Premise

PLANS AND DOCUMENTS
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DEVELOPMENT APPROVAL

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Queensland Government

MIRVAC

Everleigh

MOVEMENT NETWORK INFRASTRUCTURE MASTER PLAN

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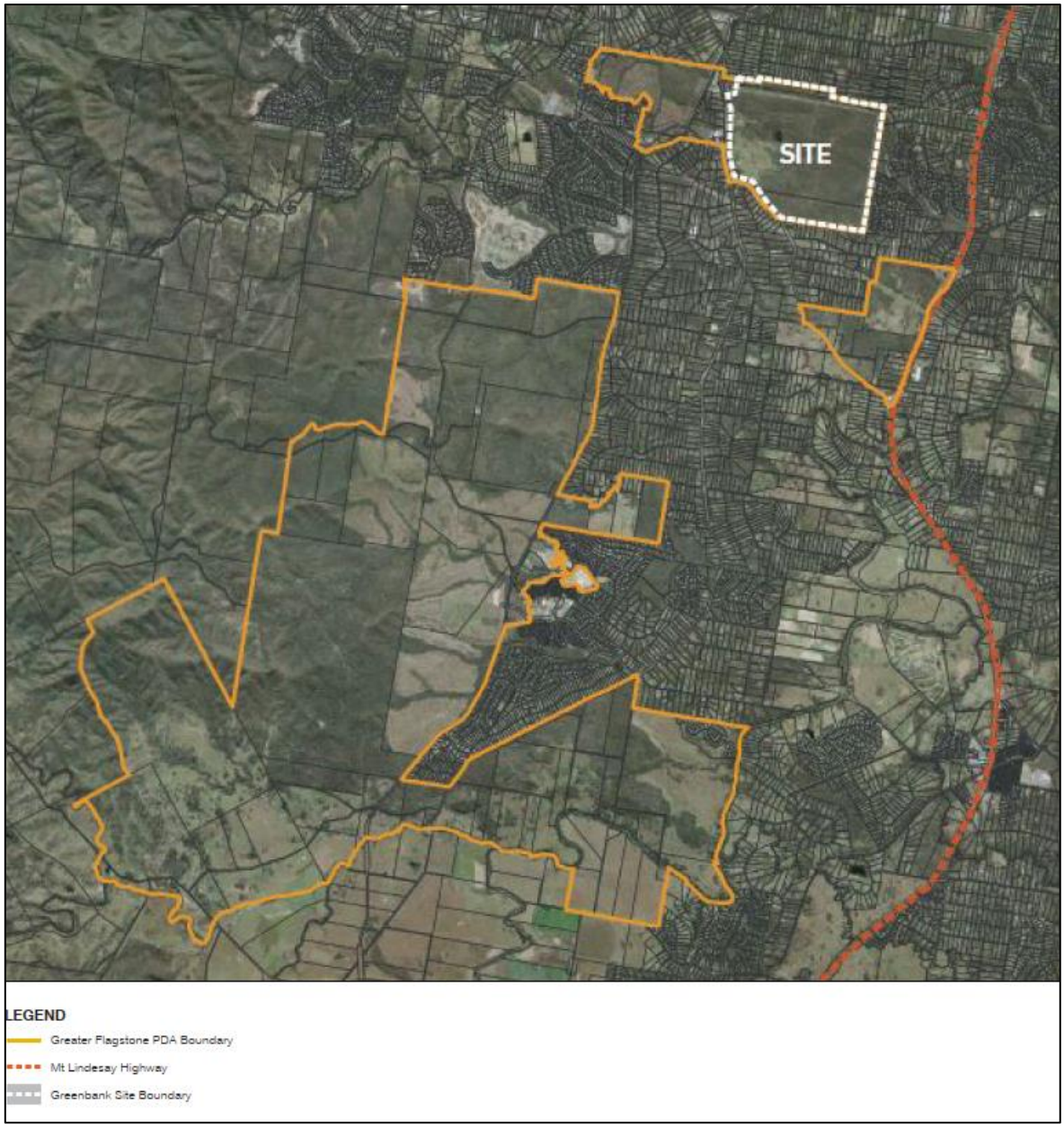
APPENDIX A ROUTE 535 MAP AND TIMETABLE
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1. INTRODUCTION

On 9 August 2017 Economic Development Queensland (EDQ) approved "Movement Network Infrastructure Master Plan" (the approved MNIMP) dated 03 March 2017 by MWH for Mirvac Queensland Pty Ltd (Mirvac) for the then proposed Teviot Road urban subdivision in Greenbank which is now known as Everleigh. Premise Brisbane Pty Ltd (Premise) have been commissioned by Mirvac to update the approved MNIMP.

Everleigh is located within the state government declared Greater Flagstone Priority Development (PDA) and falls under the planning jurisdiction of Economic Development Queensland (EDQ). The site is located within a fragmented portion of the PDA and forms the northernmost developable parcel of land within Greater Flagstone as shown in Figure 1.

Figure 1 – Site and context (Source: Urbis)



1.1 Purpose of the Technical Assessment

The purpose of the technical assessment is to review prescribed transport network solutions and confirm that these are satisfactory to accommodate the level of demand placed upon them by the development. The technical assessment will investigate the following transport elements.

- Road Network: Road network layout, hierarchy, construction profiles and intersections.
- Public Transport: Bus compatible routes, bus stop locations and construction typology.
- Active Transport: Bicycle and pedestrian network and movement permeability.
- Parking Provisions: Adopted rates of parking and proposed provisions.
- Traffic Assessment: Modelling of demand generated by the development's land uses, capacity of the proposed ultimate intersections and road links, and staging of works.

1.2 Site Planning Context

The Greater Flagstone PDA was declared by the Queensland Government in October 2010 and covers a total area of 7188 hectares. Flanking the interstate railway corridor between Greenbank and Kagaru, when fully developed it is anticipated that the PDA will house a population of 138,000 residents across 51,500 dwellings.

The Mirvac development is located upon a 481ha parcel of land with road frontage to Teviot and Greenbank Roads. The modelled composition of the development is identified below and illustrated by Figure 2:

- Residential – 3.562 dwellings, predominantly detached with some duplex, terrace, attached and land lease product.
- Schools – Primary school designed for 1,400 students and 140 staff, and high school designed for 1,800 students and 190 staff.
- Neighbourhood Centre – 8,000m^2 gross floor area (GFA).
- State community health centre – 8,000m^2 GFA.
- Parks and reserves for local recreation, neighbourhood recreation, regional sports and recreation, conservation, and drainage.

Figure 2 – Land use plan (Source: Urbis)



LEGEND

- Greater Flagstone UDA Boundary
- Site Boundary
- Cadastre Boundaries
- Existing Easements
- Rail Corridor
- Potential Train Station [1]

Land Uses

- Residential - Standard Lots
- Residential - Interface Lots
- Potential Land Lease Community (LLC)
- Neighbourhood Centre
- State Community Health Centre
- District Centre (external) [1]
- Conservation Parkland (Corridor Park)
- Combined Regional Recreation and Regional Sports Park
- Major Linear Park
- Indicative Locations of Neighbourhood Parks
- Indicative Location of State Primary School
- Indicative Location of State High School (subject to State agency aquisition)
- Future Investigation Area

2. TRANSPORT NETWORK CONTEXT

The following sections will identify the existing transport networks relevant to the development site and the planned improvement initiatives proposed for this infrastructure.

2.1 Existing Transport Networks

2.1.1 SURROUNDING ROAD NETWORK

The development site is located approximately 10km south-west of the Browns Plains Activity Centre and has frontage on the western perimeter to the north-south running Teviot Road as well as along the south-western perimeter with Greenbank Road. The southern, eastern and northern perimeters do not have road frontage, however, do have perpendicular access to several rural to semi-rural residential streets.

Regional access to the development site is provided by parallel north-south corridors being Teviot Road and Mount Lindesay Highway (to the east of the site). Stoney Camp Road (to the north of the site) and Greenbank Road / Crowson Lane (to the south of the site) provide a means of east-west distribution between Teviot Road and the Mount Lindesay Highway.

The junction of Teviot Road and Pub Lane provides access to the semi-rural residential area of New Beith, located 1km west of the development.

Figure 3 below is a map of the surrounding road network relevant to the development, followed by a summary of the key roads.

Figure 3 – Existing Road Network (Source: MWH)



2.1.1.1 Mount Lindesay Highway

Running between Brisbane and the state border, the Mount Lindesay Highway is the primary form of road access to the development between Brisbane and Beaudesert. The corridor is largely grade separated between Browns Plains and Munruben, and consists of a 4-lane carriageway from north of the Stoney Camp Road interchange. South of the Crowson Lane interchange, the road transitions into a rural highway typology with at-grade, high-speed intersections.

2.1.1.2 Teviot Road

Running parallel to the Mount Lindesay Highway approximately 4km to the west, Teviot Road provides a major local route between the western residential areas of Jimboomba (to the south) and Greenbank (to the north). Teviot Road is a key distributor of traffic, providing links to Mount Lindesay Highway via Greenbank Road / Crowson Lane and Stoney Camp Road, to Springfield via Springfield-Greenbank Arterial Road, and to Browns Plains via Middle Road. Teviot Road is constructed to a 2-lane rural standard.

2.1.1.3 Stoney Camp Road

Stoney Camp Road is a 4km long, 2-lane road providing a key link between Teviot Road and Mount Lindesay Highway. The road provides frontage to rural properties and is constructed to a rural standard.

2.1.1.4 Greenbank Road / Crowson Lane

Intersecting each other just south of the development site, these roads combine to provide another key link between Teviot Road and Mount Lindesay Highway. The road provides frontage to rural properties and is constructed to a rural standard.

2.1.1.5 Pub Lane

Pub Lane provides a local connection to the semi-rural residential area of New Beith. Pub Lane is a 2-lane, rural standard road. Pub Lane extends east of Teviot Road into the development site as Everleigh Drive.

2.1.2 EXISTING PUBLIC TRANSPORT NETWORKS

The nearest public transport facility to the development site is TransLink bus stop 320027 on Pub Lane 100m west of Teviot Road. The stop is used by bus route 535 and various school bus services.

Bus route 535 operates between Flagstone and Browns Plains servicing Flagstone, South Maclean, North Maclean and Browns Plains. The route map and timetable are enclosed in Appendix A. The route operates along Teviot Road stopping on the northern side of Pub Lane adjacent to Greenbank Shopping Centre when travelling both northbound and southbound. The route operates 13 northbound and 11 southbound services over approximately 14 hours on weekdays with seven (7) northbound and six (6) southbound services over 12 hours on Saturdays. Route 535 does not operate on Sundays.

Route 535 connects to Browns Plains Plaza which is a hub in the South East Queensland public transport network providing bus connections to Brisbane City, Griffith University, Orion Springfield Central, Beaudesert, Greenbank, Park Ridge, Heritage Park, Garden City, Woodridge, Springwood, and Loganholme station.

2.2 Planned Transport Network Improvement

A review of PDA, Logan City Council (LCC) and Department of Transport and Main Roads (TMR) transport strategies and infrastructure programs has identified various projects at stages of progression between strategic planning and programmed construction. They are summarised further below.

2.2.1 ROAD NETWORK IMPROVEMENTS

2.2.1.1 Mount Lindesay Highway

TMR have allocated a significant quantity of funding to a business case for Mount Lindesay Highway from North Maclean (Crowson Lane) south to Jimboomba which is due for completion in the 24/25 financial year. The project aims to be delivered from 2024 – 2026.

2.2.1.2 Sub-Regional Road Upgrades

Identified by EDQ as being local roads requiring upgrade to support the Greater Flagstone PDAs, most local roads with close proximity to the development site have been identified for future upgrades including Teviot Road, Stoney Camp Road, Greenbank Road, Crowson Lane and Pub Lane. Such upgrades are identified in the following documents:

- Greater Flagstone Urban Development Area Development Scheme dated October 2011 (PDA Development Scheme);
- Greater Flagstone Priority Development Area Development Charges and Offset Plan dated July 2023 (DCOP); and
- Yarrabilba PDA & Greater Flagstone PDA IA Sub-regional Infrastructure Plan (IA SRIP) v2.0 dated June 2022.

In 2020, LCC undertook the *Teviot Road Corridor Upgrade Project* to inform on the future needs along the Teviot Road corridor to inform preliminary road design and options analysis processes. Teviot Road upgrade is anticipated to commence works mid-2024, pending weather and construction conditions. Relevant preliminary design drawings are enclosed in Appendix B.

2.2.2 PUBLIC TRANSPORT NETWORK IMPROVEMENTS

2.2.2.1 Salisbury to Beaudesert Rail

The development of a strategic business case has started for the long-term passenger and freight transport needs between Salisbury and Beaudesert. The planning underway will consider:

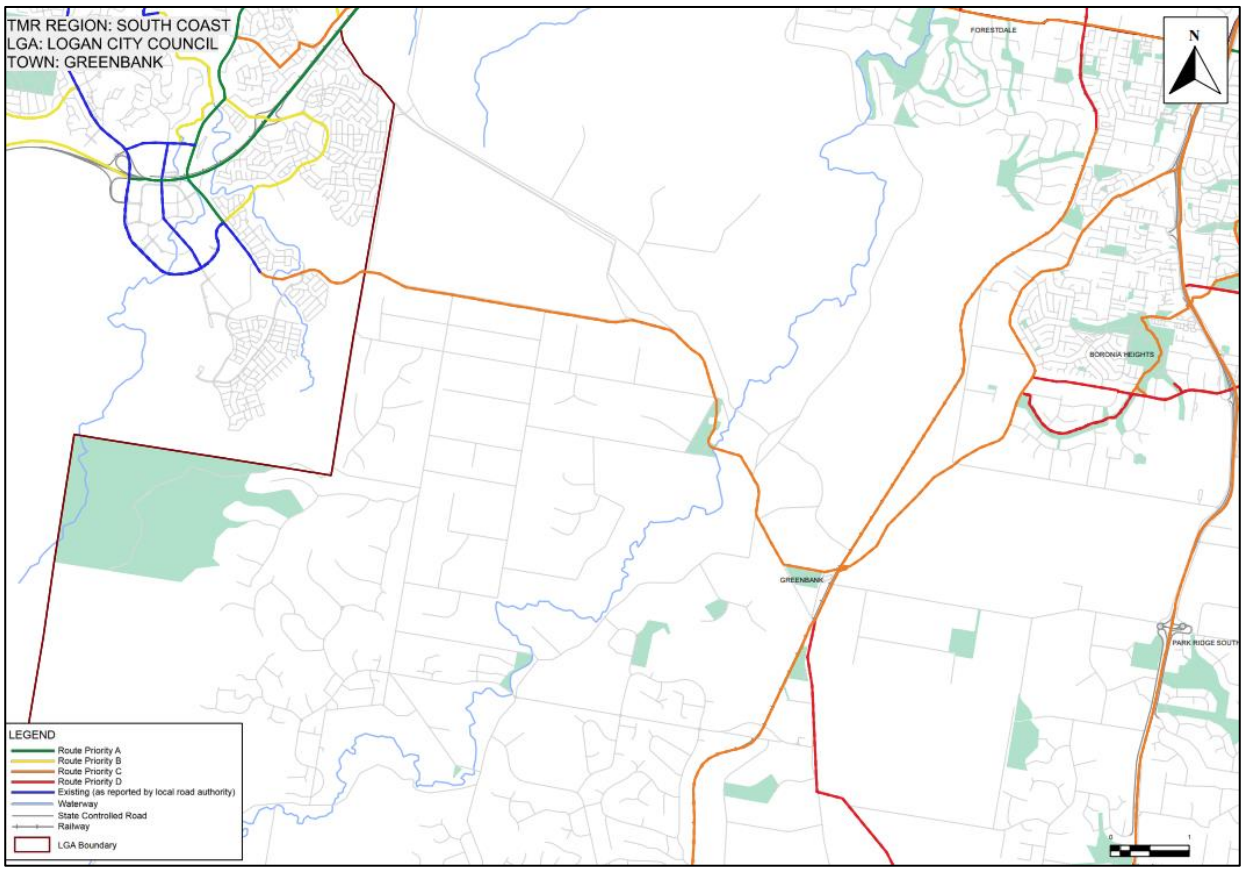
- Preservation of land for a future rail corridor;
- Provision of tracks from Salisbury to Beaudesert to support future passenger services;
- Provision of a shared pedestrian and cycle track along much of the corridor, as identified within the South East Queensland Principal Cycle Network;
- Provision of stations with associated facilities and car parks, improving accessibility to the passenger transport network; and
- Provision of maintenance access roads, stabling facilities, and associated infrastructure to support activities within the corridor.

2.2.3 ACTIVE TRANSPORT IMPROVEMENTS

2.2.3.1 Principal Cycle Network Plan: South East Queensland

As shown in Figure 4, TMR's *Principal Cycle Network Plan: South East Queensland* identifies principal cycle routes along the Salisbury to Beaudesert rail corridor, Teviot Road / Greenbank Road and Mount Lindsay Highway. In 2021, the routes along the rail corridor and highway were both identified as priority C for delivery in the next 15 to 20 years, and the route along Teviot Road and Greenbank Road was identified as priority D for delivery in the next 20 years or more.

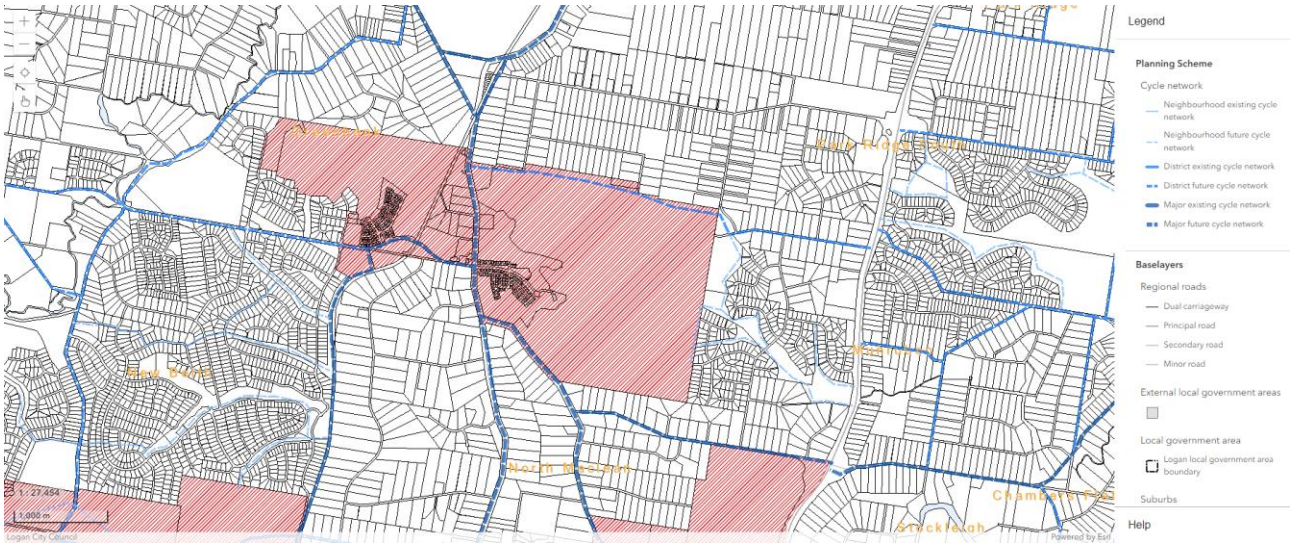
Figure 4 – Principal Cycle Network Plan (Source: TMR)



2.2.3.2 Logan Planning Scheme 2015 – Cycle Network

The Logan Planning Scheme 2015 identifies a cycle path network traversing and adjacent to the site as shown by Figure 5.

Figure 5 – Logan Planning Scheme 2015 – Cycle Network (Source: LCC)



3. EVERLEIGH MOVEMENT NETWORK

The proposed movement network incorporates the primary modal function of a vehicle-based road network, supported by adequate provisions of accessible public transport infrastructure as well as a connected network of pedestrian and cyclist paths. The below sections will outline the characteristics of the proposed road, public transport and active transport networks.

3.1 Road Network

3.1.1 EXTERNAL (SUB-REGIONAL) NETWORK

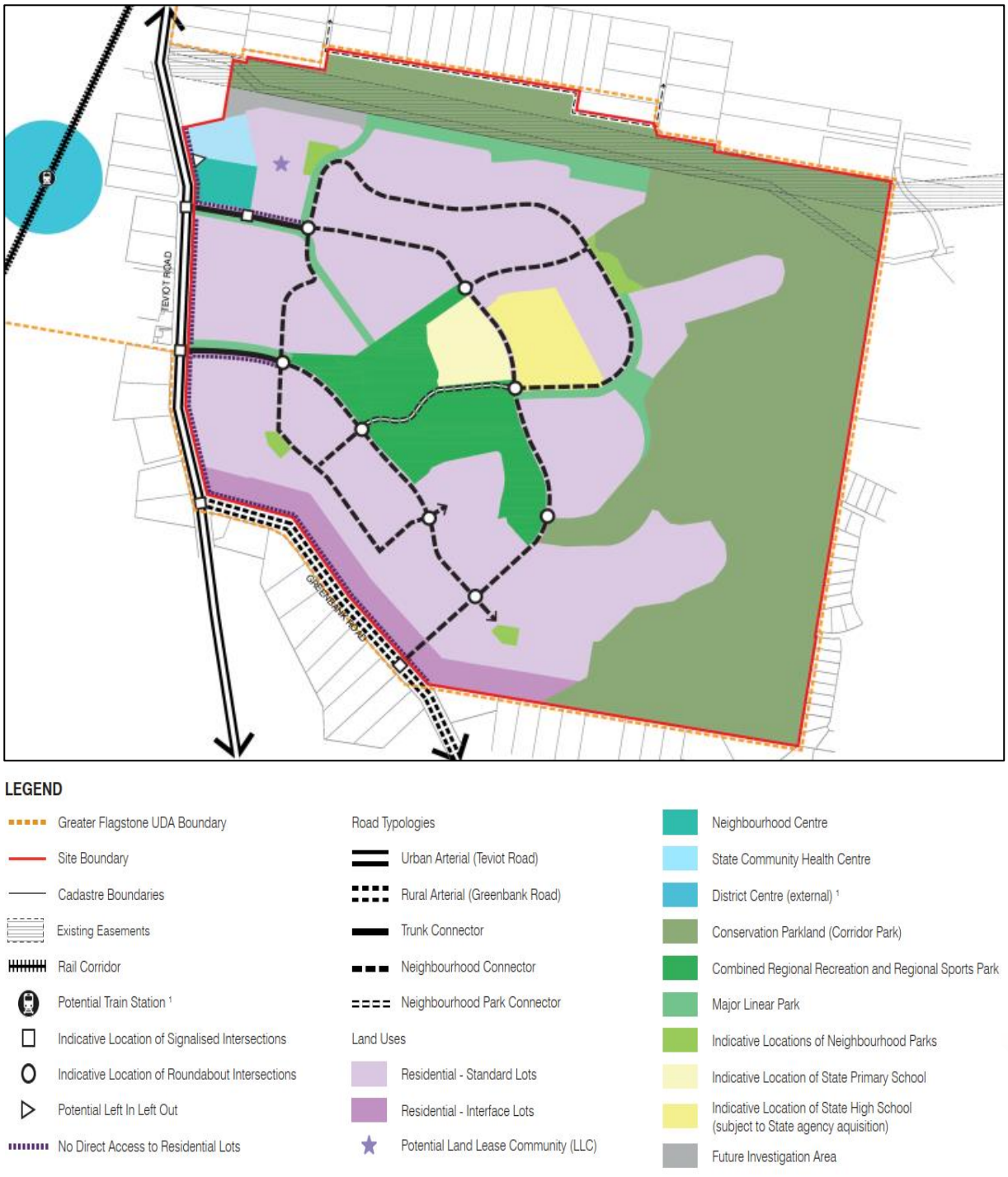
The site has frontage to two (2) sub-regional roads, being Teviot Road to the west and Greenbank Road to the south. It is understood that sub-regional road upgrades subject of the PDA are intended to be designed and constructed by LCC through sub-regional infrastructure funding (infrastructure charges). As such, upgrade requirements are considered subject to design and construction by others and have been largely excluded from this document. However, intersections between sub-regional roads and internal roads have been considered.

3.1.2 INTERNAL (MUNICPAL) NETWORK

3.1.2.1 Road Hierarchy

The internal network results from a multi-disciplinary and multi-stakeholder urban design development process (including transport modelling) which has been prepared cognisant of the approved MNIMP. The proposed road hierarchy is shown in Figure 6.

Figure 6 – Movement Network Plan 1 – Roads (Source: Urbis)



Key features of the road layout and hierarchy:

- Three (3) points of access to the external sub-regional network being:
  - Teviot Road intersection with Leanne Court;
  - Teviot Road intersection with Pub Lane; and
  - Greenbank Road, approximately 450m north-west of Crowson Lane.
- Trunk Connectors distribute traffic from the access points on Teviot Road to the first intersections internal to the site.
- Neighbourhood Connectors provide a primary and secondary circuit throughout the site and distribute traffic to tertiary level Access Streets.

Both Trunk Connectors are identified in the DCOP with

- Everleigh Drive, the southern Trunk Connector aligning with Pub Lane, existing; and
- Anderson Drive, the northern Trunk Connector aligning with Leanne Court, identified for completion early 2024.

3.1.2.2 Cross Sections

The development has generally retained typical cross sections from the approved MNIMP which were based on *ULDA Guideline No. 06 Street and movement network* dated April 2012 (Guideline 6). Where there was no relevant EDQ standard, the approved MNIMP adopted either LCC standards or continued the profile of existing adjoining roads where appropriate.

The road profiles described in the following sub-sections are generic and may be subject to alteration where appropriate, for example:

- A vegetated sound buffer would not be constructed alongside parkland;
- Vegetated medians may be excluded in some areas to provide visual difference;
- Central medians / road crowns may be inverted rather than raised; and
- Acoustic fences may be excluded subject to acoustic advice.

Such alterations will be addressed in detailed design.

Cross sections are described in the following sub-sections for each of the road typologies identified on Figure 7 but Teviot Road and Greenbank Road arterials have been excluded as it is understood that they are intended to be designed and constructed by LCC.

Figure 7 – Road hierarchy plan (Source: Urbis)



LEGEND

Greater Flagstone UDA Boundary
Site Boundary
Cadastre Boundaries
Existing Easements
Rail Corridor
Potential Train Station [1]
Indicative Location of Signalised Intersections
Indicative Location of Roundabout Intersections
Potential Left In Left Out

Road Typologies

Urban Arterial (Teviot Road)	
Rural Arterial (Greenbank Road)	
Trunk Connector 1 (Leanne Court)	29.0m
Trunk Connector 2 (Pub Lane)	23.0m
Neighbourhood Connector 1 (Green Build Outs)	21.0m
Neighbourhood Connector 2 (Green Build Outs)	20.0m
Neighbourhood Connector 3 (Greenbank Road)	26.0m
Park Connector 1 (Green Build Outs)	20.0m
Park Connector 2 (Green Build Outs)	22.5m

Land Uses

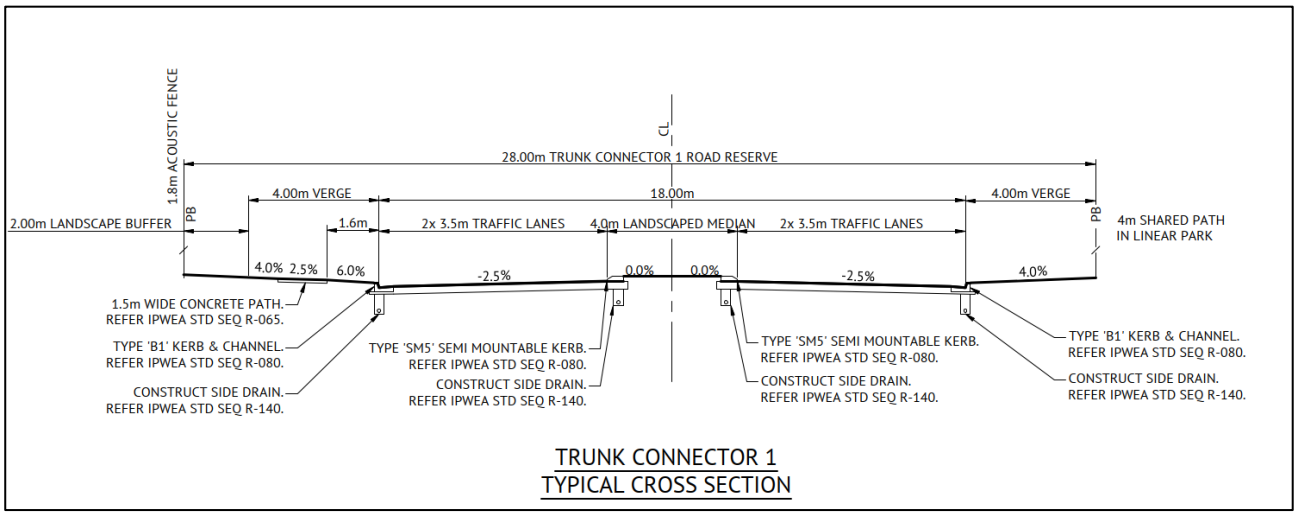
Residential - Standard Lots
Residential - Interface Lots
Potential Land Lease Community (LLC)
Neighbourhood Centre
State Community Health Centre
District Centre (external) [1]
Conservation Parkland (Corridor Park)
Combined Regional Recreation and Regional Sports Park
Major Linear Park
Indicative Locations of Neighbourhood Parks
Indicative Location of State Primary School
Indicative Location of State High School (subject to State agency aquisition)
Future Investigation Area

3.1.2.2.1 Trunk Connector

Two (2) Trunk Connector cross sections are proposed within the development, the locations of which are shown in Figure 7. Note that the Greenbank Road access was previously designated as Trunk Connector but has been reclassified as a Neighbourhood Connector consistent with the DCOP.

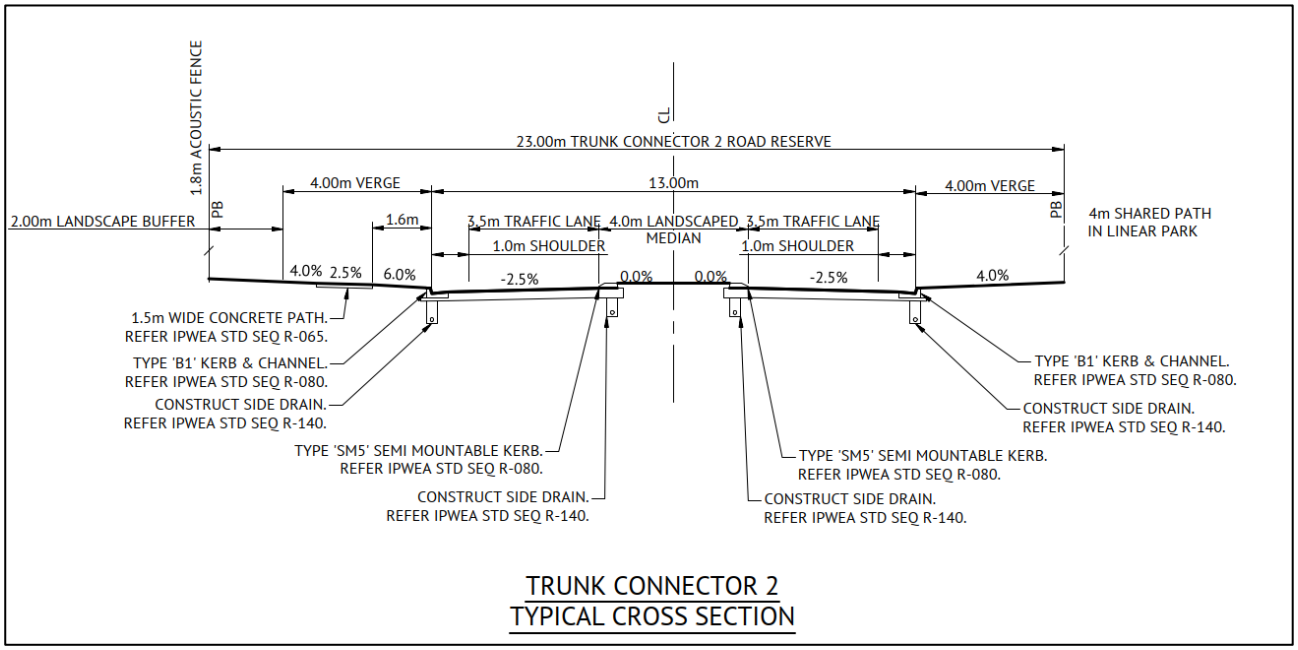
Typical cross sections for each Trunk Connector are shown by Figure 8 and Figure 9.

Figure 8 – Trunk Connector 1 (Leanne Court)



Traffic Lanes =	Four (4)
Traffic Volume =	18,001-30,000vpd
Traffic Lane Width =	3.5m
Parking Lane Width =	NA
Median Width =	4m
Verge Width =	4m
Vegetated Sound Buffer =	2m
Total Reserve Width =	28m
Road Speed =	50km/h
Residential Frontage =	No
Notes =	The acoustic fence and landscaped buffer may be excluded where acoustic advice indicates that an acoustic fence is not required.

Figure 9 – Trunk Connector 2 (Pub Lane)



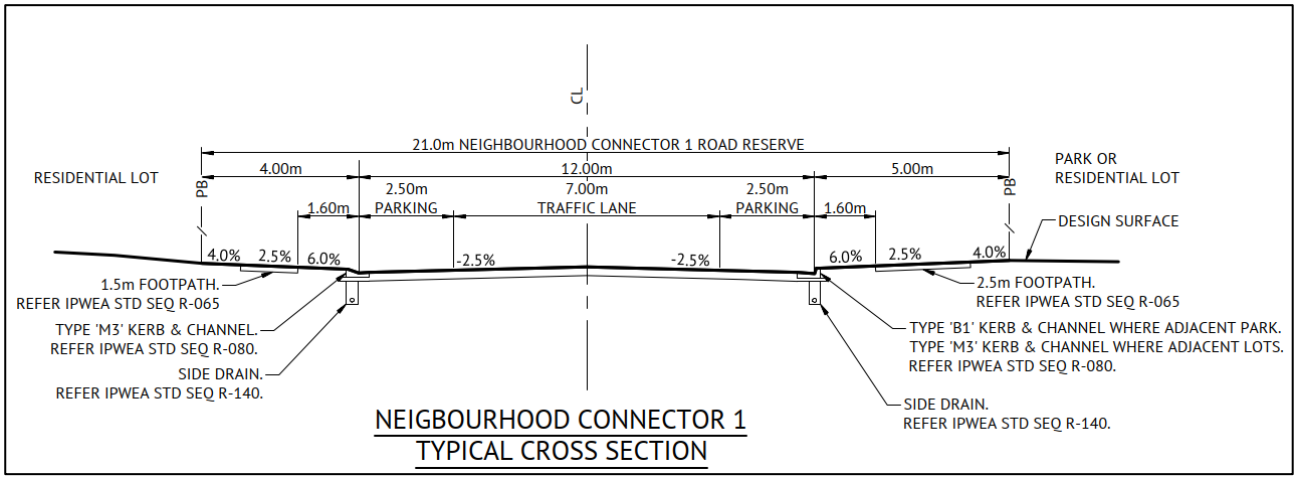
Traffic Lanes =	Two (2)
Traffic Volume =	7,500-18,000vpd
Traffic Lane Width =	3.5m
Parking Lane Width =	NA
Median Width =	4m
Verge Width =	4m
Vegetated Sound Buffer =	2m
Total Reserve Width =	23m
Road Speed =	50km/h
Residential Frontage =	No
Notes =	The acoustic fence and landscaped buffer may be excluded where acoustic advice indicates that an acoustic fence is not required. Shoulder provided to allow sufficient passing space in the event of a break down.

3.1.2.2.2 Neighbourhood Connector

Neighbourhood Connectors are second order roads, distributing traffic from the Trunk Connectors into the residential neighbourhoods. Whilst they have frontage to residential properties, they are wider than typical neighbourhood streets and have designated kerbside parking lanes.

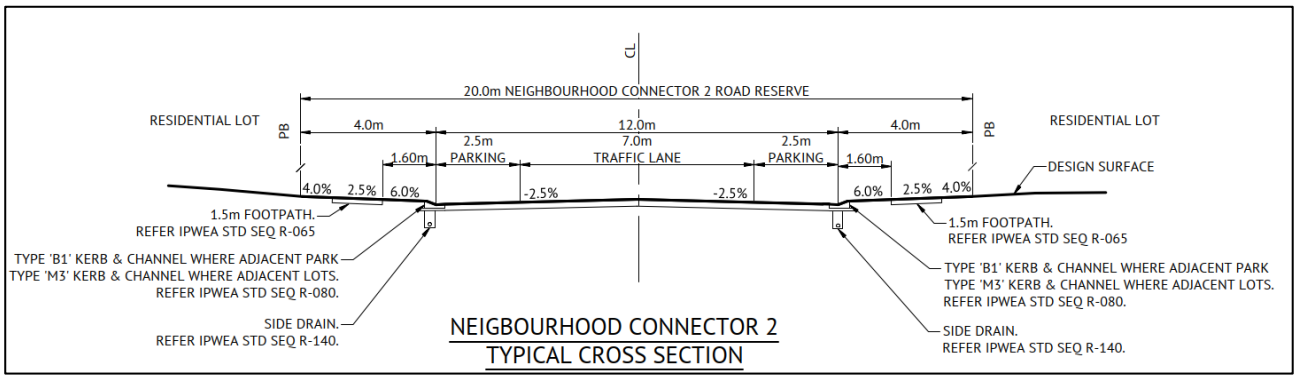
Three (3) Neighbourhood Connector cross sections are proposed within the development, the locations of which are shown in Figure 7. Typical cross sections for each of these roads are shown by Figure 10, Figure 11 and Figure 12.

Figure 10 – Neighbourhood Connector 1



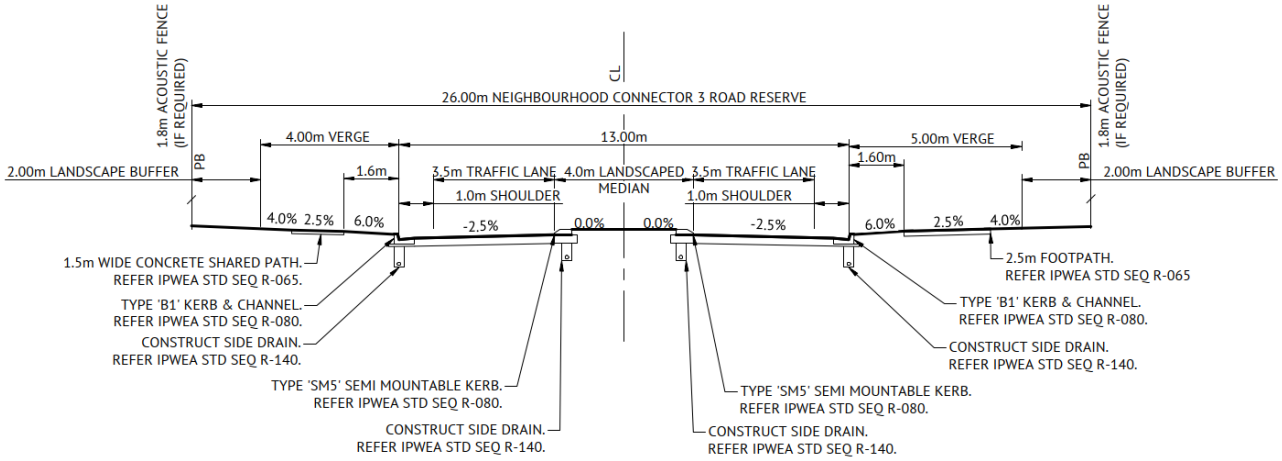
Traffic Lanes =	Two (2)
Traffic Volume =	3,000-7,499vpd
Traffic Lane Width =	3.5m
Parking Lane Width =	2.5m
Median Width =	NA
Verge Width =	4-5m
Vegetated Sound Buffer =	NA
Total Reserve Width =	21m
Road Speed =	50km/h
Residential Frontage =	Yes
Notes =	Parking lanes include 1.5m wide green build outs.

Figure 11 – Neighbourhood Connector 2



Traffic Lanes =	Two (2)
Traffic Volume =	3,000-7,499vpd
Traffic Lane Width =	3.5m
Parking Lane Width =	2.5m
Median Width =	NA
Verge Width =	4m
Vegetated Sound Buffer =	NA
Total Reserve Width =	20m
Road Speed =	50km/h
Residential Frontage =	Yes
Notes =	Parking lanes include 1.5m wide green build outs.

