

Innovation Park Medway

Updated Transport Assessment

For



Project No. 12841

October 2020

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Document History and Status

Revision	Date	Purpose / Status	Author	Check	Review
D1	August 2018	Comment	NM	CS	CR
D2	September 2018	Information	NM	CS	CR
P1	February 2019	Information	NM	CS	CR
P2	October 2020	Information	NM	CS	DWS

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Document Details

Last Saved	21/10/2020 16:18
Path	12841-XX-XX-RP-D-0001_TA P2.docx
Author	NM
Project Partner	SRB
Project Number	12841
Project Name	Innovation Park Medway

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EXECUTIVE SUMMARY

Campbell Reith Hill LLP (CampbellReith) has been instructed on behalf of Medway Council to prepare a Transport Assessment in support of the preparation of a masterplan for Innovation Park Medway (IPM) at Rochester Airport. This updated version of the Transport Assessment that was submitted with the original Local Development Order (LDO) application in June 2019 has been produced as part of an Addendum to the IPM Environmental Statement. It reflects additional work undertaken on the Medway Council Strategic Transport Assessment model and development of junction mitigation proposals since the original LDO application. All amendments to the original version of the Transport Assessment have been shown in a blue font for ease of comparison with the original submission.

The Innovation Park Medway Masterplan allows for the erection of up to 101,000m² of Business and General Industrial floor space (comprising science park, innovation uses incorporating manufacturing and engineering) with associated means of access, distributor and service roads, parking facilities, footpaths and cycle ways, and landscaping.

The trip generation of the proposed masterplan has been assessed and the associated vehicular traffic assigned to the local road network using an agreed traffic distribution based on journey to work Census data. Fore Consulting Limited has undertaken traffic modelling of the local and strategic road network. This assesses the operation of local junctions and suggests improvements at certain junctions to mitigate the impact of the Proposed Development on the network.

The proposed development will generate in the region of 1,680 two-way people trips in the AM peak hour and 1,159 two-way people trips in the PM peak hour. It is anticipated that 1,092 will be vehicle trips in the AM peak hour and 753 will be vehicle trips in the PM peak hour.

The site can also be accessed by means other than the private car. The masterplan provides a means of access for bus services that will provide good connectivity between the site and the town centre and surrounding areas. The bus services also allow for onward journeys by train from Rochester and Chatham stations where there are direct train services to key destinations including London Victoria, London St Pancras International, Dover, Ramsgate, Faversham and Luton.

Pedestrians and cyclists are catered for currently by a reasonable network of footways and cycle facilities. The Innovation Park aims to improve accessibility by non-car modes of travel to provide better access to and from the site by cyclists and for pedestrians to walk to and from the site and local facilities.

1.0 INTRODUCTION

- 1.1. Campbell Reith Hill LLP (CampbellReith) has been instructed on behalf of Medway Council to prepare a Transport Assessment in support of the masterplan for Innovation Park Medway for a high quality innovation park, with flexible plots to encourage a wide range of high-value.
- 1.2. The Innovation Park Medway Masterplan allows for the erection of up to 101,000m² of Business and General Industrial floor space (science park and innovation uses) with associated means of access, distributor and service roads, parking facilities, footpaths and cycle ways, and landscaping.
- 1.3. Innovation Park Medway will be situated on land at Rochester Airport. The airport is owned by Medway Council and is currently leased to Rochester Airport Ltd. The site sits within the local authority boundaries of both Medway Council and Tonbridge & Malling Borough Council.
- 1.4. The Rochester Airport Masterplan SPD was adopted by Medway Council in January 2014. The SPD established the vision for the airport and key development principles. A masterplan have been developed that is adaptive, allowing for a wide range of buildings and spaces that can be delivered when there is demand.
- 1.5. The Transport Assessment is sub-divided into nine chapters; the chapters being:
 - ♦ Chapter 1: Introduction;
 - ♦ Chapter 2: Sets out the approach to the Transport Assessment;
 - ♦ Chapter 3: Identifies the relevant planning policies;
 - ♦ Chapter 4: Provides a description of the location and current use of the site;
 - ♦ Chapter 5: Sets out the development proposals;
 - ♦ Chapter 6: Sets out the trip generation and distribution;
 - ♦ Chapter 7: Presents the impact of the development on the transport network;
 - ♦ Chapter 8: Provides details on sustainability; and
 - ♦ Chapter 9: Conclusions.

2.0 APPROACH TO THE TRANSPORT ASSESSMENT

- 2.1. Transport assessments are required to consider the development in relation to all transport modes and its ability to reduce the reliance on the private car and offer a choice in transport. This Transport Assessment has been written with reference to current Planning Practice Guidance. In preparing the Transport Assessment the following considerations are considered relevant:

- ♦ Reducing the need to travel, especially by car;
- ♦ The accessibility of the location;
- ♦ Environmental impact of travel;
- ♦ Measures that may assist in influencing travel behaviour; and
- ♦ Managing access to the highway network

- 2.2. With these considerations in mind the Transport Assessment has considered each of the key modes of transport that will be used by people travelling to and from the development. The key elements of the approach to the assessment of each mode are briefly described below.

Walking and Cycling

- 2.3. A qualitative assessment has been undertaken of the walking and cycling facilities available and the impact, if any, the development proposal will have on these facilities.

Public Transport

- 2.4. The accessibility to and the availability of public transport to site users of the new development has also been reviewed. This assessment has been used to identify any deficiencies in the public transport provision, and any benefits the development can bring in terms of improved quality and enhanced viability of local public transport.

Vehicular Impact

- 2.5. An assessment of the local road network has been carried out by Fore Consulting Limited. This Transport Assessment summarises key findings from their reporting.

3.0 RELEVANT PLANNING POLICIES

National Policy and Guidance

- 3.1. The 'National Planning Policy Framework' (February 2019) published by the Ministry of Housing, Communities and Local Government is the current planning guidance document for England. It provides a framework within which locally-prepared plans for housing and other development can be produced. It aims to encourage a sustainable approach to development which reduces the negative environmental impacts associated with the private car. It aims to balance the transport system in favour of sustainable transport modes and give people a choice about how they travel.
- 3.2. Chapter 9 of the Framework explains how planning decisions should promote sustainable transport.
- 3.3. Paragraph 103 is particularly relevant and states:
"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."
- 3.4. Paragraph 108 explains that when assessing sites that may be allocated for development it should be ensured that appropriate opportunities to promote sustainable transport modes can or have been taken, safe and suitable access can be achieved for all users, and 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.
- 3.5. Paragraph 109 explains that development should only be prevented or refused on highways ground if there would be an unacceptable impact on highway safety, or the residual cumulative impacts would be severe.

Local Planning Documents

- 3.6. The Local Plan for Medway currently covers Development Plan policies from a number of plans including the Medway Local Plan 2003. This sets out a vision for future development in Medway to ensure that the needs of the area are met through a number of policies and proposals. Medway Council are currently working on the new Local Plan, Future Medway, which will replace the 2003 Medway Local Plan and cover the period up to 2037. The publication of the draft Local Plan is expected in 2021.
- 3.7. Tonbridge & Malling Borough Council have a suite of Development Plan Documents including Core Strategy, Development Land Allocations DPD and Managing Development and the Environment DPD along with saved policies from the Tonbridge and Malling Borough Local Plan. The Council will be producing a new Local Plan. This new Plan will have a time horizon up to 2031 and, once adopted, will form part of the Council's Development Plan and will replace the current suite of adopted local plans.

Planning Approach

- 3.8. The preferred approach for delivering Innovation Park Medway through the planning system is to use a Local Development Order (LDO). This is a planning mechanism that was introduced by the Planning and Compulsory Purchase Act 2004 which allows Local Planning Authorities to extend permitted development rights for certain specified forms of development. If this approach is taken forward both Medway Council and Tonbridge & Malling Borough Council will be adopting their own separate LDOs for the parts of Innovation Park Medway that lie within their respective authorities.

4.0 THE SITE AND EXISTING CONDITIONS

Site Location

- 4.1. The site is split into two separate areas, to the north and south of the existing airfield site.
- 4.2. The Northern Area consists of two parcels. The main parcel to the west comprises the airfield occupied by part of runway 16/34. The second parcel is currently occupied by BAE Systems and is used as a car parking area.
- 4.3. To the north of the Northern Area, the site is bounded by buildings occupied by BAE Systems. Rochester Airport Industrial Estate is located to the northwest and Laker Road Industrial Estate lies to the west. To the east is the retained Rochester Airport site.
- 4.4. The Southern Area also consists of two parcels. The eastern parcel is currently partly used as parking for the Innovation Centre. The western parcel is the site of Woolmans Wood Caravan Park with space for approximately 100-125 caravans.
- 4.5. To the north of the Southern Area is the existing Innovation Centre. The site is bounded by the B2097 to the west and the A229 to the east. The retained Rochester Airport site lies to the northwest and, to the south, the site is bounded by existing residential development.

Local Road Network

- 4.6. Rochester Airport is located between the A229 to the east and the B2097 to the west. These roads meet to the south at the Bridgewood roundabout interchange. The A229 continues over the roundabout to the south via a grade-separated flyover with the signalised roundabout giving access to the B2097 and the A2045 Walderslade Woods which runs to the south and east of the junction.
- 4.7. To the south of the Bridgewood roundabout is another grade-separated junction which connects the A229 to the link road leading east to the M2 motorway. The M2 grade-separated interchange also gives access to the A2045 to the east meaning that there is an element of route-choice available for drivers travelling between the A229, M2 and A2045.
- 4.8. From the Bridgewood junction, the A229 Maidstone Road continues north and meets the Horsted Gyratory where the A229 City Way continues north to Rochester town centre and the A230 Maidstone Road continues northeast to Chatham town centre.
- 4.9. To the west of the airport site, the B2097 Rochester Road gives access to Laker Road and Lankester Parker Road which serve the industrial estates. The B2097 Rochester Road becomes the B2097 Maidstone Road as it approaches Rochester town centre, further to the north.
- 4.10. The location of the site is shown in Figure 1.

Public Transport

- 4.11. The area is served by a number of bus routes, primarily Service 101 which runs via the A229 to Maidstone in one direction and Chatham and Gillingham in the other direction. On the western side of the site, Service 142 operates via Warren Wood between Blue Bell village and Rochester and Chatham. The frequency of bus services on these routes are summarised in Table 4.1 below. The timetables are appended to this report at Appendix 1.

Table 4.1: Local bus services

Service Number	Route	Service Interval					
		Monday - Friday		Saturday		Sunday	
		Daytime	Evening	Daytime	Evening	Daytime	Evening
101	Maidstone – Chatham – Gillingham	12 minutes	30 minutes	12 minutes	30 minutes	20 minutes	2 per hour
142	Chatham – Rochester – Blue Bell Hill	60 minutes	-	120 minutes	-	-	-

- 4.12. The nearest railway stations are Rochester and Chatham, both approximately 4km to the north of the site. There are direct services from these stations to key destinations including London Victoria, London St Pancras International, Dover, Ramsgate, Faversham and Luton.

Pedestrian and Cycle Facilities

- 4.13. The majority of the existing pedestrian and cycle facilities are found to the east of the airport with limited facilities in the vicinity of the B2097. There are no footways on a section of the B2097 to the south of Laker Road. Existing pedestrian facilities include a signalised crossing on the A229 providing access to the Davis Estate area and southbound bus stops on Maidstone Road. There is a cycle route along the A229 consisting of both on-street and off-street paths. This route connects the Walderslade area with Rochester town centre.
- 4.14. The areas that can be reached by walking and cycling 5, 10 and 15 minutes from the Northern Area are shown in Figures 2 and 3 respectively.

Historical Accident Data

- 4.15. Accident data for the five year period up to September 2017 has been reviewed for the area in the immediate vicinity of the site. There have been a number of 'slight' incidents, primarily located at junctions. There have been three 'serious' incidents on the A229 Maidstone Road section of road between Bridgewood roundabout and Shirley Avenue roundabout. The first incident occurred at the Bridgewood roundabout in May 2014 involving a car and motorcycle. The second incident occurred in icy conditions in December 2014 on the A229 slip road involving a motorcycle. The third incident occurred in July 2017 involving a car and pedestrian crossing at the signalised pedestrian crossing adjacent to Watson Avenue.
- 4.16. A summary of these accidents can be found at Appendix 2.
- 4.17. Subsequent data up to 2019 has been reviewed as part of this update to the Transport Assessment. No further fatal or serious incidents have been recorded on the local roads in the vicinity of the Proposed Development.

5.0 DEVELOPMENT PROPOSALS

- 5.1. The Innovation Park Medway Masterplan allows for the erection of up to 101,000m² of Business and General Industrial floor space (science park and innovation uses) with associated means of access, distributor and service roads, parking facilities, footpaths and cycle ways, and landscaping.
- 5.2. A number of new access points are proposed to connect the site to existing infrastructure. For the Northern Area, three points of access are proposed from Laker Road with the central access point planned to be a bus access and the northern and southern internal roads being used by all traffic to access the parking areas.
- 5.3. The Southern Area will be accessed by vehicles from the A229 via the Innovation Centre access. There is the potential for a future pedestrian / cycle link along the western boundary of the airport to connect the Northern and Southern Areas.
- 5.4. The 'Runway Park' green spine will form the core of the landscaping strategy for the Innovation Park and will provide a key route for pedestrians through the Northern Area.
- 5.5. Car parking for the development is to be provided in accordance with Medway Council's parking standards. It is noted that these parking standards are maximum and there may be potential to reduce the overall number of parking spaces for the Innovation Park based on a review of the anticipated parking accumulation.
- 5.6. Minimum requirements will be met for accessible spaces, cycle parking, delivery spaces and electric vehicle charging provision. Motorcycle parking will also be provided.
- 5.7. The development is expected to be delivered in phases with Phase 1 anticipated to comprise the north-western section of the Northern Area and the eastern section of the Southern Area, giving around 28,200m² GFA.
- 5.8. There is a long-term aspiration for a new link connecting the Northern Area to the existing road network in the vicinity of Horsted Gyratory in order to allow improved connections for pedestrians, cyclists and buses. This will improve accessibility between the site and areas to the north and east.

