sqm
Survey date: FRIDAY 28/06/19 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8 NF-02-D-04 INDUSTRIAL ESTATE NORFOLK
DRAYTON HIGH ROAD
NORWICH

Edge of Town
No Sub Category
Total Gross floor area: 10673 sqm
Survey date: WEDNESDAY 14/09/22 Survey Type: MANUAL

9 NM-02-D-01 INDUSTRIAL ESTATE WEST NORTHAMPTONSHIRE
CORNHILL CLOSE
NORTHAMPTON
LODGE FARM IND. ESTATE
Edge of Town
Industrial Zone
Total Gross floor area: 12670 sqm
Survey date: WEDNESDAY 21/10/20 Survey Type: MANUAL

10 NS-02-D-01 INDUSTRIAL ESTATE NORTH SOMERSET
WINTERSTOKE ROAD
WESTON-SUPER-MARE
OLDMIXON
Edge of Town
Industrial Zone
Total Gross floor area: 27000 sqm
Survey date: THURSDAY 15/09/22 Survey Type: MANUAL

11 NY-02-D-03 INDUSTRIAL ESTATE NORTH YORKSHIRE
RACECOURSE ROAD
RICHMOND

Edge of Town
Out of Town
Total Gross floor area: 35183 sqm
Survey date: THURSDAY 05/05/22 Survey Type: MANUAL

12 SM-02-D-01 INDUSTRIAL ESTATE SOMERSET
A359
YEOVIL
SPARKFORD
Free Standing (PPS6 Out of Town)
Out of Town
Total Gross floor area: 12000 sqm
Survey date: WEDNESDAY 03/04/19 Survey Type: MANUAL

13 TW-02-D-09 INDUSTRIAL ESTATE TYNE & WEAR
ELEVENTH AVENUE
GATESHEAD
TEAM VALLEY
Edge of Town
No Sub Category
Total Gross floor area: 6200 sqm
Survey date: WEDNESDAY 18/05/22 Survey Type: MANUAL

14 TW-02-D-10 INDUSTRIAL ESTATE TYNE & WEAR
ELEVENTH AVENUE
GATESHEAD
TEAM VALLEY
Edge of Town
No Sub Category
Total Gross floor area: 21500 sqm
Survey date: WEDNESDAY 18/05/22 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

15 WK-02-D-01 INDUSTRIAL ESTATE WARWICKSHIRE
CASTLE MOUND WAY
RUGBY

Edge of Town
Industrial Zone
Total Gross floor area: 150564 sqm
Survey date: WEDNESDAY 27/06/18 Survey Type: MANUAL

16 WK-02-D-02 INDUSTRIAL ESTATE WARWICKSHIRE
OVERVIEW WAY
RUGBY

Edge of Town
Industrial Zone
Total Gross floor area: 90535 sqm
Survey date: WEDNESDAY 27/06/18 Survey Type: MANUAL

17 WK-02-D-03 INDUSTRIAL ESTATE WARWICKSHIRE
EASTBORO WAY
NUNEATON

Edge of Town
Industrial Zone
Total Gross floor area: 20860 sqm
Survey date: THURSDAY 26/09/19 Survey Type: MANUAL

18 WK-02-D-04 INDUSTRIAL ESTATE WARWICKSHIRE
ABELES WAY
ATHERSTONE

Edge of Town
No Sub Category
Total Gross floor area: 17500 sqm
Survey date: FRIDAY 27/09/19 Survey Type: MANUAL

19 WO-02-D-02 INDUSTRIAL ESTATE WORCESTERSHIRE
WEIR LANE
WORCESTER

Edge of Town
Residential Zone
Total Gross floor area: 9500 sqm
Survey date: MONDAY 14/11/16 Survey Type: MANUAL

20 WO-02-D-03 INDUSTRIAL ESTATE WORCESTERSHIRE
MILLENNIUM WAY
EVESHAM

Edge of Town
Out of Town
Total Gross floor area: 84575 sqm
Survey date: TUESDAY 26/06/18 Survey Type: MANUAL

21 WY-02-D-04 INDUSTRIAL ESTATE WEST YORKSHIRE
LAW STREET
CLECKHEATON

Edge of Town
Industrial Zone
Total Gross floor area: 23226 sqm
Survey date: THURSDAY 15/09/16 Survey Type: MANUAL

22 WY-02-D-05 INDUSTRIAL ESTATE WEST YORKSHIRE
CARR WOOD ROAD
CASTLEFORD

Edge of Town
Development Zone
Total Gross floor area: 1776 sqm
Survey date: MONDAY 22/05/17 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

23	WY-02-D-06	INDUSTRIAL ESTATE (PART)	WEST YORKSHIRE
	PIONEER WAY		
	CASTLEFORD		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	4328 sqm	
	Survey date: TUESDAY	*23/05/17*	*Survey Type: MANUAL*
24	WY-02-D-07	INDUSTRIAL ESTATE	WEST YORKSHIRE
	THUNDERHEAD RIDGE RD		
	CASTLEFORD		
	GLASSHOUGHTON		
	Edge of Town		
	No Sub Category		
	Total Gross floor area:	3191 sqm	
	Survey date: MONDAY	*15/05/17*	*Survey Type: MANUAL*
25	WY-02-D-08	INDUSTRIAL ESTATE	WEST YORKSHIRE
	MILL LANE		
	HALIFAX		
	Edge of Town		
	No Sub Category		
	Total Gross floor area:	11305 sqm	
	Survey date: WEDNESDAY	*17/10/18*	*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.