Figure 12 – Neighbourhood Connector 3 (Greenbank Road)



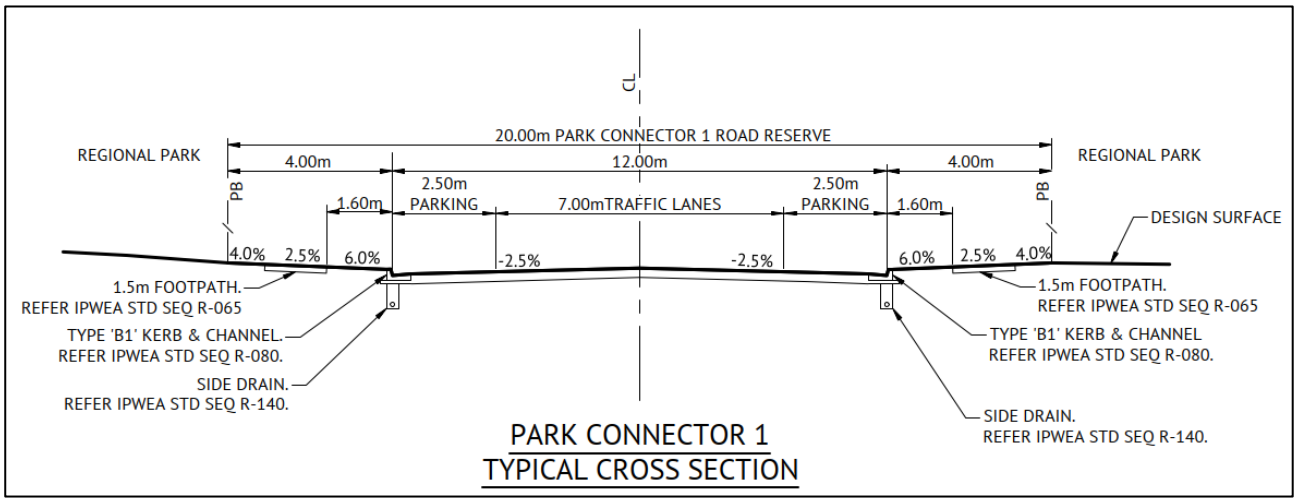
NEIGHBOURHOOD CONNECTOR 3
TYPICAL CROSS SECTION

Traffic Lanes =	Two (2)
Traffic Volume =	3,000-7,499vpd
Traffic Lane Width =	3.5m
Parking Lane Width =	NA
Median Width =	4m
Verge Width =	4-5m
Vegetated Sound Buffer =	2m
Total Reserve Width =	26m
Road Speed =	50km/h
Residential Frontage =	Yes
Notes =	Neighbourhood Connector 3 (Greenbank Road) was previously referred to as Trunk Connector 3 (Greenbank Road) but has been reclassified for consistency with the DCOP. The acoustic fence and landscaped buffer may be excluded where acoustic advice indicates that an acoustic fence is not required. Shoulder provided to allow sufficient passing space in the event of a break down.

3.1.2.2.3 Park Connectors

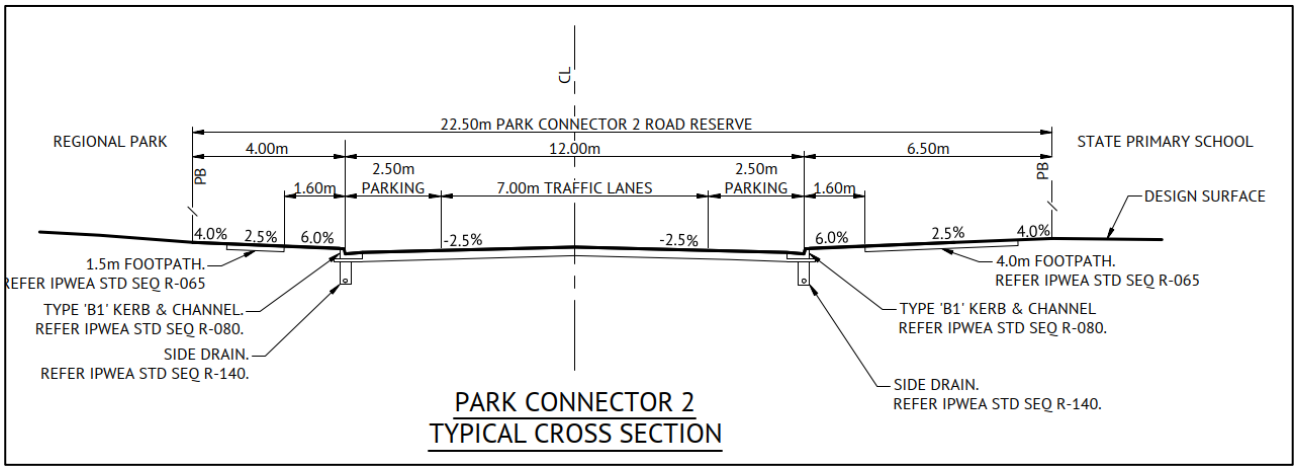
Two (2) Park Connector cross sections are proposed within the development, the locations of which are shown in Figure 7. Typical cross sections for each of these roads are shown by Figure 13 and Figure 14.

Figure 13 – Park Connector 1



Traffic Lanes =	Two (2)
Traffic Volume =	3,000-7,499vpd
Traffic Lane Width =	3.5m
Parking Lane Width =	2.5m
Median Width =	NA
Verge Width =	4m
Vegetated Sound Buffer =	NA
Total Reserve Width =	20m
Road Speed =	50km/h
Residential Frontage =	No
Notes =	Footpaths may be deleted where paths provided in adjacent park. Parking lanes include 1.5m wide green build outs. Road reserve may be widened to provide for perpendicular and / or angle parking.

Figure 14 – Park Connector 2



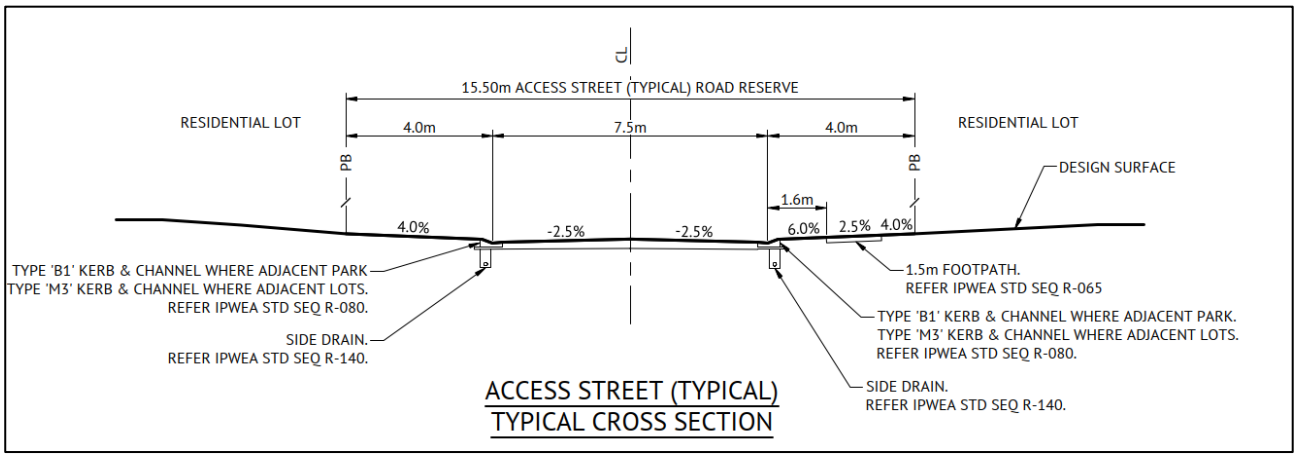
Traffic Lanes =	Two (2)
Traffic Volume =	3,000-7,499vpd
Traffic Lane Width =	3.5m
Parking Lane Width =	2.5m
Median Width =	NA
Verge Width =	4-6.5m
Vegetated Sound Buffer =	NA
Total Reserve Width =	22.5m
Road Speed =	50km/h
Residential Frontage =	No
Notes =	Footpaths may be deleted where paths provided in adjacent park. Parking lanes include 1.5m wide green build outs. Road reserve may be widened to provide for perpendicular and / or angle parking.

3.1.2.2.4 Access Street

Access Streets are the predominant profile for tertiary level neighbourhood streets.

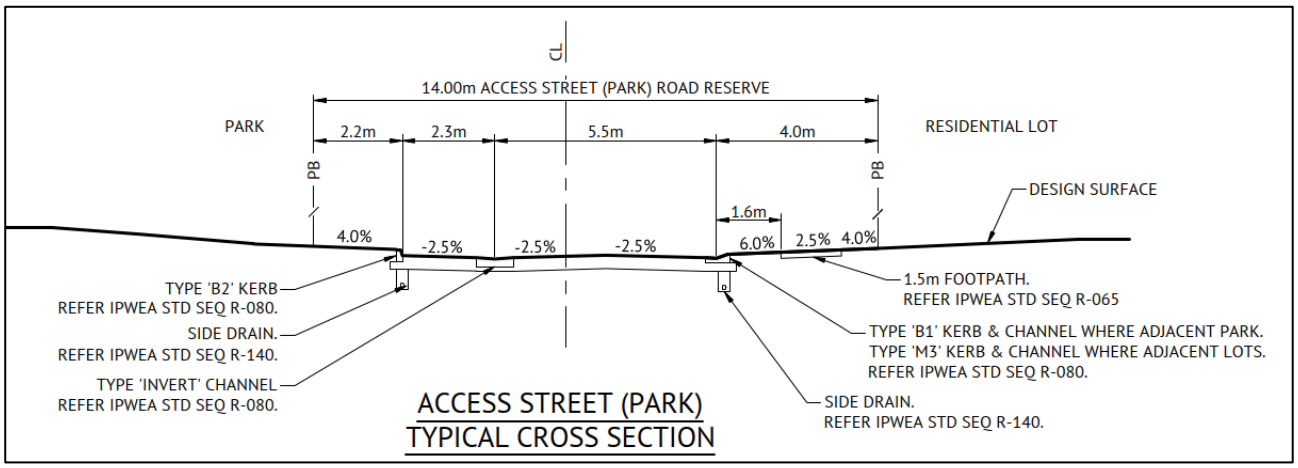
Three (3) Access Street cross sections are proposed within the development, the locations of which depend on adjoining land use. Typical cross sections for each of these roads are shown by Figure 15, Figure 16, Figure 17 and

Figure 15 – Access Street (Typical)



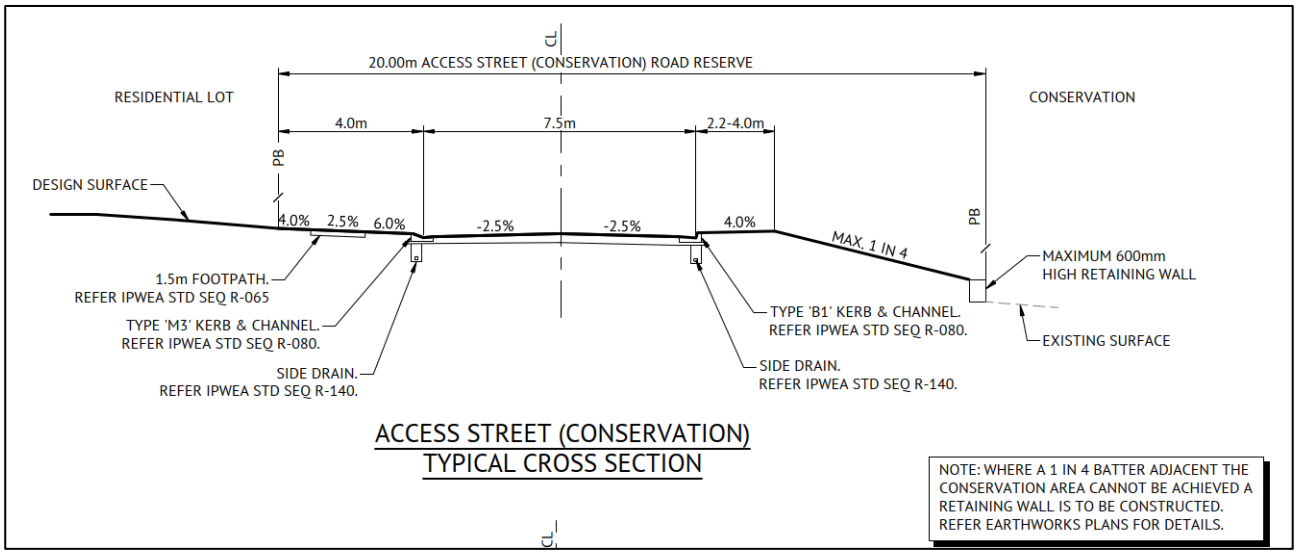
Traffic Lanes =	Two (2)
Traffic Volume =	<3,000vpd
Traffic Lane Width =	3.75m
Parking Lane Width =	NA
Median Width =	NA
Verge Width =	4m
Vegetated Sound Buffer =	NA
Total Reserve Width =	15.5m
Road Speed =	≤50km/h
Residential Frontage =	Yes
Notes =	Due to the width, kerbside parking can be accommodated whilst still allowing for a flow of light traffic.

Figure 16 – Access Street (Park)



Traffic Lanes =	Two (2)
Traffic Volume =	<3,000vpd
Traffic Lane Width =	2.75m
Parking Lane Width =	2.3m
Median Width =	NA
Verge Width =	2.2-4m
Vegetated Sound Buffer =	NA
Total Reserve Width =	14m
Road Speed =	≤50km/h
Residential Frontage =	Yes
Notes =	Access Streets (Park) are specified for a minority of streets where adjoining park space. Foot path may be deleted where a path is provided within the park.

Figure 17 – Access Street (Conservation)



Traffic Lanes =	Two (2)
Traffic Volume =	<3,000vpd
Traffic Lane Width =	3.75m
Parking Lane Width =	NA
Median Width =	NA
Verge Width =	2.2-4m
Vegetated Sound Buffer =	NA
Total Reserve Width =	20m
Road Speed =	≤50km/h
Residential Frontage =	Yes
Notes =	Access Streets (Conservation) are specified for a minority of streets where adjoining conservation parkland. Due to the width, kerbside parking can be accommodated whilst still allowing for a flow of light traffic. Where a 1 in 4 batter adjacent the conservation area cannot be achieved a retaining wall is to be constructed.

3.2 Public Transport Network

The public transport network has been developed to allow for future flexibility to implement bus routes as demand warrants. Figure 18 shows the ultimate bus network, bus stop locations and catchment accessibility within 400m of a bus stop. The bus stop requirements and locations will be refined progressively in consultation with relevant stakeholders.

Figure 18 – Movement Network Plan 2 – Public Transport (Source: Urbis)



LEGEND

- Greater Flagstone UDA Boundary
- Site Boundary
- Cadastre Boundaries
- Existing Easements
- Rail Corridor
- Potential Train Station [1]
- Bus Compatible Route
- Indicative Internal Bus Stop Pair
- Indicative External Bus Stop Pair
- Indicative Internal School Bus Stop
- Walkable Catchment for Bus Stops (400m)

Land Uses

- Residential - Standard Lots
- Residential - Interface Lots
- Potential Land Lease Community (LLC)
- Neighbourhood Centre
- State Community Health Centre
- District Centre (external) [1]
- Conservation Parkland (Corridor Park)
- Combined Regional Recreation and Regional Sports Park
- Major Linear Park
- Indicative Locations of Neighbourhood Parks
- Indicative Location of State Primary School
- Indicative Location of State High School (subject to State agency aquisition)
- Future Investigation Area

3.2.1 BUS COMPATIBLE ROUTES

As identified in Figure 18, Trunk Connectors and Neighbourhood Connectors are bus compatible routes. These route alignments have been selected to achieve the following objectives:

- Allow for ultimate flexibility in the alignment and type of bus service provided;
- Reduce circuitous alignments and 'double-backing' (driving back on already driven routes);
- Maximise catchment accessibility to a bus stop in order to achieve EDQ's objective of providing 90% catchment accessibility within 400m of a bus stop.
- Where for bus scheduling efficiencies (reducing frequent stops) the development cannot achieve 400m bus stop access for 90% of all residents, cycle routes can be introduced to service 90% plus of the catchment within easy access to a key bus stop.

The designated roads have appropriate road profiles to accommodate bus manoeuvrability as they have sufficient pavement widths and traffic lanes which are unimpeded by on street parking. Essentially, any Trunk or Neighbourhood Connector is capable of accommodating bus services, however any future bus services to utilise routes other than Anderson Drive (connecting to Leanne Court and Greenbank Road) and Everleigh Drive (connecting to Pub Lane) would not have bus stop infrastructure provisions.

3.2.2 BUS STOP INFRASTRUCTURE & CATCHMENT ACCESSIBILITY

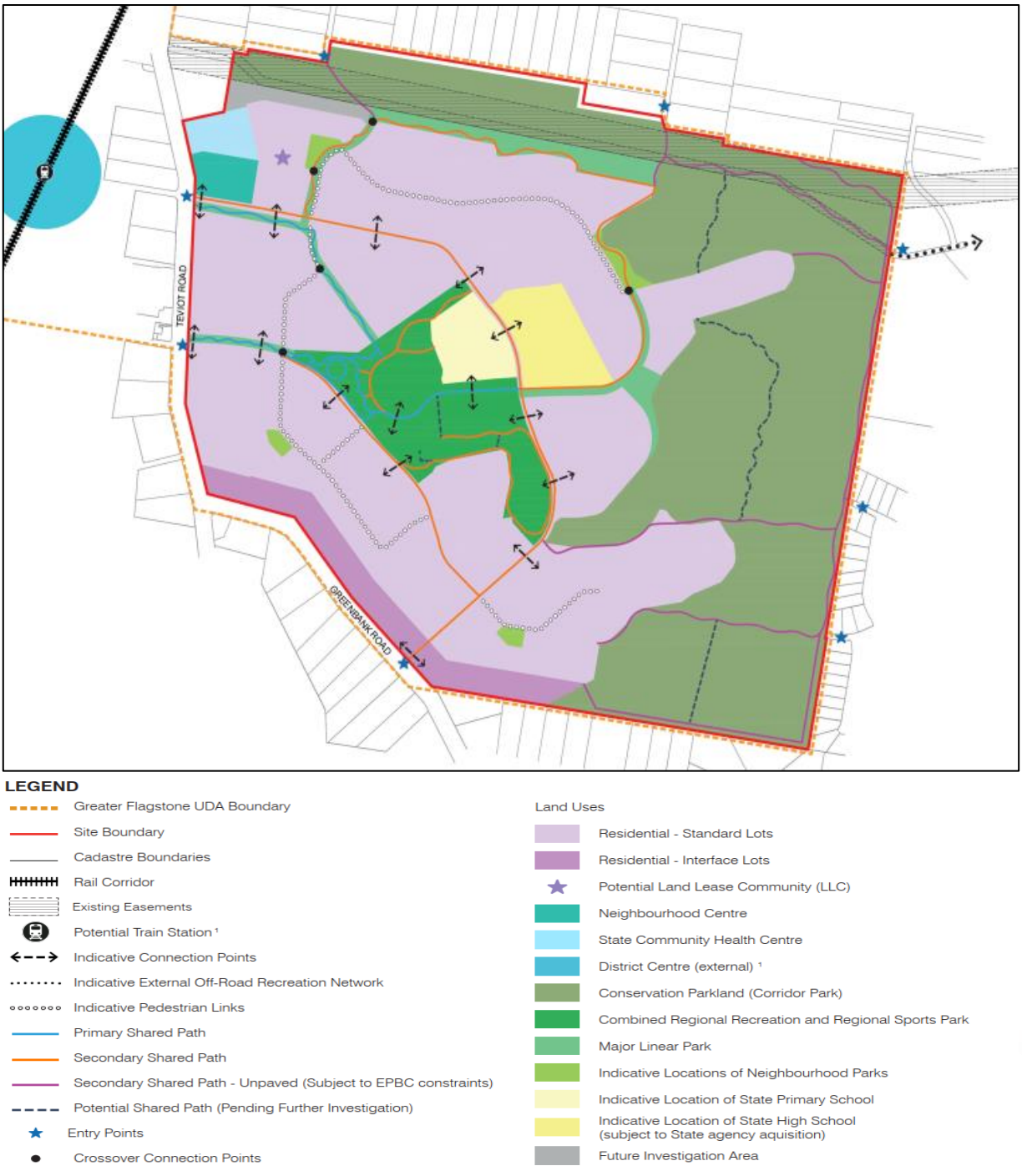
Placement of bus stops within the development has been undertaken in accordance with the Bus Stop Infrastructure chapter of TransLink's *Public Transport Infrastructure Manual (PTIM) 2015*. The characteristics outlined below describe the particulars of the proposed bus stop infrastructure on-site and are generally in alignment with the PTIM's bus stop planning principles.

- 9 bus stop pairs (18 in total) are proposed within the development's internal road network.
- 2 bus stop pairs (4 in total) are proposed external to the development on Teviot Road. The bus stop pair proposed immediately to the north of Pub Lane may be replaced by the existing Pub Lane bus stop (refer Section 2.1.2).
- A single bus stop is shown within the school. This is to be delivered as part of the school's construction (by others) and is not proposed to be an urban bus stop.
- All bus stops on Trunk Connectors will be indented, however will not require property setbacks as the verge and landscaping space will be utilised to accommodate the bus stop hardstand.
- All bus stops on Neighbourhood Connectors will not be indented, rather utilise the parking lane and require 0.5m from the adjacent traffic lane.
- All inbound (waiting) bus stops within the internal road network will be 'Regular Stops', providing a hardstand, seat, rubbish bin and tactile ground surface indicators (TGSI);
- Bus stops on Teviot Road will be 'Intermediate Stops' providing a hardstand, bus shelter, rubbish bin and TGSI tactiles.
- The bus stops have been positioned to maximise pedestrian accessibility, being located adjacent to intersecting streets and / or mid-block pedestrian thoroughfares.
- All bus stops will be located within 50m from a pedestrian refuge crossing at Trunk Connectors.
- The refuge island will improve the connectivity to the regional parks and will also help to access the bus stops more safely. To meet the council's guidelines, the refuge islands should be a minimum of 1.5 m wide in width. Additionally, EDQ advise that refuge islands are generally not required for the Neighbourhood Connectors.
- Detailed design as part of the subsequent ROL applications will determine site specific details i.e., distances to intersections etc – in accordance with the PTIM and overarching Traffic Regulations.

3.3 Active Transport Network

This development will be the catalyst for the first active transport infrastructure within the surrounding Greenbank area, proposing a connected network of shared pedestrian / cycle paths, parkland recreational paths as well as mid-block permeability links. Figure 19 demonstrates the ultimate active transport network within the site. The pedestrian / cycle network has been determined in consultation with EDQ and cognisant of planned active transport networks (refer Section 2.2.3).

Figure 19 – Movement Network Plan 3 – Active Transport (Source: Urbis)



3.3.1 OFF-ROAD SHARED PATHS

The internal network reflects a strong preference for off-road shared paths instead of on road cycle lanes. These paths aim to capture both pedestrians and cyclists in providing both a commuting and recreational function. The internal shared path network connects to the planned active transport network (refer Section 2.2.3).

The proposed hierarchy and path typologies provide connectivity between key internal and external destinations such as existing and planned parks, conservation parkland, schools, retail centres, community centres and the potential future rail station. Such connectivity provides permeable site boundaries and promotes pedestrian and cycle movements throughout the estate and the surrounding community.

3.3.2 FOOTPATHS

In accordance with the approved MNIMP, footpaths or shared paths will be provided on all urban roads within the development. Refer cross sections in Section 3.1.2.2.

3.3.3 PERMEABILITY

The Plan of Development (PoD) has been designed to eliminate dead-ends and reduce linear block length to less than 200m. In addition to this, a series of mid-block pedestrian links have been provided to provide greater accessibility to bus stops and parklands as well as to provide legible lines-of-sight between blocks.

3.3.4 SUPPORTING INFRASTRUCTURE

End of trip (EOT) facilities are not required as part of the development due to the lack of land uses that would generate demand for such a facility. Infrastructure to facilitate greater attraction to the recreational network will be provided as part of the parklands' implementation. This includes items such as covered rest areas, drinking fountains and points of interest.

3.4 Parking Provisions

The provision of parking within the development is applicable to the relevant land uses proposed as part of the PoD. The applicable land uses are as follows:

- Residential dwellings
- Outdoor recreation (court and field sports)
- Education (State primary and high schools)
- Retail
- Health

Table 1 identifies applicable parking provisions per land use. These provisions were obtained from multiple sources including:

- The approved MNIMP
- *EDQ Residential 30 PDA Guideline No.1* – for residential parking provisions
- Logan City Council Planning Scheme – Part 9 Development Codes – 9.4.7 Servicing, Access & Parking Code – for school, recreation, and health vehicle parking provisions
- Cycling Aspects of Austroads Guidelines – for bicycle parking provisions
- Technical Note 128, Selection and Design of Cycle Tracks
- "Traffic Engineering Report: Everleigh Town Centre" (10/11/2022) by TTM Consulting Pty Ltd (TTM) for Mirvac – for retail parking provisions

Table 1 – Parking provision rates (Source: MWH)

Land Use	Vehicle Parking Provision	Bicycle Parking Provision
Residential	1 covered space and 1 visitor space per dwelling (within the property boundary); plus 0.5 on-street parking space 5.0m in length - in front of dwelling (clear of driveways) or dedicated as part of formalised parking.	N/A
Outdoor Recreation	15 spaces per field 4 spaces per court	Unspecified – Appropriate provisions will be made
Education	To be provided within the school site by others	To be provided within the school site by others
Retail (Shopping Centre)	4.5 spaces per 100sqm GFA	1 space per 300sqm GFA
Health Facility	1 space per 10sqm GFA	1 space per 400sqm GFA for employees; plus 1 visitor space per 200sqm GFA

The provision of wide 7.5m residential streets will enable on-street parking for residential dwellings. Additionally, the two on-site parking spaces required for residential lots will help to reduce on-street parking and enable safer and easier movement of vehicles, pedestrians and cyclists.

The provision of on-street parking is also provided along the Park Connector to contribute to parking for the district recreational park and primary school, although it is noted that parking spaces will also be provided within each of these areas.

4. TRAFFIC ASSESSMENT

This section of the report addresses the traffic component of the development and will assess the following aspects:

- Traffic modelling: traffic demand based on trips generated by the development's land uses.
- Ultimate road network: traffic capacity of the proposed internal roads and network intersections.
- Staging: to determine the impact of the traffic generated by the proposed development sequence and identify an efficient staging of road works.

4.1 Traffic Modelling

The land use and forecasted traffic generation of Everleigh is identified in Table 2.

Table 2 – Everleigh Traffic Generation

Land Use	Qty	Daily			AM Peak			PM Peak		
		Rate	Source	Generation	Rate	Source	Generation	Rate	Source	Generation
Residential	3,562 dwellings	7vpd/dwelling	Approved MNIMP	24,934	0.64vph/dwelling	Approved MNIMP	2,280	0.85vph/dwelling	Approved MNIMP	3,028
Primary school	1,400 students	1.29vpd/student	Trip Generation Manual, 9th edition, ITE 2012	1,806	0.2vph/student	Approved MNIMP	280	0.042vph/student	Approved MNIMP	59
High school	1,800 students			2,322	0.2vph/student	VLC Everleigh Transport Assessment (24/10/2022)	360			76
Neighbourhood centre	8,000m^2	121vpd/100m^2	Guide to Traffic Generating Developments, RTA (2002)	9,680	4.3vph/100m^2	Approved MNIMP	344	8.6vph/100m^2	Mutual Decision between EDQ, VLC and MWH (25/01/2017)	688
State community health centre	8,000m^2	65vpd/100m^2	Traffic generation data – 2006-2021 (Queensland) Open Data	5,200	10.4vph/100m^2	Approved MNIMP	832	8.8vph/100m^2	Mutual Decision between EDQ, VLC and MWH (25/01/2017)	704

The Traffic Modelling Report enclosed in Appendix C provides additional detail regarding peak and daily traffic generation rates, in / out directional splits, traffic generation discounts, traffic distribution and route selection.

4.2 Ultimate Road Network

The Traffic Modelling Report enclosed in Appendix C includes diagrams of forecast daily and peak hour traffic 10-years after completion of the final stage of the development, that is 2044, being the design year.

4.2.1 ULTIMATE ROAD LINKS

Table 3 shows estimated design year (2044) bidirectional weekday traffic at the midblock locations shown by Figure 20. Estimated traffic volumes on all road segments are below the capacities identified for the road typologies shown in Figure 7.

Figure 20 – Key map of design year bidirectional weekday traffic locations (Source: VLC)

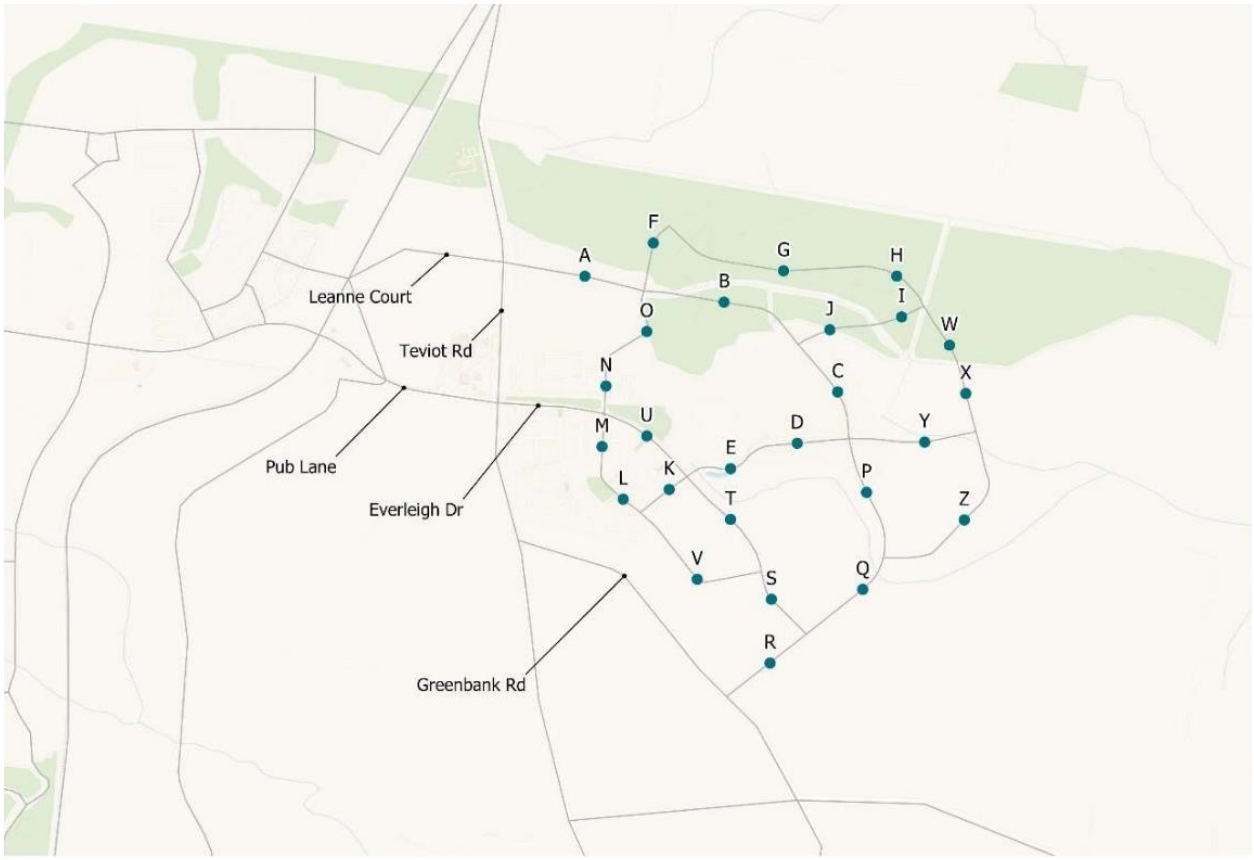


Table 3 – Estimated Design Year (2044) Bidirectional Weekday Traffic Volumes

Location	Street Type	Capacity, C	Volume, V	V<C
East of Leanne Ct	Trunk Connector 1	30,000	11,864	✓
Everleigh Dr	Trunk Connector 2	18,000	7,362	✓
A	Trunk Connector 1	30,000	13,126	✓
B	Neighbourhood Connector 1	7,499	6,746	✓
C	Neighbourhood Connector 1	7,499	6,772	✓
D	Park Connector 2	7,499	3,218	✓
E	Park Connector 1	7,499	2,440	✓
F	Neighbourhood Connector 2	7,499	4,634	✓
G	Neighbourhood Connector 2	7,499	1,990	✓
H	Neighbourhood Connector 2	7,499	1,100	✓
I	Neighbourhood Connector 1	7,499	3,052	✓
J	Neighbourhood Connector 1	7,499	3,052	✓
K	Neighbourhood Connector 2	7,499	852	✓
L	Neighbourhood Connector 2	7,499	2,988	✓
M	Neighbourhood Connector 2	7,499	2,988	✓
N	Neighbourhood Connector 2	7,499	2,748	✓
O	Neighbourhood Connector 2	7,499	3,342	✓
P	Neighbourhood Connector 1	7,499	4,986	✓
Q	Neighbourhood Connector 1	7,499	5,228	✓
R	Neighbourhood Connector 3	7,499	5,596	✓
S	Neighbourhood Connector 1	7,499	3,006	✓
T	Neighbourhood Connector 1	7,499	4,080	✓
U	Neighbourhood Connector 1	7,499	5,340	✓
V	Neighbourhood Connector 2	7,499	1,286	✓
W	Neighbourhood Connector 2	7,499	588	✓
X	Neighbourhood Connector 2	7,499	594	✓
Y	Neighbourhood Connector 2	7,499	1,948	✓
Z	Access Street	3,000	552	✓

4.2.2 ULTIMATE ROAD INTERSECTIONS

The Intersection Analysis Report enclosed in Appendix D assesses ultimate arrangements for the numbered intersections shown by Figure 21. The conclusions of the Intersection Analysis Report are summarised in the following sub-sections.

Figure 21 – Key map of road intersections



4.2.2.1 Teviot Road Signals (Intersections 2 and 3)

The Teviot Road / Leanne Court / Anderson Drive (Intersection 2) and Teviot Road / Pub Lane / Everleigh Drive (Intersection 3) signals were analysed based on the layouts shown in Appendix B. This Teviot Road upgrade is scheduled to commence construction in mid-2024.

Both intersections were found to operate with a degree of saturation (DoS) of less than 0.90 during the AM peak hour in the design year (2044), 10 years after completion of the final development stage. This is the desirable maximum DoS.

The Teviot Road / Leanne Court / Anderson Drive signals (Intersection 2) are also expected to operate with a maximum DoS of less than 0.90 during the PM peak hour in the design year (2044). However, the Teviot Road / Pub Lane / Everleigh Drive signals are modelled as operating with a DoS in the range 0.90 to 0.95 which is tolerable during peak periods.

No changes to the works proposed as part of the Teviot Road upgrade (refer Appendix B) are recommended.

4.2.2.2 Centre Access (Intersections 1 and 5)

"Traffic Engineering Report: Everleigh Town Centre" (22BRT0339) dated 10/11/2022 by TTM Consulting Pty Ltd for Mirvac investigated a proposed mixed use centre development at the intersection of Teviot Road and Leanne Court confirming site access requirements. The proposed access arrangement consists of:

- Left-in-left-out (LILO) access on Teviot Road (Intersection 1); and
- All-movement signalised access on Anderson Drive (Intersection 5).

The Intersection Analysis Report enclosed in Appendix D confirmed that the access arrangement proposed in "Traffic Engineering Report: Everleigh Town Centre" can accommodate design year (2044) peak hour traffic, 10 years after completion of the final development stage. Consistent with the conclusions of TTM, further investigation and design is required prior to construction.

4.2.2.3 Greenbank Road Access (Intersection 4)

Mirvac proposes to construct the Greenbank Road / Anderson Drive T-intersection (Intersection 4) as a priority T-intersection. The Intersection Analysis Report enclosed in Appendix D confirms that the intersection can accommodate design year (2044) peak hour traffic, 10 years after completion of the final development stage with acceptable DoS and delays.

To ensure a robust intersection design which can accommodate uncertainty in the sequencing of road network construction and traffic forecasting it is recommended that the intersection provide:

- A channelised right (CHR) turn treatment on Greenbank Road;
- An auxiliary (AUL) or channelised (CHL) left turn treatment on Greenbank Road; and
- Separate left and right turn lanes on Anderson Drive.

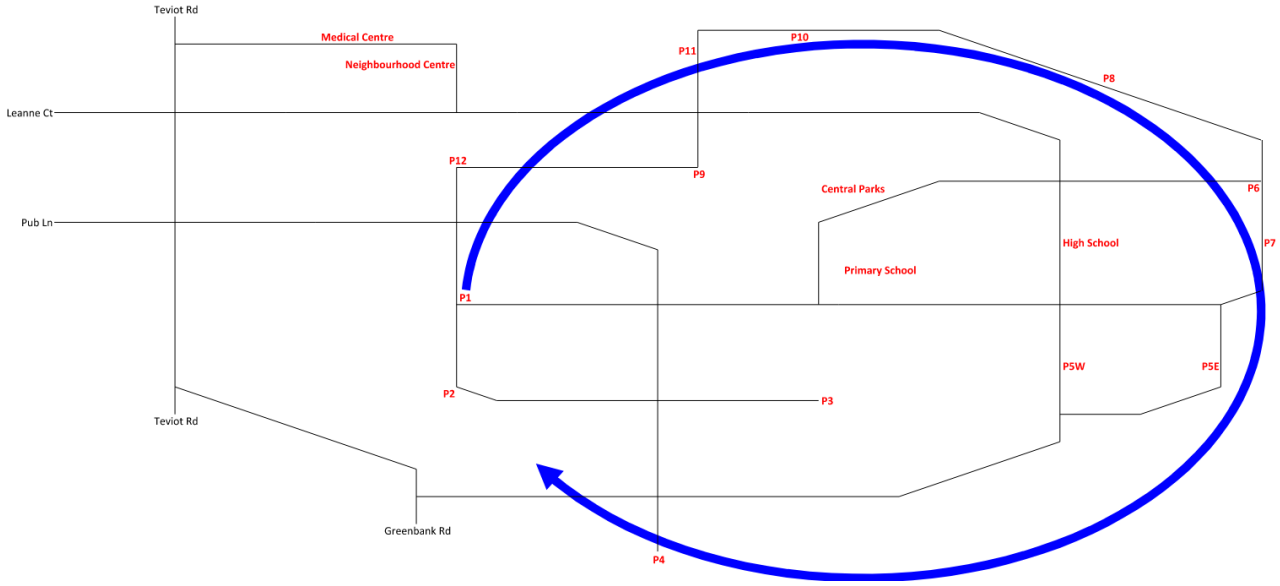
4.2.2.4 Roundabouts (Intersections 6 to 13)

Intersections 6 to 13 on Anderson Drive and Everleigh Drive are all proposed to be controlled by single lane roundabouts. The Intersection Analysis Report enclosed in Appendix D confirms that single lane roundabouts can accommodate design year (2044) peak hour traffic, 10 years after completion of the final development stage, at all identified intersections.

4.3 Road Network Staging

Figure 22 shows the proposed sequencing of residential land development within Everleigh which commenced in 2018 and is expected to be completed in 2034. Sequencing started in the southwest corner of the site and generally proceeds in a clockwise direction.

Figure 22 – Proposed residential land development sequence (Source: Urbis)



Precincts 3 (P3) and 4 (P4) in the southeast corner of the Everleigh development are proposed to be the final development stages with development commencing around 2031. These precincts have the following three (3) access options:

1. Construction of the Greenbank Road / Anderson Drive (Neighbourhood Connector 3) T-intersection (Intersection 4) to create a new development front;
2. Extension of Anderson Drive (Neighbourhood Connector 1) southwest from P5 (Intersection 9) including crossing of a designated waterway for waterway barrier works; and
3. Extension of Everleigh Drive (Neighbourhood Connector 1) southeast from P2 (Intersection 13) through P3.

Various road network staging options were assessed for development of P3 and P4 between 2031 and 2034 to ensure that the ultimate road network discussed in Section 4.2 can accommodate forecast traffic at every development stage. Based on this assessment the following conclusions are drawn:

- Any one (1) of the three (3) access options above can support development of P3 and P4 until at least 2031, that is at least 195 residential lots in total across P3 and P4;
- Prior to 2032, that is 427 residential lots in total across P3 and P4, a second access will be required for P3 and P4 with one (1) of the two (2) accesses being the Greenbank Road / Anderson Drive T-intersection (Intersection 4). This access arrangement can support development of at least 690 residential lots in total across P3 and P4; and
- All three (3) accesses will need to be constructed by 2034, to support completion of Everleigh development.

APPENDIX A

ROUTE 535 MAP AND TIMETABLE

Ticketing information

Ticket type	Where to buy tickets			
	Selected *go* card agents and on the Translink website	Translink bus operators ^	Queensland Rail selected stations	Translink fare machines
Translink *go* card A smart card that stores value for travel on Translink services.	✔	*	✔	~
Translink single # One-way ticket to reach your destination (not return). Final transfers must be made within two hours of ticket issue.		✔	✔	✔

Proof of concession entitlement must be presented upon request or full fare will be charged. Please visit **translink.com.au** for more information including where to buy a *go* card, or call Translink on **13 12 30**.

* – Top up an existing *go* card only. ^ – Excludes Brisbane City Council buses.

~ – Top up an existing *go* card at all fare machines with adult *go* cards also available for purchase from selected fare machines at busway stations and bus interchanges.

\# – Further conditions apply for single tickets. Passengers travelling through 4 zones or more will have their final transfer time extended a further 90 minutes in addition to the two hours.

Track your bus in real-time with our MyTranslink app.



Also available for train, ferry and tram.