6.0 TRIP GENERATION AND DISTRIBUTION

Trip Generation

- 6.1. A series of technical notes have been written and circulated which review the trip generation currently allocated for the Rochester Airport site in Medway Council's traffic modelling assessment and compares this with the trip rates and traffic generation associated with an Innovation Park development using current trip rates from the TRICS database. The Technical Notes are appended to this report at Appendix 3.
- 6.2. A modified set of vehicle trip rates has been calculated by applying a mode share obtained by reviewing the journey to work data for the local workplace population to the total people trips rates in the TRICS database. This is considered to be representative for Innovation Park Medway.
- 6.3. The floor area has been calculated that would generate the equivalent amount of vehicle traffic as that expected for the B1/B2 employment site allocations in the Medway strategic traffic modelling. Technical Note 2 concludes that an Innovation Park of around 101,000m² will generate less traffic in each of the peak hours than the four employment allocation sites combined based on the trip rates presented in this note.
- 6.4. Taking the floor areas from the illustrative masterplan, Table 6.1 summarises the total people trip rates and number of predicted person trips from an Innovation Park development of 100,648m².

Table 6.1: Innovation Park total people rates (per 100m²) and peak hour person trips

	Trip Rate In	Trip Rate Out	Trip Rate Total	Predicted Trips In	Predicted Trips Out	Predicted Total Trips
AM Peak Hour	1.414	0.249	1.663	1,428	251	1,680
PM Peak Hour	0.118	1.030	1.148	119	1,040	1,159

- 6.5. The table above shows that it is anticipated the Innovation Park will generate in the region of 1,680 two-way person trips in the AM peak hour and 1,159 two-way person trips in the PM peak hour.
- 6.6. Table 6.2 summarises the vehicle trip rates and number of predicted vehicle trips from an Innovation Park development of 100,648m².

Table 6.2: Innovation Park vehicle trip rates (per 100m²) and peak hour vehicle trips

	Trip Rate In	Trip Rate Out	Trip Rate Total	Predicted Trips In	Predicted Trips Out	Predicted Total Trips
AM Peak Hour	0.919	0.162	1.081	928	164	1,092
PM Peak Hour	0.077	0.670	0.746	77	676	753

- 6.7. The table above shows that it is anticipated the Innovation Park will generate in the region of 1,092 two-way vehicle trips in the AM peak hour and 753 two-way vehicle trips in the PM peak hour.

- 6.8. Subsequent to the submission of the LDO application, further consultation has been undertaken with Highways England regarding the proposed development trip rates for the IPM within the TA. The conclusion of this consultation was agreement that the trip rates set out within this section of the TA were an acceptable basis of assessment and these have been included within the updates to the STA model in 2020.

Trip Distribution

- 6.9. The journey to work data to employment in the local area has been used to distribute the proposed development traffic onto the local road network by assigning trips via the following key routes in the proportions shown:

♦ A229 N (from Rochester / Chatham)	5%
♦ A230 N (from Chatham / Gillingham)	27%
♦ A2045 (from Walderslade)	9%
♦ M2 E (from east Kent)	16%
♦ A229 S (from Maidstone / M20)	18%
♦ M2 N (from Gravesend / A2)	8%
♦ B2097 N (from Rochester)	17%

- 6.10. The comprehensive existing highway network will result in the proposed development traffic dispersing relatively quickly on the network. Figures 4 and 5 show the proposed development distribution for the Northern Area and Southern Area respectively. Figures 6 and 7 show the proposed development trips assigned to the road network in the AM and PM peak hours respectively based on the proposed distribution based on a total floor area of 84,048m² for the Northern Area and 16,600m² for the Southern Area.

Aimsun Modelling

- 6.11. Fore Consulting Limited (Fore) and Sweco are appointed by Medway Council to prepare the Strategic Transport Assessment (STA) for the Local Plan. Their commission has involved the assessment of the impact on the highway network of various Strategic Development Options using the Medway Aimsun Model. Medway Council has subsequently commissioned Fore to undertake microsimulation modelling of the traffic impacts of the proposed Innovation Park Medway development.
- 6.12. As part of the Local Plan STA work, a microsimulation subnetwork has been developed, calibrated and validated covering the M2 within Medway, including Junctions 2, 3 and 4 as well as the immediate surrounding local highway network.
- 6.13. Do Minimum scenarios have been developed for the years 2023, 2028 and 2037 which are based on the equivalent scenarios developed for the Local Plan but excluding the IPM development. The main assessment year for IPM is 2037, and is consistent with the horizon year of the Local Plan and full buildout of the IPM development.
- 6.14. The quantum of development traffic generated by IPM has been added to the network with the assumptions in terms of trip distribution and mode share remaining consistent with the information presented in this Transport Assessment report.

- 6.15. The modelling shows that overall network delay is likely to increase significantly as a result of background traffic growth by 2028 and be operating over capacity in the Do Minimum scenario. Therefore, the addition of the Innovation Park Medway traffic onto an already congested highway network results in further increases in delay, particularly during the AM peak period.
- 6.16. Based on the model results a number of possible mitigation schemes have been identified by Fore Consulting and tested within the model. No assessment of engineering feasibility or deliverability has been undertaken.
- 6.17. As Bridgewood Roundabout is shown as causing congestion at adjacent junctions on the B2097 and A229 a number of capacity improvements have been identified:
- ♦ Widening of the B2097 approach flare to three lanes and extending the flare in length
 - ♦ Two-lane exit on B2097 from roundabout merging to the existing single lane
 - ♦ Provision of shared footway/cycleway on the approach to the junction to connect with the existing Toucan crossing
 - ♦ Changes in lane use on the approaches and circulating lanes of the roundabout
 - ♦ Enhanced lane marking to assist drivers in staying in the correct lanes as they enter, circulate, and leave the roundabout
- 6.18. The proposed layout for Bridgewood Roundabout is shown in Drawing 12841-CRH-ZZ-XX-DR-C-6600. This layout has been submitted for a Stage 1 Road Safety Audit and the comments received will be integrated at the next stage of detailed design.
- 6.19. Further capacity improvements are identified at the Lord Lees Roundabout to the south of the Bridgewood Roundabout comprising:
- ♦ Extending the three-lane flare on the northern and southern entry arms
- 6.20. The proposed layout for Lord Lees Roundabout is shown in Drawing 12841-CRH-ZZ-XX-DR-C-6601. This layout has been submitted for a Stage 1 Road Safety Audit and the comments received will be integrated at the next stage of detailed design.
- 6.21. At M2 Junction 3 Taddington Roundabout, the following improvements are proposed:
- ♦ Changes to existing hatching to extend northern circulatory to three lanes and associated changes to lane allocations
- 6.22. The proposed layout for Taddington Roundabout is shown in Drawing 12841-CRH-ZZ-XX-DR-C-6602. This layout has been submitted for a Stage 1 Road Safety Audit and the comments received will be integrated at the next stage of detailed design.
- 6.23. At M2 Junction 4, the following improvements are proposed:
- ♦ Provision of the two-lane right turn from the westbound off-slip, including the provision of a two-to-one merge on Hoath Way to retain the existing segregated left turn lane from the eastbound off-slip

- 6.24. The outputs of the STA model have confirmed that the proposed mitigation will be necessary. The design of the mitigation will be subject to final surveys and agreement on delivery (to be led by Medway Council). If further survey demonstrates that mitigation is not deliverable then an alternative will be sought.
- 6.25. With the mitigation in place, there is reported to be a significant reduction in delay in the AM peak hour but a marginal increase in the PM peak hour to a level equivalent to the Do Minimum scenario. However, significantly more traffic can pass through the network with less traffic waiting to enter the network at the end of the simulation period. This suggests that the mitigation results in a net betterment across the network with the full IPM development in place.
- 6.26. With the proposed mitigation in place, there is a significant reduction in delay and queuing on most approaches at Lord Lees roundabout, Taddington roundabout and Bridgewood roundabout.
- 6.27. The modelling results show that the mitigation measures identified at the Bridgewood Roundabout would result in benefits in terms of delay and queuing at the Lankester Parker Road and Laker Road junctions. However, further mitigation is proposed at the Rochester Road / Lankester Parker Road junction in the form of signalisation and additional lanes at the junction. The proposed layout is shown in Drawing 12841-CRH-ZZ-XX-DR-C-6603. The proposed junction modifications result in substantially reduced queuing on Lankester Parker Road and Rochester Road when compared with the Do Minimum scenario and therefore provides substantial betterment.
- 6.28. Full details of the network outputs for the junctions described above along with M2 Junction 4, A2045 Walderslade Woods/ A2045, A2045 Walderslade Woods/ Fostington Way, and Sundridge Roundabout are contained in the Fore Consulting "Innovation Park Medway – Modelling Report" (September 2020), which should be read in conjunction with this report.
- 6.29. In addition to the analysis of queuing and delay at each of these junctions, an assessment of journey time has been undertaken by Fore Consulting for key routes. This shows that with the proposed mitigation in place the majority of routes would experience reductions in journey time.
- 6.30. The Fore Consulting report also includes Merge and Diverge Assessments for M2 Junctions 2, 3 and 4 and concludes that the IPM development does not give rise to a requirement to alter any merge or diverge facilities at these junctions.
- 6.31. The 2023 and 2028 scenarios have been modelled by Fore Consulting in order to determine when the mitigation measures are required on the highway network. A suitable trigger point is stated as being approximately 10,159 sqm of employment floor space at the IPM development.

7.0 SUSTAINABILITY

Public Transport

- 7.1. The area is served by a number of bus routes, primarily Service 101 which runs via the A229 to Maidstone in one direction and Chatham and Gillingham in the other direction.
- 7.2. The internal layout of the Northern Area has been designed to accommodate bus services. It is hoped that the Innovation Park will be served by new or re-routed bus services via B2097.
- 7.3. Modern public transport systems such as the ArrivaClick service will be explored as it is anticipated that this type of facility would fit in well with the Innovation Park Medway's ethos. This system is a flexible, on-demand app-based minibus service which takes multiple passengers heading in the same direction in a shared vehicle. Customers are guaranteed a seat on a luxury minibus which has wifi and charging points. The system currently operates in Kent around Sittingbourne and Kent Science Park and plans to expand its operation zone in the future.

Pedestrians and Cyclists

- 7.4. Pedestrians and cyclists are catered for by a reasonable network of footways and cycle facilities at present. The aspiration of Innovation Park Medway is to improve linkages for non-car modes of travel with new footpaths and routes suitable for cyclists. This will allow for easy access to and from the site by cyclists and for pedestrians to walk to and from the site and local facilities and bus stops. There is a long term aspiration to improve accessibility between the site and areas to the north and east.

Travel Plan

- 7.5. The Travel Plan will promote sustainable modes of transport for residents to encourage travel by means other than the private car.

8.0 CONCLUSIONS

- 8.1. This Transport Assessment has been prepared in support of the proposed Innovation Park Medway development.
- 8.2. The trip generation exercise estimates that the proposed development will generate in the region of 1,680 two-way people trips in the AM peak hour and 1,159 two-way people trips in the PM peak hour. Of these total trips it is anticipated that 1,092 will be vehicle trips in the AM peak hour and 753 will be vehicle trips in the PM peak hour.
- 8.3. This vehicle trip generation is less than the allocated employment sites are considered to potentially generate using the assumed B1/B2 land use mix. Modelling has been undertaken by Fore Consulting Limited to compare the operation of the road network with [Do Minimum](#), [Do Something](#) and [Do Something with mitigation scenarios](#). Mitigation measures have been identified at a number of junctions, which would result in significant reductions in delay and queuing.
- 8.4. The Innovation Park can be accessed by means other than the private car. The masterplan provides a means of access for bus services which will provide good connectivity between the site and the town centre and surrounding areas. The bus services also allow for onward journeys by train from Rochester and Chatham stations where there are direct train services to key destinations including London Victoria, London St Pancras International, Dover, Ramsgate, Faversham and Luton.
- 8.5. Pedestrians and cyclists are catered for currently by a reasonable network of footways and cycle facilities. The Innovation Park aims to improve accessibility by non-car modes of travel to provide better access to and from the site by cyclists and for pedestrians to walk to and from the site and local facilities.

Figures



Innovation Park, Medway

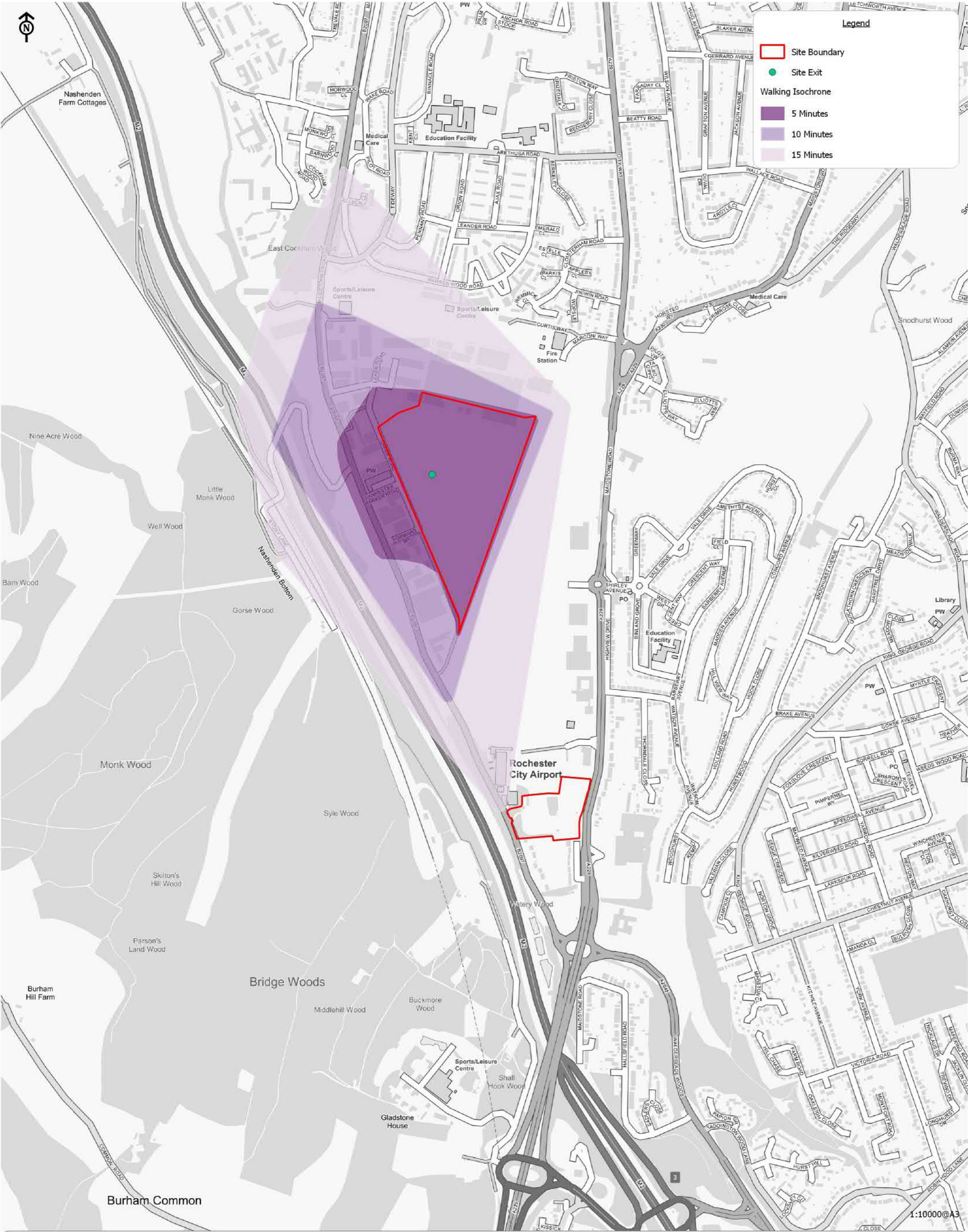
Client: Medway Council

Figure 1:
Site Location Plan

Scale: 1:50000@A4
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File location: //red-data1/gis-data/12750 - 12999/12841 R - Medway/Project_Workspaces (pdf in Outputs)
Date (Revision History): 14/08/2018 (A, First Issue, 03/05/18, RP; B, Minor Amendments, 14/08/18, RLF)