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	8	18948	0.065	8	18948	0.022	8	18948	0.087
06:00 - 07:00	9	18095	0.126	9	18095	0.049	9	18095	0.175
07:00 - 08:00	25	24617	0.304	25	24617	0.086	25	24617	0.390
08:00 - 09:00	25	24617	0.398	25	24617	0.155	25	24617	0.553
09:00 - 10:00	25	24617	0.299	25	24617	0.198	25	24617	0.497
10:00 - 11:00	25	24617	0.247	25	24617	0.207	25	24617	0.454
11:00 - 12:00	25	24617	0.243	25	24617	0.233	25	24617	0.476
12:00 - 13:00	25	24617	0.246	25	24617	0.285	25	24617	0.531
13:00 - 14:00	25	24617	0.284	25	24617	0.264	25	24617	0.548
14:00 - 15:00	25	24617	0.214	25	24617	0.286	25	24617	0.500
15:00 - 16:00	25	24617	0.186	25	24617	0.255	25	24617	0.441
16:00 - 17:00	25	24617	0.191	25	24617	0.326	25	24617	0.517
17:00 - 18:00	25	24617	0.121	25	24617	0.367	25	24617	0.488
18:00 - 19:00	25	24617	0.081	25	24617	0.153	25	24617	0.234
19:00 - 20:00	9	18095	0.084	9	18095	0.101	9	18095	0.185
20:00 - 21:00	9	18095	0.028	9	18095	0.047	9	18095	0.075
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.117			3.034			6.151

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.*

Parameter summary

Trip rate parameter range selected:	1776 - 150564 (units: sqm)
Survey date date range:	01/01/15 - 18/11/22
Number of weekdays (Monday-Friday):	25
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
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/D - INDUSTRIAL ESTATE
OGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	8	18948	0.005	8	18948	0.005	8	18948	0.010
06:00 - 07:00	9	18095	0.006	9	18095	0.011	9	18095	0.017
07:00 - 08:00	25	24617	0.016	25	24617	0.012	25	24617	0.028
08:00 - 09:00	25	24617	0.026	25	24617	0.020	25	24617	0.046
09:00 - 10:00	25	24617	0.033	25	24617	0.026	25	24617	0.059
10:00 - 11:00	25	24617	0.028	25	24617	0.026	25	24617	0.054
11:00 - 12:00	25	24617	0.027	25	24617	0.026	25	24617	0.053
12:00 - 13:00	25	24617	0.028	25	24617	0.027	25	24617	0.055
13:00 - 14:00	25	24617	0.025	25	24617	0.027	25	24617	0.052
14:00 - 15:00	25	24617	0.026	25	24617	0.025	25	24617	0.051
15:00 - 16:00	25	24617	0.023	25	24617	0.026	25	24617	0.049
16:00 - 17:00	25	24617	0.017	25	24617	0.020	25	24617	0.037
17:00 - 18:00	25	24617	0.013	25	24617	0.011	25	24617	0.024
18:00 - 19:00	25	24617	0.009	25	24617	0.011	25	24617	0.020
19:00 - 20:00	9	18095	0.003	9	18095	0.003	9	18095	0.006
20:00 - 21:00	9	18095	0.002	9	18095	0.001	9	18095	0.003
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.287			0.277			0.564

