

Hough End Sports Village

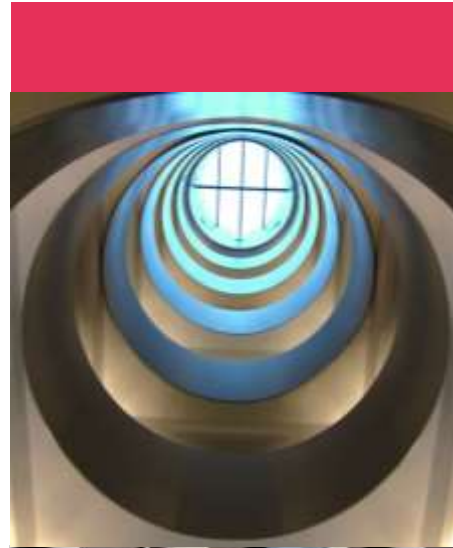
Transport Assessment

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1.0 Introduction

1.1 Background

- 1.1.1 Curtins has been appointed by ISG Ltd, on behalf of Manchester City Council (MCC), to provide highways and transport advice in relation to the extension of the existing Hough End Leisure Centre (the site) and upgrade to existing sports pitches.
- 1.1.2 The site is located to the west of the A5103 Princess Road in the Withington area of south Manchester. The existing Leisure Centre is accessed directly from Princess Road via a priority-controlled T-junction approximately 100m south of Whitchurch Road.
- 1.1.3 The existing Leisure Centre opened in 2015, with the Planning Application Reference 104518/VO/2013/S1 submitted in 2013. As part of the application, a Transport Assessment (TA) was prepared by SK Transport Planning to consider the traffic and transportation impacts of the development proposals. The 2013 TA noted that the now existing Leisure Centre would comprise a gross floor area (GFA) of 2,920m² and 21no. full-size grass pitches with associated parking.
- 1.1.4 It is also noted that there are 4no. small/5-a-side pitches in use, in addition to a further 7no. sports pitches accessed from Mauldeth Road West as part of the Greater Manchester Police Sports and Social Club. These do not form part of the site.
- 1.1.5 There is a total of 173 car parking spaces (comprising 6 disabled spaces and 3 parent and child spaces), 25 overspill parking spaces and two motorcycle spaces currently available at the site. The parking provision was justified in the 2013 TA based on the maximum forecast demand on a Sunday, which is the peak time for football matches. The assessment from parking surveys at the existing sports pitches undertaken in 2013 demonstrated that 160 parking spaces would be required for football use, with the additional spaces provided for the Leisure Centre use.
- 1.1.6 It has been noted that the existing parking provision is at capacity on weekends during the busiest football periods (pre COVID-19 pandemic). This has noted to have resulted in parking taking place on-street on nearby residential areas.

1.2 Proposed Development

- 1.2.1 The proposed development comprises an extension to the existing Leisure Centre, which would encompass an additional 1,464m² GFA. This would include supplementary public facilities such as a café, changing rooms, additional fitness suite/gym space, club room and training room, as well as new staff facilities, a store room and plant.

- 1.2.2 In addition to the Leisure Centre expansion, the adjacent football pitches will be improved and reconfigured. The proposals will result in a total of 12no. grass football pitches, 2no. five-a-side grass pitches, 3no. grass small junior pitches and 2no. standard 3G pitches. Each standard 3G pitch can operate as 4no. small junior pitches.
- 1.2.3 The existing Leisure Centre would be known as Hough End Sports Village following the implementation of the development proposals.
- 1.2.4 There are emerging plans for the future intensification of use of the sports pitches at Hough End Sports Village as a local community facility. This could include more regularised use of the sports pitches by local community groups, sports clubs and employers within Manchester. Whilst these plans have not yet been formalised, the intensification of use is likely to occur in the future.
- 1.2.5 The proposed site layout is detailed in **Appendix A** to the rear of the report.

1.3 Purpose of the Report

- 1.3.1 This Transport Assessment (TA) has been prepared to inform Highways Officers at MCC and Transport for Greater Manchester (TfGM) with regards to all traffic and transportation matters associated with the development proposals.
- 1.3.2 The TA should be read alongside the accompanying the accompanying Interim Travel Plan (ITP) that has been prepared to promote active and sustainable travel behaviour to and from the site (**Document Reference: 076910-CUR-00-XX-RP-TP-003**).
- 1.3.3 The development would also be assessed under Building Research Establishment Environmental Assessment Method (BREEAM) 2018 standards, and would seek to demonstrate compliance by obtaining a number of credits.
- 1.3.4 The assessment categories pertaining to traffic and transport, the relevant sections where they are provided (or a justification if they are not provided), together with credits they obtain, are summarised in **Table 1.1** below:

BREEAM Category	Description	Signposts	No. of Credits
Tra 01	<u>Transport Assessment and Travel Plan:</u> 1. No later than Concept Design stage, undertake a site-specific transport assessment (or develop a travel statement) and draft travel plan, which can demonstrably be used to influence the site layout and built form. 2. The site-specific travel assessment (or statement) shall cover as a minimum:	This document (TA)	2

BREEAM Category	Description	Signposts	No. of Credits
	- If relevant, travel patterns and attitudes of existing building or site users towards cycling, walking and public transport, to identify relevant constraints and opportunities; - Predicted travel patterns and transport impact of future building or site users; - Current local environment for pedestrians and cyclists, accounting for any age-related requirements of occupants and visitors; - Reporting of the number and type of existing accessible amenities within 500m of the site; - Disabled access accounting for varying levels and types of disability, including visual impairment; - Calculation of the existing public transport Accessibility Index (AI); and - Current facilities for cyclists. 3. Following a transport assessment (in accordance with the requirements set out in criteria 2), develop a site-specific travel plan that provides a long-term management strategy which encourages more sustainable travel. The travel plan includes measures to increase or improve more sustainable modes of transport and movement of people and goods during the building's operation. 4. If the occupier is known, involve them in the development of the travel plan. 5. Demonstrate that the travel plan will be implemented and supported by the building's management in operation.	N/A (see para 1.3.6) Section 5 of TA Section 2 of TA Section 4 of TA Section 3 of TA Section 4 of TA Section 2 of TA Interim Travel Plan (ITP) provided in 076910-CUR-00-XX-RP-TP-003 ITP has been reviewed by MCC/GLL Section 9 of the ITP	
Tra 02	<u>Sustainable Transport Measures:</u> 1. Prerequisite: Achieve criteria 3–5 in the Tra 01 Transport Assessment and Travel Plan credit. 2. Identify the sustainable transport measures as per Table 7.4 in BREEAM guidance. - The existing AI calculated in Tra 01 ≥ 8; - Demonstrate an increase over the existing Accessibility Index through negotiation with local bus, train or tram companies to increase the frequency of the local service provision for the development; OR - Demonstrate an increase over the existing Accessibility Index. This could be through provision of a diverted bus route, a new or enhanced bus stop, or other similar solutions; OR - Provide a dedicated service, such as a bus route or service. - Provide a public transport information system in a publicly accessible area, to allow building users access to up-to-date information on the available public transport and transport infrastructure. This may include signposting to public transport, cycling, walking infrastructure or local amenities;	This document (TA) Not achieved, AI is 7.35 Not achieved, improvements not required considering existing site's excellent accessibility Section 6 of the ITP	<i>Points:</i> 0 0 1

BREEAM Category	Description	Signposts	No. of Credits
	Provide electric recharging stations of a minimum of 3kW for at least 10% of the total car parking capacity for the development;	Section 3 of TA	1
	- Set up a car sharing group or facility to facilitate and encourage building users to car share; AND - Raise awareness of the sharing scheme with marketing and communication materials; AND - Provide priority spaces for car sharers for at least 5% of the total car parking capacity for the development; AND - Locate priority parking spaces nearest the development entrance used by the sharing scheme participants.	Section 6 of the ITP	1
	- During preparation of the brief, the design team consults with the local authority (LA) on the state of the local cycling network and public accessible pedestrian routes, to focus on whichever the LA deems most relevant to the project, and how to improve it; AND - Agree and implement one proposition chosen with the local authority. The proposition supported by the development is additional to existing local plans and has a significant impact on the local cycling network or on pedestrian routes open to the public.	Section 3 of TA	1
	Install compliant cycle storage spaces to meet the minimum levels set out in Table 7.5 (1 space per 10 staff and 1 space per 10 visitors);	Section 3 of TA	1
	The above has been achieved; provide at least two compliant cyclists' facilities for the building users (showers, changing facilities, lockers, drying spaces);	Section 3 of the TA	1
	Existing amenities: At least three existing accessible amenities are present;	Section 4 of the TA	1
	Enhanced amenities: - Ensure a minimum of one new accessible amenity, in accordance with Table 7.6 on page 191, for the relevant Building Group, is provided; OR - Ensure a more than one new accessible amenity, in accordance with Table 7.6 on page 191, for the relevant Building Group, is provided. - Implement one site-specific improvement measure, not covered by the options already listed in this issue, in line with the recommendations of the travel plan. Submit this for review by BRE.	New café	2
	3. Award credits according to the existing Accessible Index (AI) of the project, and the total number of points achieved for the options implemented, see Table 7.3 of BREEAM guidance.	Section 6 of ITP, pending BRE review	
		Site AI: 7.35 Points achieved under criteria 2: 8	9
Total Transport Credits Obtained			11

Table 1.1 – BREEAM Credits Targeted

1.3.5 Other relevant considerations in a BREEAM-compliant report include the following, with the compliance of the proposed development to these considerations outlined next to the criteria:

- **Lighting, landscaping and shelter to create pleasant pedestrian and public transport waiting areas** – This infrastructure will be delivered within the site as part of proposed development. There are no proposals for such infrastructure off-site due to the existing road configuration and infrastructure that is already available;
- **Restrictions or charging for car parking** – Car parking will be provided in line with standards, whilst also allowing for overspill parking during periods of maximum occupancy only;
- **Pedestrian and cyclist friendly (for all types of user regardless of the level of mobility or visual impairment) with the provision of cycle lanes, safe crossing points, direct routes, appropriate tactile surfaces, good lighting and signposting to other amenities, public transport nodes and adjoining off-site pedestrian and cycle routes** – Safe crossing points, direct routes, appropriate surfaces, lighting and signposting will be delivered within the site as part of proposed development. Cycle lanes are not proposed off-site due to the existing road configuration and infrastructure that is already available. **Section 3** of this report provides details of off-site highway improvements that would enhance pedestrian and cycle amenity;
- **Provision of suitable taxi drop-off or waiting areas** – This will be provided as part of the proposed site layout; additional information is provided in **Section 3** below; and
- **Ensure rural buildings have appropriate access to transport to serve the local community adequately (where procured to do so, e.g. community centre)** – Not applicable as the development is situated in an existing urban area.

1.3.6 A key part of the ITP will be monitoring, whereby travel surveys will be distributed to staff and visitors at the development, in order to understand travel habits. Recipients will be encouraged to participate, and the surveys would extract key information such as place of residence, usual mode of travel and reason for modal choice, attractiveness of and barriers to active and sustainable modes of travel, and any incentives that could encourage staff and visitors to travel more sustainably. The findings will provide information on reasons for travel patterns and attitudes of site users to identify relevant constraints and opportunities.

1.4 Scope of the Report

1.4.1 Curtins submitted a Scoping Note to Highways Officers at MCC and TfGM in January 2021. Subsequently, a meeting was held with both stakeholders in February 2021 to discuss the proposals in more detail, whilst the latest development and mitigation proposals were shared in November 2021.

1.4.2 During these discussions, the following key points were agreed:

- Parking data from the 2013 TA can be used to support the TA;
- Capacity assessments should be undertaken at the Site Access/Princess Road priority junction and the Whitchurch Road/Princess Road priority junction;

- New traffic data should be collected at the Princess Road/Whitchurch Road junction to inform the capacity assessments;
- The approach to the junction modelling at the above junctions, with separate PICADY models for the right turn movements onto Princess Road, was accepted in-principle;
- Mitigation is not required at the Site Access/Princess Road junction;
- A detailed review of highway safety records at the above junctions should be included within the TA;
- The accessibility of the site by active and sustainable modes should be reviewed in detail within the TA;
- Highway safety improvements should be considered at the Whitchurch Road/Princess Road junction with enhancements provided where necessary to support the development;
- The car parking proposals in the Scoping Note were accepted. A reasonable level of overspill parking would be supported at the site;
- The TA should include details of the car park management strategy;
- Electric vehicle (EV) charging infrastructure should be provided at the site (minimum 10% of total car parking spaces).

1.4.3 Notwithstanding the above, the scheme has been updated in October 2021 to take account of various responses to the initial proposals as part of the formal consultation process.

1.4.4 As part of the updated proposals, Curtins have undertaken updated traffic counts in October 2021 at the junction of Princess Road/Whitchurch Road to account for accurate 2021 traffic data following the lifting of restrictions associated with the Covid-19 pandemic.

1.4.5 Additional discussions have also taken place with MCC and TfGM in November 2021 with relation to the highway safety improvements at the Whitchurch Road/Princess Road junction to support the development.

1.4.6 Based on the above scoping discussions with MCC and TfGM, and previous experience in this area, this TA contains the following:

- A description of the highway network in the vicinity of the site and a summary of the results of the traffic and speed surveys;
- A detailed review of the collision record in the vicinity of the site for a five-year period;
- A summary of the development proposals, including multi-modal access, parking, car park management, and servicing arrangements;
- Potential off-site highway safety improvements;
- A detailed review of accessibility by sustainable modes of travel;
- Information regarding traffic generation, distribution and assignment;

- Junction capacity assessments and a commentary on the highway impact associated with the development proposals; and
- A summary of relevant transport planning policy.

1.5 Structure of the Report

- 1.5.1 Following this introduction, **Section 2** of the report provides a description of the existing site location and transport conditions. This includes the local highway network and facilities for pedestrians, cyclists and public transport users. This section also reviews existing highway safety.
- 1.5.2 The development proposals are presented in **Section 3**, including the proposed parking provision, access and servicing arrangements.
- 1.5.3 The accessibility of the site by sustainable modes of travel is assessed in **Section 4**.
- 1.5.4 **Section 5** outlines the traffic forecasting methodology used to establish the likely traffic generation associated with the development proposals and the highway impact, with **Section 6** providing an assessment on the highway impacts.
- 1.5.5 **Section 7** summarises key national and local transport planning policy, and **Section 8** provides a report summary and conclusions.

2.0 Site Location and Highway Layout

2.1 Site Location

2.1.1 The site is situated in West Didsbury, Manchester and located to the west of the A5103 Princess Road; a key arterial road running from Manchester city centre in the north to the M60 Motorway in the south.

2.1.2 **Figure 2.1** below shows the location of the site in relation to the surrounding local highway network. The site is bound to the north by Mauldeth Road West, to the east by the A5103 Princess Road, to the south by Metrolink lines, and to the west by the neighbouring Broughton Park FC (Rugby Union) and St Peters GAA Club grounds.



Figure 2.1 – Site Location in Relation to Local Highway Network
(Source: OS Maps)

2.1.3 Although the existing site covers a large area, the Leisure Centre is only located along the east of the site, opposite the A5103 Princess Road/Whitchurch Road junction. The remainder of the site comprises parking, grass pitches and woodland.

2.1.4 The site application red line boundary is shown on a plan in **Appendix A**.

2.2 Existing Use & Access Arrangements

2.2.1 The existing Leisure Centre opened in 2015 and has and 21 full-size grass pitches. Both the Leisure Centre and pitches are accessed off the A5103 Princess Road. Other pitches are accessed from Houghend Crescent off Mauldeth Road West as part of the Greater Manchester Police Sports and Social Club.

- 2.2.2 There is a total of 173 car parking spaces (comprising six disabled spaces and three parent and child spaces) and 25 overspill parking spaces at the site.
- 2.2.3 It has also been noted that the existing parking provision is at capacity on weekends during the busiest football periods (pre COVID-19 pandemic). This has resulted in parking taking place on-street on nearby residential areas.
- 2.2.4 Furthermore, 32 covered cycle spaces are provided adjacent to the existing Leisure Centre entrance.

2.3 Local Highway Network

A5103 Princess Road

- 2.3.1 The A5103 Princess Road is a strategic route connecting with the M60/M56 Motorways to the south and Manchester city centre to the north. The Princess Road corridor regulates traffic flow along its length by traffic signals.
- 2.3.2 In the vicinity of the site, the road comprises a dual carriageway, extending along a north-south alignment with an average of two lanes in either direction, and additional flared lanes at junction stoplines. The total carriageway width adjacent to the site is approximately 20m, including the central reservation and central hatching, although the road widens to accommodate various turning lanes.
- 2.3.3 There are wide footways of varying width on either side of the carriageway. At the site access junction, the footways comprise dropped kerbs, tactile paving, and zebra crossing markings. At other junctions along the road, there is additional infrastructure such as controlled (green man) crossing points, guard railings, and pedestrian refuge areas within the central reservation. These facilities enable pedestrians to cross the road in a safe manner.
- 2.3.4 In the vicinity of the site, the section of footway on the western side of the A5103 Princess Road between the Withington Metrolink station and the Mauldeth Road West junction is a shared footway/cycleway, with a cycle access point to the Fallowfield Loop further to the north. This cycleway is part of Route 85 on the National Cycle Network (NCN). There is also a painted advisory cycle lane across the site access junction.
- 2.3.5 Princess Road is subject to a 30mph speed limit in the vicinity of the site, with street lighting provided along both sides of the carriageway. There are varied Traffic Regulation Orders (TROs) along Princess Road in the form of single (no waiting during certain times) and double (no waiting at any time) yellow lines, as there are many residential dwellings with driveways fronting the eastern side of the carriageway. Due to the level of vehicular activity along Princess Road, it is observed that parking does not occur on the carriageway, although some parking does occur on the wide eastern footway.

- 2.3.6 It is noted that the speed limit on Princess Road was formerly 40mph up until 5th July 2017, when a Suspension of Speed Limit Order (Manchester City Council reference: MCC00001780) was introduced.
- 2.3.7 There are a number of bus stops located along Princess Road hosting services to various destinations in Manchester city centre and across Greater Manchester, the closest to the site being a northbound bus stop directly outside the Leisure Centre. There is also a Pelican crossing on the site frontage for pedestrians to access the southbound bus stop. These bus stops have a good level of infrastructure, including a shelter, seating, flag pole, and timetable information.

Mauldeth Road West

- 2.3.8 Further to the north of the site, Mauldeth Road West extends for c. 3.5km between Chorlton to the west and Fallowfield to the east. Mauldeth Road West is bisected by the A5103 Princess Road in the vicinity of the site, where the road comprises a dual carriageway to the west and a single carriageway to the east. The average width of the carriageways is c. 22m and 12m respectively, with the dual carriageway section separated by a wide central reserve with tree planting.
- 2.3.9 The footways on Mauldeth Road West are generally wide and comprise dropped kerbs with some tactile paving, with controlled crossing points at major junctions, and street lighting at regular intervals. Mauldeth Road West to the west of Princess Road is subject to a speed limit of 30mph, whereas the section to the east of Princess Road has a lower speed limit of 20mph. Both sections do not have TROs; however, on-street parking does not occur on the western section due to the level of vehicular activity, whereas on-street parking is more commonplace on the eastern section due to the more densely populated residential character of the road.
- 2.3.10 At the Mauldeth Road West/A5103 Princess Road junction, there are uncontrolled (cross when clear) crossing points and dropped kerbs at all arms of the junctions, except for the A5103 Princess Road (North) arm which comprises controlled (green man) crossing facilities, additional tactile paving, and guard railings.
- 2.3.11 There are also bus stops located in pairs along Mauldeth Road West which host additional bus services to the Trafford Centre, Stockport, and Wythenshawe Hospital. These bus stops also have a shelter, seating, flag pole, and timetable information.

Framley Road/Fallowfield Loop

- 2.3.12 To the north-west of the site, Framley Road is a traffic-free pedestrian and cycle path which extends for c. 400m between Mauldeth Road West and the Hough End Leisure Centre. To the north of the road lies a cycle access point to the Fallowfield Loop via a path adjacent to 254 Mauldeth Road West.

Pedestrians and cyclists can cross Mauldeth Road West at the existing crossing points at the A5103 Princess Road/Mauldeth Road West signalised junction.

- 2.3.13 The Fallowfield Loop (also known as Manchester Cycleway) is a 14km-long off-road path used by pedestrians, cyclists and horse riders running from Chorlton-cum-Hardy in the west through Fallowfield and Levenshulme to Gorton and Fairfield in the east of Manchester.



Figure 2.2 – Fallowfield Loop Map
(Source: Manchester City Council)

- 2.3.14 In August 2020, Manchester City Council (MCC) concluded a public consultation on the Fallowfield Loop to identify how to improve the route in the future. In light of the findings, MCC has set out to review all existing access points to improve accessibility, visibility and connectivity to other infrastructure, along with lighting specific sections of the route and potentially introducing CCTV for added safety. It is envisaged that the proximity of the Fallowfield Loop and upcoming improvements present a good opportunity for cycling as a form of sustainable travel to the site.

Highway Network Infrastructure

- 2.3.15 **Table 2.1** below presents a high-level review of the existing infrastructure in the immediate vicinity of the site.

Road	Pedestrian	Cycle	Public Transport
A5103 Princess Road	• Wide footways and street lighting • Controlled pedestrian crossings at regular intervals • Well-maintained	• Shared footway / cycleway on western side of the carriageway	• Covered waiting facilities in close proximity to the site
Mauldeth Road West	• Wide footways • Street lighting • Well-maintained	• No cycle lanes	• Covered waiting facilities
Framley Road/ Fallowfield Loop	• Wide traffic-free paths • Well-maintained • Lack of lighting	• Wide traffic-free paths	• N/A

Table 2.1 – Highway Network Infrastructure Summary

2.4 Highway Safety

2.4.1 Personal Injury Collision (PIC) data for the highway network adjacent to the site has been obtained from the TfGM Surveys Research & Analysis Department (SRAD) for the most recent five calendar years (January 2015 to December 2019).

2.4.2 The details of the search are contained within the blue border in **Figure 2.3**, and a breakdown of the information is contained in **Table 2.2**, with the full collision data provided in **Appendix B**.



Figure 2.3 – Incident Location Map

(Source: TfGM)

2.4.3 The search area includes a 1km grid square centred on the access to Hough End Leisure Centre. The recorded collisions are summarised in **Table 2.2** below.

Junction/Link	Slight	Serious	Fatal	Totals
A5103 Princess Road	5	2	0	7
A5103 Princess Road / Whitechurch Road	6	1	0	7
A5103 Princess Road / Cavendish Road	1	0	0	1
A5103 Princess Road / The Boulevard	3	0	0	3
Whitechurch Road	1	0	0	1
Whitechurch Road / Saltney Avenue	0	1	0	1
Golborne Avenue	1	0	0	1
Saltney Avenue / Wrenbury Avenue / Thurlwood Avenue	1	0	0	1
Hassall Avenue	1	0	0	1
Hassall Avenue / Goostrey Avenue / Rainford Avenue	1	0	0	1
Mauldeth Road West	0	1	0	0
Mauldeth Road West / Alexandra Road South / Houghend Crescent	1	0	0	1

Junction/Link	Slight	Serious	Fatal	Totals
Totals	21	5	0	26

Table 2.2 – Personal Injury Collision Data Summary

- 2.4.4 **Table 2.2** confirms that there have been 26 collisions in the study area during the five-year study period, comprising 21 'slight' severity collisions and 5 'serious' severity collisions. There were no fatal incidents in the search area and period.
- 2.4.5 Additionally, as stated in earlier sections, it is noted that the speed limit on Princess Road was formerly 40mph up until 5th July 2017, where a Suspension of Speed Limit Order was introduced and the speed limit on Princess Road was reduced to 30mph.
- 2.4.6 Further detailed collisions analysis has been undertaken for collisions within close proximity of the site access (the area bounded by the yellow line in **Figure 2.3**) to fully understand any patterns and contributory factors. The analysis also delineates between incidents occurring before and after the speed limit was changed, with those occurring after the speed limit was changed denoted with an asterisk (*).

No.	Severity	Day and Time	Condi-tions	Description	Contributory Factors
<i>A5103 Princess Road:</i>					
E3099429	Slight	2015 Wednes-day afternoon	Dry / Light	Two cars travelling north on Princess Road towards Manchester, Car 2 brakes and Car 1 is unable to stop in time, colliding with rear of Car 2. Casualty: 26 y/o driver, 50 y/o and 21 y/o passengers (Car 1).	Car 1 – Failed to judge other person's path or speed, sudden braking, failed to look properly.
E3054456*	Slight	2019 Sunday afternoon	Wet / Light	Two cars travelling north-east on Princess Road, Car 2 overtakes on offside and collides with Car 1, then flees the scene. Casualty: 52 y/o driver, 17 y/o, 47 y/o, and 22 y/o passengers (Car 1).	N/A
E3059871*	Slight	2019 Wednes-day morning	Wet / Light	Two cars travelling south-west on Princess Road, Car 2 overtakes a pedal cycle on offside but veers into lane of Car 1, colliding with rear of Car 1. Casualty: 27 y/o driver (Car 1).	N/A
E2008126	Serious	2015 Wednes-day afternoon	Dry / Light	Heavy Goods Vehicle (HGV) travelling north-east on Princess Road. Pedestrian travelling same direction on footpath to nearside of HGV, enters carriageway into path of the HGV. HGV hits pedestrian. Casualty: 14 y/o pedestrian.	Pedestrian – Failed to look properly, careless / reckless / in a hurry.

No.	Severity	Day and Time	Condi-tions	Description	Contributory Factors
E2040517*	Slight	2018 Monday evening	Dry / Dark	All vehicles travelling south-west on Princess Road. Taxi and Car 2 slowing. Car 1 fails to act, collides into rear of Car 2, pushing Car 2 into rear of taxi before fleeing the scene. Casualty: 38 y/o driver, 33 y/o, 50 y/o, and 29 y/o passengers (taxi).	Car 1 – Failed to judge other person's path.
<i>A5103 Princess Road / Whitchurch Road:</i>					
E4049500*	Slight	2018 Friday afternoon	Dry / Light	Car travelling north-east on Princess Road. Child pedestrian crosses carriageway from nearside, travelling east on pedestrian crossing masked by stationary vehicles. Car hits child pedestrian and flees the scene. Casualty: 12 y/o child pedestrian.	Car – Failed to look properly, failed to judge other person's path, careless / reckless / in a hurry, stationary or parked vehicle(s). Child pedestrian – Failed to look properly, wrong use of pedestrian crossing facility.
E3028161	Slight	2017 Tuesday night	Dry / Dark	Pedal cycle waits at traffic crossing and as it begins to cross from east to west, collision occurs with car travelling north-east on Princess Road towards Manchester. Casualty: 21 y/o cyclist.	Cyclist – Failed to look properly.
E2039353*	Serious	2018 Tuesday night	Wet / Dark	Car 1 travelling south-west on Princess Road, collides with pedestrian crossing carriageway from central reserve on offside travelling east. Car 1 leaves carriageway nearside and collides with parked Car 2. Casualty: 25 y/o driver (Car 1) and 63 y/o pedestrian.	Car 1 – Travelling too fast for conditions, failed to look properly, sudden braking. Pedestrian – Failed to look properly, failed to judge other person's path.
E3042051*	Slight	2018 Monday night	Dry / Dark	Car 1 travelling north-west on Whitchurch Road, turns right onto Princess Road and collides with rear offside of Car 2 travelling north-east on Princess Road. Casualty: 20 y/o driver (Car 2).	Car 1 – Failed to look properly, failed to judge other person's path.
E2036974*	Slight	2017 Tuesday night	Dry / Dark	Car 1 travelling north-east on Whitchurch Road, turns right into path of Car 2 travelling south-west on Princess Road. Car 1 collides and spins twice, colliding into Car 3 travelling north-east on Princess Road waiting to turn right. Casualty: 27 y/o driver (Car 1).	N/A

No.	Severity	Day and Time	Condi-tions	Description	Contributory Factors
E2097818	Slight	2015 Wednes-day dawn	Wet / Dark	Light Goods Vehicle (LGV) travelling north-west on Whitchurch Road and turns right onto Princess Road in front of car travelling south-west on Princess Road. Car tries to avoid collision but is unsuccessful. Casualty: 33 y/o driver (LGV) and 29 y/o driver (car).	LGV – Failed to look properly.
E2001299	Slight	2015 Friday afternoon	Dry / Light	Pedal cycle travels north-west on Whitchurch Road on pavement before entering road from between parked cars. Vehicle travelling north-west on Whitchurch Road moves off from stationary position to turn right. Collision occurs. Casualty: 51 y/o cyclist.	N/A

Table 2.3 – Analysis of Collisions Local to the Site

2.4.7 Of the 12 collisions occurring along Princess Road within close proximity of the site, 7 collisions occurred after the change in speed limit. Whilst all collisions are regrettable, detailed analysis of the collisions show that the common causation factors are road users driving/crossing without due care and attention.

2.4.8 In addition, the incidents detailed above have been examined for any common casualty, filtered by age and class. This is presented in **Table 2.4** below:

Severity	0-15	16-59	60-69	70+	Total
<i>Fatal:</i>					
Total	0	0	0	0	0
<i>Serious:</i>					
Pedestrian	1	0	0	0	1
Total	1	0	0	0	1
<i>Slight:</i>					
Driver or Rider	0	9	0	0	9
Passenger	0	7	0	0	7
Pedestrian	2	0	1	0	3
Cyclist	0	2	0	0	2
Total	2	18	1	0	21
Grand Total	3	18	1	0	22

Table 2.4 – Casualties by Age and Class

2.4.9 A review of the collisions shows that the above collisions are generally dispersed across the junctions within the study area and across the study years. This review does not highlight any clusters of collisions or vulnerable road users which would warrant further investigation. There are no concentrations of vehicle collisions or irregular casualties that would suggest an existing safety issue that would be exacerbated by the proposed development.

Pedestrian/Cycle Collisions

2.4.10 A further analysis has been undertaken on collisions involving pedestrian and cycle casualties. These are reproduced as follows:

No.	Severity	Day and Time	Condi-tions	Description	Contributory Factors
<i>A5103 Princess Road:</i>					
E2008126	Serious	2015 Wednesday afternoon	Dry / Light	Heavy Goods Vehicle (HGV) travelling north-east on Princess Road. Pedestrian travelling same direction on footpath to nearside of HGV, enters carriageway into path of the HGV. HGV hits pedestrian. Casualty: 14 y/o pedestrian.	Pedestrian – Failed to look properly, careless / reckless / in a hurry.
<i>A5103 Princess Road / Whitchurch Road:</i>					
E4049500*	Slight	2018 Friday afternoon	Dry / Light	Car travelling north-east on Princess Road. Child pedestrian crosses carriageway from nearside, travelling east on pedestrian crossing masked by stationary vehicles. Car hits child pedestrian and flees the scene. Casualty: 12 y/o child pedestrian.	Car – Failed to look properly, failed to judge other person's path, careless / reckless / in a hurry, stationary or parked vehicle(s). Child pedestrian – Failed to look properly, wrong use of pedestrian crossing facility.
E3028161	Slight	2017 Tuesday night	Dry / Dark	Pedal cycle waits at traffic crossing and as it begins to cross from east to west, collision occurs with car travelling north-east on Princess Road towards Manchester. Casualty: 21 y/o cyclist.	Cyclist – Failed to look properly.
E2039353*	Serious	2018 Tuesday night	Wet / Dark	Car 1 travelling south-west on Princess Road, collides with pedestrian crossing carriageway from central reserve on offside travelling east. Car 1 leaves carriageway nearside and collides with parked Car 2. Casualty: 25 y/o driver (Car 1) and 63 y/o pedestrian.	Car 1 – Travelling too fast for conditions, failed to look properly, sudden braking. Pedestrian – Failed to look properly, failed to judge other person's path.

No.	Severity	Day and Time	Condi-tions	Description	Contributory Factors
E2001299	Slight	2015 Friday afternoon	Dry / Light	Pedal cycle travels north-west on Whitchurch Road on pavement before entering road from between parked cars. Vehicle travelling north-west on Whitchurch Road moves off from stationary position to turn right. Collision occurs. Casualty: 51 y/o cyclist.	None stated

Table 2.5 – Description of Collisions Involving Pedestrians and Cyclists

*Asterisk denotes collisions occurring after the speed limit change on Princess Road from 40mph to 30mph on 5th July 2017.

- 2.4.11** Collision no. E2008126 occurred along Princess Road, c. 22m to the north-east of Moorgate Avenue, where there was no pedestrian crossing point in place. The closest crossing facility would be directly opposite the Moorgate Avenue junction, where there is a pedestrian refuge island along the central reservation, with guard railing and dropped kerbs, although there are no formal crossing facilities across Princess Road and as such, pedestrians would have to wait until traffic is clear prior to crossing.
- 2.4.12** There are additional signalised and controlled crossing points c. 150m to the south of Moorgate Avenue (outside Withington Metrolink station) and c. 315m to the north of Moorgate Avenue (near Whitchurch Road) which could have been used.
- 2.4.13** This collision occurred on 28th October 2015 in the afternoon in dry and light weather conditions, however this was when the speed limit along Princess Road was still 40mph. Based on the incident description, a 14-year-old pedestrian was on the western side of Princess Road and attempted to cross the carriageway into the path of a north-eastbound HGV. Although regrettable, the contributory factor suggests that the pedestrian failed to look properly prior to crossing. Following the introduction of the 30mph speed limit, there have been no incidents around this section of the highway involving pedestrians.
- 2.4.14** Collision no. E4049500 occurred at the junction between Princess Road and Whitchurch Road, where there is a signalised and controlled pedestrian crossing. The collision occurred on 19th October 2018 in the afternoon in dry and light weather conditions, and when the speed limit along Princess Road had been reduced to 30mph.
- 2.4.15** Based on the incident description, the collision occurred when a child pedestrian attempted to cross the carriageway from the western side to the central reservation; however, the pedestrian was masked by a stationary vehicle, and a car collided with the pedestrian. The contributory factors state that both the car driver and the pedestrian failed to look properly, where the car driver was careless and the pedestrian did not use the crossing facility correctly. Based on the above information, there is no reference to the car drivers disobeying the traffic signal.

- 2.4.16** Collision no. E3028161 occurred along Princess Road c. 18m to the north-east of Whitchurch Road, where there is a signalised and controlled pedestrian crossing. The collision occurred on 14th March 2017 at night in dry and dark weather conditions, and when the speed limit along Princess Road was still 40mph.
- 2.4.17** Based on the accident description, a cyclist was using the pedestrian crossing to cross from the central reservation to the western side of the carriageway. The collision occurred with a car travelling north-east along Princess Road and the contributory factor states that the cyclist failed to look properly.
- 2.4.18** There is no reference to the car driver disobeying the traffic signal, therefore it is likely that the cyclist attempted to cross when traffic was not clear.
- 2.4.19** Collision no. E2039353 occurred along Princess Road c. 20m to the north-east of Whitchurch Road, where there is a signalised and controlled pedestrian crossing. The collision occurred on 2nd January 2018 at night in wet and dark weather conditions, and when the speed limit along Princess Road had been reduced to 30mph.
- 2.4.20** Based on the accident description and contributory factors, a car was travelling above the speed limit south-west along Princess Road and collided with a 63-year-old pedestrian crossing from the central reserve to the eastern side of the carriageway, subsequently pulling off the nearside of the carriageway and colliding into another parked car. It is also suggested that the pedestrian failed to look properly and judge the car's path.
- 2.4.21** Collision no. E2001299 occurred along Whitchurch Road, at the junction with Princess Road, where there is no crossing facility across Whitchurch Road itself. The collision occurred on 8th May 2015 in the evening in dry and light weather conditions, and when the speed limit along Princess Road was still 40mph.
- 2.4.22** Based on the accident description, a pedal cycle was travelling north-west on Whitchurch Road along the pavement and attempting to enter the road from between parked cars, but a vehicle travelling in a similar direction moves off from a stationary position to turn right into Princess Road north-east and the collision occurs. There are no contributory factors recorded for this incident.
- 2.4.23** There is dedicated space for on-street car parking on the southern side of Whitchurch Road where the car was parked, whereas cyclists should not cycle on the footway unless it is signed as a shared footway/cycleway. In the vicinity of this collision location, the shared footway/cycleway is only on the western side of Princess Road, not on Whitchurch Road.

- 2.4.24 It is unclear whether the cyclist or the car driver failed to look or indicate properly, and there is insufficient information to determine the cause of the collision. The higher speed limit on Princess Road was likely not relevant in this collision, as Whitchurch Road itself is subject to a 20mph speed limit.
- 2.4.1 It is noted that accident data from 2020 has not been utilised as Covid-19 lockdown measures significantly affected traffic flows on roads in Greater Manchester, which in turn, could have impacted on the number of PICs. Furthermore, 2021 data has not been used as TfGM have stated that data from 2021 is provisional and subject to change until the end of year process is complete.
- 2.4.2 Notwithstanding this, based on a review of the TfGM online road accident database, 4 slight accidents have occurred on Princess Road within the study area.
- 2.4.3 The development proposals have therefore been considered in the context of this collision record and potential off-site highway improvements are set out in **Section 3.5** below to promote highway safety and enhance the accessibility of the site for pedestrians and cyclists.

3.0 Development Proposals

3.1 Introduction

- 3.1.1 The proposed development comprises an extension to the existing leisure centre, which would encompass an additional 1,464m² GFA. This would include supplementary public facilities such as a café, changing rooms, additional fitness suite/gym space, club room and training room, as well as new staff facilities, a store room and plant.
- 3.1.2 In addition to the Leisure Centre expansion, the adjacent football pitches will be improved and reconfigured. The proposals will result in a total of 12no. grass football pitches, 2no. five-a-side grass pitches, 3no. grass small junior pitches and 2no. standard 3G pitches. Each standard 3G pitch can operate as 4no. small junior pitches.
- 3.1.3 The existing leisure centre would be known as Hough End Sports Village following the implementation of the development proposals.
- 3.1.4 There are emerging plans for the future intensification of use of the sports pitches at Hough End Sports Village as a local community facility. This could include more regularised use of the sports pitches by local community groups, sports clubs and employers within Manchester. Whilst these plans have not yet been formalised, the intensification of use is likely to occur in the future.
- 3.1.5 The proposed site layout is detailed in **Appendix A** to the rear of the report.

3.2 Proposed Access

- 3.2.1 It is proposed that the existing vehicular access to the Hough End Leisure Centre car park from the A5103 Princess Road will be retained. This access will be utilised by all vehicles attending the site, including buses, which will be used for school visits and groups.
- 3.2.2 **Drawing 76170-CUR-00-XX-DR-TP-05002** included to the rear of this report demonstrates the swept path analysis with safe access and egress for a 12m bus, whilst utilising the proposed drop-off provision. The 12m bus movement would not hinder any movements into the site from Princess Road and there is sufficient space within the site to allow circulation.
- 3.2.3 Furthermore, the existing segregated pedestrian/cycle access from Princess Road (to the south of the signalised pedestrian crossing) will be retained.
- 3.2.4 Level access will be provided for pedestrians and cyclists (all types of users regardless of the level of mobility or visual impairment) across all areas within the site in the form of ramps and lifts where necessary.

3.3 Proposed Parking

Car Parking – Main Car Park

- 3.3.1 As stated in **Section 2.2** above, the existing car park provides 173 spaces (comprising 6 disabled spaces and 3 parent and child spaces) and 25 overspill spaces. The 198 total spaces will be retained, albeit some spaces displaced to other locations within the site due to the footprint of the Leisure Centre extension and reorganisation of the car park layout.
- 3.3.2 MCC Parking Standards are set out within the Manchester Core Strategy 2012 to 2027, as summarised in **Table 3.1** below:

Land Use	Maximum Number of Car Parking Spaces		Minimum Number of Spaces for:		
	District Centres	Areas not within City Centre or District Centres	Disabled Parking (as a percentage of total spaces)		Cycles
			Up to 200 Spaces	Over 200 Spaces	
Assembly and Leisure – Other Leisure Facilities	1 per 25 sqm	1 per 22 sqm	3 bays or 6% of total capacity (whichever is greater)	4 bays + 4% of total capacity	1 space per 140sqm (minimum of 2 spaces)

Table 3.1 – Parking Standards

(Source: Manchester Core Strategy 2012 to 2027)

- 3.3.3 According to the standards in **Table 3.1** above, the expansion of the Leisure Centre could be complemented by 1 parking space per 22m² GFA. Based on the uplift of 1,464m², this equates to an additional 67 spaces permitted for the expanded Leisure Centre. Based on the standards, 4 disabled parking bays would be required as part of the uplift.
- 3.3.4 The maximum permitted level of parking is proposed at this site, with 67 additional car parking spaces in the main car park. Of these spaces, 7 spaces would be accessible (comprising 4 disabled bays and 3 parent and child bays).
- 3.3.5 This equates to a total provision in the main car park of 240 spaces.
- 3.3.6 Following discussions with MCC Highways, it has been requested that 10% of all bays within the main car park are to be fitted with electric vehicle charging points (EVCP). Based on the 240 spaces, 24 EVCP spaces will be installed; the EV infrastructure will be implemented across standard bays, car share bays and disabled bays to encourage electric vehicles to all users. These spaces will be fully active and ready for use for site users.

- 3.3.7 A total of 4 spaces will be provided as priority bays for car-sharers to incentivise this a mode choice; these will be located in close proximity to the Leisure Centre entrances. A further 2 additional motorcycle spaces will be provided, adding to the 2 existing spaces, providing 4 spaces in total.

Car Parking – Overspill Car Park

- 3.3.8 As outlined in **Section 1**, the existing parking provision was justified in the 2013 TA based on the maximum forecast demand associated with the sports pitches, with the peak time for football matches on a Sunday. It would therefore also be appropriate to consider the additional demand for parking associated with the reconfigured pitch usage that will occur associated with the increase in players on site at any one time, over and above the Leisure Centre extension.
- 3.3.9 It was understood that the 2013 TA assessed the Sunday matchday vehicular movements to derive parking requirements. It is understood that when the existing movements were reviewed, the surveys considered a maximum of 310 players on site at any one time.
- 3.3.10 Based on a robust consideration of 14 players per squad, this equates to c. 22 squads on site and therefore 11no. 11-a-side matches were taking place at any one time.
- 3.3.11 Based on the vehicular arrivals/departure profile, it was calculated via an accumulation study that 160 parking spaces were needed. However, it has been noted from site operators that prior to the Covid-19 pandemic, this was noted not to be sufficient, with some on-street parking occurring on nearby residential streets.
- 3.3.12 Following information received from MCRAActive and Manchester City Council with regards to future usage of the pitches on a Sunday matchday, it is understood that the following matches will occur concurrently in the future:
- 13no. 11-a-side matches (with kick off times varying between 10:00 – 11:00); and
 - 4no. 7-a-side matches.
- 3.3.13 Retaining that same approach that the 11-a-side teams will have 14 player squads, this equates to 364 players on site associated with the 13no. matches. With consideration that the 7-a-side teams will have 8 player squads for robustness, the 4no. matches equates to 64 players.
- 3.3.14 On this basis, there will be a maximum of 428 players on site at any one time, which is an uplift of 118 players from the existing situation.
- 3.3.15 This equates to a c.38% increase of existing players and associated traffic movements on a Sunday morning based on current travel patterns.

3.3.16 The arrivals/departure hourly profile for the existing situation on a Sunday matchday (from the 2013 TA) is shown in **Table 3.2**.

Hour	Existing Sunday Matchday Profile		
	Arrive	Depart	Total
08:00 – 09:00	4	0	4
09:00 – 10:00	37	4	41
10:00 – 11:00	135	14	150
11:00 – 12:00	10	17	27
12:00 – 13:00	8	79	86
13:00 – 14:00	3	84	86

Table 3.2 – 2013 Transport Assessment – Matchday Arrival/Departure Profile

3.3.17 Based on the existing matchday arrival/departure profile, **Table 3.3** demonstrates the increase in vehicular movements and parking accumulation based on the 38% growth in players on site attributed to the proposed development.

Hour	Increase in Traffic – Based on 38% increase in players			Parking Accumulation
	Arrive	Depart	Total	
08:00 – 09:00	1	0	1	1
09:00 – 10:00	14	1	16	14
10:00 – 11:00	52	5	57	60
11:00 – 12:00	4	6	10	58
12:00 – 13:00	3	30	33	31
13:00 – 14:00	1	32	33	0

Table 3.3 – 2013 Transport Assessment – Matchday Arrival/Departure Profile

3.3.18 Based on **Table 3.3**, the increase in players on site would require a maximum of 60 additional parking spaces during the 10am – 11am hour; this is in line with the existing situation and the timings of future kick offs once the reconfiguration of pitches takes place.

3.3.19 As such, an additional 60 parking spaces are proposed within the overspill car park. These spaces will only be used when required on matchdays and will prevent overspill onto the local highway network/residential streets which was noted to occur on Sunday matchdays prior to the Covid-19 pandemic.

3.3.20 The total overspill spaces would therefore be 85 spaces (25 existing + 60 proposed).

Total Car Parking

3.3.21 Based on the above, the car parking for the Hough End Sports Village would be as follows:

- 240 spaces in main car park (173 existing plus 67 proposed);
- 85 spaces in overspill car park (25 existing plus 60 proposed); and
- 325 total parking spaces available during peak times.

3.3.22 This level of parking is considered reasonable, which is consistent with pre-application discussions with Highways Officers at MCC and TfGM.

Car Park Management Strategy

3.3.23 The main car park with 240 spaces would be available for use by visitors and staff at all times of the day.

3.3.24 All overspill spaces are proposed in a new overspill car park accessed off the main car park, as shown on the proposed site layout in **Appendix A**. The overspill car park will be controlled via a manual gate and only available during peak times at the Sports Village, notably including the peak time for football matches on a Sunday. It is proposed that the surfacing material for the overspill car park is grasscrete or similar to green the space when not in use.

3.3.25 The barrier will be opened and closed by staff based at the site. The use of temporary signage on the main access route into the car park will be considered by the Sports Village to highlight when the overspill car park is open for use.