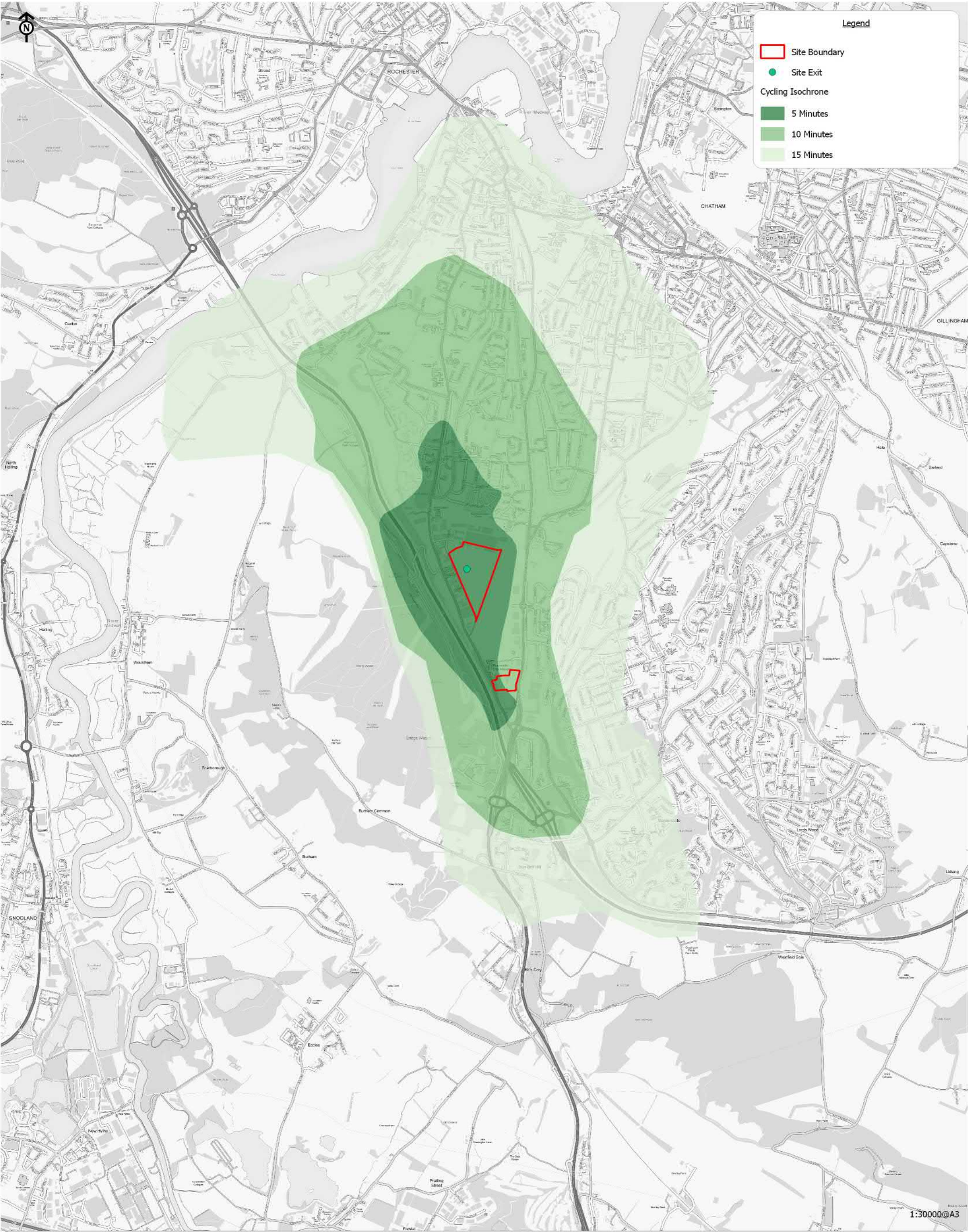
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Innovation Park, Medway
Client: Medway Council

Figure 2:
Walking Isochrone



Innovation Park, Medway
Client: Medway Council

Figure 3:
Cycling Isochrone



Image provided courtesy of Google 2013 via Google Earth Professional. Image © 2013 Infoterra Ltd & Bluesky

Figure 4 - Distribution of development traffic for Northern Area



Image provided courtesy of Google 2013 via Google Earth Professional. Image © 2013 Infoterra Ltd & Bluesky

Figure 5 - Distribution of development traffic for Southern Area



Figure 6 - Development trip generation - AM peak hour



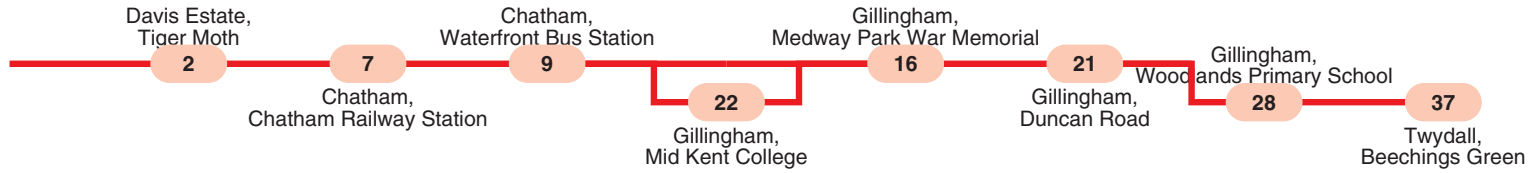
Figure 7 - Development trip generation - PM peak hour

Appendix 1: Public Transport Information

Bus departures from this stop Davis Estate opp Watson Avenue

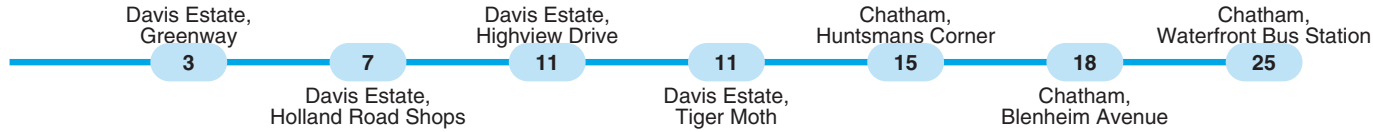
101 Maidstone - Chatham - Gillingham (- Twydall)

Arriva Kent & Surrey



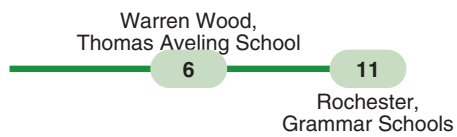
185 Kits Coty - Bluebell Hill - Davis Estate - Chatham

Nu-Venture



660 Walderslade - Rochester Grammar Schools

Arriva Kent & Surrey



The numbers circled indicate approximate timings in minutes from Davis Estate, Watson Avenue

Mondays to Fridays

Bus times as at 24th August 2018

Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note
0653	101		0819	101	1	1019	101		1219	101		1419	101		1601	101	4
0705	101		0832	101	1	1031	101		1231	101		1431	101		1614	101	4
0718	101		0844	101		1043	101		1243	101		1443	101		1627	101	4
0730	101		0856	101		1055	101		1255	101		1455	101		1641	101	4
0742	101		0908	101		1107	101		1307	101		1507	101	SHOL	1654	101	4
0749	660	SDO	0920	101		1119	101		1319	101		1507	101	SDO	1708	101	
0754	101	1	0931	101		1131	101		1331	101		1519	101	SHOL	1719	101	
0754	660	SDO	0943	101		1143	101		1343	101		1519	101	SDO	1731	101	4
0805	185		0955	101		1155	101		1355	101		1534	101		1743	101	
0807	101	1	1007	101		1207	101		1407	101		1548	101		1755	101	4
															1956	101	

Saturdays

Bus times as at 25th August 2018

Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note
0027	101		0931	101		1107	101		1243	101		1419	101		1555	101	
0657	101		0943	101		1119	101		1255	101		1431	101		1607	101	
0728	101		0955	101		1131	101		1307	101		1443	101		1619	101	4
0758	101		1007	101		1143	101		1319	101		1455	101		1631	101	4
0800	185	3	1019	101		1155	101		1331	101		1507	101		1643	101	4
0828	101		1031	101		1207	101		1343	101		1519	101		1655	101	4
0853	101		1043	101		1219	101		1355	101		1531	101		1707	101	4
0919	101		1055	101		1231	101		1407	101		1543	101		1719	101	4
															1926	101	4

Sundays

Bus times as at 26th August 2018

Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note
0027	101		1104	101		1214	101	4	1334	101		1434	101	4	1554	101	4
0924	101		1114	101	4	1234	101	4	1334	101	4	1454	101	4	1604	101	4
0934	101	4	1134	101	4	1234	101	4	1354	101	4	1504	101		1614	101	4
1024	101		1134	101	4	1254	101	4	1404	101		1514	101	4	1634	101	
1034	101	4	1154	101	4	1304	101		1414	101	4	1534	101		1634	101	4
1054	101	4	1204	101		1314	101	4	1434	101		1534	101	4	1704	101	4
															1932	101	

Notes: SHOL - Operates during School Holidays
SDO - Schooldays only

1 - serves Gillingham, Mid Kent College
2 - terminates at Chatham, Waterfront Bus Station

3 - terminates at Davis Estate, Highview Drive
4 - terminates at Twydall, Beechings Green

Times shown in italics are approximate times



Next bus times on your phone

the code for this stop is **chagwjp**

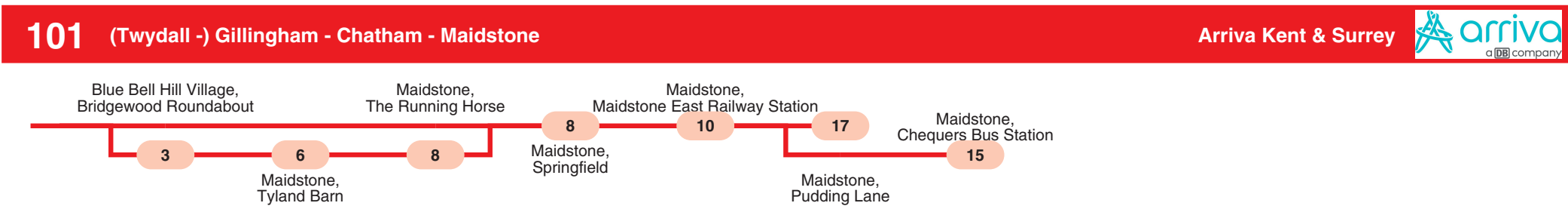
Mobile internet: Use the QR code (left) if you can, or enter the stop code at www.nextbuses.mobi

By SMS: text the stop code to 84268. Add a space and service number for just that service.

Internet enquiries incur normal mobile internet charges. SMS messages cost 25p plus your normal text message charge.

Live Departure information will be given if available (eg 3 mins) - otherwise scheduled times will be shown as clock times (eg 1007).

Bus departures from this stop
Davis Estate
adj Watson Avenue



The numbers circled indicate approximate timings in minutes from Davis Estate, Watson Avenue

Mondays to Fridays								Bus times as at 24th August 2018	
Time	Service	Note	Time	Service	Note	Time	Service	Note	Time
0614	101		0804	101		1009	101		1209
0626	101		0816	101		1021	101		1221
0638	101		0828	101		1033	101		1233
0650	101		0841	101		1045	101		1245
0659	101		0855	101		1057	101		1257
0710	101		0908	101		1109	101		1309
0722	101		0921	101		1121	101		1321
0731	101		0933	101		1133	101		1333
0740	101		0945	101		1145	101		1345
0752	101		0957	101		1157	101		1357
									1409
									1421
									1433
									1445
									1457
									1509
									1521
									1538
									1541
									1550
									1600
									1610
									1622
									1632
									1635
									1644
									1647
									1656
									1659
									1709
									1712
									1723
									1726
									1734
									1738
									1748
									1801
									1813
									1829
									1845
									1900
									1916
									1946
									2017
									2047
									2116
									2147
									2216
									2247
									2347

Saturdays								Bus times as at 25th August 2018	
Time	Service	Note	Time	Service	Note	Time	Service	Note	Time
0617	101		0909	101		1045	101		1221
0647	101		0921	101		1057	101		1233
0717	101		0933	101		1109	101		1245
0747	101		0945	101		1121	101		1257
0811	101		0957	101		1133	101		1309
0833	101		1009	101		1145	101		1321
0845	101		1021	101		1157	101		1333
0857	101		1033	101		1209	101		1345
									1357
									1409
									1421
									1433
									1445
									1457
									1509
									1521
									1537
									1553
									1609
									1621
									1633
									1645
									1657
									1709
									1721
									1740
									1800
									1825
									1850
									1920
									1950
									2017
									2047
									2116
									2147
									2216
									2247
									2347

Sundays								Bus times as at 26th August 2018	
Time	Service	Note	Time	Service	Note	Time	Service	Note	Time
0838	101		1022	101		1142	101		1248
0843	101		1042	101		1148	101		1302
0938	101		1048	101		1202	101		1318
0943	101		1102	101		1218	101		1322
1002	101		1118	101		1222	101		1342
1018	101		1122	101		1242	101		1348
									1402
									1418
									1422
									1442
									1448
									1502
									1518
									1522
									1542
									1548
									1602
									1642
									1643
									1742
									1743
									1843
									1852
									1943
									1952

Notes: SHOL - Operates during School Holidays
Fr - Operates only on Fridays
SDO - Schooldays only

1 - serves also from Blue Bell Hill Village, Bridgewood Roundabout to Maidstone, The Running Horse
2 - terminates at Maidstone, Chequers Bus Station

Times shown in italics are approximate times



Next bus times on your phone the code for this stop is **chagwjm**

Mobile internet: Use the QR code (left) if you can, or enter the stop code at www.nextbuses.mobi

By SMS: text the stop code to 84268. Add a space and service number for just that service.