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 F

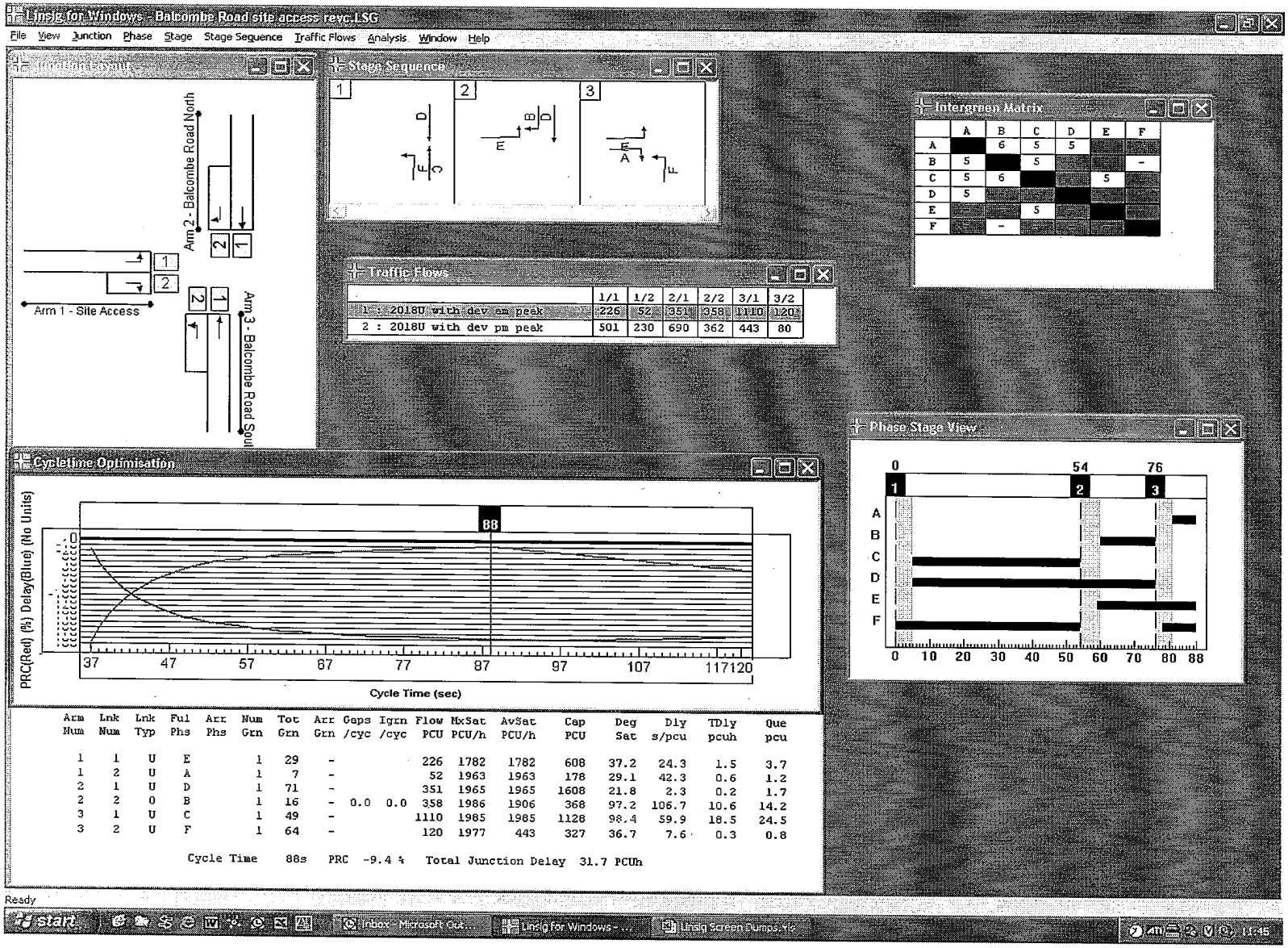
North East Sector Modelling

Appendix 26 Balcombe Road (South) Site Access - Junction Assessments

Balcombe Road (S) Site Access

Assessment Year 2018 with Development

Link	AM Peak		PM Peak	
	Deg. Sat	Q	Deg Sat	Q
1/1	37.2	3.7	52	4
1/2	29.1	1.2	65	3.7
2/1	21.8	1.7	51	3.8
2/2	97.2	14.2	68.2	5
3/1	98.4	24.5	68.1	5.6
3/2	36.7	0.8	16.9	0.5