Timetable information

How to read this timetable

1. Use the route map to find the two timing points your stop is located between.
2. Find these points on the timetable. Your bus is scheduled to arrive between the times shown for these points. For example, if your bus stop is between timing points Ⓐ and Ⓑ on the map, then the bus is scheduled to arrive between the times listed for Ⓐ and Ⓑ.

Please note the times shown are approximate. We advise customers to be at their bus stop at least five minutes before the scheduled departure time.

Travel tips

1. Pre-plan your trip at **MyTranslink** app, **translink.com.au** or call **13 12 30**.
2. Top up your *go* card or have the correct fare ready before boarding. If you have a concession card, have it ready to show the driver.
3. Read the number on the approaching bus to check if it is the one you want.
4. Raise your hand so the driver knows to stop.
5. On the bus find your seat quickly. If you need to stand, hold onto a handle.
6. Ring the bell to let the driver know to stop at the next stop for you to get off. Stay seated until the bus stops and touch off with your *go* card as you get off.
7. Wait for the bus to move away and check the road is clear before crossing the road.

Your **Southern Region** bus operator

bus queensland

TLBQTT001

Due to unforeseen circumstances, details on this timetable may change.

Download the MyTranslink app for the most relevant bus, train, ferry and tram information in the palm of your hand.

translink

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Printed 2023

535

535 Flagstone to Browns Plains

Effective from **23 January 2023**

Route description

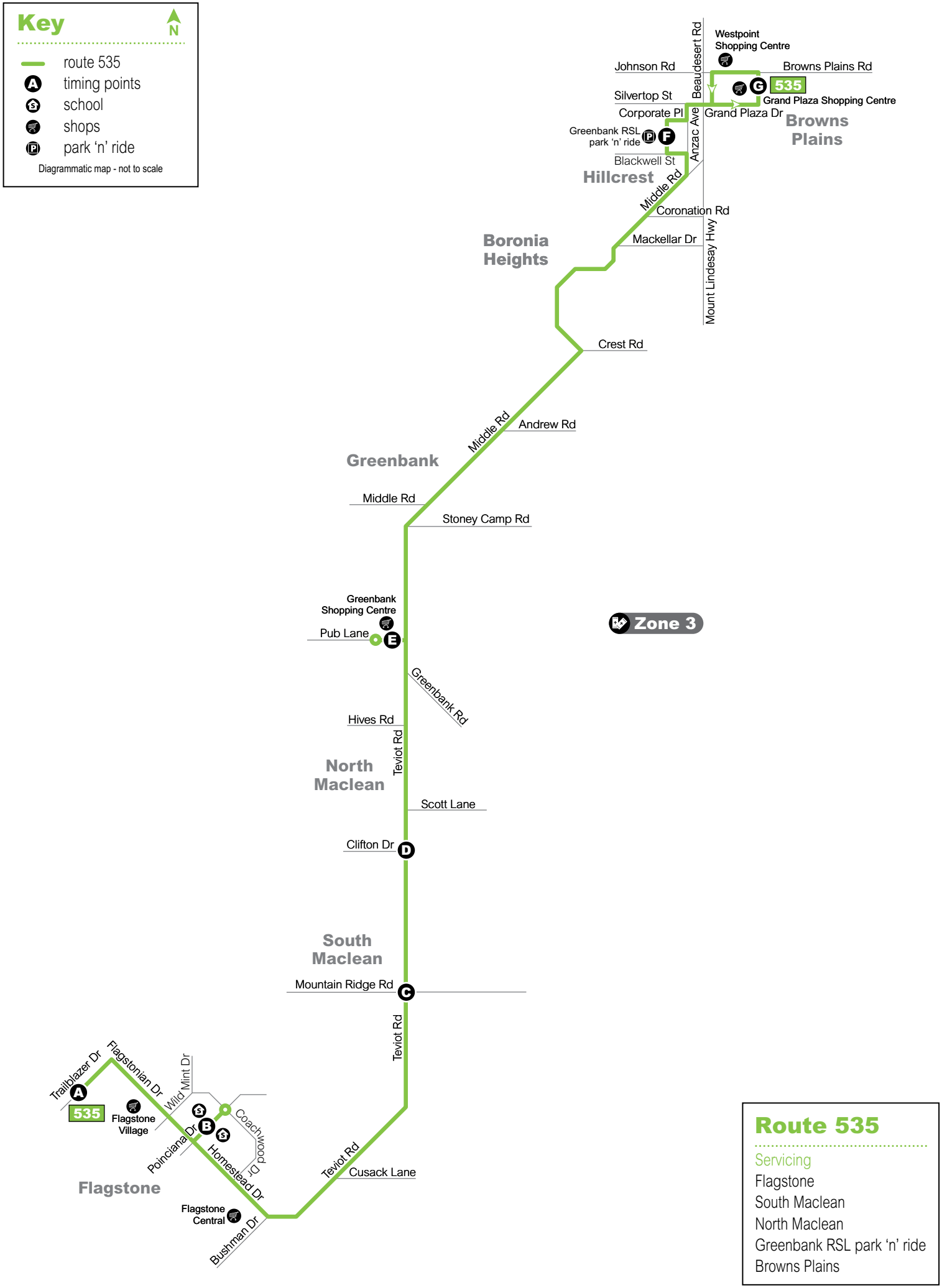
535 Flagstone to Browns Plains servicing Flagstone, South Maclean, North Maclean and Browns Plains.
Operates Monday to Saturday only.

translink

Queensland Government

Route 535

Route map



Route 535

Servicing

Flagstone

South Maclean

North Maclean

Greenbank RSL park 'n' ride

Browns Plains

Route
535

Flagstone to Browns Plains

servicing Flagstone, South Maclean, North Maclean and Browns Plains

Monday to Friday

map ref	Route number	535	535	535	535	535	535	535	535	535	535	535	535	535
		am	am	am	am	am	am	pm	pm	pm	pm	pm	pm	pm
A	Flagstone, Trailblazer Dr	5.33	6.03	6.33	7.03	8.36	10.17	**12.17**	**2.17**	**3.17**	**5.17**	**6.17**	**6.50**	**7.20**
B	Flagstone Schools, Poinciana Dr	5.38	6.08	6.38	7.08	8.41	10.22	**12.22**	**2.22**	**3.22**	**5.22**	**6.22**	**6.55**	**7.25**
C	Teviot Rd near Mountain Ridge Rd	5.44	6.14	6.44	7.14	8.47	10.28	**12.28**	**2.28**	**3.28**	**5.28**	**6.28**	**7.01**	**7.31**
D	Teviot Rd near Clifton Dr	5.46	6.16	6.46	7.16	8.49	10.30	**12.30**	**2.30**	**3.30**	**5.30**	**6.30**	**7.03**	**7.33**
E	Greenbank Shopping Centre	5.52	6.22	6.52	7.22	8.55	10.36	**12.36**	**2.36**	**3.36**	**5.36**	**6.36**	**7.09**	**7.39**
F	Greenbank RSL park 'n' ride	6.06	6.38	7.08	7.38	9.09	10.50	**12.50**	**2.50**	**3.50**	**5.50**	**6.50**	**7.23**	**7.53**
G	Browns Plains station	6.13	6.45	7.15	7.45	9.16	10.57	**12.57**	**2.57**	**3.57**	**5.57**	**6.57**	**7.30**	**8.00**

Saturday

map ref	Route number	535	535	535	535	535	535	535
		am	am	am	pm	pm	pm	pm
A	Flagstone, Trailblazer Dr	6.32	8.32	10.32	**12.32**	**2.32**	**4.32**	**6.32**
B	Flagstone Schools, Poinciana Dr	6.37	8.37	10.37	**12.37**	**2.37**	**4.37**	**6.37**
C	Teviot Rd near Mountain Ridge Rd	6.43	8.43	10.43	**12.43**	**2.43**	**4.43**	**6.43**
D	Teviot Rd near Clifton Dr	6.45	8.45	10.45	**12.45**	**2.45**	**4.45**	**6.45**
E	Greenbank Shopping Centre	6.51	8.51	10.51	**12.51**	**2.51**	**4.51**	**6.51**
F	Greenbank RSL park 'n' ride	7.05	9.05	11.05	**1.05**	**3.05**	**5.05**	**7.05**
G	Browns Plains station	7.12	9.12	11.12	**1.12**	**3.12**	**5.12**	**7.12**

Route
535

Browns Plains to Flagstone

servicing Browns Plains, North Maclean, South Maclean and Flagstone

Monday to Friday

map ref	Route number	535	535	535	535	535	535	535	535	535	535	535
		am	am	am	pm	pm	pm	pm	pm	pm	pm	pm
G	Browns Plains station, stop 2A	7.48	9.28	11.28	**1.28**	**2.28**	**4.22**	**5.22**	**6.00**	**6.30**	**7.20**	**8.15**
F	Greenbank RSL park 'n' ride	7.54	9.34	11.34	**1.34**	**2.34**	**4.28**	**5.28**	**6.06**	**6.36**	**7.26**	**8.21**
E	Greenbank Shopping Centre	8.10	9.50	11.50	**1.50**	**2.51**	**4.49**	**5.49**	**6.22**	**6.52**	**7.41**	**8.36**
D	Teviot Rd near Clifton Dr	8.15	9.55	11.55	**1.55**	**2.56**	**4.54**	**5.54**	**6.27**	**6.57**	**7.46**	**8.41**
C	Teviot Rd near Mountain Ridge Rd	8.17	9.57	11.57	**1.57**	**2.58**	**4.56**	**5.56**	**6.29**	**6.59**	**7.48**	**8.43**
B	Flagstone Schools, Poinciana Dr	8.24	10.04	**12.04**	**2.04**	**3.06**	**5.04**	**6.04**	**6.37**	**7.07**	**7.55**	**8.50**
A	Flagstone, Trailblazer Dr	8.29	10.09	**12.09**	**2.09**	**3.11**	**5.09**	**6.09**	**6.42**	**7.12**	**8.00**	**8.55**

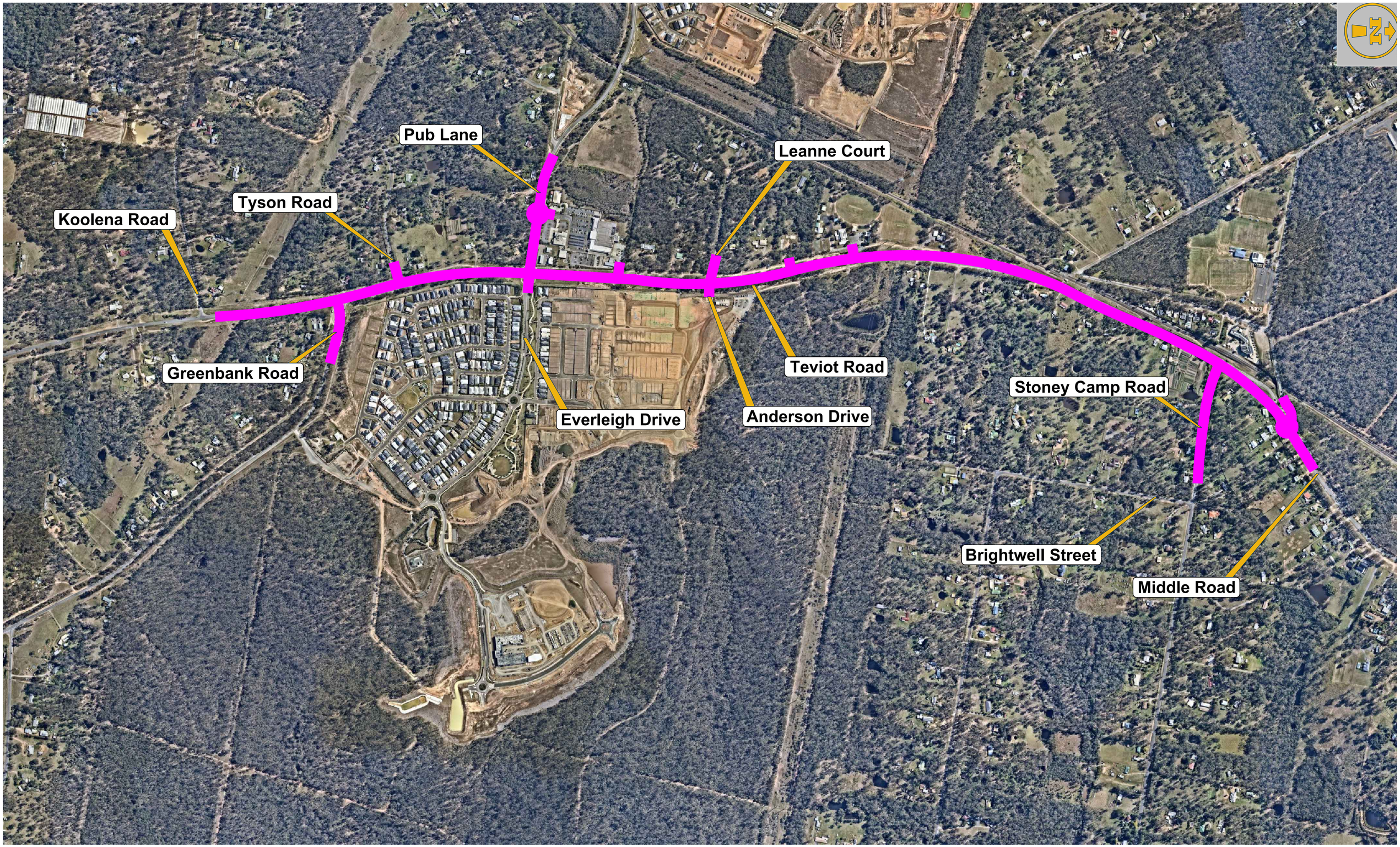
Saturday

map ref	Route number	535	535	535	535	535	535
		am	am	pm	pm	pm	pm
G	Browns Plains station, stop 2A	9.26	11.26	**1.26**	**3.26**	**5.26**	**7.26**
F	Greenbank RSL park 'n' ride	9.32	11.32	**1.32**	**3.32**	**5.32**	**7.32**
E	Greenbank Shopping Centre	9.48	11.48	**1.48**	**3.48**	**5.48**	**7.48**
D	Teviot Rd near Clifton Dr	9.53	11.53	**1.53**	**3.53**	**5.53**	**7.53**
C	Teviot Rd near Mountain Ridge Rd	9.55	11.55	**1.55**	**3.55**	**5.55**	**7.55**
B	Flagstone Schools, Poinciana Dr	10.02	**12.02**	**2.02**	**4.02**	**6.02**	**8.02**
A	Flagstone, Trailblazer Dr	10.07	**12.07**	**2.07**	**4.07**	**6.07**	**8.07**

APPENDIX B

TEVIOT ROAD PROPOSED WORKS

https://www.logan.qld.gov.au/teviot-road-upgrade



Teviot Road Upgrade, Greenbank
Greenbank Road to Middle Road

Preliminary design | Indicative only

CITY OF LOGAN

LEGEND

- Road Construction Works
- Concrete Driveways
- Shared Path
- Footpath
- Grassed Embankment / Batters
- Medians

House #38-42
House #30-36
House #19-67
House #22-28
House #2-20
House #277-287
House #1-13
House #2-16
House #11-13
Tyson Road
Greenbank Shopping Centre Access
Greenbank Shopping Centre
Pub Lane
Teviot Road
Teal Circuit
Everleigh Drive
Olive Avenue
The Meadows
#7 #5 #3 #107 #109 #105 #103 #101 #99 #97 #95 #93 #91 #89 #87 #85 #83 #81 #79 #77 #75 #73 #71 #69 #67 #65 #63
#44 #46 #48

Teviot Road Upgrade, Greenbank
Greenbank Road to Middle Road

Preliminary design | Indicative only

CITY OF LOGAN

Greenbank Shopping Centre

Service Station

House #221-233

House #205-219

Leanne Court

House #197-201

House #189-195

House #169-187

House #133-149 (Community Centre)

Teviot Road

The Meadows

Anderson Drive

The Meadows

House #130-136

LEGEND

- Road Construction Works
- Concrete Driveways
- Shared Path
- Footpath
- Grassed Embankment / Batters
- Medians

Teviot Road Upgrade, Greenbank
Greenbank Road to Middle Road

Preliminary design | Indicative only

CITY OF LOGAN

APPENDIX C

TRAFFIC MODELLING REPORT

P000170-R01

Premise

MIRVAC QUEENSLAND PTY LTD

Everleigh

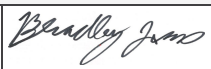
TRAFFIC MODELLING

Report No: P000170/R01
Rev: C
12 July 2024

MIRVAC QUEENSLAND PTY LTD
EVERLEIGH
TRAFFIC MODELLING

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DOCUMENT AUTHORISATION					
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C	12/07/24	Updated Figures			
Prepared By		**Reviewed By**		**Authorised By**	
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APPENDIX AA 2033 “WITH DEVELOPMENT” TRAFFIC EXCLUDING CONNECTIVITY BETWEEN P2 AND P3 / P4
APPENDIX BB 2034 “WITH DEVELOPMENT” TRAFFIC EXCLUDING CONNECTIVITY BETWEEN P2 AND P3 / P4

1. INTRODUCTION

Since 2010, Greenbank was declared by the Queensland Government and Logan City Council (LCC) as a Priority Development Area (PDA). The development of the project is being undertaken by Mirvac Queensland Pty Ltd (Mirvac) in partnership with Economic Development Queensland (EDQ) and LCC. The vision for the future of Everleigh Master Planned Community (Everleigh) is to bring more economic diversity via the establishment of commercial and residential developments. Ensuring Everleigh is well-connected and integrated with the surrounding transport network is a major consideration.

Working with Mirvac and Logan City Council (LCC), Premise Brisbane Pty Ltd (Premise) was commissioned to provide traffic engineering and transport advice for the master planning stage of the PDA. This traffic modelling will be used to:

- Update the Everleigh Movement Network Infrastructure Master Plan (MNIMP); and
- Assess the Traffic Impact of the ROL13 development application to create up to 670 dwellings and a high school in Everleigh Precincts 5, 6 and 7.

1.1 Data Sources

The report has been prepared with reference to the following data sources:

1. "Everleigh Transport Assessment" dated 24 October 2022 by Veitch Lister Consulting (VLC).
2. Traffic generation data – 2006-2021 (Queensland) Open Data.
3. "Street and Movement Network: PDA Guidelines No. 06" dated February 2019 by Economic Development Queensland (EDQ).
4. "Guide to Traffic Impact Assessment", Transport and Main Roads, December 2018.
5. "Mirvac Development Application – 2051 SIDRA Intersection Analysis" dated 3 April 2017 by MWH enclosed as an appendix to Source 6.
6. "Movement Network Infrastructure Master Plan" dated 3 March 2017 by MWH for Mirvac which was approved by EDQ on 9 August 2017.
7. Meeting minutes by MWH for meeting of 25 January 2017 between Economic Development Queensland (EDQ), VLC and MWH enclosed as an appendix to Source 5.
8. "Mirvac Greenbank Site – Detailed Traffic Modelling" dated 7 November 2016 by MWH for Mirvac enclosed as an appendix to Source 6.
9. Logan City Plan 2015 Version 9.
10. "Trip Generation Manual" 9th edition, ITE 2012.
11. "Greater Flagstone Urban Development Area: Development Scheme" dated October 2011 by the Urban Land Development Authority (ULDA).
12. Department of Main Roads "Road Planning and Design Manual" (1st edition) Chapter 3 Road Planning and Design Fundamentals (December 2005).
13. "Guide to Traffic Generating Developments", RTA (2002).
14. "Queensland Streets: Design Guidelines for Subdivisional Streetworks" dated May 1993 by Weathered Howe Pty Ltd for the Institute of Municipal Engineering Australia, Queensland Division.

1.2 Background

On 9 August 2017, Economic Development Queensland (EDQ) approved the "Movement Network Infrastructure Master Plan" dated 03 March 2017 by MWH for Mirvac (Source 6). Source 6 was based on "Mirvac Greenbank Site – Detailed Traffic Modelling" dated 07/11/2016 by MWH for Mirvac (Source 8).

Source 8 documents the development of a traffic model in AIMSUN simulation modelling software. The composition of Everleigh in the AIMSUN model was:

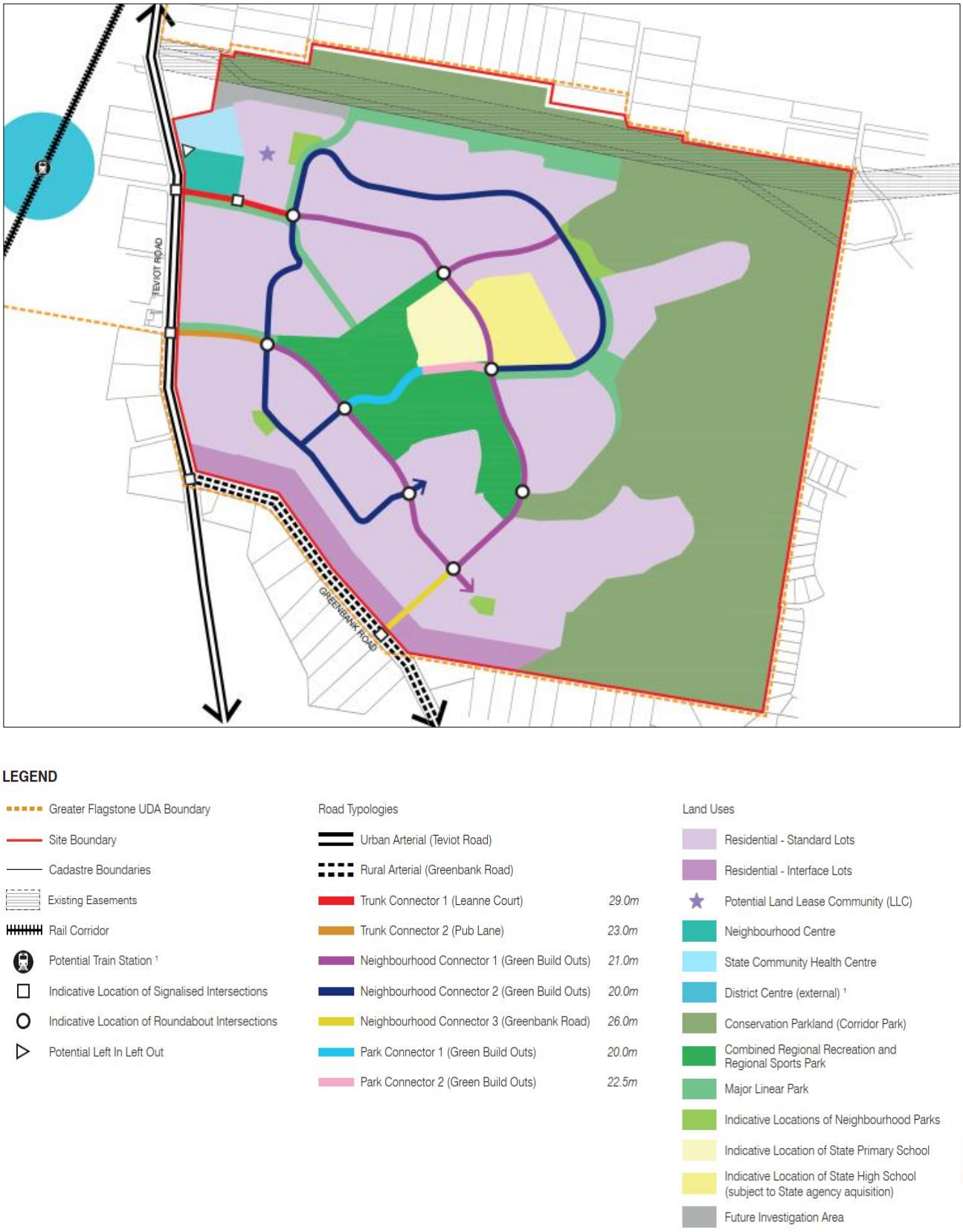
- 3255 standard (urban) residential lots
- 13 interface (semi-rural) residential lots
- 70 'eco' (semi-rural) residential lots
- A primary school accommodating 1000 students
- A combined retail and health 'Neighbourhood Centre' comprising 7000sqm of retail and 4000sqm of health services.

Recently, land uses not previously contemplated have been proposed for inclusion within Everleigh. These land uses include a state high school and land lease community. The addition of these land uses has triggered updating of traffic modelling and the Movement Network Infrastructure Master Plan (MNIMP) for Everleigh.

1.3 Scope and Study Area

The scope and study area for this report is limited to traffic modelling for the internal road links identified in Figure 1 along with the identified internal intersections and connections to the external road network. This traffic modelling will be used to assess the ultimate form of the overall Everleigh Road network and identify staging options.

Figure 1 – Road hierarchy plan (Source: Urbis)



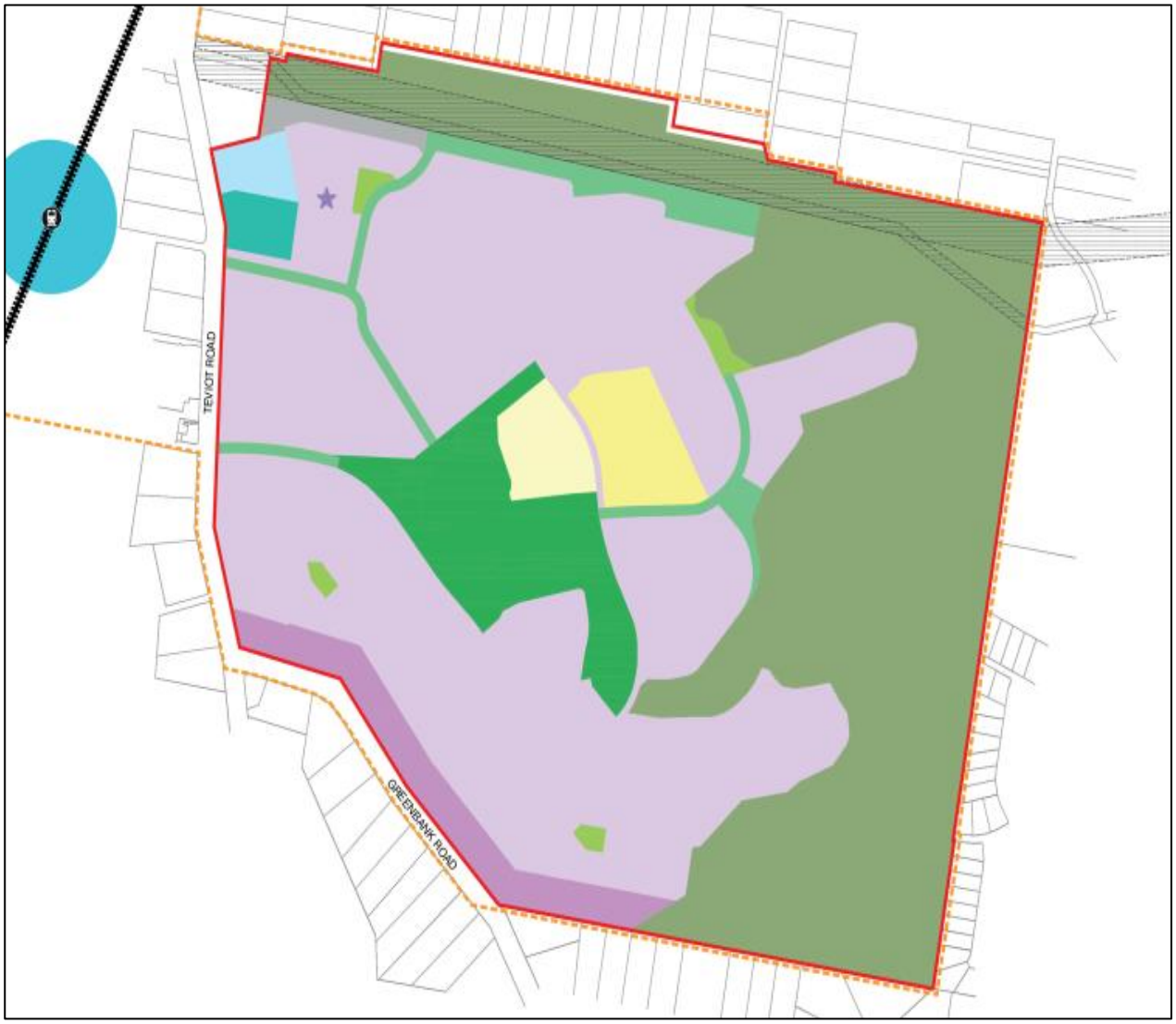
2. PROPOSED DEVELOPMENT DETAILS

2.1 Development Site Plan

Figure 2 shows land use planning by Urbis for the whole Everleigh site. Proposed land uses include:

- Residential – 3,562 dwellings, predominantly detached with some duplex, terrace, attached and land lease product.
- Schools – Primary school designed for 1,400 students and 140 staff, and high school designed for 1,800 students and 190 staff.
- Neighbourhood Centre – 8,000m^2 gross floor area (GFA).
- State community health centre – 8,000m^2 GFA.
- Parks and reserves for local recreation, neighbourhood recreation, regional sports and recreation, conservation, and drainage.

Figure 2 – Land use plan (Source: Urbis)



2.2 Operational Details

Appendix A shows the proposed sequencing of residential land development within Everleigh which commenced in 2018 and is expected to be completed in 2034. Sequencing started in the southwest corner of the site and generally proceeds in a clockwise direction.

Appendix A includes a conservative estimate of the Everleigh development yield by precinct and land use for each year from now (2023) until development completion (2034). This reflects historic development and current planning by Mirvac and the assumed future development sequence as discussed in the following sections.

2.2.1 HISTORIC DEVELOPMENT AND CURRENT PLANNING

Residential land development within Everleigh commenced in 2018 with precinct 1 (P1) accessed by Everleigh Drive (Pub Lane).

The State Primary School located in Precinct 2.11 was developed concurrently with P1 and opened in 2022. According to the My School website (https://www.myschool.edu.au/school/53052) the State Primary School had 238 students and 31.4 full time equivalent (FTE) staff in 2022. Assuming the school adds 238 students per year the school will take six (6) years to reach its capacity of 1,400 students which is considered reasonable.

From P1, development is proceeding generally north through precincts 12 (P12), 9 (P9), 10 (P10) and 8 (P8). As of 21 August 2023, 860 residential lots had been registered within P1, P12 and P9. The construction of Anderson Drive (Leanne Court) is planned to occur as part of P9 construction.

2.2.2 ASSUMED FUTURE DEVELOPMENT SEQUENCE

After Anderson Drive is constructed (for completion early 2024), work is proposed to commence on the neighbourhood centre within precinct 13 (P13), however, there is expected to be a lag of several years between the commencement of construction and the opening of the neighbourhood centre (approximately 2028).

Following development of P8 (approximately 2027), Mirvac is assumed to develop the State High School in precinct 6 (P6) and returning to the Everleigh Drive catchment to develop residential lots in precinct 2 (P2). As with the State Primary School, the State High School is expected to take approximately six (6) years to reach capacity.

After developing P2 (approximately 2028), residential development is assumed to continue generally clockwise around the site through precincts 6 (P6), 7 (P7) and 5 (P5) with access via Anderson Drive and Ivory Parkway / Everleigh Drive.

When P5 is developed (approximately 2030), precinct 11 (P11) is assumed to be developed for residential purposes completing residential development in the northwest portion of Everleigh. By this stage of the development, the total number of sealed residential lots within Everleigh will be close to the 2,500-lot trigger for dedication of land for the State Community Health Centre (Medical Centre) within P13.

At this point (approximately 2031), only precincts 3 (P3) and 4 (P4) would remain to be developed. These precincts in the southeast corner of Everleigh are adjacent to the planned access on Greenbank Road.

2.3 Proposed Access and Parking

Consistent with the road hierarchy plan shown by Figure 1, three (3) points of access to the external sub-regional network are approved for Everleigh being:

- Teviot Road intersection with Leanne Court (Anderson Drive);
- Teviot Road intersection with Pub Lane (Everleigh Drive); and
- Greenbank Road, approximately 450m north-west of Crowson Lane (Anderson Drive).

Currently (2023), all access to Everleigh is provided by the Teviot Road / Pub Lane / Everleigh Drive signals.

Teviot Road upgrade project by Logan City Council (LCC) includes construction of the Teviot Road / Leanne Court / Anderson Drive signals and the upgrading of the Teviot Road / Pub Lane / Everleigh Drive signals. The project is currently in the detailed design phase and is anticipated to commence construction in mid-2024 pending weather and construction conditions.

The Greenbank Road / Anderson Drive T-intersection will be constructed when required to ensure the safe and efficient operation of Everleigh's internal road network and intersections with the external road network at all stages of the development. One of the objectives of traffic modelling documented in this report is to determine an appropriate timing / trigger for the construction of the Greenbank Road / Anderson Drive T-intersection.

The MNIMP specifies parking provisions for land uses proposed within the development.

3. DEVELOPMENT TRAFFIC

Development traffic is calculated in accordance with Chapter 8 Calculating Development Traffic of Source 4.

3.1 Traffic Generation

3.1.1 TRAFFIC GENERATION RATES

The adopted traffic generation rates for land uses within Everleigh and relevant data sources (refer Section 1.1) are identified in Table 1.

Table 1 – Everleigh Traffic Generation Rates

Land Use	Daily		AM Peak		PM Peak	
	Rate	Source	Rate	Source	Rate	Source
Residential	7vpd/dwelling	Section 4.1 Traffic Demand of Source 6 adopts 7vpd/dwelling as consistent with the 6.5vpd/dwelling implied by Table SC3.1.3 – Planned Density and Demand Generation Rate for a Trunk Infrastructure Network of Source 9 and less than the 9vpd/dwelling from Section 3.3.1 Dwelling Houses of Source 13 based on limited public transport accessibility.	0.85vph/dwelling	Section 3.3.1 Dwelling Houses of Source 13 as referenced in. Section 4.1 Traffic Demand of Source 6.	0.85vph/dwelling	Section 3.3.1 Dwelling Houses of Source 13 as referenced in Section 4.1 Traffic Demand of Source 6.
Primary school	1.29vpd/student	Land Use 520: Elementary School of Source 10.	0.2vph/student	Table 3.9 Traffic Generation Data – Other Land Uses of Source 13 as referenced in Section 4.1 Traffic Demand of Source 6.	0.042vphd/student	Section 4.1 Traffic Demand of Source 6 states the school trip generation in the PM peak (0.042vph/student) has been assumed from another study carried out by MWH in Queensland.
High school			0.2vph/student	Section 3.3 School Trip Generation of Source 1.		
Neighbourhood centre	121vpd/100m^2	Section 3.6.1 Shopping Centres of Source 13.	12.3vph/100m^2	Section 3.6.1 Shopping Centres of Source 13 as referenced in Section 4.1 Traffic Demand of Source 6.	12.3vph/100m^2	Section 3.6.1 Shopping Centres of Source 13 as referenced in Section 4.1 Traffic Demand of Source 6.
State community health centre	65pd/100m^2	85th percentile daily traffic generation of nine (9) medical centres reported in Source 2.	10.4ph/100m^2	Section 3.11.2 Extended Hours Medical Centres of Source 13 as references in Section 4.1 Traffic Demand of Source 6.	8.8ph/100m^2	Section 3.11.2 Extended Hours Medical Centres of Source 13 as references in Source 7.

3.1.2 DIRECTIONAL SPLITS

The in:out directional split for daily traffic is assumed to be balanced, that is 50:50, for all land uses.

Table 2 lists the adopted directional splits for peak hour traffic from Source 8.

Table 2 – Everleigh Directional Splits (Source: ITE)

Land Use	AM Peak		PM Peak	
	In	Out	In	Out
Residential	22%	78%	65%	35%
Primary school	55%	45%	49%	51%
High school				
Neighbourhood centre	62%	38%	48%	52%
State community health centre	63%	37%	38%	62%

3.1.3 TRAFFIC GENERATION DISCOUNTS

Traffic generation discounts have been applied to residential and neighbourhood centre traffic generation rates in Section 3.1.1. No other land uses have had their traffic generation rates discounted.

As indicated in Table 1, the adopted daily traffic generation rate for residential development of 7vpd/dwelling based on Source 6 is discounted relative to the traffic generation rate of 9vpd/dwelling from Source 13. The effective discount rate is 22%. A 25% discount is also applied to residential traffic generation during the AM peak hour for consistency with Source 6. No discount was applied to the residential traffic generation rate during the PM peak hour.

Source 7 indicates that a mutual decision was reached by EDQ, VLC and MWH to discount the neighbourhood centre traffic generation rates by 65% during the AM peak hour and 30% during the PM peak hour. No discount was applied to the daily traffic generation rate of the neighbourhood centre.

3.2 Trip Distribution

3.2.1 INTERNAL TRIP DISTRIBUTION

Consistent with Sources 6 and 13, it is assumed that when Everleigh is fully developed 25% of all trips generated by residential development will be internal to Everleigh with 75% of trips external. With consideration to Source 14, the assumed distribution of residential trips when Everleigh is fully developed is:

- Primary school = 4%
- Central park = 1%
- High school = 4%
- Neighbourhood centre = 12%
- Medical centre = 4%
- External = 75%

As indicated in Appendix A, the internal trip attractors will be progressively developed in parallel with residential development within Everleigh. Any trip purpose which is not satisfied within Everleigh (that is attracted to an internal land use) is added to the trips distributed external to the development. For example, until 2026 the only internal trip attractor will be the primary school which will attract 4% of residential trips and the remaining 96% of residential trips will be external to Everleigh including trips to / from regional recreation / sports parks, high schools, neighbourhood centres and medical centres.

The traffic generation of the primary school, central park, high school, neighbourhood centre and medical centre were discounted based on the number of trips attracted from internal residential development. This was done separately for each direction of travel with the minimum value of inbound or outbound trips generated by an internal trip attractor being zero (0).

3.2.2 EXTERNAL TRIP DISTRIBUTION

The same distribution is assumed for all trips generated by the primary school, high school, neighbourhood centre and state community health centre, and external trips generated by residential dwellings. Based on review of traffic modelling reported in Source 1, external trips are distributed:

- 40% to / from Teviot Road north;
- 30% to / from Pub Lane west;
- 25% to / from Greenbank Road south; and
- 5% to / from Leanne Court west.

3.3 Route Selection

A spreadsheet traffic model was developed using Microsoft Excel to represent the road network shown in Figure 3. The model estimates turning movements at all 13 numbered intersections and directional volumes on all road links internal to Everleigh.

Figure 3 – Network Assumptions



To ensure complete modelling of turning movements at all intersections the following additional links were added to the road network:

- Intersection 1 – Intersection 5: With Intersection 1 restricted to left-in-left-out access, traffic approaching from Pub Lane west, Greenbank Road south and Leanne Court west must access the medical centre via Intersection 5;
- Intersection 7 – Ivory Parkway (light blue link) between Intersections 8 and 12: Intersection 7 is a four (4) leg roundabout providing access to parking within the Central Parks. Parking within Central Parks is also accessible via Ivory Parkway between Intersections 8 and 12.
- Intersection 9 – Neighbourhood Connector 2 (dark blue link) east of Intersection 8: Intersection 9 is a T-intersection which will provide access to development in P5 and connect to the Neighbourhood Connector 2 east of Intersection 8.

Each precinct / land use, that is each row of the Table shown in Appendix A, was connected to the modelled road network at a single point. Trips generated by each precinct / land use were assigned to the most direct route between the trip producer and the trip attractor.

The proposed development sequencing (refer Appendix A) will result in the Everleigh Road network developing generally east from Teviot Road. However, P3 and P4 in the southeast corner of Everleigh could initially be accessed via either:

1. Construction of the Greenbank Road / Anderson Drive (Neighbourhood Connector 3) T-intersection (Intersection 4) to create a new development front;
2. Extension of Anderson Drive (Neighbourhood Connector 1) southwest from P5 (Intersection 9) including crossing of the designated waterway for waterway barrier works; or
3. Extension of Everleigh Drive (Neighbourhood Connector 1) southeast from P2 (Intersection 13) through P3.

Dummy variables were used to turn off / on connectivity associated with the above access options for the purposes of testing alternative network staging scenarios.

Appendix B contains modelled development traffic volumes (excluding background traffic) at the completion of the final development stage (2034) including the complete Everleigh road network.

4. WITH AND WITHOUT DEVELOPMENT TRAFFIC VOLUMES

4.1 "Without Development" Traffic Volumes

Source 1 includes base (without high school) and "with development" (with high school) AM peak hour traffic volume estimates for the years 2031 and 2066 from South Logan Strategic Model (SLSM). Subtracting estimated Everleigh traffic from these traffic volumes, "without development" (without Everleigh) AM peak hour traffic was estimated for two (2) scenarios in 2031 and two (2) scenarios in 2066. For the spreadsheet traffic model, the maximum value for each year was adopted as the "without development" AM peak hour volume. If estimated "without development" traffic in 2066 was less than 2031, then 2031 traffic was conservatively adopted as 2066 traffic. Table 3 shows estimated "without development" AM peak hour traffic volumes adopted in the spreadsheet traffic model for the years 2031 and 2066.