3.3.26 The occupancy of the main and overspill car parks will be monitored as part of the Travel Plan for the site. This will help inform the hours of operation of the overspill car park to prevent overspill onto residential streets.

3.3.27 An automatic height barrier will be installed at the main car park entrance and exit; when required, an intercom/buzzer system will signal to the concierge point for release. This is shown in the Site Layout in **Appendix A**.

3.3.28 The main car park layout has been redesigned to remove spaces closest to the site access junction with Princess Road, and to provide internal circulation. This will allow vehicles to enter the site from Princess Road and continue into the site, thereby minimising the likelihood of any blocking back onto Princess Road. The overspill car park will be easily accessible from the main access route from Princess Road to maximise the efficiency of the car park.

Cycle Parking

- 3.3.29 According to the standards in **Table 3.1** above, the expansion of the Leisure Centre would require an additional cycle space per 140m² GFA. Based on the uplift of 1,464m², this would equate to a minimum of 11 additional cycle spaces.
- 3.3.30 A total of 56 covered cycle spaces (an increase of 24 spaces from the existing situation) will be provided as part of the development proposals.
- 3.3.31 This increase of 24 spaces exceeds the BREEAM requirements of 1 space per 10 staff, as it is noted that there would be an additional 6 full-time equivalent staff, therefore requiring one additional cycle parking space. The additional 23 spaces would be provided for any additional visitors to the Leisure Centre and the pitch uses.
- 3.3.32 This is also above the required MCC Parking Standards to promote cycling as a mode of choice for users of the Leisure Centre and sports pitches.

3.4 Proposed Servicing Arrangements

- 3.4.1 As the existing Leisure Centre access off the A5103 Princess Road will be retained, it is not envisaged that there will be any significant changes to the existing servicing arrangements on-site.
- 3.4.2 Notwithstanding this, a swept path analysis for a 11.2m refuse vehicle has also been undertaken, as shown in **Drawing 76170-CUR-00-XX-DR-TP-05004**. This drawing demonstrates safe access and egress with sufficient space within the site to allow circulation.

3.5 Off-Site Highway & Safety Improvements

- 3.5.1 As part of scoping discussions with Highways Officers at MCC and TfGM, a review of the existing conditions at the junction of Whitchurch Road/Princess Road has been undertaken, including the Pelican crossing on Princess Road immediately north of the junction.
- 3.5.2 A number of highway improvements have been identified to promote highway safety and the accessibility of the site for pedestrians and cyclists. These measures are shown on **Drawing 76170-CUR-00-XX-DR-TP-75002** included to the rear of this report and comprise the following:
- New fingerpost signage on Princess Road and Mauldeth Road West to highlight the existing pedestrian and cycle route via Framley Road;

- Upgrade of the existing Pelican crossing to a Toucan crossing with new signal equipment, tactile paving and revised zig-zag markings on Princess Road;
- Introduce speed limit roundels and keep clear markings on the carriageway adjacent to the Hough End Sports Village to assist with highway safety in the area;
- Bollards on the east side of Princess Road in the vicinity of the crossing to prevent vehicles from parking on the footway in the immediate vicinity of the crossing;
- H-bar markings at the western end of Whitchurch Road to discourage inconsiderate parking and protect driveway access/residential amenity in the vicinity of Princess Road;
- Build-out of kerblines at the junction of Whitchurch Road/Princess Road, which narrows the distance for pedestrians to cross on the pedestrian desire line, and provides dropped kerbs and tactile paving at the crossing; and
- TROs in the form of double yellow line (no waiting at any time) parking restrictions at the western end of Whitchurch Road to provide junction protection.

3.5.3 It is understood that the project budget for Hough End Sports Village is limited to on-site works only and does not allow for off-site works outside of the site application red line boundary. The delivery of these proposed improvements will therefore be a matter for agreement between the applicant and Highways Officers at MCC and TfGM, as part of their capital works programme.

4.0 Accessibility by Sustainable Modes of Travel

4.1 Introduction

4.1.1 A key element of national and local policy is to ensure that new developments are located in areas where alternative modes of travel are available. It is important to ensure that developments are not isolated, but are located close to complementary land uses. This supports the aims of integrating planning and transport, providing more sustainable transport choices, and reducing overall travel and car use.

4.1.2 The accessibility of the proposed development is considered in this context for the following modes of travel:

- Pedestrian Accessibility;
- Accessibility by Cycle; and
- Accessibility by Public Transport.

4.2 Pedestrian Accessibility

4.2.1 Research has indicated that acceptable walking distances depend on a number of factors, including the quality of the development, the type of amenity offered, the surrounding area, and other local facilities. The Chartered Institution for Highways and Transportation (CIHT) document entitled '*Providing for Journeys on Foot*' suggests walking distances which are relevant to this planning application. These are reproduced in **Table 4.1**.

	Town Centres (m)	Commuting/School/ Sightseeing (m)	Elsewhere/Local Services (m)
Desirable	200	500	400
Acceptable	400	1,000	800
Preferred Maximum	800	2,000	1,200

Table 4.1 – CIHT Suggested Acceptable Walking Distances

4.2.2 To assist in summarising the accessibility of the site by foot, distances of 500m, 1,000m and 2,000m which are termed '*Desirable*', '*Acceptable*' and the '*Preferred Maximum*' by the CIHT for commuting trips have been considered; these are a good approximation for the majority of trips associated with the development.

4.2.3 Moreover, guidance from the Building Research Establishment Environmental Assessment Method (BREEAM) UK New Construction 2018 consultation states that Transport Assessments and Travel Plans should include reporting on the number and type of amenities within 500m of the site (based on

current Tra 02 criteria) to obtain credits. The number and type of existing accessible amenities within 500m of the site are summarised in **Table 4.2** below:

No.	Amenity	BREEAM Criteria / Type	Proximity to Site (m)
1	Nisa Local Convenience Store, Chicken Ranch Fusion, Aroma Masaa	Appropriate food outlet	500
2	Cohens Chemist	Over the counter services associated with a pharmacy	500
3	Princess Road Surgery, Withington Dental Care	Public sector GP surgery or general medical centre	500

Table 4.2 – Number and Type of Existing Accessible Amenities within 500m of the Site

- 4.2.4 As part of the development proposals, the expansion of the Leisure Centre would provide supplementary public facilities such as a café. This is a new amenity under the ‘appropriate food outlet’ criteria and would reduce the need for visitors and staff to travel out of the site to obtain refreshments, if required.
- 4.2.5 In addition to those facilities in **Table 4.2** above, residential streets to the east of the site can be accessed. Most notably, the Withington Metrolink stop is located c. 500m to the south of the site, and there are bus stops located directly outside the Leisure Centre.
- 4.2.6 These public transport options can be accessed by utilising the existing pedestrian linkages within the site which connects to the wide pedestrian footway on Princess Road. For northbound bus services, pedestrians would walk c.50m north to the existing bus stop, and for southbound services, pedestrians would utilise the existing signalised pedestrian crossing facility adjacent to the pedestrian access to Hough End and walk c.50m in a northerly direction.
- 4.2.7 The Withington Metrolink stop can be accessed by travelling south on the footway on the eastern side of Princess Road, utilising the existing crossing facility at the junction for the Hough End car park (inclusive of road markings, tactile paving and dropped kerbs) and continuing south on the c.2m wide footway. At the tram stop, there is step free access to all platforms including the provision of lifts and ramps.
- 4.2.8 Within a 1,000m walk, areas that can be accessed include Old Moat Primary School and Borchardt Medical Centre to the east, Whalley Range High School, and Hough End Outdoor Gym to the north.
- 4.2.9 Additional residential areas and associated facilities/amenities can be accessed within 1,000m – 2,000m of the site, as the site is located within a wider residential area of south Manchester, with Withington situated to the immediate east, Fallowfield to the north-east, Whalley Range to the north-west, and Chorlton-cum-Hardy further to the west. Local amenities and facilities associated with residential areas in the vicinity of the site include supermarkets, convenience stores, hospitals, places

of worship, places of education, parks, local shops, hot food takeaways and restaurants that future staff and visitors could utilise.

4.2.10 As outlined in **Section 2.3**, footways in the area are of good quality, well-lit and at least 2m wide. There are dropped kerbs, tactile paving and pedestrian guard railings at key crossing points, such as those on the A5103 Princess Road. The walking environment is enhanced by the fact that 20-30mph speed restrictions are in operation along adjacent roads.

4.2.11 Overall, it is considered that the site is situated within an accessible area, with a number of complementary land uses within walking distance.

4.3 Cycle Accessibility

4.3.1 In order to assist in assessing the accessibility of the site by cycle, an 8km cycle catchment for the site has been considered. The 8km (5-mile) cycling distance refers to a recommendation by Cycling England in the document *'Integrating Cycling into Development Proposals'* (2009), which states: *"most cycle journeys for non-work purposes and those to rail stations are between 0.5 and 2 miles, but many cyclists are willing to cycle much further (i.e. for work, a distance of 5 miles should be assumed)"*.

4.3.2 The 8km catchment encompasses all of West Didsbury and Chorltonville, including key transport links, convenience stores, bars, restaurants, and leisure centres. The catchment also extends as far as Manchester city centre to the north, Heaton Chapel to the east, Wythenshawe to the south, and Sale and Stretford to the west.

- 4.3.3 The site is well situated to benefit from existing cycle provision, with the wider local highway network in the vicinity of the site comprising on-road cycle facilities such as cycle lanes for ease of cycling on the carriageway, and traffic-free cycle paths along the A5103 Princess Road. The local cycle network in the vicinity of the site is shown in **Figure 4.1**.

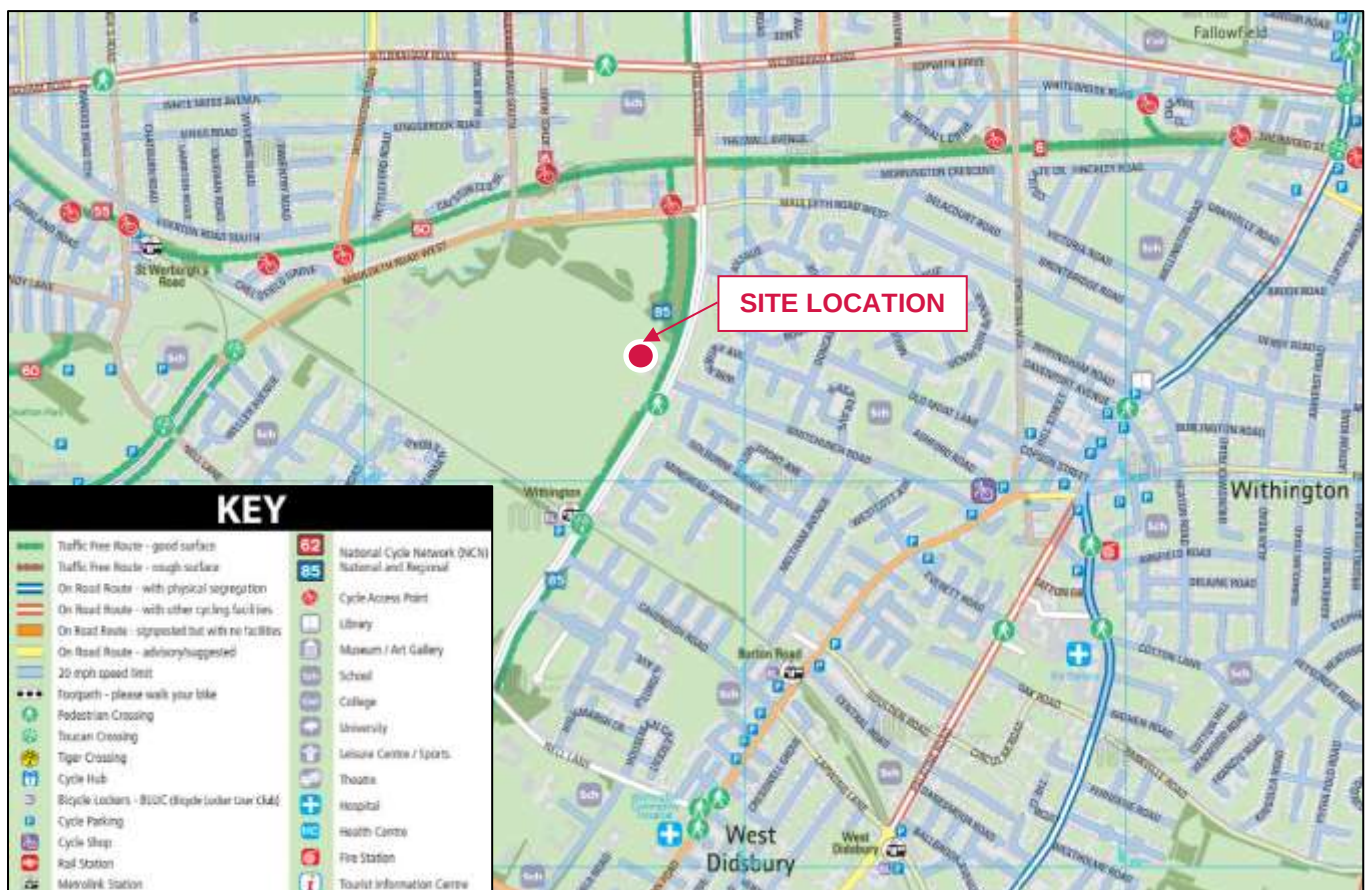


Figure 4.1 – Local Cycle Network
(Source: TfGM)

- 4.3.4 Route 85 on the National Cycle Network (NCN) runs along the eastern boundary of the site, which takes the form of a 3m wide shared footway/cycleway running along the western side of the A5103 Princess Road. To the south, this route extends to the Southern Cemetery Bus Station and connects to existing cycle lane provision on Barlow Moor Road. To the north, the route connects to Route 6 in Whalley Range, which continues via on and off-road routes towards Manchester city centre and Radcliffe further beyond. Cyclists can utilise the existing local roads to gain access to the site; it is considered that local roads are of sufficient width and low speeds to encourage staff and visitors to cycle.
- 4.3.5 The local cycle network shown above is also a part of Greater Manchester's cycling and walking infrastructure proposal, named the "Bee Network". The Bee Network comprises signed routes that mark the most direct and pleasant way to navigate an area on foot or by bike. The proposal is a vision for

Greater Manchester to become the very first city-region in the UK to have a fully joined-up cycling and walking network.

4.3.6 Bee Network improvements in Chorlton include the Manchester to Chorlton Cycle Way. This section is known as 'Area 4 – Barlow Moor Road between Sandy Lane and Mauldeth Road West', where the works are started in Winter 2020 and are currently under construction. These improvements involve:

- Creating segregated cycle lanes along both sides of the route;
- Maintaining access to off-street parking;
- Introducing cycle bypasses at existing bus stops where possible;
- Improved cycle track beside Chorlton Park;
- Tightening side-road junctions to reduce speeds;
- Introducing traffic-calming speed tables at existing traffic island locations;
- Providing cycle lanes at the rear of existing parking bays; and
- Introducing new parking restrictions to keep cycle lanes clear of parked vehicles.

4.3.7 When complete, the route would connect Chorlton District Centre to the Routes 6 and 60 on the NCN, The Manchester Cycle Way (Fallowfield Loop), and Regional Route 62 (The Trans Pennine Trail). It will also improve links between the district centre, Mersey Valley, Chorlton Park and Sale and Chorlton water parks. Princess Road, which runs along the western boundary of the site, is designated as a 'Busy Beeway' with branches to the east via Whitchurch Road and Golborne Avenue. **Figure 4.2** shows the Beeways in the vicinity of the site which allow future staff and visitors to benefit from better safety and quality of commute.

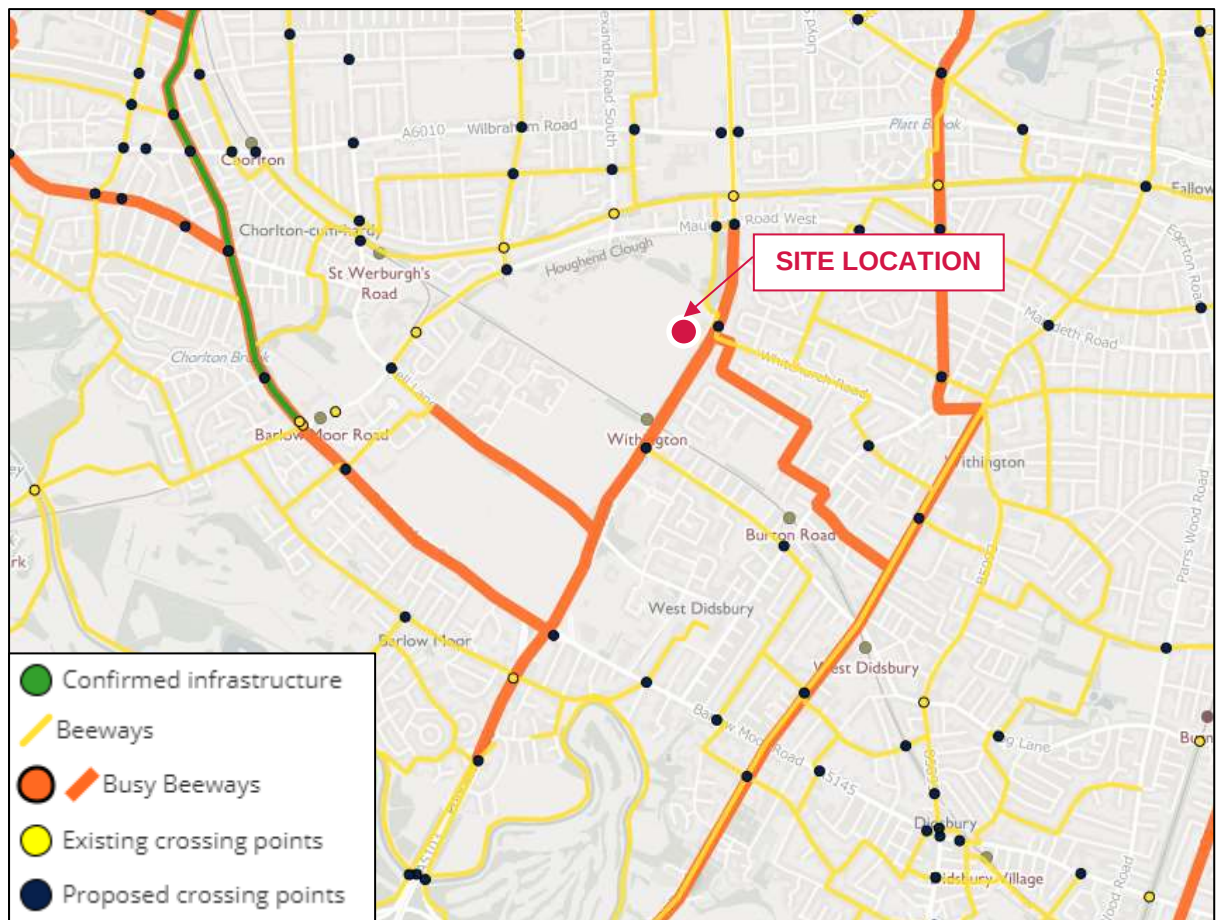


Figure 4.2 – Bee Network Map

(Source: MappingGM)

- 4.3.8 The site is therefore ideally placed to take advantage of the cycle connections around West Didsbury and Chorlton. Furthermore, the development will provide 24 additional secure cycle parking spaces for both staff and visitors (located near the entrance to the building) to encourage cycling. In summary, it is considered that cycling is a realistic mode of travel to and from the site.

4.4 Public Transport Accessibility

- 4.4.1 Developed by Transport for Greater Manchester (TfGM), Greater Manchester Accessibility Levels (GMAL) are a measure of the accessibility of a point to both the conventional public transport network (i.e. bus, Metrolink and rail) and Greater Manchester's Local Link (flexible transport service), considering walk access time, service availability, and average waiting time. The method is essentially a way of measuring the density of the public transport provision at any location within the Greater Manchester region.
- 4.4.2 The accessibility index score is categorised into eight levels (1 to 8), where level 8 represents a high level of accessibility (described as 'excellent') and level 1 a low level of accessibility (described as 'very poor').

- 4.4.3 The site is located in an area with a GMAL rating of 5. This demonstrates that the site offers good levels of multi-modal accessibility to Manchester city centre and across Greater Manchester.
- 4.4.4 Accessibility by bus, rail and Metrolink are considered further below, with a local public transport network map included in **Figure 4.3**.



Figure 4.3 – Public Transport Network in the Vicinity of the Site

(Source: TfGM)

Bus Accessibility

- 4.4.5 Guidance from the Chartered Institution of Highways and Transportation (CIHT) document '*Buses in Urban Developments*' (2018) indicates that ideally, a bus stop should be located within the following from a new development based on its location and the number of services:

Situation	Maximum Walking Distance (m)
Core bus corridors with two or more high-frequency services	500
Single high-frequency routes (every 12 minutes or better)	400
Less frequent routes	300
Town/city centres	250

Table 4.3 – CIHT Maximum Suggested Walking Distances to Bus Stops

- 4.4.6 A distance of 400m, which equates to an approximate 5-minute walk, is also commonly cited as a benchmark for access to local bus services.
- 4.4.7 The nearest bus stop to the site is located directly outside the Leisure Centre, along Princess Road, which is located within the walking distances stated in **Table 4.3**, c.50m to the north of the pedestrian access into Hough End. In addition, the southbound services can be accessed by utilising the pedestrian crossing on Princess Road, also located c.50m north of the pedestrian access.
- 4.4.8 This is followed by the bus stops along Mauldeth Road West (c. 500m from the site). **Table 4.4** details the services that call at these stops, and their associated frequencies:

Bus Service	Route	Peak Hourly Frequency		
		Mon – Fri	Sat	Sun/Hols
From A5103 Princess Road:				
101	Wythenshawe – Wythenshawe Hospital – Baguley – Northenden – Moss Side – Manchester	15 mins	15 mins	20 mins
103	Manchester Airport – Peel Hall – Wythenshawe – Moss Side – Manchester	30 mins	30 mins	Hourly
108	Timperley – Brooklands – Northern Moor – Northenden – Moss Side – Manchester	3 in the AM	-	-
From Mauldeth Road West:				
25	Stockport – Burnage – Chorlton – Stretford – The Trafford Centre	30 mins	30 mins	30 mins

Table 4.4 – Summary of Bus Service Frequencies in the Vicinity of the Site

- 4.4.9 These stops provide frequent access to and from residential areas, as well as larger public transport interchanges (such as Manchester city centre) all 7 days of the week. It is considered that the site is accessible by bus.
- 4.4.10 It is noted that the provision of bus services will change over time in response to current circumstances. The bus times are accurate at the time of writing, whereas up-to-date bus times can be found on TfGM's website: tfgm.com/public-transport/bus.

Rail Accessibility

- 4.4.11 The Chartered Institution of Highways and Transportation (CIHT) document, *'Planning for Public Transport in Developments'* notes that those travelling to a site by rail will typically be prepared to walk further to the site than those travelling by bus, with a preferred distance of 800m.
- 4.4.12 The Mauldeth Road rail station is located c. 2.8km to the east of the site. This lies outside the CIHT recommended distance; however, the station is also served by the no. 25 bus service and can be accessible by cycle. There is step-free access across the whole station in the form of ramps to the platforms, along with a concourse at the northbound platform (Platform 2), and shelter and seating on both platforms. There is also a station car park adjacent to the southbound platform (Platform 1) with 20 spaces, operating 24 hours a day with no charge for parking, however the station car park is not CCTV-secured.
- 4.4.13 Northern Rail offers space for up to two bikes on all trains for no extra charge, however these are allocated on a first-come, first-serve basis. A summary of rail services from the rail station is outlined in

Table 4.5:

Destination	Service Frequency		
	Peak Weekday	Peak Saturday	Peak Sunday
Manchester to Manchester Airport local stopping services and Manchester to Crewe Calling at but not limited to: Manchester Oxford Road, Manchester Piccadilly, Mauldeth Road, East Didsbury, Manchester Airport, Wilmslow, Alderley Edge, Crewe. Change at Manchester Piccadilly or Wilmslow for additional destinations	Hourly	Hourly	Hourly

Table 4.5 – Summary of Rail Services calling at Mauldeth Road

- 4.4.14 The trains that service Mauldeth Road rail station operate regularly, 7 days a week to a number of different locations and residential areas within Greater Manchester and the North West; this provides frequent access for users of the site and is a viable alternative to private car use.
- 4.4.1 It is noted that the provision of rail services will change over time in response to current circumstances. The rail frequencies are accurate at the time of writing, whereas up-to-date rail times can be found on Northern Rail's website: northernrailway.co.uk/travel/timetables.

Metrolink (Light Rail) Accessibility

4.4.2 The nearest Metrolink station is Withington, located c. 500m to the south of the site. There is step-free access to both platforms in the form of lifts and ramps. The **Pink Line** between East Didsbury and Rochdale calls at this station:

4.4.3 All lines run at a frequency as follows:

- **Monday to Friday** – Every 10 minutes between 06:00 – 19:00, every 20 minutes between 19:00 to 00:00;
- **Saturday** – Every 20 minutes between 06:00 – 08:00 and 20:00 – 00:00, every 10 minutes between 08:00 – 20:00; and
- **Sunday** – Every 15 minutes between 07:00 – 23:00.

4.4.4 The start and end times for the specific station that staff and visitors wish to call at will change over time in response to current circumstances. The Metrolink frequencies are accurate at the time of writing, whereas up-to-date times can be found on the Metrolink website at: tfgm.com/public-transport/tram/tram-times.

4.4.5 It is considered the site is highly accessible by Metrolink (light rail).

BREEAM Public Transport Accessibility Index (AI)

4.4.6 Guidance from the BREEAM UK New Construction 2018 consultation also states that Transport Assessments and Travel Plans should include reporting on the public transport accessibility (i.e. Tra 01 – proximity to train, bus etc. stops and frequency of services) to obtain credits. This includes calculation of the Accessibility Index (AI) of the site.

4.4.7 Based on Tra 01 standards, a compliant transport node is defined as any bus service with a stop within 650m and any railway station within 1,000m of the assessed building's main entrance, measured via a safe pedestrian route (not 'as the crow flies'). The bus stop ("node") located within this distance and their respective service frequencies per hour are as follows in **Table 4.6**.

4.4.8 For the purposes of this assessment, multiple services (i.e. services that operate from more than one node within proximity of the site / the same bus/rail serving two separate stops/stations) have been considered only once at the node in closest proximity to the site.

Service and Hourly Frequencies		Node and Distance to Node (m)		
		Princess Road (50m)	Mauldeth Road West (500m)	Withington (500m)
Bus	101	4	-	-
	103	2	-	-
	25	-	2	-
	217	-	1	-
Metrolink	East Didsbury to Rochdale	-	-	6
Accessibility Index (AI)		<u>7.35</u>		

Table 4.6 – BREEAM Public Transport Accessibility Index (AI) Calculator

- 4.4.9 It can be observed that the site's AI of 7.35 demonstrates that the site has a lower level of public transport accessibility in relation to BREEAM. However, as illustrated in **Table 1.1**, a range of measures are being implemented to encourage sustainable travel. The preceding summary of multi-modal accessibility also demonstrates that public transport services would be available for staff and visitors at the site in accordance with guidance.

4.5 Summary

- 4.5.1 It is considered the site is accessible by sustainable modes of transport. The surrounding area exhibits good levels of pedestrian and cycling infrastructure, and there are public transport opportunities within acceptable walking distance of the site.

5.0 Traffic Forecasting

5.1 Introduction

- 5.1.1 This section of the report details the methodology used to predict the demand associated with the proposed development and derive future year traffic flows in order to assess the impact of the site.

5.2 Traffic Surveys

- 5.2.1 As part of scoping discussions with Highways Officers at MCC and TfGM, it was agreed that capacity assessments should be undertaken at the Site Access/Princess Road priority junction and the Whitchurch Road/Princess Road priority junction.
- 5.2.2 As part of the consented Transport Assessment which supported the Hough End Leisure Centre development (Manchester City Council Planning Reference: 104518/VO/2013/S1), traffic surveys were undertaken in 2013 at the same junctions on Princess Road. Traffic growth was subsequently applied to a future year of 2014, and the Hough End Leisure Centre development was included to create a 'Base + Development' scenario for the weekday AM and PM and Sunday peak.
- 5.2.3 Due to the Covid-19 restrictions lifting in July 2021 and traffic volumes lifting back to normal levels, traffic surveys were undertaken at the junction of Princess Road/Whitchurch Road on Thursday 7th October 2021.
- 5.2.4 The full turning count data is provided in **Appendix C**.
- 5.2.5 It was noted by MCRActive/Manchester City Council that current usage at the existing leisure centre/football pitches was not back to the level it was pre-Covid-19 pandemic. On this basis, the turning movements to and from the Hough End car park during the peak hours used within 'Base + Development' scenario of the 2013 TA have been utilised for robustness. These have been added to the peak hours derived for the 2021 surveys to provide a robust assessment, with the ahead movements derived from the Princess Road/Whitchurch Road junction.
- 5.2.6 The 2021 peak hour flows are shown in **Traffic Figures 1 – 4**. All Traffic Figures are included in **Appendix F**.

5.3 Assessment Years

- 5.3.1 As the Princess Road corridor is metered by traffic signals along its length, it is unlikely that significant traffic growth has occurred between the consented 2014 Base + Development scenarios and recent years.

- 5.3.2 Following the pre-application scoping meeting with Highways Officers at MCC and TfGM in February 2021, traffic data on Princess Road was obtained via TfGM Turning Count Data from 9th December 2020 for Count Point TDC9/9450/2 at the junction of the A5103 Princess Road/Whitchurch Road – which is located to the immediate north of the Site Access.
- 5.3.3 Whilst it is noted that that this count was undertaken during local restrictions owing to the Covid-19 pandemic, this data was factored by TfGM to pre-COVID levels using a comparison of AM/PM flows in 2019 and 2020 surveys at the A5103 Princess Road/The Boulevard junction.
- 5.3.4 Furthermore, Curtins has also obtained Automatic Traffic Count (ATC) data on Princess Road from the Department for Transport (DfT) Count Point 17675 – located to the south of the Hough End Leisure Centre access. The latest count was undertaken on 10th July 2019.
- 5.3.5 Both the TfGM and DfT data is included within **Appendix D**.
- 5.3.6 **Figure 5.1** demonstrates the two-way flow on Princess Road in the AM peak hour with consideration given to the 2014 (Base + Development) traffic flows, the 2019 TfGM traffic flows, the 2019 DfT traffic flows and the 2021 traffic survey flows.

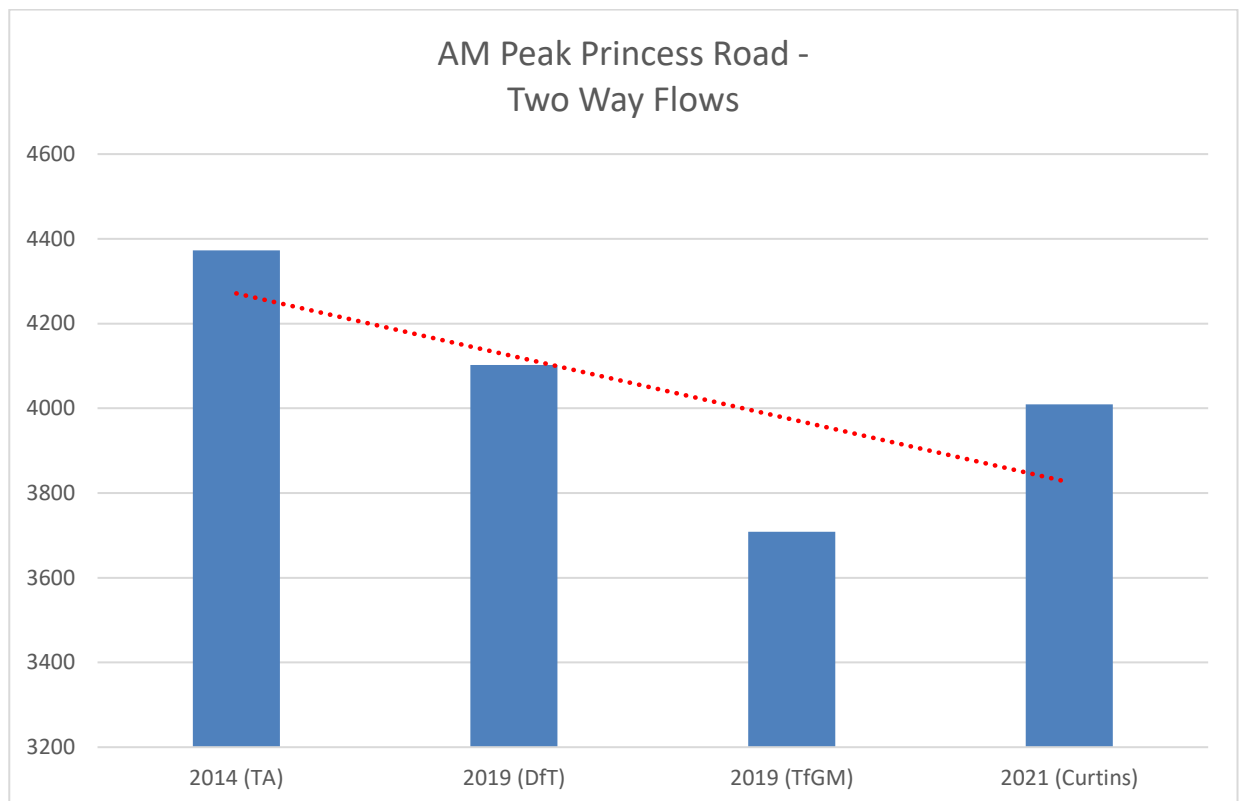


Figure 5.1 – Traffic Flows on Princess Road (2014 – 2021) – AM Peak

5.3.7 **Figure 5.2** demonstrates the two-way flow on Princess Road in the PM peak hour with consideration given to the 2014 (Base + Development) traffic flows, the 2019 TfGM traffic flows, the 2019 DfT traffic flows and the 2021 traffic survey flows.

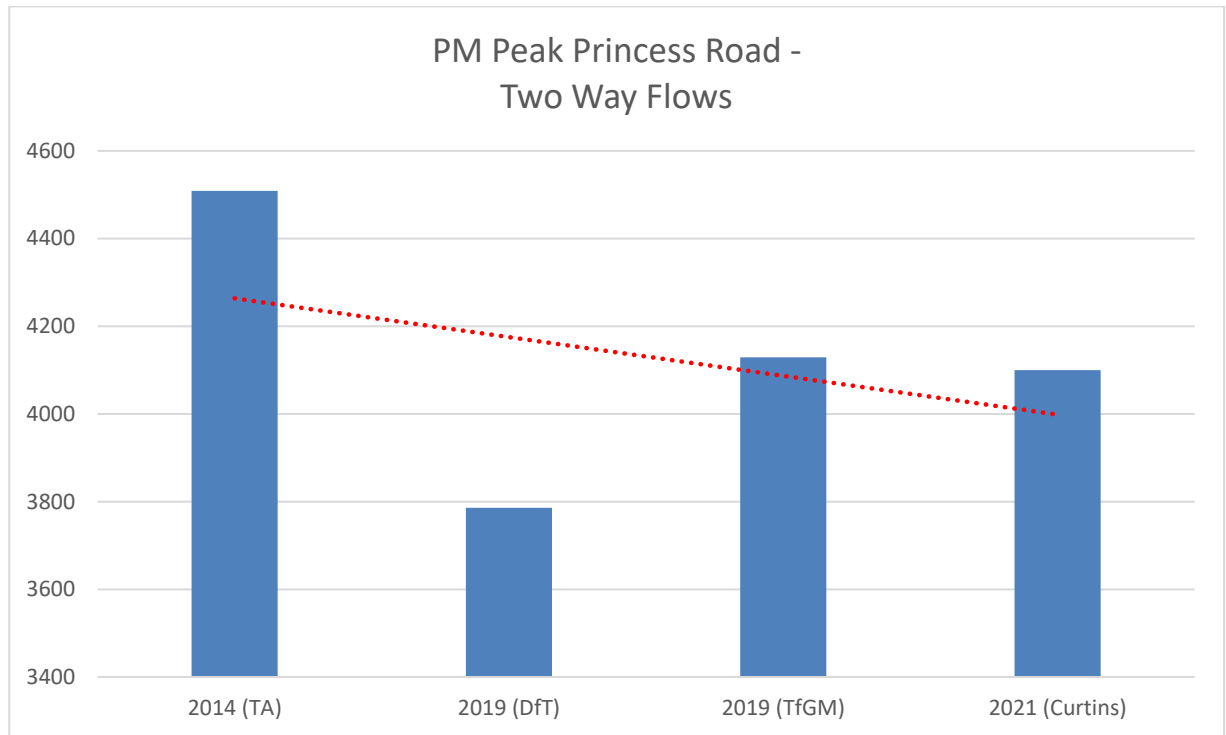


Figure 5.2 – Traffic Flows on Princess Road (2014 – 2021) – PM Peak

5.3.8 Based on **Figures 5.1 and 5.2**, there is no distinct increase in traffic growth over the last 7 years, and this fluctuates throughout the period. Furthermore, it is likely that with changes in travel habits/working patterns associated with the post-Covid 19 world, car travel to/from the City will reduce – and not grow in the coming years – with the uptake in home working/flexible working. A reduction in peak hour trips to the city centre is also in line with the City Centre Transport Strategy to 2040.

5.3.9 On this basis, it is proposed that the 2021 surveys (including turning counts from the 2014 TA) will comprise the Baseline assessment scenario with no additional traffic growth applied.

5.4 Trip Distribution

5.4.1 The trip distribution for the proposed development has been retained from the 2013 consented TA. This utilises the previously surveyed arrival/departure turning movements at Hough End and is considered to be an appropriate distribution. **Traffic Figure 5** at the rear of the report demonstrates the retained trip distribution.

5.5 Trip Generation

- 5.5.1 For robustness, the trip rates used for the consented Hough End Leisure Centre are proposed to be retained for the Leisure Centre extension assessment. The trip rates are per 100m² GFA.
- 5.5.2 **Table 5.1** demonstrates the arrival/departure trip rates for the Weekday AM and PM peak hours and the Sunday peak hours.

Assessment Period	Trip Rates from Consented TA			Trip Generation (1,464m ² GFA)		
	Arrive	Depart	Total	Arrive	Depart	Total
Weekday AM Peak (08:00 – 09:00)	0.694	0.690	1.384	10	10	20
Weekday PM Peak (17:00 – 18:00)	1.736	1.799	3.535	25	26	51
Sunday AM Peak (10:00 – 11:00)	1.106	0.639	1.745	16	9	25
Sunday PM Peak (13:00 – 14:00)	0.722	0.945	1.667	11	14	25

Table 5.1 – Vehicular Trip Rate/Trip Generation (Leisure Centre Extension)

- 5.5.3 **Table 5.1** confirms that the Leisure Centre Extension would generate approximately 20 two-way vehicular trips in the weekday AM peak, 51 two-way trips in the weekday PM peak, 25 two-way trips during the Sunday AM peak and 25 two-way trips during the Sunday PM peak.
- 5.5.4 In addition to the Leisure Centre extension, it is noted that the 3G pitches/5-a-side uses will generate additional vehicular trips in the weekday PM. It is not likely that the football pitches will be operational and/or generate any significant traffic during the weekday AM peak hour.
- 5.5.5 On this basis, the TRICS database has been consulted to derive trip rates and subsequent trip generation for the 3G pitches / 5-a-side use, as described in **Section 3.3**. TRICS is the industry recognised tool for calculating the anticipated future trip demand of a proposed development. The database contains multi-modal surveys of varying land uses in multiple destinations across the UK including leisure/football uses.
- 5.5.6 The TRICS selection criteria are summarised as follows:
- Football (5-a-side);
 - All sites excluding Greater London/Ireland;
 - Sites located on Edge of Town and Suburban Areas.
- 5.5.7 The trip rates are per pitch and the full outputs from the TRICS assessments can be found in **Appendix E** at the rear of this report.

5.5.8 To provide a robust analysis of the worst-case usage on a weekday, the traffic generation of 12no. 5-a-side pitches has been undertaken. This takes account of the increased usage likely to occur on a weekday evening with vehicular movements associated occurring between 17:00 – 18:00.

5.5.9 **Table 5.2** demonstrates the arrival/departure trip rates for the 5-a-side pitches during the Weekday PM peak hour.

Assessment Period	5-a-Side Trip Rates			5-a-Side Trip Generation (12 Pitches)		
	Arrive	Depart	Total	Arrive	Depart	Total
Weekday PM Peak (17:00 – 18:00)	2.571	1.143	3.714	31	14	45

Table 5.2 – Vehicular Trip Rate/Trip Generation (Weekday PM Football)

5.5.10 **Table 5.2** confirms that the intensification and reconfiguration of the existing pitches would generate an additional 45 two-way vehicular trips in the weekday PM peak.

5.5.11 With respect to the increase in Sunday football traffic associated with the uplift in players, it is recognised that there will be a maximum of 428 players on site at any one time on a Sunday (as detailed within **Section 3.3**)

5.5.12 **Table 5.3** demonstrates the increases in vehicular movements during the Sunday AM/PM peak hours based on the 38% increase of the existing movements as detailed in the 2014 TA.

Assessment Period	Existing Situation on Sunday Matches			Additional Trips (38% Increase)		
	Arrive	Depart	Total	Arrive	Depart	Total
Sunday AM Peak (10:00 – 11:00)	135	14	150	52	5	57
Sunday PM Peak (13:00 – 14:00)	3	84	86	1	32	33

Table 5.3 – Vehicular Trip Rate/Trip Generation (Sunday AM/PM Football)

5.5.13 **Table 5.3** confirms that the intensification and reconfiguration of the existing pitches on a Sunday would generate an additional 57 two-way vehicular trips in the AM peak and 33 two-way trips in the PM peak.

5.5.14 Based on the above calculations, **Table 5.4** demonstrates the total additional vehicular trip generation attributed to the redevelopment proposals in all four peak hours in consideration.

Assessment Period	Trip Generation – Leisure Centre Extension and Football		
	Arrive	Depart	Total
Weekday AM Peak (08:00 – 09:00)	10	10	20
Weekday PM Peak (17:00 – 18:00)	56	40	96
Sunday AM Peak (10:00 – 11:00)	68	14	82
Sunday PM Peak (13:00 – 14:00)	12	46	58

Table 5.4 – Vehicular Trip Generation (Total Development)

5.5.15 It is evident that the proposed development would generate less than 30 two-way vehicular trips in the weekday AM peak. However, the Leisure Centre extension and reconfiguration of the pitches would generate in excess of 30 two-way vehicular trips in the weekday PM peak and the Sunday peaks and will require further analysis.

5.5.1 On this basis, **Traffic Figures 6 – 8** at the rear of the report show the total vehicular development traffic flows associated with Weekday PM, Sunday AM & PM peak hours obtained from **Table 5.4** incorporated with the turning proportions shown within the Trip Distribution (**Traffic Figure 5**).

5.5.2 This would result in an additional 14 right turn movements out of the Hough End car park in the weekday PM Peak which may impact on the operation of the junction, 5 additional right turn movements in the Sunday AM Peak and 17 additional right turn movements in the Sunday PM Peak.

5.6 Assessment Traffic Flows

5.6.1 The development traffic flows have been added to the Baseline scenarios to form the 'Base + Development' scenario traffic flows in the weekday PM peak and the Sunday AM & PM peaks. The resultant figures are set out in **Traffic Figures 9 – 11**.

5.7 Junctions to be Assessed

5.7.1 The following junctions will be assessed, which is consistent with the study area from the 2013 TA and scoping discussions with Highways Officers at MCC and TfGM for the current development proposals:

- **Junction 1** – A5103 Princess Road / Hough End car park priority junction; and
- **Junction 2** – A5103 Princess Road / Whitchurch Road priority junction.

5.7.2 The results of the capacity assessments are provided in the next section of this report.

6.0 Capacity Assessments

6.1 Introduction

6.1.1 As part of this TA, the operation of the local highway network has been assessed at the following locations:

- **Junction 1** – A5103 Princess Road / Hough End car park priority junction; and
- **Junction 2** – A5103 Princess Road / Whitchurch Road priority junction.

6.1.2 The above junctions operating under priority control have been modelled utilising TRL's JUNCTIONS programme.

6.1.3 JUNCTIONS results refer to the Ratio of Flow to Capacity (RFC), delay and queue length predicted on each arm of the junction. An RFC of 1.00 indicates that the arm in question is operating at its theoretical capacity, whilst an RFC of 0.85 or less indicates that the arm is operating within its practical capacity.

6.1.4 During scoping discussions with Highways Officers at MCC and TfGM, it was agreed that two separate PICADY models would be undertaken for each junction. This is due to the right turn out of both the Site Access and Whitchurch Road would typically be undertaken as a two-stage movement as per on-site observations. Vehicles would initially give way to the right, then move to the right turn pocket within the central reserve and then give way to the left.

6.1.5 The separate PICADY models emulate this approach. The results of each model are subsequently combined to demonstrate the overall impacts at each respective junction – and this is what is shown within the results in **Section 6.2** and **6.3**.

6.1.6 For example, in the Weekday PM peak (Base Scenario) – for the right turn movement from the Hough End Site Access to Princess Road (southbound), a vehicle will require to wait until there is a gap in traffic associated with Princess Road northbound traffic; this delay is 14.11 seconds. The vehicle would then travel into the central island and give-way to Princess Road southbound traffic waiting for a gap in traffic; this delay is calculated to be 12.27 seconds. Subsequently these delays for each movement have been combined to produce the total delay associated with the movement, which is 26.38 seconds as shown in **Table 6.1**. The same process and calculations have been undertaken with RFC and queues.

6.1.7 As discussed with Highways Officers at MCC and TfGM, traffic data has been input using the 'Direct' profile rather than the 'One-Hour' profile.

6.1.8 The results of the assessments are shown in the following sub-sections and the full junction modelling output reports are attached in **Appendix G** to the rear of this report.