Internet enquiries incur normal mobile internet charges. SMS messages cost 25p plus your normal text message charge.

Live Departure information will be given if available (eg 3 mins) - otherwise scheduled times will be shown as clock times (eg 1007).



traveline.info/se
0871 200 22 33
Calls cost 12p per minute plus your
phone company's access charge

Bus departures from this stop
Warren Wood
adj Rochester Airport Industrial Estate

142

Kits Coty - Blue Bell Hill - Rochester - Chatham

Arriva Kent & Surrey

142

Blue Bell Hill - Rochester - Chatham

Nu-Venture

Warren Wood, Cookham Wood Bus Terminus

3

8

Rochester, Wisdom Hospice

13

18

Rochester, Furrell's Road

Chatham, Waterfront Bus Station

Warren Wood, Medway Gurdwara

1

3

Warren Wood, Cookham Wood Bus Terminus

7

10

Rochester, Wisdom Hospice

Troy Town, Fort Street

17

Chatham, Waterfront Bus Station

The numbers circled indicate approximate timings in minutes from Warren Wood, Rochester Airport Industrial Estate

Mondays to Fridays

Bus times as at 24th August 2018

Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note
0909	142	AK	1115	142	NV	1315	142	NV	1515	142	NV
1015	142	NV	1215	142	NV	1415	142	NV	1630	142	NV

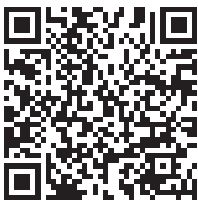
Saturdays

Bus times as at 25th August 2018

Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note
0915	142	NV	1115	142	NV	1315	142	NV	1515	142	NV

Sundays
No Service

Notes: AK - Arriva Kent & Surrey NV - Nu-Venture



Next bus times on your phone the code for this stop is **chamamd**
Mobile internet: Use the QR code (left) if you can, or enter the stop code at www.nextbuses.mobi
By SMS: text the stop code to 84268. Add a space and service number for just that service.
Internet enquiries incur normal mobile internet charges. SMS messages cost 25p plus your normal text message charge.
Live Departure information will be given if available (eg 3 mins) - otherwise scheduled times will be shown as clock times (eg 1007).



traveline.info/se
0871 200 22 33
Calls cost 12p per minute plus your
phone company's access charge

Bus departures from this stop
Warren Wood
opp Rochester Airport Industrial Estate



The numbers circled indicate approximate timings in minutes from Warren Wood, Rochester Airport Industrial Estate

Mondays to Fridays						Bus times as at 24th August 2018		
Time	Service	Note	Time	Service	Note	Time	Service	Note
0743	142		0958	142		1058	142	
						1158	142	
						1258	142	
						1358	142	
						1458	142	

Saturdays

Bus times as at 25th August 2018

Time	Service	Note	Time	Service	Note	Time	Service	Note
1058	142		1258	142		1458	142	

Sundays
No Service



Next bus times on your phone the code for this stop is **chajmjm**

Mobile internet: Use the QR code (left) if you can, or enter the stop code at www.nextbuses.mobi

By SMS: text the stop code to 84268. Add a space and service number for just that service.

Internet enquiries incur normal mobile internet charges. SMS messages cost 25p plus your normal text message charge.

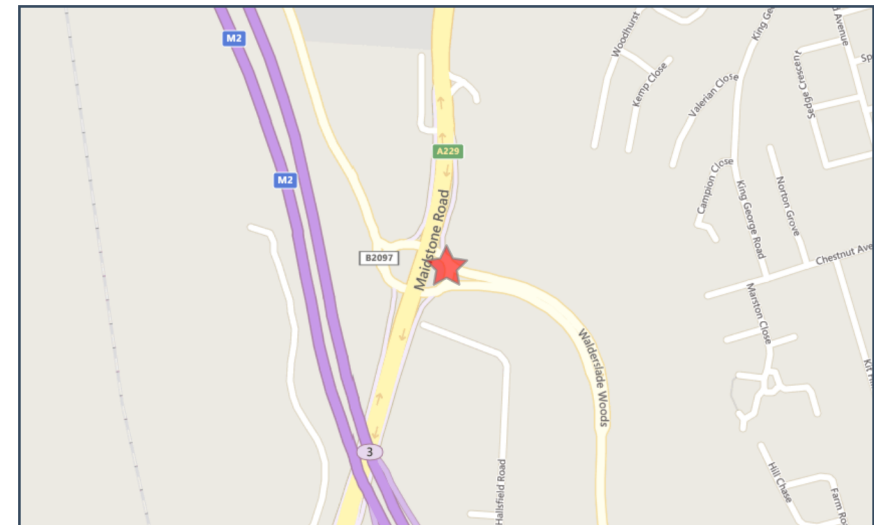
Live Departure information will be given if available (eg 3 mins) - otherwise scheduled times will be shown as clock times (eg 1007).

Appendix 2: Accident Data



crashmap.co.uk

Crash Date:	Friday, May 02, 2014	Time of Crash:	5:35:00 AM	Crash Reference:	2014460241405
Highest Injury Severity:	Serious	Road Number:	A2045	Number of Casualties:	1
Highway Authority:	Kent exc Medway Towns	Number of Vehicles:	2	OS Grid Reference:	574730 163360
Local Authority:	Tonbridge and Malling District (B)				
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	30				
Light Conditions:	Darkness: street lights present but unlit				
Carriageway Hazards:	None				
Junction Detail:	Roundabout				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Roundabout				
Junction Control:	Auto traffic signal				



For more information about the data please visit: www.crashmap.co.uk/home/aboutthedata and www.crashmap.co.uk/home/definitions



Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Manoeuvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	7	Male	26 - 35	Vehicle is moving off	Front	Journey as part of work	None	None
2	Motorcycle over 125cc and up to 500cc	18	Male	26 - 35	Vehicle is moving off	Nearside	Other	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
2	1	Serious	Driver or rider	Male	26 - 35	Unknown or other	Unknown or other

For more information about the data please visit: www.crashmap.co.uk/home/aboutthedata and www.crashmap.co.uk/home/definitions



crashmap.co.uk

Crash Date: Sunday, December 14, 2014 **Time of Crash:** 5:00:00 AM **Crash Reference:** 2014460250810

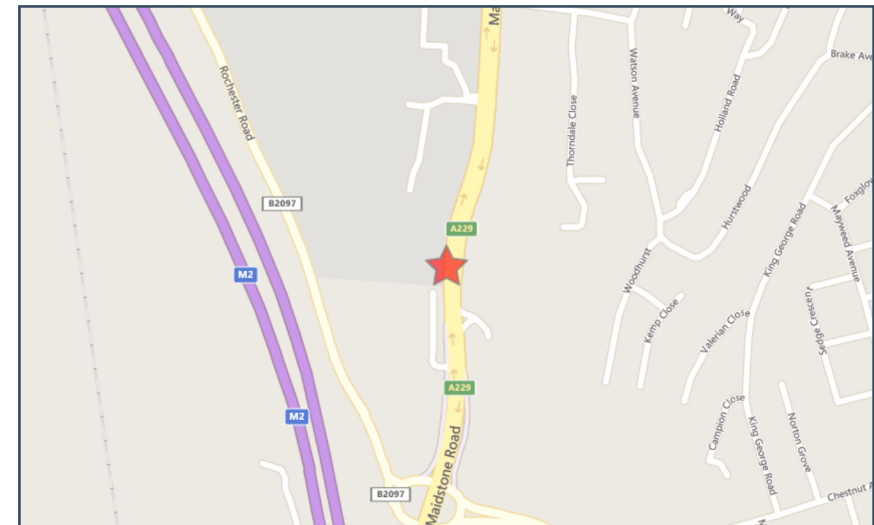
Highest Injury Severity: Serious
Highway Authority: Medway Towns
Local Authority: Medway
Weather Description: Fine without high winds
Road Surface Description: Frost or Ice
Speed Limit: 40
Light Conditions: Darkness: street lights present and lit
Carriageway Hazards: None
Junction Detail: Slip road
Junction Pedestrian Crossing: No physical crossing facility within 50 metres
Road Type: Dual carriageway
Junction Control: Give way or uncontrolled

Road Number: A229

Number of Casualties: 1

Number of Vehicles: 1

OS Grid Reference: 574700 163710



For more information about the data please visit: www.crashmap.co.uk/home/aboutthedata and www.crashmap.co.uk/home/definitions



crashmap.co.uk

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Manoeuvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Motorcycle over 125cc and up to 500cc	4	Male	21 - 25	Vehicle proceeding normally along the carriageway, not on a bend	Nearside	Commuting to/from work	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Serious	Driver or rider	Male	21 - 25	Unknown or other	Unknown or other

For more information about the data please visit: www.crashmap.co.uk/home/aboutthedata and www.crashmap.co.uk/home/definitions



2017 data is provisional and is subject to change

Crash Date: Friday, July 14, 2017

Time of Crash: 3:20:00 PM

Crash Reference: 2017460200665

Highest Injury Severity: Serious
Highway Authority: Medway Towns
Local Authority: Medway

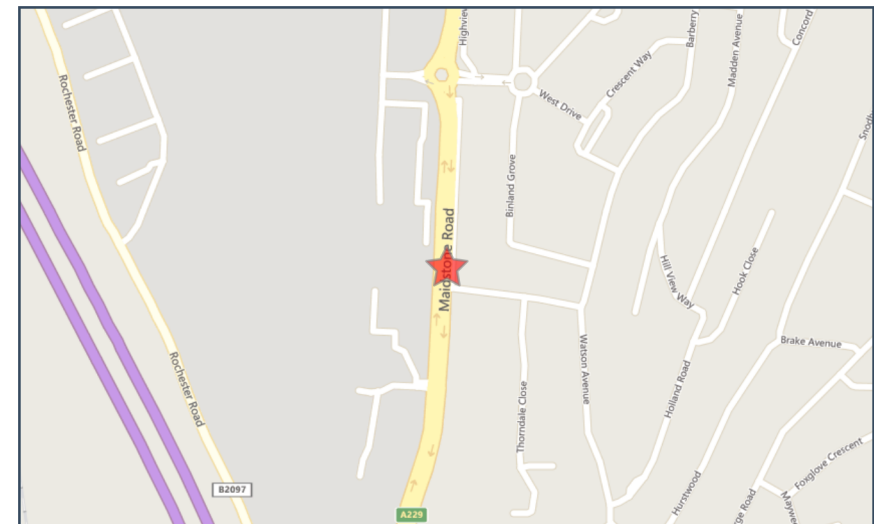
Road Number: A229

Number of Casualties: 1

Number of Vehicles: 1

OS Grid Reference: 574763 164128

Weather Description: Fine without high winds
Road Surface Description: Dry
Speed Limit: 40
Light Conditions: Daylight: regardless of presence of streetlights
Carriageway Hazards: None
Junction Detail: T or staggered junction
Junction Pedestrian Crossing: Pelican, puffin, toucan or similar non-junction pedestrian light crossing
Road Type: Dual carriageway
Junction Control: Give way or uncontrolled



For more information about the data please visit: www.crashmap.co.uk/home/aboutthedata and www.crashmap.co.uk/home/definitions



2017 data is provisional and is subject to change

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Manoeuvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	-1	Male	65-74	Vehicle proceeding normally along the carriageway, not on a bend	Unknown	Other	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Serious	Pedestrian	Female	75-84	In carriageway, crossing on pedestrian crossing facility	Crossing from driver's offside

For more information about the data please visit: www.crashmap.co.uk/home/aboutthedata and www.crashmap.co.uk/home/definitions

Appendix 3: Technical Notes

Technical Note T1

Project: Innovation Park Medway

From: Neal Murphy

File Ref: NMnm12841-220618-
TN1.docx

Pages: 6

Date: 22/06/2018

Subject Trip Rates and Traffic Generation Comparison

1.0 Executive Summary

- 1.1. This technical note presents a review of the trip generation currently allocated for the Rochester Airport site in Medway Council's traffic modelling assessment and compares this with the trip rates and traffic generation associated with an Innovation Park development, as currently proposed, using current trip rates from the TRICS database. This shows that the trip rates observed at Cambridge Science Park are less than those assumed for the B1/B2/B8 development. By applying a mode share obtained by reviewing the journey to work data for the local workplace population a modified set of trip rates has been calculated which is considered to be representative for Innovation Park Medway.
- 1.2. The floor area that would generate the equivalent amount of vehicle traffic as that allocated for the B1/B2/B8 development in the Medway traffic modelling has been calculated. This shows that an Innovation Park of 101,688m² floorspace is predicted to generate the same volume of vehicular traffic in the combined AM and PM peak hours as the 76,000m² B1/B2/B8 mix development.

2.0 Medway Trip Rates

- 2.1. It is understood that the current traffic modelling incorporates a development of 76,000m² floorspace that is split equally between use classes B1, B2 and B8. The two-way trips in the AM peak hour and PM peak hour have been provided and are summarised in Table 2.1.

Table 2.1 – Medway Council Traffic Modelling Trips

Use Class	Floorspace	Two-way trips AM peak hour	Two-way trips PM peak hour	Two-way trips AM+PM peak hour
B1	25,333m ²	645	575	1,220
B2	25,333m ²	312	221	533
B8	25,333m ²	53	52	105
Total	76,000m ²	1,010	848	1,858

- 2.2. Table 2.2 converts the two-way trips for each use class from Table 1 into a trip rate per 100m² of land use.