Table 3 – "Without Development" AM Peak Hour Traffic Volumes (Source: VLC)

Intersection	Movement	2031	2066
2	Teviot Road (S) left to Leanne Court (W)	116	116
	Teviot Road (S) through to Teviot Road (N)	690	1570
	Teviot Road (N) through to Teviot Road (S)	647	647
	Teviot Road (N) right to Leanne Court (W)	52	52
	Teviot Road (N) U-turn to Teviot Road (N)	1	1
	Leane Court (W) left to Teviot Road (N)	28	31
	Leanne Court (W) right to Teviot Road (S)	49	49
3	Teviot Road (S) left to Pub Lane (W)	236	236
	Teviot Road (S) through to Teviot Road (N)	195	302
	Teviot Road (N) through to Teviot Road (S)	331	331
	Teviot Road (N) right to Pub Lane (W)	154	154
	Pub Lane (W) left to Teviot Road (N)	537	1304
	Pub Lane (W) right to Teviot Road (S)	631	631
4	Greenbank Road (S) through to Greenbank Road (N)	161	194
	Greenbank Road (N) through to Greenbank Road (S)	91	428

The following additional assumptions were made to allow estimation of "without development" traffic in the spreadsheet traffic models for all years from now (2023) to 2066, and daily, AM peak and PM peak scenarios:

- AM peak hour "without development" traffic volumes for years before 2031 are extrapolated, and between 2031 and 2066 are interpolated assuming linear growth based on the two points defined by Table 3. The assumption of linear (simple) growth is consistent with Section A4. Background Traffic Growth Rates of Source 4.
- PM peak hour "without development" traffic is the reverse of AM peak hour "without development" traffic in the same year.
- Daily "without development" traffic is five (5) times the sum of AM and PM peak hour "without development" traffic.
- "Without development" traffic on Teviot Road through Intersection 1 is equal to "without development" traffic on the Teviot Road (N) leg of Intersection 2.

4.2 "With Development" Traffic Volumes

"With development" traffic volumes are the sum of development traffic volumes, estimated in accordance with Sections 2 and 3, and "without development" traffic volumes estimated in accordance with Section 4.1.

Appendix C contains modelled "with development" traffic volumes 10 years after completion of the final development stage (design year = 2044) including the complete Everleigh Road network. Daily link volumes in each direction of travel on the road network shown in Figure 3 are colour-coded as follows:

- Red = over 3,750vpd one-way (over 7,500vpd two-way)
- Yellow = 1,500 to 3,750vpd one-way (up to 7,500vpd two-way)
- Green = 0 to 1,500vpd one-way (up to 3,000vpd two-way)

These thresholds were selected based on Source 3 which nominates traffic volumes for road typologies proposed within Everleigh of:

- Trunk Connector = 7,500 – 30,000vpd
- Neighbourhood Connector = 3,000 – 7,499vpd
- Access Streets < 3,000vpd

All road links except for Trunk Connector 1 (Leanne Court), known as Anderson Drive, are forecast to carry less than 7,500vpd two-way.

4.2.1 ROAD NEWORK STAGING

4.2.1.1 Prior to P3 & P4 Development (Now to 2030)

Development of the Everleigh Road network will occur in conjunction with Everleigh land development. Therefore, in 2030, prior to development commencing in P3 and P4, all development will be accessed from Teviot Road via either Trunk Connector 1 (Leanne Court), known as Anderson Drive, or Trunk Connector 2 (Pub Lane), known as Everleigh Drive. Appendix D contains modelled "with development" traffic volumes in 2030 prior to development of P3 and P4. Appendix D shows higher traffic volumes in 2030 than in 2044 (as shown by Appendix C) on:

- Trunk Connector 2 (Pub Lane), known as Everleigh Drive;
- The Neighbourhood Connector 2 connecting Everleigh Drive to P1, known as Kessels Boulevard; and
- Park Connector 1, known as Ivory Parkway.

Even so, two-way daily traffic volumes remain below the thresholds nominated by Source 3 for all modelled road links.

4.2.1.2 P3 & P4 Access Options (2031-2034)

When development of P3 and P4 commences in 2031, the following three (3) access options exist as identified in Section 3.3:

1. Construction of the Greenbank Road / Anderson Drive (Neighbourhood Connector 3) T-intersection (Intersection 4) to create a new development front;
2. Extension of Anderson Drive (Neighbourhood Connector 1) southwest from P5 (Intersection 9) including crossing of a designated waterway for waterway barrier works; and
3. Extension of Everleigh Drive (Neighbourhood Connector 1) southeast from P2 (Intersection 13) through P3.

All three (3) of the above links would be constructed prior to the completion of Everleigh in 2034. However, the following discussion considers possible sequencing for the construction of these accesses.

4.2.1.2.1 Options with One Access

Appendix E, Appendix F, Appendix G and Appendix H respectively show 2031, 2032, 2033 and 2034 traffic volumes based on P3 and P4 being accessible from Greenbank Road only. At the full development of Everleigh, traffic volumes on all Neighbourhood Connectors and Parkway Connectors will remain below 7,500vpd. Therefore, road link capacity is not considered to limit the extent of development permissible with P3 and P4 accessed via Greenbank Road only.

Appendix I, Appendix J, Appendix K and Appendix L respectively show 2031, 2032, 2033 and 2034 traffic volumes based on P3 and P4 being accessible from Anderson Drive only. Traffic volumes on all Neighbourhood Connectors and Parkway Connectors remain below 7,500vpd until 2034 at which point it is expected that traffic volumes on Anderson Drive between Intersections 6 and 7 will reach a level which is inappropriate for a Neighbourhood Connector.

Appendix M, Appendix N, Appendix O and Appendix P respectively show 2031, 2032, 2033 and 2034 traffic volumes based on P3 and P4 being accessible from Everleigh Drive only. Traffic volumes on all Neighbourhood Connectors and Parkway Connectors remain below 7,500vpd until 2034 at which point it is expected that traffic

volumes on Everleigh Drive between Intersections 11 and 12 will reach a level which is inappropriate for a Neighbourhood Connector.

4.2.1.2.2 Options with Two Accesses

Appendix Q, Appendix R, Appendix S and Appendix T show 2031, 2032, 2033 and 2034 traffic volumes excluding the Greenbank Road access. Even with the full development of Everleigh, traffic volumes on all Neighbourhood Connectors and Parkway Connectors remain below 7,500vpd. Therefore, road link capacity is not considered to limit the extent of development permissible prior to the construction of the Greenbank Road access (Intersection 4).

Appendix U, Appendix V, Appendix W and Appendix X respectively show 2031, 2032, 2033 and 2034 traffic volumes excluding the Anderson Drive link between Intersections 9 and 10. Traffic volumes on all Neighbourhood Connectors and Parkway Connectors remain below 7,500vpd until 2034 at which point it is expected that traffic volumes on Everleigh Drive between Intersections 11 and 12 will reach a level which is inappropriate for a Neighbourhood Connector.

Appendix Y, Appendix Z, Appendix AA and Appendix BB respectively show 2031, 2032, 2033 and 2034 traffic volumes excluding connectivity between P2 and P3 / P4. . Traffic volumes on all Neighbourhood Connectors and Parkway Connectors remain below 7,500vpd until 2034 at which point it is expected that traffic volumes on Anderson Drive between Intersections 6 and 10 will reach a level which is inappropriate for a Neighbourhood Connector.

4.2.1.2.3 Critical Scenarios for Intersection Analysis

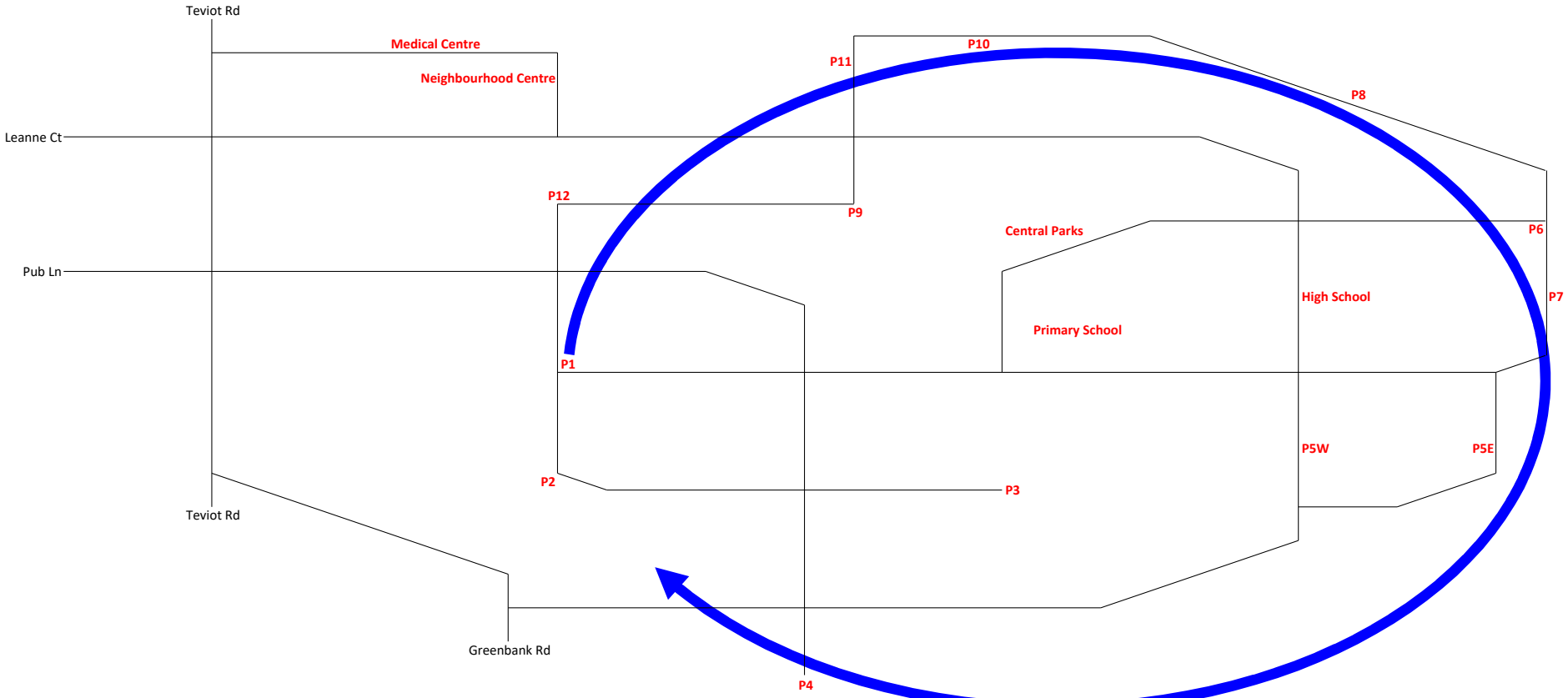
Further to the preceding high-level discussion of link volumes and road typology capacity, road network staging must also consider intersection operation. Intersection analysis is required to consider not only operation in the design year (2044) as shown in Appendix C but also at every stage in the road network development. To limit the scope of required intersection analysis Table 4 identifies the critical road network scenario at each of the numbered intersections identified in Figure 3. Intersection analysis for critical scenarios is documented in "Everleigh: Intersection Analysis" (P000170/R03) by Premise for Mirvac.

Table 4 – Critical Road Network Staging Scenarios for Intersection Analysis

Intersection		Road Network Scenario		
Number	Description	Greenbank Road access	Anderson Drive link	P2/P3 connection
1	Teviot Road / Centre left-in-left-out	Yes	No	No
2	Teviot Road / Leanne Court / Anderson Drive signals	No	Yes	No
3	Teviot Road / Pub Lane / Everleigh Drive signals	No	No	Yes
4	Greenbank Road / Anderson Drive T-intersection	Yes	No	No
5	Anderson Drive / Centre T-intersection	No	Yes	No
6	Anderson Drive / Guroman Drive roundabout	No	Yes	Yes
7	Anderson Drive / Road 103 / Road 53 roundabout	Yes	Yes	No
8	Anderson Drive / Ivory Parkway / Guroman Drive roundabout	Yes	Yes	No
9	Anderson Drive / Road 85 T-intersection	Yes	Yes	No
10	Anderson Drive / Everleigh Drive roundabout	Yes	Yes	No
11	Everleigh Drive / Guroman Drive / Kessels Boulevard roundabout	No	No	Yes
12	Everleigh Drive / Ivory Parkway / Emerald Parade roundabout	No	No	Yes
13	Everleigh Drive / Kessels Boulevard / P3 roundabout	Yes	No	Yes

APPENDIX A

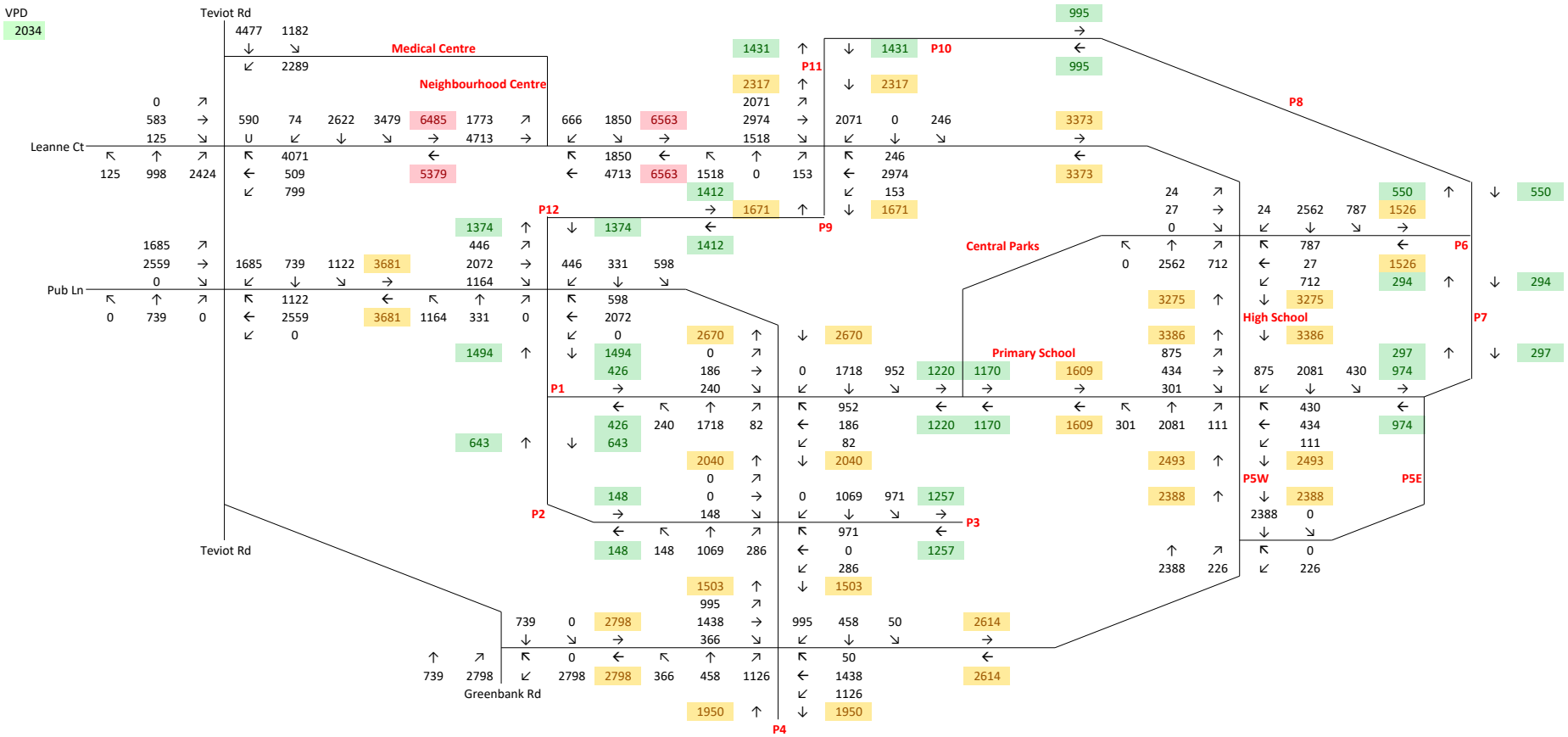
PROPOSED DEVELOPMENT DETAILS



Precinct	Land use	Total	Units	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
P1	Residential	**365**	dwellings	365	365	365	365	365	365	365	365	365	365	365	365
P2	Residential	**226**	dwellings	0	0	0	0	146	226	226	226	226	226	226	226
P2.11	Primary School	**1400**	students	238	476	714	952	1,190	1,400	1,400	1,400	1,400	1,400	1,400	1,400
P3	Residential	**359**	dwellings	0	0	0	0	0	0	0	0	0	0	133	359
P4	Residential	**557**	dwellings	0	0	0	0	0	0	0	0	192	427	557	557
P5W	Residential	**48**	dwellings	0	0	0	0	0	0	0	48	48	48	48	48
P6	Residential	**195**	dwellings	0	0	0	0	0	68	195	195	195	195	195	195
P6	High School	**1800**	students	0	0	0	0	330	660	990	1,320	1,650	1,800	1,800	1,800
P7	Residential	**169**	dwellings	0	0	0	0	0	0	39	169	169	169	169	169
P8	Residential	**286**	dwellings	0	0	0	286	286	286	286	286	286	286	286	286
P9	Residential	**423**	dwellings	350	423	423	423	423	423	423	423	423	423	423	423
P10	Residential	**280**	dwellings	0	88	280	280	280	280	280	280	280	280	280	280
P11	Residential	**253**	dwellings	0	0	0	0	0	0	0	106	253	253	253	253
P12	Residential	**143**	dwellings	143	143	143	143	143	143	143	143	143	143	143	143
P13	Neighbourhood Centre	**8000**	sqm	0	0	0	0	0	8,000	8,000	8,000	8,000	8,000	8,000	8,000
P13	Medical Centre	**8000**	sqm	0	0	0	0	0	0	0	0	8,000	8,000	8,000	8,000
P5E	Residential	**258**	dwellings	0	0	0	11	140	258	258	258	258	258	258	258
ROL06	Central Parks			0	0	0	1	1	1	1	1	1	1	1	1

APPENDIX B

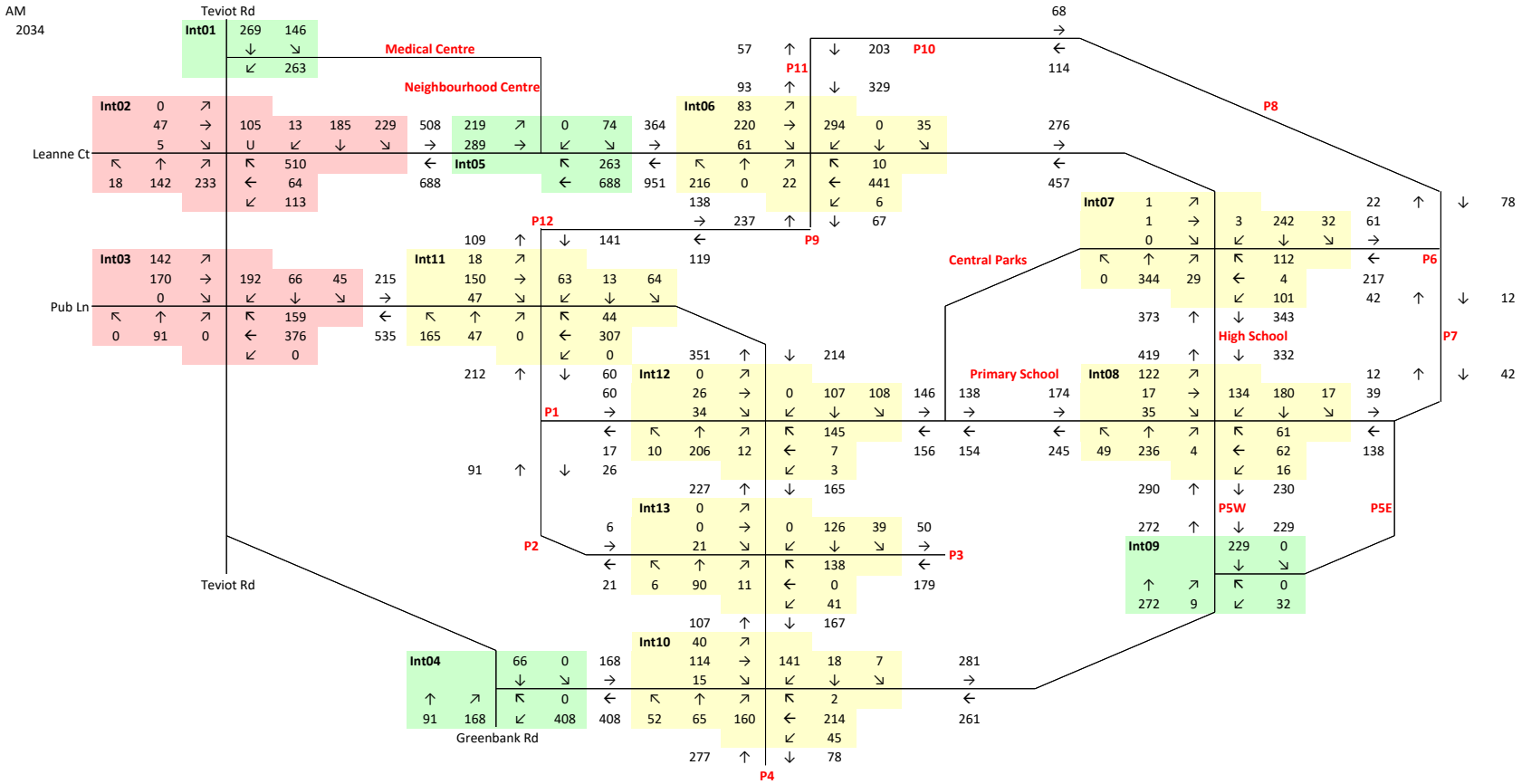
DEVELOPMENT TRAFFIC AT DEVELOPMENT COMPLETION (2034)

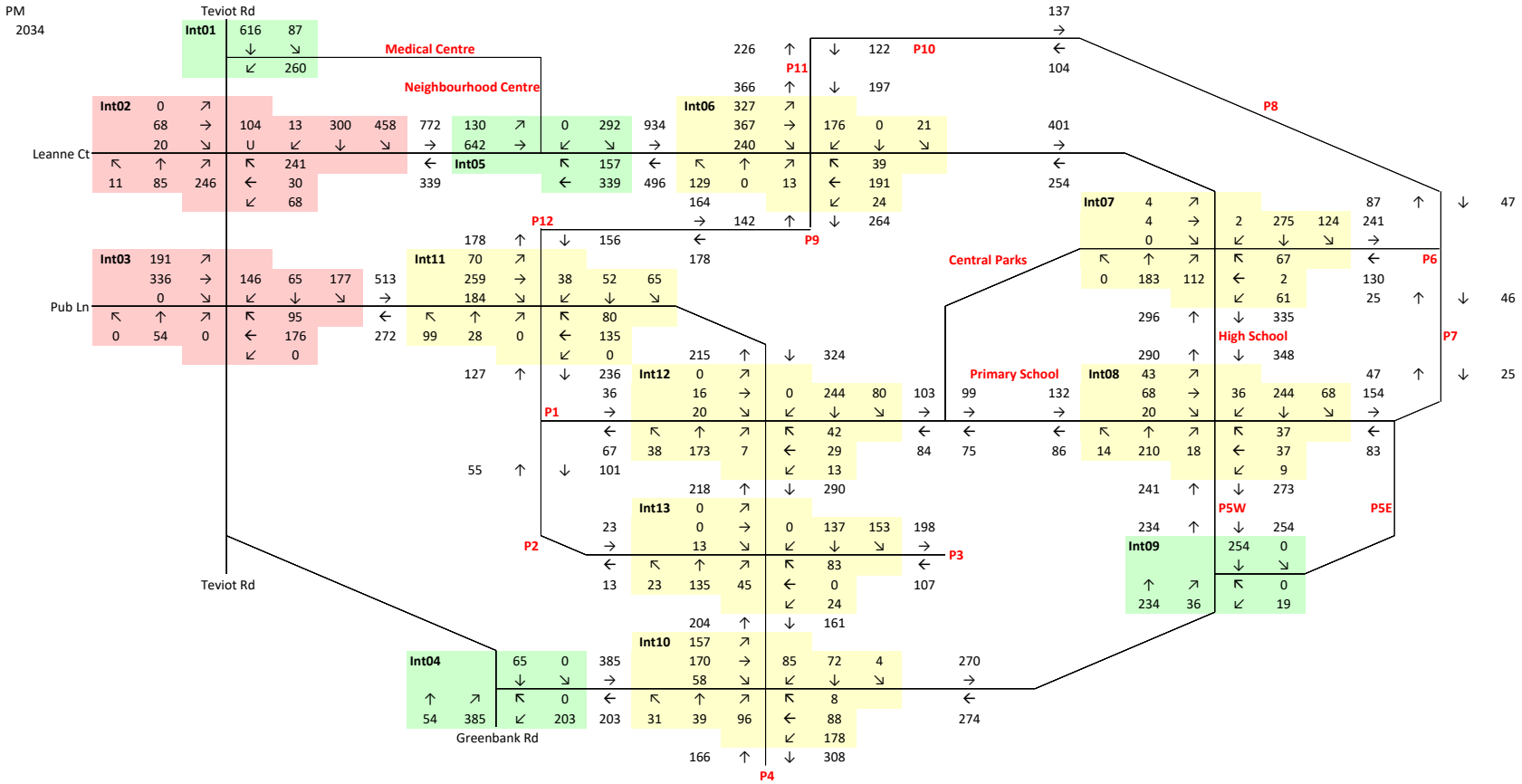


Greenbank Drive access		Y
P1	365	100%
P2	226	100%
P3	359	100%
P4	557	100%
P5W	48	100%
P6	195	100%
P7	169	100%
P8	286	100%
P9	423	100%
P10	280	100%
P11	253	100%
P12	143	100%
P5E	258	100%
Primary	1400	100%
Medical	8000	100%
Retail	8000	100%
Secondary	1800	100%
Background		N

Everleigh Drive link Y

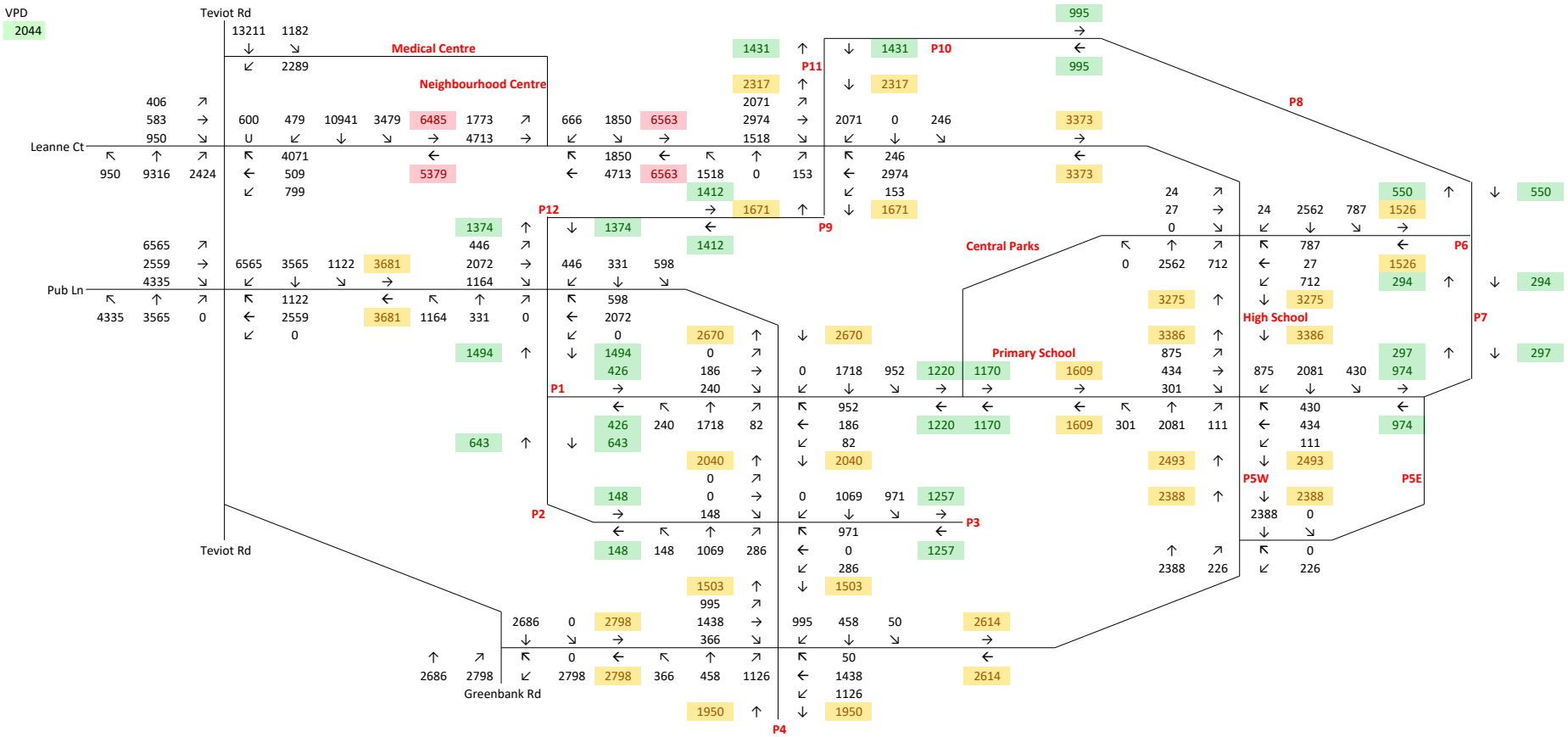
Anderson Drive link Y


AM
2034
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd


PM
2034
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd

APPENDIX C

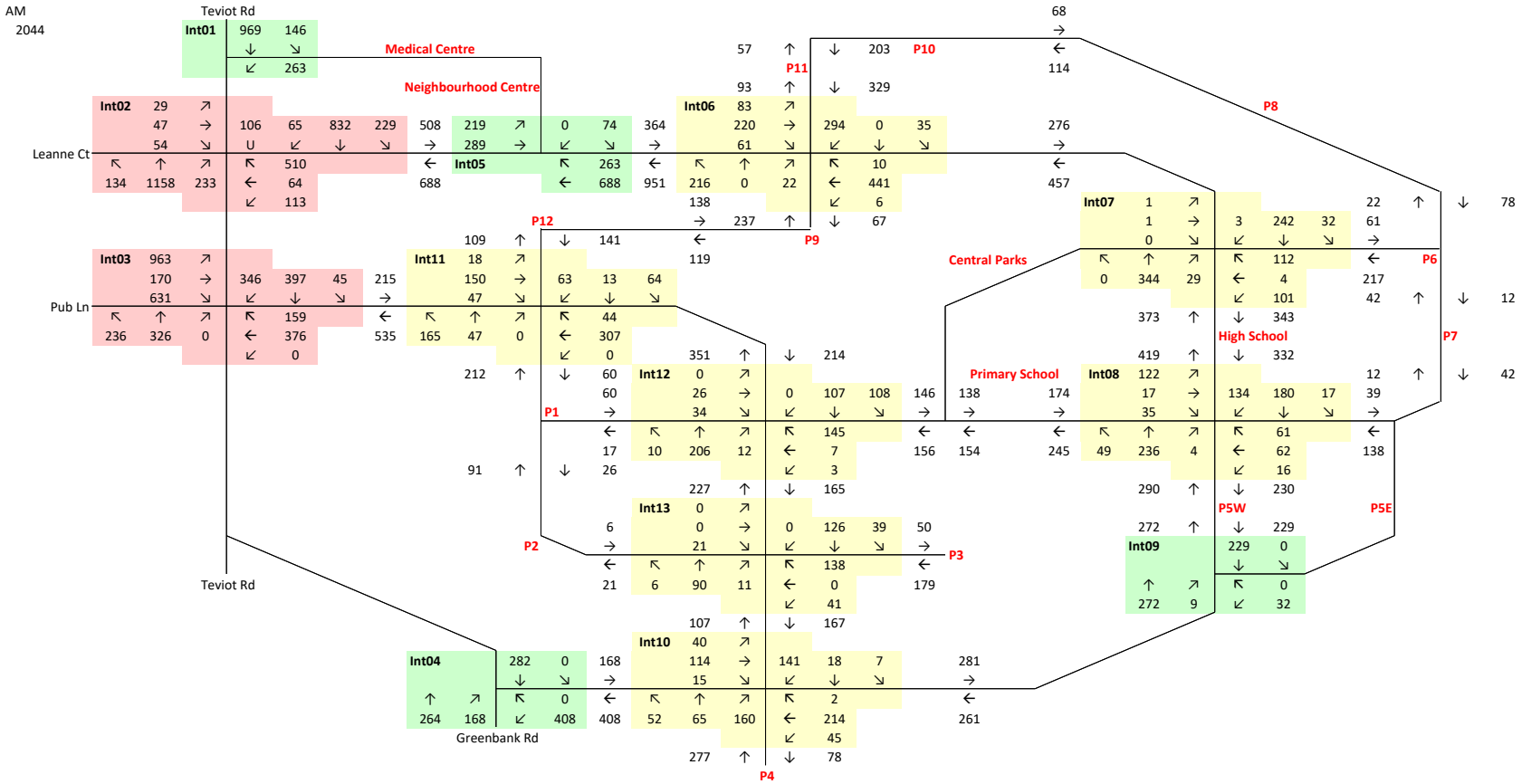
DESIGN YEAR (2044) “WITH DEVELOPMENT” TRAFFIC

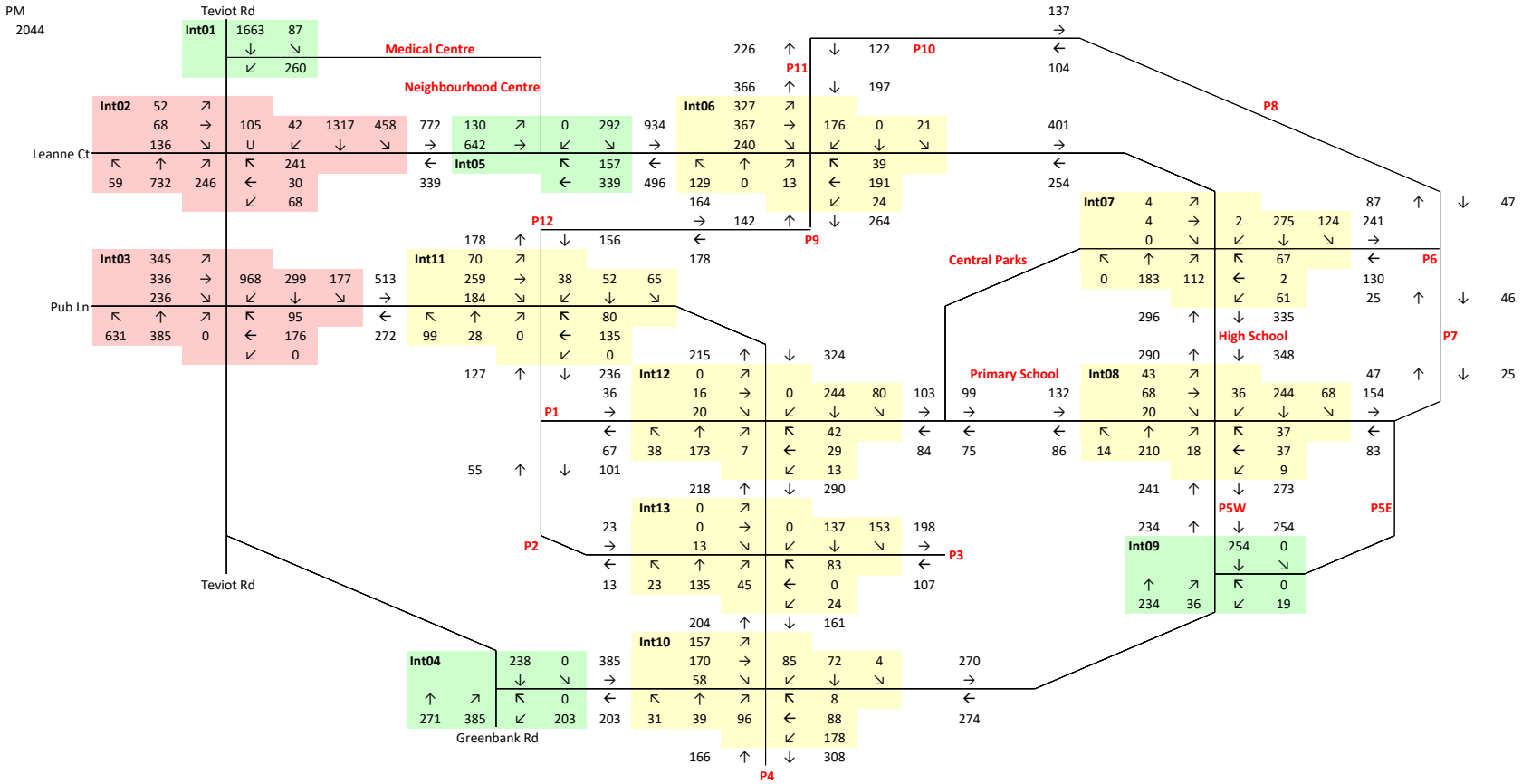


Greenbank Drive access		Y
P1	365	100%
P2	226	100%
P3	359	100%
P4	557	100%
P5W	48	100%
P6	195	100%
P7	169	100%
P8	286	100%
P9	423	100%
P10	280	100%
P11	253	100%
P12	143	100%
P5E	258	100%
Primary	1400	100%
Medical	8000	100%
Retail	8000	100%
Secondary	1800	100%
Background		Y

Everleigh Drive link Y

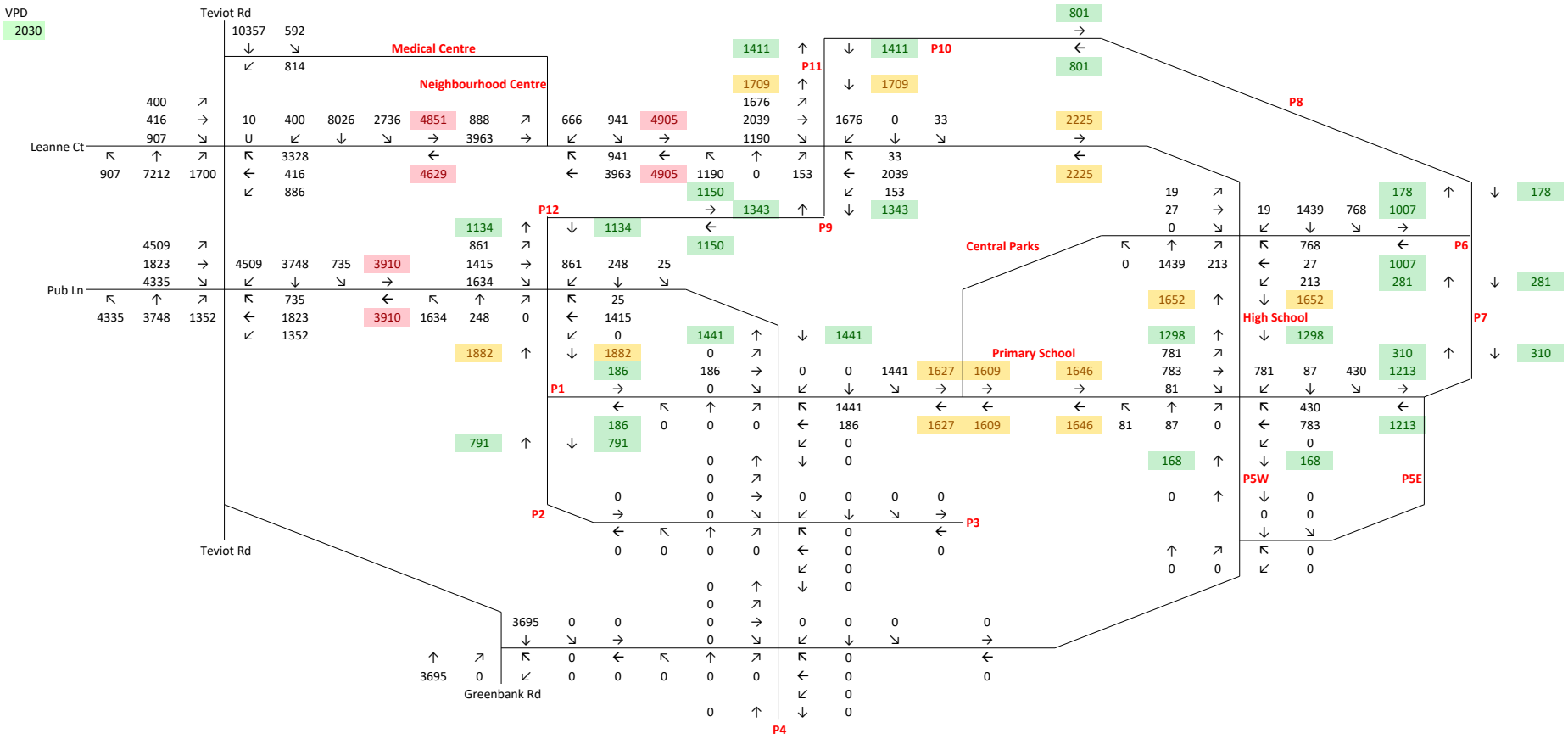
Anderson Drive link Y


AM
2044
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd


PM
2044
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd

APPENDIX D

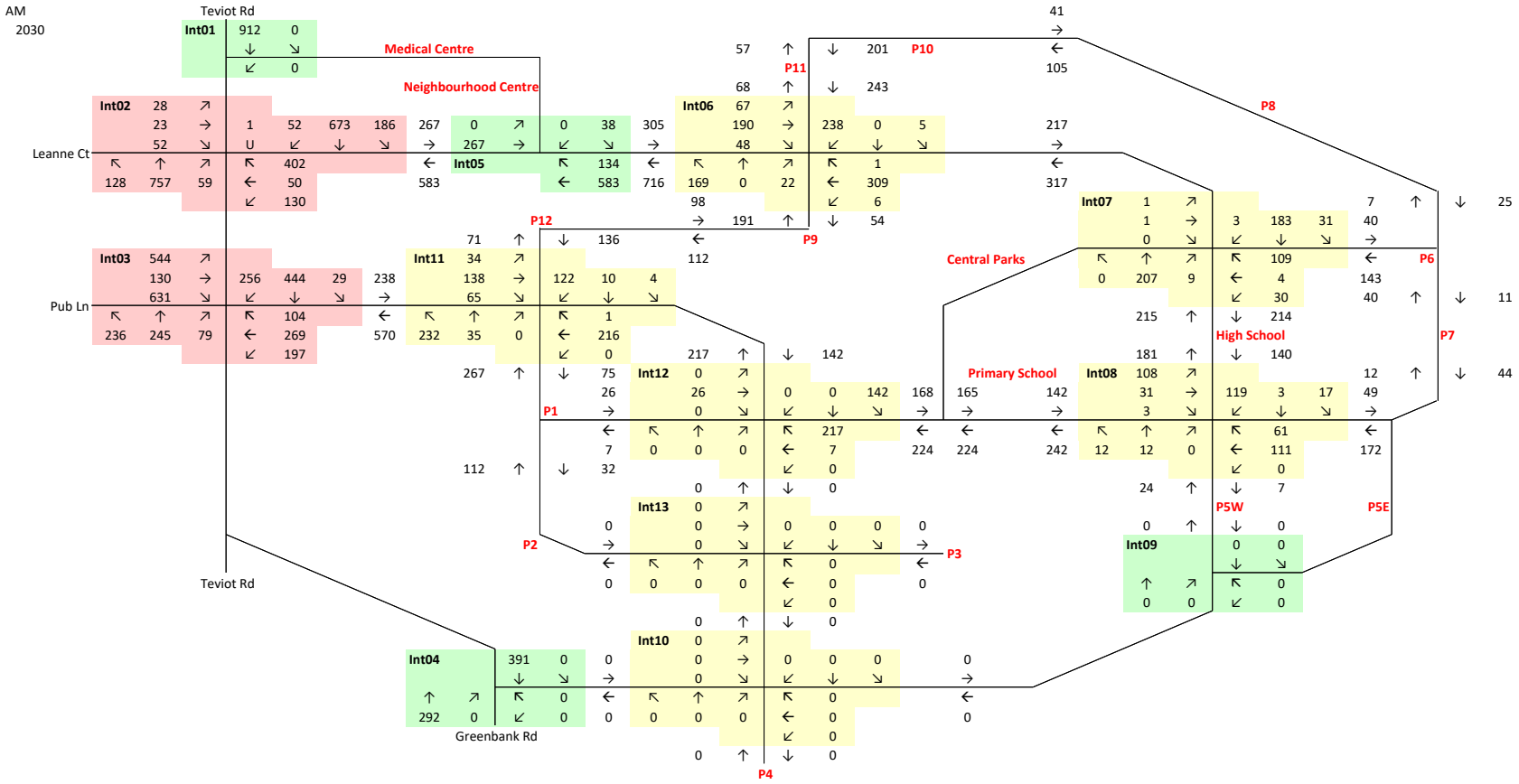
2030 “WITH DEVELOPMENT” TRAFFIC (NO P3 / P4)