6.2 Junction 1 – A5103 Princess Road / Hough End Car Park Priority Junction

6.2.1 **Table 6.1** presents a summary of the PICADY results for the Base scenarios, with **Table 6.2** presenting the results for the Base + Development scenarios.

Approach	Base								
	Weekday PM			Sunday AM			Sunday PM		
	RFC	MMQ	Delay (sec)	RFC	MMQ	Delay (sec)	RFC	MMQ	Delay (sec)
Hough End to Princess Rd (N)	0.11	0.1	13.2	0.05	0.1	9.3	0.25	0.4	13.2
Hough End to Princess Rd (S)	0.13	0.2	26.4	0.06	0.0	20.5	0.30	0.4	24.8
Princess Rd (N) to Hough End	0.06	0.1	10.3	0.12	0.1	8.5	0.02	0.0	8.1

Table 6.1 – A5103 Princess Road / Hough End Car Park – Base Scenarios

Approach	Base + Development								
	Weekday PM			Sunday AM			Sunday PM		
	RFC	MMQ	Delay (sec)	RFC	MMQ	Delay (sec)	RFC	MMQ	Delay (sec)
Hough End to Princess Rd (N)	0.18	0.2	14.6	0.07	0.1	9.7	0.33	0.5	15.0
Hough End to Princess Rd (S)	0.21	0.2	28.1	0.08	0.0	21.1	0.39	0.6	26.2
Princess Rd (N) to Hough End	0.12	0.1	11.2	0.18	0.2	9.2	0.03	0.0	8.2

Table 6.2 – A5103 Princess Road / Hough End Car Park – Base + Development Scenarios

6.2.2 Based on the results shown in **Table 6.1** and **6.2**, the existing Site Access junction is predicted to operate within capacity in both the Base and Base + Development scenarios.

6.2.3 The queues and delays slightly increase, with a maximum increase of 1.7 seconds during the weekday PM peak for the Hough End to Princess Road (S) movement. This level of additional delay is minor and considered acceptable for this location.

6.2.4 On this basis, it is concluded that of the impacts of the proposed development are not significant or severe in the context of the National Planning Policy Framework (NPPF) and mitigation is not necessary.

6.3 Junction 2 – A5103 Princess Road / Whitchurch Road Priority Junction

6.3.1 **Table 6.4** presents a summary of the PICADY results for the Base scenarios, with **Table 6.5** presenting the results for the Base + Development scenarios.

Approach	Base								
	Weekday PM			Sunday AM			Sunday PM		
	RFC	MMQ	Delay (sec)	RFC	MMQ	Delay (sec)	RFC	MMQ	Delay (sec)
Whitchurch Road	0.46	0.9	13.03	0.30	0.5	8.44	0.38	0.7	10.42
Princess Road (S) (to Whitchurch Rd)	0.72	1.7	30.97	0.21	0.2	14.64	0.32	0.4	18.14
Princess Rd (N)	0.61	1.7	3.05	0.38	0.7	1.78	0.49	1.1	2.17

Table 6.3 – A5103 Princess Road / Whitchurch Road – Base Scenarios

Approach	Base + Development								
	Weekday PM			Sunday AM			Sunday PM		
	RFC	MMQ	Delay (sec)	RFC	MMQ	Delay (sec)	RFC	MMQ	Delay (sec)
Whitchurch Road	0.47	0.9	13.40	0.31	0.5	8.61	0.38	0.7	10.43
Princess Road (S) (to Whitchurch Rd)	0.75	1.8	32.70	0.22	0.2	14.75	0.34	0.4	18.50
Princess Rd (N)	0.62	1.8	3.10	0.38	0.7	1.77	0.53	1.2	2.51

Table 6.4 – A5103 Princess Road / Whitchurch Road – Base + Development Scenarios

6.3.2 Based on the results shown in **Table 6.3** and **6.4**, the Whitchurch Road junction is predicted to operate within capacity in both the Base and Base + Development scenarios.

- 6.3.3** The queues and delays slightly increase, with a maximum increase of 1.73 seconds during the weekday PM peak for the Princess Road (S) approach. This level of additional delay is minor and considered acceptable for this location.
- 6.3.4** As set out in **Section 3.5** above, highway improvements have been identified to promote highway safety and the accessibility of the site for pedestrians and cyclists. **Table 6.5** demonstrates the impacts that the proposed highway improvements at Whitchurch Road/Princess Road would have on capacity and delay.

Approach	Base + Development – With Proposed Highway Improvements								
	Weekday PM			Sunday AM			Sunday PM		
	RFC	MMQ	Delay (sec)	RFC	MMQ	Delay (sec)	RFC	MMQ	Delay (sec)
Whitchurch Road	0.48	1.0	14.17	0.32	0.5	9.05	0.39	0.7	10.99
Princess Road (S) (to Whitchurch Rd)	0.75	1.8	32.70	0.22	0.2	14.75	0.34	0.4	18.50
Princess Rd (N)	0.62	1.8	3.10	0.38	0.7	1.78	0.53	1.2	2.51

Table 6.5 – A5103 Princess Road / Whitchurch Road – Base + Development (With Proposed Highway Improvements)

- 6.3.5** Based on the results shown in **Table 6.5**, whilst the delay and queues would slightly increase at the Whitchurch Road approach, the junction would continue to operate within capacity.
- 6.3.6** On this basis, it is concluded that of the impacts of the proposed development are not significant or severe in the context of the NPPF.

6.4 Conclusions

- 6.4.1** It has been demonstrated in this TA that both the A5103 Princess Road/Hough End priority junction and the A5103 Princess Road/Whitchurch Road priority junction are predicted to operate efficiently with a sufficient amount of residual capacity available in the future year traffic scenarios. The increases in queueing and delays are not considered to be significant or severe, or a highway safety concern, in the context of the NPPF.

7.0 Transport Planning Policy

7.1 Introduction

- 7.1.1 When developing the scheme proposals, it is important to understand the national and local transport related planning policies. This section outlines the key policies throughout relevant policy and guidance documents.

7.2 National Planning Policy Framework (NPPF) 2021

- 7.2.1 The NPPF sets out the current national transport planning policy and outlines the important role that transport policies have to play in facilitating sustainable development.

- 7.2.2 Paragraph 11 states that:

“Plans and decisions should apply a presumption in favour of sustainable development.”

- 7.2.3 For decision taking this means granting permission unless:

“...any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies.”

- 7.2.4 With regard to transport, the policies are contained within paragraphs 102 – 111 at Section 9 of the NPPF, titled *Promoting Sustainable Transport*. Section 9 outlines the important role that transport policies have to play in facilitating sustainable development. The section states that:

“The planning system should actively manage patterns of growth ...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.”

- 7.2.5 The document emphasises the need for developments to offer a choice of sustainable modes of transport to *“reduce congestion and emissions, and improve air quality and public health”* and provide *“safe and suitable access”* for all users.

- 7.2.6 Paragraph 108 of the NPPF states that in assessing sites that may be allocated for development in plans, or specific applications in development, it should be ensured that:

- a) *“appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;*
- b) *safe and suitable access to the site can be achieved for all users; and*
- c) *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.”*

7.2.7 The development proposals have shown that safe and suitable access to the site can be achieved, where improvements would be put in place to improve pedestrian and cycle amenity. It is also not anticipated that the proposals would result in any significant impacts on the highway network.

7.2.8 Paragraph 109 of the NPPF states that:

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

7.2.9 Junction capacity assessments have been undertaken, which demonstrate that all of the junctions on the local highway network operate satisfactorily during peak hours, in the future year assessment scenarios, without and with the proposed development in place.

7.2.10 Paragraph 110 of the NPPF states that applications for development should:

- *“give priority to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;*
- *address the needs of people with disabilities and reduced mobility in relation to all modes of transport; and*
- *create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards.”*

7.2.11 The site is located in highly accessible area of Manchester, with a good level of walking and cycling infrastructure adjacent to the site, and a wide range of public transport services are accessible within walking distance of the site.

7.2.12 The proposed development therefore accords with the principles and policies of the NPPF.

7.3 National Planning Practice Guidance (NPPG)

7.3.1 In addition to the NPPF, a National Planning Practice Guidance (NPPG) document has also been developed by the Ministry of Housing, Communities & Local Government in 2012, with a revised version in 2014. It brings together planning practice guidance for England and sits alongside the NPPF. Within this document there is a specific section that clarifies the over-arching principles on Travel Plans, Transport Assessments and Transport Statements. The guidance states that:

“Travel Plans, Transport Assessments and Statements can positively contribute to:

- *Encouraging sustainable travel;*
- *Lessening traffic generation and its detrimental impacts;*
- *Reducing carbon emissions and climate impacts;*
- *Creating accessible, connected, inclusive communities;*
- *Improving health outcomes and quality of life;*
- *Improving road safety; and*
- *Reducing the need for new development to increase existing road capacity or provide new roads.”*

7.3.2 The guidance on Transport Assessments and Statements re-iterates the circumstances in which either document would usually be required. It is clear that a development of the size and nature of this development requires a TA.

7.3.3 It also clarifies the process for establishing a scope for what the documents should contain. The NPPG has been considered in the production of this TA and the accompanying ITP (**Document Reference: 076910-CUR-00-XX-RP-TP-003**).

7.3.4 As outlined above, this TA demonstrates that the site is accessible by active and sustainable modes of travel, and that safe and suitable access can be gained to the development. The development proposals therefore apply the principles set out in the NPPG and will seek to create a sustainable development and make a positive contribution to the local area.

7.4 Manchester Core Strategy (2012 – 2027)

7.4.1 The Manchester Core Strategy promotes similar principles to the NPPF. It contains three specific “Transport” policies, comprising:

- Policy T1 – Sustainable Transport;
- Policy T2 – Accessible areas of opportunity and need; and
- Policy T3 – Strategic Integration.

7.4.2 Policy T1 focuses on sustainable transport and access for all. The accessibility of the site would encourage users of the Proposed Development to travel by sustainable modes.

7.4.3 Policy T2 of the Manchester Core Strategy states:

“The Council will actively manage the pattern of development to ensure that new development...Within the City Centre, provides a level of car parking which reflects the highly accessible nature of the location, as well as the realistic requirements of the users of the development.”

- 7.4.4 Car parking for the development have been designed with respect to MCC Parking Standards and an evidence-based approach for overspill spaces (to prevent parking on the local highway network and residential streets) which would only be used during periods of intensive use.
- 7.4.5 Furthermore, a total of 56 covered cycle spaces (an increase of 24 spaces from the existing situation) will be provided as part of the development proposals. This is above the required MCC Standards and is envisaged to promote cycling as a mode of choice for users of the Leisure Centre and sports pitches.
- 7.4.6 Policy T3 is in relation to strategic integration of developments with the sustainable transport network. The proposed development would not prejudice the implementation of any of the strategic integration projects.

7.5 Greater Manchester Transport Strategy 2040

- 7.5.1 In 2015, Transport for Greater Manchester began consulting on a 2040 Vision for Transport to deliver a transport system which enables residents, businesses and visitors in Greater Manchester to travel to a wide range of different destinations and opportunities, and where sustainable transport can be a viable and attractive alternative to the car.
- 7.5.2 Under Policy 3, the Transport Strategy states that Transport for Greater Manchester will “maintain a conurbation-wide programme of travel choices interventions, supported by journey planning tools and information, to encourage travel behaviour change and mode shift, in order to make the most efficient use of available capacity, particularly during peak periods”. Such interventions comprise:
- *“Encouraging employers to allow home working on some days;*
 - *Measures to encourage people to make at least some of their journeys by public transport, walking and cycling;*
 - *Physical measures (bus priority measures, reallocating road space for pedestrian and cycling infrastructure, car share schemes, and constraints on long-stay parking in key centres); and*
 - *Promotions and marketing to provide people and businesses with the information, training, and incentives to make better informed decisions about how, when and where they travel and the impact of their choices.”*
- 7.5.3 The ITP includes a range of measures and initiatives to promote active and sustainable travel behaviour to and from the site.
- 7.5.4 Under Policy 4, Transport for Greater Manchester will also “continue to work with planning authorities and developers to ensure the accessibility of new development by sustainable modes and to reduce the impact on the highway network”. This will be in accordance with the principles of:
- *“Reducing the need to travel by car, and the distance travelled;*

- *Maximising accessibility by sustainable modes;*
- *Making the best use of existing infrastructure, particularly through increasing the density of development close to public transport nodes;*
- *Maximising opportunities to provide additional public transport; and*
- *Designing to encourage active travel.”*

7.5.5 This TA has demonstrated that the proposed development will not adversely impact the transport network, and instead would support the Transport Strategy by enhancing opportunities for sustainable travel by integrating into existing infrastructure.

7.6 Conclusions

7.6.1 The above policy review demonstrates that the proposed development is in line with national and local transport policies and guidance. The development proposals have been designed to encourage active and sustainable travel, with existing residential areas and a range of existing and proposed local amenities accessible from the site.

8.0 Summary and Conclusions

8.1 Summary

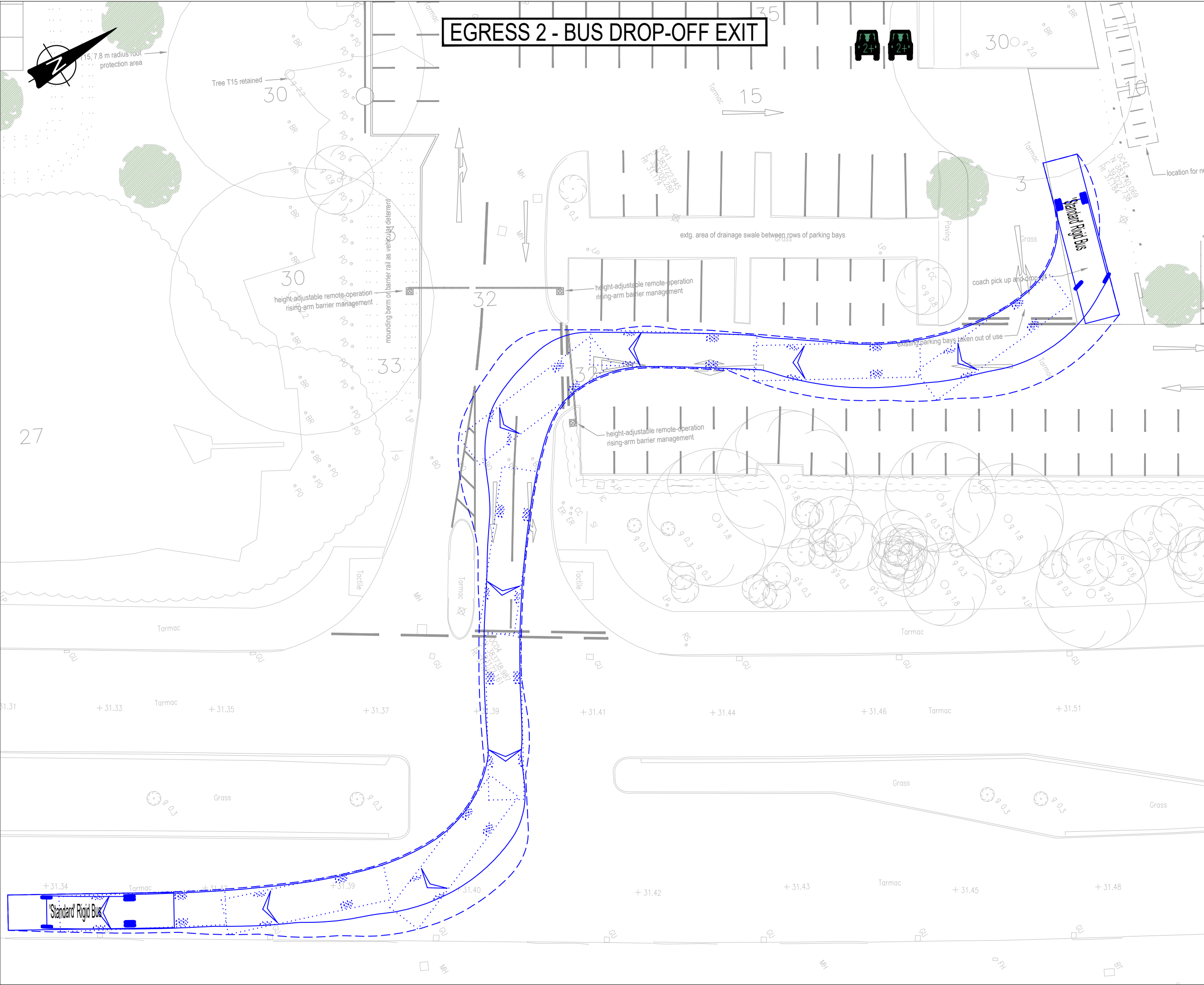
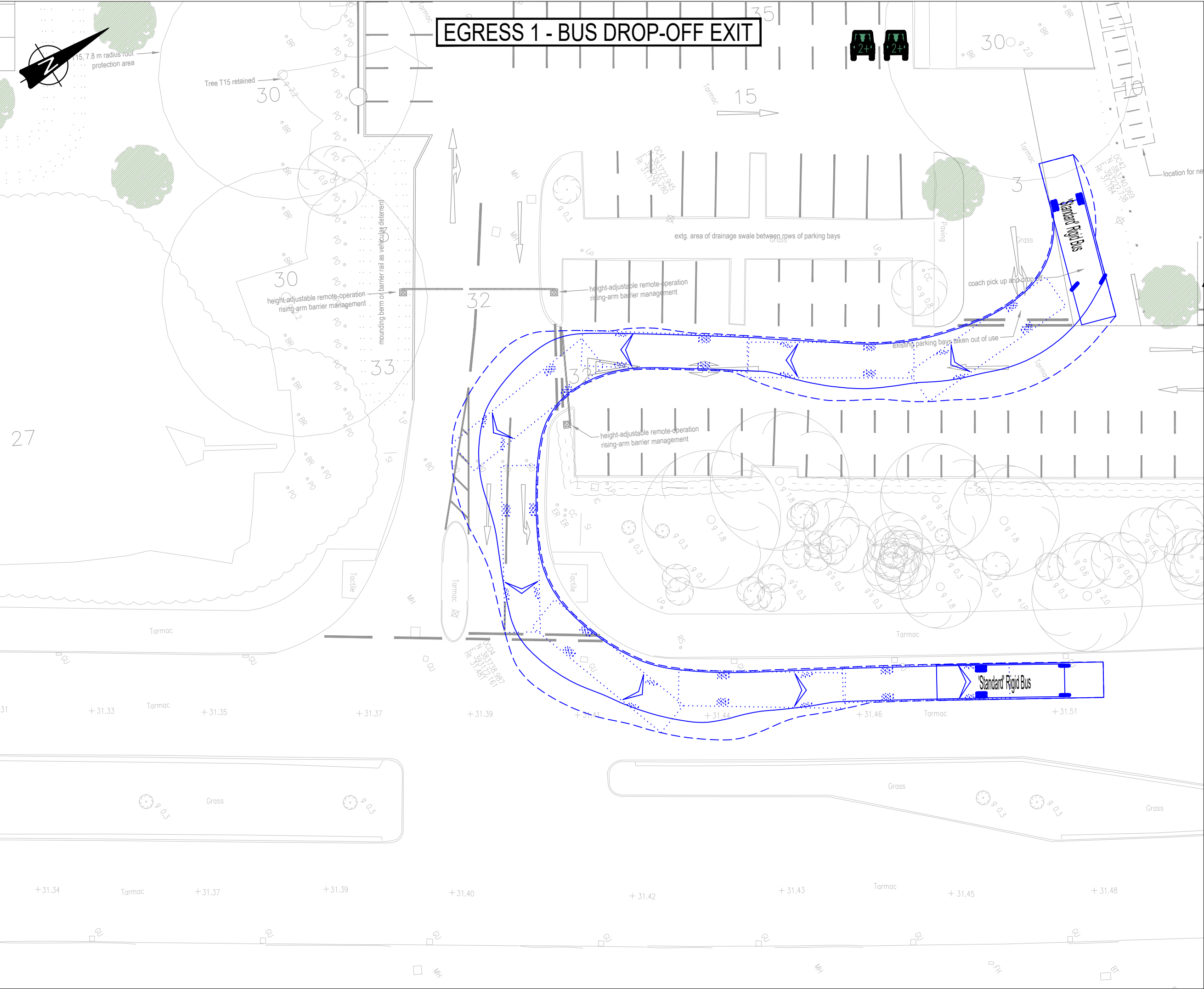
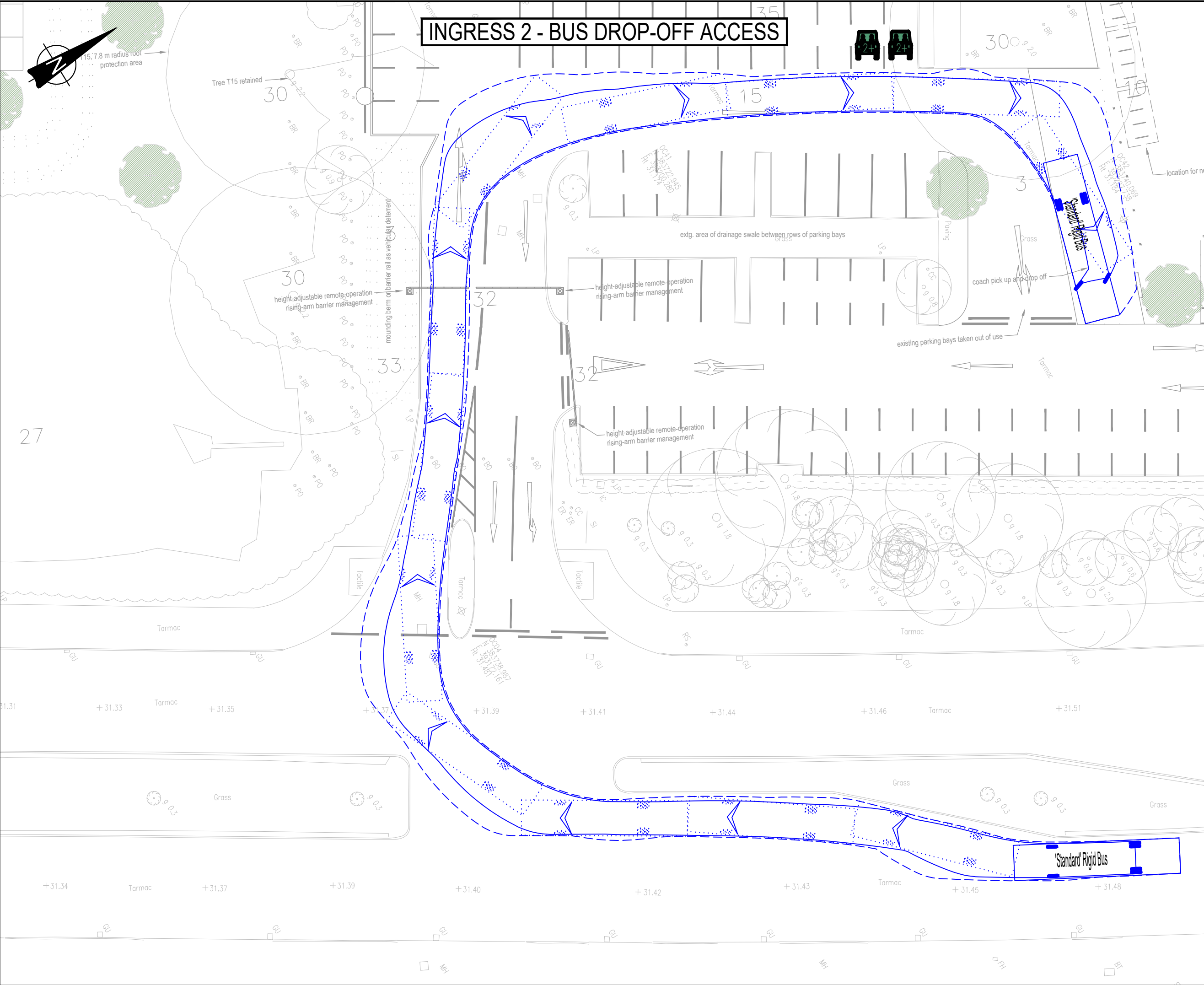
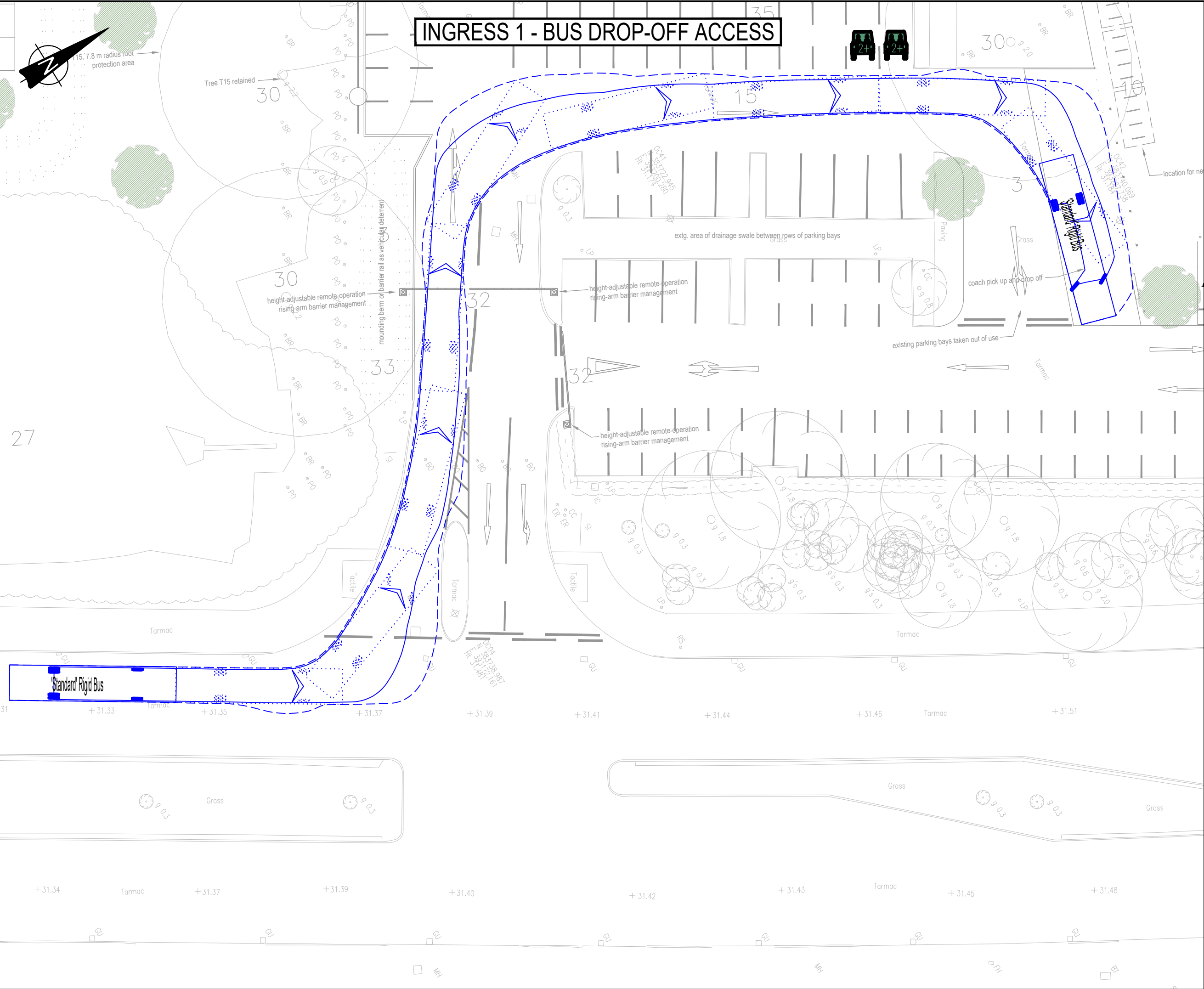
- 8.1.1 Curtins has been appointed by ISG Ltd, on behalf of MCC, to provide highways and transport advice in relation to extension of the existing Hough End Leisure Centre and upgrade to existing sports pitches.
- 8.1.2 The existing Leisure Centre opened in 2015. The 2013 TA noted that the now existing Leisure Centre would comprise a GFA of 2,920m², 21no grass pitches and 4no. small/5-a-side pitches. There is a total of 173 car parking spaces (comprising 6 disabled spaces and 3 parent and child spaces) and 25 overspill parking spaces available at the site. It has been noted that the existing parking provision is at capacity on weekends during the busiest football periods (pre COVID-19 pandemic). This has resulted in parking taking place on-street on nearby residential areas.
- 8.1.3 The proposed development comprises an extension to the existing Leisure Centre, which would encompass an additional 1,464m² GFA. This would include supplementary public facilities such as a café, changing rooms, additional fitness suite/gym space, club room and training room, as well as new staff facilities, a store room and plant.
- 8.1.4 In addition to the Leisure Centre expansion, the adjacent football pitches will be improved and reconfigured. The proposals will result in a total of 12no. grass football pitches, 2no. five-a-side grass pitches, 3no. grass small junior pitches and 2no. standard 3G pitches. Each standard 3G pitch can operate as 4no. small junior pitches.
- 8.1.5 The 198 existing parking spaces will be retained, albeit some spaces displaced to other locations due to the footprint of the Leisure Centre extension and reorganisation of the car park layout. Based on the Leisure Centre uplift of 1,464m², this equates to an additional 67 spaces permitted for the expanded Leisure Centre. Based on the uplift on football players on site at any one time, it is proposed that an additional 60 spaces are included within the overspill area. This increases the total parking on site to 325 spaces – 240 in the main car park and 85 overspill parking spaces.
- 8.1.6 The existing Leisure Centre would be known as Hough End Sports Village following the implementation of the development proposals.
- 8.1.7 Extensive pre-application scoping discussions have been held with Highways Officers at MCC and TfGM with key principles and technical parameters agreed. The off-site highway improvement proposals have also been developed in liaison with both stakeholders.

- 8.1.8 Collision data for the highway network around the site has been obtained from TfGM for the most recently available six-year period. Based on the analysis, it is not considered that there is an existing safety issue that is likely to be exacerbated by the proposed development.
- 8.1.9 The accessibility of the site by non-car modes of transport has been assessed in detail. The surrounding area exhibits good levels of pedestrian and cycling infrastructure, and there are several public transport opportunities for future users of the site.
- 8.1.10 Junction capacity assessments have been undertaken, which demonstrate that the junctions on the local highway network operate satisfactorily during peak hours in the future year assessment scenarios, without and with the proposed development in place.
- 8.1.11 A review of transport planning policy has been undertaken, and it is demonstrated that the proposed development is in line with the requirements of national and local planning policies and guidance.

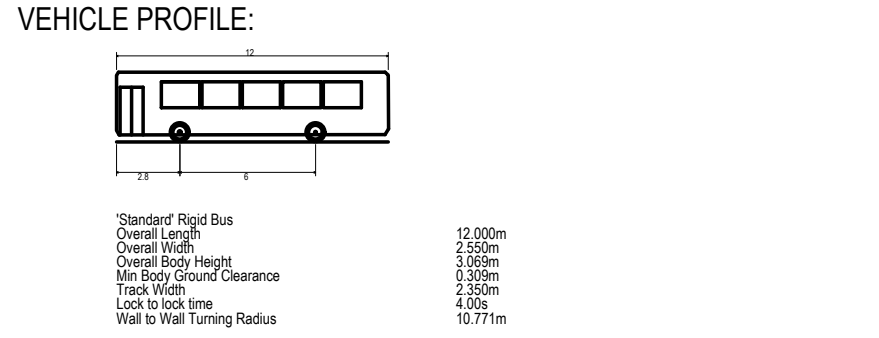
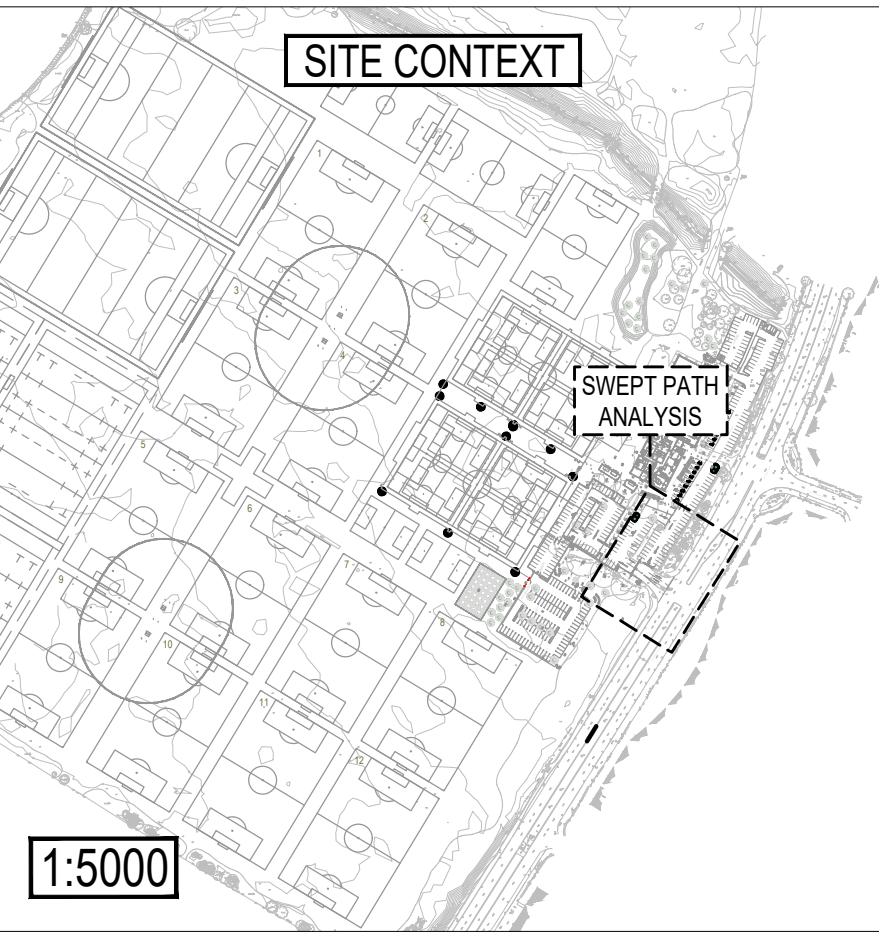
8.2 Conclusions

- 8.2.1 It is Curtins' view that from a traffic and transportation perspective, there are no reasons why the development proposals should not be granted planning approval.

Drawings



- GENERAL NOTES:
1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.
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 6. DRAWING BASED ON ARCHITECT DRAWING
DRAWING REFERENCE: HEV-EWA-02-XX-DR-L-79001 Site Masterplan



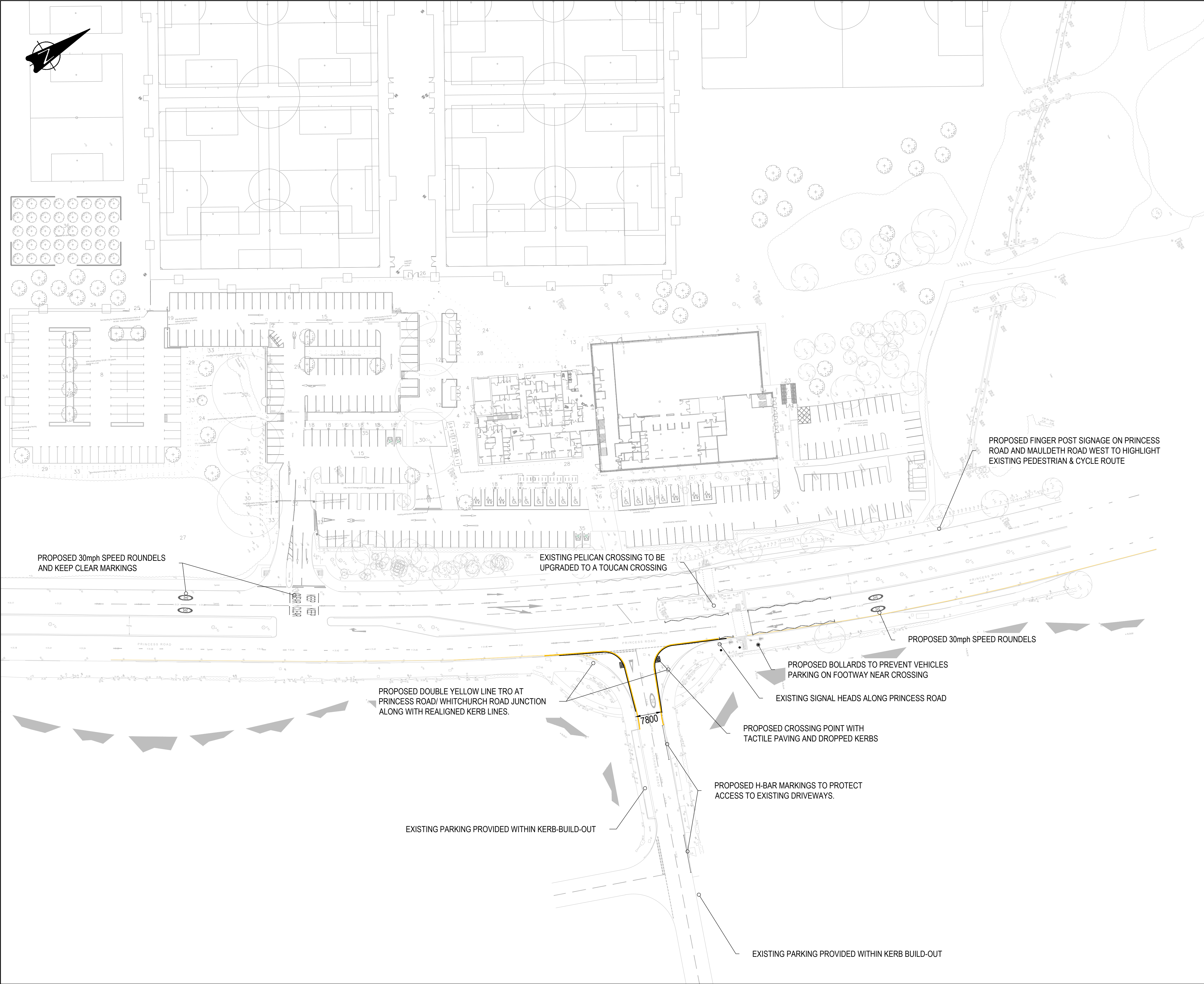
P04	SITE LAYOUT UPDATED	22/11/21	DD	MT
P03	SITE LAYOUT UPDATED	26/10/21	DD	CP
P02	SITE LAYOUT UPDATED	31/03/21	DD	MT
Rev:	Description:	Date:	By:	Chkd:

Curtins

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Status: PRELIMINARY				
Project: HOUGH END SPORTS VILLAGE				
Orig Title: SWEPT PATH ANALYSIS 12m STANDARD RIGID BUS				
Size:	Date:	Drawn By:	Designed By:	Checked By:
A1	24/02/21	JM	JM	CP
Scale:	1:250			
Project No:	Originator:	Volume:	Level:	Type:
76170 - CUR - 00 - XX - DR - TP -	05002	- P04		



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KEY:	---	EXISTING ROAD MARKINGS
	+	EXISTING SIGNAGE
	---	EXISTING YELLOW LINING TRO
	---	PROPOSED ROAD MARKINGS
	●	PROPOSED BOLLARD
	---	PROPOSED YELLOW LINING TRO

P07	TYPO AMENDED	11/02/22	DD	MT
P06	LAYOUT UPDATED	13/12/21	DD	MT
P05	IMPROVEMENT PROPOSALS UPDATED	25/11/21	DD	MT
P04	IMPROVEMENT PROPOSALS UPDATED	16/11/21	DD	MT
P03	LAYOUT UPDATED	30/03/21	DD	MT
P02	MINOR TEXT ALTERATIONS	17/03/21	JM	CP
Rev:	Description:	Date:	By:	Chkd:



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Status:	PRELIMINARY			
Project:	HOUGH END SPORTS VILLAGE			
Orig Title:	PRINCESS ROAD PROPOSED HIGHWAY IMPROVEMENTS			
Size:	A1	Date:	26/02/21	Drawn By:
Scale:	1:500			JM
Project No:	Originator:	Volume:	Level:	Type:
76170	- CUR	- 00	- XX	- DR
				- TP
				- 75002
				- P07

Appendix A – Proposed Site Layout & Site Application Red Line Boundary

NOTES					
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Rev	Date	Notes	By	CHK	
01	11.03.21	Issued for planning application, 2.0. Category B notes have been added	RP	NA	
02	11.03.21	Site plan and landscaping to align with 11.03.21 issued 17.03.21	RP	NA	
03	20.03.21	Further changes to 11.03.21 issued 20.03.21	RP	NA	
04	21.03.21	Final design	RP	NA	
05	12.03.21	Final design	RP	NA	
06	12.03.21	Final design	RP	NA	
07	12.03.21	Final design	RP	NA	
08	12.03.21	Final design	RP	NA	
09	12.03.21	Final design	RP	NA	
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36	12.03.21	Final design	RP	NA	
37	12.03.21	Final design	RP	NA	
38	12.03.21	Final design	RP	NA	



1. ENTRANCE TO PROPOSED EXTENSION TO LEISURE CENTRE BUILDING

2. EXISTING CHANGING PAVILION TO BE DEMOLISHED

3. EXISTING PARKING BAYS REMOVED

4. EXISTING TREES OR GROUPS OF TREES PROPOSED AS REMOVED

5. EXISTING COACH SET-DOWN/PICK-UP RELOCATED

6. PROPOSED NEW CAR PARKING, CONCRETE ASPHALT SURFACE

7. EXISTING OVERSPILL PARKING REPLACED WITH NEW CONCRETE ASPHALT SURFACE AND NEW PERIMETER KERBS & END TURNING SPACE

8. PROPOSED OVERSPILL PARKING, SURFACED IN REINFORCED GRASS SYSTEM: FOR NEW AND EXISTING
9. RE-POSITIONED AND NEW ACCESSIBLE & ENLARGED PARKING BAYS

10. PROPOSED NEW CYCLE STORAGE CANOPY; FOR NEW & EXISTING

11. PROPOSED MOTORCYCLE PARKING: FOR NEW AND EXISTING

12. PROPOSED LOUVRED ENCLOSURES FOR NEW ASHP PLANT

13. PROPOSED NEW AMENITY SEATING AREA OUTSIDE CAFE

14. PROPOSED NEW EXTERNAL CAFE SERVING HATCH

15. ONE-WAY CIRCULATION MARKINGS AROUND CAR PARK

16. EXISTING PEDESTRIAN PAVING TO ENTRANCE PLAZA RETAINED

17. NEW PEDESTRIAN PAVING T.M.E. SERVING ENLARGED PARKING BAYS
18. PROPOSED ELECTRIC VEHICLE CHARGING POINT

19. PROPOSED DROP DOWN OR SWING BARRIER AT ENTRANCE TO OVERSPILL

20. EXISTING SUB-STATION REPLACED WITH ENLARGED ENCLOSURE

21. PROPOSED CHANGING ROOM ENTRANCE FOR 3G FTP FACILITIES

22. PROPOSED CHANGING ROOM ENTRANCE FOR GRASS PITCHES

23. REMODELLED/ENLARGED REFUSE & RECYCLING STORE COMPOUND

24. PROPOSED NEW CONCRETE ASPHALT PEDESTRIAN FOOTWAYS

25. PROPOSED DROPPED BOLLARD MAINTENANCE ACCESS TO PITCHES

26. NEW ALL-WEATHER 3G FOOTBALL PITCH, LIGHTING & PERIMETER FENCE
27. EXISTING WOODLAND RETAINED

28. FEATURE TREE, GRASSES & SHRUB PLANTING

29. PROPOSED SEMI-MATURE TREE PLANTING

30. EXISTING MATURE CATEGORY A TREE RETAINED

31. PROPOSED CENTRAL DRAINAGE SWALE WITH AQUATIC PLANTING

32. AUTO VERTICAL SWING ENTRY & EXIT BARRIER, VARIABLE HEIGHT

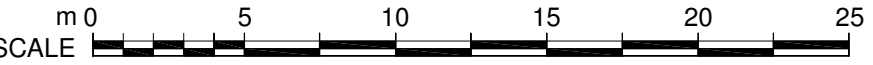
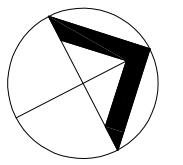
33. MOUNDING/BERM OR BARRIER RAIL AS VEHICULAR DETERRENT

34. KNEE RAILING

35. DESIGNATED CAR SHARE BAYS
36. POSSIBLE ADDITIONAL TREE PLANTING AREA

37. PVs BATTERY STORAGE CONTAINER BY OTHERS

38. MINIMUM KERB RADIUS OF 3m (SWEPT PATH)



Appendix B – TfGM Collision Data

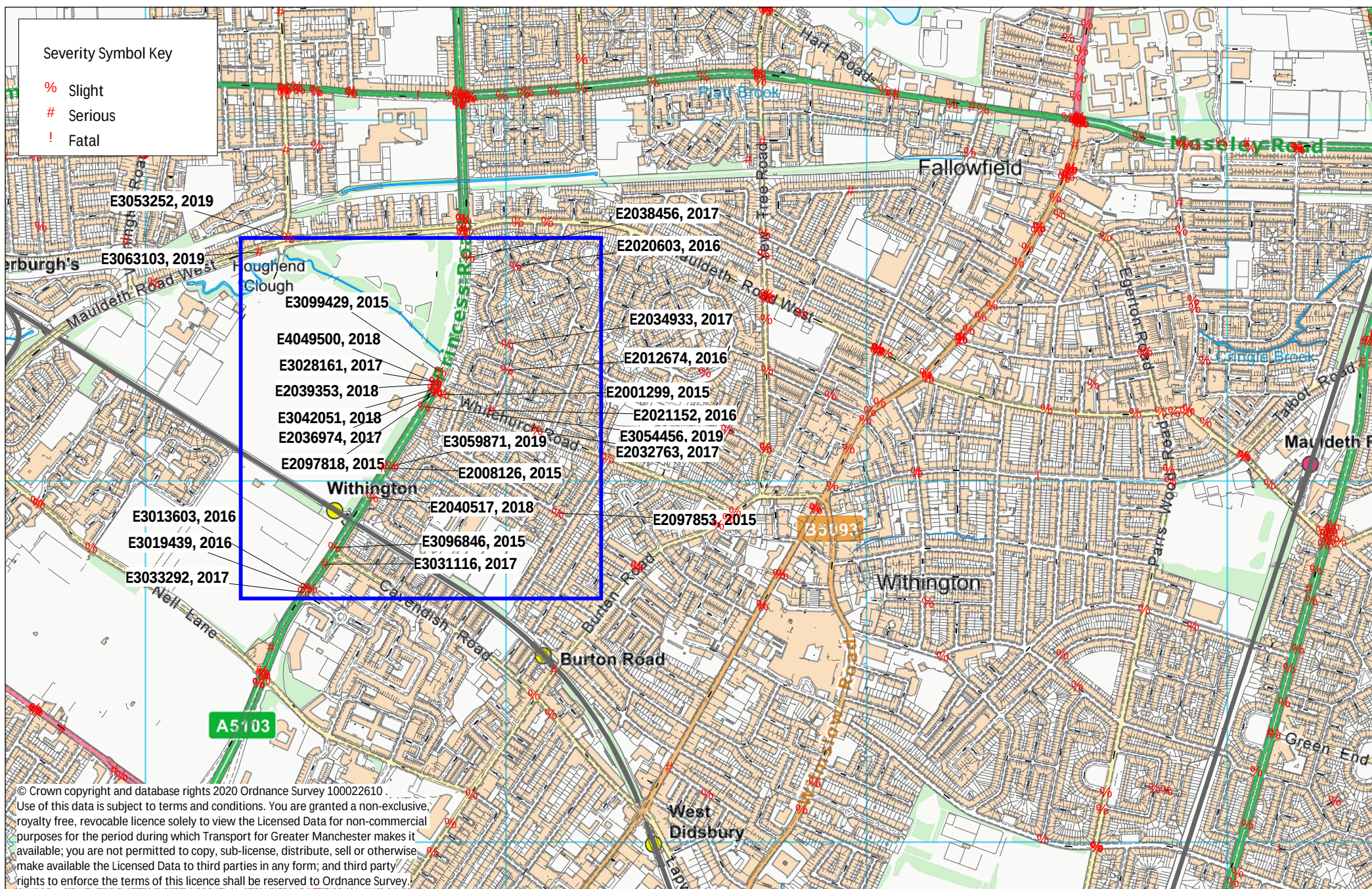
TRANSPORT FOR GREATER MANCHESTER



Traffic Accident Data for

Curtins Consulting

**Reported Road Injury Accidents in Specified Area of
A5103 Princess Road, Manchester.
01/01/2015 to 31/12/2019**



TRANSPORT FOR GREATER MANCHESTER



**Reported Road Injury Accidents in Specified Area of
A5103 Princess Road, Manchester.
01/01/2015 to 31/12/2019**

Injury Accidents	2015	2016	2017	2018	2019	Total
Fatal	0	0	0	0	0	0
Serious	1	1	1	1	1	5
Slight	5	4	6	3	3	21
Total	6	5	7	4	4	26

Standard Totals Report : Reported Injury Accidents in Specified Area of A5103 Princess Road, Manchester, 01/01/2015 to 31/12/2019

Accidents

Serious	5
Slight	21
Total Accidents	26

Casualties By Age and Sex

Severity	0 - 15	16 - 59	60 - 69	70 +	Total
Serious					
Male	0	1	1	0	2
Female	1	2	0	0	3
Total	1	3	1	0	5
Slight					
Male	2	19	0	0	21
Female	0	10	2	2	14
Total	2	29	2	2	35
Total Casualties	3	32	3	2	40

Casualties By Age and Class

Severity	0 - 15	16 - 59	60 - 69	70 +	Total
Serious					
Driver or rider	0	2	0	0	2
Pedestrian	1	1	1	0	3
Total	1	3	1	0	5
Slight					
Driver or rider	1	19	1	1	22
Veh or pillion pas	0	10	1	1	12
Pedestrian	1	0	0	0	1
Total	2	29	2	2	35
Total Casualties	3	32	3	2	40

Cyclist (Rider and Pillion) and Pedestrian Casualties By Age

Severity	0 - 15	16 - 59	60 - 69	70 +	Total
Serious	1	2	1	0	4
Slight	2	3	0	0	5
Total Casualties	3	5	1	0	9

School Pupil Casualties

Severity

Slight	1
Total Casualties	1

Casualties Broken Down By Type

Car (Driver)	0-15	16+	Total
Serious	0	1	1
Slight	0	15	15
Total	0	16	16
Car (Passenger)	0-15	16+	Total
Slight	0	12	12
Total	0	12	12
Pedestrian	0-15	16+	Total
Serious	1	2	3
Slight	1	0	1
Total	2	2	4
Cyclist (Rider)	0-15	16+	Total
Serious	0	1	1
Slight	1	3	4
Total	1	4	5
Other (Driver)	0-15	16+	Total
Slight	0	3	3
Total	0	3	3
Total	3	37	40

Standard Report - Reported Injury Accidents in Specified Area of A5103 Princess Road, Manchester, 01/01/2015 to 31/12/2019

This printout has been generated from the Transport for Greater Manchester's database of road traffic accident records using the query system, GMAXI.