Table 2.2 – Medway Council Traffic Modelling Trip Rates

Use Class	Two-way trip rate AM peak hour	Two-way trip rate PM peak hour	Two-way trip rate AM+PM peak hour
B1	2.546	2.270	4.816
B2	1.232	0.872	2.104
B8	0.209	0.205	0.414
Combined	1.329	1.116	2.445

3.0 TRICS Database Trip Rates

- 3.1. The proposed development in for innovation uses. Given the specific nature of the development, which may include laboratory space etc., the employment density is expected to be lower than for conventional office use. The current version of the TRICS database (v7.5.1) has therefore been interrogated to obtain representative trip rates for an Innovation Park.
- 3.2. The following criteria have been used when selecting appropriate sites from the database for the residential units:
- ♦ Land Use 02/B – Employment – Business Park
 - ♦ Suburban, Edge of Town, Neighbourhood Centre sites over 50,000m²
 - ♦ Multi-modal weekday surveys from 2010 onwards
 - ♦ Only latest surveys included where a site has been re-surveyed
- 3.3. The database matched one site, CA-02-B-03 Cambridge Science Park. The Person Trip Rates and Vehicle Trip Rates for this site are summarised in Table 3.1 with the full output presented at the end of this technical note.

Table 3.1 – Cambridge Science Park Trip Rates from the TRICS Database

Per 100m ²	AM peak hour			PM peak hour		
	Trip Rate In	Trip Rate Out	Two-way Trip Rate	Two-way Trip Rate	Trip Rate Out	Two-way Trip Rate
Person Trip Rate	1.414	0.249	1.663	0.118	1.030	1.148
Vehicle Trip Rate	0.903	0.112	1.015	0.036	0.590	0.626

- 3.4. A comparison of the two-way vehicle trip rates presented in Tables 2.2 and 3.1 shows that the Cambridge Science Park trip rates are lower than the combined uses class trip rate currently used for the Rochester Airport site. However, the relative accessibility of the sites via non-car modes of transport should be considered in order to provide greater confidence in the calculated trip rates.

4.0 Modal Split

- 4.1. The vast majority of the trip generation of the Innovation Park in the AM and PM peak hours will be related to staff journeys to and from work. The Journey to Work data from Census 2011 has therefore been used to determine the likely modal split for the Innovation Park in the peak hours.
- 4.2. The Mid Layer Super Output Areas used for this assessment are Medway 026, Medway 033 and Tonbridge and Malling 001. The areas covered are shown in Figure 4.1. The modal split for these areas are shown in Figures 4.2 to 4.4 respectively.

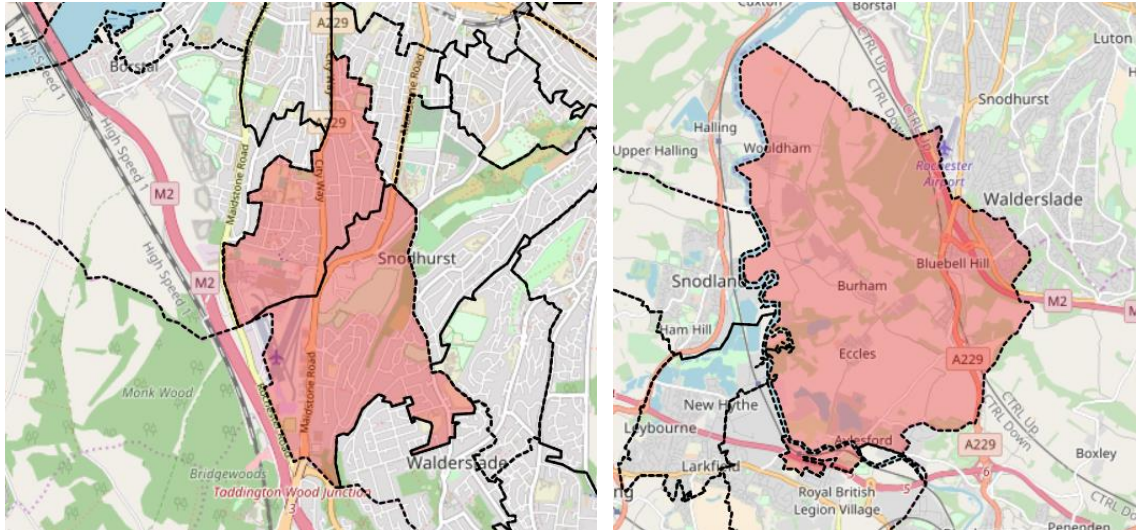


Figure 4.1 – Medway 026, Medway 033, and Tonbridge and Malling 001 Areas.

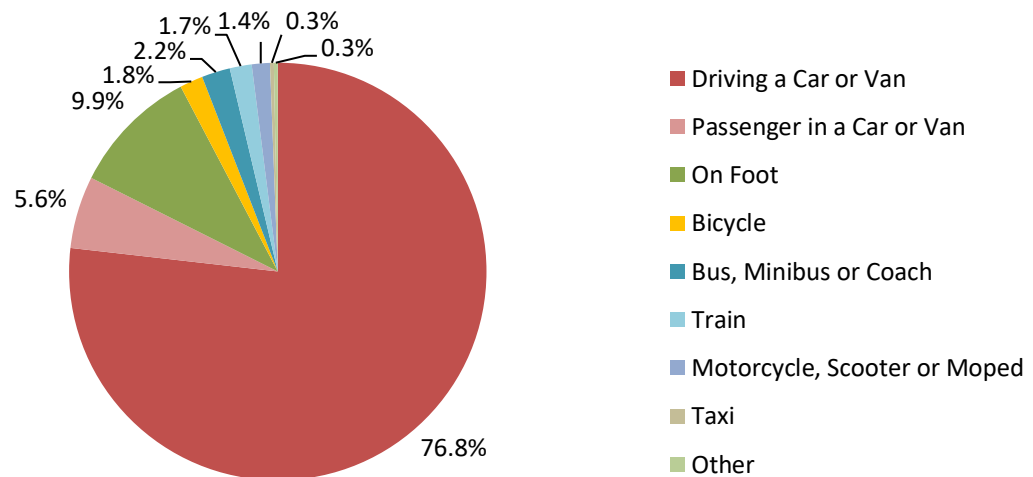


Figure 4.2 – Modal split of journeys to work (Workday population) for 'Medway 026'

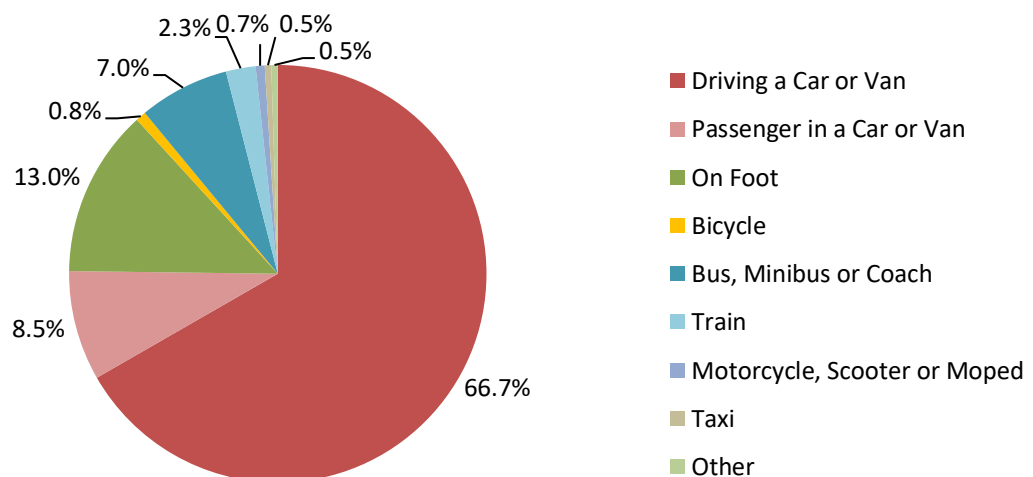


Figure 4.3 – Modal split of journeys to work (Workday population) for 'Medway 033'

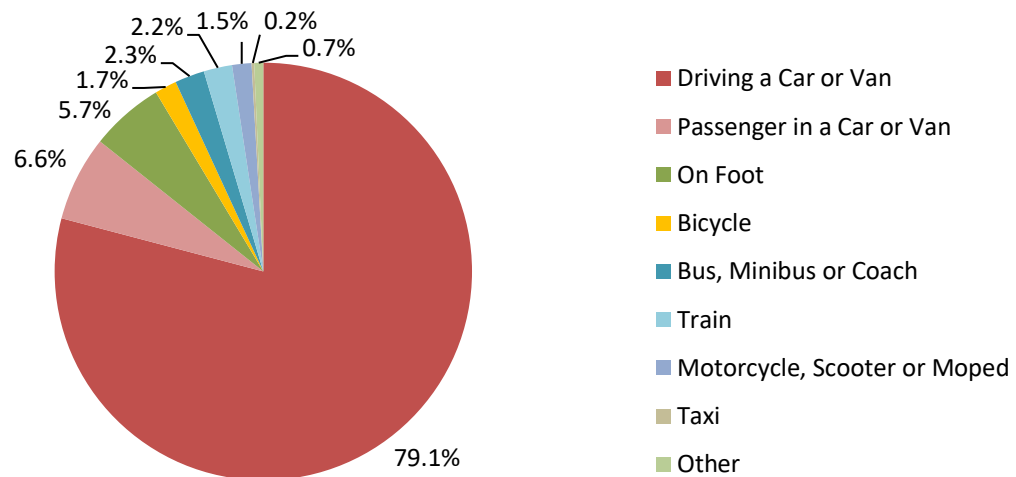


Figure 4.4 – Modal split of journeys to work (Workday population) for 'Tonbridge and Malling 001'

- 4.3. The Medway 033 area covers the existing Innovation Centre and commercial premises along Maidstone Road. This area has a higher proportion of journeys to work by bus, reflecting the presence of a frequent bus service along Maidstone Road. This area also has the lowest proportion of journeys to work by driving a car or van of the three areas considered.
- 4.4. For the purposes of establishing a mode share for trips to and from the Innovation Park in the peak hours it is considered appropriate to apply the modal split in Table 4.1. This assumes that journeys where the main mode of travel is by train will be completed by taxi or by a regular bus route serving the site. The implementation of a Travel Plan for the site will aim to further reduce the proportion of trips made by car.

Table 4.1 – Proposed modal split

Mode of Travel	Mode Share	Comments
Driving a car or van	64%	Based on 2011 Medway 033 share with allowance for mode shift to walking / cycling / bus
Passenger	8%	Based on 2011 Medway 033 share
On foot	13%	Based on Medway 033, plus allowance for potential increase due to new housing locally to the site
Bicycle	2%	Allowance for potential increase in existing mode share due to new housing locally
Bus, minibus or coach	11%	Based on Medway 033 share with allowance for potential service improvements and assumes completion of journeys where train is the main mode share
Motorcycle, scooter or moped	1%	Based on 2011 Medway share
Taxi	1%	Allowance for completion of journeys where train is the main mode share

5.0 Modified Innovation Park Trip Rates

- 5.1. The mode share for 'driving a car or van' and 'taxi' presented in Table 4.1 have been combined, in order to present a robust assessment, and a factor of 0.65 applied to the Science Park Person Trip Rates presented in Table 3.1 to obtain a modified Vehicle Trip Rate, as shown in Table 5.1. This trip rate is considered appropriate for the type of development proposed. The vehicle trip rates obtained are higher than the vehicle trip rates observed at Cambridge Science Park.

Table 5.1 – Modified Vehicle Trip Rates based on modal split

Per 100m ²	AM peak hour			PM peak hour		
	Trip Rate In	Trip Rate Out	Two-way Trip Rate	Two-way Trip Rate	Trip Rate Out	Two-way Trip Rate
Vehicle Trip Rate	0.919	0.162	1.081	0.077	0.670	0.746

6.0 Comparison of Vehicle Traffic Generation

- 6.1. Table 6.1 compares the peak hour traffic generation of a 76,000m² development using the Medway trip rates and the modified trip rates presented in Table 5.1.

Table 6.1 – Comparison of Vehicle Trips traffic generation

76,000m ²	AM peak hour			PM peak hour			Both peak hours two-way trips
	Trips In	Trips Out	Two-way	Trips In	Trips Out	Two-way	
Medway Trip Rates			1,010			848	1,858
Innovation Park Trip Rates	699	123	822	58	509	567	1,389

- 6.2. The Innovation Park is predicted to generate fewer trips for the same floor area than the B1/B2/B8 development assumption made as part of the Medway transport modelling.
- 6.3. Based on the Innovation Park trip rates presented in Table 5.1, Table 6.2 presents the amount of Innovation Park floorspace that would generate the equivalent volume of vehicle trips allocated in the Medway transport model for both the combined peak hours and for solely the AM peak hour.

Table 6.2 – Equivalent development traffic generation

Equivalent floorspace	AM peak hour			PM peak hour			Both peak hours two-way trips
	Trips In	Trips Out	Two-way	Trips In	Trips Out	Two-way	
101,688m ²	935	165	1,099	78	681	759	1,858
93,436m ²	859	151	1,010	72	626	697	1,707

- 6.4. An Innovation Park of 101,688m² floorspace is predicted to generate the same volume of vehicular traffic in the combined AM and PM peak hours as the 76,000m² B1/B2/B8 mix development. Similarly, an Innovation Park of 93,436m² floorspace is predicted to generate the same volume of vehicular traffic in the AM peak hour as the 76,000m² B1/B2/B8 mix development.

7.0 Next Steps

- 7.1. The trip rates proposed will be required to be agreed with the relevant highway authorities, along with the suitability of applying the vehicle traffic equivalent calculations to obtain the appropriate quantum of floorspace for the Innovation Park.
- 7.2. The proposed development traffic can then be distributed onto the local road network using an agreed traffic distribution. The impact of the proposed development's vehicular traffic can then be considered for the junctions to be analysed as part of the Transport Assessment.

Calculation Reference: AUDIT-426201-180621-0632

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
 Category : B - BUSINESS PARK
 MULTI-MODAL VEHICLES

Selected regions and areas:

04 EAST ANGLIA
 CA CAMBRIDGESHIRE 1 days

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

Secondary 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: 132084 to 132084 (units: sqm)
 Range Selected by User: 50000 to 132084 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/10 to 06/10/17

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:

Friday 1 days

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

Selected survey types:

Manual count 1 days
 Directional ATC Count 0 days

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

Selected Locations:

Edge of Town 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:

No Sub Category 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:

B1 1 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 1 mile:

10,001 to 15,000 1 days

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

Secondary Filtering selection (Cont.):

Population within 5 miles:

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

*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

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

1 days

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

LIST OF SITES relevant to selection parameters

1	CA-02-B-03 MILTON ROAD	SCIENCE PARK	CAMBRIDGE
	CAMBRIDGE		
	Edge of Town		
	No Sub Category		
	Total Gross floor area:	142687 sqm	
	Survey date: FRIDAY	06/10/17	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.