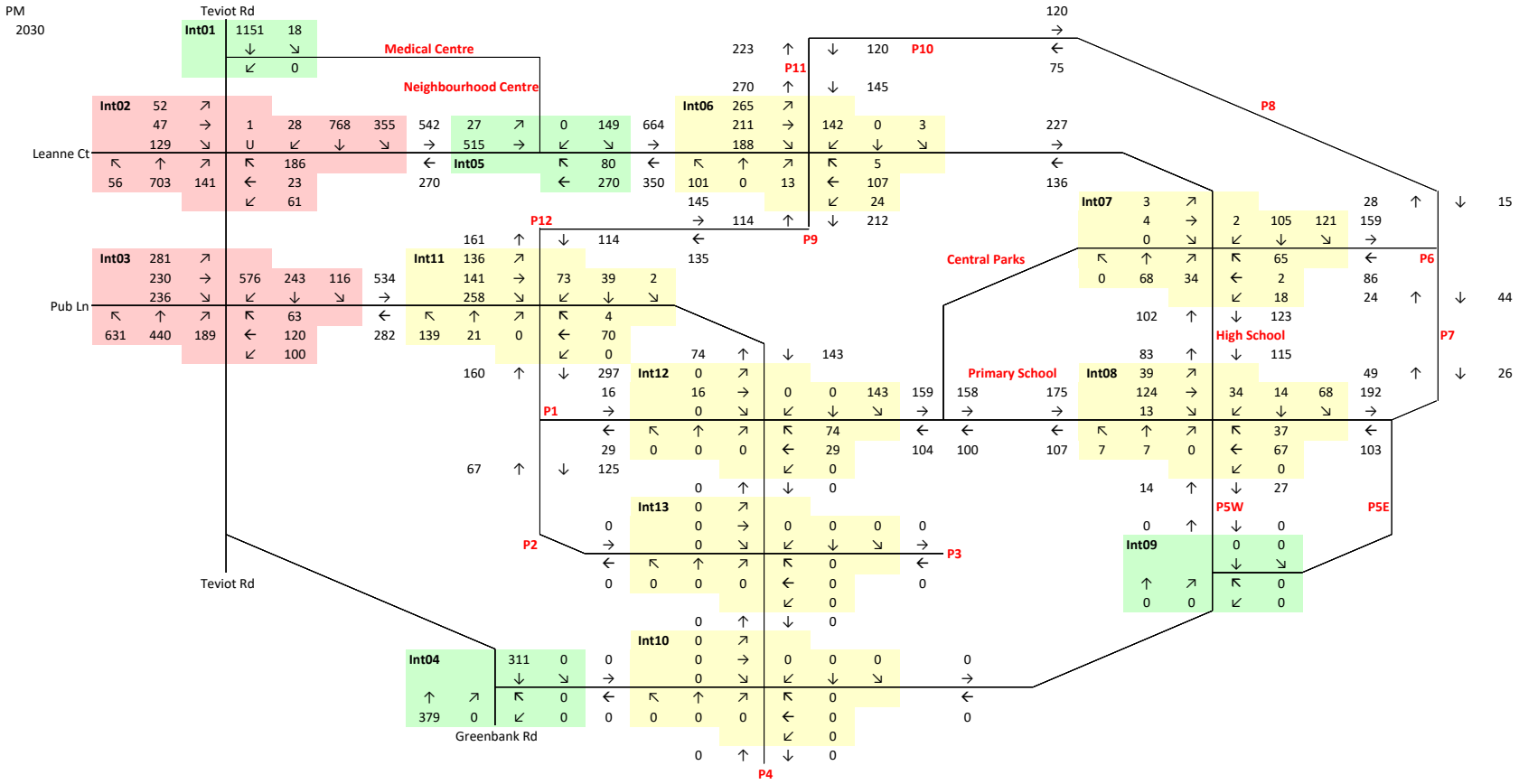


Greenbank Drive access		N
P1	365	100%
P2	226	100%
P3	0	100%
P4	0	100%
P5W	48	100%
P6	195	100%
P7	169	100%
P8	286	100%
P9	423	100%
P10	280	100%
P11	106.01	100%
P12	143	100%
P5E	258	100%
Primary	1400	100%
Medical	0	100%
Retail	8000	100%
Secondary	1320	100%
Background		Y

Everleigh Drive link N

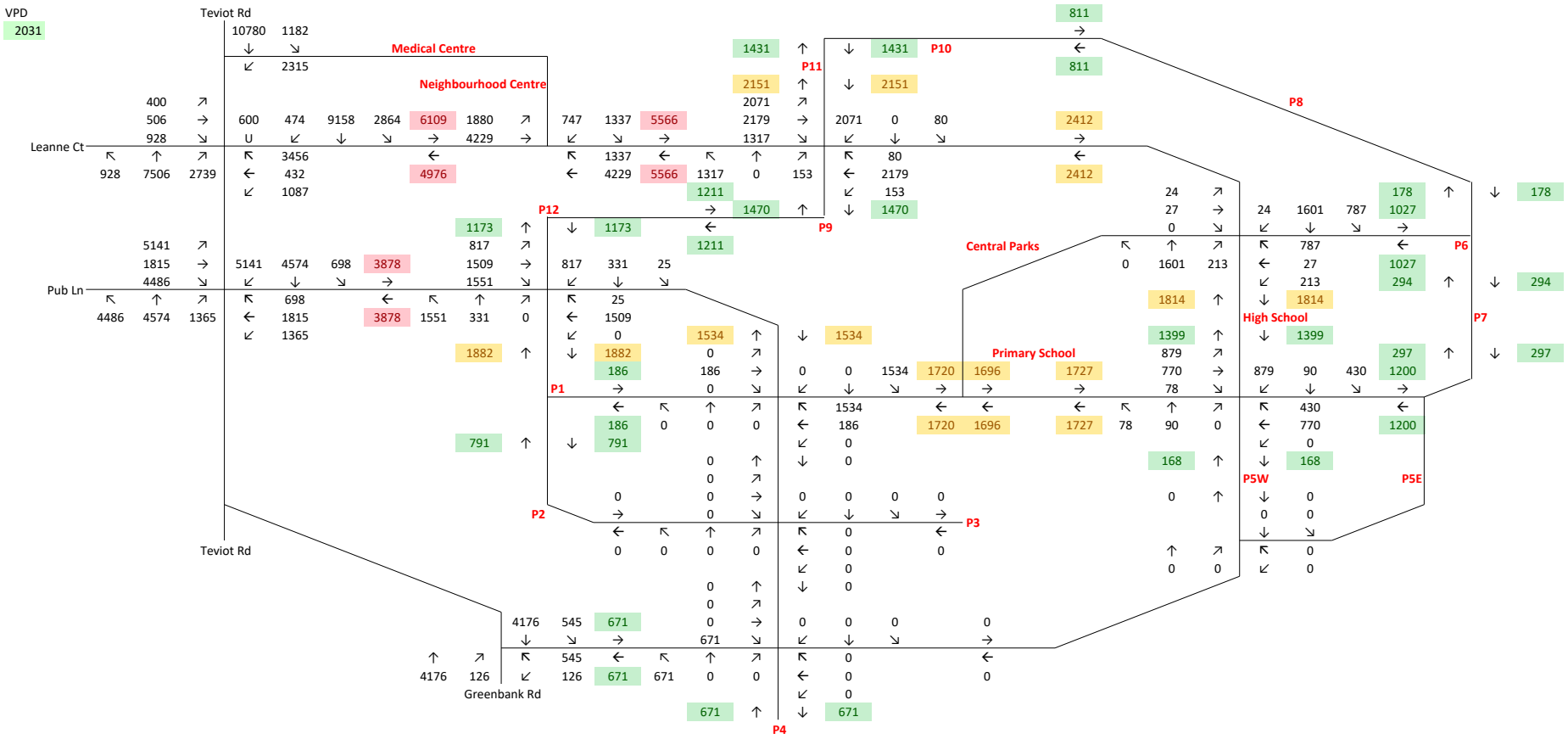
Anderson Drive link N


AM
2030
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd


PM
2030
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Int02
Int03
Pub Ln
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
Int04
Greenbank Rd
Central Parks
Primary School
High School
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12

APPENDIX E

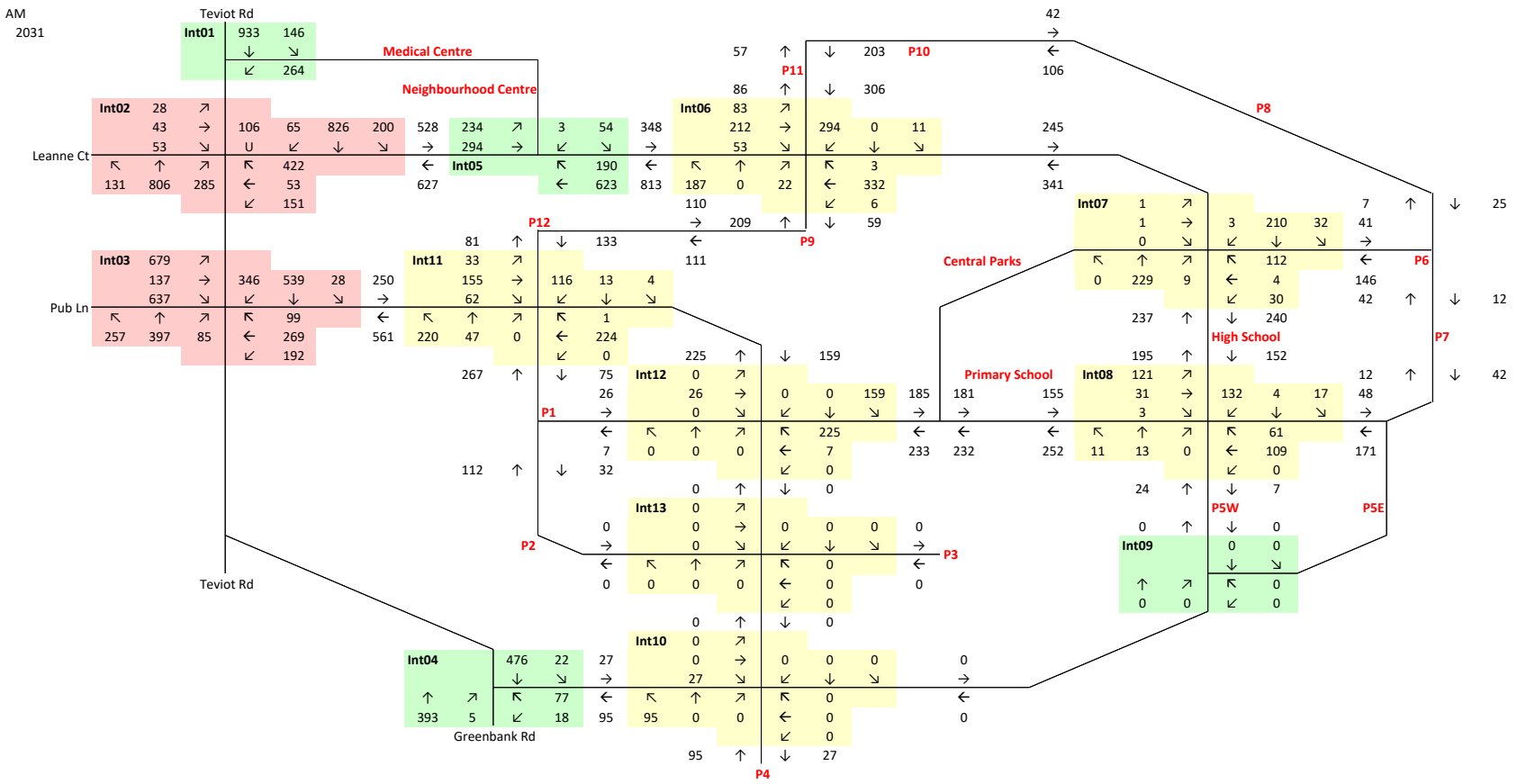
2031 “WITH DEVELOPMENT” TRAFFIC – P3 & P4 ACCESS VIA GREENBANK ROAD ONLY

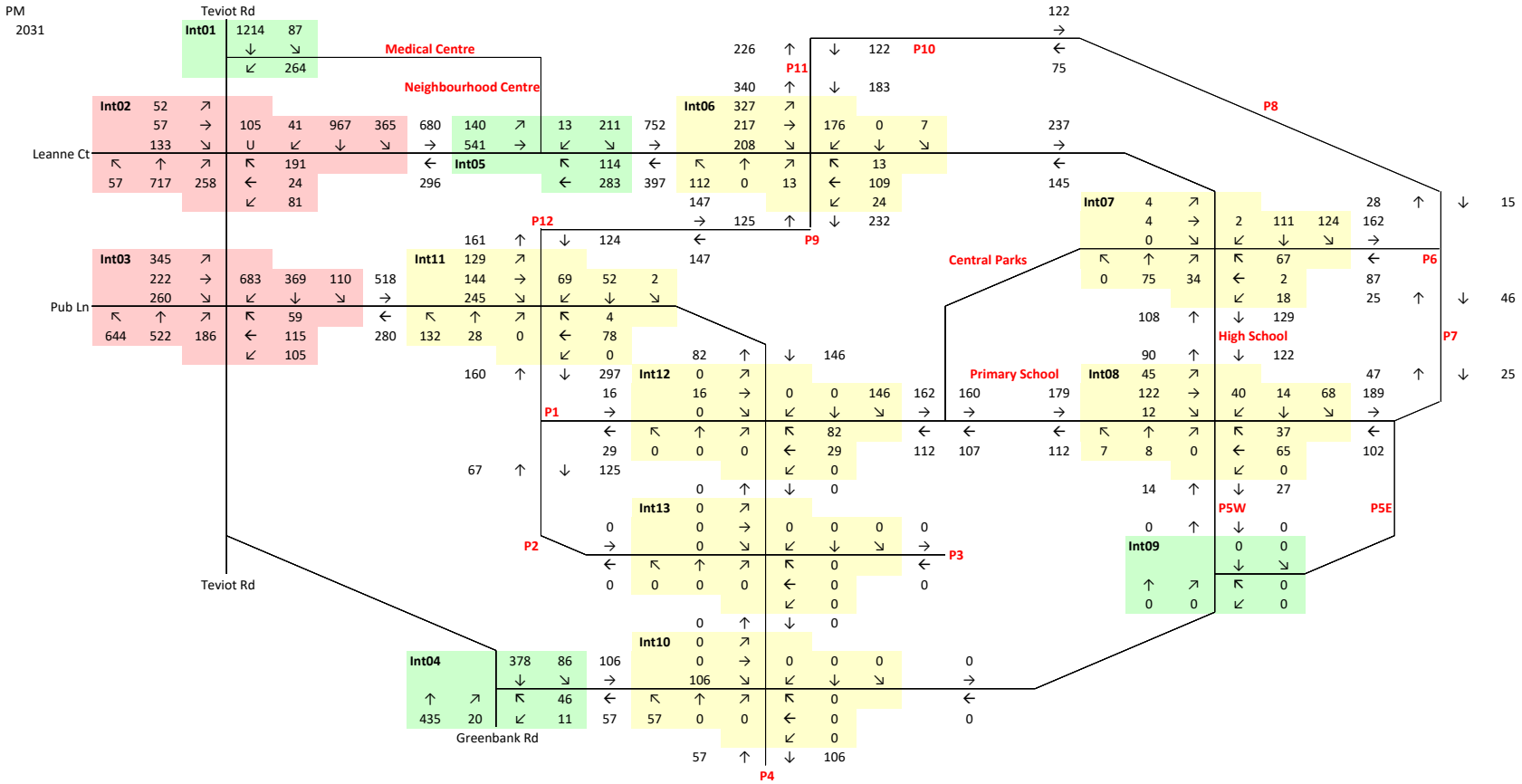


Greenbank Drive access		Y
P1	365	100%
P2	226	100%
P3	0	100%
P4	191.75	100%
P5W	48	100%
P6	195	100%
P7	169	100%
P8	286	100%
P9	423	100%
P10	280	100%
P11	253	100%
P12	143	100%
P5E	258	100%
Primary	1400	100%
Medical	8000	100%
Retail	8000	100%
Secondary	1650	100%
Background		Y

Everleigh Drive link: N

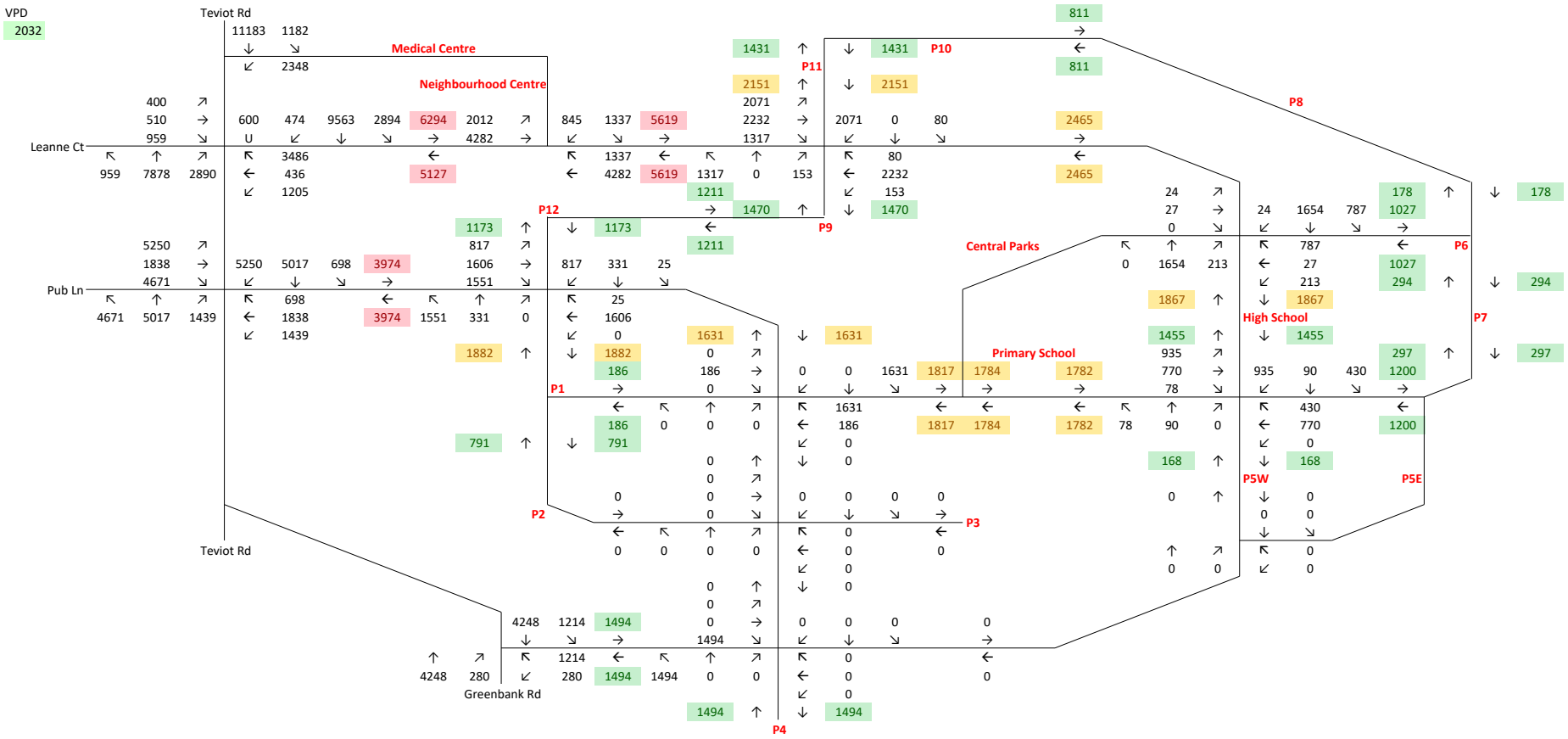
Anderson Drive link: N


AM
2031
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd


PM
2031
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd

APPENDIX F

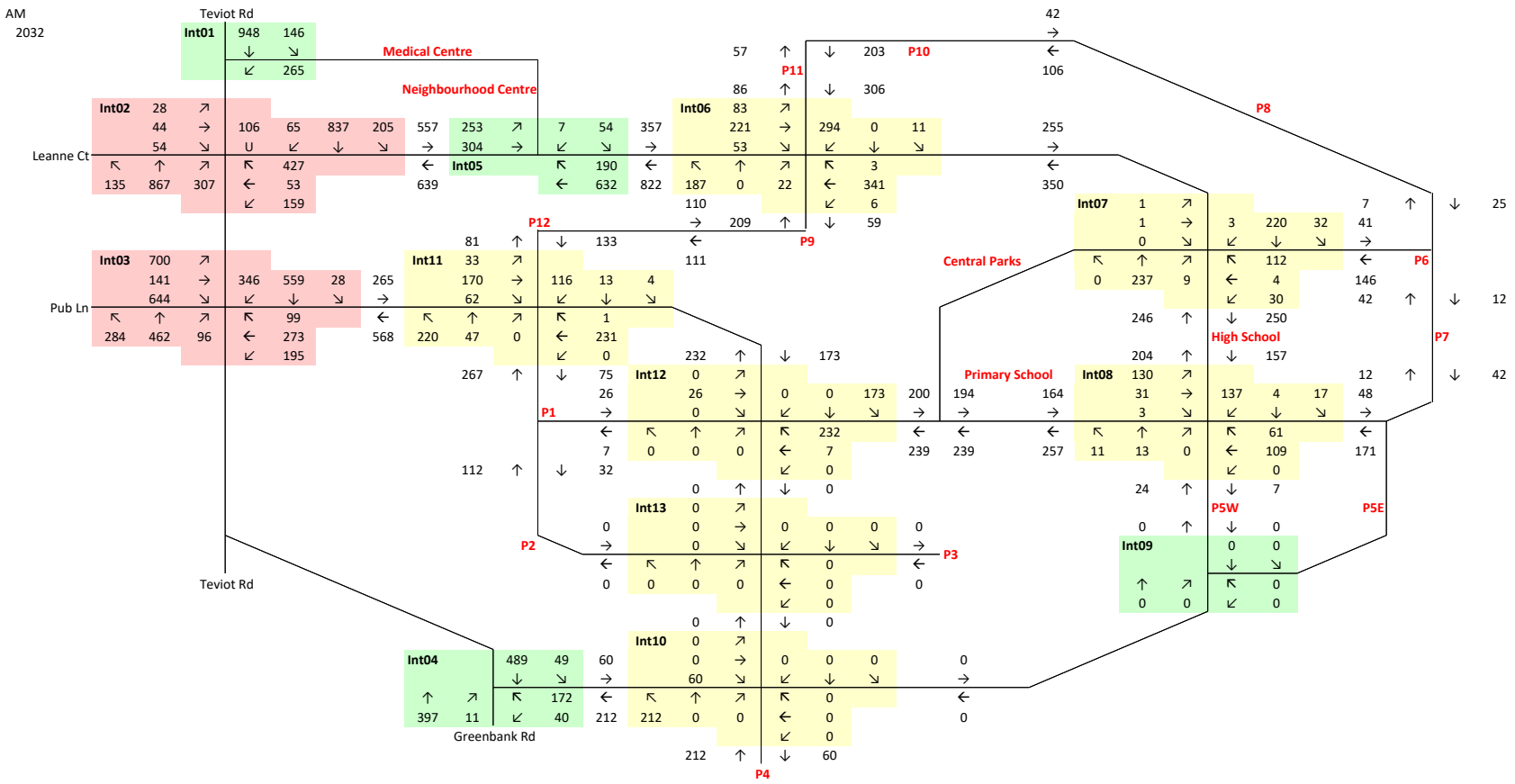
2032 "WITH DEVELOPMENT" TRAFFIC – P3 & P4 ACCESS VIA GREENBANK ROAD ONLY

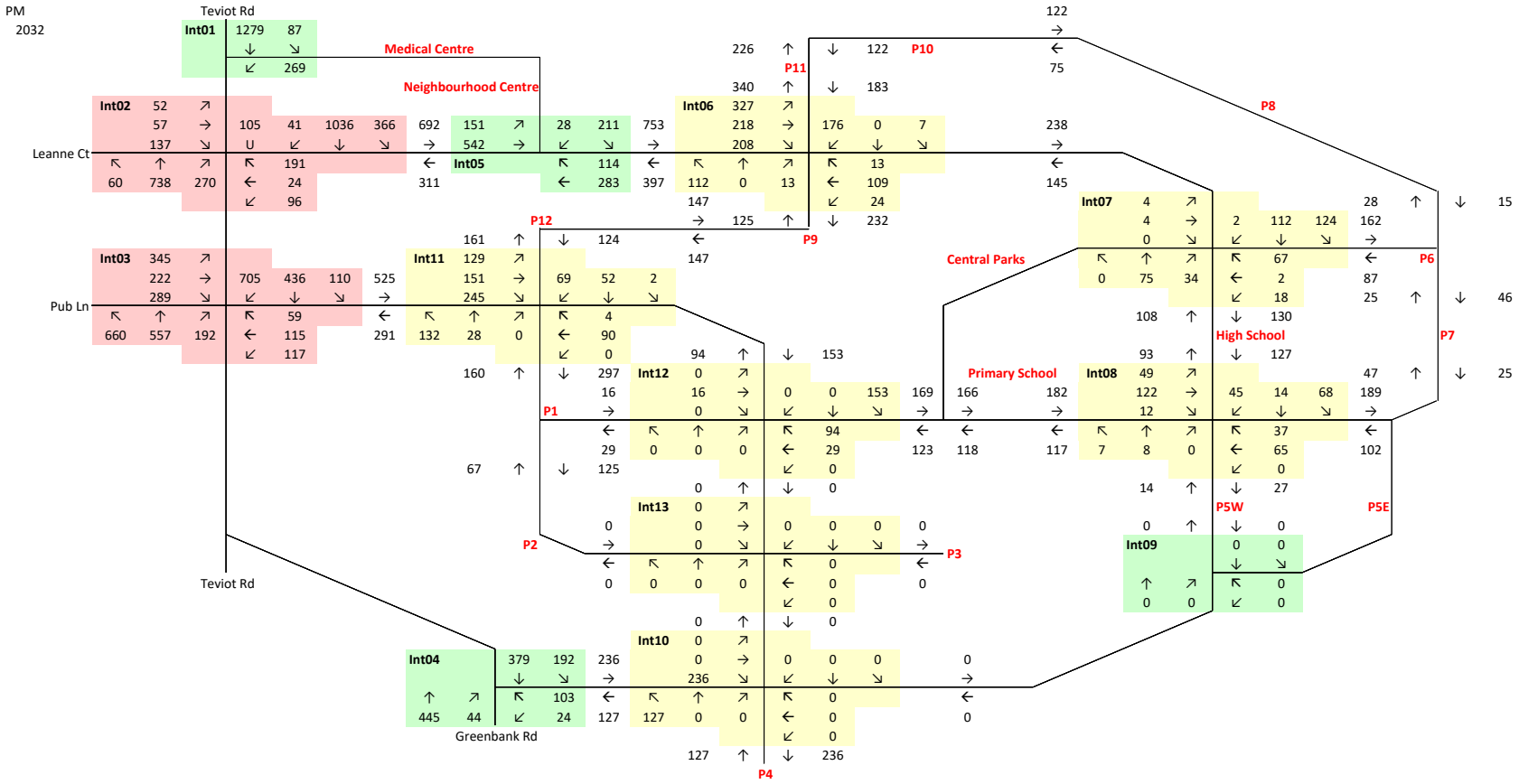


Greenbank Drive access		Y
P1	365	100%
P2	226	100%
P3	0	100%
P4	426.73	100%
P5W	48	100%
P6	195	100%
P7	169	100%
P8	286	100%
P9	423	100%
P10	280	100%
P11	253	100%
P12	143	100%
P5E	258	100%
Primary	1400	100%
Medical	8000	100%
Retail	8000	100%
Secondary	1800	100%
Background		Y

Everleigh Drive link: N

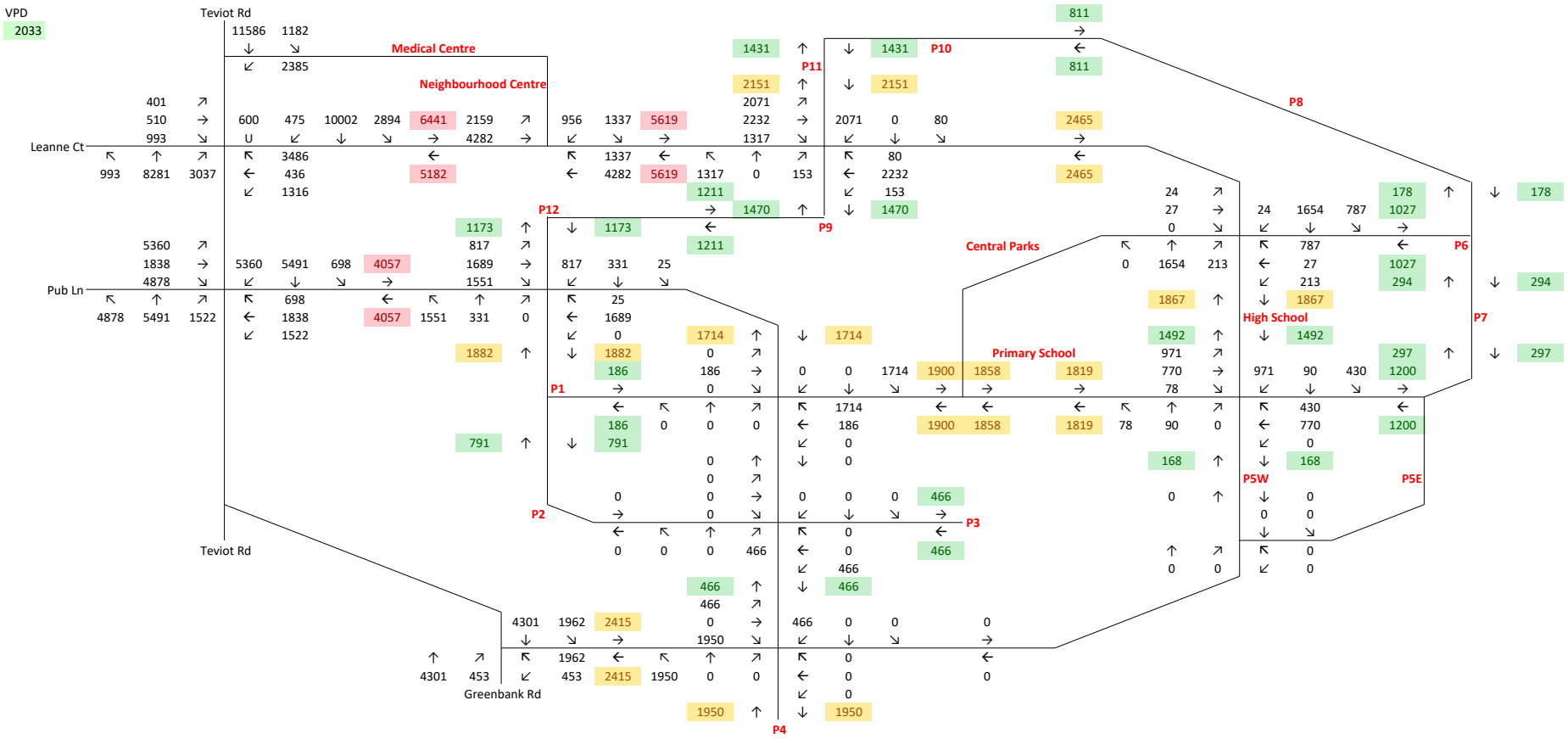
Anderson Drive link: N


AM
2032
Teviot Rd
Int01
948
146
265
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd


PM
2032
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd

APPENDIX G

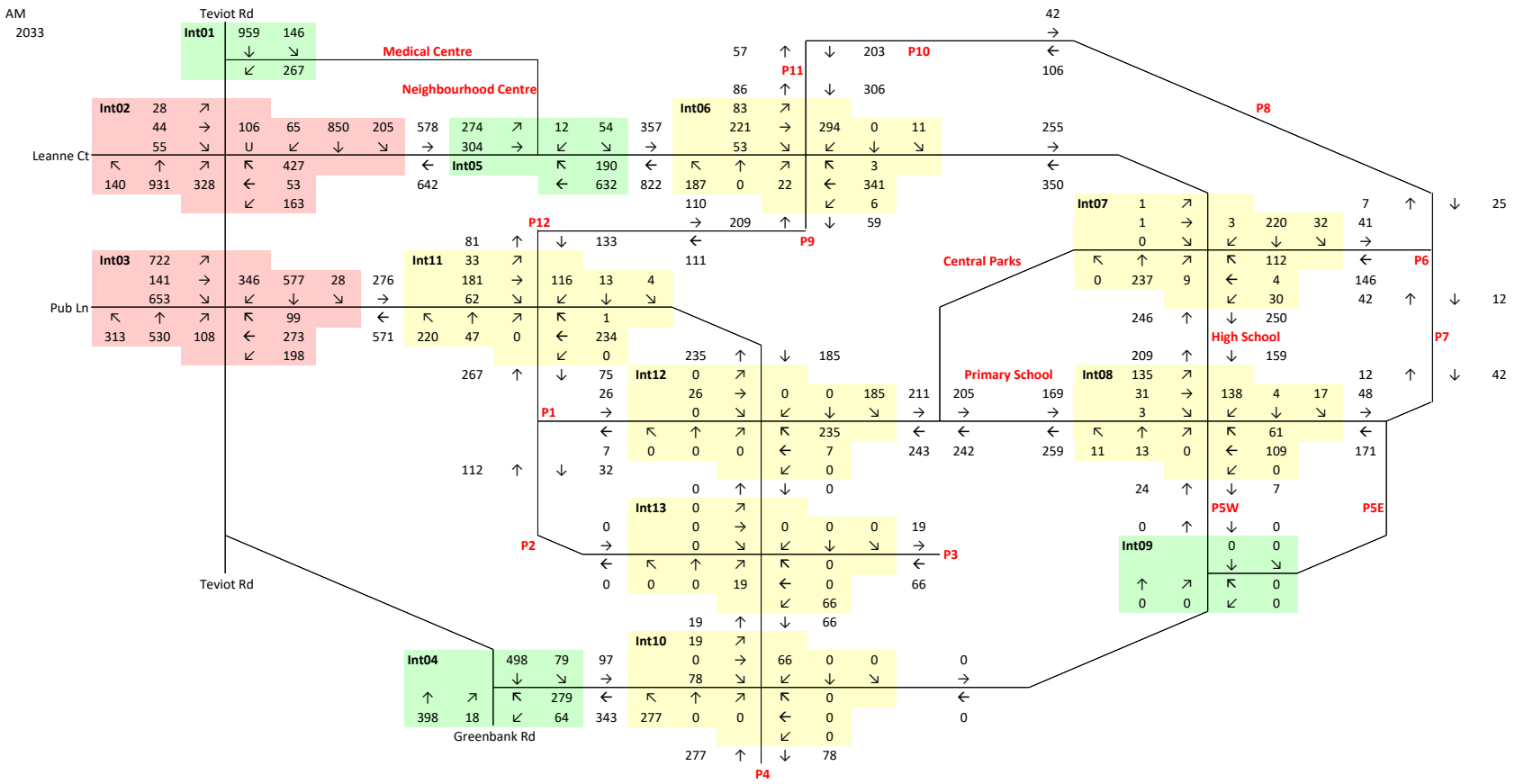
2033 "WITH DEVELOPMENT" TRAFFIC – P3 & P4 ACCESS VIA GREENBANK ROAD ONLY

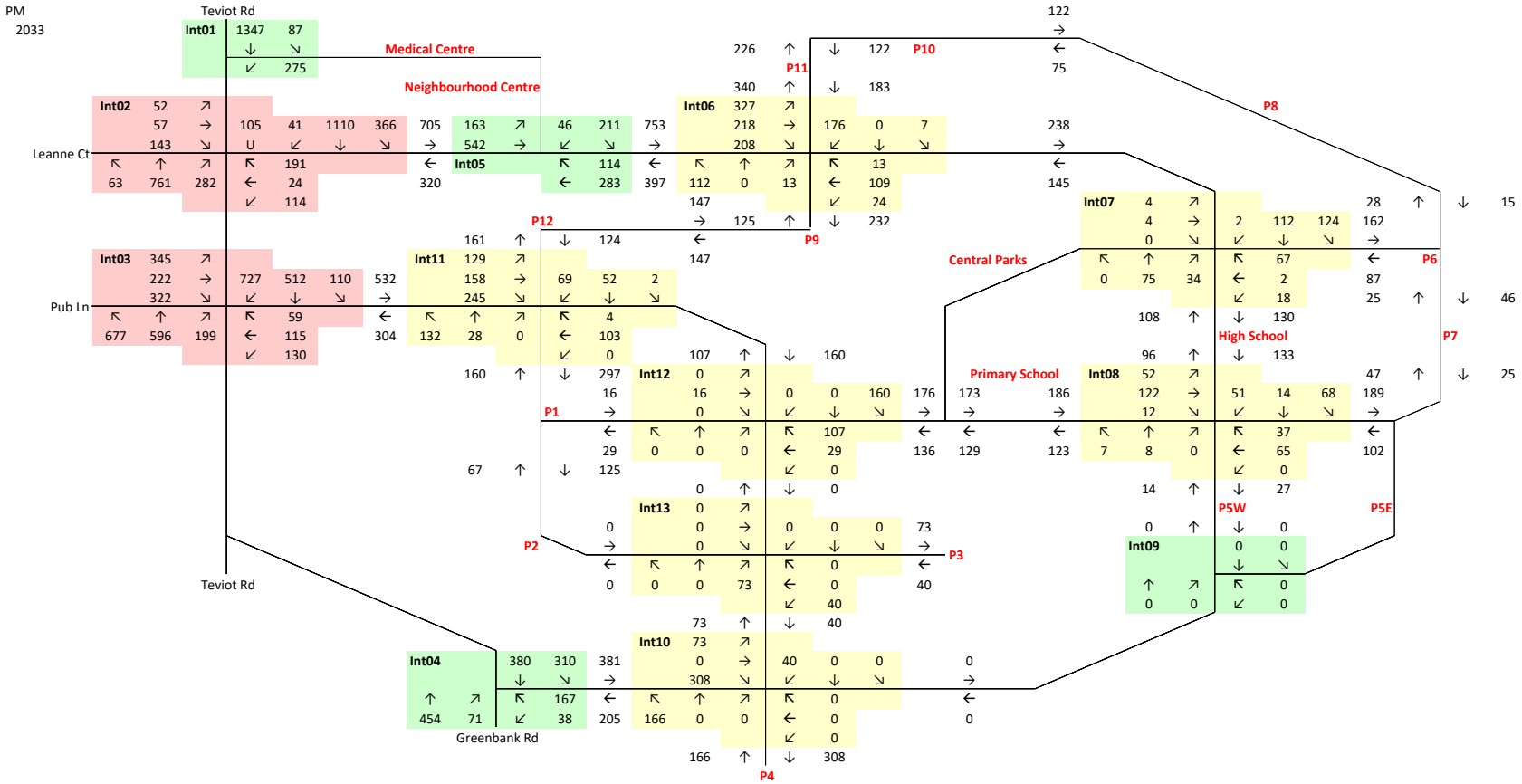


Greenbank Drive access		Y
P1	365	100%
P2	226	100%
P3	133	100%
P4	557	100%
P5W	48	100%
P6	195	100%
P7	169	100%
P8	286	100%
P9	423	100%
P10	280	100%
P11	253	100%
P12	143	100%
P5E	258	100%
Primary	1400	100%
Medical	8000	100%
Retail	8000	100%
Secondary	1800	100%
Background		Y