The road traffic accident database contains STATS19 data supplied by Greater Manchester Police and further validated by the Highways Forecasting and Analytical Services (HFAS) section of Transport for Greater Manchester. It is maintained by HFAS on behalf of the ten District Councils in Greater Manchester.

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Accident Reference Number: E3063103				Day: Friday		Contributory Factors			Date: 11/10/2019					Time: 19:05					
Place Reported: Else				District: Manchester		Factor Conf Ref			Vehicle Details					Casualty Details					
Location: Mauldeth Road West 60 metres W Of Alexandra Road South										Type	Move	From	To	Skid	Type	Sex	Age	Sev	Pupil
Description: V2 (Pedal Cycle) Turns Right From Alexandra Rd & Trav W Mauldeth Rd, V1 (Motorcycle) Also Trav W-bd C/way & Collides Rear Of V2. V1 FTS										m/c	Ahead	E	W						
										p/c	Ahead	E	W		1 Rid	M	48	Serious	
Locational Details				Conditions		Accident Details													
Road:	U	Junction Details:		Road Surface:	Wet	Severity:	Serious												
OSGR:	383313	393637	Junction Control: n/a	Light Conditions:	Dark	No. of Vehicles:	2												
Speed Limit:	30	Ped Crossing:		Weather Conditions:	Fine	No. of Casualties:	1												

Accident Reference Number: E3053252				Day: Monday		Contributory Factors			Date: 04/02/2019					Time: 15:55					
Place Reported: Scene				District: Manchester		Factor Conf Ref			Vehicle Details					Casualty Details					
Location: Mauldeth Road West at junction with Alexandra Road South										Type	Move	From	To	Skid	Type	Sex	Age	Sev	Pupil
Description: V1 Trav S Alexandra Rd S Moves Forward At Jct & Collides With V2 (Pedal Cycle) Trav E Mauldeth Rd W										DFLoo	VLike	V1							
										DJudge	VLike	V1	Car	Start	N	S			
										p/c	Waitg	W	E		1 Rid	M	33	Slight	
Locational Details				Conditions		Accident Details													
Road:	C/C	Junction Details: Tjun		Road Surface:	Dry	Severity:	Slight												
OSGR:	383393	393675	Junction Control: GW	Light Conditions:	Light	No. of Vehicles:	2												
Speed Limit:	30	Ped Crossing:		Weather Conditions:	Fine	No. of Casualties:	1												

Accident Reference Number: E3033292				Day: Wednesday		Contributory Factors			Date: 26/07/2017				Time: 10:13						
Place Reported: Scene				District: Manchester		Factor Conf Ref			Vehicle Details				Casualty Details						
Location: Princess Road at junction with The Boulevard							DAIcoh VLike V1			Type	Move	From	To	Skid	Type	Sex	Age	Sev	Pupil
Description: V2 Trav Ne Princess Rd Twds Manchester Green Ats. V1 Trav Nw The Boulevard Turns Right Onto Princess St On Red Ats And Collides With V2										Car	TurnR	SE	NE		1 Drv	M	48	Slight	
										Car	Ahead	SW	NE		2 Pas	M	30	Slight	
															3 Pas	F	30	Slight	
Locational Details				Conditions		Accident Details													
Road:	A5103/U		Junction Details:	Tjun		Road Surface:	Wet		Severity:	Slight									
OSGR:	383436	392693	Junction Control:	TS		Light Conditions:	Light		No. of Vehicles:	2									
Speed Limit:	40		Ped Crossing:	TSX		Weather Conditions:	Rain		No. of Casualties:	3									
Accident Reference Number: E3019439				Day: Saturday		Contributory Factors			Date: 13/08/2016				Time: 13:00						
Place Reported: Scene				District: Manchester		Factor Conf Ref			Vehicle Details				Casualty Details						
Location: Princess Road at junction with The Boulevard										Type	Move	From	To	Skid	Type	Sex	Age	Sev	Pupil
Description: V1 Trav Ne Princess Rd. V2 Trav Sw On Princess Rd. V2 Conducts A U Turn And Collision Occurs.										Car	Ahead	SW	NE		1 Drv	M	39	Slight	
										Car	Ahead	NE	NE		2 Pas	F	66	Slight	
Locational Details				Conditions		Accident Details													
Road:	A5103/U		Junction Details:	Tjun		Road Surface:	Dry		Severity:	Slight									
OSGR:	383444	392704	Junction Control:	TS		Light Conditions:	Light		No. of Vehicles:	2									
Speed Limit:	40		Ped Crossing:	TSX		Weather Conditions:	Fine		No. of Casualties:	2									
Accident Reference Number: E3013603				Day: Tuesday		Contributory Factors			Date: 22/03/2016				Time: 15:43						
Place Reported: Else				District: Manchester		Factor Conf Ref			Vehicle Details				Casualty Details						
Location: Princess Road At Junction With The Boulevard							DJudge VLike V1			Type	Move	From	To	Skid	Type	Sex	Age	Sev	Pupil
Description: All Veh Trav Sw Princess Rd. V1 Failed To Notice Stationary Traffic And Collides With V2 Who Collides With V3.										Car	Ahead	NE	SW		1 Drv	F	64	Slight	
										Car	Ahead	NE	SW						
										Car	Ahead	NE	SW						
Locational Details				Conditions		Accident Details													
Road:	A5103/U		Junction Details:	Tjun		Road Surface:	Dry		Severity:	Slight									
OSGR:	383458	392703	Junction Control:	TS		Light Conditions:	Light		No. of Vehicles:	3									
Speed Limit:	40		Ped Crossing:	TSX		Weather Conditions:	Fine		No. of Casualties:	1									
Accident Reference Number: E3031116				Day: Thursday		Contributory Factors			Date: 25/05/2017				Time: 12:24						
Place Reported: Scene				District: Manchester		Factor Conf Ref			Vehicle Details				Casualty Details						
Location: Princess Road 25 metres South West of Cavendish Street										Type	Move	From	To	Skid	Type	Sex	Age	Sev	Pupil
Description: All Vehs Trav Ne Princess Rd Twds Manchester. V2 Collides Into Rear Of V1 & V3 Collides Into Rear Of V2										Car	Ahead	SW	NE						
										Car	Ahead	SW	NE		1 Drv	F	22	Serious	
										Taxi	Ahead	SW	NE						
Locational Details				Conditions		Accident Details													
Road:	A5103		Junction Details:			Road Surface:	Dry		Severity:	Serious									
OSGR:	383495	392771	Junction Control:	n/a		Light Conditions:	Light		No. of Vehicles:	3									
Speed Limit:	40		Ped Crossing:			Weather Conditions:	N/A		No. of Casualties:	1									

Accident Reference Number: E3096846					Day: Monday		Contributory Factors			Date: 26/01/2015					Time: 17:20				
Place Reported: Scene					District: Manchester														
Location: Princess Road at junction with Cavendish Road							Factor Conf Ref			Vehicle Details					Casualty Details				
Description: All Vehicles Travel Ne On Princess Rd. V1 Slows As Result V1 Hits V2, V2 Hits V3. V3 Hits V4 And Finally V4 Hits V5.							DJudge	VLike	V1	Type	Move	From	To	Skid	Type	Sex	Age	Sev	Pupil
							DJudge	Poss	V2	Car	Ahead	SW	NE						
							DJudge	Poss	V3	Car	Ahead	SW	NE						
							DJudge	Poss	V4	LGV	Ahead	SW	NE	1 Drv	M	31	Slight		
										Car	Ahead	SW	NE						
										Car	Ahead	SW	NE						
Locational Details					Conditions		Accident Details												
Road:	A5103/C		Junction Details: Tjun		Road Surface:	Dry	Severity:		Slight										
OSGR:	383521	392817	Junction Control: GW		Light Conditions:	Dark	No. of Vehicles:		5										
Speed Limit:	40		Ped Crossing:		Weather Conditions:	Fine	No. of Casualties:		1										

Accident Reference Number: E2040517					Day: Monday		Contributory Factors			Date: 12/02/2018					Time: 17:43				
Place Reported: Scene					District: Manchester														
Location: Princess Road, outside number 637, 55 metres South West of Moorgate Avenue							Factor Conf Ref			Vehicle Details					Casualty Details				
Description: All Vehs Trav Sw Princess Rd. V2 & V3 Slowing. V1 Fails To Act, Collides Rear Of V2, Pushing V2 Into Rear Of V3. V1 FTS							DJudge	VLike	V1	Type	Move	From	To	Skid	Type	Sex	Age	Sev	Pupil
										Car	Ahead	NE	SW						
										Taxi	Stopg	NE	SW	1 Pas	M	33	Slight		
														2 Pas	F	50	Slight		
														3 Pas	F	29	Slight		
Locational Details					Conditions		Accident Details												
Road:	A5103		Junction Details:		Road Surface:	Dry	Severity:		Slight										
OSGR:	383627	392956	Junction Control: n/a		Light Conditions:	Dark	No. of Vehicles:		3										
Speed Limit:	40		Ped Crossing:		Weather Conditions:	Fine	No. of Casualties:		4										
										Car	Stopg	NE	SW						

Accident Reference Number: E2008126					Day: Wednesday		Contributory Factors			Date: 28/10/2015					Time: 15:45				
Place Reported: Scene					District: Manchester														
Location: Princess Road 22 metres North East of Moorgate Avenue							Factor Conf Ref			Vehicle Details					Casualty Details				
Description: V1 Trav Ne On Princess Rd. C1 Trav Same Direction On Footpath To Nearside Of V1. C1 Enters Cway Into Path Of V1 & V1 Hits C1							PFLoo	Poss	C1	Type	Move	From	To	Skid	Type	Sex	Age	Sev	Pupil
							PCare	Poss	C1	HGV	Ahead	SW	NE	1 Ped	F	14	Serious		
Locational Details					Conditions		Accident Details												
Road:	A5103		Junction Details:		Road Surface:	Dry	Severity:		Serious										
OSGR:	383659	393038	Junction Control: n/a		Light Conditions:	Light	No. of Vehicles:		1										
Speed Limit:	40		Ped Crossing:		Weather Conditions:	Fine	No. of Casualties:		1										

Accident Reference Number: E3059871					Day: Wednesday		Contributory Factors			Date: 31/07/2019					Time: 07:45				
Place Reported: Else					District: Manchester														
Location: Princess Road 40 metres NE Of Moorgate Avenue							Factor Conf Ref			Vehicle Details					Casualty Details				
Description: Both Vehs Trav Sw Princess Rd, V2 O/takes A Pedal Cycle On O/s But Veers Into Lane Of V1, V2 Collides With Rear Of V1										Type	Move	From	To	Skid	Type	Sex	Age	Sev	Pupil
										Car	Ahead	NE	SW	1 Drv	M	27	Slight		
										Car	O/Tkg	NE	SW						
Locational Details					Conditions		Accident Details												
Road:	A5103		Junction Details:		Road Surface:	Wet	Severity:		Slight										
OSGR:	383683	393044	Junction Control: n/a		Light Conditions:	Light	No. of Vehicles:		2										
Speed Limit:	40		Ped Crossing:		Weather Conditions:	Rain	No. of Casualties:		1										

Accident Reference Number: E3054456				Day: Sunday		Contributory Factors			Date: 10/03/2019					Time: 15:50										
Place Reported: Else				District: Manchester		Factor			Conf			Ref			Vehicle Details					Casualty Details				
Location: Princess Road, outside number 577, 50 metres SW Of Whitchurch Road															Type	Move	From	To	Skid	Type	Sex	Age	Sev	Pupil
Description: Both Vehs Trav Ne Princess Rd, V2 Overtakes On Offside & Collides With V1. V2 FTS															Car	Ahead	SW	NE		1 Drv	M	52	Slight	
Locational Details				Conditions		Accident Details														2 Pas	M	17	Slight	
Road: A5103				Junction Details:		Road Surface: Wet			Severity:			Slight								3 Pas	F	47	Slight	
OSGR: 383770 393208				Junction Control: n/a		Light Conditions: Light			No. of Vehicles:			2								4 Pas	F	22	Slight	
Speed Limit: 40				Ped Crossing:		Weather Conditions: Rain			No. of Casualties:			4			Car	U/T	SW	NE						
Accident Reference Number: E3042051				Day: Monday		Contributory Factors			Date: 26/03/2018					Time: 20:23										
Place Reported: Else				District: Manchester		Factor			Conf			Ref			Vehicle Details					Casualty Details				
Location: Princess Road at junction with Whitchurch Road															Type	Move	From	To	Skid	Type	Sex	Age	Sev	Pupil
Description: V1 Trav Nw Whitchurch Rd Turns Right Onto Princess Rd & Collides With Rear Offside Of V2 Trav Ne Princess Rd.															DFLoo	VLike	V1							
Locational Details				Conditions		Accident Details									DJudge	VLike	V1							
Road: A5103/C				Junction Details: Tjun		Road Surface: Dry			Severity:			Slight			Car	TurnR	SE	NE						
OSGR: 383796 393256				Junction Control: GW		Light Conditions: Dark			No. of Vehicles:			2			Car	Ahead	SW	NE		1 Drv	M	20	Slight	
Speed Limit: 40				Ped Crossing: PeIX		Weather Conditions: Fine			No. of Casualties:			1												
Accident Reference Number: E3028161				Day: Tuesday		Contributory Factors			Date: 14/03/2017					Time: 20:59										
Place Reported: Scene				District: Manchester		Factor			Conf			Ref			Vehicle Details					Casualty Details				
Location: Princess Road 18 metres NE Of Whitchurch Road															Type	Move	From	To	Skid	Type	Sex	Age	Sev	Pupil
Description: V2 (Pedal Cycle) Waits At Traffic Crossing And As V2 Begins To Cross From E To W, Collision Occurs With V1 Trav Ne Princess Rd Towards Manchester															DFLoo	VLike	V2							
Locational Details				Conditions		Accident Details									Car	Ahead	SW	NE						
Road: A5103/C				Junction Details: Tjun		Road Surface: Dry			Severity:			Slight			p/c	Ahead	E	W		1 Rid	F	21	Slight	
OSGR: 383802 393276				Junction Control: GW		Light Conditions: Dark			No. of Vehicles:			2												
Speed Limit: 40				Ped Crossing: PeIX		Weather Conditions: Fine			No. of Casualties:			1												
Accident Reference Number: E2036974				Day: Tuesday		Contributory Factors			Date: 07/11/2017					Time: 19:08										
Place Reported: Scene				District: Manchester		Factor			Conf			Ref			Vehicle Details					Casualty Details				
Location: Princess Road at junction with Whitchurch Road															Type	Move	From	To	Skid	Type	Sex	Age	Sev	Pupil
Description: V1 Trav Ne Whitchruch Rd Turns Right Into Path V2 Trav Sw Princess Rs - Collides V1 Who Spins Twice Collides V3 Trav Ne Princess Rd Waiting To Turn Right.															Car	TurnR	SE	NE		1 Drv	F	27	Slight	
Locational Details				Conditions		Accident Details									Car	Ahead	NE	SW						
Road: A5103/U				Junction Details: Tjun		Road Surface: Dry			Severity:			Slight			Car	wtgTR	SW	SE						
OSGR: 383803 393249				Junction Control: GW		Light Conditions: Dark			No. of Vehicles:			3												
Speed Limit: 40				Ped Crossing: PeIX		Weather Conditions: N/A			No. of Casualties:			1												

Accident Reference Number: E4049500				Day: Friday		Contributory Factors			Date: 19/10/2018				Time: 15:30							
Place Reported: Else				District: Manchester																
Location: Princess Road at junction with Whitchurch Road							Factor Conf Ref			Vehicle Details				Casualty Details						
Description: V1 Trav Ne Princess Rd. C1 (Child Pedestrian) Crosses C/way From N/s Trav E On Ped Crossing Masked By Staty Vehs. V1 Collides C1. V1 Fts							DFLoo Poss V1			Type	Move	From	To	Skid	Type	Sex	Age	Sev	Pupil	
							DJudge Poss V1			Car	Ahead	SW	NE		1 Ped	M	12	Slight	SJ	
							DCare VLike V1													
							DStat Poss V1													
							PFLoo VLike C1													
							PPedX VLike C1													
Locational Details				Conditions				Accident Details												
Road:	A5103/C		Junction Details:		Tjun		Road Surface:	Dry		Severity:	Slight									
OSGR:	383803	393275	Junction Control:		GW		Light Conditions:	Light		No. of Vehicles:	1									
Speed Limit:	40		Ped Crossing:		PeIX		Weather Conditions:	Fine		No. of Casualties:	1									

Accident Reference Number: E2097818				Day: Wednesday		Contributory Factors			Date: 18/02/2015				Time: 05:25							
Place Reported: Scene				District: Manchester																
Location: Princess Road at junction with Whitchurch Road							Factor Conf Ref			Vehicle Details				Casualty Details						
Description: V1 Travels Nw Whitchurch Rd And Turns Right Onto Princess Rd In Front Of V2 Travelling Sw On Princess Rd. V2 Tries To Avoid Collision But Is Unsuccessful.							DFLoo Poss V1			Type	Move	From	To	Skid	Type	Sex	Age	Sev	Pupil	
										LGV	TurnR	SE	NE		1 Drv	M	33	Slight		
										Car	Ahead	NE	SW		2 Drv	M	29	Slight		
Locational Details				Conditions				Accident Details												
Road:	A5103/U		Junction Details:		Tjun		Road Surface:	Wet		Severity:	Slight									
OSGR:	383805	393247	Junction Control:		GW		Light Conditions:	Dark		No. of Vehicles:	2									
Speed Limit:	40		Ped Crossing:		PeIX		Weather Conditions:	Fine		No. of Casualties:	2									

Accident Reference Number: E2039353				Day: Tuesday		Contributory Factors			Date: 02/01/2018				Time: 20:28									
Place Reported: Scene				District: Manchester																		
Location: Princess Road 20 metres NE of Whitchurch Road							Factor Conf Ref			Vehicle Details				Casualty Details								
Description: V1 (Car) Trav Sw On Princess Rd Collides With C1 (Pedestrian) Crossing Cway From Central Reservation On Offside Trav E. V1 Leaves Cway Nearside & Collides With V2 (Parked).							DFast Poss V1			Type	Move	From	To	Skid	Type	Sex	Age	Sev	Pupil			
							DFLoo Poss V1			Car	Ahead	NE	SW	S&O	1 Drv	M	25	Slight				
							DBrake Poss V1							2 Ped				M	63	Serious		
							PFLoo Poss C2			Car	Parkd	Pk	Pk									
							PJudge Poss C2															
Locational Details				Conditions				Accident Details														
Road:	A5103/C		Junction Details:		Tjun		Road Surface:	Wet		Severity:	Serious											
OSGR:	383813	393271	Junction Control:		GW		Light Conditions:	Dark		No. of Vehicles:	2											
Speed Limit:	40		Ped Crossing:		PeIX		Weather Conditions:	R&W		No. of Casualties:	2											

Accident Reference Number: E3099429				Day: Wednesday		Contributory Factors			Date: 08/04/2015				Time: 14:07									
Place Reported: Scene				District: Manchester																		
Location: Princess Road 50 metres of Whitchurch Road							Factor Conf Ref			Vehicle Details				Casualty Details								
Description: Both Vehicles Travel The Same Direction (N) On Princess Rd Towards Manchester. V2 Brakes And V1 Is Unable To Stop In Time, Collides With Rear Of V2							DJudge VLike V1			Type	Move	From	To	Skid	Type	Sex	Age	Sev	Pupil			
							DBrake VLike V1			Car	Stopg	S	N									
							DFLoo VLike V1			Car	Stopg	S	N		1 Drv	M	26	Slight				
														2 Pas				F	50	Slight		
														3 Pas				M	21	Slight		
Locational Details				Conditions				Accident Details														
Road:	A5103		Junction Details:				Road Surface:	Dry		Severity:	Slight											
OSGR:	383816	393304	Junction Control:		n/a		Light Conditions:	Light		No. of Vehicles:	2											
Speed Limit:	40		Ped Crossing:				Weather Conditions:	Fine		No. of Casualties:	3											

Accident Reference Number: E2001299				Day: Friday		Contributory Factors			Date: 08/05/2015				Time: 14:00				
Place Reported: Scene				District: Manchester		Factor Conf Ref			Vehicle Details				Casualty Details				
Location: Whitchurch Road at junction with Princess Road										Type Move From To Skid				Type Sex Age Sev Pupil			
Description: V1 (Pedal Cycle) Travels Nw Whitchurch Rd On Pavement Before Entering Road From Between Parked Cars. V2 Trav Nw Whitchurch Rd Moves Off From Stationary Position To Turn Right. Collision Occurs										p/c othr Ahead SE NW TurnR SE NE				1 Rid M 51 Slight			
Locational Details				Conditions		Accident Details											
Road:	C/A5103		Junction Details:		Tjun	Road Surface:	Dry		Severity:	Slight							
OSGR:	383823	393241	Junction Control:		GW	Light Conditions:	Light		No. of Vehicles:	2							
Speed Limit:	30		Ped Crossing:			Weather Conditions:	N/A		No. of Casualties:	1							
Accident Reference Number: E2038456				Day: Monday		Contributory Factors			Date: 11/12/2017				Time: 11:30				
Place Reported: Scene				District: Manchester		Factor Conf Ref			Vehicle Details				Casualty Details				
Location: Princess Road 75 metres South of Mauldeth Road West										Type Move From To Skid				Type Sex Age Sev Pupil			
Description: All Vehs Trav S Princess Rd. V3 Brakes For Unknown Veh Turning Into Priv Drive, V2 (Behind) Brakes. V1 (HGV) Fails To Notice, Collides Rear V2, Who Shunted Into Rear V3										HGV Car Car Ahead N S Stopg N S Stopg N S				1 Drv F 48 Slight 2 Drv F 71 Slight			
Locational Details				Conditions		Accident Details											
Road:	A5103		Junction Details:			Road Surface:	Wet		Severity:	Slight							
OSGR:	383894	393621	Junction Control:		n/a	Light Conditions:	Light		No. of Vehicles:	3							
Speed Limit:	40		Ped Crossing:			Weather Conditions:	Fine		No. of Casualties:	2							
Accident Reference Number: E2021152				Day: Wednesday		Contributory Factors			Date: 28/09/2016				Time: 19:20				
Place Reported: Else				District: Manchester		Factor Conf Ref			Vehicle Details				Casualty Details				
Location: Saltney Road at junction with Whitchurch Road										Type Move From To Skid				Type Sex Age Sev Pupil			
Description: C1 Crossing Rd E-Bound, V1 Trav Nw Whitchurch Rd And Turns Right Into Saltney Rd And Collides With C1										Car TurnR SE NE				1 Ped F 57 Serious			
Locational Details				Conditions		Accident Details											
Road:	C/U		Junction Details:		Tjun	Road Surface:	Dry		Severity:	Serious							
OSGR:	383956	393198	Junction Control:		GW	Light Conditions:	Dark		No. of Vehicles:	1							
Speed Limit:	20		Ped Crossing:			Weather Conditions:	Fine		No. of Casualties:	1							
Accident Reference Number: E2012674				Day: Wednesday		Contributory Factors			Date: 24/02/2016				Time: 20:23				
Place Reported: Scene				District: Manchester		Factor Conf Ref			Vehicle Details				Casualty Details				
Location: Saltney Avenue at junction with Wrenbury Avenue										Type Move From To Skid				Type Sex Age Sev Pupil			
Description: V1 Trav Ne On Saltney Avenue Collides With V2 (Parked), Pushing It Into V3 (Parked)										Car Car Car Ahead SW NE Parkd Pk Pk Parkd Pk Pk				1 Pas F 76 Slight			
Locational Details				Conditions		Accident Details											
Road:	U/U		Junction Details:		Xrds	Road Surface:	Dry		Severity:	Slight							
OSGR:	384000	393309	Junction Control:		GW	Light Conditions:	Dark		No. of Vehicles:	3							
Speed Limit:	20		Ped Crossing:			Weather Conditions:	Fine		No. of Casualties:	1							

Accident Reference Number: E2034933			Day: Tuesday			Contributory Factors			Date: 12/09/2017			Time: 11:13		
Place Reported: Scene			District: Manchester			Factor Conf Ref			Vehicle Details			Casualty Details		
Location: Hassall Avenue, outside number 78, 22 metres North West of Saltney Avenue						Type	Move	From To	Skid			Type	Sex	Age
Description: V2 Trav Nw Hassall Ave. V1 Trav Opposite. V1 Collides With V2, Carries On And Collide With V3 (Parked). V1 Fled The Scene						DSpee	VLike	V1						
						DLoss	Poss	V1	Car	Ahead	NW	SE		
						DAggre	VLike	V1	LGV	Ahead	SE	NW	1 Drv	M 31 Slight
									Car	Parkd	Pk	Pk		
Locational Details			Conditions			Accident Details								
Road:	U		Junction Details:			Road Surface:	Dry		Severity:		Slight			
OSGR:	384001 393381		Junction Control:	n/a		Light Conditions:	Light		No. of Vehicles:	3				
Speed Limit:	20		Ped Crossing:			Weather Conditions:	Fine		No. of Casualties:	1				

Accident Reference Number: E2020603			Day: Thursday			Contributory Factors			Date: 08/09/2016			Time: 14:05		
Place Reported: Scene			District: Manchester			Factor Conf Ref			Vehicle Details			Casualty Details		
Location: Goostry Avenue at junction with Hassall Avenue						Type	Move	From To	Skid			Type	Sex	Age
Description: V1 Trav Ne On Hassall Ave As V2 Trav Se On Goostry Ave. V1 Turns Left At Speed And Collides With V2. Driver V1 Makes Off						DAggre	VLike	V1						
						DCare	VLike	V1	Car	TurnL	SW	NW		
									Car	Ahead	NW	SE	1 Drv	M 43 Slight
Locational Details			Conditions			Accident Details								
Road:	U/U		Junction Details:	Tjun		Road Surface:	Dry		Severity:		Slight			
OSGR:	384024 393597		Junction Control:	GW		Light Conditions:	Light		No. of Vehicles:	2				
Speed Limit:	20		Ped Crossing:			Weather Conditions:	Fine		No. of Casualties:	1				

Accident Reference Number: E2032763			Day: Wednesday			Contributory Factors			Date: 12/07/2017			Time: 19:17		
Place Reported: Else			District: Manchester			Factor Conf Ref			Vehicle Details			Casualty Details		
Location: Whitchurch Road 290 metres South East of Princess Road						Type	Move	From To	Skid			Type	Sex	Age
Description: V2 Trav Nw Whitchurch Rd Twds Princess Rd When V1 (Pedal Cycle) Came Down Passageway Between Houses Ne-bound & Collides With V2. V1 Has No Brakes.						DFLoo	VLike	V1						
						VBrake	VLike	V1	p/c	Ahead	SW	NE	1 Rid	M 9 Slight
									Car	Ahead	SE	NW		
Locational Details			Conditions			Accident Details								
Road:	C		Junction Details:			Road Surface:	Dry		Severity:		Slight			
OSGR:	384083 393141		Junction Control:	n/a		Light Conditions:	Light		No. of Vehicles:	2				
Speed Limit:	30		Ped Crossing:			Weather Conditions:	Fine		No. of Casualties:	1				

Accident Reference Number: E2097853			Day: Monday			Contributory Factors			Date: 23/02/2015			Time: 22:10		
Place Reported: Scene			District: Manchester			Factor Conf Ref			Vehicle Details			Casualty Details		
Location: Golborne Avenue, outside number 138, 23 metres South East of Elmstead Drive						Type	Move	From To	Skid			Type	Sex	Age
Description: V1 Travels Se Golborne Ave And V2 Is Parked And Unattended Outside No 138. V1 Swerves To Avoid Animal And Hits V2.						DDisO	Poss	V1						
						DSwer	Poss	V1	Car	Ahead	NW	SE	1 Drv	F 18 Slight
						DCare	Poss	V1	Car	Parkd	Pk	Pk		
						ObjInC	VLike	V1						
Locational Details			Conditions			Accident Details								
Road:	U		Junction Details:			Road Surface:	Wet		Severity:		Slight			
OSGR:	384141 392913		Junction Control:	n/a		Light Conditions:	Dark		No. of Vehicles:	2				
Speed Limit:	30		Ped Crossing:			Weather Conditions:	Othr		No. of Casualties:	1				

Abbreviations used in GMAXI Reports for New Contributory Factors - 2005/06

WARNING: Please note that -

Codes 101 to 999 only relate to accidents from 1 April 2005. - New National Factors introduced by DfT

Codes 1001 to 1154 relate to accidents from 1 April 1999 to 31 March 2005 only. - Local Factors introduced

Accidents before 1 April 1999 do not have contributory factors attached.

Code	ContribFactor1Name	ContribFactor1Abb
0	None	
101	Poor or defective road surface	Surf
102	Deposit on road (eg oil, mud, chippings)	Dposit
103	Slippery road (due to weather)	Slip
104	Inadequate/masked signs or road markings	Mark
105	Defective traffic signals	DefATS
106	Traffic calming (eg speed cushions, road humps, chicanes)	TCalm
107	Temporary road layout (eg contraflow)	TmpRd
108	Road layout (eg bend, hill, narrow carriageway)	RdLay
109	Animal or object in carriageway	ObjInC
201	Tyres illegal, defective or under inflated	VTyres
202	Defective lights or indicators	VLight
203	Defective brakes	VBrake
204	Defective steering or suspension	VSteer
205	Defective or missing mirrors	VMirr
206	Overloaded or poorly loaded vehicle or trailer	VLoad
301	Disobeyed automatic traffic signal	DATS
302	Disobeyed Give Way or Stop sign or markings	DGWorS
303	Disobeyed double white line	DWhite
304	Disobeyed pedestrian crossing facility	DPedX
305	Illegal turn or direction of travel	DITurn
306	Exceeding speed limit	DSpeed
307	Travelling too fast for conditions	DFast
308	Following too close	DTgate
309	Vehicle travelling along pavement	DPave
310	Cyclist entering road from pavement	DCPave
401	Junction overshoot	DJnOvr
402	Junction restart	DJnRst
403	Poor turn or manoeuvre	DTurn
404	Failed to signal/misleading signal	DSign
405	Failed to look properly	DFLook
406	Failed to judge other person's path or speed	DJudge
407	Passing too close to cyclist, horse rider or pedestrian	DClose
408	Sudden braking	DBrake
409	Swerved	DSwerv
410	Loss of control	DLossC
501	Impaired by alcohol	DAlcoh
502	Impaired by drugs (illicit or medicinal)	DDrugs
503	Fatigue	DTired
504	Uncorrected, defective eyesight	DEye
505	Illness or disability, mental or physical	DIllns
506	Not displaying lights at night or in poor visibility	DNoLit
507	Cyclist wearing dark clothing at night	DCDark
508	Driver using mobile phone	DMobPh
509	Distraction in vehicle	DDisIn
510	Distraction outside vehicle	DDisOu
601	Aggressive driving	DAggre
602	Careless/reckless/in a hurry	DCare

603	Nervous/uncertain/panic	DPanic
604	Driving too slow or conditions or slow vehicle (eg tractor)	DSlow
605	Learner or inexperienced driver/rider	DLearn
606	Inexperience of driving on the left	DInDrL
607	Inexperience with type of vehicle	DInVeh
701	Stationary or parked vehicle(s)	DStat
702	Vegetation	DVeg
703	Road layout (eg bend, winding road, hill crest)	DRdLay
704	Buildings, road signs, street furniture	DBuild
705	Dazzling headlights	DHLigt
706	Dazzling sun	DSun
707	Rain, sleet, snow, or fog	DRain
708	Spray from other vehicles	DFog
709	Visor or windscreen dirty or scratched	DSpray
710	Vehicle blind spot	DWscrn
801	Crossed road masked by stationary or parked vehicle	PXMask
802	Failed to look properly	PFLook
803	Failed to judge vehicle's path or speed	PJudge
804	Wrong use of pedestrian crossing facility	PPedX
805	Dangerous action in carriageway (eg playing)	PDange
806	Impaired by alcohol	PAlcoh
807	Impaired by drugs (illicit or medicinal)	PDrugs
808	Careless/reckless/in a hurry	PCare
809	Pedestrian wearing dark clothing at night	PCloth
810	Disability or illness, mental or physical	Pllns
901	Stolen vehicle	StoVeh
902	Vehicle in course of crime	VCrime
903	Emergency vehicle on call	EmVeh
904	Vehicle door opened or closed negligently	VDoor
999	Other	Other
1001	Failed to stop (mandatory sign)	Fstop
1002	Failed to give way	Fgive
1003	Failed to avoid pedestrian (pedestrian not to blame)	FAPed
1004	Failed to avoid vehicle or object in carriageway	FAObj
1005	Failure to signal/misleading signal	Fsig
1006	Loss of control of vehicle	Loss
1007	Pedestrian entered carriageway without due care	Ped
1008	Passenger fell in or near PSV	Pfell
1009	Swerved to avoid object in carriageway	Swerv
1010	Sudden braking	Brake
1011	Poor turn/manoeuvre	Turn
1012	Poor overtaking	Over
1013	Drove wrong way (e.g. 1-way street)	1Way
1014	Opening door carelessly	Door
1015	Other	Other
1101	Impairment alcohol	Alcoh
1102	Impairment drugs	Drugs
1103	Impairment fatigue	Tired
1104	Impairment illness	Ill
1105	Distraction stress/emotional state of mind	Stress
1106	Distraction physical in/on vehicle	DPhIn
1107	Distraction physical outside vehicle	DPhOut
1108	Behaviour panic	Panic
1109	Behaviour careless/thoughtless/reckless	Care
1110	Behaviour nervous/uncertain	Nerve
1111	Behaviour in a hurry	Hurry

1112	Failure to judge other person's path or speed	Fjudg
1113	Disability	Disab
1114	Failed to look	F2look
1115	Looked but did not see	Nsee
1116	Inattention	Inatt
1117	Person hit wore dark or inconspicuous clothing	Cloth
1118	Other (Personal details)	Pother
1119	Crossed from behind parked vehicle etc	Cross
1120	Ignored lights at crossing	Xlight
1121	Excessive Speed	Speed
1122	Following too close	Tgate
1123	Inexperience of driving	InDri
1124	Inexperience of vehicle	InVeh
1125	Interaction or competition with other road users	Users
1126	Aggressive driving	Aggr
1127	Lack of judgement of own path	Judge
1128	Tyres wrong pressure	Press
1129	Tyres deflation before impact	Deflat
1130	Tyres worn/insufficient tread	Tread
1131	Defective lights or signals	Signal
1132	Defective brakes	Brakes
1133	Other (Vehicle defects)	Vother
1134	Site details poor road surface	Surf
1135	Site details poor/no street lighting	Lightg
1136	Site details inadequate signing	Sign
1137	Site details steep hill	Hill
1138	Site details narrow road	Narr
1139	Site details bend/winding road	Rbend
1140	Site details roadworks	Works
1141	Slippery road	Slip
1142	High winds	Winds
1143	Earlier accident	Earli
1144	Other (Local conditions)	Lother
1145	View windows obscured	Obs
1146	View glare from sun	Glare
1147	View glare from headlights	Head
1148	Surroundings bend/winding road	Bend
1149	Surroundings stationary parked vehicle	Stat
1150	Surroundings moving vehicle	Move
1151	Surroundings buildings, fences, vegetation etc	Fence
1152	Weather (e.g. mist or sleet)	Weath
1153	Failed to see pedestrian or vehicle in blindspot	Blind
1154	Animal out of control	Animal
9999	GMP Out of Range	OoR

Appendix C – 2021 Traffic Survey Data



12073 Princess Rd
OCTOBER 2021
CLASSIFIED TURNING COUNT

SITE: 1

DATE: 07/10/2021

LOCATION: Princess Rd / Whitchurch Rd

DAY: THURSDAY

TIME	A to B								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
07:00	208	31	5	11	3	0	1	3	262
07:15	246	19	7	2	4	0	1	0	279
07:30	311	42	7	8	5	1	1	4	379
07:45	336	31	4	3	2	1	2	14	393
08:00	345	35	8	4	4	2	3	8	409
08:15	261	17	3	6	6	2	5	6	306
08:30	407	29	4	6	7	2	3	2	460
08:45	327	21	7	0	19	1	4	1	380
09:00	271	31	5	7	9	0	1	1	325
09:15	251	45	9	6	7	1	1	2	322
09:30	240	47	7	8	11	1	1	1	316
09:45	240	32	7	8	12	0	0	0	299
P/TOT	3443	380	73	69	89	11	23	42	4130

TIME	A to B								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
16:00	465	52	3	3	5	0	2	1	531
16:15	442	46	1	4	5	0	2	3	503
16:30	456	50	1	3	5	1	5	5	526
16:45	408	35	6	2	5	2	1	2	461
17:00	432	35	3	3	6	1	4	3	487
17:15	448	21	2	1	2	2	3	2	481
17:30	448	25	3	2	3	1	5	5	492
17:45	410	9	3	1	7	4	3	3	440
18:00	462	19	2	1	4	1	5	1	495
18:15	393	26	1	4	3	2	6	3	438
18:30	424	17	2	3	4	1	1	5	457
18:45	347	11	0	0	3	2	1	2	366
P/TOT	5135	346	27	27	52	17	38	35	5677



12073 Princess Rd
OCTOBER 2021
CLASSIFIED TURNING COUNT

SITE: 1

DATE: 07/10/2021

LOCATION: Princess Rd / Whitchurch Rd

DAY: THURSDAY

TIME	A to C								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
07:00	22	1	0	0	0	0	0	0	23
07:15	11	1	1	0	0	0	0	0	13
07:30	9	3	0	0	0	0	0	3	15
07:45	16	2	1	0	0	0	0	1	20
08:00	13	1	1	0	0	0	1	2	18
08:15	20	1	0	0	0	0	0	5	26
08:30	20	5	1	0	0	0	0	1	27
08:45	22	1	0	0	1	0	0	1	25
09:00	15	2	0	0	0	0	0	3	20
09:15	16	4	1	0	0	0	1	0	22
09:30	14	3	1	0	0	0	0	0	18
09:45	13	3	0	0	0	0	0	6	22
P/TOT	191	27	6	0	1	0	2	22	249

TIME	A to C								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
16:00	11	2	0	0	0	0	0	2	15
16:15	11	0	0	0	0	0	1	2	14
16:30	22	0	0	0	0	0	2	5	29
16:45	24	1	0	0	0	0	0	2	27
17:00	24	1	1	0	0	0	1	5	32
17:15	23	1	1	0	0	0	0	8	33
17:30	21	0	0	0	0	0	1	1	23
17:45	27	0	0	0	0	0	0	1	28
18:00	17	1	0	0	0	0	0	2	20
18:15	11	1	0	0	0	1	1	6	20
18:30	13	1	0	0	0	1	0	6	21
18:45	27	2	0	0	0	0	0	4	33
P/TOT	231	10	2	0	0	2	6	44	295



12073 Princess Rd
OCTOBER 2021
CLASSIFIED TURNING COUNT

SITE: 1

DATE: 07/10/2021

LOCATION: Princess Rd / Whitchurch Rd

DAY: THURSDAY

TIME	B to C								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
07:00	9	1	0	0	0	1	0	0	11
07:15	11	2	0	0	0	0	0	0	13
07:30	22	1	0	0	2	0	0	0	25
07:45	20	5	0	0	0	0	0	0	25
08:00	34	2	0	0	0	0	0	1	37
08:15	26	3	1	0	0	0	0	0	30
08:30	21	2	1	0	0	0	0	0	24
08:45	20	1	1	0	1	0	0	0	23
09:00	24	6	2	0	1	0	0	3	36
09:15	24	1	0	0	0	0	2	0	27
09:30	16	4	0	0	0	0	0	1	21
09:45	23	4	1	0	0	0	0	1	29
P/TOT	250	32	6	0	4	1	2	6	301

TIME	B to C								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
16:00	27	6	0	0	1	0	0	6	40
16:15	45	7	0	0	0	0	0	5	57
16:30	43	3	0	0	0	0	1	5	52
16:45	51	4	0	0	0	0	0	5	60
17:00	31	2	0	0	0	0	0	2	35
17:15	51	5	0	0	0	0	0	3	59
17:30	41	3	0	0	0	0	0	4	48
17:45	55	2	0	0	0	0	1	1	59
18:00	28	5	0	0	0	0	1	2	36
18:15	46	1	0	0	0	0	0	1	48
18:30	28	3	0	0	0	0	0	4	35
18:45	33	2	0	0	0	0	1	5	41
P/TOT	479	43	0	0	1	0	4	43	570