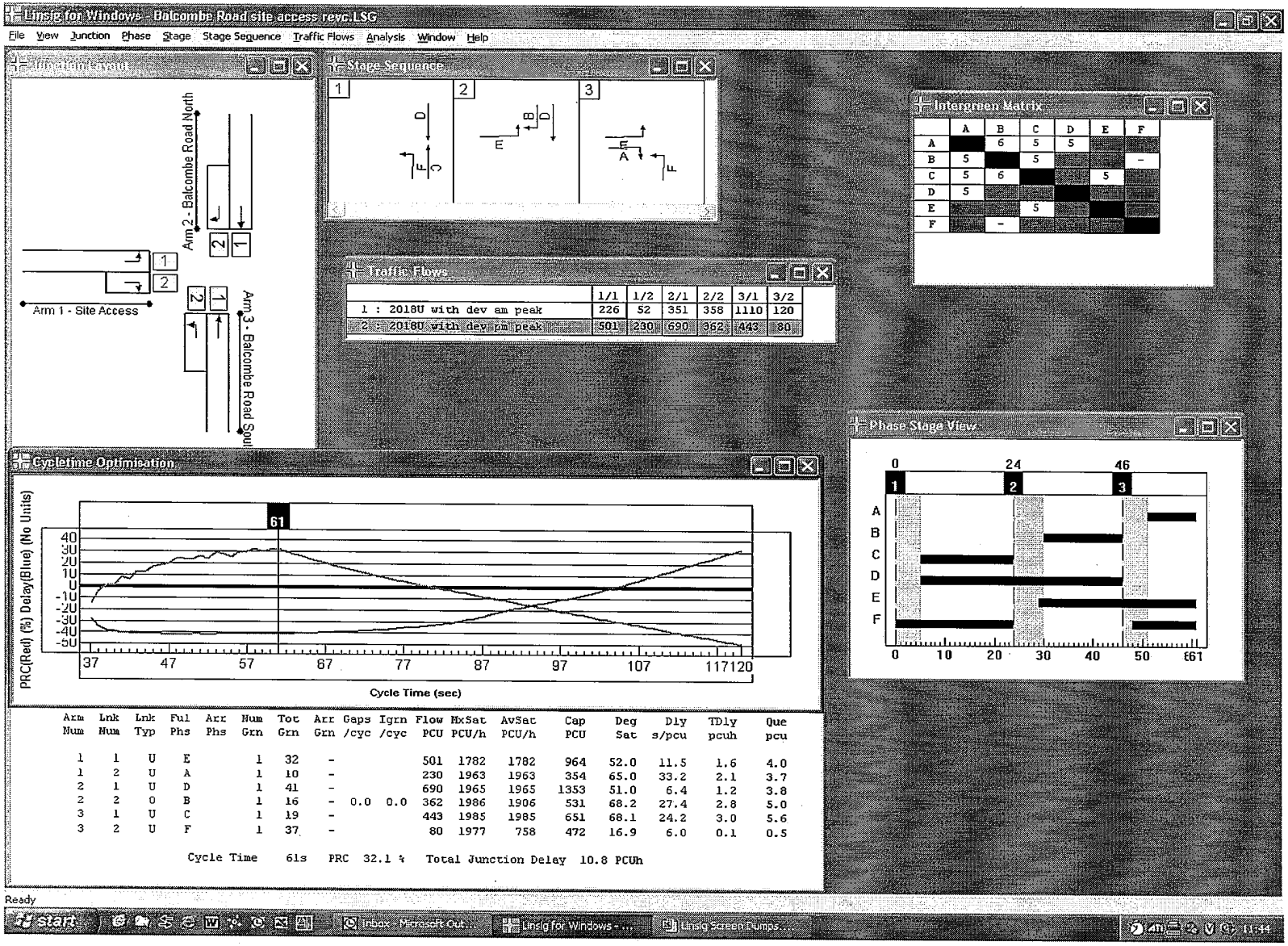


	1/1	1/2	2/1	2/2	3/1	3/2
1 : 2018U with dev am peak	226	52	351	358	1110	120
2 : 2018U with dev pm peak	501	230	690	362	443	80

	A	B	C	D	E	F
A		6	5	5		
B	5		5			-
C	5	6			5	
D	5					
E			5			
F		-				

Arm Num	Lnk Num	Lnk Typ	Ful Phs	Arr Phs	Num Grn	Tot Grn	Arr Grn	Gaps /cyc	Igrn /cyc	Flow PCU	MxSat PCU/h	AvSat PCU/h	Cap PCU	Deg Sat	Dly s/pcu	TDly pcuh	Que pcu
1	1	U	E		1	29	-			226	1782	1782	608	37.2	24.3	1.5	3.7
1	2	U	A		1	7	-			52	1963	1963	178	29.1	42.3	0.6	1.2
2	1	U	D		1	71	-			351	1965	1965	1608	21.8	2.3	0.2	1.7
2	2	O	B		1	16	-	0.0	0.0	358	1986	1906	368	97.2	106.7	10.6	14.2
3	1	U	C		1	49	-			1110	1985	1985	1128	98.4	59.9	18.5	24.5
3	2	U	F		1	64	-			120	1977	443	327	36.7	7.6	0.3	0.8

Cycle Time 88s PRC -9.4 % Total Junction Delay 31.7 PCUh


Linsig for Windows - Balcombe Road site access revc.LSG
File View Junction Phase Stage Stage Sequence Traffic Flows Analysis Window Help
Junction Layout
Arm 1 - Site Access
Arm 2 - Balcombe Road North
Arm 3 - Balcombe Road Sou
Stage Sequence
Traffic Flows
1/1 1/2 2/1 2/2 3/1 3/2
1 : 2018U with dev am peak 226 52 351 358 1110 120
2 : 2018U with dev pm peak 501 230 690 362 443 80
Intergreen Matrix
A B C D E F
A 6 5 5
B 5 5 -
C 5 6 5
D 5
E 5
F -
Phase Stage View
0 24 46
A B C D E F
0 10 20 30 40 50 61
Cycletime Optimisation
PRC(Red) (%) Delay(Blue) (No Units)
Cycle Time (sec)
Arm Num Lnk Num Lnk Typ Ful Phs Arr Phs Num Grn Tot Grn Arr Grn Gaps /cyc Igrn /cyc Flow PCU MxSat PCU/h AvSat PCU/h Cap PCU Deg Sat Dly s/pcu TDly pcuh Que pcu
1 1 U E 1 32 - 501 1782 1782 964 52.0 11.5 1.6 4.0
1 2 U A 1 10 - 230 1963 1963 354 65.0 33.2 2.1 3.7
2 1 U D 1 41 - 690 1965 1965 1353 51.0 6.4 1.2 3.8
2 2 O B 1 16 - 0.0 0.0 362 1986 1906 531 68.2 27.4 2.8 5.0
3 1 U C 1 19 - 443 1985 1985 651 68.1 24.2 3.0 5.6
3 2 U F 1 37 - 80 1977 758 472 16.9 6.0 0.1 0.5
Cycle Time 61s PRC 32.1 % Total Junction Delay 10.8 PCUh
Ready
start
Inbox - Microsoft Out...
Linsig for Windows - ...
Linsig Screen Dumps...
11:44