CampbellReith Linkfield Lane Redhill

Licence No: 426201

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK

MULTI-MODAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	1	132084	0.167	1	132084	0.033	1	132084	0.200
07:30 - 08:00	1	132084	0.364	1	132084	0.061	1	132084	0.425
08:00 - 08:30	1	132084	0.531	1	132084	0.072	1	132084	0.603
08:30 - 09:00	1	132084	0.372	1	132084	0.040	1	132084	0.412
09:00 - 09:30	1	132084	0.142	1	132084	0.023	1	132084	0.165
09:30 - 10:00	1	132084	0.032	1	132084	0.023	1	132084	0.055
10:00 - 10:30	1	132084	0.033	1	132084	0.017	1	132084	0.050
10:30 - 11:00	1	132084	0.026	1	132084	0.014	1	132084	0.040
11:00 - 11:30	1	132084	0.030	1	132084	0.018	1	132084	0.048
11:30 - 12:00	1	132084	0.035	1	132084	0.022	1	132084	0.057
12:00 - 12:30	1	132084	0.033	1	132084	0.040	1	132084	0.073
12:30 - 13:00	1	132084	0.028	1	132084	0.038	1	132084	0.066
13:00 - 13:30	1	132084	0.045	1	132084	0.023	1	132084	0.068
13:30 - 14:00	1	132084	0.030	1	132084	0.022	1	132084	0.052
14:00 - 14:30	1	132084	0.029	1	132084	0.032	1	132084	0.061
14:30 - 15:00	1	132084	0.020	1	132084	0.033	1	132084	0.053
15:00 - 15:30	1	132084	0.024	1	132084	0.047	1	132084	0.071
15:30 - 16:00	1	132084	0.023	1	132084	0.056	1	132084	0.079
16:00 - 16:30	1	132084	0.020	1	132084	0.065	1	132084	0.085
16:30 - 17:00	1	132084	0.015	1	132084	0.095	1	132084	0.110
17:00 - 17:30	1	132084	0.019	1	132084	0.271	1	132084	0.290
17:30 - 18:00	1	132084	0.017	1	132084	0.319	1	132084	0.336
18:00 - 18:30	1	132084	0.010	1	132084	0.330	1	132084	0.340
18:30 - 19:00	1	132084	0.011	1	132084	0.290	1	132084	0.301
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			2.056			1.984			4.040

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.

CampbellReith Linkfield Lane Redhill

Licence No: 426201

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK

MULTI-MODAL TAXIS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	1	132084	0.000	1	132084	0.000	1	132084	0.000
07:30 - 08:00	1	132084	0.003	1	132084	0.003	1	132084	0.006
08:00 - 08:30	1	132084	0.002	1	132084	0.002	1	132084	0.004
08:30 - 09:00	1	132084	0.004	1	132084	0.002	1	132084	0.006
09:00 - 09:30	1	132084	0.001	1	132084	0.001	1	132084	0.002
09:30 - 10:00	1	132084	0.001	1	132084	0.001	1	132084	0.002
10:00 - 10:30	1	132084	0.000	1	132084	0.001	1	132084	0.001
10:30 - 11:00	1	132084	0.002	1	132084	0.002	1	132084	0.004
11:00 - 11:30	1	132084	0.001	1	132084	0.001	1	132084	0.002
11:30 - 12:00	1	132084	0.001	1	132084	0.001	1	132084	0.002
12:00 - 12:30	1	132084	0.000	1	132084	0.000	1	132084	0.000
12:30 - 13:00	1	132084	0.000	1	132084	0.001	1	132084	0.001
13:00 - 13:30	1	132084	0.000	1	132084	0.000	1	132084	0.000
13:30 - 14:00	1	132084	0.001	1	132084	0.000	1	132084	0.001
14:00 - 14:30	1	132084	0.002	1	132084	0.002	1	132084	0.004
14:30 - 15:00	1	132084	0.001	1	132084	0.001	1	132084	0.002
15:00 - 15:30	1	132084	0.001	1	132084	0.001	1	132084	0.002
15:30 - 16:00	1	132084	0.000	1	132084	0.001	1	132084	0.001
16:00 - 16:30	1	132084	0.001	1	132084	0.001	1	132084	0.002
16:30 - 17:00	1	132084	0.000	1	132084	0.000	1	132084	0.000
17:00 - 17:30	1	132084	0.000	1	132084	0.000	1	132084	0.000
17:30 - 18:00	1	132084	0.000	1	132084	0.000	1	132084	0.000
18:00 - 18:30	1	132084	0.000	1	132084	0.000	1	132084	0.000
18:30 - 19:00	1	132084	0.000	1	132084	0.000	1	132084	0.000
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.021			0.021			0.042

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.

CampbellReith Linkfield Lane Redhill

Licence No: 426201

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK

MULTI-MODAL OGVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	1	132084	0.003	1	132084	0.002	1	132084	0.005
07:30 - 08:00	1	132084	0.003	1	132084	0.004	1	132084	0.007
08:00 - 08:30	1	132084	0.000	1	132084	0.000	1	132084	0.000
08:30 - 09:00	1	132084	0.001	1	132084	0.000	1	132084	0.001
09:00 - 09:30	1	132084	0.002	1	132084	0.000	1	132084	0.002
09:30 - 10:00	1	132084	0.000	1	132084	0.000	1	132084	0.000
10:00 - 10:30	1	132084	0.001	1	132084	0.001	1	132084	0.002
10:30 - 11:00	1	132084	0.001	1	132084	0.000	1	132084	0.001
11:00 - 11:30	1	132084	0.001	1	132084	0.000	1	132084	0.001
11:30 - 12:00	1	132084	0.000	1	132084	0.000	1	132084	0.000
12:00 - 12:30	1	132084	0.000	1	132084	0.000	1	132084	0.000
12:30 - 13:00	1	132084	0.000	1	132084	0.000	1	132084	0.000
13:00 - 13:30	1	132084	0.000	1	132084	0.000	1	132084	0.000
13:30 - 14:00	1	132084	0.000	1	132084	0.000	1	132084	0.000
14:00 - 14:30	1	132084	0.000	1	132084	0.000	1	132084	0.000
14:30 - 15:00	1	132084	0.000	1	132084	0.000	1	132084	0.000
15:00 - 15:30	1	132084	0.001	1	132084	0.000	1	132084	0.001
15:30 - 16:00	1	132084	0.000	1	132084	0.000	1	132084	0.000
16:00 - 16:30	1	132084	0.001	1	132084	0.000	1	132084	0.001
16:30 - 17:00	1	132084	0.000	1	132084	0.000	1	132084	0.000
17:00 - 17:30	1	132084	0.000	1	132084	0.000	1	132084	0.000
17:30 - 18:00	1	132084	0.000	1	132084	0.001	1	132084	0.001
18:00 - 18:30	1	132084	0.000	1	132084	0.002	1	132084	0.002
18:30 - 19:00	1	132084	0.000	1	132084	0.001	1	132084	0.001
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.014			0.011			0.025

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

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

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK

MULTI-MODAL PSVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	1	132084	0.000	1	132084	0.000	1	132084	0.000
07:30 - 08:00	1	132084	0.000	1	132084	0.000	1	132084	0.000
08:00 - 08:30	1	132084	0.000	1	132084	0.000	1	132084	0.000
08:30 - 09:00	1	132084	0.000	1	132084	0.000	1	132084	0.000
09:00 - 09:30	1	132084	0.000	1	132084	0.000	1	132084	0.000
09:30 - 10:00	1	132084	0.000	1	132084	0.000	1	132084	0.000
10:00 - 10:30	1	132084	0.000	1	132084	0.000	1	132084	0.000
10:30 - 11:00	1	132084	0.000	1	132084	0.000	1	132084	0.000
11:00 - 11:30	1	132084	0.000	1	132084	0.000	1	132084	0.000
11:30 - 12:00	1	132084	0.000	1	132084	0.000	1	132084	0.000
12:00 - 12:30	1	132084	0.000	1	132084	0.000	1	132084	0.000
12:30 - 13:00	1	132084	0.000	1	132084	0.000	1	132084	0.000
13:00 - 13:30	1	132084	0.000	1	132084	0.000	1	132084	0.000
13:30 - 14:00	1	132084	0.000	1	132084	0.000	1	132084	0.000
14:00 - 14:30	1	132084	0.000	1	132084	0.000	1	132084	0.000
14:30 - 15:00	1	132084	0.000	1	132084	0.000	1	132084	0.000
15:00 - 15:30	1	132084	0.000	1	132084	0.000	1	132084	0.000
15:30 - 16:00	1	132084	0.000	1	132084	0.000	1	132084	0.000
16:00 - 16:30	1	132084	0.000	1	132084	0.000	1	132084	0.000
16:30 - 17:00	1	132084	0.000	1	132084	0.000	1	132084	0.000
17:00 - 17:30	1	132084	0.000	1	132084	0.000	1	132084	0.000
17:30 - 18:00	1	132084	0.000	1	132084	0.000	1	132084	0.000
18:00 - 18:30	1	132084	0.000	1	132084	0.000	1	132084	0.000
18:30 - 19:00	1	132084	0.000	1	132084	0.000	1	132084	0.000
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.000			0.000			0.000

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.

CampbellReith Linkfield Lane Redhill

Licence No: 426201

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK

MULTI-MODAL CYCLISTS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	1	132084	0.023	1	132084	0.005	1	132084	0.028
07:30 - 08:00	1	132084	0.047	1	132084	0.010	1	132084	0.057
08:00 - 08:30	1	132084	0.091	1	132084	0.015	1	132084	0.106
08:30 - 09:00	1	132084	0.101	1	132084	0.011	1	132084	0.112
09:00 - 09:30	1	132084	0.073	1	132084	0.011	1	132084	0.084
09:30 - 10:00	1	132084	0.056	1	132084	0.015	1	132084	0.071
10:00 - 10:30	1	132084	0.028	1	132084	0.015	1	132084	0.043
10:30 - 11:00	1	132084	0.031	1	132084	0.012	1	132084	0.043
11:00 - 11:30	1	132084	0.017	1	132084	0.008	1	132084	0.025
11:30 - 12:00	1	132084	0.017	1	132084	0.014	1	132084	0.031
12:00 - 12:30	1	132084	0.022	1	132084	0.021	1	132084	0.043
12:30 - 13:00	1	132084	0.018	1	132084	0.021	1	132084	0.039
13:00 - 13:30	1	132084	0.027	1	132084	0.022	1	132084	0.049
13:30 - 14:00	1	132084	0.017	1	132084	0.015	1	132084	0.032
14:00 - 14:30	1	132084	0.013	1	132084	0.012	1	132084	0.025
14:30 - 15:00	1	132084	0.012	1	132084	0.019	1	132084	0.031
15:00 - 15:30	1	132084	0.023	1	132084	0.034	1	132084	0.057
15:30 - 16:00	1	132084	0.014	1	132084	0.023	1	132084	0.037
16:00 - 16:30	1	132084	0.017	1	132084	0.042	1	132084	0.059
16:30 - 17:00	1	132084	0.020	1	132084	0.061	1	132084	0.081
17:00 - 17:30	1	132084	0.019	1	132084	0.067	1	132084	0.086
17:30 - 18:00	1	132084	0.014	1	132084	0.075	1	132084	0.089
18:00 - 18:30	1	132084	0.019	1	132084	0.061	1	132084	0.080
18:30 - 19:00	1	132084	0.009	1	132084	0.041	1	132084	0.050
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.728			0.630			1.358

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

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

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK
 MULTI-MODAL VEHICLE OCCUPANTS
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	1	132084	0.178	1	132084	0.037	1	132084	0.215
07:30 - 08:00	1	132084	0.401	1	132084	0.067	1	132084	0.468
08:00 - 08:30	1	132084	0.557	1	132084	0.079	1	132084	0.636
08:30 - 09:00	1	132084	0.427	1	132084	0.045	1	132084	0.472
09:00 - 09:30	1	132084	0.175	1	132084	0.030	1	132084	0.205
09:30 - 10:00	1	132084	0.045	1	132084	0.030	1	132084	0.075
10:00 - 10:30	1	132084	0.045	1	132084	0.022	1	132084	0.067
10:30 - 11:00	1	132084	0.036	1	132084	0.019	1	132084	0.055
11:00 - 11:30	1	132084	0.045	1	132084	0.024	1	132084	0.069
11:30 - 12:00	1	132084	0.048	1	132084	0.030	1	132084	0.078
12:00 - 12:30	1	132084	0.045	1	132084	0.056	1	132084	0.101
12:30 - 13:00	1	132084	0.036	1	132084	0.050	1	132084	0.086
13:00 - 13:30	1	132084	0.061	1	132084	0.029	1	132084	0.090
13:30 - 14:00	1	132084	0.039	1	132084	0.029	1	132084	0.068
14:00 - 14:30	1	132084	0.039	1	132084	0.046	1	132084	0.085
14:30 - 15:00	1	132084	0.030	1	132084	0.043	1	132084	0.073
15:00 - 15:30	1	132084	0.032	1	132084	0.059	1	132084	0.091
15:30 - 16:00	1	132084	0.030	1	132084	0.079	1	132084	0.109
16:00 - 16:30	1	132084	0.028	1	132084	0.087	1	132084	0.115
16:30 - 17:00	1	132084	0.020	1	132084	0.126	1	132084	0.146
17:00 - 17:30	1	132084	0.026	1	132084	0.319	1	132084	0.345
17:30 - 18:00	1	132084	0.023	1	132084	0.363	1	132084	0.386
18:00 - 18:30	1	132084	0.014	1	132084	0.370	1	132084	0.384
18:30 - 19:00	1	132084	0.014	1	132084	0.318	1	132084	0.332
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			2.394			2.357			4.751