12073 Princess Rd
OCTOBER 2021
CLASSIFIED TURNING COUNT

SITE: 1

DATE: 07/10/2021

LOCATION: Princess Rd / Whitchurch Rd

DAY: THURSDAY

TIME	B to A								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
07:00	385	39	11	4	5	0	2	0	446
07:15	455	58	7	1	6	0	0	3	530
07:30	475	47	9	4	4	4	2	1	546
07:45	485	28	8	4	5	0	6	4	540
08:00	478	24	5	4	6	2	12	5	536
08:15	346	21	0	3	2	2	1	3	378
08:30	400	24	5	5	6	6	6	5	457
08:45	382	39	8	7	5	0	4	6	451
09:00	427	45	12	8	7	2	2	0	503
09:15	395	55	7	9	7	3	2	0	478
09:30	350	35	9	6	4	1	8	0	413
09:45	294	33	8	4	7	0	7	3	356
P/TOT	4872	448	89	59	64	20	52	30	5634

TIME	B to A								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
16:00	294	41	1	2	6	1	0	4	349
16:15	340	33	4	5	3	1	3	6	395
16:30	325	33	3	2	1	0	3	7	374
16:45	333	25	5	2	6	1	1	6	379
17:00	359	25	1	4	3	1	2	3	398
17:15	386	32	0	5	6	0	0	6	435
17:30	412	29	1	3	3	1	3	4	456
17:45	410	21	0	4	5	3	2	4	449
18:00	419	28	2	2	4	1	2	3	461
18:15	397	26	2	0	3	1	1	5	435
18:30	368	18	2	2	4	0	0	6	400
18:45	373	10	1	0	2	0	1	5	392
P/TOT	4416	321	22	31	46	10	18	59	4923



12073 Princess Rd
OCTOBER 2021
CLASSIFIED TURNING COUNT

SITE: 1

DATE: 07/10/2021

LOCATION: Princess Rd / Whitchurch Rd

DAY: THURSDAY

TIME	C to A								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
07:00	6	0	0	0	0	0	0	1	7
07:15	14	3	0	0	0	0	1	1	19
07:30	15	3	0	0	0	0	2	8	28
07:45	18	1	0	0	0	0	1	4	24
08:00	31	0	0	0	0	0	1	18	50
08:15	36	2	0	0	0	0	3	9	50
08:30	19	0	0	0	0	0	2	4	25
08:45	24	1	0	0	0	0	1	4	30
09:00	16	0	0	0	0	0	1	1	18
09:15	13	0	0	0	0	1	0	2	16
09:30	12	3	0	0	0	0	1	4	20
09:45	7	4	1	0	0	0	0	4	16
P/TOT	211	17	1	0	0	1	13	60	303

TIME	C to A								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
16:00	10	2	0	0	1	0	1	1	15
16:15	7	2	1	0	0	0	1	6	17
16:30	12	0	0	0	0	0	1	5	18
16:45	15	0	0	0	0	0	1	4	20
17:00	13	3	0	0	0	0	2	6	24
17:15	9	1	0	0	0	0	0	3	13
17:30	12	0	0	0	0	0	0	0	12
17:45	14	1	0	0	0	0	2	7	24
18:00	14	3	1	0	0	0	0	4	22
18:15	16	2	0	0	0	0	1	4	23
18:30	16	1	0	0	0	0	0	2	19
18:45	24	3	0	0	0	1	1	3	32
P/TOT	162	18	2	0	1	1	10	45	239



12073 Princess Rd
OCTOBER 2021
CLASSIFIED TURNING COUNT

SITE: 1

DATE: 07/10/2021

LOCATION: Princess Rd / Whitchurch Rd

DAY: THURSDAY

TIME	C to B								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
07:00	21	3	0	0	0	0	0	0	24
07:15	34	3	0	0	0	0	0	4	41
07:30	39	6	1	0	0	0	0	3	49
07:45	59	7	2	0	1	0	1	9	79
08:00	71	1	2	0	0	0	3	13	90
08:15	98	2	1	0	1	0	0	5	107
08:30	87	4	0	0	3	0	2	0	96
08:45	62	4	0	0	1	0	0	0	67
09:00	31	2	1	0	0	0	0	2	36
09:15	24	6	0	0	0	0	0	1	31
09:30	24	5	2	0	0	0	0	3	34
09:45	26	1	0	0	0	0	0	2	29
P/TOT	576	44	9	0	6	0	6	42	683

TIME	C to B								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
16:00	56	9	0	0	0	1	1	3	70
16:15	42	4	0	0	0	0	0	3	49
16:30	33	4	1	0	0	0	0	2	40
16:45	36	3	0	0	0	0	1	3	43
17:00	41	6	2	0	0	1	0	1	51
17:15	49	3	0	0	0	0	0	1	53
17:30	37	2	0	0	0	0	0	2	41
17:45	36	5	0	0	0	0	0	2	43
18:00	30	1	0	0	1	0	0	3	35
18:15	38	3	0	0	0	0	0	0	41
18:30	30	1	0	0	0	0	0	2	33
18:45	23	3	0	0	0	0	0	1	27
P/TOT	451	44	3	0	1	2	2	23	526



12073 Princess Rd
OCTOBER 2021
CLASSIFIED TURNING COUNT

SITE: 1

DATE: 07/10/2021

LOCATION: Princess Rd / Whitchurch Rd

DAY: THURSDAY

TIME	TO ARM A								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
07:00	391	39	11	4	5	0	2	1	453
07:15	469	61	7	1	6	0	1	4	549
07:30	490	50	9	4	4	4	4	9	574
07:45	503	29	8	4	5	0	7	8	564
08:00	509	24	5	4	6	2	13	23	586
08:15	382	23	0	3	2	2	4	12	428
08:30	419	24	5	5	6	6	8	9	482
08:45	406	40	8	7	5	0	5	10	481
09:00	443	45	12	8	7	2	3	1	521
09:15	408	55	7	9	7	4	2	2	494
09:30	362	38	9	6	4	1	9	4	433
09:45	301	37	9	4	7	0	7	7	372
P/TOT	5083	465	90	59	64	21	65	90	5937

TIME	TO ARM A								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
16:00	304	43	1	2	7	1	1	5	364
16:15	347	35	5	5	3	1	4	12	412
16:30	337	33	3	2	1	0	4	12	392
16:45	348	25	5	2	6	1	2	10	399
17:00	372	28	1	4	3	1	4	9	422
17:15	395	33	0	5	6	0	0	9	448
17:30	424	29	1	3	3	1	3	4	468
17:45	424	22	0	4	5	3	4	11	473
18:00	433	31	3	2	4	1	2	7	483
18:15	413	28	2	0	3	1	2	9	458
18:30	384	19	2	2	4	0	0	8	419
18:45	397	13	1	0	2	1	2	8	424
P/TOT	4578	339	24	31	47	11	28	104	5162



12073 Princess Rd
OCTOBER 2021
CLASSIFIED TURNING COUNT

SITE: 1

DATE: 07/10/2021

LOCATION: Princess Rd / Whitchurch Rd

DAY: THURSDAY

TIME	FROM ARM A								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
07:00	230	32	5	11	3	0	1	3	285
07:15	257	20	8	2	4	0	1	0	292
07:30	320	45	7	8	5	1	1	7	394
07:45	352	33	5	3	2	1	2	15	413
08:00	358	36	9	4	4	2	4	10	427
08:15	281	18	3	6	6	2	5	11	332
08:30	427	34	5	6	7	2	3	3	487
08:45	349	22	7	0	20	1	4	2	405
09:00	286	33	5	7	9	0	1	4	345
09:15	267	49	10	6	7	1	2	2	344
09:30	254	50	8	8	11	1	1	1	334
09:45	253	35	7	8	12	0	0	6	321
P/TOT	3634	407	79	69	90	11	25	64	4379

TIME	FROM ARM A								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
16:00	476	54	3	3	5	0	2	3	546
16:15	453	46	1	4	5	0	3	5	517
16:30	478	50	1	3	5	1	7	10	555
16:45	432	36	6	2	5	2	1	4	488
17:00	456	36	4	3	6	1	5	8	519
17:15	471	22	3	1	2	2	3	10	514
17:30	469	25	3	2	3	1	6	6	515
17:45	437	9	3	1	7	4	3	4	468
18:00	479	20	2	1	4	1	5	3	515
18:15	404	27	1	4	3	3	7	9	458
18:30	437	18	2	3	4	2	1	11	478
18:45	374	13	0	0	3	2	1	6	399
P/TOT	5366	356	29	27	52	19	44	79	5972



12073 Princess Rd
OCTOBER 2021
CLASSIFIED TURNING COUNT

SITE: 1

DATE: 07/10/2021

LOCATION: Princess Rd / Whitchurch Rd

DAY: THURSDAY

TIME	TO ARM B								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
07:00	229	34	5	11	3	0	1	3	286
07:15	280	22	7	2	4	0	1	4	320
07:30	350	48	8	8	5	1	1	7	428
07:45	395	38	6	3	3	1	3	23	472
08:00	416	36	10	4	4	2	6	21	499
08:15	359	19	4	6	7	2	5	11	413
08:30	494	33	4	6	10	2	5	2	556
08:45	389	25	7	0	20	1	4	1	447
09:00	302	33	6	7	9	0	1	3	361
09:15	275	51	9	6	7	1	1	3	353
09:30	264	52	9	8	11	1	1	4	350
09:45	266	33	7	8	12	0	0	2	328
P/TOT	4019	424	82	69	95	11	29	84	4813

TIME	TO ARM B								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
16:00	521	61	3	3	5	1	3	4	601
16:15	484	50	1	4	5	0	2	6	552
16:30	489	54	2	3	5	1	5	7	566
16:45	444	38	6	2	5	2	2	5	504
17:00	473	41	5	3	6	2	4	4	538
17:15	497	24	2	1	2	2	3	3	534
17:30	485	27	3	2	3	1	5	7	533
17:45	446	14	3	1	7	4	3	5	483
18:00	492	20	2	1	5	1	5	4	530
18:15	431	29	1	4	3	2	6	3	479
18:30	454	18	2	3	4	1	1	7	490
18:45	370	14	0	0	3	2	1	3	393
P/TOT	5586	390	30	27	53	19	40	58	6203



12073 Princess Rd
OCTOBER 2021
CLASSIFIED TURNING COUNT

SITE: 1

DATE: 07/10/2021

LOCATION: Princess Rd / Whitchurch Rd

DAY: THURSDAY

TIME	FROM ARM B								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
07:00	394	40	11	4	5	1	2	0	457
07:15	466	60	7	1	6	0	0	3	543
07:30	497	48	9	4	6	4	2	1	571
07:45	505	33	8	4	5	0	6	4	565
08:00	512	26	5	4	6	2	12	6	573
08:15	372	24	1	3	2	2	1	3	408
08:30	421	26	6	5	6	6	6	5	481
08:45	402	40	9	7	6	0	4	6	474
09:00	451	51	14	8	8	2	2	3	539
09:15	419	56	7	9	7	3	4	0	505
09:30	366	39	9	6	4	1	8	1	434
09:45	317	37	9	4	7	0	7	4	385
P/TOT	5122	480	95	59	68	21	54	36	5935

TIME	FROM ARM B								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
16:00	321	47	1	2	7	1	0	10	389
16:15	385	40	4	5	3	1	3	11	452
16:30	368	36	3	2	1	0	4	12	426
16:45	384	29	5	2	6	1	1	11	439
17:00	390	27	1	4	3	1	2	5	433
17:15	437	37	0	5	6	0	0	9	494
17:30	453	32	1	3	3	1	3	8	504
17:45	465	23	0	4	5	3	3	5	508
18:00	447	33	2	2	4	1	3	5	497
18:15	443	27	2	0	3	1	1	6	483
18:30	396	21	2	2	4	0	0	10	435
18:45	406	12	1	0	2	0	2	10	433
P/TOT	4895	364	22	31	47	10	22	102	5493



12073 Princess Rd
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CLASSIFIED TURNING COUNT

SITE: 1

DATE: 07/10/2021

LOCATION: Princess Rd / Whitchurch Rd

DAY: THURSDAY

TIME	TO ARM C								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
07:00	31	2	0	0	0	1	0	0	34
07:15	22	3	1	0	0	0	0	0	26
07:30	31	4	0	0	2	0	0	3	40
07:45	36	7	1	0	0	0	0	1	45
08:00	47	3	1	0	0	0	1	3	55
08:15	46	4	1	0	0	0	0	5	56
08:30	41	7	2	0	0	0	0	1	51
08:45	42	2	1	0	2	0	0	1	48
09:00	39	8	2	0	1	0	0	6	56
09:15	40	5	1	0	0	0	3	0	49
09:30	30	7	1	0	0	0	0	1	39
09:45	36	7	1	0	0	0	0	7	51
P/TOT	441	59	12	0	5	1	4	28	550

TIME	TO ARM C								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
16:00	38	8	0	0	1	0	0	8	55
16:15	56	7	0	0	0	0	1	7	71
16:30	65	3	0	0	0	0	3	10	81
16:45	75	5	0	0	0	0	0	7	87
17:00	55	3	1	0	0	0	1	7	67
17:15	74	6	1	0	0	0	0	11	92
17:30	62	3	0	0	0	0	1	5	71
17:45	82	2	0	0	0	0	1	2	87
18:00	45	6	0	0	0	0	1	4	56
18:15	57	2	0	0	0	1	1	7	68
18:30	41	4	0	0	0	1	0	10	56
18:45	60	4	0	0	0	0	1	9	74
P/TOT	710	53	2	0	1	2	10	87	865



12073 Princess Rd
OCTOBER 2021
CLASSIFIED TURNING COUNT

SITE: 1

DATE: 07/10/2021

LOCATION: Princess Rd / Whitchurch Rd

DAY: THURSDAY

TIME	FROM ARM C								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
07:00	27	3	0	0	0	0	0	1	31
07:15	48	6	0	0	0	0	1	5	60
07:30	54	9	1	0	0	0	2	11	77
07:45	77	8	2	0	1	0	2	13	103
08:00	102	1	2	0	0	0	4	31	140
08:15	134	4	1	0	1	0	3	14	157
08:30	106	4	0	0	3	0	4	4	121
08:45	86	5	0	0	1	0	1	4	97
09:00	47	2	1	0	0	0	1	3	54
09:15	37	6	0	0	0	1	0	3	47
09:30	36	8	2	0	0	0	1	7	54
09:45	33	5	1	0	0	0	0	6	45
P/TOT	787	61	10	0	6	1	19	102	986

TIME	FROM ARM C								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
16:00	66	11	0	0	1	1	2	4	85
16:15	49	6	1	0	0	0	1	9	66
16:30	45	4	1	0	0	0	1	7	58
16:45	51	3	0	0	0	0	2	7	63
17:00	54	9	2	0	0	1	2	7	75
17:15	58	4	0	0	0	0	0	4	66
17:30	49	2	0	0	0	0	0	2	53
17:45	50	6	0	0	0	0	2	9	67
18:00	44	4	1	0	1	0	0	7	57
18:15	54	5	0	0	0	0	1	4	64
18:30	46	2	0	0	0	0	0	4	52
18:45	47	6	0	0	0	1	1	4	59
P/TOT	613	62	5	0	2	3	12	68	765



SITE: 1

LOCATION: Princess Rd / Whitchurch Rd

TIME	JUNCTION TOTAL								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
07:00	651	75	16	15	8	1	3	4	773
07:15	771	86	15	3	10	0	2	8	895
07:30	871	102	17	12	11	5	5	19	1042
07:45	934	74	15	7	8	1	10	32	1081
08:00	972	63	16	8	10	4	20	47	1140
08:15	787	46	5	9	9	4	9	28	897
08:30	954	64	11	11	16	8	13	12	1089
08:45	837	67	16	7	27	1	9	12	976
09:00	784	86	20	15	17	2	4	10	938
09:15	723	111	17	15	14	5	6	5	896
09:30	656	97	19	14	15	2	10	9	822
09:45	603	77	17	12	19	0	7	16	751
P/TOT	9543	948	184	128	164	33	98	202	11300

TIME	JUNCTION TOTAL								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
16:00	863	112	4	5	13	2	4	17	1020
16:15	887	92	6	9	8	1	7	25	1035
16:30	891	90	5	5	6	1	12	29	1039
16:45	867	68	11	4	11	3	4	22	990
17:00	900	72	7	7	9	3	9	20	1027
17:15	966	63	3	6	8	2	3	23	1074
17:30	971	59	4	5	6	2	9	16	1072
17:45	952	38	3	5	12	7	8	18	1043
18:00	970	57	5	3	9	2	8	15	1069
18:15	901	59	3	4	6	4	9	19	1005
18:30	879	41	4	5	8	2	1	25	965
18:45	827	31	1	0	5	3	4	20	891
P/TOT	10874	782	56	58	101	32	78	249	12230



12073 Princess Rd
OCTOBER 2021
CLASSIFIED TURNING COUNT

SITE: 1

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LOCATION: Princess Rd / Whitchurch Rd

DAY: SUNDAY

TIME	A to B								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
09:00	157	11	0	1	2	0	0	0	171
09:15	197	9	1	0	5	2	0	1	215
09:30	206	13	0	1	1	1	3	2	227
09:45	213	10	1	0	1	0	1	6	232
10:00	252	15	3	2	4	1	0	3	280
10:15	260	12	4	4	3	0	1	3	287
10:30	266	11	2	0	3	1	3	3	289
10:45	297	8	2	3	5	1	1	0	317
11:00	292	14	3	3	3	3	1	7	326
11:15	359	15	1	1	4	0	1	0	381
11:30	311	13	0	0	4	2	2	0	332
11:45	335	7	3	3	3	1	2	3	357
12:00	331	15	1	0	1	3	4	5	360
12:15	366	18	1	4	4	3	9	1	406
12:30	386	25	0	1	3	2	1	0	418
12:45	358	13	1	3	5	0	3	7	390
13:00	384	16	0	1	0	7	0	7	415
13:15	395	14	2	4	4	0	1	2	422
13:30	375	11	0	1	4	1	4	1	397
13:45	375	9	1	0	4	1	1	7	398
14:00	400	15	1	1	4	2	2	0	425
14:15	372	12	0	2	5	3	1	5	400
14:30	382	12	2	1	1	2	1	1	402
14:45	366	12	2	2	2	0	1	1	386
P/TOT	7635	310	31	38	75	36	43	65	8233



12073 Princess Rd
OCTOBER 2021
CLASSIFIED TURNING COUNT

SITE: 1

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LOCATION: Princess Rd / Whitchurch Rd

DAY: SUNDAY

TIME	A to C								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
09:00	3	0	0	0	0	0	0	0	3
09:15	7	0	0	0	0	0	0	1	8
09:30	5	0	0	0	0	0	0	0	5
09:45	8	0	0	0	0	0	0	0	8
10:00	3	1	0	0	0	0	0	0	4
10:15	8	0	0	0	0	0	0	2	10
10:30	9	0	0	0	0	0	0	3	12
10:45	5	2	0	0	0	0	0	1	8
11:00	6	0	0	0	0	0	0	0	6
11:15	6	0	0	0	0	0	1	1	8
11:30	6	0	0	0	0	0	0	2	8
11:45	12	1	0	0	0	0	0	0	13
12:00	6	0	0	0	0	0	0	1	7
12:15	17	0	0	0	0	0	0	2	19
12:30	12	0	0	0	0	0	2	0	14
12:45	25	0	0	0	0	0	1	2	28
13:00	7	0	0	0	0	0	0	3	10
13:15	16	0	0	0	0	0	0	2	18
13:30	9	1	0	0	0	0	1	0	11
13:45	9	0	0	0	0	0	2	3	14
14:00	14	0	0	0	0	0	1	0	15
14:15	14	1	0	0	0	0	0	2	17
14:30	18	1	0	0	0	0	1	3	23
14:45	11	0	0	0	0	0	0	3	14
P/TOT	236	7	0	0	0	0	9	31	283



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SITE: 1

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LOCATION: Princess Rd / Whitchurch Rd

DAY: SUNDAY

TIME	B to C								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
09:00	9	0	0	0	0	0	0	0	9
09:15	10	3	0	0	0	0	0	0	13
09:30	9	0	0	0	0	0	0	0	9
09:45	6	1	0	0	0	0	0	0	7
10:00	11	0	0	0	0	0	0	1	12
10:15	10	0	0	0	0	0	0	0	10
10:30	11	2	0	0	0	0	0	1	14
10:45	8	0	0	0	0	0	1	3	12
11:00	20	1	0	0	0	0	0	0	21
11:15	13	2	0	0	0	0	0	2	17
11:30	10	0	0	0	0	0	0	0	10
11:45	16	1	0	0	0	0	0	0	17
12:00	23	0	0	0	0	0	0	2	25
12:15	21	1	0	0	0	0	0	1	23
12:30	19	1	0	0	0	0	0	3	23
12:45	21	3	0	0	0	0	1	2	27
13:00	33	1	0	0	0	0	1	1	36
13:15	19	2	0	0	0	0	0	1	22
13:30	24	1	0	0	0	0	0	1	26
13:45	24	0	0	0	0	0	0	0	24
14:00	18	3	0	0	0	0	0	1	22
14:15	21	3	1	0	0	0	0	2	27
14:30	15	1	0	0	0	0	1	0	17
14:45	37	3	0	0	0	0	0	0	40
P/TOT	408	29	1	0	0	0	4	21	463



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CLASSIFIED TURNING COUNT

SITE: 1

DATE: 10/10/2021

LOCATION: Princess Rd / Whitchurch Rd

DAY: SUNDAY

TIME	B to A								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
09:00	175	14	0	0	2	0	0	0	191
09:15	212	7	3	2	0	0	2	3	229
09:30	259	4	2	1	5	1	1	2	275
09:45	297	13	1	0	3	0	3	1	318
10:00	246	16	1	1	2	0	2	6	274
10:15	276	16	1	1	4	0	3	0	301
10:30	256	10	1	1	3	0	4	4	279
10:45	298	13	3	2	4	0	2	7	329
11:00	284	16	2	2	6	1	6	3	320
11:15	279	8	0	1	3	2	4	4	301
11:30	260	8	1	0	2	1	1	5	278
11:45	279	6	2	1	4	1	2	4	299
12:00	312	15	2	4	3	0	2	5	343
12:15	274	9	0	2	2	2	1	4	294
12:30	329	13	1	1	1	2	2	1	350
12:45	290	12	1	0	4	0	1	4	312
13:00	315	9	0	0	5	2	3	3	337
13:15	332	14	1	3	3	1	1	1	356
13:30	368	15	1	0	4	2	0	0	390
13:45	328	3	2	0	3	0	3	1	340
14:00	327	12	0	1	1	0	4	3	348
14:15	331	9	1	1	3	2	1	3	351
14:30	252	9	1	4	4	0	2	2	274
14:45	328	16	2	1	5	0	1	2	355
P/TOT	6907	267	29	29	76	17	51	68	7444



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SITE: 1

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LOCATION: Princess Rd / Whitchurch Rd

DAY: SUNDAY

TIME	C to A								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
09:00	7	0	0	0	0	0	0	1	8
09:15	8	0	0	0	0	0	1	0	9
09:30	9	1	0	0	0	0	1	3	14
09:45	9	0	0	0	0	0	0	1	10
10:00	10	2	0	0	0	0	0	9	21
10:15	18	1	0	0	0	0	1	0	20
10:30	7	0	0	0	0	1	1	6	15
10:45	8	0	0	0	0	0	0	1	9
11:00	15	2	0	0	0	0	1	5	23
11:15	14	0	0	0	0	0	0	1	15
11:30	13	1	0	0	0	0	0	1	15
11:45	16	0	0	0	0	0	1	0	17
12:00	23	1	0	0	0	0	0	2	26
12:15	18	1	0	0	0	0	0	5	24
12:30	10	0	0	0	0	0	0	0	10
12:45	13	0	0	0	0	0	1	1	15
13:00	9	0	0	0	0	1	1	0	11
13:15	11	0	0	0	0	0	0	4	15
13:30	15	0	0	0	0	0	2	6	23
13:45	15	1	0	0	0	0	0	2	18
14:00	7	0	0	0	0	0	0	3	10
14:15	9	2	0	0	0	0	1	6	18
14:30	10	0	0	0	0	0	1	1	12
14:45	11	0	0	0	0	0	1	8	20
P/TOT	285	12	0	0	0	2	13	66	378



12073 Princess Rd
OCTOBER 2021
CLASSIFIED TURNING COUNT

SITE: 1

DATE: 10/10/2021

LOCATION: Princess Rd / Whitchurch Rd

DAY: SUNDAY

TIME	C to B								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
09:00	15	0	0	0	0	0	0	1	16
09:15	14	1	0	0	0	0	0	1	16
09:30	24	3	0	0	0	0	0	2	29
09:45	22	1	0	0	0	1	1	4	29
10:00	21	2	0	0	0	0	0	1	24
10:15	19	4	0	0	0	2	0	2	27
10:30	29	0	0	0	0	0	1	0	30
10:45	41	2	0	0	0	0	0	1	44
11:00	31	1	0	0	0	0	0	1	33
11:15	24	0	0	0	0	0	0	3	27
11:30	26	1	0	0	0	0	0	1	28
11:45	27	0	0	0	0	0	0	5	32
12:00	32	0	0	0	0	0	1	0	33
12:15	45	2	0	0	0	0	0	1	48
12:30	38	1	0	0	0	0	0	0	39
12:45	21	2	0	0	0	0	0	0	23
13:00	34	1	0	0	0	0	6	1	42
13:15	22	1	1	0	0	0	0	0	24
13:30	42	0	0	0	0	0	0	0	42
13:45	30	1	0	0	0	0	0	1	32
14:00	23	1	0	0	0	0	0	1	25
14:15	32	1	0	0	0	0	3	2	38
14:30	32	2	0	0	0	0	0	0	34
14:45	19	2	0	0	0	0	0	0	21
P/TOT	663	29	1	0	0	3	12	28	736



12073 Princess Rd
OCTOBER 2021
CLASSIFIED TURNING COUNT

SITE: 1

DATE: 10/10/2021

LOCATION: Princess Rd / Whitchurch Rd

DAY: SUNDAY

TIME	TO ARM A								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
09:00	182	14	0	0	2	0	0	1	199
09:15	220	7	3	2	0	0	3	3	238
09:30	268	5	2	1	5	1	2	5	289
09:45	306	13	1	0	3	0	3	2	328
10:00	256	18	1	1	2	0	2	15	295
10:15	294	17	1	1	4	0	4	0	321
10:30	263	10	1	1	3	1	5	10	294
10:45	306	13	3	2	4	0	2	8	338
11:00	299	18	2	2	6	1	7	8	343
11:15	293	8	0	1	3	2	4	5	316
11:30	273	9	1	0	2	1	1	6	293
11:45	295	6	2	1	4	1	3	4	316
12:00	335	16	2	4	3	0	2	7	369
12:15	292	10	0	2	2	2	1	9	318
12:30	339	13	1	1	1	2	2	1	360
12:45	303	12	1	0	4	0	2	5	327
13:00	324	9	0	0	5	3	4	3	348
13:15	343	14	1	3	3	1	1	5	371
13:30	383	15	1	0	4	2	2	6	413
13:45	343	4	2	0	3	0	3	3	358
14:00	334	12	0	1	1	0	4	6	358
14:15	340	11	1	1	3	2	2	9	369
14:30	262	9	1	4	4	0	3	3	286
14:45	339	16	2	1	5	0	2	10	375
P/TOT	3937	141	12	17	38	12	28	67	4252



12073 Princess Rd
OCTOBER 2021
CLASSIFIED TURNING COUNT

SITE: 1

DATE: 10/10/2021

LOCATION: Princess Rd / Whitchurch Rd

DAY: SUNDAY

TIME	FROM ARM A								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
09:00	160	11	0	1	2	0	0	0	174
09:15	204	9	1	0	5	2	0	2	223
09:30	211	13	0	1	1	1	3	2	232
09:45	221	10	1	0	1	0	1	6	240
10:00	255	16	3	2	4	1	0	3	284
10:15	268	12	4	4	3	0	1	5	297
10:30	275	11	2	0	3	1	3	6	301
10:45	302	10	2	3	5	1	1	1	325
11:00	298	14	3	3	3	3	1	7	332
11:15	365	15	1	1	4	0	2	1	389
11:30	317	13	0	0	4	2	2	2	340
11:45	347	8	3	3	3	1	2	3	370
12:00	337	15	1	0	1	3	4	6	367
12:15	383	18	1	4	4	3	9	3	425
12:30	398	25	0	1	3	2	3	0	432
12:45	383	13	1	3	5	0	4	9	418
13:00	391	16	0	1	0	7	0	10	425
13:15	411	14	2	4	4	0	1	4	440
13:30	384	12	0	1	4	1	5	1	408
13:45	384	9	1	0	4	1	3	10	412
14:00	414	15	1	1	4	2	3	0	440
14:15	386	13	0	2	5	3	1	7	417
14:30	400	13	2	1	1	2	2	4	425
14:45	377	12	2	2	2	0	1	4	400
P/TOT	4648	175	11	20	37	24	36	58	5009



12073 Princess Rd
OCTOBER 2021
CLASSIFIED TURNING COUNT

SITE: 1

DATE: 10/10/2021

LOCATION: Princess Rd / Whitchurch Rd

DAY: SUNDAY

TIME	TO ARM B								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
09:00	172	11	0	1	2	0	0	1	187
09:15	211	10	1	0	5	2	0	2	231
09:30	230	16	0	1	1	1	3	4	256
09:45	235	11	1	0	1	1	2	10	261
10:00	273	17	3	2	4	1	0	4	304
10:15	279	16	4	4	3	2	1	5	314
10:30	295	11	2	0	3	1	4	3	319
10:45	338	10	2	3	5	1	1	1	361
11:00	323	15	3	3	3	3	1	8	359
11:15	383	15	1	1	4	0	1	3	408
11:30	337	14	0	0	4	2	2	1	360
11:45	362	7	3	3	3	1	2	8	389
12:00	363	15	1	0	1	3	5	5	393
12:15	411	20	1	4	4	3	9	2	454
12:30	424	26	0	1	3	2	1	0	457
12:45	379	15	1	3	5	0	3	7	413
13:00	418	17	0	1	0	7	6	8	457
13:15	417	15	3	4	4	0	1	2	446
13:30	417	11	0	1	4	1	4	1	439
13:45	405	10	1	0	4	1	1	8	430
14:00	423	16	1	1	4	2	2	1	450
14:15	404	13	0	2	5	3	4	7	438
14:30	414	14	2	1	1	2	1	1	436
14:45	385	14	2	2	2	0	1	1	407
P/TOT	4860	186	12	20	37	24	38	43	5220



12073 Princess Rd
OCTOBER 2021
CLASSIFIED TURNING COUNT

SITE: 1

DATE: 10/10/2021

LOCATION: Princess Rd / Whitchurch Rd

DAY: SUNDAY

TIME	FROM ARM B								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
09:00	184	14	0	0	2	0	0	0	200
09:15	222	10	3	2	0	0	2	3	242
09:30	268	4	2	1	5	1	1	2	284
09:45	303	14	1	0	3	0	3	1	325
10:00	257	16	1	1	2	0	2	7	286
10:15	286	16	1	1	4	0	3	0	311
10:30	267	12	1	1	3	0	4	5	293
10:45	306	13	3	2	4	0	3	10	341
11:00	304	17	2	2	6	1	6	3	341
11:15	292	10	0	1	3	2	4	6	318
11:30	270	8	1	0	2	1	1	5	288
11:45	295	7	2	1	4	1	2	4	316
12:00	335	15	2	4	3	0	2	7	368
12:15	295	10	0	2	2	2	1	5	317
12:30	348	14	1	1	1	2	2	4	373
12:45	311	15	1	0	4	0	2	6	339
13:00	348	10	0	0	5	2	4	4	373
13:15	351	16	1	3	3	1	1	2	378
13:30	392	16	1	0	4	2	0	1	416
13:45	352	3	2	0	3	0	3	1	364
14:00	345	15	0	1	1	0	4	4	370
14:15	352	12	2	1	3	2	1	5	378
14:30	267	10	1	4	4	0	3	2	291
14:45	365	19	2	1	5	0	1	2	395
P/TOT	4061	155	13	17	38	11	24	43	4362



12073 Princess Rd
OCTOBER 2021
CLASSIFIED TURNING COUNT

SITE: 1

DATE: 10/10/2021

LOCATION: Princess Rd / Whitchurch Rd

DAY: SUNDAY

TIME	TO ARM C								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
09:00	12	0	0	0	0	0	0	0	12
09:15	17	3	0	0	0	0	0	1	21
09:30	14	0	0	0	0	0	0	0	14
09:45	14	1	0	0	0	0	0	0	15
10:00	14	1	0	0	0	0	0	1	16
10:15	18	0	0	0	0	0	0	2	20
10:30	20	2	0	0	0	0	0	4	26
10:45	13	2	0	0	0	0	1	4	20
11:00	26	1	0	0	0	0	0	0	27
11:15	19	2	0	0	0	0	1	3	25
11:30	16	0	0	0	0	0	0	2	18
11:45	28	2	0	0	0	0	0	0	30
12:00	29	0	0	0	0	0	0	3	32
12:15	38	1	0	0	0	0	0	3	42
12:30	31	1	0	0	0	0	2	3	37
12:45	46	3	0	0	0	0	2	4	55
13:00	40	1	0	0	0	0	1	4	46
13:15	35	2	0	0	0	0	0	3	40
13:30	33	2	0	0	0	0	1	1	37
13:45	33	0	0	0	0	0	2	3	38
14:00	32	3	0	0	0	0	1	1	37
14:15	35	4	1	0	0	0	0	4	44
14:30	33	2	0	0	0	0	2	3	40
14:45	48	3	0	0	0	0	0	3	54
P/TOT	433	22	1	0	0	0	11	35	502



12073 Princess Rd
OCTOBER 2021
CLASSIFIED TURNING COUNT

SITE: 1

DATE: 10/10/2021

LOCATION: Princess Rd / Whitchurch Rd

DAY: SUNDAY

TIME	FROM ARM C								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
09:00	22	0	0	0	0	0	0	2	24
09:15	22	1	0	0	0	0	1	1	25
09:30	33	4	0	0	0	0	1	5	43
09:45	31	1	0	0	0	1	1	5	39
10:00	31	4	0	0	0	0	0	10	45
10:15	37	5	0	0	0	2	1	2	47
10:30	36	0	0	0	0	1	2	6	45
10:45	49	2	0	0	0	0	0	2	53
11:00	46	3	0	0	0	0	1	6	56
11:15	38	0	0	0	0	0	0	4	42
11:30	39	2	0	0	0	0	0	2	43
11:45	43	0	0	0	0	0	1	5	49
12:00	55	1	0	0	0	0	1	2	59
12:15	63	3	0	0	0	0	0	6	72
12:30	48	1	0	0	0	0	0	0	49
12:45	34	2	0	0	0	0	1	1	38
13:00	43	1	0	0	0	1	7	1	53
13:15	33	1	1	0	0	0	0	4	39
13:30	57	0	0	0	0	0	2	6	65
13:45	45	2	0	0	0	0	0	3	50
14:00	30	1	0	0	0	0	0	4	35
14:15	41	3	0	0	0	0	4	8	56
14:30	42	2	0	0	0	0	1	1	46
14:45	30	2	0	0	0	0	1	8	41
P/TOT	521	19	1	0	0	1	17	44	603



SITE: 1

LOCATION: Princess Rd / Whitchurch Rd

TIME	JUNCTION TOTAL								TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	PED	
09:00	366	25	0	1	4	0	0	2	398
09:15	448	20	4	2	5	2	3	6	490
09:30	512	21	2	2	6	2	5	9	559
09:45	555	25	2	0	4	1	5	12	604
10:00	543	36	4	3	6	1	2	20	615
10:15	591	33	5	5	7	2	5	7	655
10:30	578	23	3	1	6	2	9	17	639
10:45	657	25	5	5	9	1	4	13	719
11:00	648	34	5	5	9	4	8	16	729
11:15	695	25	1	2	7	2	6	11	749
11:30	626	23	1	0	6	3	3	9	671
11:45	685	15	5	4	7	2	5	12	735
12:00	727	31	3	4	4	3	7	15	794
12:15	741	31	1	6	6	5	10	14	814
12:30	794	40	1	2	4	4	5	4	854
12:45	728	30	2	3	9	0	7	16	795
13:00	782	27	0	1	5	10	11	15	851
13:15	795	31	4	7	7	1	2	10	857
13:30	833	28	1	1	8	3	7	8	889
13:45	781	14	3	0	7	1	6	14	826
14:00	789	31	1	2	5	2	7	8	845
14:15	779	28	2	3	8	5	6	20	851
14:30	709	25	3	5	5	2	6	7	762
14:45	772	33	4	3	7	0	3	14	836
P/TOT	9230	349	25	37	75	36	77	145	9974

Site: 1
 Location: Princess Rd / Whitchurch Rd
 Date: Thursday 7th October 2021

EB				
Time	A1		A2	
	Green man	Red man	Green man	Red man
07:00	0	1	1	0
07:15	0	1	1	0
07:30	0	2	2	0
07:45	1	0	1	0
08:00	3	1	5	0
08:15	1	4	5	0
08:30	5	0	5	0
08:45	0	2	2	0
09:00	2	2	4	0
09:15	1	0	1	0
09:30	2	0	1	1
09:45	1	4	2	3
16:00	8	0	8	1
16:15	7	0	4	2
16:30	4	1	4	1
16:45	5	0	4	1
17:00	2	0	1	2
17:15	11	0	10	0
17:30	6	0	5	1
17:45	10	1	11	0
18:00	8	3	7	1
18:15	4	6	9	2
18:30	10	1	12	0
18:45	5	1	5	1
Total	96	30	110	16

WB				
Time	A1		A2	
	Green man	Red man	Green man	Red man
07:00	2	0	1	1
07:15	0	1	1	0
07:30	9	2	12	0
07:45	4	7	12	0
08:00	15	4	19	0
08:15	7	1	9	0
08:30	5	1	7	0
08:45	3	2	5	0
09:00	2	0	2	0
09:15	1	2	2	1
09:30	1	2	3	0
09:45	4	1	5	0
16:00	1	0	0	1
16:15	4	1	3	2
16:30	5	3	4	4
16:45	6	0	3	3
17:00	11	5	13	3
17:15	6	0	5	1
17:30	4	1	5	0
17:45	6	3	10	0
18:00	6	0	5	1
18:15	6	0	3	1
18:30	3	1	4	1
18:45	6	1	3	2
Total	117	38	136	21

Site: 1
 Location: Princess Rd / Whitchurch Rd
 Date: Sunday 10th October 2021

EB				
Time	A1		A2	
	Green man	Red man	Green man	Red man
09:00	0	0	0	0
09:15	2	0	1	1
09:30	0	3	3	0
09:45	3	0	3	0
10:00	0	0	0	0
10:15	3	1	3	1
10:30	3	0	2	1
10:45	1	0	0	1
11:00	0	0	0	0
11:15	1	0	0	1
11:30	4	4	4	4
11:45	2	1	1	2
12:00	4	0	3	1
12:15	1	0	1	0
12:30	6	1	6	1
12:45	5	1	5	1
13:00	0	1	2	0
13:15	4	1	5	0
13:30	3	0	3	0
13:45	2	3	3	2
14:00	2	0	2	0
14:15	2	3	3	2
14:30	3	1	2	3
14:45	6	0	2	4
Total	57	20	54	25

WB				
Time	A1		A2	
	Green man	Red man	Green man	Red man
09:00	1	0	0	1
09:15	2	1	0	3
09:30	3	1	0	4
09:45	3	1	0	4
10:00	8	6	3	11
10:15	2	1	0	3
10:30	4	0	3	1
10:45	6	1	1	6
11:00	7	1	3	2
11:15	1	0	3	1
11:30	1	3	1	3
11:45	0	1	0	1
12:00	3	1	2	0
12:15	2	2	3	3
12:30	5	0	3	2
12:45	3	2	2	3
13:00	0	1	1	0
13:15	3	0	3	0
13:30	7	1	7	1
13:45	1	2	1	1
14:00	0	0	1	0
14:15	8	2	8	2
14:30	1	2	0	3
14:45	3	0	0	3
Total	74	29	45	58

Appendix D – TfGM/DfT ATC Data

Description: **A5103 Princess Rd / C Whitchurch Rd**
TDC/9450/2 A5103 Princess Road/C Whitchurch Road

Local Area: **Fallowfield** Associated Data: **Video survey**

Carried out: **Wednesday, 9 December 2020** From **7.00** To **19.00** **Discontinuous: At 15 Minute Intervals**

Location: OSGR: Easting **383799** Northing **393252** District: **Manchester** Client: **External**

Special Conditions:

Count Details: **Classified Turn Count** NIS Junction Node **7124** GMTU Batch Ref. No: **2012009** Count: **Summary**

RAW DATA		Entry Arm1 A5103 Princess Rd From the North East			Entry Arm2 C Whitchurch Rd From the East			Entry Arm3 A5103 Princess Rd From the South West		
Start Time	End Time	from node 1757 to arm			from node 7125 to arm			from node 8728 to arm		
		2	3	Total	3	1	Total	1	2	Total
8.00	09:00	60	1368	1428	279	97	375	1824	163	1987
17.00	18:00	79	1783	1862	139	49	188	1308	181	1488

FACTORED TO PRE-COVID (2019)		Entry Arm1 A5103 Princess Rd From the North East			Entry Arm2 C Whitchurch Rd From the East			Entry Arm3 A5103 Princess Rd From the South West		
Start Time	End Time	from node 1757 to arm			from node 7125 to arm			from node 8728 to arm		
		2	3	Total	3	1	Total	1	2	Total
8.00	09:00	65	1486	1551	303	105	408	1981	176	2157
17.00	18:00	97	2197	2295	171	60	231	1612	223	1835

Note: This data has been factored back to pre-Covid levels using a comparison of the total AM peak and PM peak flows in 2019/2020 surveys at Princess Road/The Boulevard.

AM 20-19 factor: 1.09

PM 20-19 factor: 1.23

count_poin	direction_c	year	count_date	hour	pedal_cycl	two_wheel	cars_and_t	buses_and	lgvs	hgvs_2_rig	hgvs_3_rig	hgvs_3_or	hgvs_4_or	hgvs_5_art	hgvs_6_art	all_hgvs	all_motor_vehicles			
17675	N	2019	10/07/2019	13	1	4	1034	29	181	10	3	1	6	8	14	42	1290			
17675	S	2019	10/07/2019	8	13	9	1654	22	152	15	6	2	7	6	4	40	1877			
17675	S	2019	10/07/2019	12	7	5	1250	14	237	22	4	3	6	15	7	57	1563			
17675	N	2019	10/07/2019	16	6	2	1665	25	218	5	1	0	2	3	3	14	1924			
17675	N	2019	10/07/2019	17	14	10	1724	16	166	12	2	1	3	4	2	24	1940	PCU =	1984	HDV % = 1.24%
17675	S	2019	10/07/2019	14	8	4	1426	17	264	24	1	2	8	4	9	48	1759			
17675	N	2019	10/07/2019	8	6	10	1417	16	124	15	1	1	4	2	8	31	1598			
17675	N	2019	10/07/2019	18	9	4	1681	15	142	11	1	0	2	6	2	22	1864			
17675	S	2019	10/07/2019	18	20	22	1823	26	128	3	0	0	2	3	7	15	2014			
17675	S	2019	10/07/2019	7	14	6	1481	11	183	22	5	1	7	3	7	45	1726	PCU =	1795	HDV % = 2.61%
17675	S	2019	10/07/2019	9	9	3	1006	37	176	16	7	2	5	9	10	49	1271			
17675	S	2019	10/07/2019	17	25	17	1590	13	135	7	2	1	2	4	1	17	1772	PCU =	1802	HDV % = 0.96%
17675	S	2019	10/07/2019	13	9	6	1181	15	221	10	9	4	10	5	10	48	1471			
17675	S	2019	10/07/2019	16	15	11	1418	15	201	9	0	0	2	7	4	22	1667			
17675	N	2019	10/07/2019	11	11	3	1291	15	240	22	5	3	10	4	2	46	1595			
17675	S	2019	10/07/2019	11	7	2	1069	19	246	34	5	1	12	9	14	75	1411			
17675	N	2019	10/07/2019	7	5	9	1968	18	221	10	5	1	2	9	7	34	2250	PCU =	2308	HDV % = 1.51%
17675	N	2019	10/07/2019	12	9	7	1298	17	202	17	3	0	10	5	4	39	1563			
17675	N	2019	10/07/2019	10	2	3	1299	20	234	17	4	1	7	3	14	46	1602			
17675	N	2019	10/07/2019	9	7	10	1361	25	161	14	4	0	4	3	6	31	1588			
17675	S	2019	10/07/2019	10	5	9	976	32	265	38	13	3	12	9	11	86	1368			
17675	S	2019	10/07/2019	15	11	7	1574	21	277	21	2	1	8	9	4	45	1924			
17675	N	2019	10/07/2019	14	7	4	1129	17	209	21	4	0	7	2	6	40	1399			
17675	N	2019	10/07/2019	15	6	3	1139	24	132	6	1	0	9	4	6	26	1324			

Appendix E – TRICS Output

Calculation Reference: AUDIT-148301-210113-0130

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 07 - LEISURE
 Category : L - FOOTBALL (5-a-side)
TOTAL VEHICLES

Selected regions and areas:

05 EAST MIDLANDS
 NT NOTTINGHAMSHIRE 1 days

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

Primary Filtering selection:

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

Parameter: Number of pitches
 Actual Range: 6 to 6 (units:)
 Range Selected by User: 2 to 18 (units:)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/12 to 27/09/19

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:

Saturday 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:

Residential Zone 1

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

Secondary Filtering selection:

Use Class:

D2 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 500m Range:

All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

25,001 to 50,000

1 days

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

Population within 5 miles:

500,001 or More

1 days

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

Car ownership within 5 miles:

0.6 to 1.0

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	NT-07-L-01	ASTRO KINGS	NOTTINGHAMSHIRE
	WIGMAN ROAD		
	NOTTINGHAM		
	BILBOROUGH		
	Edge of Town		
	Residential Zone		
	Total Number of pitches:	6	
	Survey date: SATURDAY	14/07/18	Survey Type: MANUAL

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

TRIP RATE for Land Use 07 - LEISURE/L - FOOTBALL (5-a-side)

TOTAL VEHICLES

Calculation factor: 1 PITCH

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. PITCH	Trip Rate	No. Days	Ave. PITCH	Trip Rate	No. Days	Ave. PITCH	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00									
08:00 - 09:00									
09:00 - 10:00									
10:00 - 11:00	1	6	6.167	1	6	2.167	1	6	8.334
11:00 - 12:00	1	6	6.833	1	6	6.000	1	6	12.833
12:00 - 13:00	1	6	5.000	1	6	4.833	1	6	9.833
13:00 - 14:00	1	6	5.500	1	6	5.167	1	6	10.667
14:00 - 15:00	1	6	4.667	1	6	3.333	1	6	8.000
15:00 - 16:00	1	6	3.167	1	6	4.833	1	6	8.000
16:00 - 17:00	1	6	3.167	1	6	3.167	1	6	6.334
17:00 - 18:00	1	6	2.167	1	6	3.500	1	6	5.667
18:00 - 19:00	1	6	1.667	1	6	4.167	1	6	5.834
19:00 - 20:00	1	6	0.167	1	6	1.333	1	6	1.500
20:00 - 21:00	1	6	0.000	1	6	0.000	1	6	0.000
21:00 - 22:00	1	6	0.000	1	6	0.000	1	6	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			38.502			38.500			77.002

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: 6 - 6 (units:)
 Survey date range: 01/01/12 - 27/09/19
 Number of weekdays (Monday-Friday): 0
 Number of Saturdays: 1
 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.