Appendix 25 Crawley Avenue Site Access - Junction Assessments

A - 2 -

Crawley Avenue Site Access

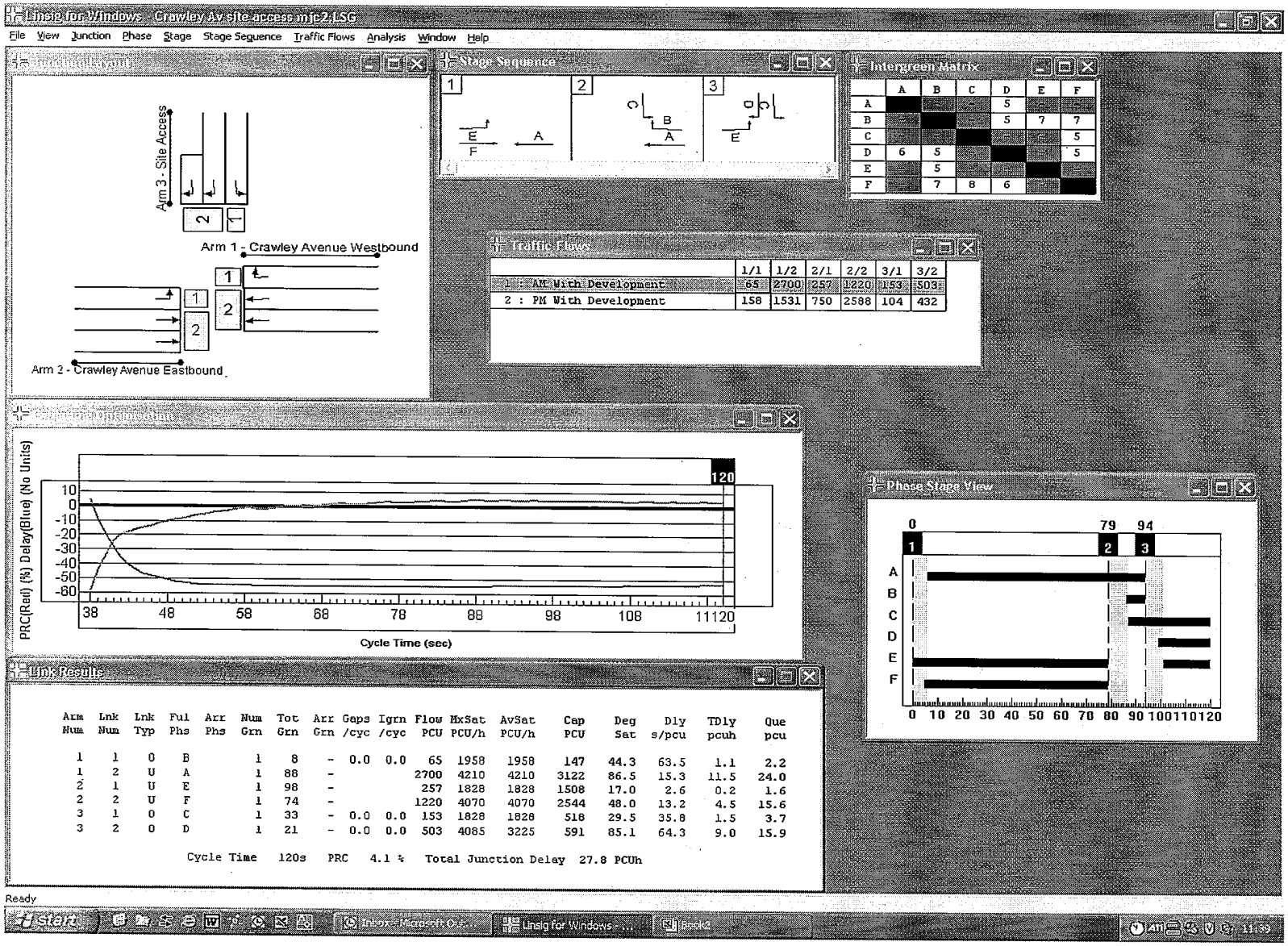
Assessment Year 2018 with Development

Link	AM Peak		PM Peak	
	Deg. Sat	Q	Deg Sat	Q
1/1	44.3	2.2	88	7.4
1/2	86.5	24	45.5	10.6
2/1	17	1.6	50.8	5
2/2	48	15.6	95.4	36.9
3/1	29.5	3.7	23.5	2.7
3/2	85.1	15.9	91.9	16.9

Crawley Avenue (Link Road) Site Access

Assessment Year 2018 with Development

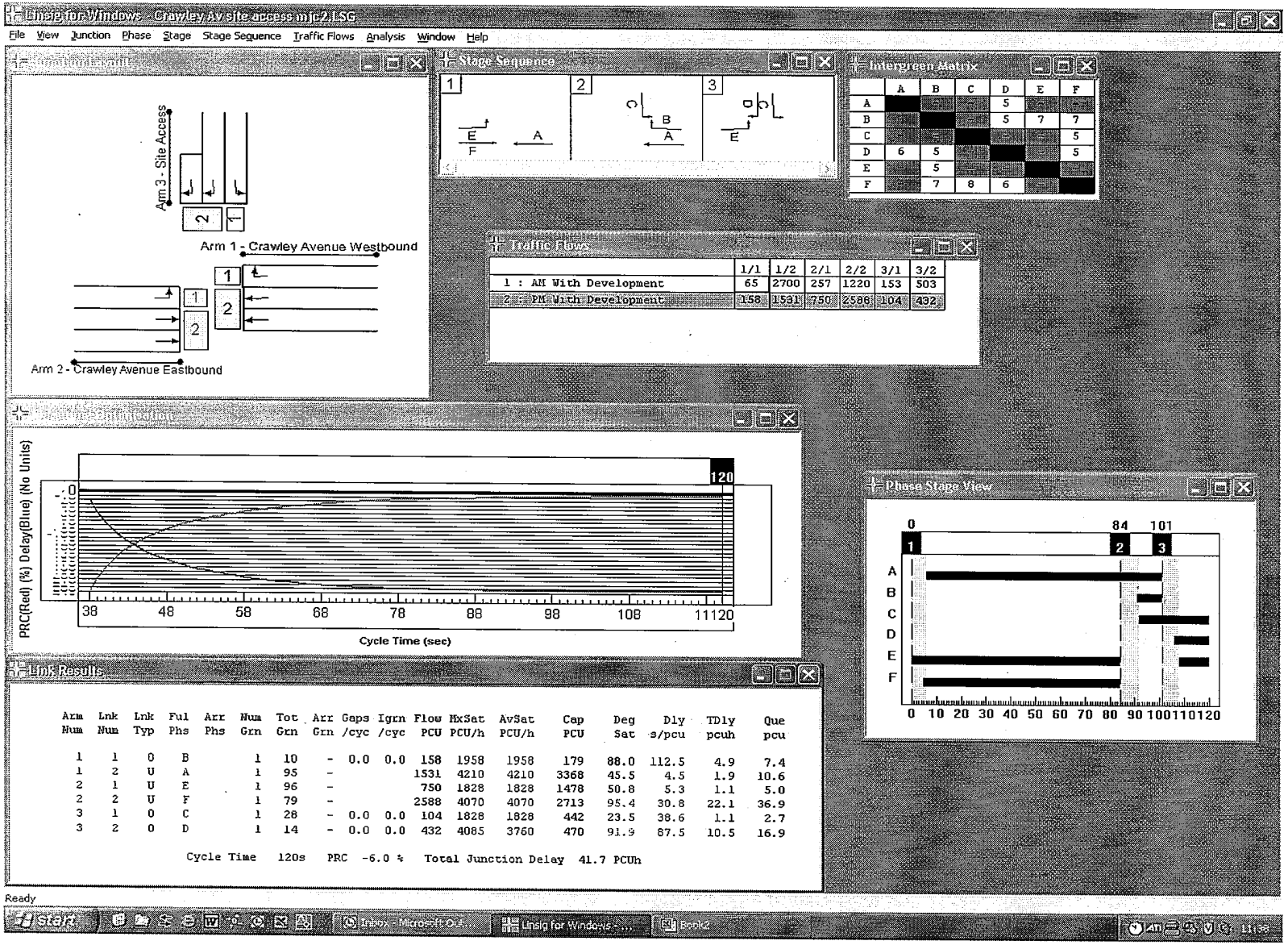
Link	AM Peak		PM Peak	
	Deg. Sat	Q	Deg Sat	Q
1/1	32.1	3.3	63.2	6.4
1/2	5.1	0.3	14	0.9
2/1	36.1	2.7	54.6	2.4
2/2	10.7	0.3	7.7	0.3
3/1	5.4	0.2	12.4	0.5
3/2	36.7	3.6	25.8	1.9