Everleigh Drive link: N

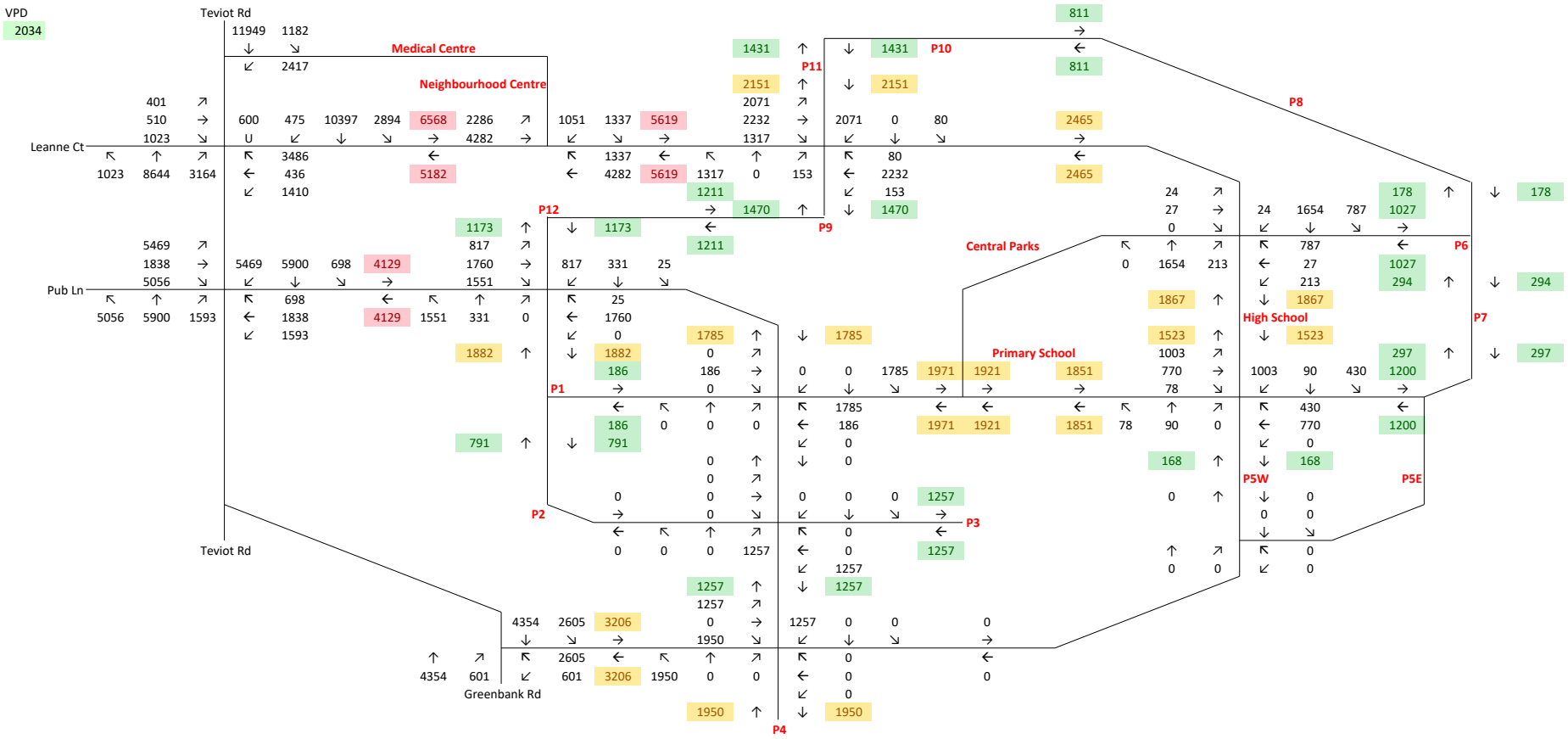
Anderson Drive link: N


AM
2033
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd


PM
2033
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd

APPENDIX H

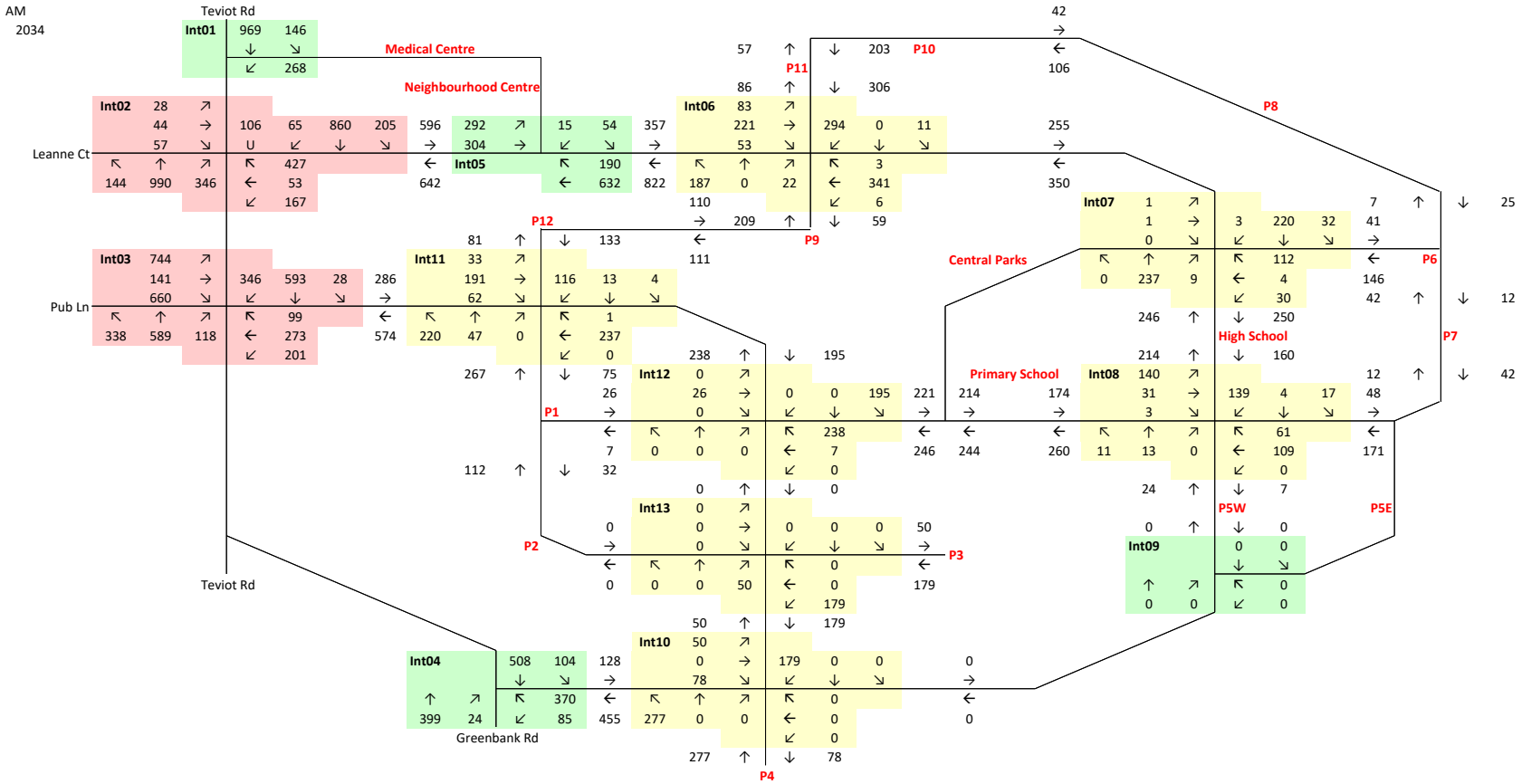
2034 “WITH DEVELOPMENT” TRAFFIC – P3 & P4 ACCESS VIA GREENBANK ROAD ONLY

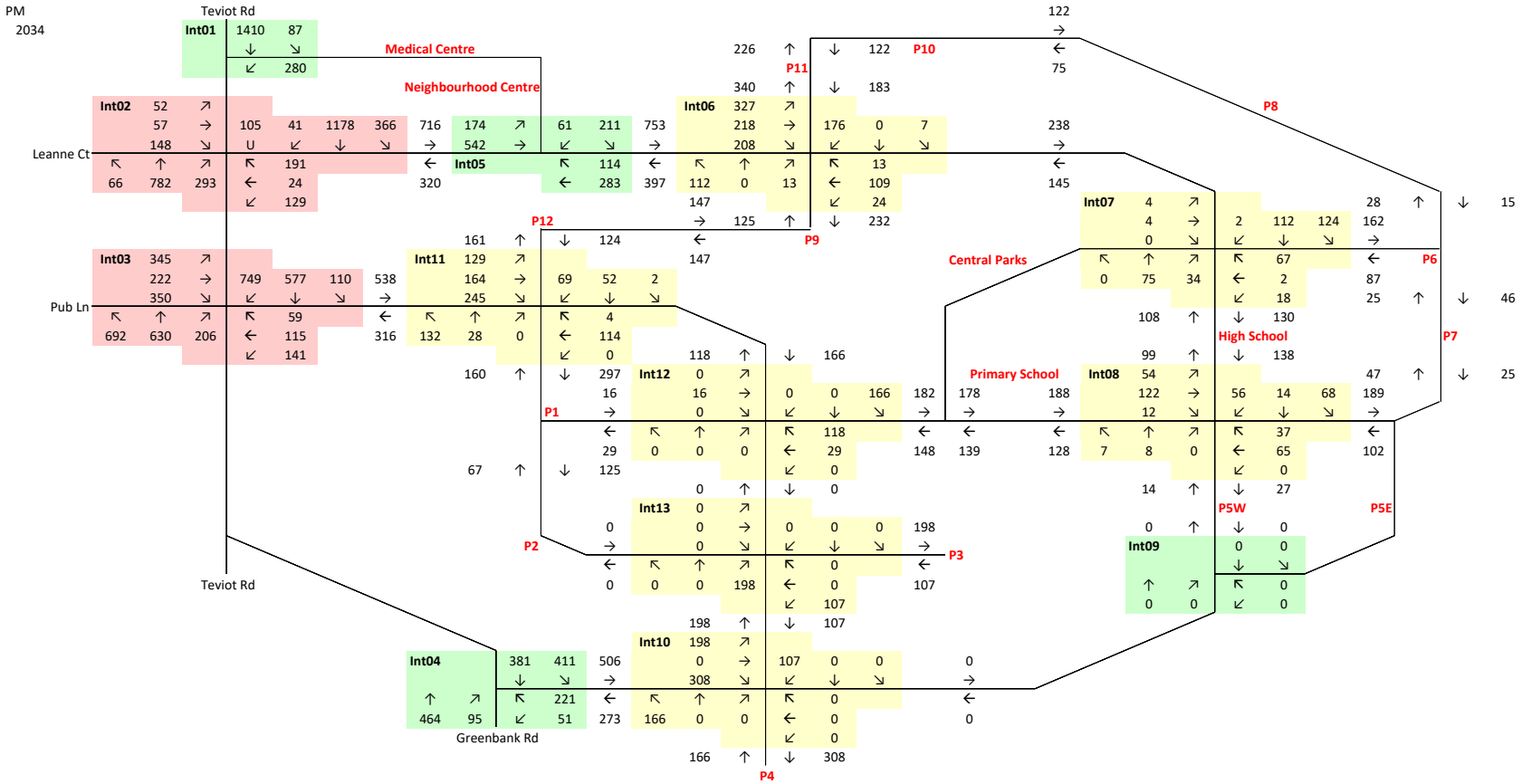


Greenbank Drive access		Y
P1	365	100%
P2	226	100%
P3	359	100%
P4	557	100%
P5W	48	100%
P6	195	100%
P7	169	100%
P8	286	100%
P9	423	100%
P10	280	100%
P11	253	100%
P12	143	100%
P5E	258	100%
Primary	1400	100%
Medical	8000	100%
Retail	8000	100%
Secondary	1800	100%
Background		Y

Everleigh Drive link: N

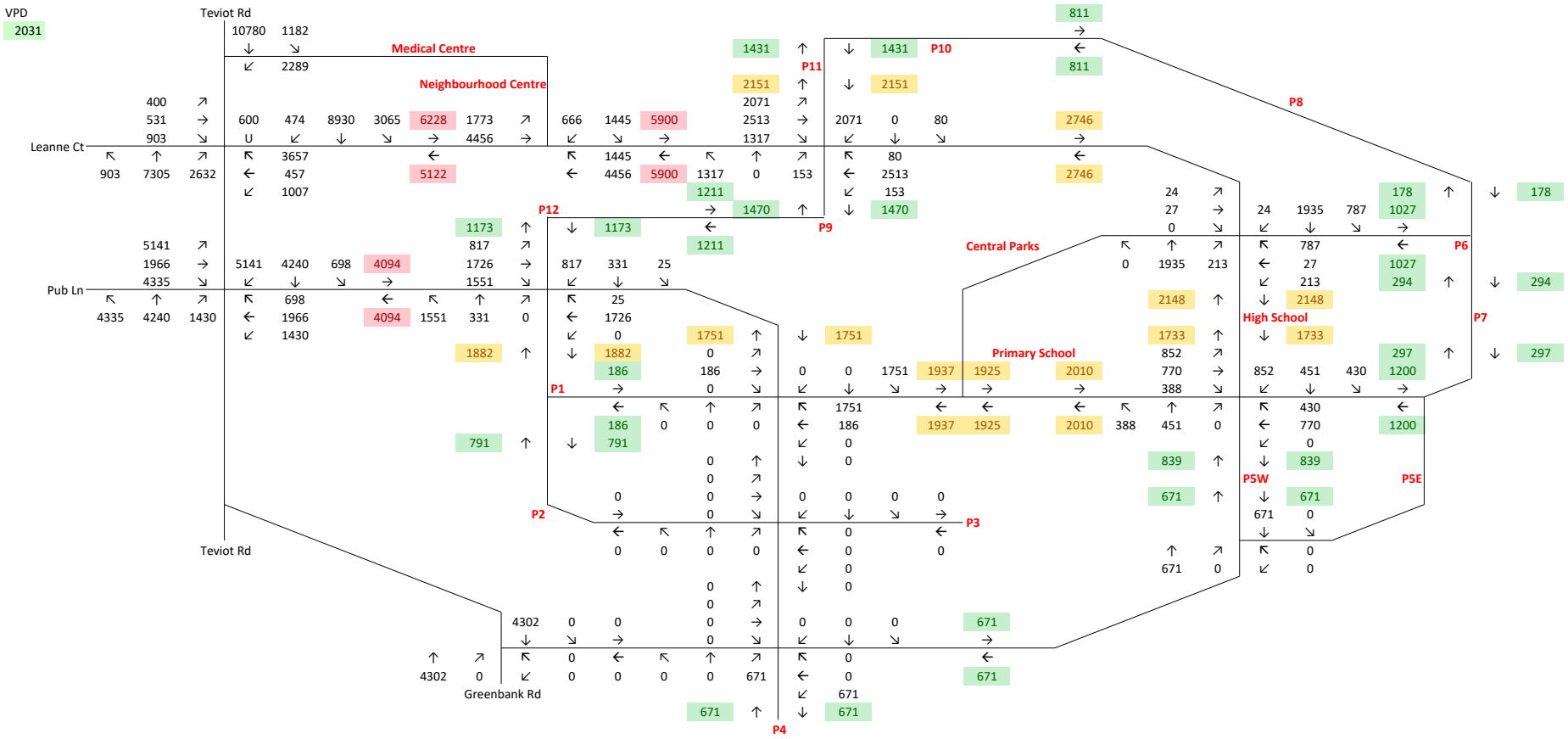
Anderson Drive link: N


AM
2034
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd


PM
2034
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Central Parks
Primary School
High School
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
Greenbank Rd

APPENDIX I

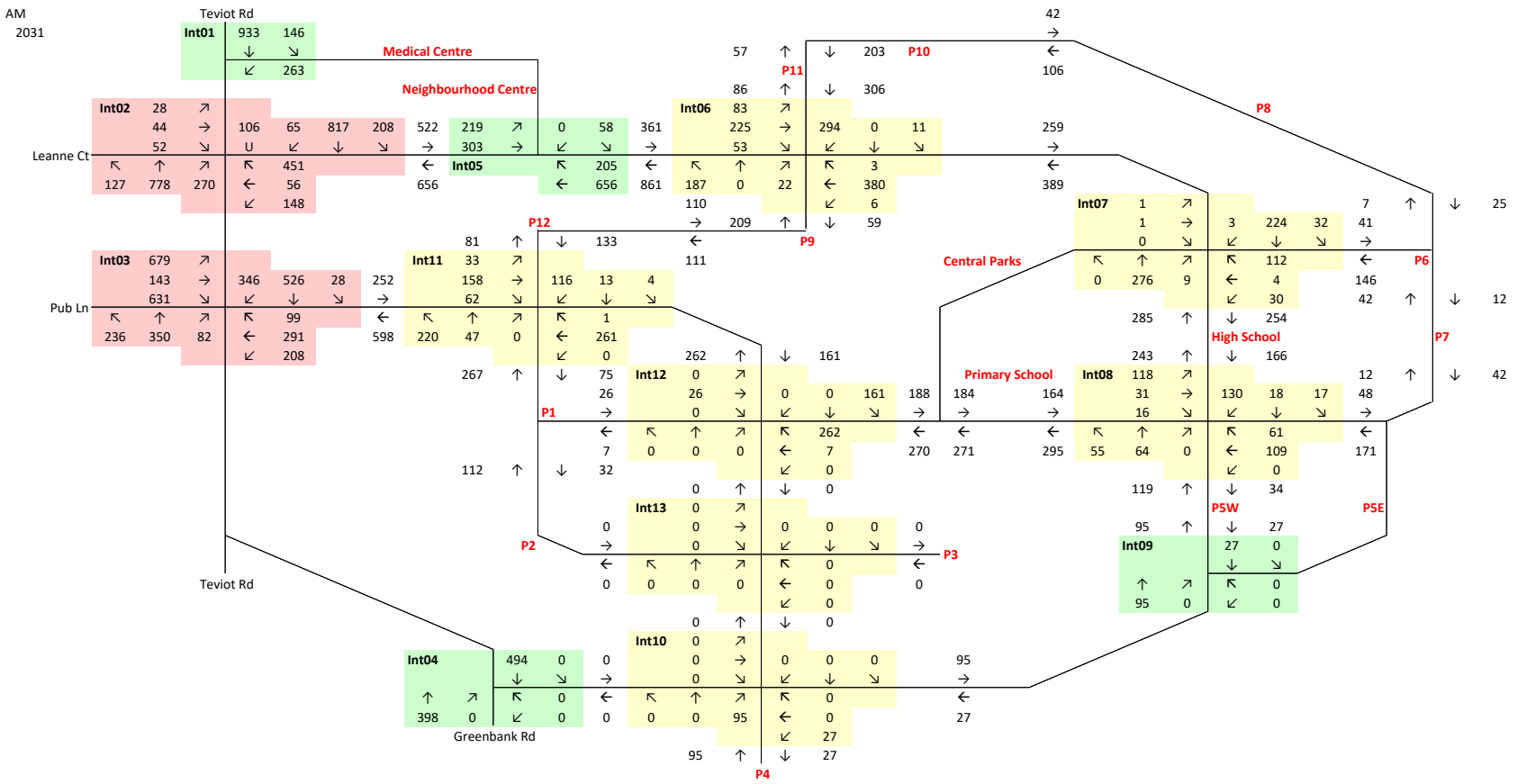
2031 “WITH DEVELOPMENT” TRAFFIC – P3 & P4 ACCESS VIA ANDERSON DRIVE ONLY

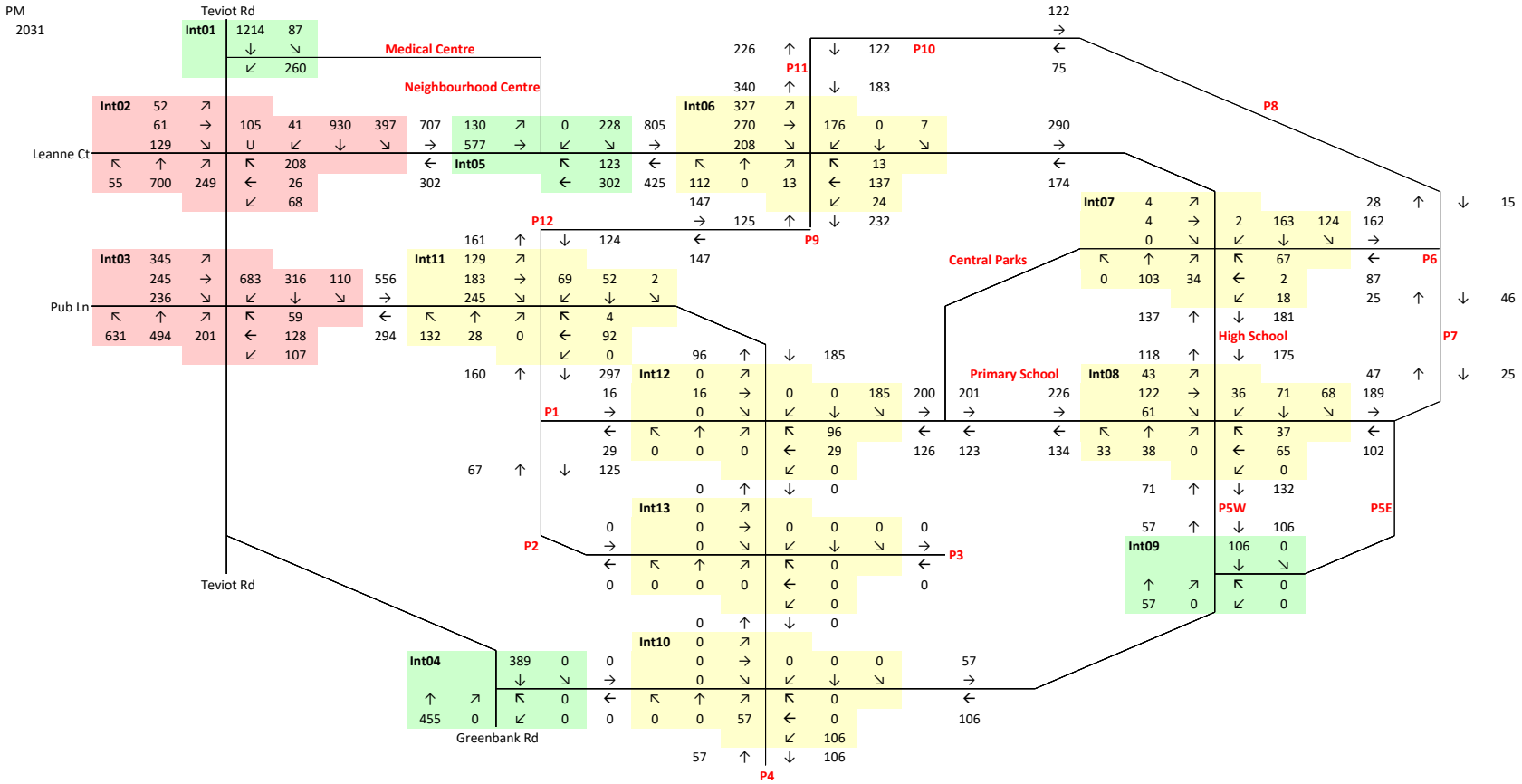


Greenbank Drive access		N
P1	365	100%
P2	226	100%
P3	0	100%
P4	191.75	100%
P5W	48	100%
P6	195	100%
P7	169	100%
P8	286	100%
P9	423	100%
P10	280	100%
P11	253	100%
P12	143	100%
P5E	258	100%
Primary	1400	100%
Medical	8000	100%
Retail	8000	100%
Secondary	1650	100%
Background		Y

Everleigh Drive link: N

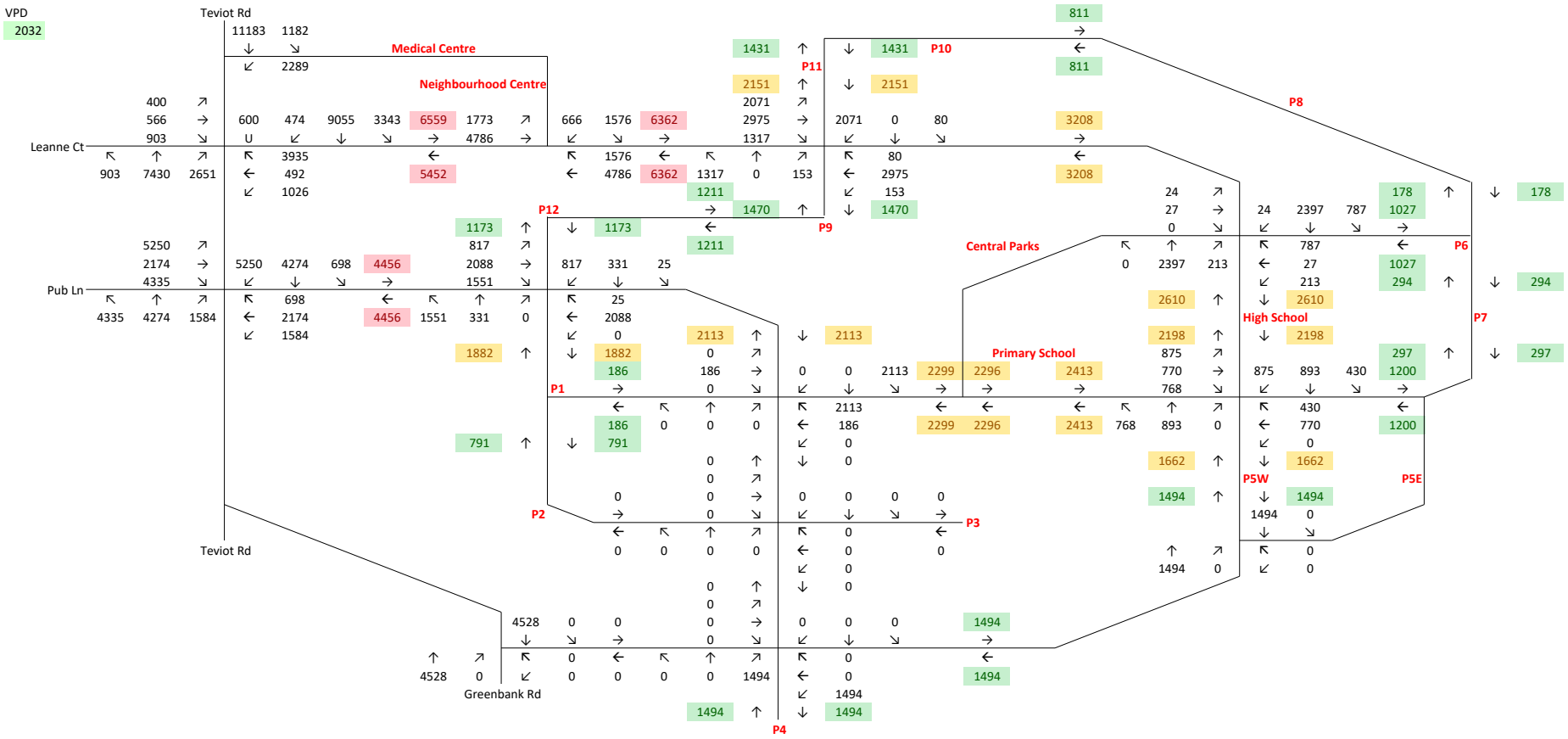
Anderson Drive link: Y


AM
2031
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd


PM
2031
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd

APPENDIX J

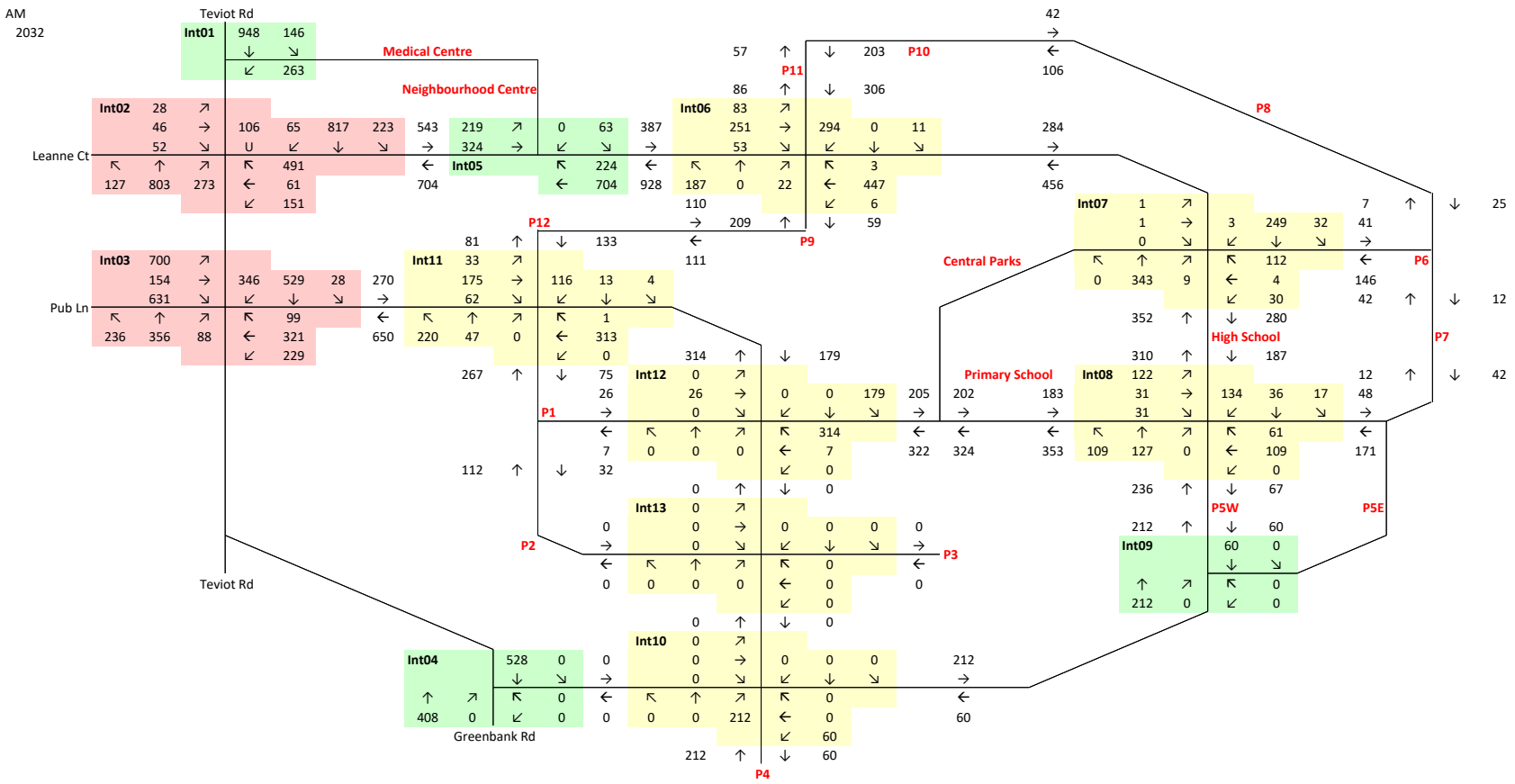
2032 "WITH DEVELOPMENT" TRAFFIC – P3 & P4 ACCESS VIA ANDERSON DRIVE ONLY

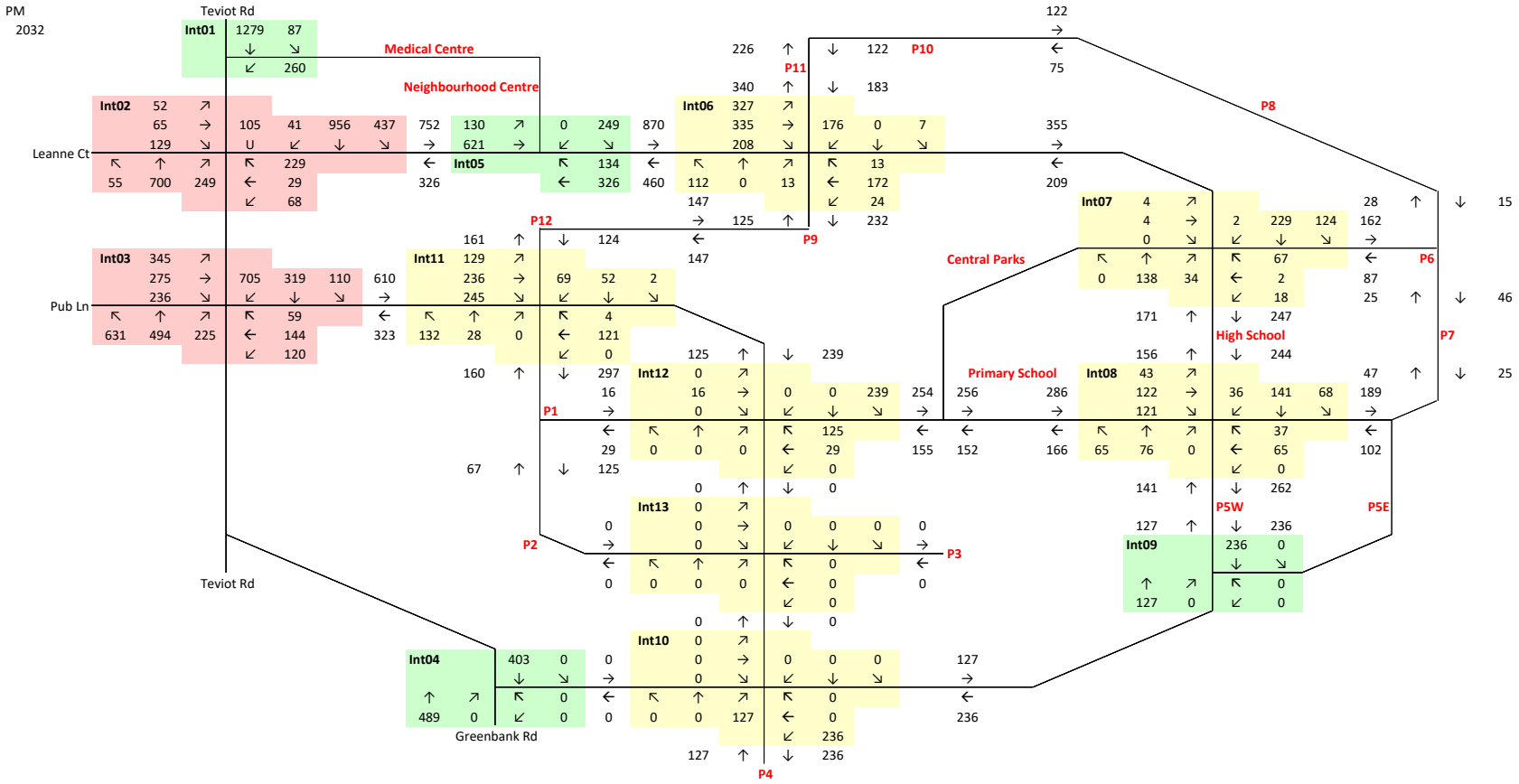


Greenbank Drive access		N
P1	365	100%
P2	226	100%
P3	0	100%
P4	426.73	100%
P5W	48	100%
P6	195	100%
P7	169	100%
P8	286	100%
P9	423	100%
P10	280	100%
P11	253	100%
P12	143	100%
P5E	258	100%
Primary	1400	100%
Medical	8000	100%
Retail	8000	100%
Secondary	1800	100%
Background		Y

Everleigh Drive link: N

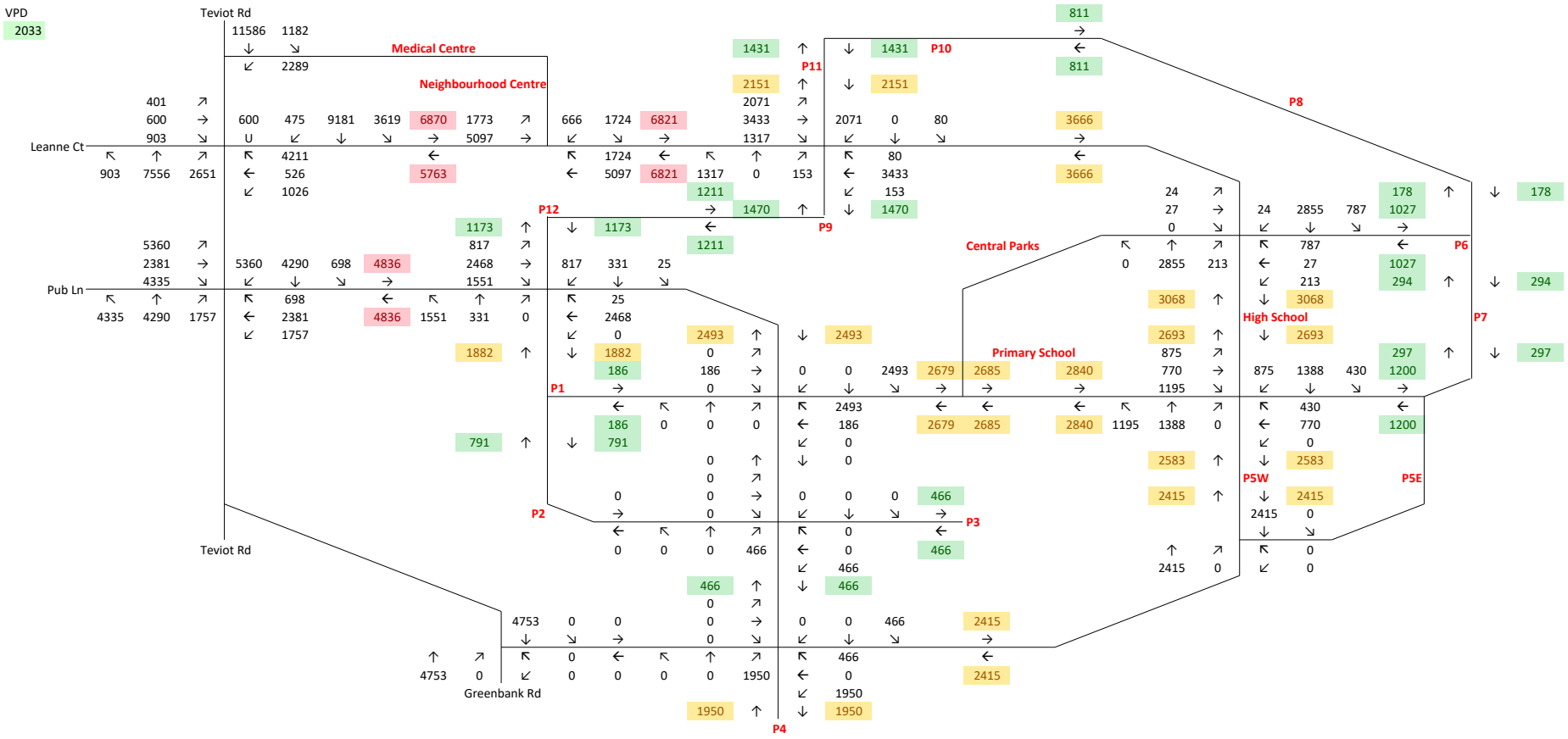
Anderson Drive link: Y


AM
2032
Teviot Rd
Int01
948
146
263
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd


PM
2032
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd

APPENDIX K

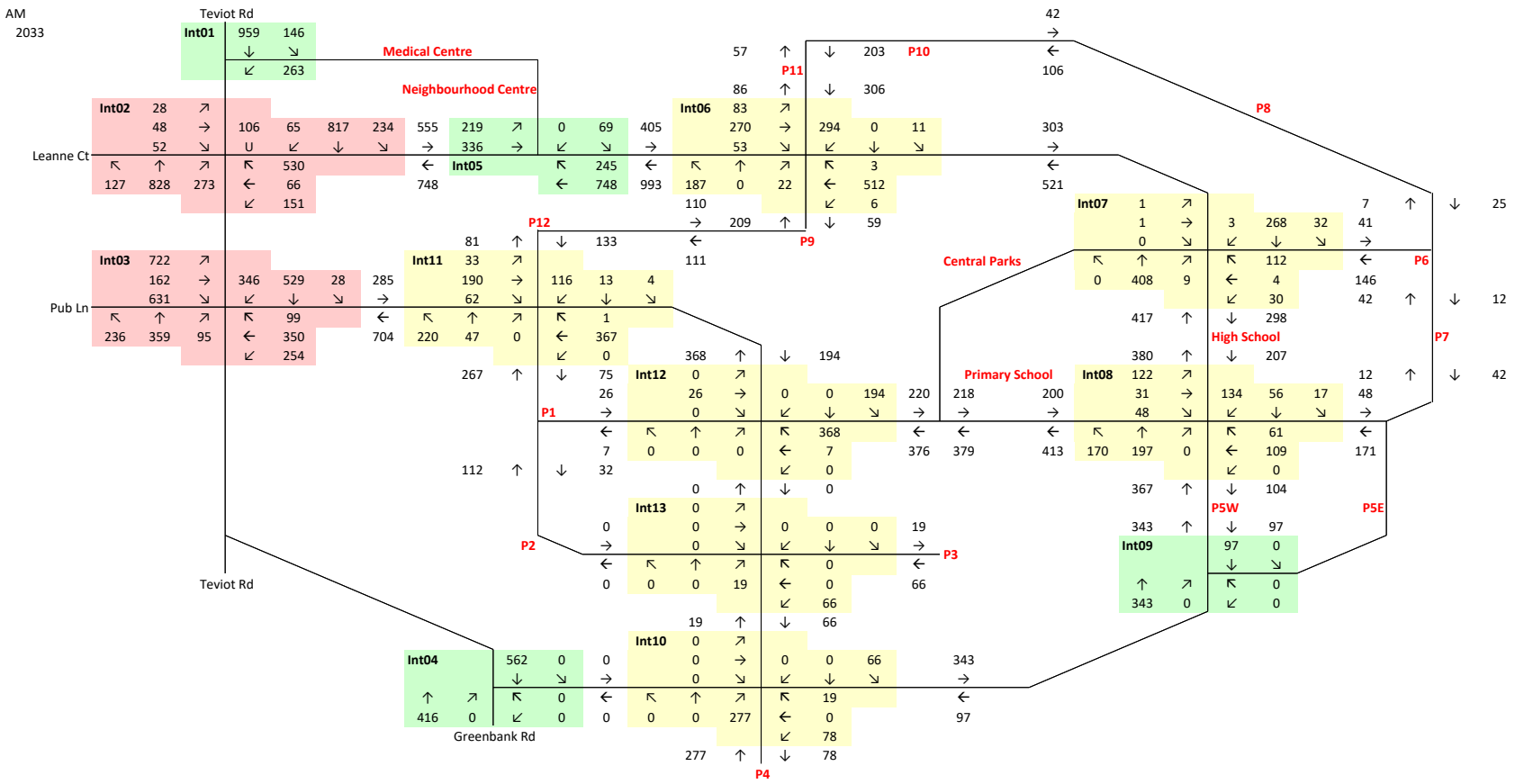
2033 "WITH DEVELOPMENT" TRAFFIC – P3 & P4 ACCESS VIA ANDERSON DRIVE ONLY

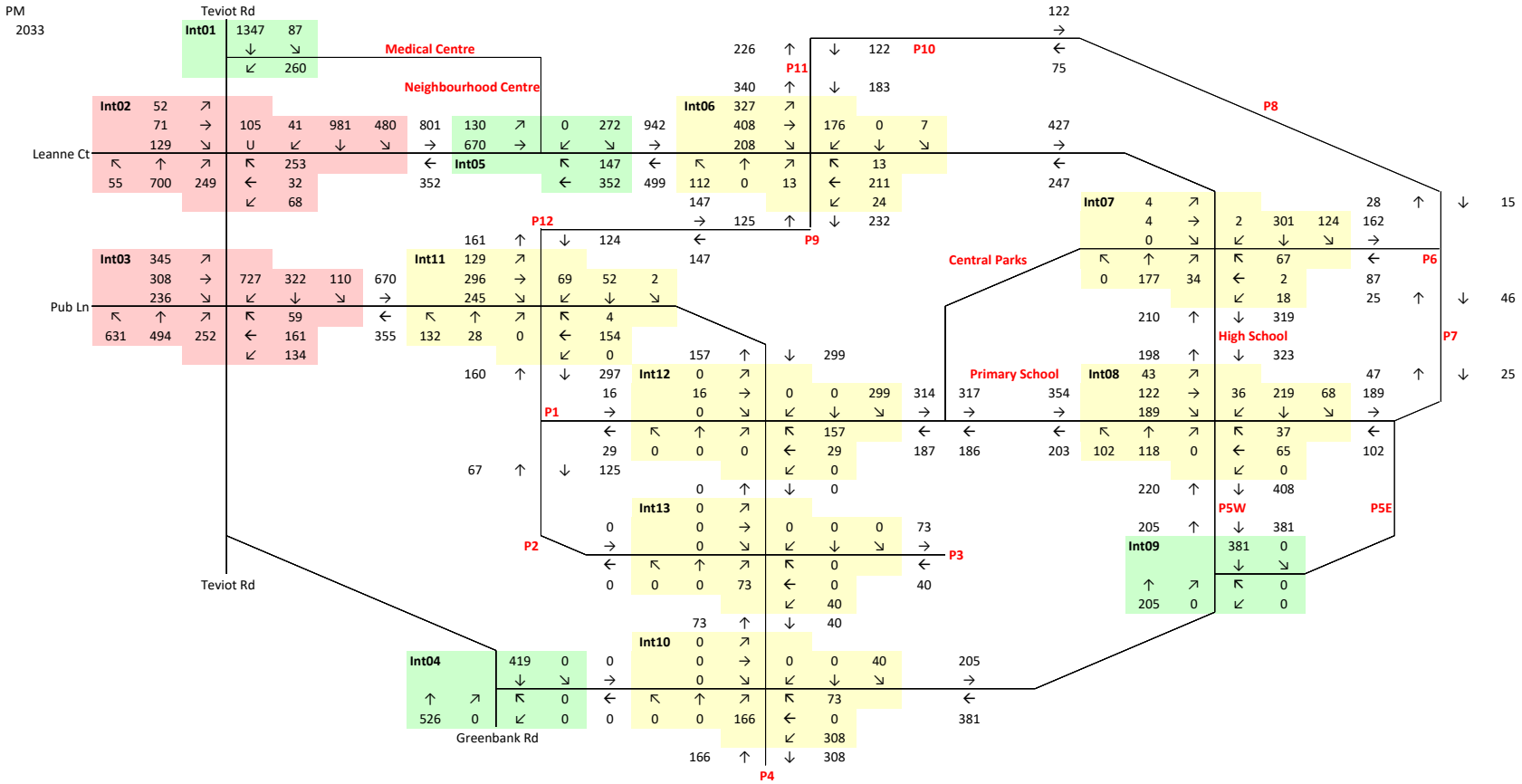


Greenbank Drive access		N
P1	365	100%
P2	226	100%
P3	133	100%
P4	557	100%
P5W	48	100%
P6	195	100%
P7	169	100%
P8	286	100%
P9	423	100%
P10	280	100%
P11	253	100%
P12	143	100%
P5E	258	100%
Primary	1400	100%
Medical	8000	100%
Retail	8000	100%
Secondary	1800	100%
Background		Y

Everleigh Drive link N

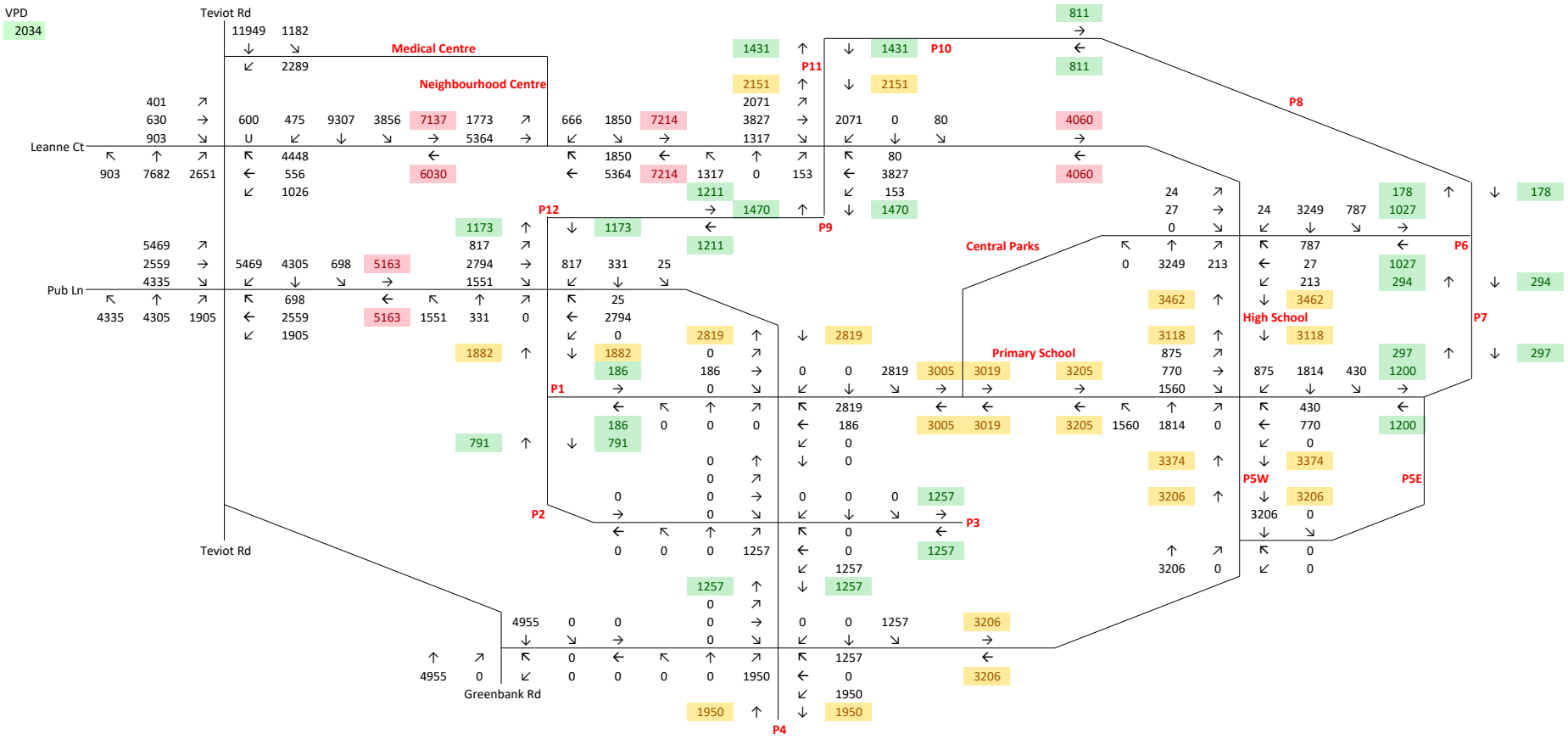
Anderson Drive link Y


AM
2033
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd
Teviot Rd


PM
2033
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd

APPENDIX L

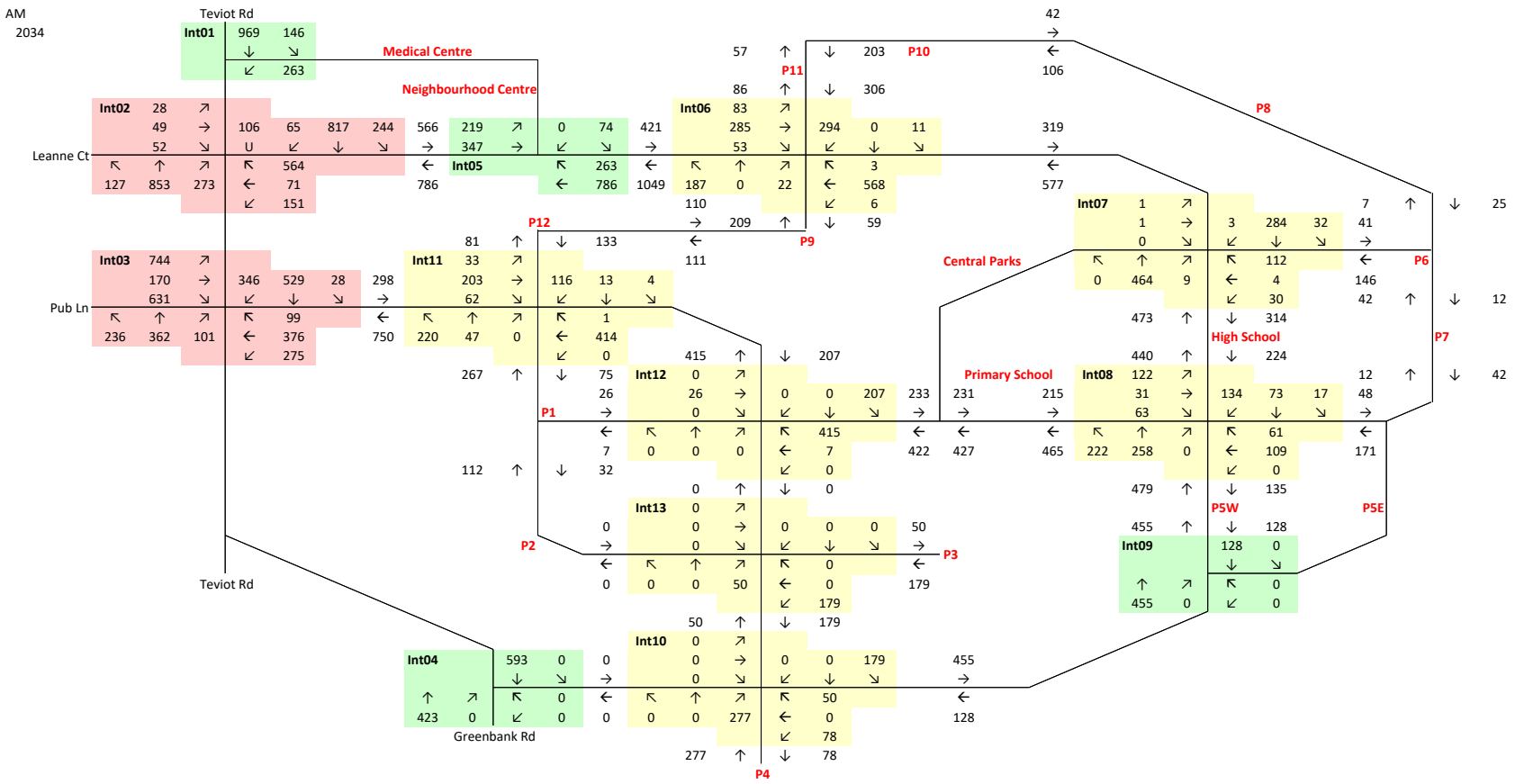
2034 “WITH DEVELOPMENT” TRAFFIC – P3 & P4 ACCESS VIA ANDERSON DRIVE ONLY

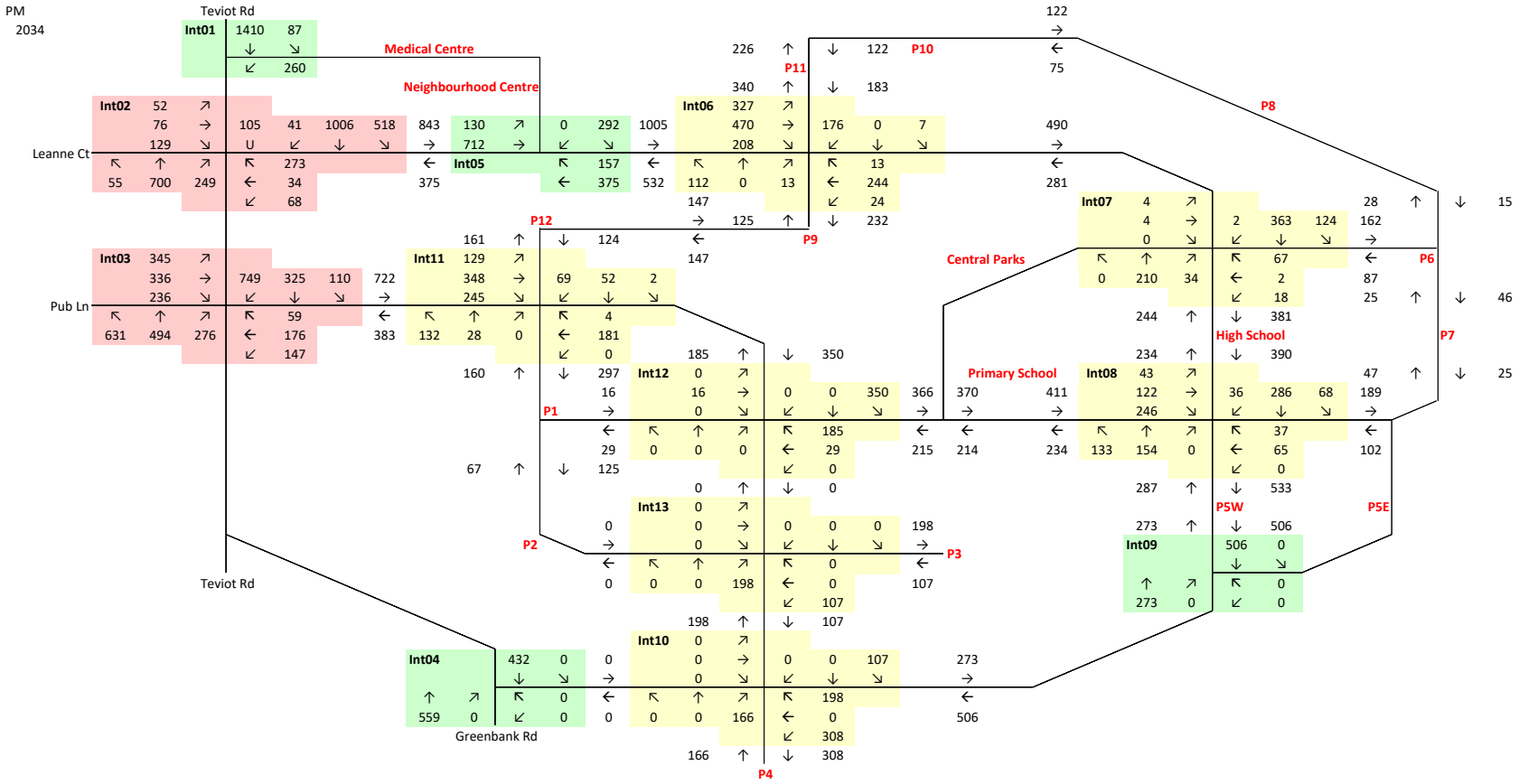


Greenbank Drive access		N
P1	365	100%
P2	226	100%
P3	359	100%
P4	557	100%
P5W	48	100%
P6	195	100%
P7	169	100%
P8	286	100%
P9	423	100%
P10	280	100%
P11	253	100%
P12	143	100%
P5E	258	100%
Primary	1400	100%
Medical	8000	100%
Retail	8000	100%
Secondary	1800	100%
Background		Y

Everleigh Drive link: N

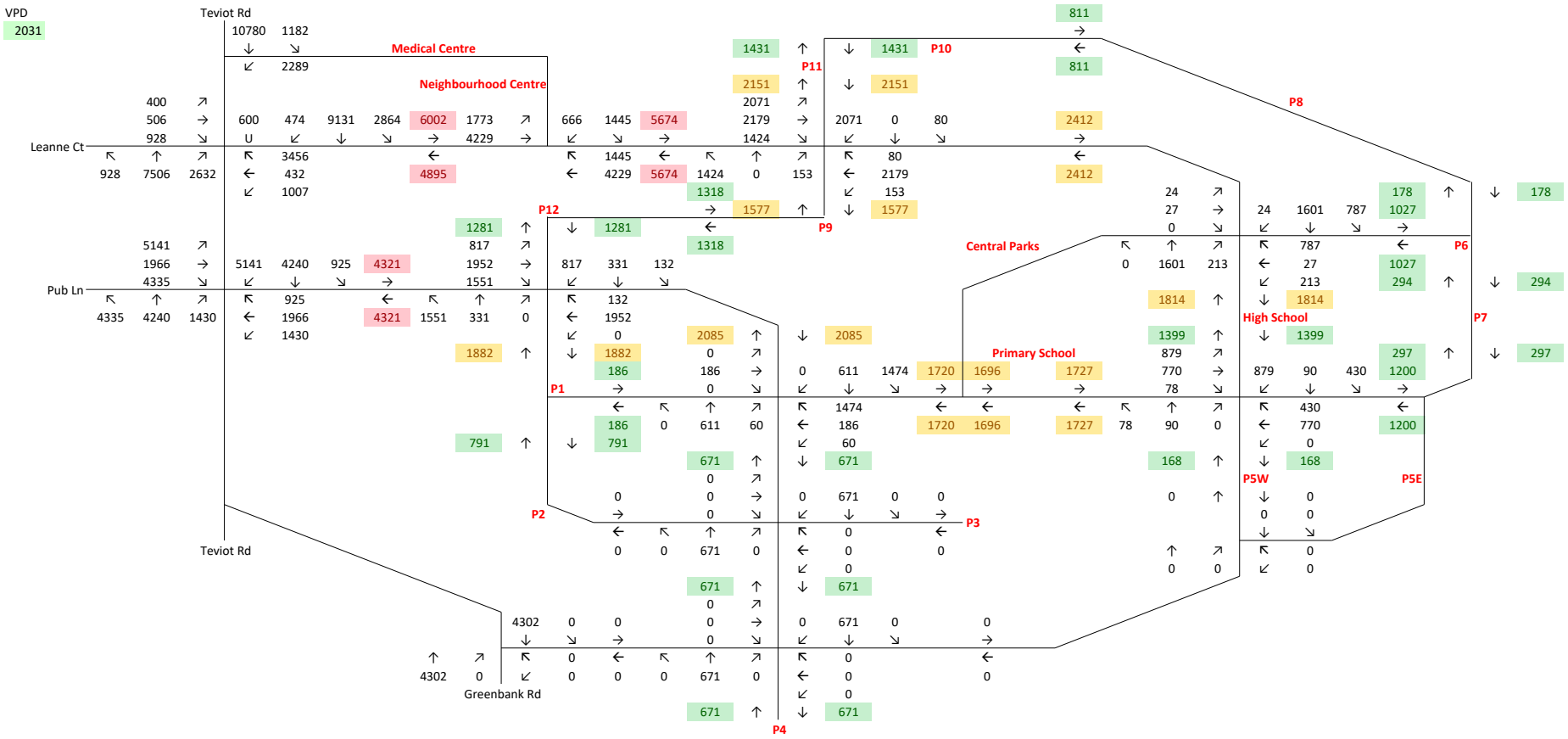
Anderson Drive link: Y


AM
2034
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd

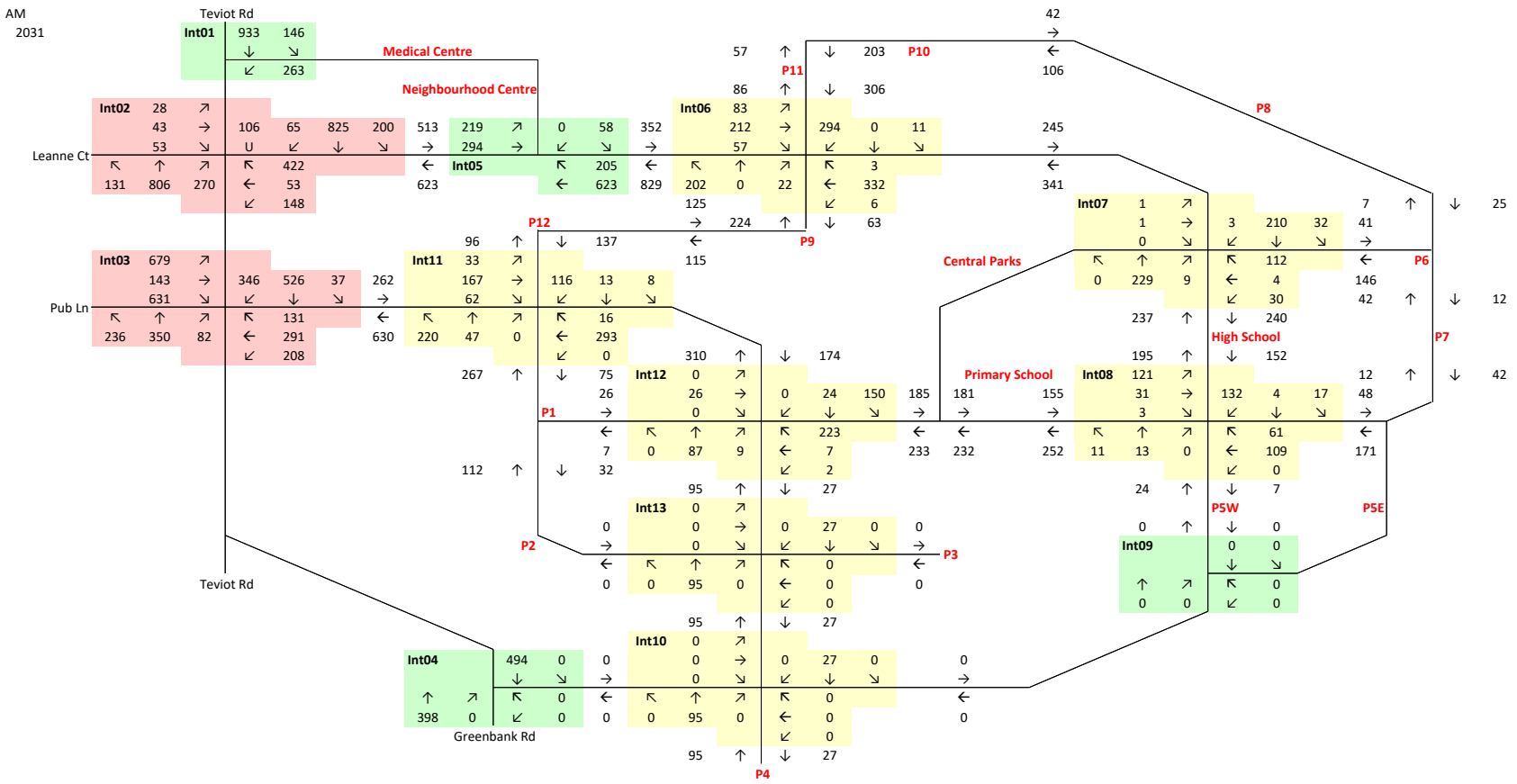

PM
2034
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd

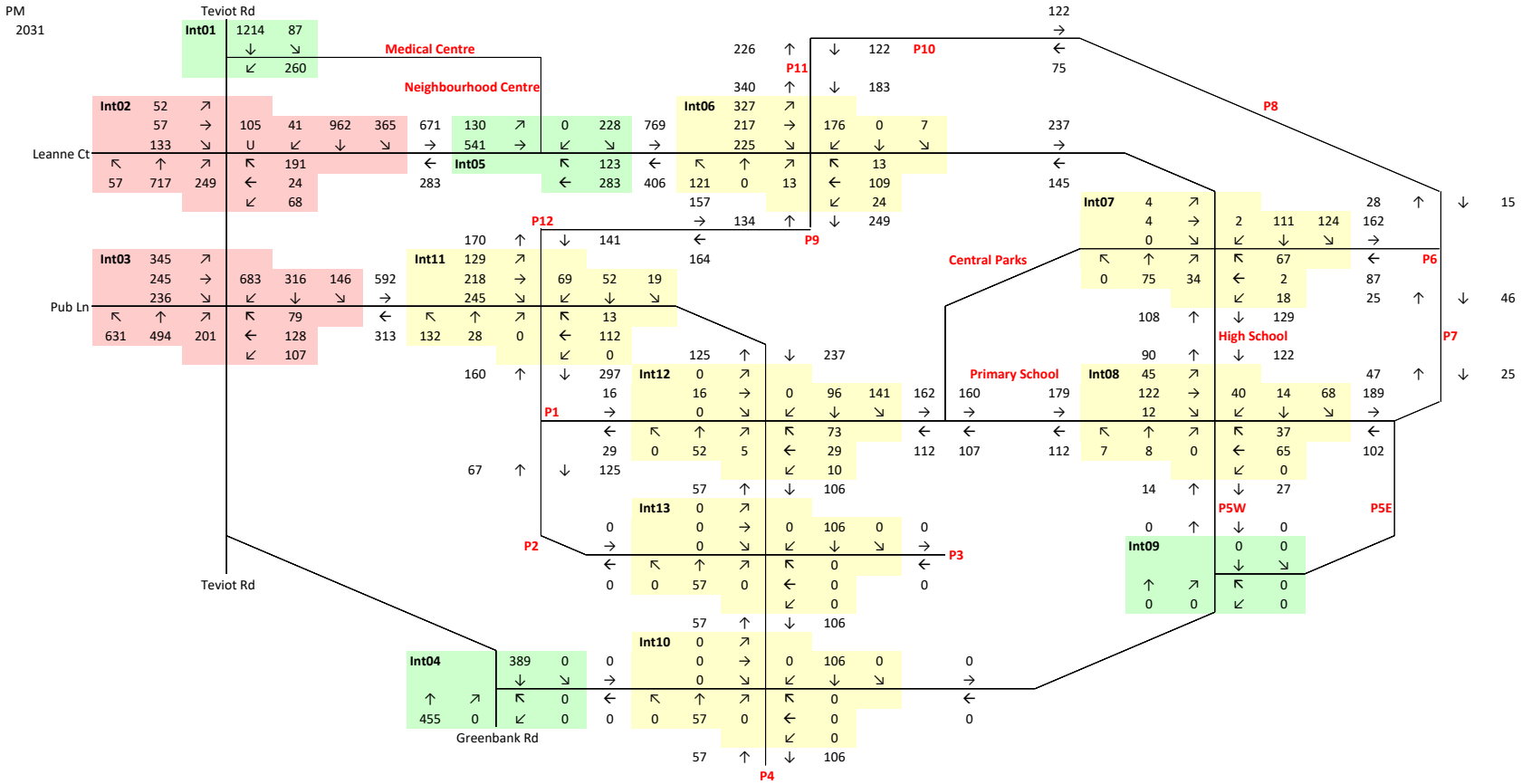
APPENDIX M

2031 "WITH DEVELOPMENT" TRAFFIC – P3 & P4 ACCESS VIA EVERLEIGH DRIVE ONLY



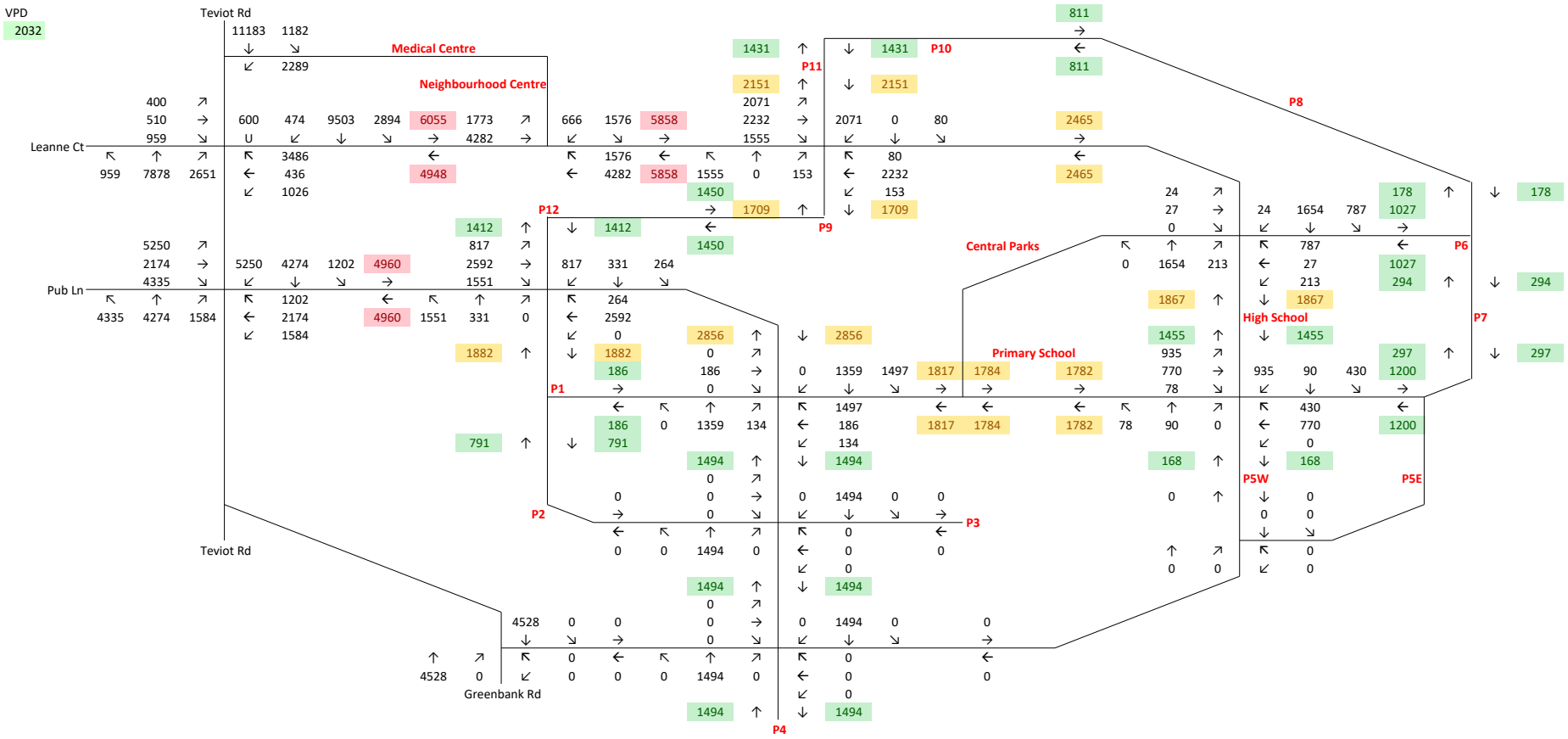
Greenbank Drive access		N
Everleigh Drive link		Y
Anderson Drive link		N
P1	365	100%
P2	226	100%
P3	0	100%
P4	191.75	100%
P5W	48	100%
P6	195	100%
P7	169	100%
P8	286	100%
P9	423	100%
P10	280	100%
P11	253	100%
P12	143	100%
P5E	258	100%
Primary	1400	100%
Medical	8000	100%
Retail	8000	100%
Secondary	1650	100%
Background		Y


AM
2031
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd


PM
2031
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Int02
Leanne Ct
Int03
Pub Ln
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd

APPENDIX N

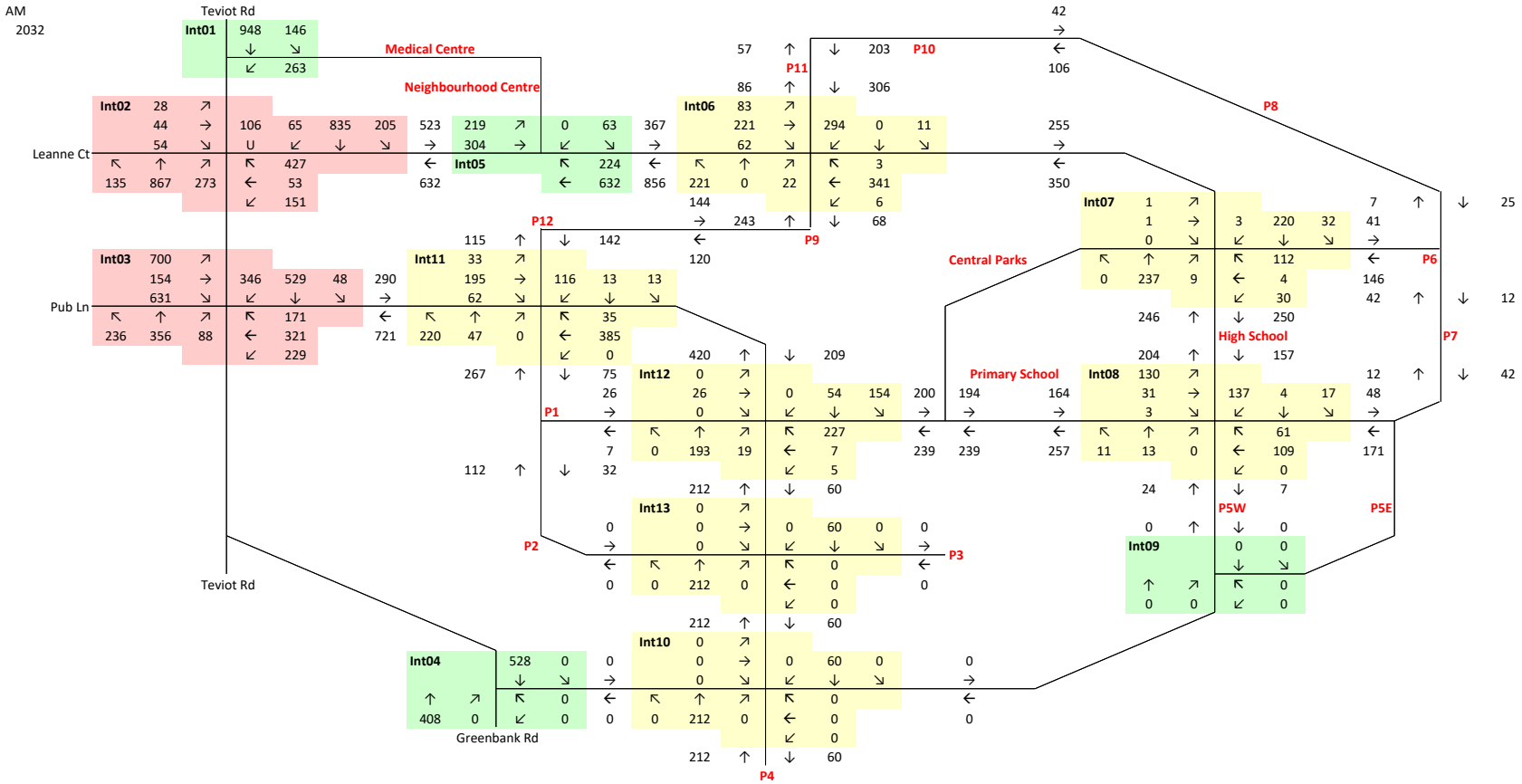
2032 “WITH DEVELOPMENT” TRAFFIC – P3 & P4 ACCESS VIA EVERLEIGH DRIVE ONLY

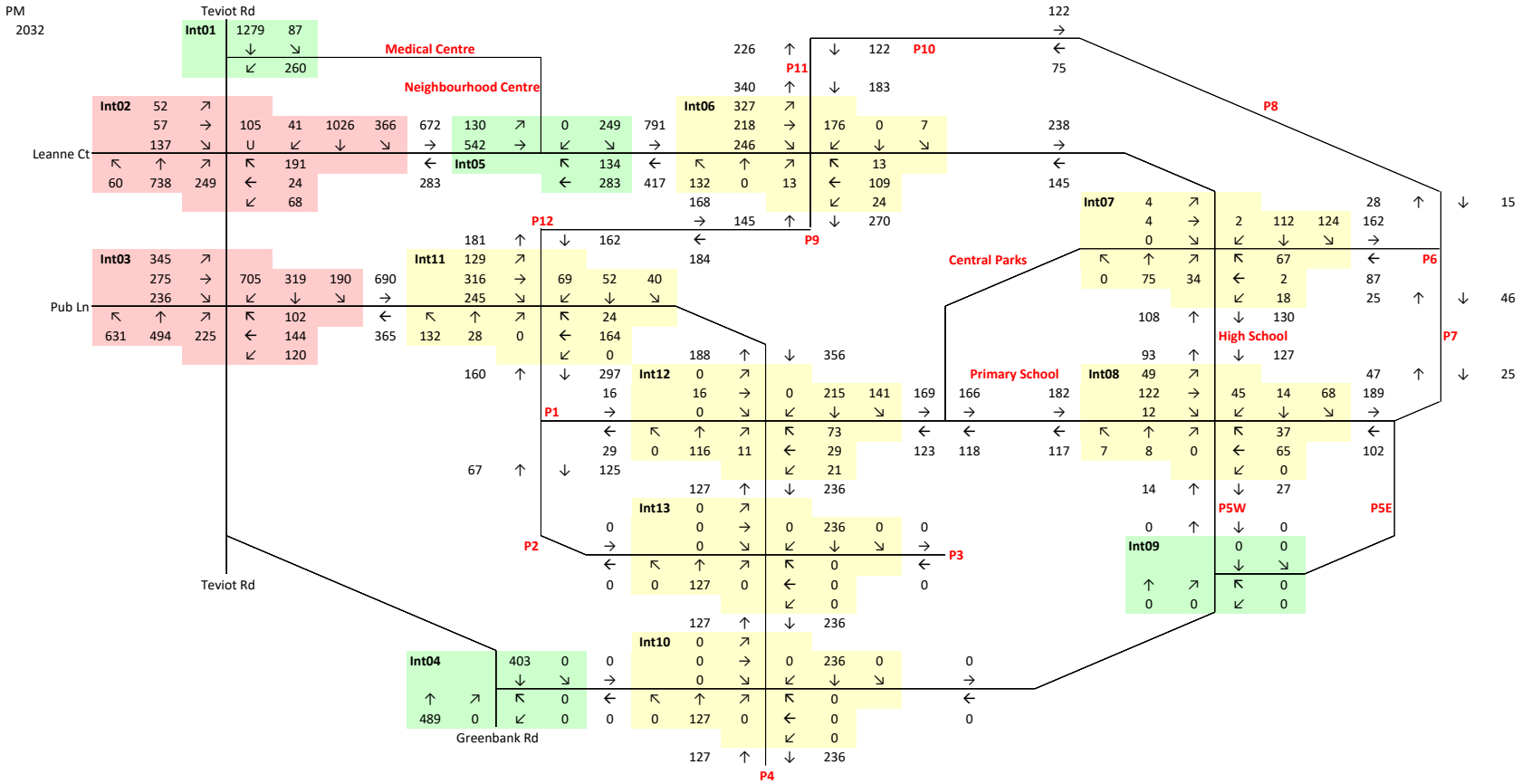


Greenbank Drive access		N
P1	365	100%
P2	226	100%
P3	0	100%
P4	426.73	100%
P5W	48	100%
P6	195	100%
P7	169	100%
P8	286	100%
P9	423	100%
P10	280	100%
P11	253	100%
P12	143	100%
P5E	258	100%
Primary	1400	100%
Medical	8000	100%
Retail	8000	100%
Secondary	1800	100%
Background		Y