Appendix F – Traffic Figures

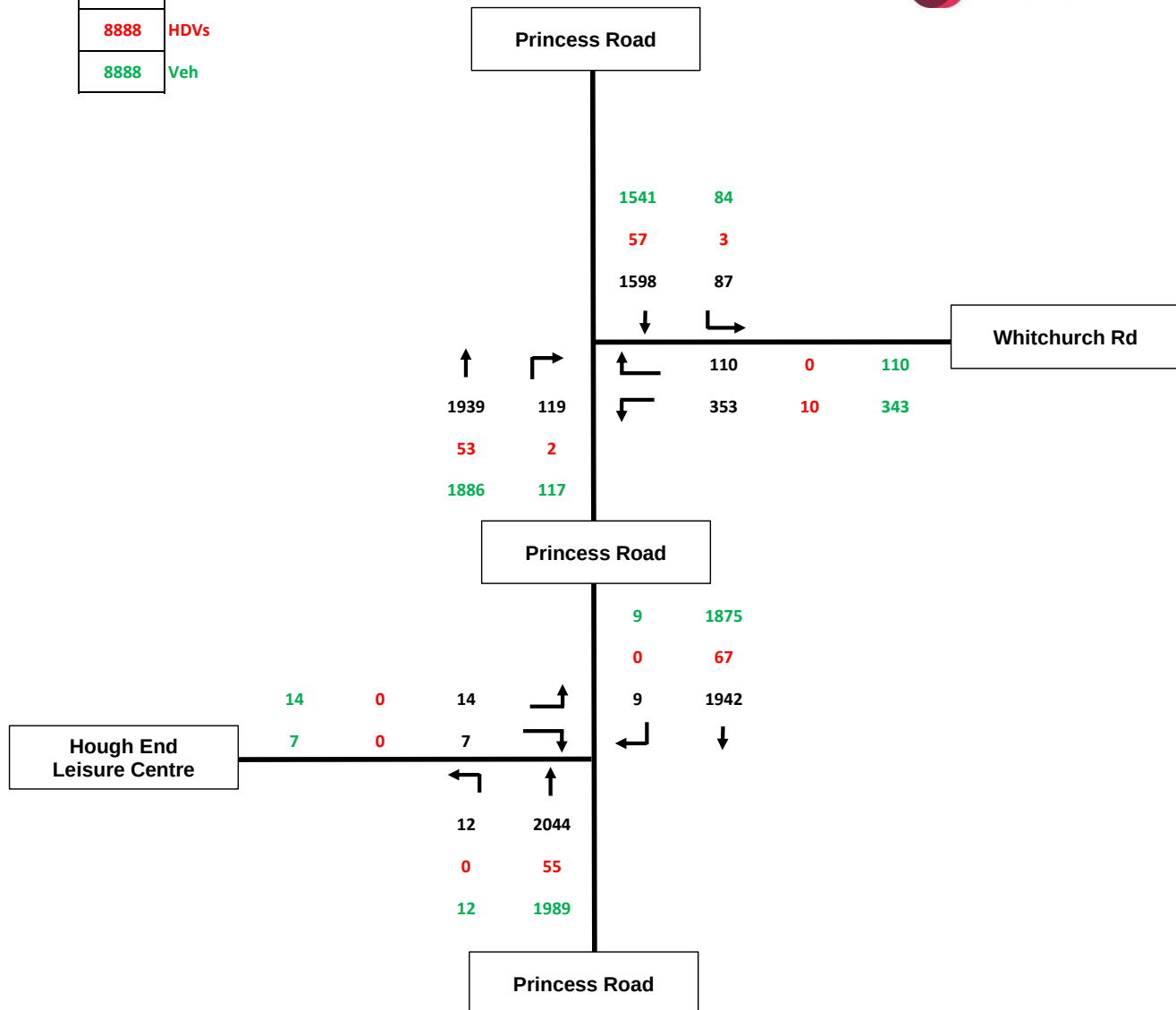
Project - Hough End Leisure Centre Expansion

Job Number - 76710

Figure 1 - 2021 AM Peak (inc. Original Hough End Leisure Centre Traffic)



8888	PCU
8888	HDVs
8888	Veh



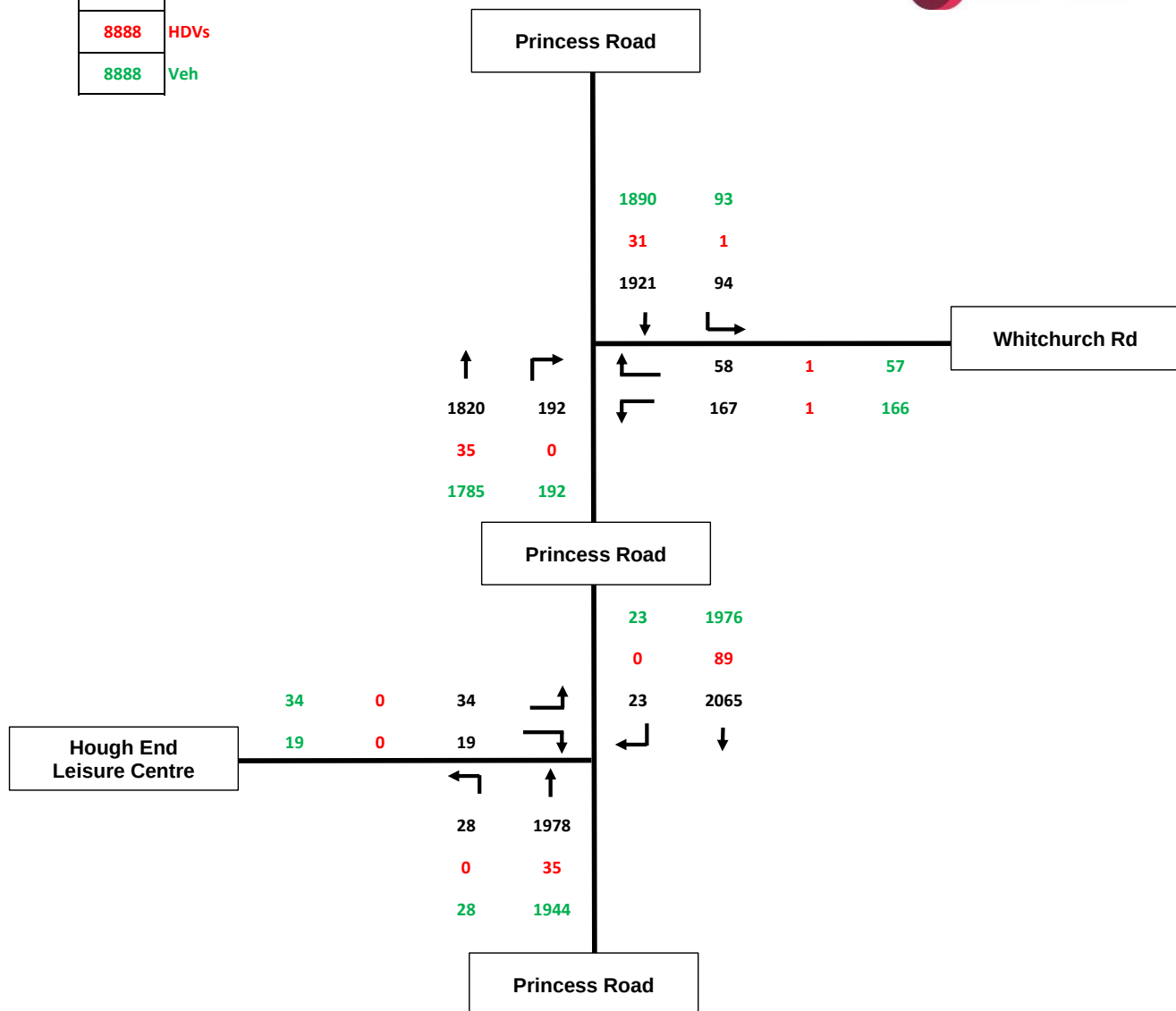
Project - Hough End Leisure Centre Expansion

Job Number - 76710

Figure 2 - 2021 PM Peak (inc. Original Hough End Leisure Centre Traffic)



8888	PCU
8888	HDVs
8888	Veh



Project - Hough End Leisure Centre Expansion

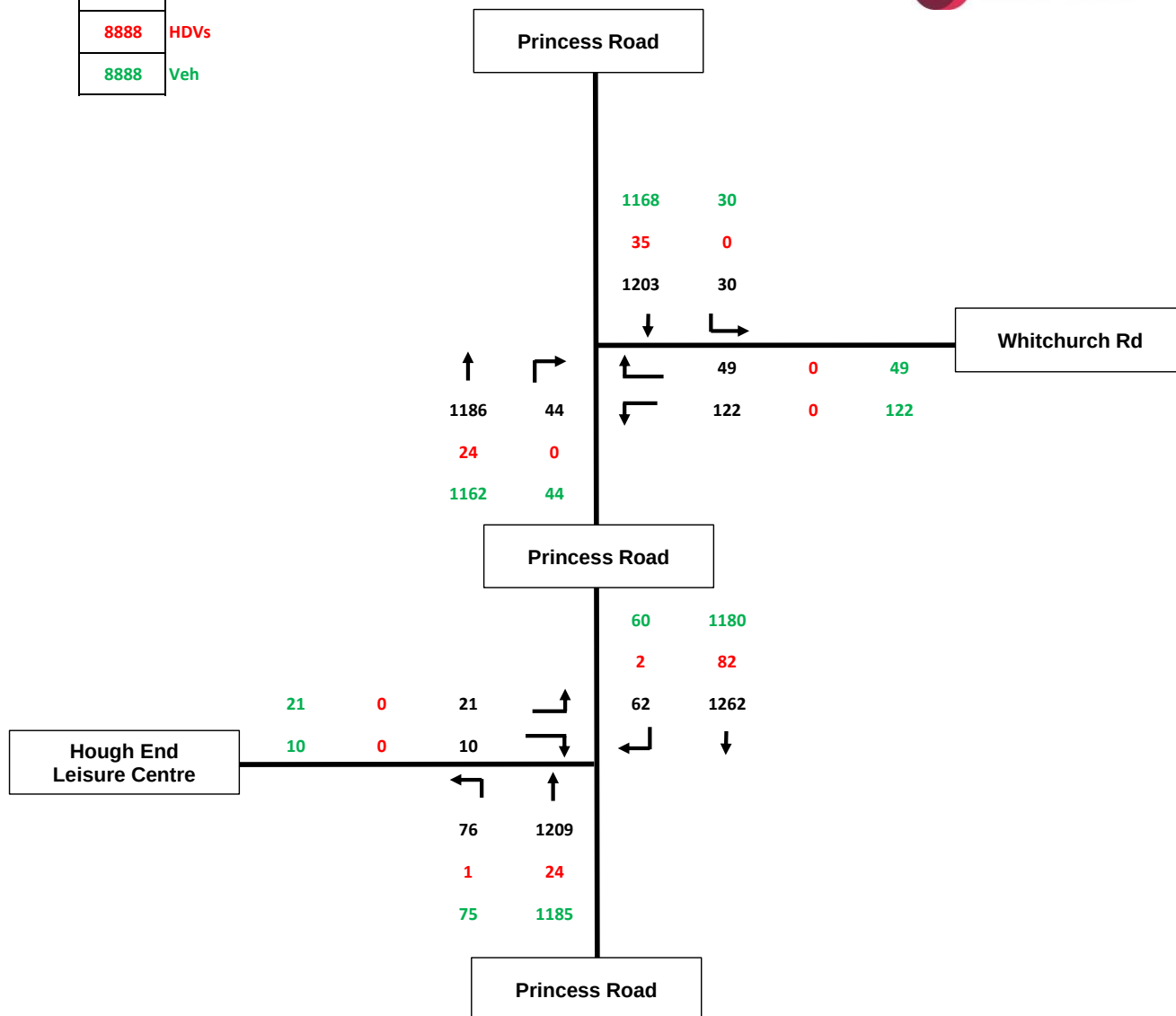
Job Number - 76710

Figure 3 - 2021 Sunday AM Peak (inc. Original Hough End Leisure Centre Traffic)

10am - 11am



8888	PCU
8888	HDVs
8888	Veh



Project - Hough End Leisure Centre Expansion

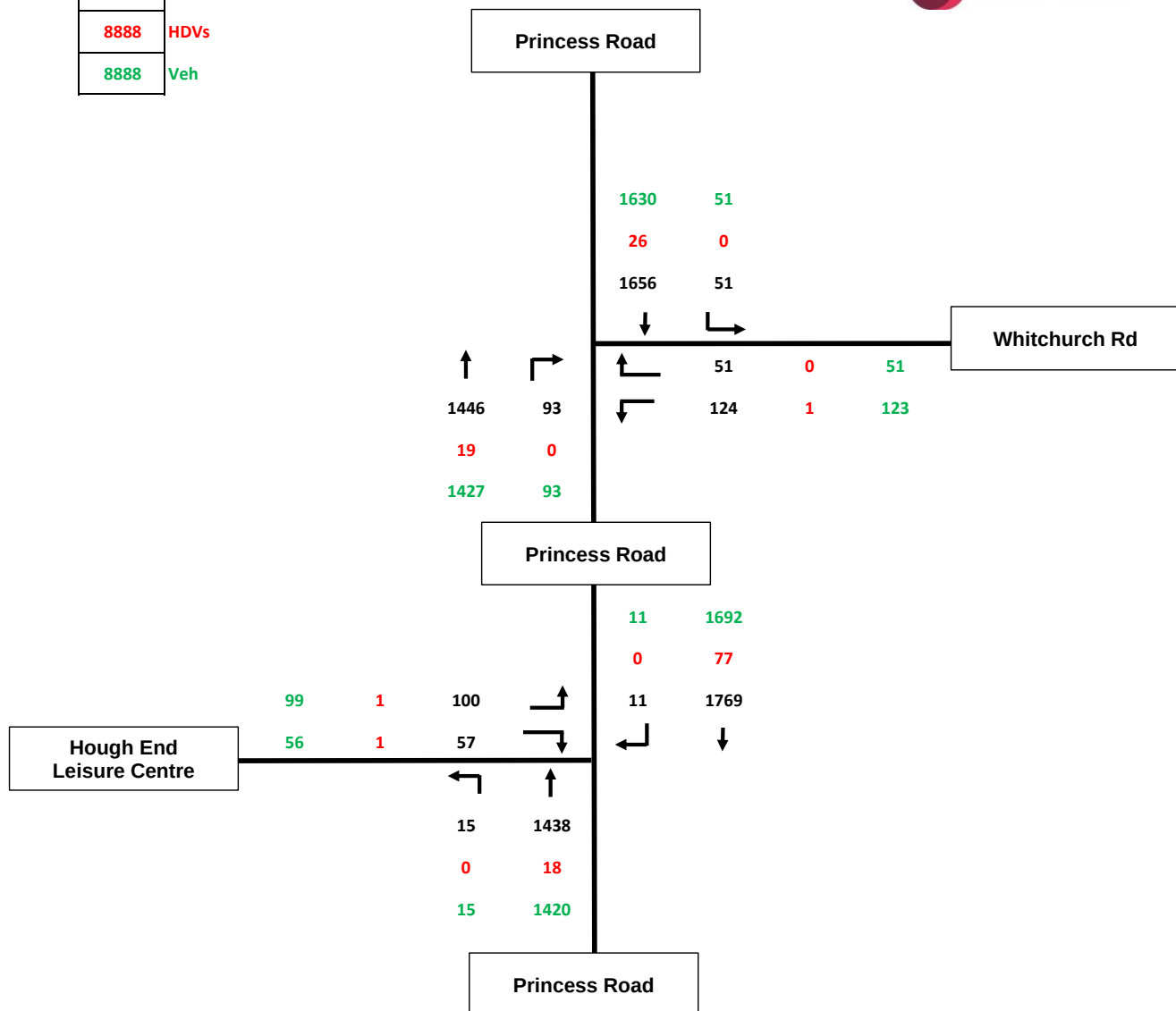
Job Number - 76710

Figure 4 - 2021 Sunday PM Peak (inc. Original Hough End Leisure Centre Traffic)

1pm - 2pm



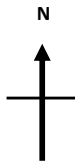
8888	PCU
8888	HDVs
8888	Veh



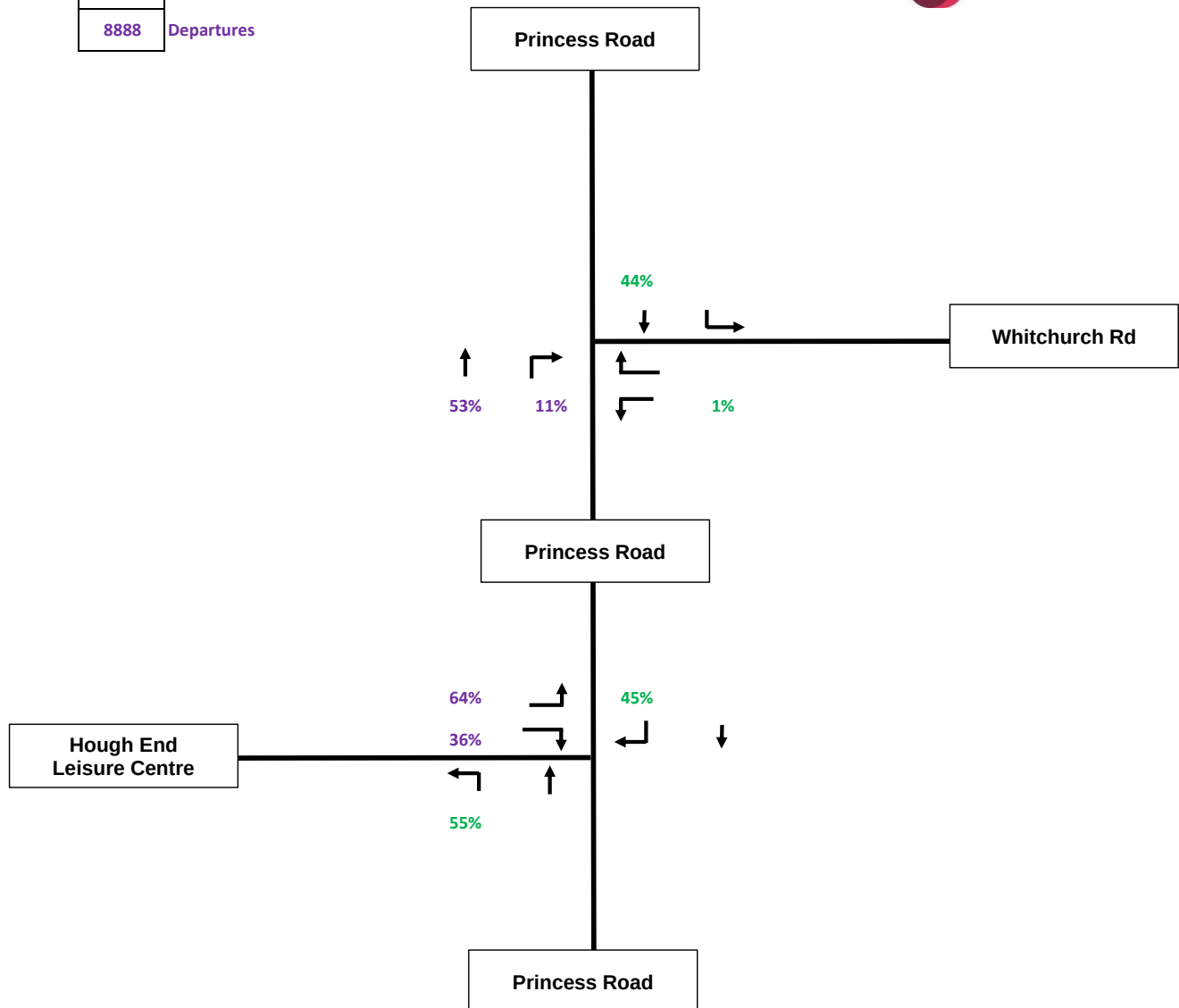
Project - Hough End Leisure Centre Expansion

Job Number - 76710

Figure 5 - Trip Distribution



8888	Arrivals
8888	Departures



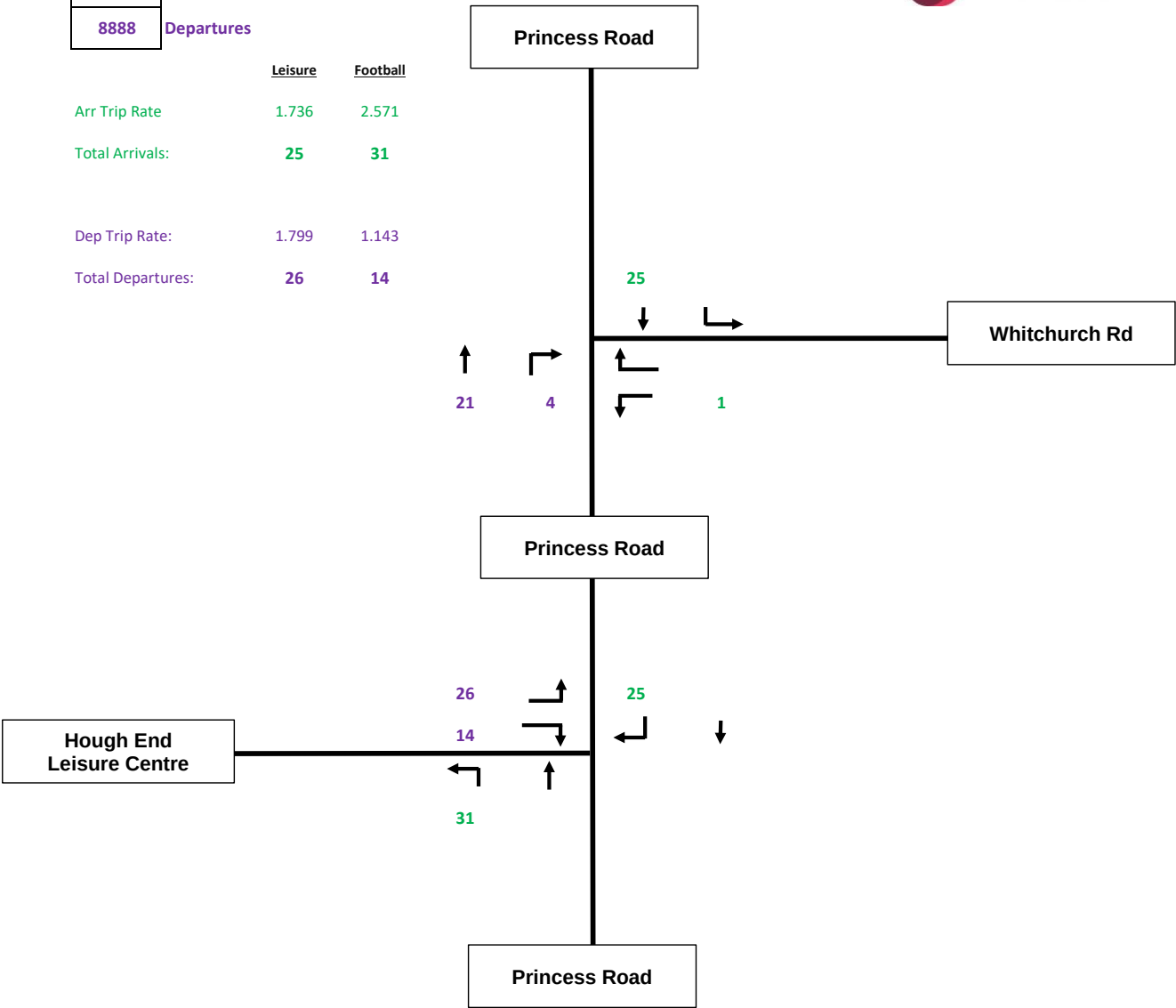
Project - Hough End Leisure Centre Expansion

Job Number - 76710

Figure 6 - Weekday PM Trip Generation



8888	Arrivals		
8888	Departures		
		<u>Leisure</u>	<u>Football</u>
Arr Trip Rate		1.736	2.571
Total Arrivals:		25	31
Dep Trip Rate:		1.799	1.143
Total Departures:		26	14



Project - Hough End Leisure Centre Expansion

Job Number - 76710

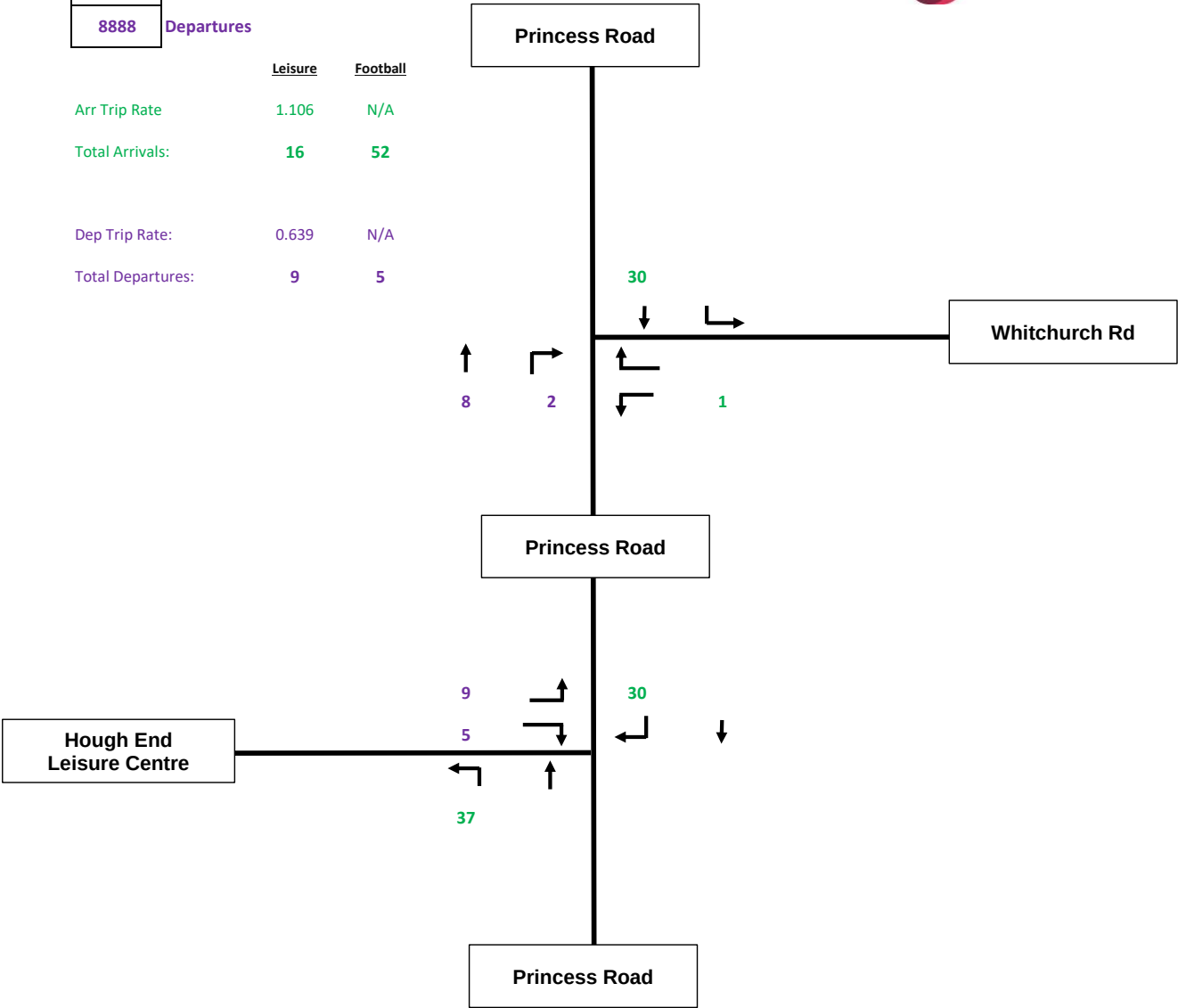
Figure 7 - Sunday AM Trip Generation (using uplift in existing Football traffic)

10am - 11am



8888	Arrivals
8888	Departures

	Leisure	Football
Arr Trip Rate	1.106	N/A
Total Arrivals:	16	52
Dep Trip Rate:	0.639	N/A
Total Departures:	9	5



Project - Hough End Leisure Centre Expansion

Job Number - 76710

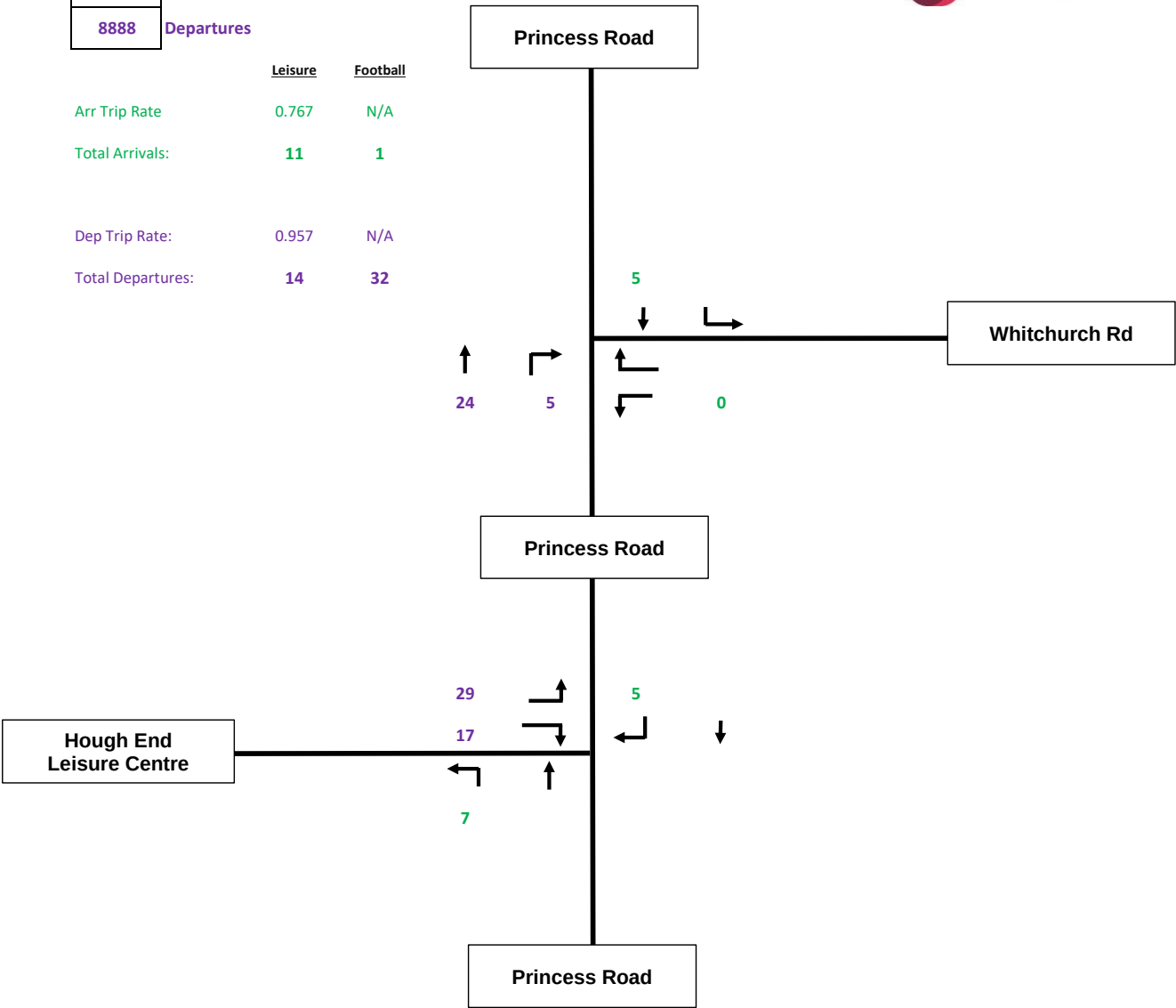
Figure 8 - Sunday PM Trip Generation (using uplift in existing Football traffic)

1pm - 2pm



8888	Arrivals
8888	Departures

	Leisure	Football
Arr Trip Rate	0.767	N/A
Total Arrivals:	11	1
Dep Trip Rate:	0.957	N/A
Total Departures:	14	32



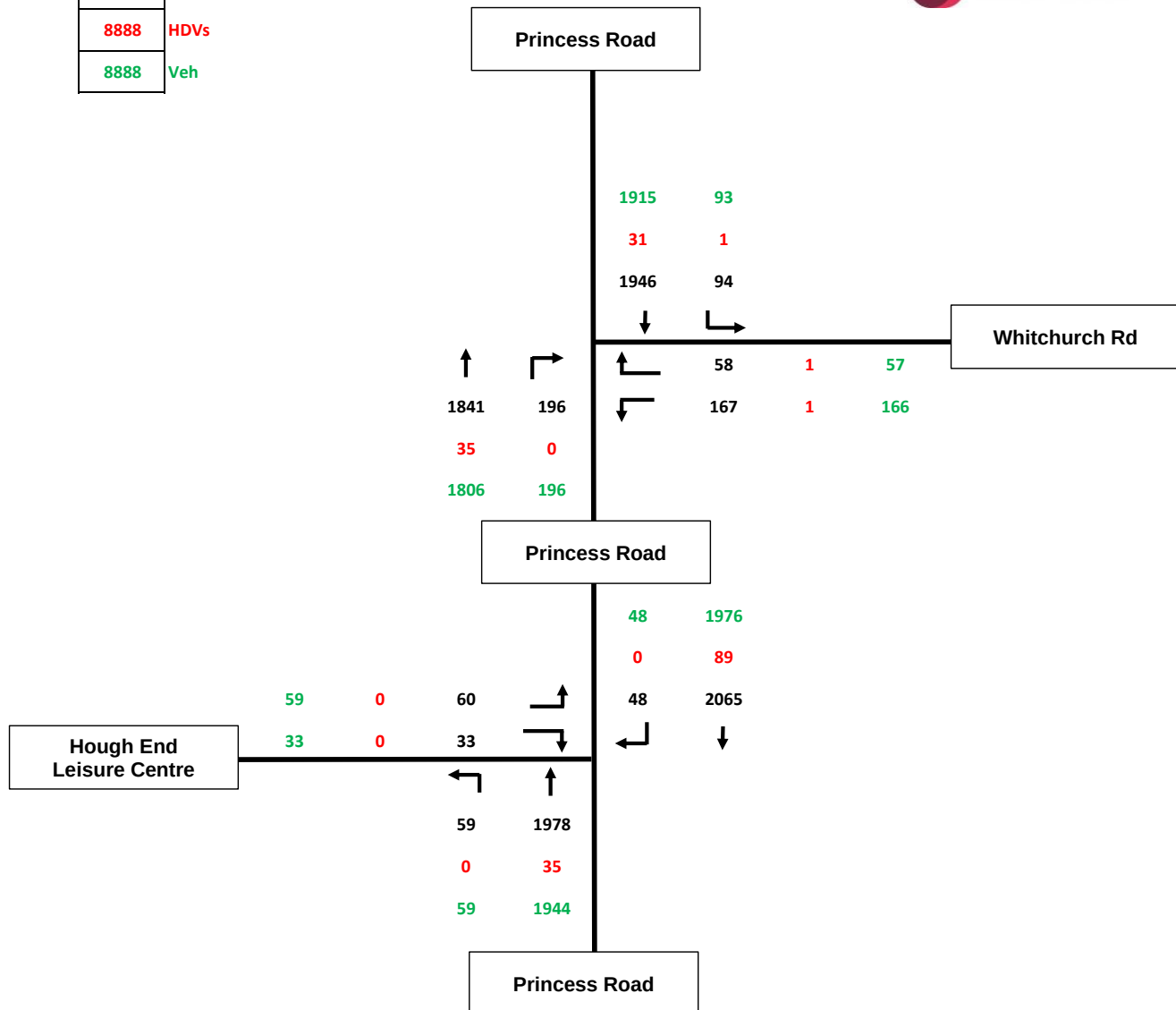
Project - Hough End Leisure Centre Expansion

Job Number - 76710

Figure 9 - Weekday PM Base + Proposed Development



8888	PCU
8888	HDVs
8888	Veh



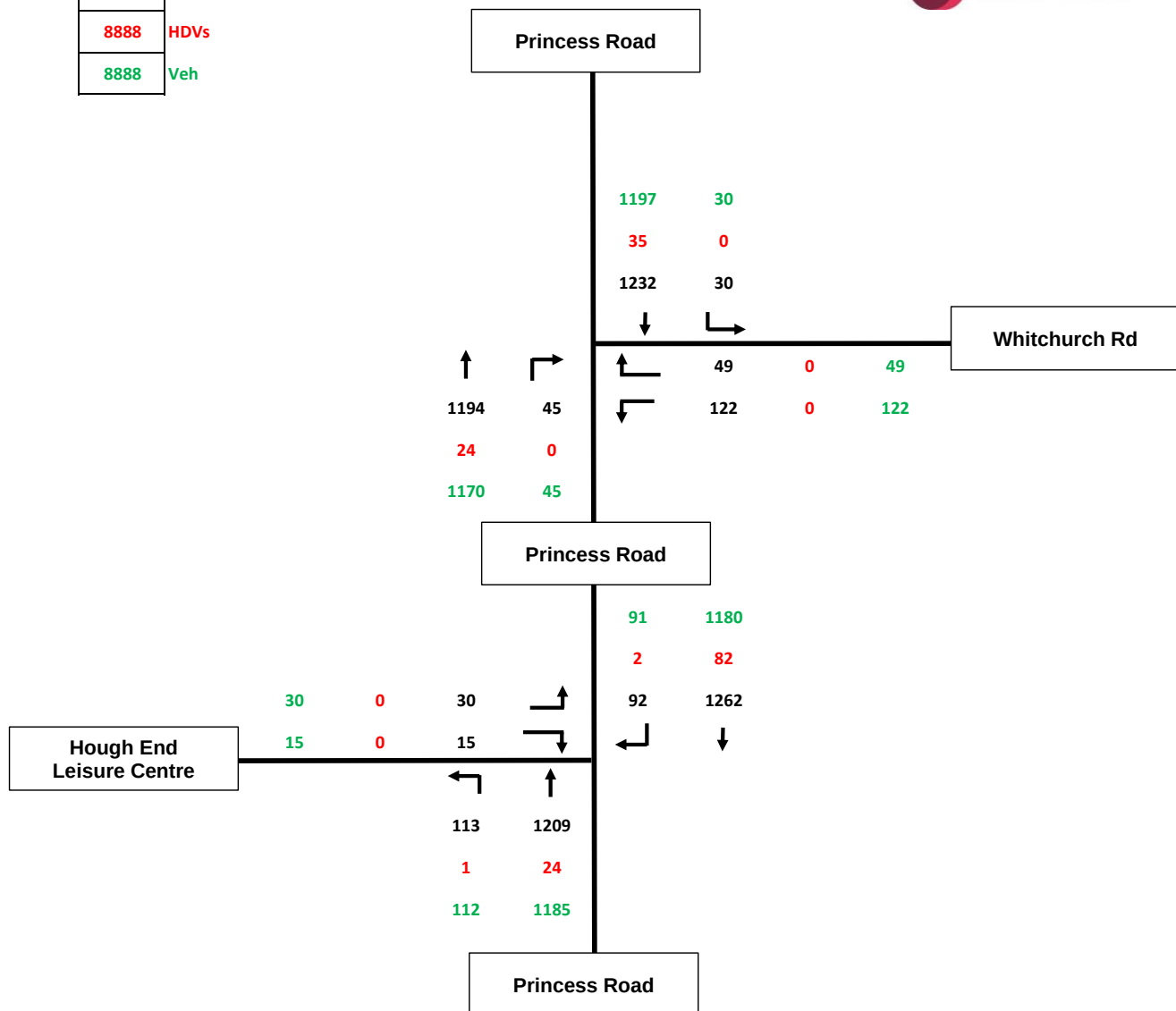
Project - Hough End Leisure Centre Expansion

Job Number - 76710

Figure 10 - Sunday AM Base + Proposed Development (Uplift in Players)



8888	PCU
8888	HDVs
8888	Veh



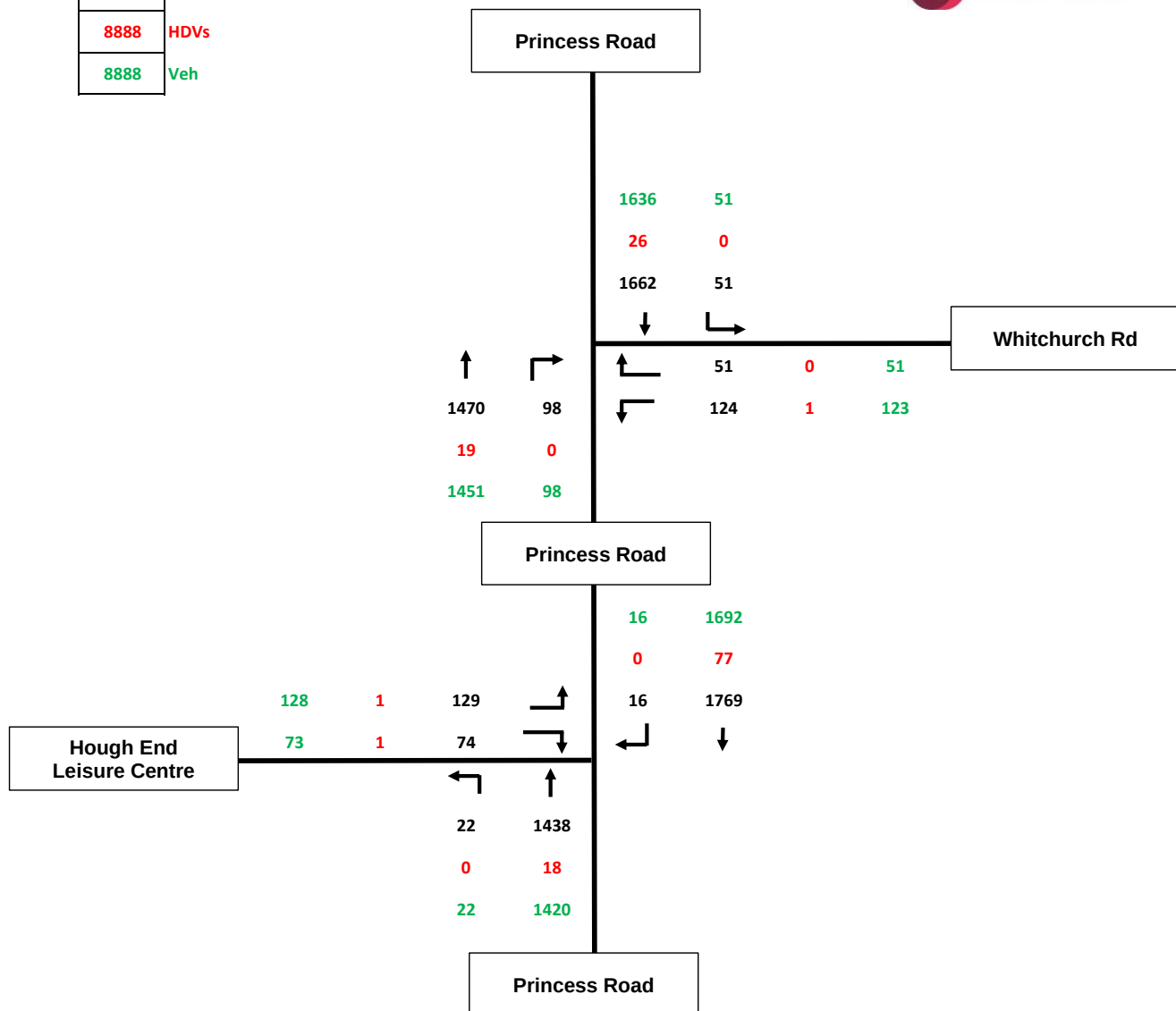
Project - Hough End Leisure Centre Expansion

Job Number - 76710

Figure 11 - Sunday PM Base + Proposed Development (Uplift in Players)



8888	PCU
8888	HDVs
8888	Veh



Appendix G – Junction Capacity Assessment Results

Junctions 9																		
PICADY 9 - Priority Intersection Module																		
Version: 9.0.2.5947																		
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The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution																		

Filename: Hough End - Princess Road (S) v4 DIRECT.j9

Path: \\mfs02\Projects\076001 - 077000\076170 - Hough End Sports Village\Q3-Design\3A-Calculations\TP\Capacity Assessments\December 2021 (Direct)

Report generation date: 10/12/2021 14:32:32

- »Base, Weekday PM
- »Base, Sunday AM
- »Base, Sunday PM
- »Base + Dev, Weekday PM
- »Base + Dev, Sunday AM
- »Base + Dev, Sunday PM