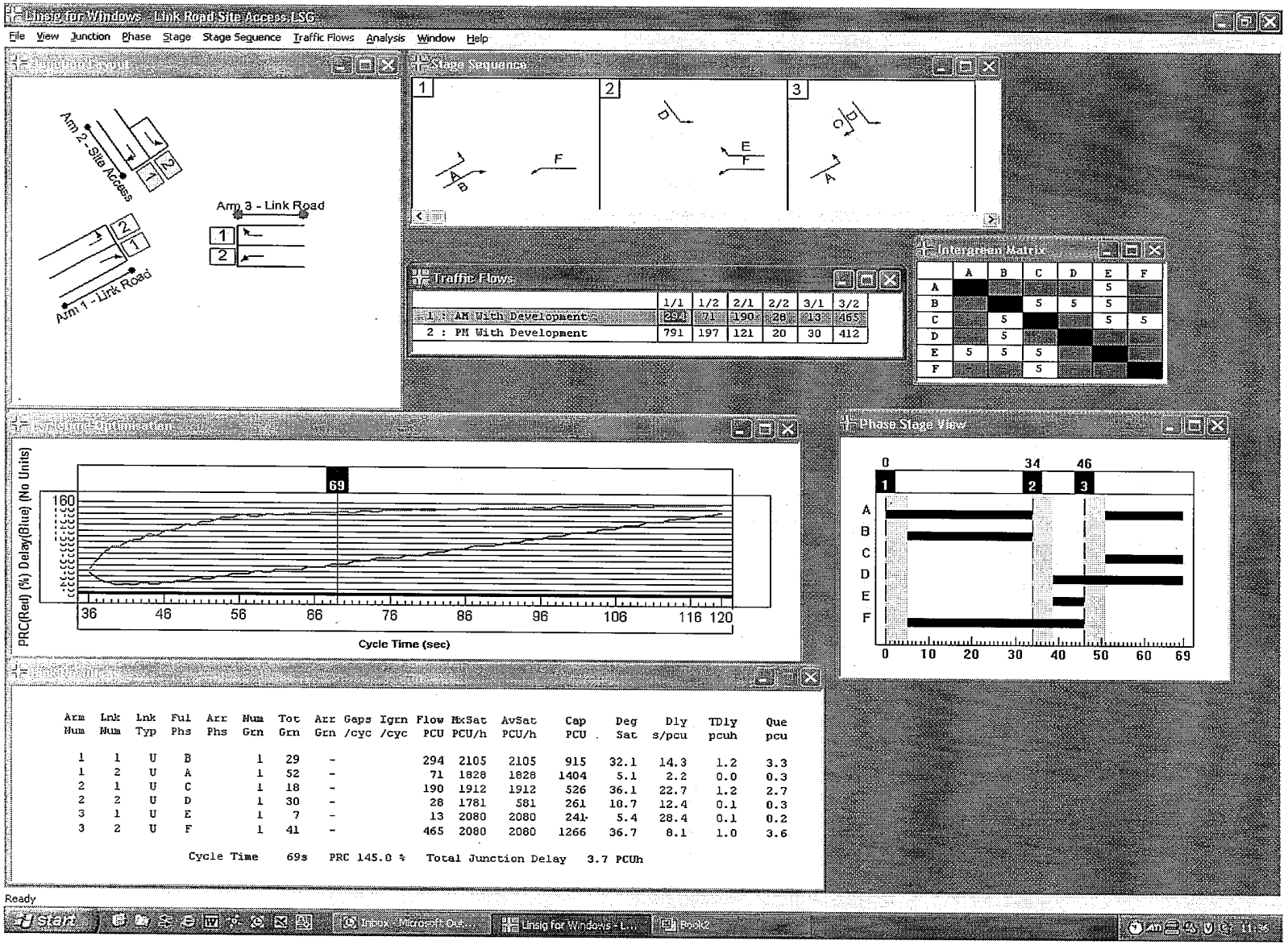


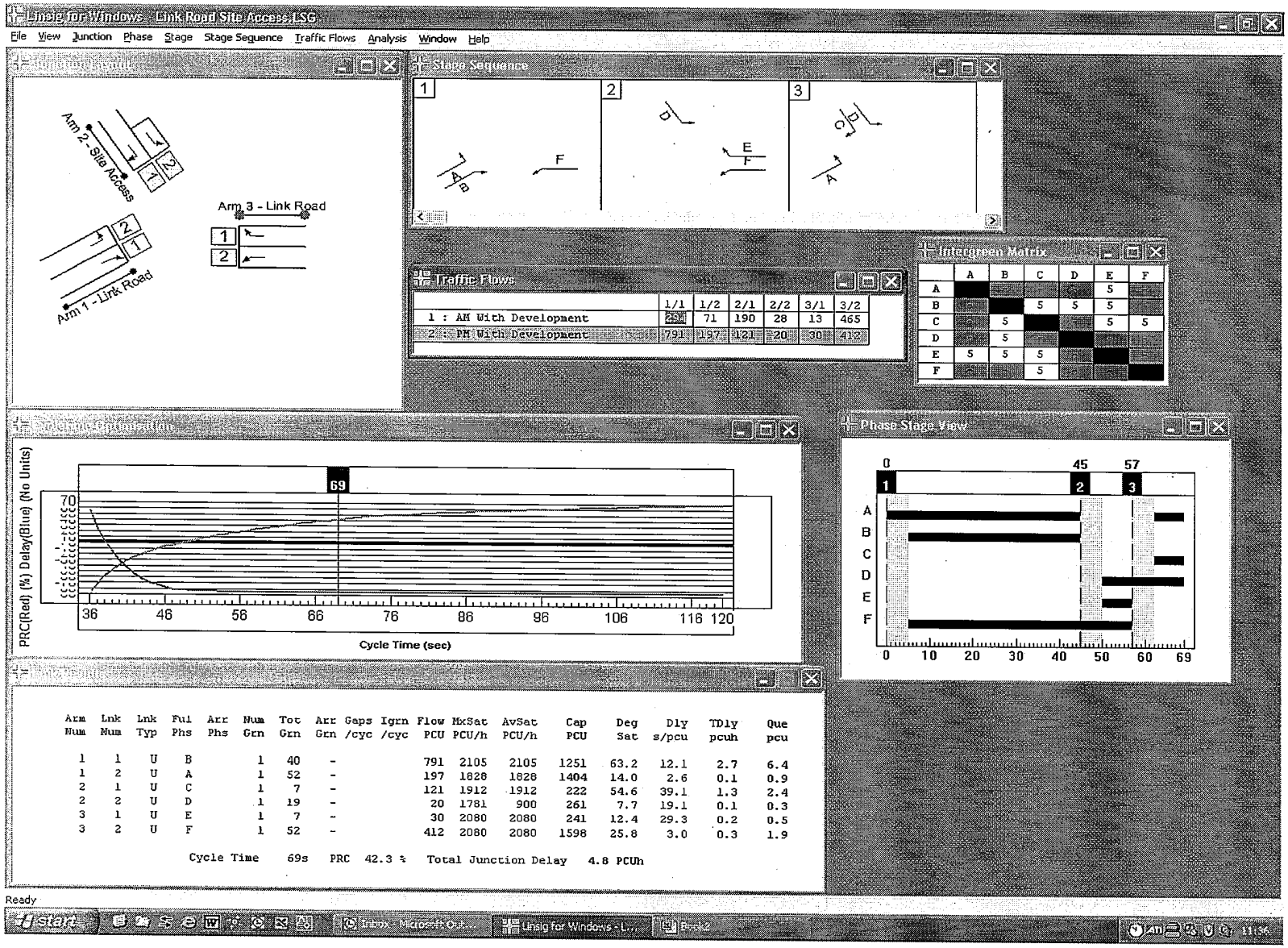
	A	B	C	D	E	F
A				5		
B				5	7	7
C						5
D	6	5				5
E		5				
F		7	8	6		

	1/1	1/2	2/1	2/2	3/1	3/2
1 : AM With Development	65	2700	257	1220	153	503
2 : PM With Development	158	1531	750	2588	104	432

Arm Num	Lnk Num	Lnk Typ	Ful Phs	Arr Phs	Num Grn	Tot Grn	Arr Grn	Gaps /cyc	Igrn /cyc	Flow PCU	MxSat PCU/h	AvSat PCU/h	Cap PCU	Deg Sat	Dly s/pcu	TDly pcuh	Que pcu
1	1	0	B		1	8	-	0.0	0.0	65	1958	1958	147	44.3	63.5	1.1	2.2
1	2	U	A		1	88	-			2700	4210	4210	3122	86.5	15.3	11.5	24.0
2	1	U	E		1	98	-			257	1828	1828	1508	17.0	2.6	0.2	1.6
2	2	U	F		1	74	-			1220	4070	4070	2544	48.0	13.2	4.5	15.6
3	1	0	C		1	33	-	0.0	0.0	153	1828	1828	516	29.5	35.8	1.5	3.7
3	2	0	D		1	21	-	0.0	0.0	503	4085	3225	591	85.1	64.3	9.0	15.9