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

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

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK

MULTI-MODAL PEDESTRIANS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	1	132084	0.018	1	132084	0.003	1	132084	0.021
07:30 - 08:00	1	132084	0.036	1	132084	0.004	1	132084	0.040
08:00 - 08:30	1	132084	0.080	1	132084	0.020	1	132084	0.100
08:30 - 09:00	1	132084	0.055	1	132084	0.010	1	132084	0.065
09:00 - 09:30	1	132084	0.036	1	132084	0.008	1	132084	0.044
09:30 - 10:00	1	132084	0.030	1	132084	0.016	1	132084	0.046
10:00 - 10:30	1	132084	0.025	1	132084	0.014	1	132084	0.039
10:30 - 11:00	1	132084	0.019	1	132084	0.011	1	132084	0.030
11:00 - 11:30	1	132084	0.019	1	132084	0.004	1	132084	0.023
11:30 - 12:00	1	132084	0.015	1	132084	0.017	1	132084	0.032
12:00 - 12:30	1	132084	0.030	1	132084	0.040	1	132084	0.070
12:30 - 13:00	1	132084	0.042	1	132084	0.033	1	132084	0.075
13:00 - 13:30	1	132084	0.036	1	132084	0.048	1	132084	0.084
13:30 - 14:00	1	132084	0.036	1	132084	0.012	1	132084	0.048
14:00 - 14:30	1	132084	0.020	1	132084	0.009	1	132084	0.029
14:30 - 15:00	1	132084	0.008	1	132084	0.008	1	132084	0.016
15:00 - 15:30	1	132084	0.011	1	132084	0.011	1	132084	0.022
15:30 - 16:00	1	132084	0.014	1	132084	0.017	1	132084	0.031
16:00 - 16:30	1	132084	0.021	1	132084	0.034	1	132084	0.055
16:30 - 17:00	1	132084	0.016	1	132084	0.042	1	132084	0.058
17:00 - 17:30	1	132084	0.020	1	132084	0.073	1	132084	0.093
17:30 - 18:00	1	132084	0.012	1	132084	0.079	1	132084	0.091
18:00 - 18:30	1	132084	0.010	1	132084	0.036	1	132084	0.046
18:30 - 19:00	1	132084	0.002	1	132084	0.023	1	132084	0.025
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.611			0.572			1.183

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

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

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK

MULTI-MODAL PUBLIC TRANSPORT USERS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	1	132084	0.022	1	132084	0.002	1	132084	0.024
07:30 - 08:00	1	132084	0.036	1	132084	0.002	1	132084	0.038
08:00 - 08:30	1	132084	0.061	1	132084	0.055	1	132084	0.116
08:30 - 09:00	1	132084	0.043	1	132084	0.013	1	132084	0.056
09:00 - 09:30	1	132084	0.025	1	132084	0.004	1	132084	0.029
09:30 - 10:00	1	132084	0.014	1	132084	0.002	1	132084	0.016
10:00 - 10:30	1	132084	0.005	1	132084	0.004	1	132084	0.009
10:30 - 11:00	1	132084	0.007	1	132084	0.002	1	132084	0.009
11:00 - 11:30	1	132084	0.005	1	132084	0.003	1	132084	0.008
11:30 - 12:00	1	132084	0.004	1	132084	0.016	1	132084	0.020
12:00 - 12:30	1	132084	0.002	1	132084	0.005	1	132084	0.007
12:30 - 13:00	1	132084	0.003	1	132084	0.003	1	132084	0.006
13:00 - 13:30	1	132084	0.004	1	132084	0.005	1	132084	0.009
13:30 - 14:00	1	132084	0.030	1	132084	0.005	1	132084	0.035
14:00 - 14:30	1	132084	0.002	1	132084	0.004	1	132084	0.006
14:30 - 15:00	1	132084	0.011	1	132084	0.008	1	132084	0.019
15:00 - 15:30	1	132084	0.002	1	132084	0.010	1	132084	0.012
15:30 - 16:00	1	132084	0.003	1	132084	0.005	1	132084	0.008
16:00 - 16:30	1	132084	0.005	1	132084	0.023	1	132084	0.028
16:30 - 17:00	1	132084	0.003	1	132084	0.021	1	132084	0.024
17:00 - 17:30	1	132084	0.002	1	132084	0.024	1	132084	0.026
17:30 - 18:00	1	132084	0.002	1	132084	0.029	1	132084	0.031
18:00 - 18:30	1	132084	0.002	1	132084	0.008	1	132084	0.010
18:30 - 19:00	1	132084	0.004	1	132084	0.015	1	132084	0.019
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.297			0.268			0.565

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

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

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK
 MULTI-MODAL TOTAL PEOPLE
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	1	132084	0.242	1	132084	0.046	1	132084	0.288
07:30 - 08:00	1	132084	0.519	1	132084	0.083	1	132084	0.602
08:00 - 08:30	1	132084	0.789	1	132084	0.170	1	132084	0.959
08:30 - 09:00	1	132084	0.625	1	132084	0.079	1	132084	0.704
09:00 - 09:30	1	132084	0.308	1	132084	0.054	1	132084	0.362
09:30 - 10:00	1	132084	0.145	1	132084	0.063	1	132084	0.208
10:00 - 10:30	1	132084	0.103	1	132084	0.055	1	132084	0.158
10:30 - 11:00	1	132084	0.093	1	132084	0.045	1	132084	0.138
11:00 - 11:30	1	132084	0.086	1	132084	0.039	1	132084	0.125
11:30 - 12:00	1	132084	0.084	1	132084	0.077	1	132084	0.161
12:00 - 12:30	1	132084	0.100	1	132084	0.123	1	132084	0.223
12:30 - 13:00	1	132084	0.100	1	132084	0.107	1	132084	0.207
13:00 - 13:30	1	132084	0.129	1	132084	0.103	1	132084	0.232
13:30 - 14:00	1	132084	0.123	1	132084	0.061	1	132084	0.184
14:00 - 14:30	1	132084	0.074	1	132084	0.071	1	132084	0.145
14:30 - 15:00	1	132084	0.060	1	132084	0.079	1	132084	0.139
15:00 - 15:30	1	132084	0.067	1	132084	0.114	1	132084	0.181
15:30 - 16:00	1	132084	0.062	1	132084	0.125	1	132084	0.187
16:00 - 16:30	1	132084	0.070	1	132084	0.185	1	132084	0.255
16:30 - 17:00	1	132084	0.059	1	132084	0.250	1	132084	0.309
17:00 - 17:30	1	132084	0.067	1	132084	0.484	1	132084	0.551
17:30 - 18:00	1	132084	0.051	1	132084	0.546	1	132084	0.597
18:00 - 18:30	1	132084	0.045	1	132084	0.475	1	132084	0.520
18:30 - 19:00	1	132084	0.029	1	132084	0.397	1	132084	0.426
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			4.030			3.831			7.861

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

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

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK

MULTI-MODAL CARS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	1	132084	0.152	1	132084	0.025	1	132084	0.177
07:30 - 08:00	1	132084	0.346	1	132084	0.049	1	132084	0.395
08:00 - 08:30	1	132084	0.518	1	132084	0.063	1	132084	0.581
08:30 - 09:00	1	132084	0.364	1	132084	0.035	1	132084	0.399
09:00 - 09:30	1	132084	0.135	1	132084	0.020	1	132084	0.155
09:30 - 10:00	1	132084	0.026	1	132084	0.018	1	132084	0.044
10:00 - 10:30	1	132084	0.028	1	132084	0.012	1	132084	0.040
10:30 - 11:00	1	132084	0.021	1	132084	0.013	1	132084	0.034
11:00 - 11:30	1	132084	0.023	1	132084	0.017	1	132084	0.040
11:30 - 12:00	1	132084	0.030	1	132084	0.018	1	132084	0.048
12:00 - 12:30	1	132084	0.029	1	132084	0.038	1	132084	0.067
12:30 - 13:00	1	132084	0.022	1	132084	0.034	1	132084	0.056
13:00 - 13:30	1	132084	0.039	1	132084	0.020	1	132084	0.059
13:30 - 14:00	1	132084	0.026	1	132084	0.017	1	132084	0.043
14:00 - 14:30	1	132084	0.024	1	132084	0.030	1	132084	0.054
14:30 - 15:00	1	132084	0.015	1	132084	0.027	1	132084	0.042
15:00 - 15:30	1	132084	0.017	1	132084	0.042	1	132084	0.059
15:30 - 16:00	1	132084	0.020	1	132084	0.052	1	132084	0.072
16:00 - 16:30	1	132084	0.015	1	132084	0.059	1	132084	0.074
16:30 - 17:00	1	132084	0.014	1	132084	0.089	1	132084	0.103
17:00 - 17:30	1	132084	0.016	1	132084	0.263	1	132084	0.279
17:30 - 18:00	1	132084	0.014	1	132084	0.310	1	132084	0.324
18:00 - 18:30	1	132084	0.010	1	132084	0.324	1	132084	0.334
18:30 - 19:00	1	132084	0.010	1	132084	0.285	1	132084	0.295
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			1.914			1.860			3.774

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

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

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK

MULTI-MODAL LGVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	1	132084	0.008	1	132084	0.005	1	132084	0.013
07:30 - 08:00	1	132084	0.008	1	132084	0.002	1	132084	0.010
08:00 - 08:30	1	132084	0.007	1	132084	0.005	1	132084	0.012
08:30 - 09:00	1	132084	0.004	1	132084	0.003	1	132084	0.007
09:00 - 09:30	1	132084	0.003	1	132084	0.002	1	132084	0.005
09:30 - 10:00	1	132084	0.005	1	132084	0.003	1	132084	0.008
10:00 - 10:30	1	132084	0.002	1	132084	0.003	1	132084	0.005
10:30 - 11:00	1	132084	0.002	1	132084	0.000	1	132084	0.002
11:00 - 11:30	1	132084	0.005	1	132084	0.001	1	132084	0.006
11:30 - 12:00	1	132084	0.002	1	132084	0.001	1	132084	0.003
12:00 - 12:30	1	132084	0.004	1	132084	0.002	1	132084	0.006
12:30 - 13:00	1	132084	0.005	1	132084	0.002	1	132084	0.007
13:00 - 13:30	1	132084	0.004	1	132084	0.002	1	132084	0.006
13:30 - 14:00	1	132084	0.003	1	132084	0.004	1	132084	0.007
14:00 - 14:30	1	132084	0.002	1	132084	0.001	1	132084	0.003
14:30 - 15:00	1	132084	0.003	1	132084	0.005	1	132084	0.008
15:00 - 15:30	1	132084	0.003	1	132084	0.003	1	132084	0.006
15:30 - 16:00	1	132084	0.002	1	132084	0.002	1	132084	0.004
16:00 - 16:30	1	132084	0.002	1	132084	0.004	1	132084	0.006
16:30 - 17:00	1	132084	0.001	1	132084	0.006	1	132084	0.007
17:00 - 17:30	1	132084	0.002	1	132084	0.002	1	132084	0.004
17:30 - 18:00	1	132084	0.004	1	132084	0.005	1	132084	0.009
18:00 - 18:30	1	132084	0.000	1	132084	0.005	1	132084	0.005
18:30 - 19:00	1	132084	0.000	1	132084	0.004	1	132084	0.004
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.081			0.072			0.153

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

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

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK
 MULTI-MODAL MOTOR CYCLES
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	1	132084	0.004	1	132084	0.001	1	132084	0.005
07:30 - 08:00	1	132084	0.004	1	132084	0.002	1	132084	0.006
08:00 - 08:30	1	132084	0.005	1	132084	0.002	1	132084	0.007
08:30 - 09:00	1	132084	0.000	1	132084	0.000	1	132084	0.000
09:00 - 09:30	1	132084	0.002	1	132084	0.001	1	132084	0.003
09:30 - 10:00	1	132084	0.001	1	132084	0.001	1	132084	0.002
10:00 - 10:30	1	132084	0.002	1	132084	0.000	1	132084	0.002
10:30 - 11:00	1	132084	0.001	1	132084	0.000	1	132084	0.001
11:00 - 11:30	1	132084	0.001	1	132084	0.000	1	132084	0.001
11:30 - 12:00	1	132084	0.002	1	132084	0.002	1	132084	0.004
12:00 - 12:30	1	132084	0.001	1	132084	0.000	1	132084	0.001
12:30 - 13:00	1	132084	0.002	1	132084	0.001	1	132084	0.003
13:00 - 13:30	1	132084	0.002	1	132084	0.001	1	132084	0.003
13:30 - 14:00	1	132084	0.000	1	132084	0.001	1	132084	0.001
14:00 - 14:30	1	132084	0.001	1	132084	0.000	1	132084	0.001
14:30 - 15:00	1	132084	0.002	1	132084	0.001	1	132084	0.003
15:00 - 15:30	1	132084	0.002	1	132084	0.002	1	132084	0.004
15:30 - 16:00	1	132084	0.001	1	132084	0.001	1	132084	0.002
16:00 - 16:30	1	132084	0.001	1	132084	0.002	1	132084	0.003
16:30 - 17:00	1	132084	0.000	1	132084	0.000	1	132084	0.000
17:00 - 17:30	1	132084	0.002	1	132084	0.006	1	132084	0.008
17:30 - 18:00	1	132084	0.000	1	132084	0.003	1	132084	0.003
18:00 - 18:30	1	132084	0.000	1	132084	0.000	1	132084	0.000
18:30 - 19:00	1	132084	0.001	1	132084	0.000	1	132084	0.001
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.037			0.027			0.064

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

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

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Parameter summary

Trip rate parameter range selected:	132084 - 132084 (units: sqm)
Survey date date range:	01/01/10 - 06/10/17
Number of weekdays (Monday-Friday):	1
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 shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Technical Note T2

Project: Innovation Park Medway

From: Neal Murphy

File Ref: NMnm12841-170718-
TN2.docx

Pages: 6

Date: 17/07/2018

Subject Updated Traffic Generation Comparison

1.0 Executive Summary

- 1.1. This technical note presents an update to Technical Note T1 and a review of the trip generation associated with the latest floor area expectations provided by Medway Council and compares this with the trip rates and traffic generation associated with an Innovation Park development, as currently proposed, using current trip rates from the TRICS database.
- 1.2. This shows that the trip rates observed at Cambridge Science Park are less than those assumed for the B1/B2 development. A modified set of trip rates has been calculated by applying a mode share obtained by reviewing the journey to work data for the local workplace population. This is considered to be representative for Innovation Park Medway.
- 1.3. The floor area that would generate the equivalent amount of vehicle traffic as that expected for the B1/B2 employment site allocations in the Medway strategic traffic modelling has been calculated. The technical note concludes that an Innovation Park of 101,000m² will generate less traffic in each of the peak hours than the four employment allocation sites combined based on the trip rates presented in this note.

2.0 Medway Trip Rates

- 2.1. Details of the revised quantum and use class for the potential employment land allocations comprising site reference numbers 0378, 0724, 0804 and 0845 have been provided by Medway Council. It is understood that this quantum will be used in the STA modelling exercise. The four sites collectively comprise the following floor areas:
 - ♦ B1(a) - 5,350m²
 - ♦ B1(b) - 5,350m²
 - ♦ B1(c) - 28,520m²
 - ♦ B2 - 28,520m²
- 2.2. In the absence of the number of trips associated with the individual B1 use classes, the trip rates in Table 2.2 of Technical Note T1 have been used to calculate the two-way trips in the AM peak hour and PM peak hour and are summarised in Table 2.1.