Summary of junction performance

	Weekday PM						Sunday AM						Sunday PM					
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Netw Resi Capa
	Base																	
Stream B-C	0.1	13.19	0.11	B	0.48	49 %	0.1	9.34	0.05	A	0.62	106 %	0.4	13.20	0.25	B	1.31	52
Stream B-A	0.1	14.11	0.07	B		[Stream B-A]	0.0	10.34	0.03	B		[Stream C-AB]	0.2	12.40	0.15	B		[Stre B-
Stream C-AB	0.1	10.27	0.06	B			0.1	8.49	0.12	A			0.0	8.12	0.02	A		
	Base + Dev																	
Stream B-C	0.2	14.62	0.18	B	0.87	40 %	0.1	9.67	0.07	A	0.91	87 %	0.5	14.98	0.33	B	1.83	38
Stream B-A	0.1	15.16	0.11	C		[Stream B-C]	0.0	10.66	0.04	B		[Stream C-AB]	0.3	13.16	0.20	B		[Stre B-
Stream C-AB	0.1	11.15	0.12	B			0.2	9.18	0.18	A			0.0	8.20	0.03	A		

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	02/12/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	CURTINS\thorley_m
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perTimeSegment	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75			✓	Delay	0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D2	Base	Weekday PM	DIRECT	17:00	18:00	60	15	✓
D3	Base	Sunday AM	DIRECT	10:00	11:00	60	15	✓
D4	Base	Sunday PM	DIRECT	13:00	14:00	60	15	✓
D6	Base + Dev	Weekday PM	DIRECT	17:00	18:00	60	15	✓
D7	Base + Dev	Sunday AM	DIRECT	10:00	11:00	60	15	✓
D8	Base + Dev	Sunday PM	DIRECT	13:00	14:00	60	15	✓

Analysis Set Details

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

Base, Weekday PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Hough End Access - Princess Road	T-Junction	Two-way	0.48	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	49	Stream B-A

Arms

Arms

Arm	Name	Description	Arm type
A	Princess Road (S)		Major
B	Hough End Leisure Centre		Minor
C	Princess Road (N)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
Princess Road (N)	14.70	✓	6.00	✓	3.30	250.0	✓	6.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane Width (Left) (m)	Lane Width (Right) (m)	Visibility to left (m)	Visibility to right (m)
Hough End Leisure Centre	Two lanes	2.80	2.80	120	90

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	156.268	0.062	0.158	0.099	0.225
1	B-C	166.742	0.064	0.161	-	-
1	C-B	201.197	0.194	0.194	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D2	Base	Weekday PM	DIRECT	17:00	18:00	60	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
Princess Road (S)		DIRECT		100.000
Hough End Leisure Centre		DIRECT		100.000
Princess Road (N)		DIRECT		100.000

Origin-Destination Data

Demand (PCU/TS)

17:00 - 17:15

	To			
		Princess Road (S)	Hough End Leisure Centre	Princess Road (N)
From	Princess Road (S)	0.00	1.75	122.50
	Hough End Leisure Centre	1.25	0.00	2.25
	Princess Road (N)	0.00	1.50	0.00

Demand (PCU/TS)

17:15 - 17:30

	To			
		Princess Road (S)	Hough End Leisure Centre	Princess Road (N)
From	Princess Road (S)	0.00	1.75	123.50
	Hough End Leisure Centre	1.25	0.00	2.25
	Princess Road (N)	0.00	1.50	0.00

Demand (PCU/TS)

17:30 - 17:45

	To			
		Princess Road (S)	Hough End Leisure Centre	Princess Road (N)
From	Princess Road (S)	0.00	1.75	125.75
	Hough End Leisure Centre	1.25	0.00	2.25
	Princess Road (N)	0.00	1.50	0.00

Demand (PCU/TS)

17:45 - 18:00

	To			
		Princess Road (S)	Hough End Leisure Centre	Princess Road (N)
From	Princess Road (S)	0.00	1.75	122.50
	Hough End Leisure Centre	1.25	0.00	2.25
	Princess Road (N)	0.00	1.50	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		Princess Road (S)	Hough End Leisure Centre	Princess Road (N)
From	Princess Road (S)	10	10	10
	Hough End Leisure Centre	10	10	10
	Princess Road (N)	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)
B-C	0.11	13.19	0.1	B	9.00	36.00
B-A	0.07	14.11	0.1	B	5.00	20.00
C-AB	0.06	10.27	0.1	B	6.00	24.00
C-A					0.00	0.00
A-B					7.00	28.01
A-C					494.50	1977.99

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	9.00	9.00	86.18	0.104	8.87	0.0	0.1	12.786	B
B-A	5.00	5.00	77.20	0.065	4.93	0.0	0.1	13.684	B
C-AB	6.00	6.00	104.88	0.057	5.93	0.0	0.1	9.999	A
C-A	0.00	0.00			0.00				
A-B	7.00	7.00			7.00				
A-C	490.00	490.00			490.00				

17:15 - 17:30

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	9.00	9.00	85.52	0.105	9.00	0.1	0.1	12.937	B
B-A	5.00	5.00	76.55	0.065	5.00	0.1	0.1	13.835	B
C-AB	6.00	6.00	104.11	0.058	6.00	0.1	0.1	10.090	B
C-A	0.00	0.00			0.00				
A-B	7.00	7.00			7.00				
A-C	494.00	494.00			494.00				

17:30 - 17:45

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	9.00	9.00	84.07	0.107	9.00	0.1	0.1	13.187	B
B-A	5.00	5.00	75.13	0.067	5.00	0.1	0.1	14.115	B
C-AB	6.00	6.00	102.36	0.059	6.00	0.1	0.1	10.273	B
C-A	0.00	0.00			0.00				
A-B	7.00	7.00			7.00				
A-C	503.00	503.00			503.00				

17:45 - 18:00

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	9.00	9.00	86.00	0.105	9.00	0.1	0.1	12.857	B
B-A	5.00	5.00	77.03	0.065	5.00	0.1	0.1	13.747	B
C-AB	6.00	6.00	104.69	0.057	6.00	0.1	0.1	10.033	B
C-A	0.00	0.00			0.00				
A-B	7.01	7.01			7.01				
A-C	490.99	490.99			490.99				

Base, Sunday AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Hough End Access - Princess Road	T-Junction	Two-way	0.62	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	106	Stream C-AB

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D3	Base	Sunday AM	DIRECT	10:00	11:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
Princess Road (S)		DIRECT		100.000
Hough End Leisure Centre		DIRECT		100.000
Princess Road (N)		DIRECT		100.000

Origin-Destination Data

Demand (PCU/TS)

	To			
		Princess Road (S)	Hough End Leisure Centre	Princess Road (N)
From	Princess Road (S)	0.00	19.00	311.00
	Hough End Leisure Centre	3.00	0.00	5.00
	Princess Road (N)	0.00	16.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		Princess Road (S)	Hough End Leisure Centre	Princess Road (N)
From	Princess Road (S)	10	10	10
	Hough End Leisure Centre	10	10	10
	Princess Road (N)	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)
B-C	0.05	9.34	0.1	A	5.00	20.00
B-A	0.03	10.34	0.0	B	3.00	12.00
C-AB	0.12	8.49	0.1	A	16.00	64.00
C-A					0.00	0.00
A-B					18.51	74.04
A-C					302.99	1211.96

Main Results for each time segment

10:00 - 10:15

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	5.00	5.00	119.86	0.042	4.95	0.0	0.0	8.612	A
B-A	3.00	3.00	107.45	0.028	2.97	0.0	0.0	9.472	A
C-AB	16.00	16.00	143.64	0.111	15.86	0.0	0.1	7.740	A
C-A	0.00	0.00			0.00				
A-B	17.10	17.10			17.10				
A-C	279.90	279.90			279.90				

10:15 - 10:30

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	5.00	5.00	114.73	0.044	5.00	0.0	0.0	9.021	A
B-A	3.00	3.00	102.40	0.029	3.00	0.0	0.0	9.959	A
C-AB	16.00	16.00	137.24	0.117	15.99	0.1	0.1	8.165	A
C-A	0.00	0.00			0.00				
A-B	19.00	19.00			19.00				
A-C	311.00	311.00			311.00				

10:30 - 10:45

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	5.00	5.00	118.61	0.042	5.00	0.0	0.0	8.715	A
B-A	3.00	3.00	106.20	0.028	3.00	0.0	0.0	9.594	A
C-AB	16.00	16.00	142.09	0.113	16.00	0.1	0.1	7.853	A
C-A	0.00	0.00			0.00				
A-B	17.56	17.56			17.56				
A-C	287.44	287.44			287.44				

10:45 - 11:00

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	5.00	5.00	111.01	0.045	5.00	0.0	0.1	9.338	A
B-A	3.00	3.00	98.74	0.030	3.00	0.0	0.0	10.339	B
C-AB	16.00	16.00	132.59	0.121	15.99	0.1	0.1	8.490	A
C-A	0.00	0.00			0.00				
A-B	20.38	20.38			20.38				
A-C	333.62	333.62			333.62				

Base, Sunday PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Hough End Access - Princess Road	T-Junction	Two-way	1.31	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	52	Stream B-C

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D4	Base	Sunday PM	DIRECT	13:00	14:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
Princess Road (S)		DIRECT		100.000
Hough End Leisure Centre		DIRECT		100.000
Princess Road (N)		DIRECT		100.000

Origin-Destination Data

Demand (PCU/TS)

	To			
		Princess Road (S)	Hough End Leisure Centre	Princess Road (N)
From	Princess Road (S)	0.00	4.00	390.00
	Hough End Leisure Centre	14.00	0.00	25.00
	Princess Road (N)	0.00	3.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		Princess Road (S)	Hough End Leisure Centre	Princess Road (N)
From	Princess Road (S)	10	10	10
	Hough End Leisure Centre	10	10	10
	Princess Road (N)	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)
B-C	0.25	13.20	0.4	B	25.00	100.00
B-A	0.15	12.40	0.2	B	14.00	56.00
C-AB	0.02	8.12	0.0	A	3.00	12.00
C-A					0.00	0.00
A-B					3.66	14.63
A-C					356.59	1426.37

Main Results for each time segment

13:00 - 13:15

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	25.00	25.00	106.06	0.236	24.67	0.0	0.3	12.114	B
B-A	14.00	14.00	99.79	0.140	13.82	0.0	0.2	11.494	B
C-AB	3.00	3.00	132.21	0.023	2.97	0.0	0.0	7.661	A
C-A	0.00	0.00			0.00				
A-B	3.61	3.61			3.61				
A-C	352.39	352.39			352.39				

13:15 - 13:30

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	25.00	25.00	99.93	0.250	24.97	0.3	0.4	13.201	B
B-A	14.00	14.00	93.83	0.149	13.99	0.2	0.2	12.399	B
C-AB	3.00	3.00	124.84	0.024	3.00	0.0	0.0	8.125	A
C-A	0.00	0.00			0.00				
A-B	4.00	4.00			4.00				
A-C	390.00	390.00			390.00				

13:30 - 13:45

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	25.00	25.00	108.09	0.231	25.03	0.4	0.3	11.924	B
B-A	14.00	14.00	101.82	0.138	14.01	0.2	0.2	11.278	B
C-AB	3.00	3.00	134.73	0.022	3.00	0.0	0.0	7.514	A
C-A	0.00	0.00			0.00				
A-B	3.48	3.48			3.48				
A-C	339.52	339.52			339.52				

13:45 - 14:00

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	25.00	25.00	107.29	0.233	25.00	0.3	0.3	12.029	B
B-A	14.00	14.00	101.04	0.139	14.00	0.2	0.2	11.376	B
C-AB	3.00	3.00	133.76	0.022	3.00	0.0	0.0	7.570	A
C-A	0.00	0.00			0.00				
A-B	3.53	3.53			3.53				
A-C	344.47	344.47			344.47				

Base + Dev, Weekday PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Hough End Access - Princess Road	T-Junction	Two-way	0.87	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	40	Stream B-C

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D6	Base + Dev	Weekday PM	DIRECT	17:00	18:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
Princess Road (S)		DIRECT		100.000
Hough End Leisure Centre		DIRECT		100.000
Princess Road (N)		DIRECT		100.000

Origin-Destination Data

Demand (PCU/TS)

	To			
		Princess Road (S)	Hough End Leisure Centre	Princess Road (N)
From	Princess Road (S)	0.00	3.75	122.75
	Hough End Leisure Centre	2.00	0.00	3.75
	Princess Road (N)	0.00	3.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		Princess Road (S)	Hough End Leisure Centre	Princess Road (N)
From	Princess Road (S)	10	10	10
	Hough End Leisure Centre	10	10	10
	Princess Road (N)	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)
B-C	0.18	14.62	0.2	B	15.00	60.00
B-A	0.11	15.16	0.1	C	8.00	32.00
C-AB	0.12	11.15	0.1	B	12.00	48.00
C-A					0.00	0.00
A-B					15.10	60.42
A-C					494.40	1977.58

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	15.00	15.00	84.78	0.177	14.77	0.0	0.2	14.095	B
B-A	8.00	8.00	75.34	0.106	7.87	0.0	0.1	14.645	B
C-AB	12.00	12.00	103.33	0.116	11.86	0.0	0.1	10.807	B
C-A	0.00	0.00			0.00				
A-B	14.97	14.97			14.97				
A-C	490.03	490.03			490.03				

17:15 - 17:30

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	15.00	15.00	84.11	0.178	15.00	0.2	0.2	14.325	B
B-A	8.00	8.00	74.69	0.107	8.00	0.1	0.1	14.843	B
C-AB	12.00	12.00	102.56	0.117	12.00	0.1	0.1	10.931	B
C-A	0.00	0.00			0.00				
A-B	15.09	15.09			15.09				
A-C	493.91	493.91			493.91				

17:30 - 17:45

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	15.00	15.00	82.68	0.181	15.00	0.2	0.2	14.623	B
B-A	8.00	8.00	73.30	0.109	8.00	0.1	0.1	15.160	C
C-AB	12.00	12.00	100.81	0.119	12.00	0.1	0.1	11.146	B
C-A	0.00	0.00			0.00				
A-B	15.36	15.36			15.36				
A-C	502.64	502.64			502.64				

17:45 - 18:00

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	15.00	15.00	84.58	0.177	15.00	0.2	0.2	14.228	B
B-A	8.00	8.00	75.16	0.106	8.00	0.1	0.1	14.741	B
C-AB	12.00	12.00	103.14	0.116	12.00	0.1	0.1	10.862	B
C-A	0.00	0.00			0.00				
A-B	15.00	15.00			15.00				
A-C	491.00	491.00			491.00				

Base + Dev, Sunday AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Hough End Access - Princess Road	T-Junction	Two-way	0.91	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	87	Stream C-AB

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D7	Base + Dev	Sunday AM	DIRECT	10:00	11:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
Princess Road (S)		DIRECT		100.000
Hough End Leisure Centre		DIRECT		100.000
Princess Road (N)		DIRECT		100.000

Origin-Destination Data

Demand (PCU/TS)

	To			
		Princess Road (S)	Hough End Leisure Centre	Princess Road (N)
From	Princess Road (S)	0.00	28.00	286.00
	Hough End Leisure Centre	4.00	0.00	8.00
	Princess Road (N)	0.00	23.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		Princess Road (S)	Hough End Leisure Centre	Princess Road (N)
From	Princess Road (S)	10	10	10
	Hough End Leisure Centre	10	10	10
	Princess Road (N)	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)
B-C	0.07	9.67	0.1	A	8.00	32.00
B-A	0.04	10.66	0.0	B	4.00	16.00
C-AB	0.18	9.18	0.2	A	23.00	92.00
C-A					0.00	0.00
A-B					29.47	117.89
A-C					301.03	1204.11

Main Results for each time segment

10:00 - 10:15

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	8.00	8.00	119.10	0.067	7.92	0.0	0.1	8.898	A
B-A	4.00	4.00	105.43	0.038	3.96	0.0	0.0	9.752	A
C-AB	23.00	23.00	141.90	0.162	22.79	0.0	0.2	8.298	A
C-A	0.00	0.00			0.00				
A-B	27.29	27.29			27.29				
A-C	278.71	278.71			278.71				

10:15 - 10:30

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	8.00	8.00	114.07	0.070	8.00	0.1	0.1	9.332	A
B-A	4.00	4.00	100.45	0.040	4.00	0.0	0.0	10.263	B
C-AB	23.00	23.00	135.50	0.170	22.99	0.2	0.2	8.797	A
C-A	0.00	0.00			0.00				
A-B	30.23	30.23			30.23				
A-C	308.77	308.77			308.77				

10:30 - 10:45

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	8.00	8.00	117.87	0.068	8.00	0.1	0.1	9.012	A
B-A	4.00	4.00	104.18	0.038	4.00	0.0	0.0	9.883	A
C-AB	23.00	23.00	140.35	0.164	23.01	0.2	0.2	8.438	A
C-A	0.00	0.00			0.00				
A-B	28.00	28.00			28.00				
A-C	286.00	286.00			286.00				

10:45 - 11:00

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	8.00	8.00	110.42	0.072	8.00	0.1	0.1	9.665	A
B-A	4.00	4.00	96.87	0.041	4.00	0.0	0.0	10.659	B
C-AB	23.00	23.00	130.85	0.176	22.99	0.2	0.2	9.177	A
C-A	0.00	0.00			0.00				
A-B	32.37	32.37			32.37				
A-C	330.63	330.63			330.63				

Base + Dev, Sunday PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Hough End Access - Princess Road	T-Junction	Two-way	1.83	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	38	Stream B-C

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D8	Base + Dev	Sunday PM	DIRECT	13:00	14:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
Princess Road (S)		DIRECT		100.000
Hough End Leisure Centre		DIRECT		100.000
Princess Road (N)		DIRECT		100.000

Origin-Destination Data

Demand (PCU/TS)

	To			
		Princess Road (S)	Hough End Leisure Centre	Princess Road (N)
From	Princess Road (S)	0.00	5.00	390.00
	Hough End Leisure Centre	18.00	0.00	32.00
	Princess Road (N)	0.00	4.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		Princess Road (S)	Hough End Leisure Centre	Princess Road (N)
From	Princess Road (S)	10	10	10
	Hough End Leisure Centre	10	10	10
	Princess Road (N)	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)
B-C	0.33	14.98	0.5	B	32.64	130.56
B-A	0.20	13.16	0.3	B	18.36	73.44
C-AB	0.03	8.20	0.0	A	4.00	16.00
C-A					0.00	0.00
A-B					4.58	18.30
A-C					356.92	1427.70

Main Results for each time segment

13:00 - 13:15

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	32.64	32.64	104.62	0.312	32.15	0.0	0.5	13.573	B
B-A	18.36	18.36	99.34	0.185	18.11	0.0	0.2	12.153	B
C-AB	4.00	4.00	131.82	0.030	3.97	0.0	0.0	7.742	A
C-A	0.00	0.00			0.00				
A-B	4.53	4.53			4.53				
A-C	353.47	353.47			353.47				

13:15 - 13:30

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	32.64	32.64	98.63	0.331	32.59	0.5	0.5	14.978	B
B-A	18.36	18.36	93.54	0.196	18.34	0.2	0.3	13.160	B
C-AB	4.00	4.00	124.65	0.032	4.00	0.0	0.0	8.205	A
C-A	0.00	0.00			0.00				
A-B	5.00	5.00			5.00				
A-C	390.00	390.00			390.00				

13:30 - 13:45

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	32.64	32.64	106.78	0.306	32.68	0.5	0.5	13.371	B
B-A	18.36	18.36	101.52	0.181	18.38	0.3	0.2	11.912	B
C-AB	4.00	4.00	134.53	0.030	4.00	0.0	0.0	7.586	A
C-A	0.00	0.00			0.00				
A-B	4.35	4.35			4.35				
A-C	339.65	339.65			339.65				

13:45 - 14:00

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	32.64	32.64	105.99	0.308	32.64	0.5	0.5	13.500	B
B-A	18.36	18.36	100.74	0.182	18.36	0.2	0.2	12.017	B
C-AB	4.00	4.00	133.56	0.030	4.00	0.0	0.0	7.640	A
C-A	0.00	0.00			0.00				
A-B	4.42	4.42			4.42				
A-C	344.58	344.58			344.58				

Junctions 9																		
PICADY 9 - Priority Intersection Module																		
Version: 9.0.2.5947 © Copyright TRL Limited, 2017																		
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Filename: Princess Road (N) - Right Turn Pocket v4 DIRECT.j9

Path: \\mfs02\Projects\076001 - 077000\076170 - Hough End Sports Village\Q3-Design\3A-Calculations\TP\Capacity Assessments\December 2021 (Direct)

Report generation date: 10/12/2021 14:36:55

- »Base, Weekday PM
- »Base, Sunday AM
- »Base, Sunday PM
- »Base + Dev, Weekday PM
- »Base + Dev, Sunday AM
- »Base + Dev, Sunday PM

Summary of junction performance

	Weekday PM						Sunday AM						Sunday PM					
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Network Residual Capacity
	Base																	
Stream B-AC	0.1	12.27	0.06	B	0.18	89 %	0.0	10.11	0.03	B	0.38	165 %	0.2	12.35	0.15	B	0.41	87
Stream C-AB	0.0	5.70	0.03	A		[Stream B-AC]	0.1	6.05	0.09	A		[Stream B-AC]	0.0	5.60	0.02	A		[Stream B-AC]
	Base + Dev																	
Stream B-AC	0.1	12.96	0.10	B	0.33	76 %	0.0	10.39	0.04	B	0.55	149 %	0.3	13.05	0.19	B	0.55	74
Stream C-AB	0.1	5.90	0.07	A		[Stream B-AC]	0.2	6.32	0.13	A		[Stream B-AC]	0.0	5.63	0.02	A		[Stream B-AC]

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	02/12/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	CURTINS\thorley_m
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perTimeSegment	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75			✓	Delay	0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D2	Base	Weekday PM	DIRECT	17:00	18:00	60	15	✓
D3	Base	Sunday AM	DIRECT	08:00	09:00	60	15	✓
D4	Base	Sunday PM	DIRECT	13:00	14:00	60	15	✓
D6	Base + Dev	Weekday PM	DIRECT	17:00	18:00	60	15	✓
D7	Base + Dev	Sunday AM	DIRECT	08:00	09:00	60	15	✓
D8	Base + Dev	Sunday PM	DIRECT	13:00	14:00	60	15	✓

Analysis Set Details

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

Base, Weekday PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Princess Road (N) - Right Turn Pocket	T-Junction	Two-way	0.18	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	89	Stream B-AC

Arms

Arms

Arm	Name	Description	Arm type
A	Princess Road (S)		Major
B	Right Turn Pocket		Minor
C	Princess Road (N)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
Princess Road (N)	14.70					250.0	✓	6.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
Right Turn Pocket	One lane	3.00	120	90

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	140.621	0.064	0.161	0.101	0.230
1	B-C	170.149	0.065	0.164	-	-
1	C-B	179.685	0.173	0.173	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D2	Base	Weekday PM	DIRECT	17:00	18:00	60	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
Princess Road (S)		DIRECT		100.000
Right Turn Pocket		DIRECT		100.000
Princess Road (N)		DIRECT		100.000

Origin-Destination Data

Demand (PCU/TS)

17:00 - 17:15

	To			
		Princess Road (S)	Right Turn Pocket	Princess Road (N)
From	Princess Road (S)	0.00	0.00	0.00
	Right Turn Pocket	5.00	0.00	0.00
	Princess Road (N)	530.00	6.00	0.00

Demand (PCU/TS)

17:15 - 17:30

	To			
		Princess Road (S)	Right Turn Pocket	Princess Road (N)
From	Princess Road (S)	0.00	0.00	0.00
	Right Turn Pocket	5.00	0.00	0.00
	Princess Road (N)	527.00	6.00	0.00

Demand (PCU/TS)

17:30 - 17:45

	To			
		Princess Road (S)	Right Turn Pocket	Princess Road (N)
From	Princess Road (S)	0.00	0.00	0.00
	Right Turn Pocket	5.00	0.00	0.00
	Princess Road (N)	483.00	6.00	0.00

Demand (PCU/TS)

17:45 - 18:00

	To			
		Princess Road (S)	Right Turn Pocket	Princess Road (N)
From	Princess Road (S)	0.00	0.00	0.00
	Right Turn Pocket	5.00	0.00	0.00
	Princess Road (N)	526.00	6.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		Princess Road (S)	Right Turn Pocket	Princess Road (N)
From	Princess Road (S)	10	10	10
	Right Turn Pocket	10	10	10
	Princess Road (N)	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)
B-AC	0.06	12.27	0.1	B	5.00	20.00
C-AB	0.03	5.70	0.0	A	5.97	23.89
C-A					514.03	2056.11
A-B					0.00	0.00
A-C					0.00	0.00

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	5.00	5.00	85.58	0.058	4.93	0.0	0.1	12.266	B
C-AB	6.00	6.00	179.69	0.033	5.96	0.0	0.0	5.697	A
C-A	530.00	530.00			530.00				
A-B	0.00	0.00			0.00				
A-C	0.00	0.00			0.00				

17:15 - 17:30

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	5.00	5.00	85.87	0.058	5.00	0.1	0.1	12.240	B
C-AB	6.00	6.00	179.69	0.033	6.00	0.0	0.0	5.699	A
C-A	527.00	527.00			527.00				
A-B	0.00	0.00			0.00				
A-C	0.00	0.00			0.00				

17:30 - 17:45

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	5.00	5.00	90.33	0.055	5.00	0.1	0.1	11.604	B
C-AB	6.00	6.00	179.69	0.033	6.00	0.0	0.0	5.699	A
C-A	483.00	483.00			483.00				
A-B	0.00	0.00			0.00				
A-C	0.00	0.00			0.00				

17:45 - 18:00

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	5.00	5.00	87.00	0.057	5.00	0.1	0.1	12.072	B
C-AB	5.89	5.89	179.69	0.033	5.89	0.0	0.0	5.695	A
C-A	516.11	516.11			516.11				
A-B	0.00	0.00			0.00				
A-C	0.00	0.00			0.00				

Base, Sunday AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Princess Road (N) - Right Turn Pocket	T-Junction	Two-way	0.38	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	165	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D3	Base	Sunday AM	DIRECT	08:00	09:00	60	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
Princess Road (S)		DIRECT		100.000
Right Turn Pocket		DIRECT		100.000
Princess Road (N)		DIRECT		100.000

Origin-Destination Data

Demand (PCU/TS)

08:00 - 08:15

	To			
		Princess Road (S)	Right Turn Pocket	Princess Road (N)
From	Princess Road (S)	0.00	0.00	0.00
	Right Turn Pocket	3.00	0.00	0.00
	Princess Road (N)	296.00	16.00	0.00

Demand (PCU/TS)

08:15 - 08:30

	To			
		Princess Road (S)	Right Turn Pocket	Princess Road (N)
From	Princess Road (S)	0.00	0.00	0.00
	Right Turn Pocket	3.00	0.00	0.00
	Princess Road (N)	307.00	16.00	0.00

Demand (PCU/TS)

08:30 - 08:45

	To			
		Princess Road (S)	Right Turn Pocket	Princess Road (N)
From	Princess Road (S)	0.00	0.00	0.00
	Right Turn Pocket	3.00	0.00	0.00
	Princess Road (N)	304.00	16.00	0.00

Demand (PCU/TS)

08:45 - 09:00

	To			
		Princess Road (S)	Right Turn Pocket	Princess Road (N)
From	Princess Road (S)	0.00	0.00	0.00
	Right Turn Pocket	3.00	0.00	0.00
	Princess Road (N)	356.00	16.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		Princess Road (S)	Right Turn Pocket	Princess Road (N)
From	Princess Road (S)	10	10	10
	Right Turn Pocket	10	10	10
	Princess Road (N)	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)
B-AC	0.03	10.11	0.0	B	3.00	12.00
C-AB	0.09	6.05	0.1	A	15.99	63.95
C-A					315.51	1262.05
A-B					0.00	0.00
A-C					0.00	0.00

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	3.00	3.00	107.08	0.028	2.97	0.0	0.0	9.505	A
C-AB	15.95	15.95	179.69	0.089	15.84	0.0	0.1	6.038	A
C-A	295.05	295.05			295.05				
A-B	0.00	0.00			0.00				
A-C	0.00	0.00			0.00				

08:15 - 08:30

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	3.00	3.00	105.83	0.028	3.00	0.0	0.0	9.626	A
C-AB	16.00	16.00	179.69	0.089	16.00	0.1	0.1	6.047	A
C-A	307.00	307.00			307.00				
A-B	0.00	0.00			0.00				
A-C	0.00	0.00			0.00				

08:30 - 08:45

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	3.00	3.00	106.14	0.028	3.00	0.0	0.0	9.598	A
C-AB	16.00	16.00	179.69	0.089	16.00	0.1	0.1	6.047	A
C-A	304.00	304.00			304.00				
A-B	0.00	0.00			0.00				
A-C	0.00	0.00			0.00				

08:45 - 09:00

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	3.00	3.00	100.87	0.030	3.00	0.0	0.0	10.114	B
C-AB	16.00	16.00	179.69	0.089	16.00	0.1	0.1	6.047	A
C-A	356.00	356.00			356.00				
A-B	0.00	0.00			0.00				
A-C	0.00	0.00			0.00				

Base, Sunday PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Princess Road (N) - Right Turn Pocket	T-Junction	Two-way	0.41	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	87	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D4	Base	Sunday PM	DIRECT	13:00	14:00	60	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
Princess Road (S)		DIRECT		100.000
Right Turn Pocket		DIRECT		100.000
Princess Road (N)		DIRECT		100.000

Origin-Destination Data

Demand (PCU/TS)

13:00 - 13:15

	To			
		Princess Road (S)	Right Turn Pocket	Princess Road (N)
From	Princess Road (S)	0.00	0.00	0.00
	Right Turn Pocket	14.00	0.00	0.00
	Princess Road (N)	454.00	3.00	0.00

Demand (PCU/TS)

13:15 - 13:30

	To			
		Princess Road (S)	Right Turn Pocket	Princess Road (N)
From	Princess Road (S)	0.00	0.00	0.00
	Right Turn Pocket	14.00	0.00	0.00
	Princess Road (N)	438.00	3.00	0.00

Demand (PCU/TS)

13:30 - 13:45

	To			
		Princess Road (S)	Right Turn Pocket	Princess Road (N)
From	Princess Road (S)	0.00	0.00	0.00
	Right Turn Pocket	14.00	0.00	0.00
	Princess Road (N)	425.00	3.00	0.00

Demand (PCU/TS)

13:45 - 14:00

	To			
		Princess Road (S)	Right Turn Pocket	Princess Road (N)
From	Princess Road (S)	0.00	0.00	0.00
	Right Turn Pocket	14.00	0.00	0.00
	Princess Road (N)	452.00	3.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		Princess Road (S)	Right Turn Pocket	Princess Road (N)
From	Princess Road (S)	10	10	10
	Right Turn Pocket	10	10	10
	Princess Road (N)	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)
B-AC	0.15	12.35	0.2	B	14.00	56.00
C-AB	0.02	5.60	0.0	A	3.00	12.00
C-A					442.25	1769.00
A-B					0.00	0.00
A-C					0.00	0.00

Main Results for each time segment

13:00 - 13:15

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	14.00	14.00	93.96	0.149	13.81	0.0	0.2	12.324	B
C-AB	3.00	3.00	179.69	0.017	2.98	0.0	0.0	5.602	A
C-A	454.00	454.00			454.00				
A-B	0.00	0.00			0.00				
A-C	0.00	0.00			0.00				

13:15 - 13:30

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	14.00	14.00	95.58	0.146	14.00	0.2	0.2	12.137	B
C-AB	3.00	3.00	179.69	0.017	3.00	0.0	0.0	5.602	A
C-A	438.00	438.00			438.00				
A-B	0.00	0.00			0.00				
A-C	0.00	0.00			0.00				

13:30 - 13:45

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	14.00	14.00	96.90	0.144	14.00	0.2	0.2	11.942	B
C-AB	3.00	3.00	179.69	0.017	3.00	0.0	0.0	5.602	A
C-A	425.00	425.00			425.00				
A-B	0.00	0.00			0.00				
A-C	0.00	0.00			0.00				

13:45 - 14:00

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	14.00	14.00	94.16	0.149	14.00	0.2	0.2	12.349	B
C-AB	3.00	3.00	179.69	0.017	3.00	0.0	0.0	5.602	A
C-A	452.00	452.00			452.00				
A-B	0.00	0.00			0.00				
A-C	0.00	0.00			0.00				

Base + Dev, Weekday PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Princess Road (N) - Right Turn Pocket	T-Junction	Two-way	0.33	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	76	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D6	Base + Dev	Weekday PM	DIRECT	17:00	18:00	60	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
Princess Road (S)		DIRECT		100.000
Right Turn Pocket		DIRECT		100.000
Princess Road (N)		DIRECT		100.000

Origin-Destination Data

Demand (PCU/TS)

17:00 - 17:15

	To			
		Princess Road (S)	Right Turn Pocket	Princess Road (N)
From	Princess Road (S)	0.00	0.00	0.00
	Right Turn Pocket	8.00	0.00	0.00
	Princess Road (N)	530.00	12.00	0.00

Demand (PCU/TS)

17:15 - 17:30

	To			
		Princess Road (S)	Right Turn Pocket	Princess Road (N)
From	Princess Road (S)	0.00	0.00	0.00
	Right Turn Pocket	8.00	0.00	0.00
	Princess Road (N)	527.00	12.00	0.00

Demand (PCU/TS)

17:30 - 17:45

	To			
		Princess Road (S)	Right Turn Pocket	Princess Road (N)
From	Princess Road (S)	0.00	0.00	0.00
	Right Turn Pocket	8.00	0.00	0.00
	Princess Road (N)	483.00	12.00	0.00

Demand (PCU/TS)

17:45 - 18:00

	To			
		Princess Road (S)	Right Turn Pocket	Princess Road (N)
From	Princess Road (S)	0.00	0.00	0.00
	Right Turn Pocket	8.00	0.00	0.00
	Princess Road (N)	526.00	12.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		Princess Road (S)	Right Turn Pocket	Princess Road (N)
From	Princess Road (S)	10	10	10
	Right Turn Pocket	10	10	10
	Princess Road (N)	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)
B-AC	0.10	12.96	0.1	B	8.00	32.00
C-AB	0.07	5.90	0.1	A	12.00	48.00
C-A					516.50	2066.00
A-B					0.00	0.00
A-C					0.00	0.00

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	8.00	8.00	84.20	0.095	7.89	0.0	0.1	12.955	B
C-AB	12.00	12.00	179.69	0.067	11.92	0.0	0.1	5.898	A
C-A	530.00	530.00			530.00				
A-B	0.00	0.00			0.00				
A-C	0.00	0.00			0.00				

17:15 - 17:30

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	8.00	8.00	84.49	0.095	8.00	0.1	0.1	12.942	B
C-AB	12.00	12.00	179.69	0.067	12.00	0.1	0.1	5.903	A
C-A	527.00	527.00			527.00				
A-B	0.00	0.00			0.00				
A-C	0.00	0.00			0.00				

17:30 - 17:45

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	8.00	8.00	88.94	0.090	8.00	0.1	0.1	12.234	B
C-AB	12.00	12.00	179.69	0.067	12.00	0.1	0.1	5.903	A
C-A	483.00	483.00			483.00				
A-B	0.00	0.00			0.00				
A-C	0.00	0.00			0.00				

17:45 - 18:00

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	8.00	8.00	84.59	0.095	8.00	0.1	0.1	12.925	B
C-AB	12.00	12.00	179.69	0.067	12.00	0.1	0.1	5.903	A
C-A	526.00	526.00			526.00				
A-B	0.00	0.00			0.00				
A-C	0.00	0.00			0.00				

Base + Dev, Sunday AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Princess Road (N) - Right Turn Pocket	T-Junction	Two-way	0.55	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	149	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D7	Base + Dev	Sunday AM	DIRECT	08:00	09:00	60	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
Princess Road (S)		DIRECT		100.000
Right Turn Pocket		DIRECT		100.000
Princess Road (N)		DIRECT		100.000

Origin-Destination Data

Demand (PCU/TS)

08:00 - 08:15

	To			
		Princess Road (S)	Right Turn Pocket	Princess Road (N)
From	Princess Road (S)	0.00	0.00	0.00
	Right Turn Pocket	4.00	0.00	0.00
	Princess Road (N)	296.00	23.00	0.00

Demand (PCU/TS)

08:15 - 08:30

	To			
		Princess Road (S)	Right Turn Pocket	Princess Road (N)
From	Princess Road (S)	0.00	0.00	0.00
	Right Turn Pocket	4.00	0.00	0.00
	Princess Road (N)	307.00	23.00	0.00

Demand (PCU/TS)

08:30 - 08:45

	To			
		Princess Road (S)	Right Turn Pocket	Princess Road (N)
From	Princess Road (S)	0.00	0.00	0.00
	Right Turn Pocket	4.00	0.00	0.00
	Princess Road (N)	304.00	23.00	0.00

Demand (PCU/TS)

08:45 - 09:00

	To			
		Princess Road (S)	Right Turn Pocket	Princess Road (N)
From	Princess Road (S)	0.00	0.00	0.00
	Right Turn Pocket	4.00	0.00	0.00
	Princess Road (N)	356.00	23.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		Princess Road (S)	Right Turn Pocket	Princess Road (N)
From	Princess Road (S)	10	10	10
	Right Turn Pocket	10	10	10
	Princess Road (N)	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)
B-AC	0.04	10.39	0.0	B	4.00	16.00
C-AB	0.13	6.32	0.2	A	23.00	92.00
C-A					315.75	1263.00
A-B					0.00	0.00
A-C					0.00	0.00

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	4.00	4.00	105.36	0.038	3.96	0.0	0.0	9.758	A
C-AB	23.00	23.00	179.69	0.128	22.84	0.0	0.2	6.305	A
C-A	296.00	296.00			296.00				
A-B	0.00	0.00			0.00				
A-C	0.00	0.00			0.00				

08:15 - 08:30

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	4.00	4.00	104.21	0.038	4.00	0.0	0.0	9.878	A
C-AB	23.00	23.00	179.69	0.128	23.00	0.2	0.2	6.317	A
C-A	307.00	307.00			307.00				
A-B	0.00	0.00			0.00				
A-C	0.00	0.00			0.00				

08:30 - 08:45

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	4.00	4.00	104.52	0.038	4.00	0.0	0.0	9.848	A
C-AB	23.00	23.00	179.69	0.128	23.00	0.2	0.2	6.317	A
C-A	304.00	304.00			304.00				
A-B	0.00	0.00			0.00				
A-C	0.00	0.00			0.00				

08:45 - 09:00

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	4.00	4.00	99.25	0.040	4.00	0.0	0.0	10.393	B
C-AB	23.00	23.00	179.69	0.128	23.00	0.2	0.2	6.317	A
C-A	356.00	356.00			356.00				
A-B	0.00	0.00			0.00				
A-C	0.00	0.00			0.00				

Base + Dev, Sunday PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Princess Road (N) - Right Turn Pocket	T-Junction	Two-way	0.55	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	74	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D8	Base + Dev	Sunday PM	DIRECT	13:00	14:00	60	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
Princess Road (S)		DIRECT		100.000
Right Turn Pocket		DIRECT		100.000
Princess Road (N)		DIRECT		100.000

Origin-Destination Data

Demand (PCU/TS)

13:00 - 13:15

	To			
		Princess Road (S)	Right Turn Pocket	Princess Road (N)
From	Princess Road (S)	0.00	0.00	0.00
	Right Turn Pocket	18.00	0.00	0.00
	Princess Road (N)	454.00	4.00	0.00

Demand (PCU/TS)

13:15 - 13:30

	To			
		Princess Road (S)	Right Turn Pocket	Princess Road (N)
From	Princess Road (S)	0.00	0.00	0.00
	Right Turn Pocket	18.00	0.00	0.00
	Princess Road (N)	438.00	4.00	0.00

Demand (PCU/TS)

13:30 - 13:45

	To			
		Princess Road (S)	Right Turn Pocket	Princess Road (N)
From	Princess Road (S)	0.00	0.00	0.00
	Right Turn Pocket	18.00	0.00	0.00
	Princess Road (N)	425.00	4.00	0.00

Demand (PCU/TS)

13:45 - 14:00

	To			
		Princess Road (S)	Right Turn Pocket	Princess Road (N)
From	Princess Road (S)	0.00	0.00	0.00
	Right Turn Pocket	18.00	0.00	0.00
	Princess Road (N)	452.00	4.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		Princess Road (S)	Right Turn Pocket	Princess Road (N)
From	Princess Road (S)	10	10	10
	Right Turn Pocket	10	10	10
	Princess Road (N)	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)
B-AC	0.19	13.05	0.3	B	18.00	72.00
C-AB	0.02	5.63	0.0	A	4.00	16.01
C-A					442.50	1769.99
A-B					0.00	0.00
A-C					0.00	0.00

Main Results for each time segment

13:00 - 13:15

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	18.00	18.00	93.73	0.192	17.74	0.0	0.3	12.986	B
C-AB	4.00	4.00	179.69	0.022	3.98	0.0	0.0	5.634	A
C-A	454.00	454.00			454.00				
A-B	0.00	0.00			0.00				
A-C	0.00	0.00			0.00				

13:15 - 13:30

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	18.00	18.00	95.35	0.189	18.00	0.3	0.3	12.801	B
C-AB	4.00	4.00	179.69	0.022	4.00	0.0	0.0	5.634	A
C-A	438.00	438.00			438.00				
A-B	0.00	0.00			0.00				
A-C	0.00	0.00			0.00				

13:30 - 13:45

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	18.00	18.00	96.66	0.186	18.00	0.3	0.3	12.585	B
C-AB	4.00	4.00	179.69	0.022	4.00	0.0	0.0	5.634	A
C-A	425.00	425.00			425.00				
A-B	0.00	0.00			0.00				
A-C	0.00	0.00			0.00				

13:45 - 14:00

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	18.00	18.00	93.83	0.192	18.00	0.3	0.3	13.054	B
C-AB	4.01	4.01	179.69	0.022	4.01	0.0	0.0	5.634	A
C-A	452.99	452.99			452.99				
A-B	0.00	0.00			0.00				
A-C	0.00	0.00			0.00				

Junctions 9																		
PICADY 9 - Priority Intersection Module																		
Version: 9.0.2.5947																		
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Filename: Princess Road (S) - Right Turn Pocket (Whitchurch Road) v2 (DIRECT).j9

Path: \\mfs02\Projects\076001 - 077000\076170 - Hough End Sports Village\Q3-Design\3A-Calculations\TP\Capacity Assessments\December 2021 (Direct)

Report generation date: 10/12/2021 15:17:36

- »Base, Weekday PM
- »Base, Sunday AM
- »Base, Sunday PM
- »Base + Dev, Weekday PM
- »Base + Dev, Sunday AM
- »Base + Dev, Sunday PM

Summary of junction performance

	Weekday PM						Sunday AM						Sunday PM					
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Netw Resi Capa
	Base																	
Stream B-AC	0.2	7.35	0.13	A	0.91	135 %	0.1	6.24	0.11	A	0.43	242 %	0.1	6.60	0.10	A	0.56	192
Stream C-AB	0.5	7.56	0.31	A		[Stream B-AC]	0.1	5.65	0.07	A		[Stream B-AC]	0.2	6.06	0.13	A		[Stre B-A]
Stream A-BC	0.0	0.00	0.00	A			0.0	0.00	0.00	A			0.0	0.00	0.00	A		
	Base + Dev																	
Stream B-AC	0.2	7.39	0.13	A	0.93	133 %	0.1	6.25	0.11	A	0.44	239 %	0.1	6.65	0.10	A	0.59	187
Stream C-AB	0.5	7.61	0.31	A		[Stream B-AC]	0.1	5.68	0.07	A		[Stream B-AC]	0.2	6.14	0.14	A		[Stre B-A]
Stream A-BC	0.0	0.00	0.00	A			0.0	0.00	0.00	A			0.0	0.00	0.00	A		

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	02/12/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	CURTINS\thorley_m
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perTimeSegment	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75			✓	Delay	0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	Base	Weekday PM	DIRECT	17:00	18:00	60	15	✓
D2	Base	Sunday AM	DIRECT	10:00	11:00	60	15	✓
D3	Base	Sunday PM	DIRECT	13:00	14:00	60	15	✓
D4	Base + Dev	Weekday PM	DIRECT	17:00	18:00	60	15	✓
D5	Base + Dev	Sunday AM	DIRECT	10:00	11:00	60	15	✓
D6	Base + Dev	Sunday PM	DIRECT	13:00	14:00	60	15	✓

Analysis Set Details

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

Base, Weekday PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Princess Road (S) - Right Turn Pocket (Whitchurch Road)	T-Junction	Two-way	0.91	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	135	Stream B-AC

Arms

Arms

Arm	Name	Description	Arm type
A	Princess Road (N)		Major
B	Right Turn (Whitchurch Rd)		Minor
C	Princess Road (S)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
Princess Road (S)	14.60	✓	6.00	✓	3.30	170.0	✓	6.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
Right Turn (Whitchurch Rd)	One lane	3.30	210	70

Pelican/Puffin Crossings

Arm	Space between crossing and junction entry (Signalised) (PCU)	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)
Princess Road (N)	2.00	3.00	2.90	1.00	6.00	6.00	7.00

Slope / Intercept / Capacity

Stream Intercept Adjustments

Stream intercept adjustment	Use adjustment	Reason	Direct intercept adjustment (PCU/TS)
B-AC	✓	As per SK TA	44.40

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	170.076	0.068	0.173	0.109	0.247
1	B-C	172.017	0.066	0.167	-	-
1	C-B	188.228	0.183	0.183	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	Base	Weekday PM	DIRECT	17:00	18:00	60	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
Princess Road (N)		DIRECT		100.000
Right Turn (Whitchurch Rd)		DIRECT		100.000
Princess Road (S)		DIRECT		100.000

Demand overview (Pedestrians)

Arm	Profile type
Princess Road (N)	[DIRECT]
Right Turn (Whitchurch Rd)	
Princess Road (S)	