Linsig for Windows - Crawley Av site access mjc 2.LSG
File View Junction Phase Stage Stage Sequence Traffic Flows Analysis Window Help
Stage Sequence
Intergreen Matrix
Traffic Flows
1/1 1/2 2/1 2/2 3/1 3/2
1 : AM With Development 65 2700 257 1220 153 503
2 : PM With Development 158 1531 750 2586 104 432
Arm 3 - Site Access
Arm 1 - Crawley Avenue Westbound
Arm 2 - Crawley Avenue Eastbound
PRC(Red) (%) Delay(Blue) (No Units)
Cycle Time (sec)
Phase Stage View
Link Results
Arm Num Lnk Num Lnk Typ Ful Phs Arr Phs Num Grn Tot Grn Arr Grn Gaps /cyc Igrn /cyc Flow PCU HxSat PCU/h AvSat PCU/h Cap PCU Deg Sat Dly s/pcu TDly pcuh Que pcu
1 1 0 B 1 10 - 0.0 0.0 158 1958 1958 179 88.0 112.5 4.9 7.4
1 2 U A 1 95 - 1531 4210 4210 3368 45.5 4.5 1.9 10.6
2 1 U E 1 96 - 750 1828 1828 1478 50.8 5.3 1.1 5.0
2 2 U F 1 79 - 2588 4070 4070 2713 95.4 30.8 22.1 36.9
3 1 0 C 1 28 - 0.0 0.0 104 1828 1828 442 23.5 38.6 1.1 2.7
3 2 0 D 1 14 - 0.0 0.0 432 4085 3760 470 91.9 87.5 10.5 16.9
Cycle Time 120s PRC -6.0 % Total Junction Delay 41.7 PCUh
Ready


Linsig for Windows - Link Road Site Access LSC
File View Junction Phase Stage Stage Sequence Traffic Flows Analysis Window Help
Junction Layout
Arm 2 - Site Access
Arm 3 - Link Road
Arm 1 - Link Road
Stage Sequence
Traffic Flows
1/1 1/2 2/1 2/2 3/1 3/2
1 : AM With Development 294 71 190 28 13 465
2 : PM With Development 791 197 121 20 30 412
Intergreen Matrix
A B C D E F
A 5
B 5 5 5
C 5 5 5
D 5 5
E 5 5 5
F 5
Signal Time Optimisation
PRC(Red) (%) Delay(Blue) (No Units)
Cycle Time (sec)
Phase Stage View
Arm Num Lnk Num Lnk Typ Ful Phs Arr Phs Num Grn Tot Grn Arr Grn Gaps /cyc Igrn /cyc Flow PCU MxSat PCU/h AvSat PCU/h Cap PCU Deg Sat Dly s/pcu TDly pcuh Que pcu
1 1 U B 1 29 - 294 2105 2105 915 32.1 14.3 1.2 3.3
1 2 U A 1 52 - 71 1828 1828 1404 5.1 2.2 0.0 0.3
2 1 U C 1 18 - 190 1912 1912 526 36.1 22.7 1.2 2.7
2 2 U D 1 30 - 28 1781 581 261 10.7 12.4 0.1 0.3
3 1 U E 1 7 - 13 2080 2080 241 5.4 28.4 0.1 0.2
3 2 U F 1 41 - 465 2080 2080 1266 36.7 8.1 1.0 3.6
Cycle Time 69s PRC 145.0 % Total Junction Delay 3.7 PCUh
Ready


Linsig for Windows - Link Road Site Access LSG
File View Junction Phase Stage Stage Sequence Traffic Flows Analysis Window Help
Arm 2 - Site Access
Arm 3 - Link Road
Arm 1 - Link Road
Stage Sequence
Traffic Flows
1/1 1/2 2/1 2/2 3/1 3/2
1 : AM With Development 791 71 190 28 13 465
2 : PM With Development 791 197 121 20 30 412
Intergreen Matrix
A B C D E F
A 5
B 5 5 5
C 5 5 5
D 5 5
E 5 5 5
F 5
PRC(Red) (%) Delay(Blue) (No Units)
69
Cycle Time (sec)
Phase Stage View
0 45 57
1 2 3
A B C D E F
0 10 20 30 40 50 60 69
Arm Num Lnk Num Lnk Typ Ful Phs Arr Phs Num Grn Tot Grn Arr Grn Gaps /cyc Igrn /cyc Flow PCU MxSat PCU/h AvSat PCU/h Cap PCU Deg Sat Dly s/pcu TDly pcuh Que pcu
1 1 U B 1 40 - 791 2105 2105 1251 63.2 12.1 2.7 6.4
1 2 U A 1 52 - 197 1828 1828 1404 14.0 2.6 0.1 0.9
2 1 U C 1 7 - 121 1912 1912 222 54.6 39.1 1.3 2.4
2 2 U D 1 19 - 20 1781 900 261 7.7 19.1 0.1 0.3
3 1 U E 1 7 - 30 2080 2080 241 12.4 29.3 0.2 0.5
3 2 U F 1 52 - 412 2080 2080 1598 25.8 3.0 0.3 1.9
Cycle Time 69s PRC 42.3 % Total Junction Delay 4.8 PCUh
Ready
start