Table 2.1 – Medway Council potential employment allocation site trips

Use Class	Floorspace	Two-way trips AM peak hour	Two-way trips PM peak hour	Two-way trips AM+PM peak hour
B1	39,220m ²	999	890	1,889
B2	28,520m ²	351	249	600
Total	67,740m ²	1,350	1,139	2,489

- 2.3. Table 2.2 confirms the trip rates that have been used and provides a combined trip rate for the employment land allocations based on the provided B1/B2 split.

Table 2.2 – Medway Council Traffic Modelling Trip Rates (per 100m²)

Use Class	Two-way trip rate AM peak hour	Two-way trip rate PM peak hour	Two-way trip rate AM+PM peak hour
B1	2.546	2.270	4.816
B2	1.232	0.872	2.104
Combined	1.993	1.681	3.674

3.0 TRICS Database Trip Rates

- 3.1. The proposed development is for innovation uses. Given the specific nature of the development, which may include laboratory space etc., the employment density is expected to be lower than for conventional office use. The current version of the TRICS database (v7.5.1) has therefore been interrogated to obtain representative trip rates for an Innovation Park.
- 3.2. The following criteria have been used when selecting appropriate sites from the database for the residential units:
- Land Use 02/B – Employment – Business Park
 - Suburban, Edge of Town, Neighbourhood Centre sites over 50,000m²
 - Multi-modal weekday surveys from 2010 onwards
 - Only latest surveys included where a site has been re-surveyed
- 3.3. The database matched one site, CA-02-B-03 Cambridge Science Park. The Person Trip Rates and Vehicle Trip Rates for this site are summarised in Table 3.1 with the full output presented at the end of this technical note.

Table 3.1 – Cambridge Science Park Trip Rates from the TRICS Database

Per 100m ²	AM peak hour			PM peak hour		
	Trip Rate In	Trip Rate Out	Two-way Trip Rate	Two-way Trip Rate	Trip Rate Out	Two-way Trip Rate
Person Trip Rate	1.414	0.249	1.663	0.118	1.030	1.148
Vehicle Trip Rate	0.903	0.112	1.015	0.036	0.590	0.626

- 3.4. A comparison of the two-way vehicle trip rates presented in Tables 2.2 and 3.1 shows that the Cambridge Science Park trip rates are lower than the combined uses class trip rate for the employment site allocations. However, the relative accessibility of the sites via non-car modes of transport should be considered in order to provide greater confidence in the calculated trip rates.

4.0 Modal Split

- 4.1. The vast majority of the trip generation of the Innovation Park in the AM and PM peak hours will be related to staff journeys to and from work. The Journey to Work data from Census 2011 has therefore been used to determine the likely modal split for the Innovation Park in the peak hours.

4.2. The Mid Layer Super Output Areas used for this assessment are Medway 026, Medway 033 and Tonbridge and Malling 001. The areas covered are shown in Figure 4.1. The modal split for these areas are shown in Figures 4.2 to 4.4 respectively.

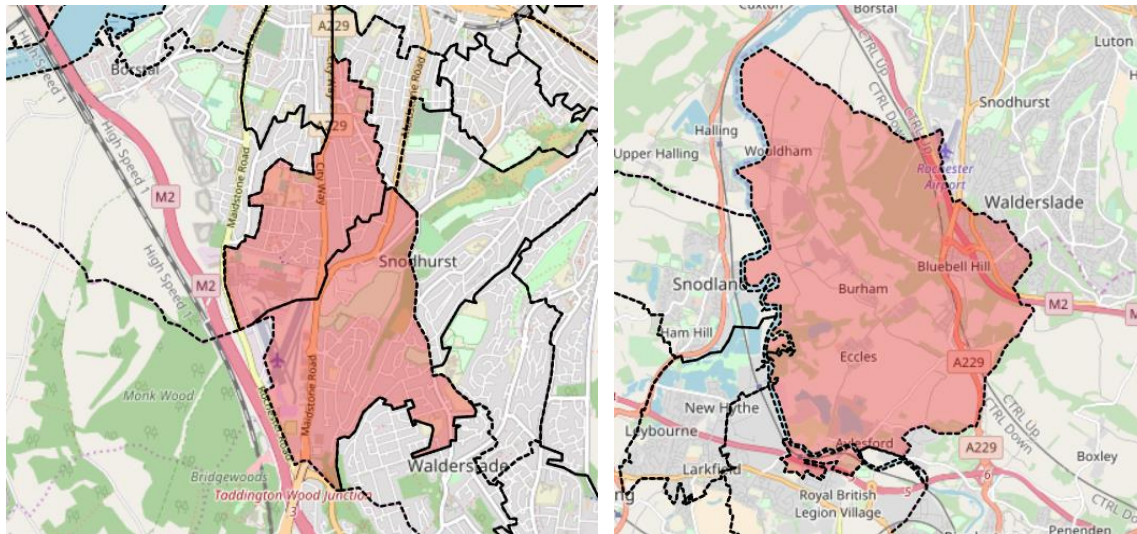


Figure 4.1 – Medway 026, Medway 033, and Tonbridge and Malling 001 Areas.

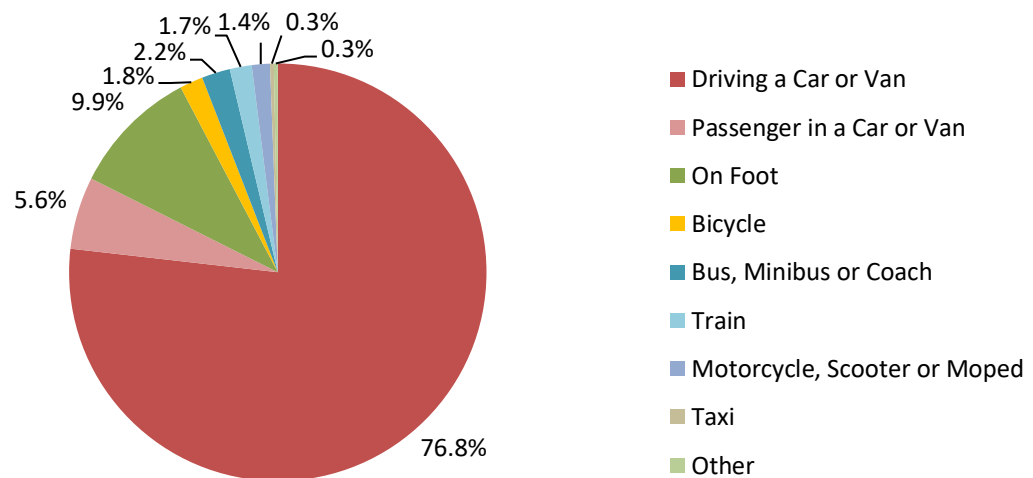


Figure 4.2 – Modal split of journeys to work (Workday population) for 'Medway 026'

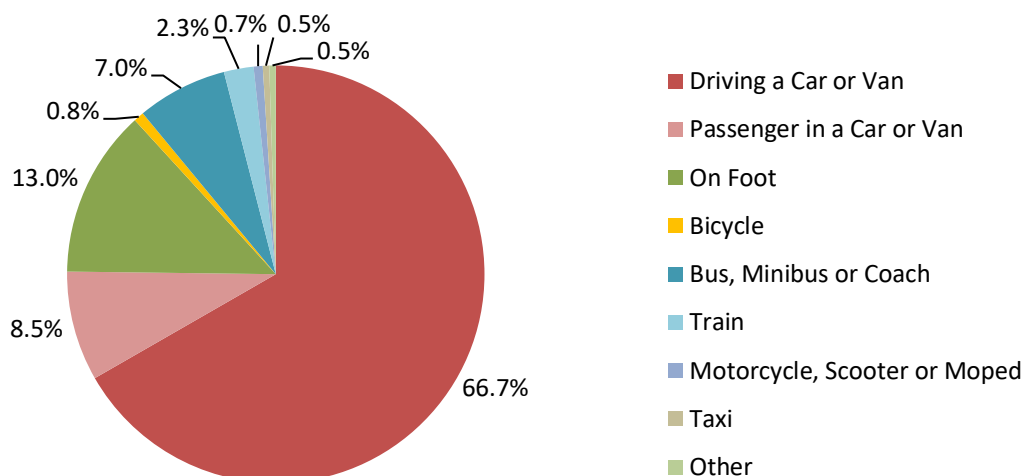


Figure 4.3 – Modal split of journeys to work (Workday population) for 'Medway 033'

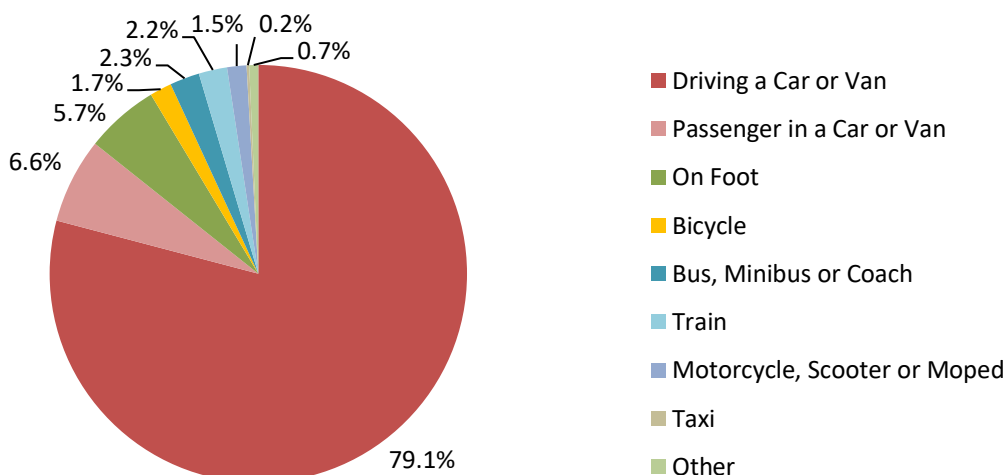


Figure 4.4 – Modal split of journeys to work (Workday population) for 'Tonbridge and Malling 001'

- 4.3. The Medway 033 area covers the existing Innovation Centre and commercial premises along Maidstone Road. This area has a higher proportion of journeys to work by bus, reflecting the presence of a frequent bus service along Maidstone Road. This area also has the lowest proportion of journeys to work by driving a car or van of the three areas considered.
- 4.4. For the purposes of establishing a mode share for trips to and from the Innovation Park in the peak hours it is considered appropriate to apply the modal split in Table 4.1. This assumes that journeys where the main mode of travel is by train will be completed by taxi or by a regular bus route serving the site. The implementation of a Travel Plan for the site will aim to further reduce the proportion of trips made by car.

Table 4.1 – Proposed modal split

Mode of Travel	Mode Share	Comments
Driving a car or van	64%	Based on 2011 Medway 033 share with allowance for mode shift to walking / cycling / bus
Passenger	8%	Based on 2011 Medway 033 share
On foot	13%	Based on Medway 033, plus allowance for potential increase due to new housing locally to the site
Bicycle	2%	Allowance for potential increase in existing mode share due to new housing locally
Bus, minibus or coach	11%	Based on Medway 033 share with allowance for potential service improvements and assumes completion of journeys where train is the main mode share
Motorcycle, scooter or moped	1%	Based on 2011 Medway share
Taxi	1%	Allowance for completion of journeys where train is the main mode share

5.0 Modified Innovation Park Trip Rates

- 5.1. The mode share for 'driving a car or van' and 'taxi' presented in Table 4.1 have been combined, in order to present a robust assessment, and a factor of 0.65 applied to the Science Park Person Trip Rates presented in Table 3.1 to obtain a modified Vehicle Trip Rate, as shown in Table 5.1. This trip rate is considered appropriate for the type of development proposed. The vehicle trip rates obtained are higher than the vehicle trip rates observed at Cambridge Science Park but lower than the trip rates applied to the B1/B2 employment site allocations.

Table 5.1 – Modified Vehicle Trip Rates based on modal split

Per 100m ²	AM peak hour			PM peak hour		
	Trip Rate In	Trip Rate Out	Two-way Trip Rate	Two-way Trip Rate	Trip Rate Out	Two-way Trip Rate
Vehicle Trip Rate	0.919	0.162	1.081	0.077	0.670	0.746

6.0 Comparison of Vehicle Traffic Generation

- 6.1. Based on the employment allocation site trip rates presented in Table 2.2 and the Innovation Park trip rates presented in Table 5.1; Table 6.1 presents the amount of Innovation Park floorspace that would generate the equivalent volume of vehicle trips generated by the employment site allocations for combined peak hours and for solely the AM peak hour.

Table 6.1 – Equivalent development traffic generation

Equivalent floorspace	AM peak hour			PM peak hour			Both peak hours two-way trips
	Trips In	Trips Out	Two-way	Trips In	Trips Out	Two-way	
136,223m ² (based on AM/PM peak)	1,252	220	1,473	104	912	1,016	2,489
124,890m ² (based on AM peak)	1,148	202	1,350	96	836	932	2,282

- 6.2. An Innovation Park of 136,223m² floorspace is predicted to generate the same volume of vehicular traffic in the combined AM and PM peak hours as the B1/B2 employment site allocations using the given trip rates. Similarly, an Innovation Park of 124,890m² floorspace is predicted to generate the same volume of vehicular traffic in the AM peak hour as the B1/B2 employment site allocations.
- 6.3. This means that an Innovation Park of 101,000m² will generate less traffic than the combined 67,740m² B1/B2 employment allocation sites, as shown in Table 6.2. Comparing the calculated employment allocation sites' two-way traffic generation using the B1/B2 trip rates with that of a 101,000m² Innovation Park, the Innovation Park is estimated to generate 258 fewer two-way trips in the AM peak hour and 385 fewer two-way trips in the PM peak hour.

Table 6.2 – Development traffic generation comparison

Floorspace	AM peak hour			PM peak hour			Both peak hours two-way trips
	Trips In	Trips Out	Two-way	Trips In	Trips Out	Two-way	
67,740m ² B1/B2 allocation			1,350			1,139	2,489
101,000m ² Innovation Park	928	163	1,092	77	676	754	1,845
Difference			-258			-385	-643

7.0 Next Steps

- 7.1. The proposed trip rates are subject to agreement by Medway Council. The proposed development traffic from Innovation Park Medway will then be distributed onto the local road network using a traffic distribution based on Journey to Work Census data, to be agreed. The impact of the proposed development's vehicular traffic can then be considered for the junctions to be analysed as part of the Transport Assessment.

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