Origin-Destination Data

Demand (PCU/TS)

17:00 - 17:15

	To			
		Princess Road (N)	Right Turn (Whitchurch Rd)	Princess Road (S)
From	Princess Road (N)	0.00	0.00	0.00
	Right Turn (Whitchurch Rd)	10.00	0.00	0.00
	Princess Road (S)	442.00	56.00	0.00

Demand (PCU/TS)

17:15 - 17:30

	To			
		Princess Road (N)	Right Turn (Whitchurch Rd)	Princess Road (S)
From	Princess Road (N)	0.00	0.00	0.00
	Right Turn (Whitchurch Rd)	12.00	0.00	0.00
	Princess Road (S)	458.00	44.00	0.00

Demand (PCU/TS)

17:30 - 17:45

	To			
		Princess Road (N)	Right Turn (Whitchurch Rd)	Princess Road (S)
From	Princess Road (N)	0.00	0.00	0.00
	Right Turn (Whitchurch Rd)	16.00	0.00	0.00
	Princess Road (S)	454.00	58.00	0.00

Demand (PCU/TS)

17:45 - 18:00

	To			
		Princess Road (N)	Right Turn (Whitchurch Rd)	Princess Road (S)
From	Princess Road (N)	0.00	0.00	0.00
	Right Turn (Whitchurch Rd)	20.00	0.00	0.00
	Princess Road (S)	466.00	34.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

From	To			
		Princess Road (N)	Right Turn (Whitchurch Rd)	Princess Road (S)
	Princess Road (N)	10	10	10
	Right Turn (Whitchurch Rd)	10	10	10
	Princess Road (S)	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)
B-AC	0.13	7.35	0.2	A	14.50	58.00
C-AB	0.31	7.56	0.5	A	48.13	192.54
C-A					455.12	1820.46
A-BC	0.00	0.00	0.0	A	0.00	0.00

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	10.00	10.00		152.58	0.066	9.92	0.0	0.1	6.937	A
C-AB	56.18	56.18		188.82	0.298	55.71	0.0	0.5	7.413	A
C-A	441.82	441.82				441.82				
A-BC	0.00	0.00	12.42	873.93	0.000	0.00	0.0	0.0	0.000	A

17:15 - 17:30

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	12.00	12.00		153.57	0.078	11.98	0.1	0.1	6.992	A
C-AB	44.13	44.13		188.40	0.234	44.25	0.5	0.3	6.873	A
C-A	458.87	458.87				458.87				
A-BC	0.00	0.00	14.83	859.79	0.000	0.00	0.0	0.0	0.000	A

17:30 - 17:45

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	16.00	16.00		150.70	0.106	15.96	0.1	0.1	7.345	A
C-AB	58.23	58.23		188.97	0.308	58.08	0.3	0.5	7.556	A
C-A	453.77	453.77				453.77				
A-BC	0.00	0.00	18.17	841.33	0.000	0.00	0.0	0.0	0.000	A

17:45 - 18:00

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00		155.29	0.129	19.97	0.1	0.2	7.314	A
C-AB	34.01	34.01		188.27	0.181	34.25	0.5	0.2	6.439	A
C-A	465.99	465.99				465.99				
A-BC	0.00	0.00	18.17	841.33	0.000	0.00	0.0	0.0	0.000	A

Base, Sunday AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Princess Road (S) - Right Turn Pocket (Whitchurch Road)	T-Junction	Two-way	0.43	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	242	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D2	Base	Sunday AM	DIRECT	10:00	11:00	60	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
Princess Road (N)		DIRECT		100.000
Right Turn (Whitchurch Rd)		DIRECT		100.000
Princess Road (S)		DIRECT		100.000

Demand overview (Pedestrians)

Arm	Profile type
Princess Road (N)	[DIRECT]
Right Turn (Whitchurch Rd)	
Princess Road (S)	

Origin-Destination Data

Demand (PCU/TS)

10:00 - 10:15

	To			
		Princess Road (N)	Right Turn (Whitchurch Rd)	Princess Road (S)
From	Princess Road (N)	0.00	0.00	0.00
	Right Turn (Whitchurch Rd)	12.00	0.00	0.00
	Princess Road (S)	271.00	11.00	0.00

Demand (PCU/TS)

10:15 - 10:30

	To			
		Princess Road (N)	Right Turn (Whitchurch Rd)	Princess Road (S)
From	Princess Road (N)	0.00	0.00	0.00
	Right Turn (Whitchurch Rd)	20.00	0.00	0.00
	Princess Road (S)	306.00	10.00	0.00

Demand (PCU/TS)

10:30 - 10:45

	To			
		Princess Road (N)	Right Turn (Whitchurch Rd)	Princess Road (S)
From	Princess Road (N)	0.00	0.00	0.00
	Right Turn (Whitchurch Rd)	9.00	0.00	0.00
	Princess Road (S)	278.00	13.00	0.00

Demand (PCU/TS)

10:45 - 11:00

	To			
		Princess Road (N)	Right Turn (Whitchurch Rd)	Princess Road (S)
From	Princess Road (N)	0.00	0.00	0.00
	Right Turn (Whitchurch Rd)	8.00	0.00	0.00
	Princess Road (S)	331.00	9.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		Princess Road (N)	Right Turn (Whitchurch Rd)	Princess Road (S)
From	Princess Road (N)	10	10	10
	Right Turn (Whitchurch Rd)	10	10	10
	Princess Road (S)	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)
B-AC	0.11	6.24	0.1	A	12.25	49.00
C-AB	0.07	5.65	0.1	A	10.75	43.00
C-A					296.50	1186.00
A-BC	0.00	0.00	0.0	A	0.00	0.00

Main Results for each time segment

10:00 - 10:15

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	12.00	12.00		182.29	0.066	11.92	0.0	0.1	5.808	A
C-AB	11.00	11.00		188.23	0.058	10.93	0.0	0.1	5.583	A
C-A	271.00	271.00				271.00				
A-BC	0.00	0.00	6.78	909.81	0.000	0.00	0.0	0.0	0.000	A

10:15 - 10:30

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00		178.71	0.112	19.94	0.1	0.1	6.235	A
C-AB	10.00	10.00		188.23	0.053	10.01	0.1	0.1	5.556	A
C-A	306.00	306.00				306.00				
A-BC	0.00	0.00	8.09	901.10	0.000	0.00	0.0	0.0	0.000	A

10:30 - 10:45

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	9.00	9.00		181.02	0.050	9.08	0.1	0.1	5.762	A
C-AB	13.00	13.00		188.23	0.069	12.98	0.1	0.1	5.649	A
C-A	278.00	278.00				278.00				
A-BC	0.00	0.00	9.91	889.42	0.000	0.00	0.0	0.0	0.000	A

10:45 - 11:00

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	8.00	8.00		176.24	0.045	8.01	0.1	0.1	5.884	A
C-AB	9.00	9.00		188.23	0.048	9.03	0.1	0.1	5.524	A
C-A	331.00	331.00				331.00				
A-BC	0.00	0.00	9.91	889.42	0.000	0.00	0.0	0.0	0.000	A

Base, Sunday PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Princess Road (S) - Right Turn Pocket (Whitchurch Road)	T-Junction	Two-way	0.56	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	192	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D3	Base	Sunday PM	DIRECT	13:00	14:00	60	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
Princess Road (N)		DIRECT		100.000
Right Turn (Whitchurch Rd)		DIRECT		100.000
Princess Road (S)		DIRECT		100.000

Demand overview (Pedestrians)

Arm	Profile type
Princess Road (N)	[DIRECT]
Right Turn (Whitchurch Rd)	
Princess Road (S)	

Origin-Destination Data

Demand (PCU/TS)

13:00 - 13:15

	To			
		Princess Road (N)	Right Turn (Whitchurch Rd)	Princess Road (S)
From	Princess Road (N)	0.00	0.00	0.00
	Right Turn (Whitchurch Rd)	11.00	0.00	0.00
	Princess Road (S)	356.00	21.00	0.00

Demand (PCU/TS)

13:15 - 13:30

	To			
		Princess Road (N)	Right Turn (Whitchurch Rd)	Princess Road (S)
From	Princess Road (N)	0.00	0.00	0.00
	Right Turn (Whitchurch Rd)	16.00	0.00	0.00
	Princess Road (S)	390.00	25.00	0.00

Demand (PCU/TS)

13:30 - 13:45

	To			
		Princess Road (N)	Right Turn (Whitchurch Rd)	Princess Road (S)
From	Princess Road (N)	0.00	0.00	0.00
	Right Turn (Whitchurch Rd)	16.00	0.00	0.00
	Princess Road (S)	340.00	24.00	0.00

Demand (PCU/TS)

13:45 - 14:00

	To			
		Princess Road (N)	Right Turn (Whitchurch Rd)	Princess Road (S)
From	Princess Road (N)	0.00	0.00	0.00
	Right Turn (Whitchurch Rd)	7.00	0.00	0.00
	Princess Road (S)	348.00	21.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		Princess Road (N)	Right Turn (Whitchurch Rd)	Princess Road (S)
From	Princess Road (N)	10	10	10
	Right Turn (Whitchurch Rd)	10	10	10
	Princess Road (S)	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)
B-AC	0.10	6.60	0.1	A	12.50	50.00
C-AB	0.13	6.06	0.2	A	22.75	91.00
C-A					358.50	1434.00
A-BC	0.00	0.00	0.0	A	0.00	0.00

Main Results for each time segment

13:00 - 13:15

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	11.00	11.00		170.58	0.064	10.92	0.0	0.1	6.198	A
C-AB	21.00	21.00		188.23	0.112	20.86	0.0	0.1	5.910	A
C-A	356.00	356.00				356.00				
A-BC	0.00	0.00	5.46	918.75	0.000	0.00	0.0	0.0	0.000	A

13:15 - 13:30

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	16.00	16.00		165.86	0.096	15.96	0.1	0.1	6.602	A
C-AB	25.00	25.00		188.23	0.133	24.97	0.1	0.2	6.064	A
C-A	390.00	390.00				390.00				
A-BC	0.00	0.00	6.52	911.54	0.000	0.00	0.0	0.0	0.000	A

13:30 - 13:45

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	16.00	16.00		171.54	0.093	16.00	0.1	0.1	6.364	A
C-AB	24.00	24.00		188.23	0.128	24.01	0.2	0.2	6.027	A
C-A	340.00	340.00				340.00				
A-BC	0.00	0.00	7.98	901.81	0.000	0.00	0.0	0.0	0.000	A

13:45 - 14:00

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	7.00	7.00		171.41	0.041	7.07	0.1	0.0	6.028	A
C-AB	21.00	21.00		188.23	0.112	21.02	0.2	0.1	5.923	A
C-A	348.00	348.00				348.00				
A-BC	0.00	0.00	7.98	901.81	0.000	0.00	0.0	0.0	0.000	A

Base + Dev, Weekday PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Princess Road (S) - Right Turn Pocket (Whitchurch Road)	T-Junction	Two-way	0.93	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	133	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D4	Base + Dev	Weekday PM	DIRECT	17:00	18:00	60	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
Princess Road (N)		DIRECT		100.000
Right Turn (Whitchurch Rd)		DIRECT		100.000
Princess Road (S)		DIRECT		100.000

Demand overview (Pedestrians)

Arm	Profile type
Princess Road (N)	[DIRECT]
Right Turn (Whitchurch Rd)	
Princess Road (S)	

Origin-Destination Data

Demand (PCU/TS)

17:00 - 17:15

	To			
		Princess Road (N)	Right Turn (Whitchurch Rd)	Princess Road (S)
From	Princess Road (N)	0.00	0.00	0.00
	Right Turn (Whitchurch Rd)	10.00	0.00	0.00
	Princess Road (S)	447.00	58.00	0.00

Demand (PCU/TS)

17:15 - 17:30

	To			
		Princess Road (N)	Right Turn (Whitchurch Rd)	Princess Road (S)
From	Princess Road (N)	0.00	0.00	0.00
	Right Turn (Whitchurch Rd)	12.00	0.00	0.00
	Princess Road (S)	464.00	46.00	0.00

Demand (PCU/TS)

17:30 - 17:45

	To			
		Princess Road (N)	Right Turn (Whitchurch Rd)	Princess Road (S)
From	Princess Road (N)	0.00	0.00	0.00
	Right Turn (Whitchurch Rd)	16.00	0.00	0.00
	Princess Road (S)	459.00	59.00	0.00

Demand (PCU/TS)

17:45 - 18:00

	To			
		Princess Road (N)	Right Turn (Whitchurch Rd)	Princess Road (S)
From	Princess Road (N)	0.00	0.00	0.00
	Right Turn (Whitchurch Rd)	20.00	0.00	0.00
	Princess Road (S)	471.00	35.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		Princess Road (N)	Right Turn (Whitchurch Rd)	Princess Road (S)
From	Princess Road (N)	10	10	10
	Right Turn (Whitchurch Rd)	10	10	10
	Princess Road (S)	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)
B-AC	0.13	7.39	0.2	A	14.50	58.00
C-AB	0.31	7.61	0.5	A	49.61	198.45
C-A					459.89	1839.55
A-BC	0.00	0.00	0.0	A	0.00	0.00

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	10.00	10.00		151.54	0.066	9.92	0.0	0.1	6.987	A
C-AB	58.22	58.22		188.96	0.308	57.74	0.0	0.5	7.518	A
C-A	446.78	446.78				446.78				
A-BC	0.00	0.00	12.42	873.93	0.000	0.00	0.0	0.0	0.000	A

17:15 - 17:30

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	12.00	12.00		152.66	0.079	11.98	0.1	0.1	7.037	A
C-AB	45.96	45.96		188.44	0.244	46.09	0.5	0.4	6.960	A
C-A	463.04	463.04				463.04				
A-BC	0.00	0.00	14.83	859.79	0.000	0.00	0.0	0.0	0.000	A

17:30 - 17:45

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	16.00	16.00		149.90	0.107	15.96	0.1	0.1	7.389	A
C-AB	59.26	59.26		189.05	0.313	59.12	0.4	0.5	7.611	A
C-A	458.74	458.74				458.74				
A-BC	0.00	0.00	18.17	841.33	0.000	0.00	0.0	0.0	0.000	A

17:45 - 18:00

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00		154.49	0.129	19.97	0.1	0.2	7.357	A
C-AB	35.01	35.01		188.28	0.186	35.25	0.5	0.3	6.479	A
C-A	470.99	470.99				470.99				
A-BC	0.00	0.00	18.17	841.33	0.000	0.00	0.0	0.0	0.000	A

Base + Dev, Sunday AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Princess Road (S) - Right Turn Pocket (Whitchurch Road)	T-Junction	Two-way	0.44	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	239	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D5	Base + Dev	Sunday AM	DIRECT	10:00	11:00	60	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
Princess Road (N)		DIRECT		100.000
Right Turn (Whitchurch Rd)		DIRECT		100.000
Princess Road (S)		DIRECT		100.000

Demand overview (Pedestrians)

Arm	Profile type
Princess Road (N)	[DIRECT]
Right Turn (Whitchurch Rd)	
Princess Road (S)	

Origin-Destination Data

Demand (PCU/TS)

10:00 - 10:15

	To			
		Princess Road (N)	Right Turn (Whitchurch Rd)	Princess Road (S)
From	Princess Road (N)	0.00	0.00	0.00
	Right Turn (Whitchurch Rd)	12.00	0.00	0.00
	Princess Road (S)	273.00	12.00	0.00

Demand (PCU/TS)

10:15 - 10:30

	To			
		Princess Road (N)	Right Turn (Whitchurch Rd)	Princess Road (S)
From	Princess Road (N)	0.00	0.00	0.00
	Right Turn (Whitchurch Rd)	20.00	0.00	0.00
	Princess Road (S)	308.00	11.00	0.00

Demand (PCU/TS)

10:30 - 10:45

	To			
		Princess Road (N)	Right Turn (Whitchurch Rd)	Princess Road (S)
From	Princess Road (N)	0.00	0.00	0.00
	Right Turn (Whitchurch Rd)	9.00	0.00	0.00
	Princess Road (S)	280.00	14.00	0.00

Demand (PCU/TS)

10:45 - 11:00

	To			
		Princess Road (N)	Right Turn (Whitchurch Rd)	Princess Road (S)
From	Princess Road (N)	0.00	0.00	0.00
	Right Turn (Whitchurch Rd)	8.00	0.00	0.00
	Princess Road (S)	333.00	9.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		Princess Road (N)	Right Turn (Whitchurch Rd)	Princess Road (S)
From	Princess Road (N)	10	10	10
	Right Turn (Whitchurch Rd)	10	10	10
	Princess Road (S)	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)
B-AC	0.11	6.25	0.1	A	12.25	49.00
C-AB	0.07	5.68	0.1	A	11.50	46.00
C-A					298.50	1194.00
A-BC	0.00	0.00	0.0	A	0.00	0.00

Main Results for each time segment

10:00 - 10:15

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	12.00	12.00		181.83	0.066	11.92	0.0	0.1	5.824	A
C-AB	12.00	12.00		188.23	0.064	11.93	0.0	0.1	5.612	A
C-A	273.00	273.00				273.00				
A-BC	0.00	0.00	6.78	909.81	0.000	0.00	0.0	0.0	0.000	A

10:15 - 10:30

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00		178.25	0.112	19.94	0.1	0.1	6.254	A
C-AB	11.00	11.00		188.23	0.058	11.01	0.1	0.1	5.588	A
C-A	308.00	308.00				308.00				
A-BC	0.00	0.00	8.09	901.10	0.000	0.00	0.0	0.0	0.000	A

10:30 - 10:45

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	9.00	9.00		180.55	0.050	9.08	0.1	0.1	5.777	A
C-AB	14.00	14.00		188.23	0.074	13.98	0.1	0.1	5.681	A
C-A	280.00	280.00				280.00				
A-BC	0.00	0.00	9.91	889.42	0.000	0.00	0.0	0.0	0.000	A

10:45 - 11:00

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	8.00	8.00		176.02	0.045	8.01	0.1	0.1	5.891	A
C-AB	9.00	9.00		188.23	0.048	9.03	0.1	0.1	5.525	A
C-A	333.00	333.00				333.00				
A-BC	0.00	0.00	9.91	889.42	0.000	0.00	0.0	0.0	0.000	A

Base + Dev, Sunday PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Princess Road (S) - Right Turn Pocket (Whitchurch Road)	T-Junction	Two-way	0.59	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	187	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D6	Base + Dev	Sunday PM	DIRECT	13:00	14:00	60	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
Princess Road (N)		DIRECT		100.000
Right Turn (Whitchurch Rd)		DIRECT		100.000
Princess Road (S)		DIRECT		100.000

Demand overview (Pedestrians)

Arm	Profile type
Princess Road (N)	[DIRECT]
Right Turn (Whitchurch Rd)	
Princess Road (S)	

Origin-Destination Data

Demand (PCU/TS)

13:00 - 13:15

	To			
		Princess Road (N)	Right Turn (Whitchurch Rd)	Princess Road (S)
From	Princess Road (N)	0.00	0.00	0.00
	Right Turn (Whitchurch Rd)	11.00	0.00	0.00
	Princess Road (S)	362.00	23.00	0.00

Demand (PCU/TS)

13:15 - 13:30

	To			
		Princess Road (N)	Right Turn (Whitchurch Rd)	Princess Road (S)
From	Princess Road (N)	0.00	0.00	0.00
	Right Turn (Whitchurch Rd)	16.00	0.00	0.00
	Princess Road (S)	396.00	27.00	0.00

Demand (PCU/TS)

13:30 - 13:45

	To			
		Princess Road (N)	Right Turn (Whitchurch Rd)	Princess Road (S)
From	Princess Road (N)	0.00	0.00	0.00
	Right Turn (Whitchurch Rd)	16.00	0.00	0.00
	Princess Road (S)	346.00	26.00	0.00

Demand (PCU/TS)

13:45 - 14:00

	To			
		Princess Road (N)	Right Turn (Whitchurch Rd)	Princess Road (S)
From	Princess Road (N)	0.00	0.00	0.00
	Right Turn (Whitchurch Rd)	7.00	0.00	0.00
	Princess Road (S)	354.00	23.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		Princess Road (N)	Right Turn (Whitchurch Rd)	Princess Road (S)
From	Princess Road (N)	10	10	10
	Right Turn (Whitchurch Rd)	10	10	10
	Princess Road (S)	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)
B-AC	0.10	6.65	0.1	A	12.50	50.00
C-AB	0.14	6.14	0.2	A	24.75	99.00
C-A					364.50	1458.00
A-BC	0.00	0.00	0.0	A	0.00	0.00

Main Results for each time segment

13:00 - 13:15

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	11.00	11.00		169.43	0.065	10.92	0.0	0.1	6.243	A
C-AB	23.00	23.00		188.23	0.122	22.85	0.0	0.2	5.981	A
C-A	362.00	362.00				362.00				
A-BC	0.00	0.00	5.46	918.75	0.000	0.00	0.0	0.0	0.000	A

13:15 - 13:30

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	16.00	16.00		164.71	0.097	15.96	0.1	0.1	6.653	A
C-AB	27.00	27.00		188.24	0.143	26.97	0.2	0.2	6.136	A
C-A	396.00	396.00				396.00				
A-BC	0.00	0.00	6.52	911.54	0.000	0.00	0.0	0.0	0.000	A

13:30 - 13:45

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	16.00	16.00		170.38	0.094	16.00	0.1	0.1	6.414	A
C-AB	26.00	26.00		188.23	0.138	26.01	0.2	0.2	6.102	A
C-A	346.00	346.00				346.00				
A-BC	0.00	0.00	7.98	901.81	0.000	0.00	0.0	0.0	0.000	A

13:45 - 14:00

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	7.00	7.00		170.26	0.041	7.07	0.1	0.0	6.068	A
C-AB	23.00	23.00		188.23	0.122	23.02	0.2	0.2	5.992	A
C-A	354.00	354.00				354.00				
A-BC	0.00	0.00	7.98	901.81	0.000	0.00	0.0	0.0	0.000	A

Junctions 9																		
PICADY 9 - Priority Intersection Module																		
Version: 9.0.2.5947																		
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Filename: Whitchurch Road - Princess Road (N) v2 (DIRECT).j9

Path: \\mfs02\Projects\076001 - 077000\076170 - Hough End Sports Village\Q3-Design\3A-Calculations\TP\Capacity Assessments\December 2021 (Direct)

Report generation date: 10/12/2021 15:07:57

- »Base, Weekday PM
- »Base, Sunday AM
- »Base, Sunday PM
- »Base + Dev, Weekday PM
- »Base + Dev, Sunday AM
- »Base + Dev, Sunday PM

Summary of junction performance

	Weekday PM						Sunday AM						Sunday PM					
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Netw Resi Capa
	Base																	
Stream B-AC	0.9	13.03	0.46	B	5.59	10 %	0.5	8.44	0.30	A	2.76	84 %	0.7	10.42	0.38	B	3.32	53
Stream C-AB	1.5	23.62	0.59	C		[Stream C-AB]	0.1	8.40	0.10	A		[Stream B-AC]	0.3	11.54	0.22	B		[Stre B-A]
Stream A-BC	1.7	3.05	0.61	A			0.7	1.78	0.38	A			1.1	2.17	0.49	A		
	Base + Dev																	
Stream B-AC	0.9	13.40	0.47	B	5.83	8 %	0.5	8.61	0.31	A	2.78	80 %	0.7	10.43	0.38	B	3.67	52
Stream C-AB	1.6	25.31	0.62	D		[Stream C-AB]	0.1	8.50	0.11	A		[Stream B-AC]	0.3	11.85	0.24	B		[Stre B-A]
Stream A-BC	1.8	3.10	0.62	A			0.7	1.77	0.38	A			1.2	2.51	0.53	A		

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	02/12/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	CURTINS\thorley_m
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perTimeSegment	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75			✓	Delay	0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	Base	Weekday PM	DIRECT	17:00	18:00	60	15	✓
D2	Base	Sunday AM	DIRECT	10:00	11:00	60	15	✓
D3	Base	Sunday PM	DIRECT	13:00	14:00	60	15	✓
D4	Base + Dev	Weekday PM	DIRECT	17:00	18:00	60	15	✓
D5	Base + Dev	Sunday AM	DIRECT	10:00	11:00	60	15	✓
D6	Base + Dev	Sunday PM	DIRECT	13:00	14:00	60	15	✓

Analysis Set Details

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

Base, Weekday PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Whitchurch Road - Princess Road	T-Junction	Two-way	5.59	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	10	Stream C-AB

Arms

Arms

Arm	Name	Description	Arm type
A	Princess Road (N)		Major
B	Whitchurch Road		Minor
C	Princess Road (S)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
Princess Road (S)	14.60	✓	6.00	✓	3.30	170.0	✓	6.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
Whitchurch Road	One lane	4.00	210	70

Pelican/Puffin Crossings

Arm	Space between crossing and junction entry (Signalised) (PCU)	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)
Princess Road (N)	2.00	3.00	2.90	1.00	6.00	6.00	7.00

Slope / Intercept / Capacity

Stream Intercept Adjustments

Stream intercept adjustment	Use adjustment	Reason	Direct intercept adjustment (PCU/TS)
B-AC	✓	As per SK TA	44.40

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	181.648	0.073	0.185	0.116	0.264
1	B-C	183.721	0.071	0.178	-	-
1	C-B	188.228	0.183	0.183	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	Base	Weekday PM	DIRECT	17:00	18:00	60	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
Princess Road (N)		DIRECT		100.000
Whitchurch Road		DIRECT		100.000
Princess Road (S)		DIRECT		100.000

Demand overview (Pedestrians)

Arm	Profile type
Princess Road (N)	[DIRECT]
Whitchurch Road	
Princess Road (S)	

Origin-Destination Data

Demand (PCU/TS)

17:00 - 17:15

	To			
		Princess Road (N)	Whitchurch Road	Princess Road (S)
From	Princess Road (N)	0.00	27.00	483.00
	Whitchurch Road	10.00	0.00	52.00
	Princess Road (S)	0.00	56.00	0.00

Demand (PCU/TS)

17:15 - 17:30

	To			
		Princess Road (N)	Whitchurch Road	Princess Road (S)
From	Princess Road (N)	0.00	22.00	493.00
	Whitchurch Road	12.00	0.00	39.00
	Princess Road (S)	0.00	44.00	0.00

Demand (PCU/TS)

17:30 - 17:45

	To			
		Princess Road (N)	Whitchurch Road	Princess Road (S)
From	Princess Road (N)	0.00	27.00	447.00
	Whitchurch Road	16.00	0.00	41.00
	Princess Road (S)	0.00	58.00	0.00

Demand (PCU/TS)

17:45 - 18:00

	To			
		Princess Road (N)	Whitchurch Road	Princess Road (S)
From	Princess Road (N)	0.00	18.00	498.00
	Whitchurch Road	20.00	0.00	33.00
	Princess Road (S)	0.00	34.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

From	To			
		Princess Road (N)	Whitchurch Road	Princess Road (S)
	Princess Road (N)	10	10	10
	Whitchurch Road	10	10	10
	Princess Road (S)	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)
B-AC	0.46	13.03	0.9	B	56.00	224.00
C-AB	0.59	23.62	1.5	C	48.00	192.00
C-A					0.00	0.00
A-BC	0.61	3.05	1.7	A	504.25	2017.00

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	62.00	62.00		136.23	0.455	61.11	0.0	0.9	13.030	B
C-AB	56.00	56.00		95.12	0.589	54.52	0.0	1.5	23.622	C
C-A	0.00	0.00				0.00				
A-BC	510.00	510.00	12.42	873.93	0.584	508.47	0.0	1.5	2.698	A

17:15 - 17:30

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	52.00	52.00		133.74	0.389	52.18	0.9	0.7	12.168	B
C-AB	44.00	44.00		93.92	0.468	44.47	1.5	1.0	20.210	C
C-A	0.00	0.00				0.00				
A-BC	515.00	515.00	14.83	859.79	0.599	514.90	1.5	1.6	2.870	A

17:30 - 17:45

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	57.00	57.00		139.36	0.409	56.97	0.7	0.7	12.008	B
C-AB	58.00	58.00		101.21	0.573	57.60	1.0	1.4	22.475	C
C-A	0.00	0.00				0.00				
A-BC	475.00	475.00	18.17	841.33	0.565	475.20	1.6	1.4	2.704	A

17:45 - 18:00

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	53.00	53.00		131.57	0.403	53.00	0.7	0.7	12.601	B
C-AB	34.00	34.00		93.58	0.363	34.76	1.4	0.6	17.037	C
C-A	0.00	0.00				0.00				
ABC	517.00	517.00	18.17	841.33	0.615	516.70	1.4	1.7	3.047	A

Base, Sunday AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Whitchurch Road - Princess Road	T-Junction	Two-way	2.76	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	84	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D2	Base	Sunday AM	DIRECT	10:00	11:00	60	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
Princess Road (N)		DIRECT		100.000
Whitchurch Road		DIRECT		100.000
Princess Road (S)		DIRECT		100.000

Demand overview (Pedestrians)

Arm	Profile type
Princess Road (N)	[DIRECT]
Whitchurch Road	
Princess Road (S)	

Origin-Destination Data

Demand (PCU/TS)

10:00 - 10:15

	To			
		Princess Road (N)	Whitchurch Road	Princess Road (S)
From	Princess Road (N)	0.00	4.00	288.00
	Whitchurch Road	12.00	0.00	23.00
	Princess Road (S)	0.00	11.00	0.00

Demand (PCU/TS)

10:15 - 10:30

	To			
		Princess Road (N)	Whitchurch Road	Princess Road (S)
From	Princess Road (N)	0.00	8.00	297.00
	Whitchurch Road	20.00	0.00	25.00
	Princess Road (S)	0.00	10.00	0.00

Demand (PCU/TS)

10:30 - 10:45

	To			
		Princess Road (N)	Whitchurch Road	Princess Road (S)
From	Princess Road (N)	0.00	9.00	290.00
	Whitchurch Road	9.00	0.00	30.00
	Princess Road (S)	0.00	13.00	0.00

Demand (PCU/TS)

10:45 - 11:00

	To			
		Princess Road (N)	Whitchurch Road	Princess Road (S)
From	Princess Road (N)	0.00	7.00	328.00
	Whitchurch Road	8.00	0.00	43.00
	Princess Road (S)	0.00	9.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		Princess Road (N)	Whitchurch Road	Princess Road (S)
From	Princess Road (N)	10	10	10
	Whitchurch Road	10	10	10
	Princess Road (S)	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)
B-AC	0.30	8.44	0.5	A	42.50	170.00
C-AB	0.10	8.40	0.1	A	10.75	43.00
C-A					0.00	0.00
A-BC	0.38	1.78	0.7	A	307.75	1231.00

Main Results for each time segment

10:00 - 10:15

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	35.00	35.00		174.09	0.201	34.73	0.0	0.3	7.091	A
C-AB	11.00	11.00		134.92	0.082	10.90	0.0	0.1	7.983	A
C-A	0.00	0.00				0.00				
A-BC	292.00	292.00	6.78	909.81	0.321	291.48	0.0	0.5	1.599	A

10:15 - 10:30

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	45.00	45.00		171.50	0.262	44.89	0.3	0.4	7.812	A
C-AB	10.00	10.00		132.45	0.076	10.01	0.1	0.1	8.085	A
C-A	0.00	0.00				0.00				
A-BC	305.00	305.00	8.09	901.10	0.338	304.96	0.5	0.6	1.659	A

10:30 - 10:45

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	39.00	39.00		173.91	0.224	39.07	0.4	0.3	7.344	A
C-AB	13.00	13.00		133.54	0.097	12.97	0.1	0.1	8.209	A
C-A	0.00	0.00				0.00				
A-BC	299.00	299.00	9.91	889.42	0.336	299.00	0.6	0.6	1.678	A

10:45 - 11:00

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	51.00	51.00		167.99	0.304	50.85	0.3	0.5	8.440	A
C-AB	9.00	9.00		126.96	0.071	9.03	0.1	0.1	8.396	A
C-A	0.00	0.00				0.00				
A-BC	335.00	335.00	9.91	889.42	0.377	334.90	0.6	0.7	1.784	A

Base, Sunday PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Whitchurch Road - Princess Road	T-Junction	Two-way	3.32	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	53	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D3	Base	Sunday PM	DIRECT	13:00	14:00	60	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
Princess Road (N)		DIRECT		100.000
Whitchurch Road		DIRECT		100.000
Princess Road (S)		DIRECT		100.000

Demand overview (Pedestrians)

Arm	Profile type
Princess Road (N)	[DIRECT]
Whitchurch Road	
Princess Road (S)	

Origin-Destination Data

Demand (PCU/TS)

13:00 - 13:15

	To			
		Princess Road (N)	Whitchurch Road	Princess Road (S)
From	Princess Road (N)	0.00	16.00	431.00
	Whitchurch Road	11.00	0.00	26.00
	Princess Road (S)	0.00	21.00	0.00

Demand (PCU/TS)

13:15 - 13:30

	To			
		Princess Road (N)	Whitchurch Road	Princess Road (S)
From	Princess Road (N)	0.00	11.00	399.00
	Whitchurch Road	16.00	0.00	42.00
	Princess Road (S)	0.00	25.00	0.00

Demand (PCU/TS)

13:30 - 13:45

	To			
		Princess Road (N)	Whitchurch Road	Princess Road (S)
From	Princess Road (N)	0.00	10.00	396.00
	Whitchurch Road	16.00	0.00	31.00
	Princess Road (S)	0.00	24.00	0.00

Demand (PCU/TS)

13:45 - 14:00

	To			
		Princess Road (N)	Whitchurch Road	Princess Road (S)
From	Princess Road (N)	0.00	15.00	430.00
	Whitchurch Road	7.00	0.00	24.00
	Princess Road (S)	0.00	21.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		Princess Road (N)	Whitchurch Road	Princess Road (S)
From	Princess Road (N)	10	10	10
	Whitchurch Road	10	10	10
	Princess Road (S)	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)
B-AC	0.38	10.42	0.7	B	43.25	173.00
C-AB	0.22	11.54	0.3	B	22.75	91.00
C-A					0.00	0.00
A-BC	0.49	2.17	1.1	A	427.00	1708.00

Main Results for each time segment

13:00 - 13:15

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	37.00	37.00		146.86	0.252	36.63	0.0	0.4	8.952	A
C-AB	21.00	21.00		106.62	0.197	20.73	0.0	0.3	11.492	B
C-A	0.00	0.00				0.00				
A-BC	447.00	447.00	5.46	918.75	0.487	445.96	0.0	1.0	2.090	A

13:15 - 13:30

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	58.00	58.00		152.69	0.380	57.70	0.4	0.7	10.423	B
C-AB	25.00	25.00		113.18	0.221	24.96	0.3	0.3	11.214	B
C-A	0.00	0.00				0.00				
A-BC	410.00	410.00	6.52	911.54	0.450	410.13	1.0	0.9	1.976	A

13:30 - 13:45

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	47.00	47.00		152.68	0.308	47.17	0.7	0.5	9.397	A
C-AB	24.00	24.00		113.94	0.211	24.01	0.3	0.3	11.012	B
C-A	0.00	0.00				0.00				
A-BC	406.00	406.00	7.98	901.81	0.450	406.00	0.9	0.9	1.998	A

13:45 - 14:00

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	31.00	31.00		147.69	0.210	31.20	0.5	0.3	8.512	A
C-AB	21.00	21.00		106.82	0.197	21.02	0.3	0.3	11.544	B
C-A	0.00	0.00				0.00				
A-BC	445.00	445.00	7.98	901.81	0.493	444.84	0.9	1.1	2.166	A

Base + Dev, Weekday PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Whitchurch Road - Princess Road	T-Junction	Two-way	5.83	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	8	Stream C-AB

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D4	Base + Dev	Weekday PM	DIRECT	17:00	18:00	60	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
Princess Road (N)		DIRECT		100.000
Whitchurch Road		DIRECT		100.000
Princess Road (S)		DIRECT		100.000

Demand overview (Pedestrians)

Arm	Profile type
Princess Road (N)	[DIRECT]
Whitchurch Road	
Princess Road (S)	

Origin-Destination Data

Demand (PCU/TS)

17:00 - 17:15

	To			
		Princess Road (N)	Whitchurch Road	Princess Road (S)
From	Princess Road (N)	0.00	27.00	489.00
	Whitchurch Road	10.00	0.00	53.00
	Princess Road (S)	0.00	58.00	0.00

Demand (PCU/TS)

17:15 - 17:30

	To			
		Princess Road (N)	Whitchurch Road	Princess Road (S)
From	Princess Road (N)	0.00	22.00	499.00
	Whitchurch Road	12.00	0.00	40.00
	Princess Road (S)	0.00	46.00	0.00

Demand (PCU/TS)

17:30 - 17:45

	To			
		Princess Road (N)	Whitchurch Road	Princess Road (S)
From	Princess Road (N)	0.00	27.00	453.00
	Whitchurch Road	16.00	0.00	42.00
	Princess Road (S)	0.00	59.00	0.00

Demand (PCU/TS)

17:45 - 18:00

	To			
		Princess Road (N)	Whitchurch Road	Princess Road (S)
From	Princess Road (N)	0.00	18.00	504.00
	Whitchurch Road	20.00	0.00	34.00
	Princess Road (S)	0.00	35.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		Princess Road (N)	Whitchurch Road	Princess Road (S)
From	Princess Road (N)	10	10	10
	Whitchurch Road	10	10	10
	Princess Road (S)	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)
B-AC	0.47	13.40	0.9	B	56.75	227.00
C-AB	0.62	25.31	1.6	D	49.50	198.00
C-A					0.00	0.00
A-BC	0.62	3.10	1.8	A	510.25	2041.00

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	63.00	63.00		135.08	0.466	62.06	0.0	0.9	13.395	B
C-AB	58.00	58.00		94.02	0.617	56.35	0.0	1.6	25.314	D
C-A	0.00	0.00				0.00				
A-BC	516.00	516.00	12.42	873.93	0.590	514.43	0.0	1.6	2.741	A

17:15 - 17:30

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	52.00	52.00		132.55	0.392	52.21	0.9	0.7	12.355	B
C-AB	46.00	46.00		92.82	0.496	46.52	1.6	1.1	21.622	C
C-A	0.00	0.00				0.00				
A-BC	521.00	521.00	14.83	859.79	0.606	520.89	1.6	1.7	2.921	A

17:30 - 17:45

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	58.00	58.00		138.25	0.420	57.94	0.7	0.8	12.316	B
C-AB	59.00	59.00		100.10	0.589	58.63	1.1	1.5	23.619	C
C-A	0.00	0.00				0.00				
A-BC	481.00	481.00	18.17	841.33	0.572	481.20	1.7	1.5	2.750	A

17:45 - 18:00

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	54.00	54.00		130.45	0.414	54.00	0.8	0.8	12.953	B
C-AB	35.00	35.00		92.47	0.378	35.81	1.5	0.7	17.703	C
C-A	0.00	0.00				0.00				
A-BC	523.00	523.00	18.17	841.33	0.622	522.69	1.5	1.8	3.104	A

Base + Dev, Sunday AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Whitchurch Road - Princess Road	T-Junction	Two-way	2.78	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	80	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D5	Base + Dev	Sunday AM	DIRECT	10:00	11:00	60	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
Princess Road (N)		DIRECT		100.000
Whitchurch Road		DIRECT		100.000
Princess Road (S)		DIRECT		100.000

Demand overview (Pedestrians)

Arm	Profile type
Princess Road (N)	[DIRECT]
Whitchurch Road	
Princess Road (S)	

Origin-Destination Data

Demand (PCU/TS)

10:00 - 10:15

	To			
		Princess Road (N)	Whitchurch Road	Princess Road (S)
From	Princess Road (N)	0.00	4.00	295.00
	Whitchurch Road	12.00	0.00	24.00
	Princess Road (S)	0.00	12.00	0.00

Demand (PCU/TS)

10:15 - 10:30

	To			
		Princess Road (N)	Whitchurch Road	Princess Road (S)
From	Princess Road (N)	0.00	8.00	304.00
	Whitchurch Road	20.00	0.00	26.00
	Princess Road (S)	0.00	11.00	0.00

Demand (PCU/TS)

10:30 - 10:45

	To			
		Princess Road (N)	Whitchurch Road	Princess Road (S)
From	Princess Road (N)	0.00	9.00	297.00
	Whitchurch Road	9.00	0.00	30.00
	Princess Road (S)	0.00	14.00	0.00

Demand (PCU/TS)

10:45 - 11:00

	To			
		Princess Road (N)	Whitchurch Road	Princess Road (S)
From	Princess Road (N)	0.00	7.00	336.00
	Whitchurch Road	8.00	0.00	44.00
	Princess Road (S)	0.00	9.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		Princess Road (N)	Whitchurch Road	Princess Road (S)
From	Princess Road (N)	10	10	10
	Whitchurch Road	10	10	10
	Princess Road (S)	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)
B-AC	0.31	8.61	0.5	A	43.25	173.00
C-AB	0.11	8.50	0.1	A	11.50	46.00
C-A					0.00	0.00
A-BC	0.38	1.77	0.7	A	315.50	1262.00

Main Results for each time segment

10:00 - 10:15

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	36.00	36.00		172.80	0.208	35.71	0.0	0.3	7.207	A
C-AB	12.00	12.00		133.64	0.090	11.89	0.0	0.1	8.125	A
C-A	0.00	0.00				0.00				
A-BC	299.00	299.00	5.46	918.75	0.325	298.47	0.0	0.5	1.594	A

10:15 - 10:30

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	46.00	46.00		170.17	0.270	45.88	0.3	0.4	7.958	A
C-AB	11.00	11.00		131.17	0.084	11.01	0.1	0.1	8.240	A
C-A	0.00	0.00				0.00				
A-BC	312.00	312.00	6.52	911.54	0.342	311.96	0.5	0.6	1.650	A

10:30 - 10:45

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	39.00	39.00		172.22	0.226	39.08	0.4	0.3	7.441	A
C-AB	14.00	14.00		131.89	0.106	13.97	0.1	0.1	8.393	A
C-A	0.00	0.00				0.00				
A-BC	308.00	308.00	7.98	901.81	0.342	308.00	0.6	0.6	1.669	A

10:45 - 11:00

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	52.00	52.00		166.58	0.312	51.83	0.3	0.5	8.614	A
C-AB	9.00	9.00		125.50	0.072	9.04	0.1	0.1	8.505	A
C-A	0.00	0.00				0.00				
A-BC	343.00	343.00	7.98	901.81	0.380	342.90	0.6	0.7	1.770	A

Base + Dev, Sunday PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Whitchurch Road - Princess Road	T-Junction	Two-way	3.67	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	52	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D6	Base + Dev	Sunday PM	DIRECT	13:00	14:00	60	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
Princess Road (N)		DIRECT		100.000
Whitchurch Road		DIRECT		100.000
Princess Road (S)		DIRECT		100.000

Demand overview (Pedestrians)

Arm	Profile type
Princess Road (N)	[DIRECT]
Whitchurch Road	
Princess Road (S)	

Origin-Destination Data

Demand (PCU/TS)

13:00 - 13:15

	To			
		Princess Road (N)	Whitchurch Road	Princess Road (S)
From	Princess Road (N)	0.00	16.00	433.00
	Whitchurch Road	11.00	0.00	26.00
	Princess Road (S)	0.00	23.00	0.00

Demand (PCU/TS)

13:15 - 13:30

	To			
		Princess Road (N)	Whitchurch Road	Princess Road (S)
From	Princess Road (N)	0.00	11.00	400.00
	Whitchurch Road	16.00	0.00	42.00
	Princess Road (S)	0.00	27.00	0.00

Demand (PCU/TS)

13:30 - 13:45

	To			
		Princess Road (N)	Whitchurch Road	Princess Road (S)
From	Princess Road (N)	0.00	10.00	397.00
	Whitchurch Road	16.00	0.00	31.00
	Princess Road (S)	0.00	26.00	0.00

Demand (PCU/TS)

13:45 - 14:00

	To			
		Princess Road (N)	Whitchurch Road	Princess Road (S)
From	Princess Road (N)	0.00	15.00	432.00
	Whitchurch Road	7.00	0.00	24.00
	Princess Road (S)	0.00	23.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		Princess Road (N)	Whitchurch Road	Princess Road (S)
From	Princess Road (N)	10	10	10
	Whitchurch Road	10	10	10
	Princess Road (S)	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)
B-AC	0.38	10.43	0.7	B	43.25	173.00
C-AB	0.24	11.85	0.3	B	24.75	99.00
C-A					0.00	0.00
A-BC	0.53	2.51	1.2	A	428.25	1713.00

Main Results for each time segment

13:00 - 13:15

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	37.00	37.00		146.32	0.253	36.63	0.0	0.4	8.997	A
C-AB	23.00	23.00		106.25	0.216	22.70	0.0	0.3	11.809	B
C-A	0.00	0.00				0.00				
A-BC	449.00	449.00	12.61	872.80	0.514	447.84	0.0	1.2	2.324	A

13:15 - 13:30

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	58.00	58.00		152.31	0.381	57.70	0.4	0.7	10.430	B
C-AB	27.00	27.00		112.98	0.239	26.96	0.3	0.3	11.502	B
C-A	0.00	0.00				0.00				
A-BC	411.00	411.00	15.06	858.50	0.479	411.14	1.2	1.0	2.213	A

13:30 - 13:45

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	47.00	47.00		152.27	0.309	47.17	0.7	0.5	9.436	A
C-AB	26.00	26.00		113.74	0.229	26.01	0.3	0.3	11.289	B
C-A	0.00	0.00				0.00				
A-BC	407.00	407.00	18.44	839.86	0.485	406.98	1.0	1.0	2.286	A

13:45 - 14:00

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Pedestrian demand (Ped/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	31.00	31.00		147.34	0.210	31.20	0.5	0.3	8.538	A
C-AB	23.00	23.00		106.61	0.216	23.02	0.3	0.3	11.849	B
C-A	0.00	0.00				0.00				
A-BC	446.00	446.00	18.44	839.86	0.531	445.79	1.0	1.2	2.511	A

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