Everleigh Drive link: Y

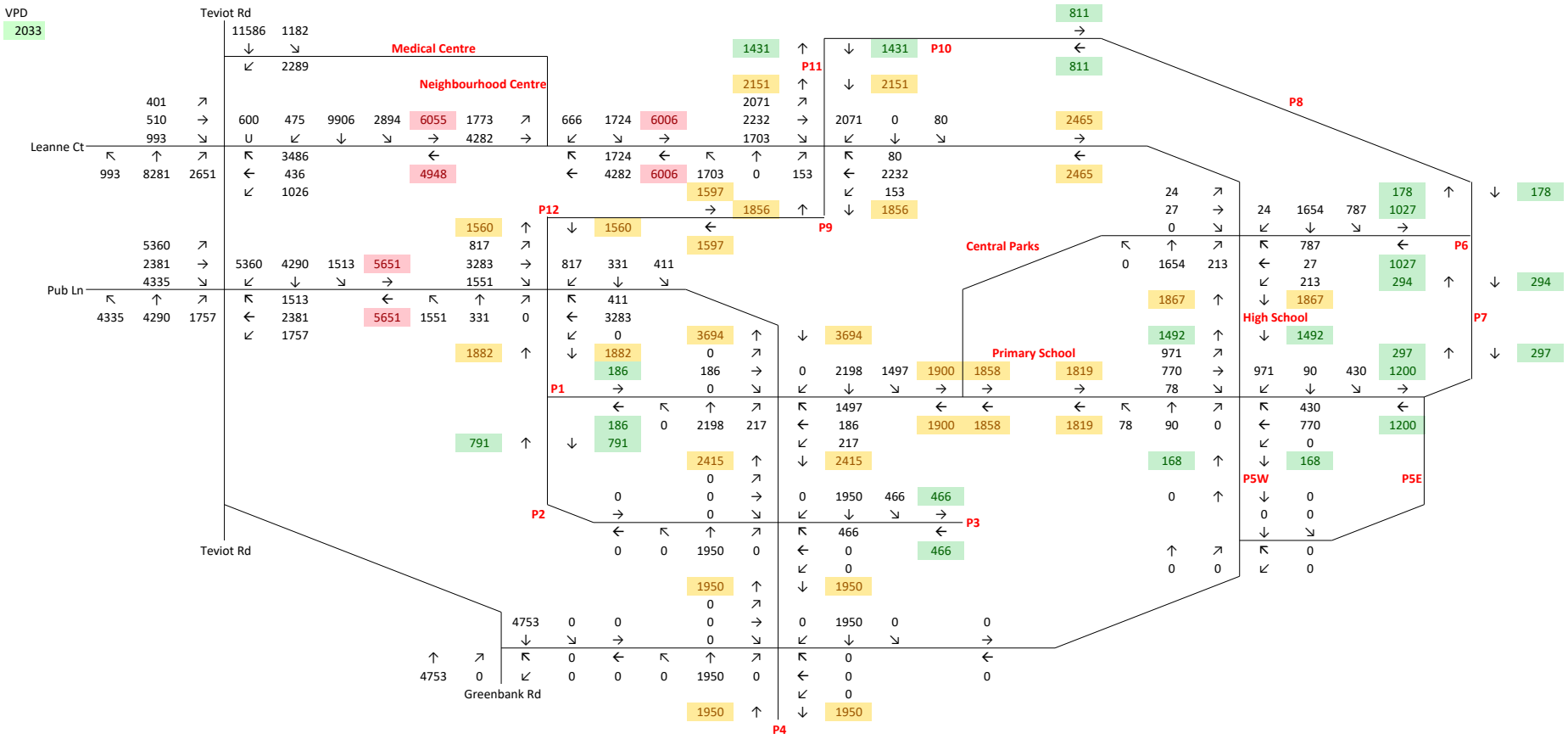
Anderson Drive link: N


AM
2032
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd


PM
2032
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Int02
Leanne Ct
Int05
Int06
P8
P10
P11
P12
P9
Int03
Int11
Pub Ln
Central Parks
Int07
P6
High School
P7
Primary School
Int08
Int12
P1
Int13
P5W
P5E
P2
P3
Int09
Teviot Rd
Int04
Int10
Greenbank Rd
P4

APPENDIX O

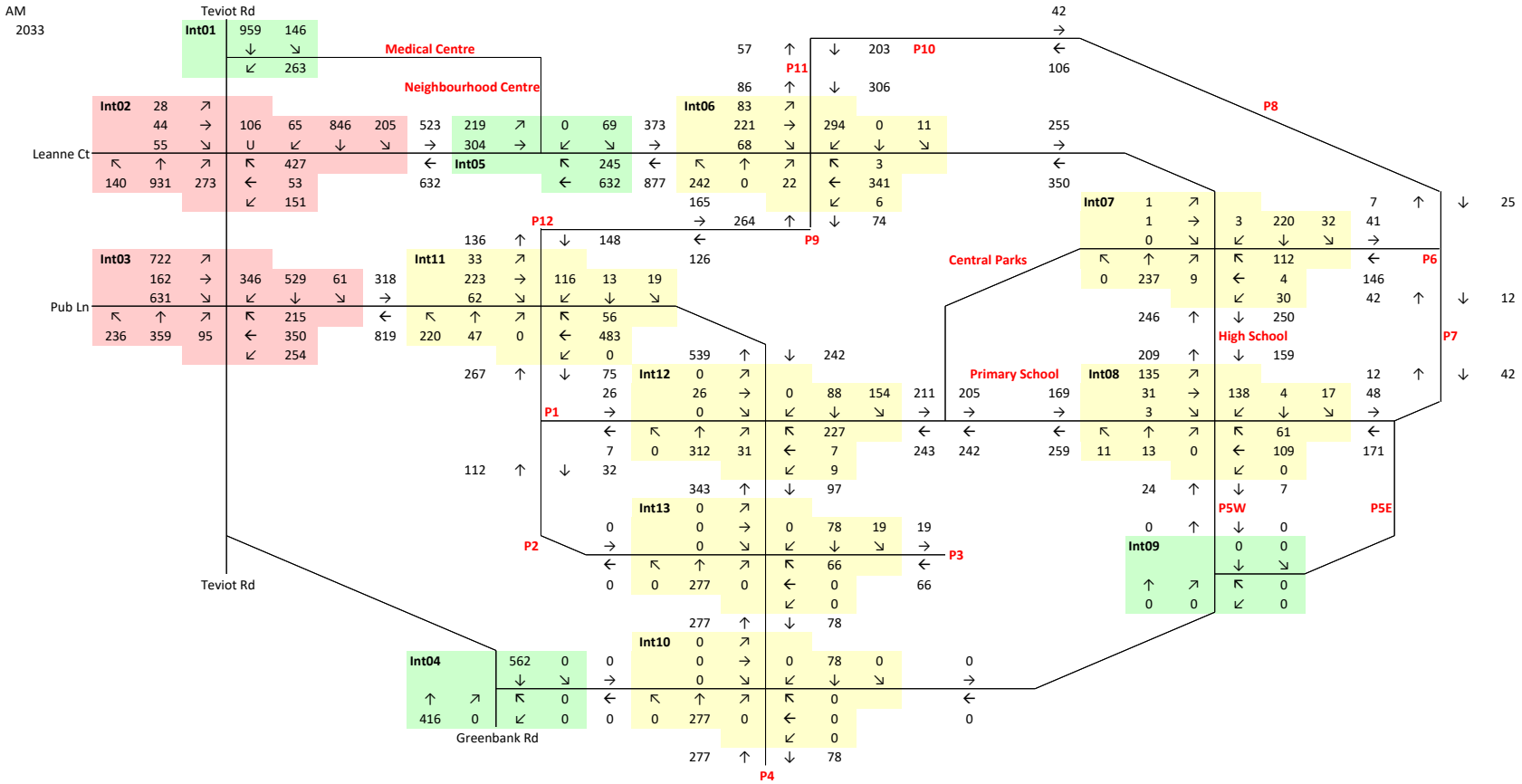
2033 "WITH DEVELOPMENT" TRAFFIC – P3 & P4 ACCESS VIA EVERLEIGH DRIVE ONLY

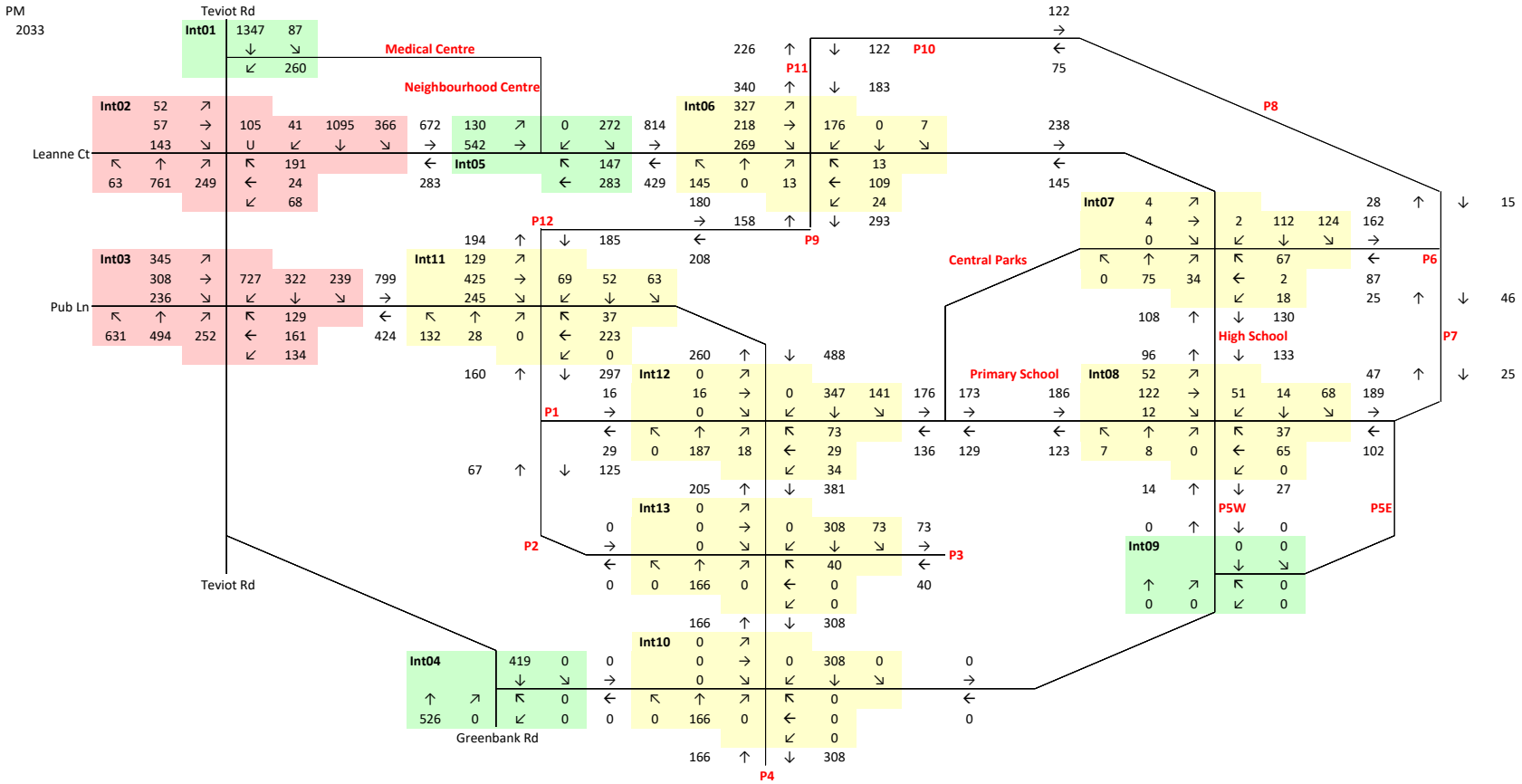


Greenbank Drive access		N
P1	365	100%
P2	226	100%
P3	133	100%
P4	557	100%
P5W	48	100%
P6	195	100%
P7	169	100%
P8	286	100%
P9	423	100%
P10	280	100%
P11	253	100%
P12	143	100%
P5E	258	100%
Primary	1400	100%
Medical	8000	100%
Retail	8000	100%
Secondary	1800	100%
Background		Y

Everleigh Drive link: Y

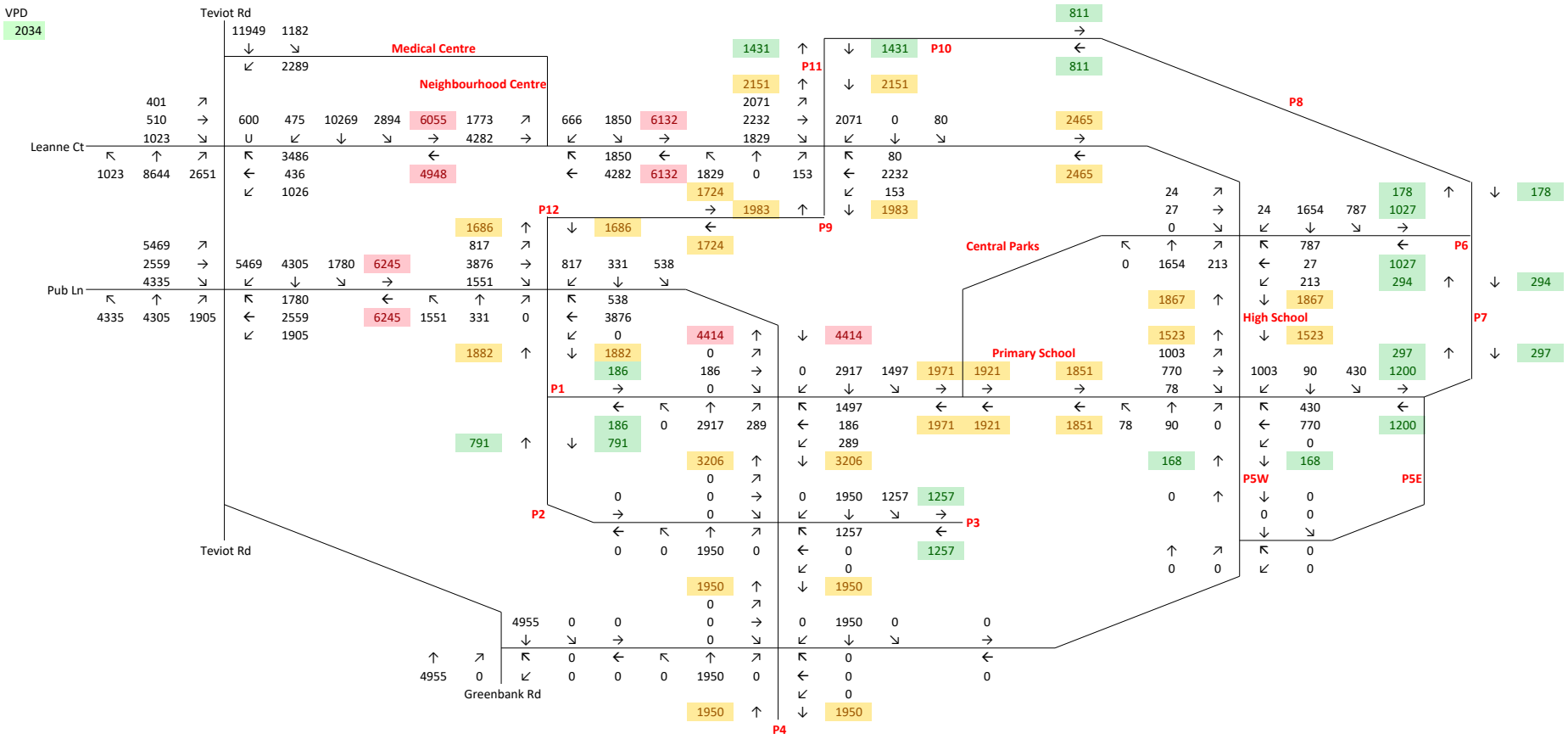
Anderson Drive link: N


AM
2033
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd


PM
2033
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd

APPENDIX P

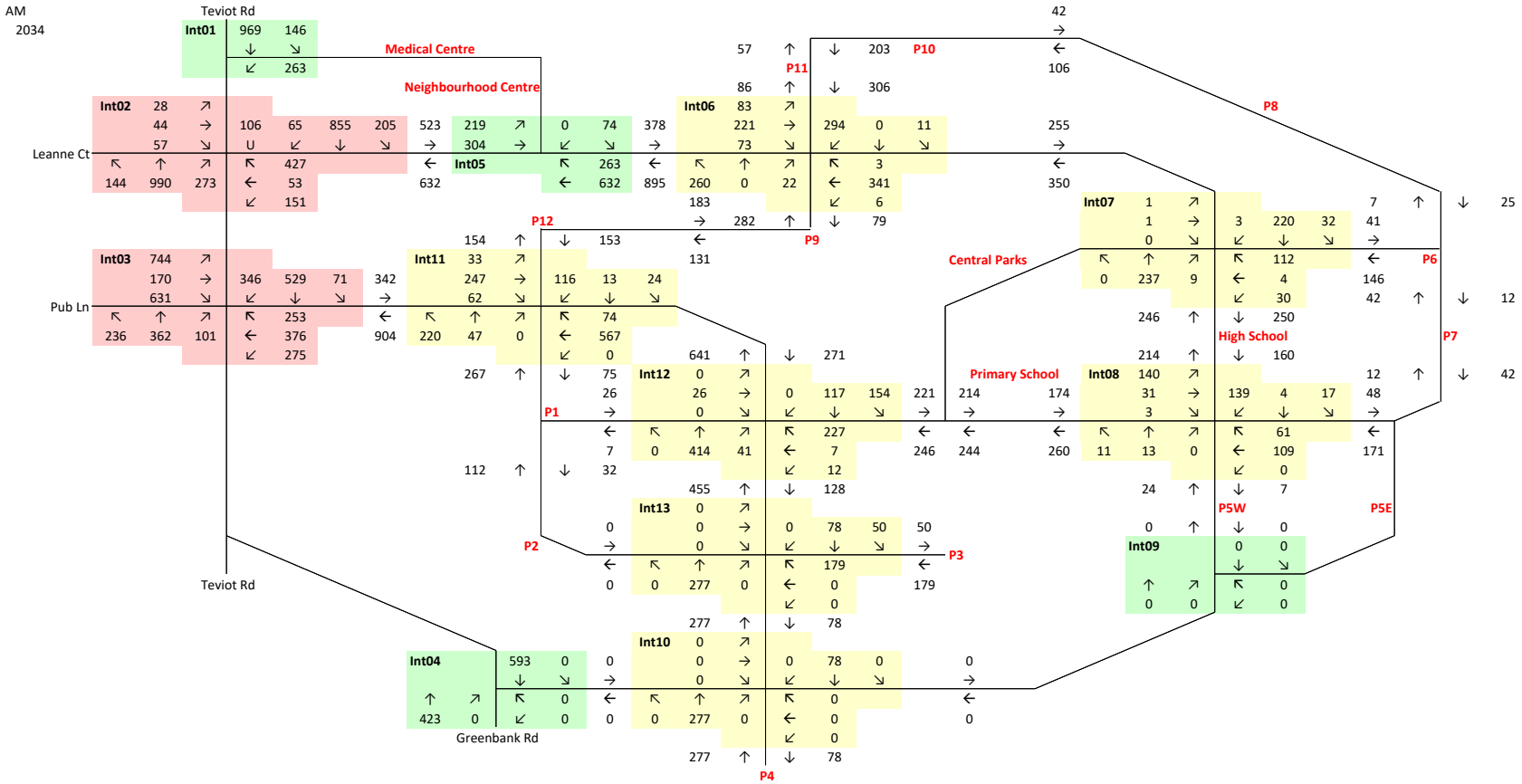
2034 "WITH DEVELOPMENT" TRAFFIC – P3 & P4 ACCESS VIA EVERLEIGH DRIVE ONLY

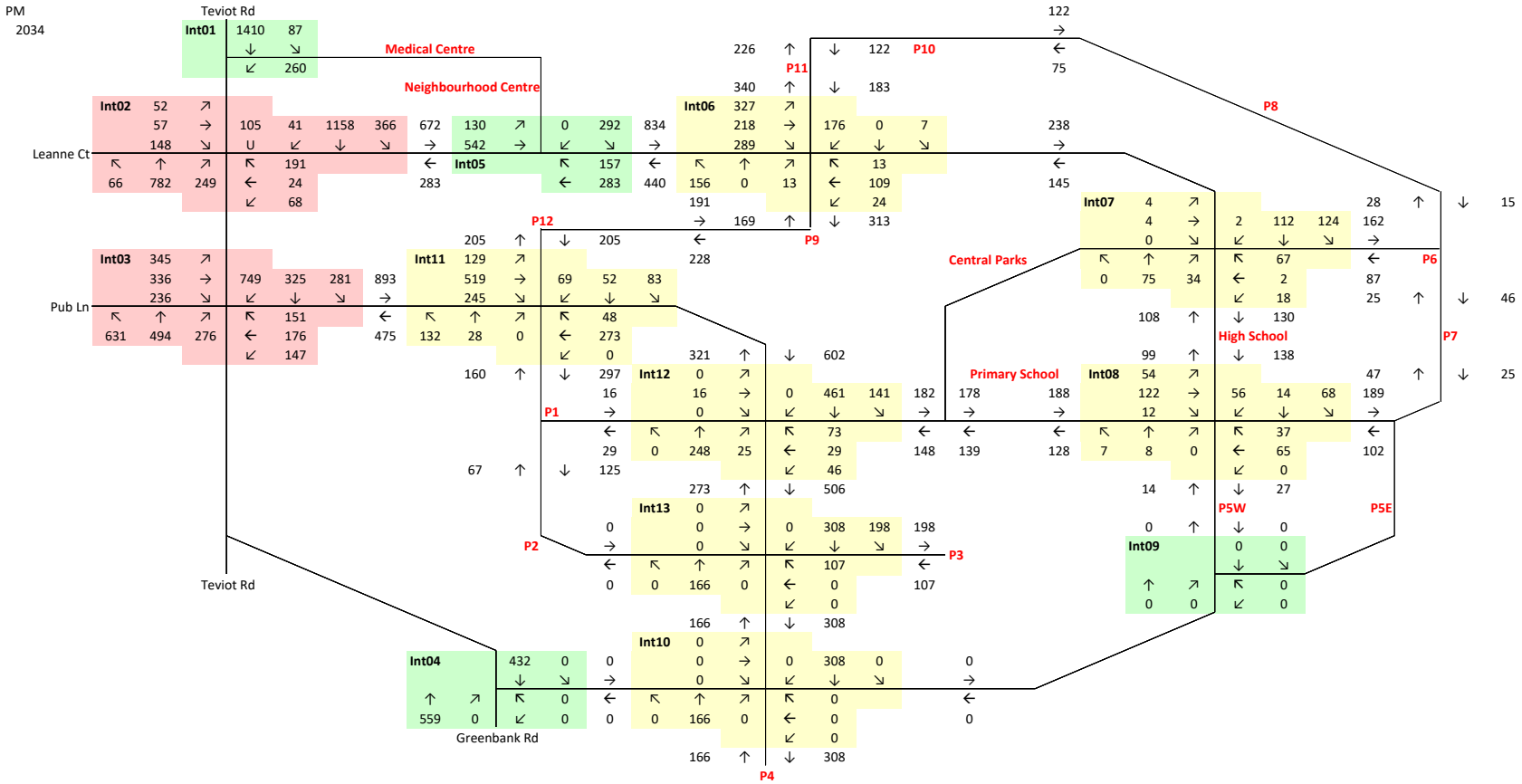


Greenbank Drive access		N
P1	365	100%
P2	226	100%
P3	359	100%
P4	557	100%
P5W	48	100%
P6	195	100%
P7	169	100%
P8	286	100%
P9	423	100%
P10	280	100%
P11	253	100%
P12	143	100%
P5E	258	100%
Primary	1400	100%
Medical	8000	100%
Retail	8000	100%
Secondary	1800	100%
Background		Y

Everleigh Drive link: Y

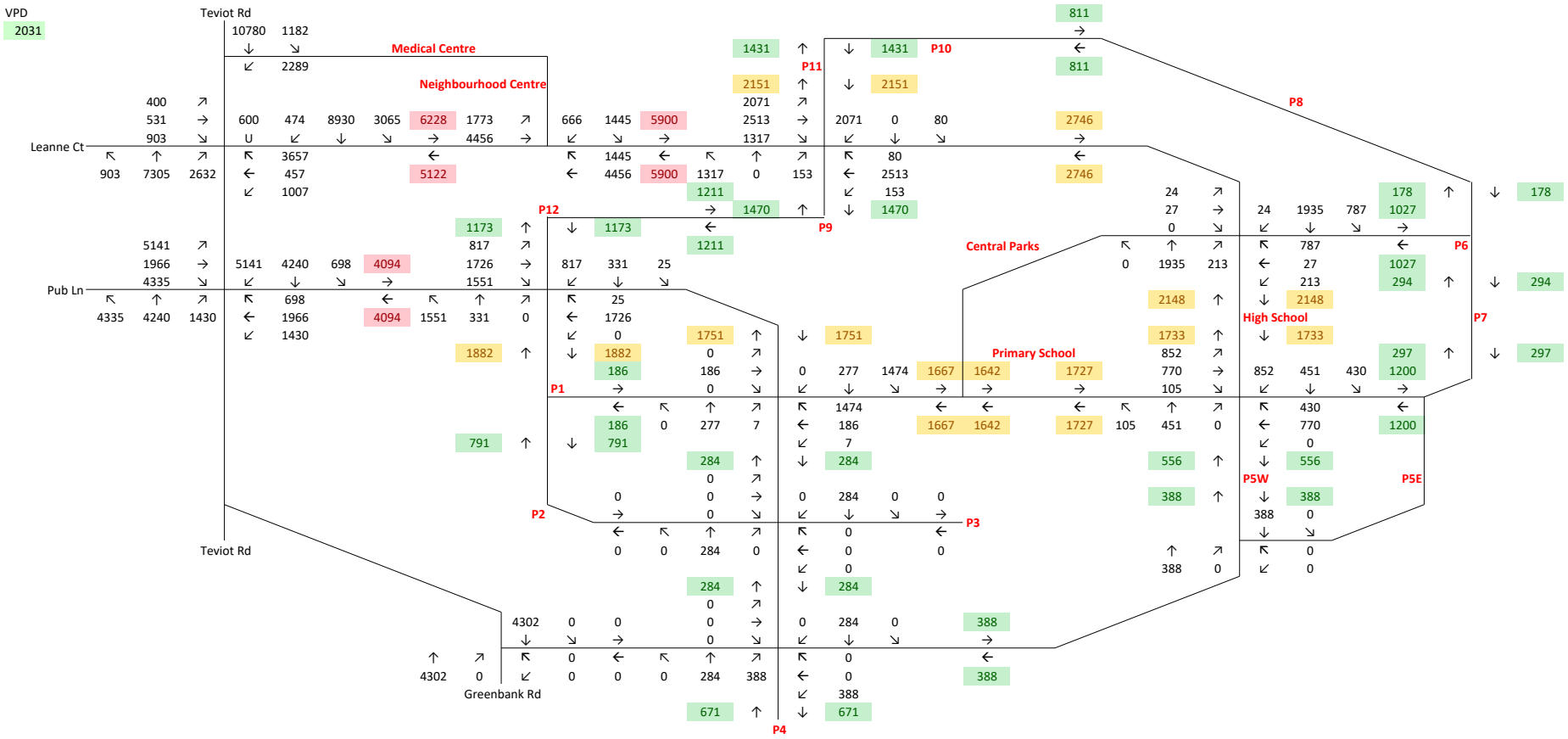
Anderson Drive link: N


AM
2034
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd


PM
2034
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Int02
Leanne Ct
Int03
Pub Ln
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
Int04
Greenbank Rd
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School

APPENDIX Q

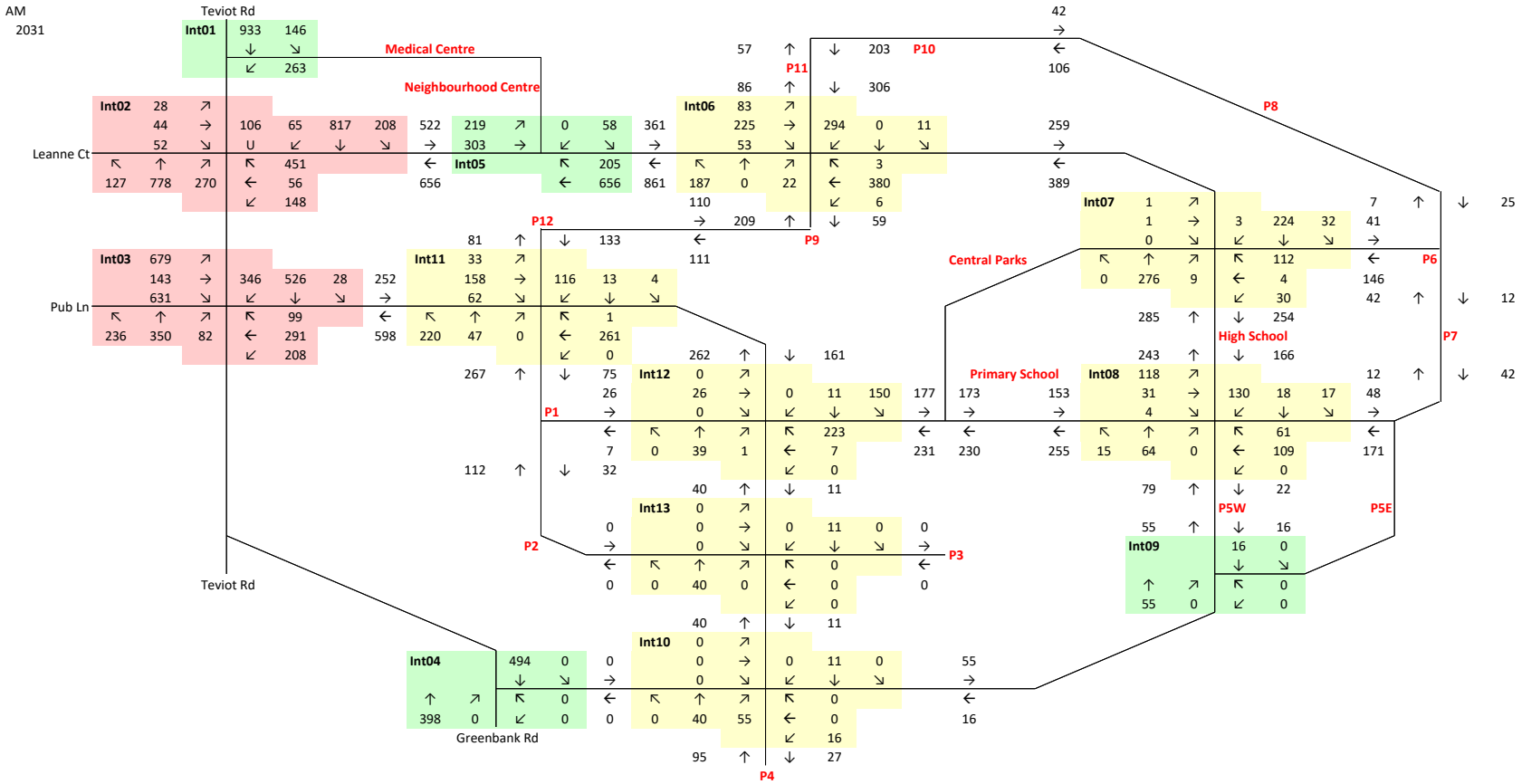
2031 “WITH DEVELOPMENT” TRAFFIC EXCLUDING GREENBANK ROAD ACCESS

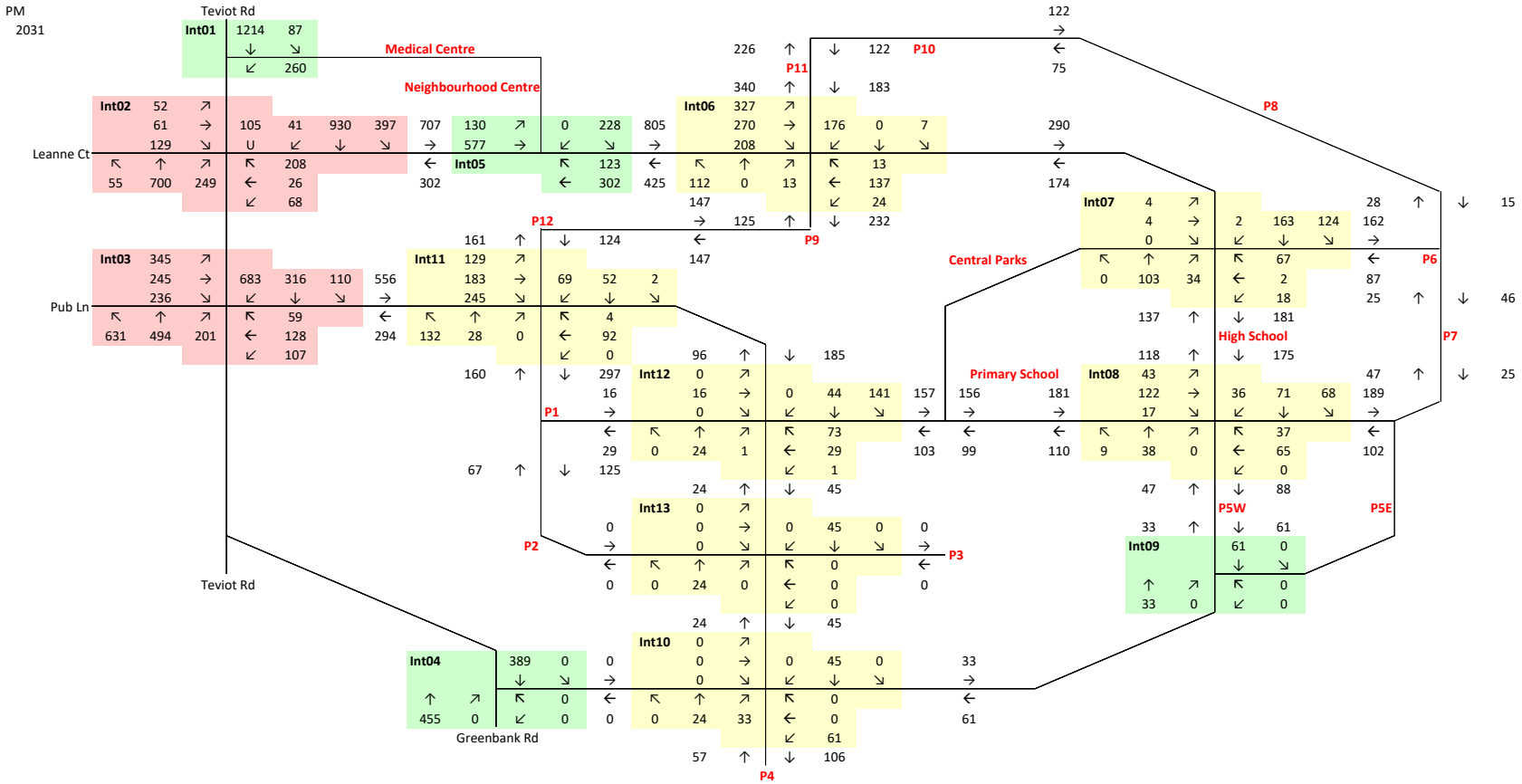


Greenbank Drive access		N
P1	365	100%
P2	226	100%
P3	0	100%
P4	191.75	100%
P5W	48	100%
P6	195	100%
P7	169	100%
P8	286	100%
P9	423	100%
P10	280	100%
P11	253	100%
P12	143	100%
P5E	258	100%
Primary	1400	100%
Medical	8000	100%
Retail	8000	100%
Secondary	1650	100%
Background		Y

Everleigh Drive link Y

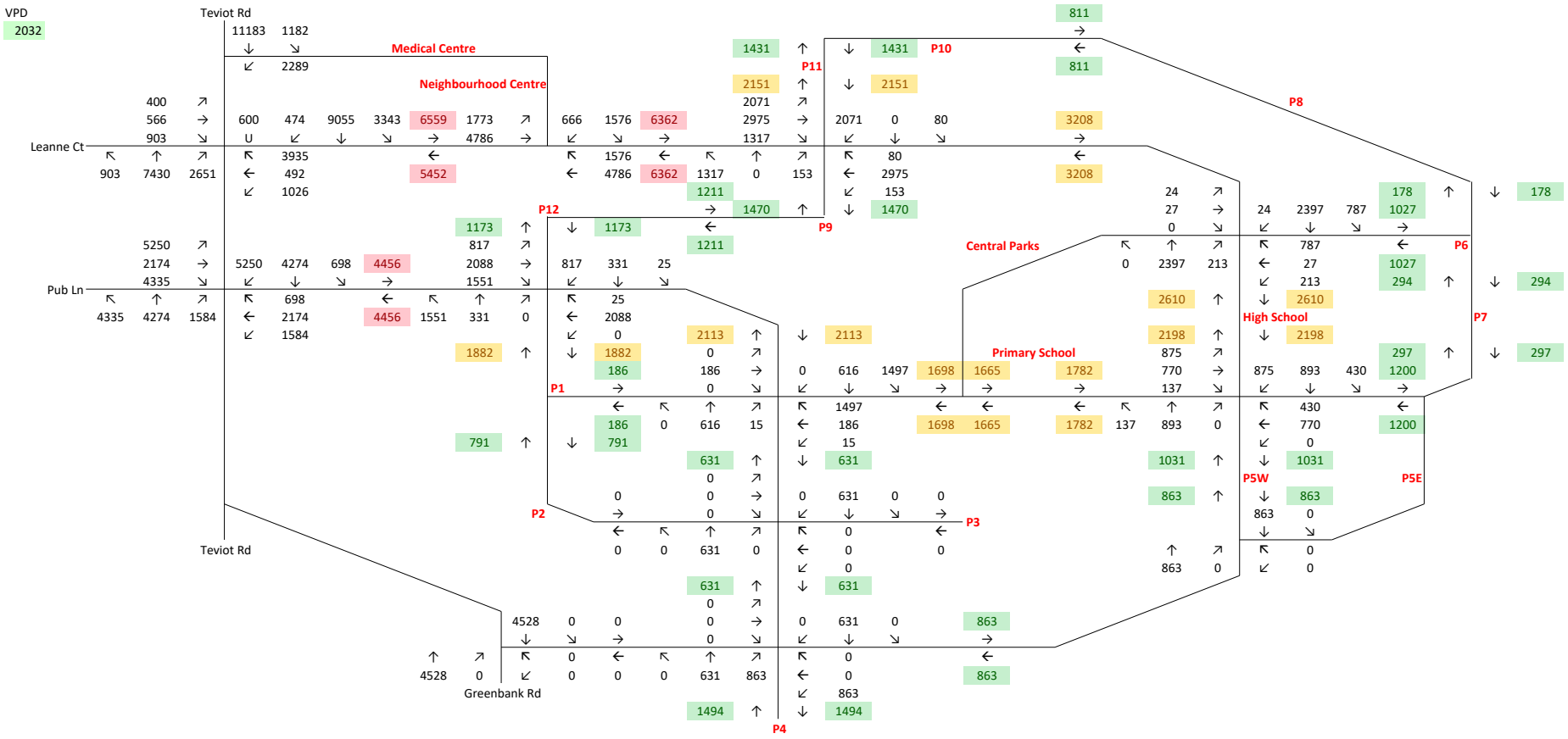
Anderson Drive link Y


AM
2031
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd


PM
2031
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd

APPENDIX R

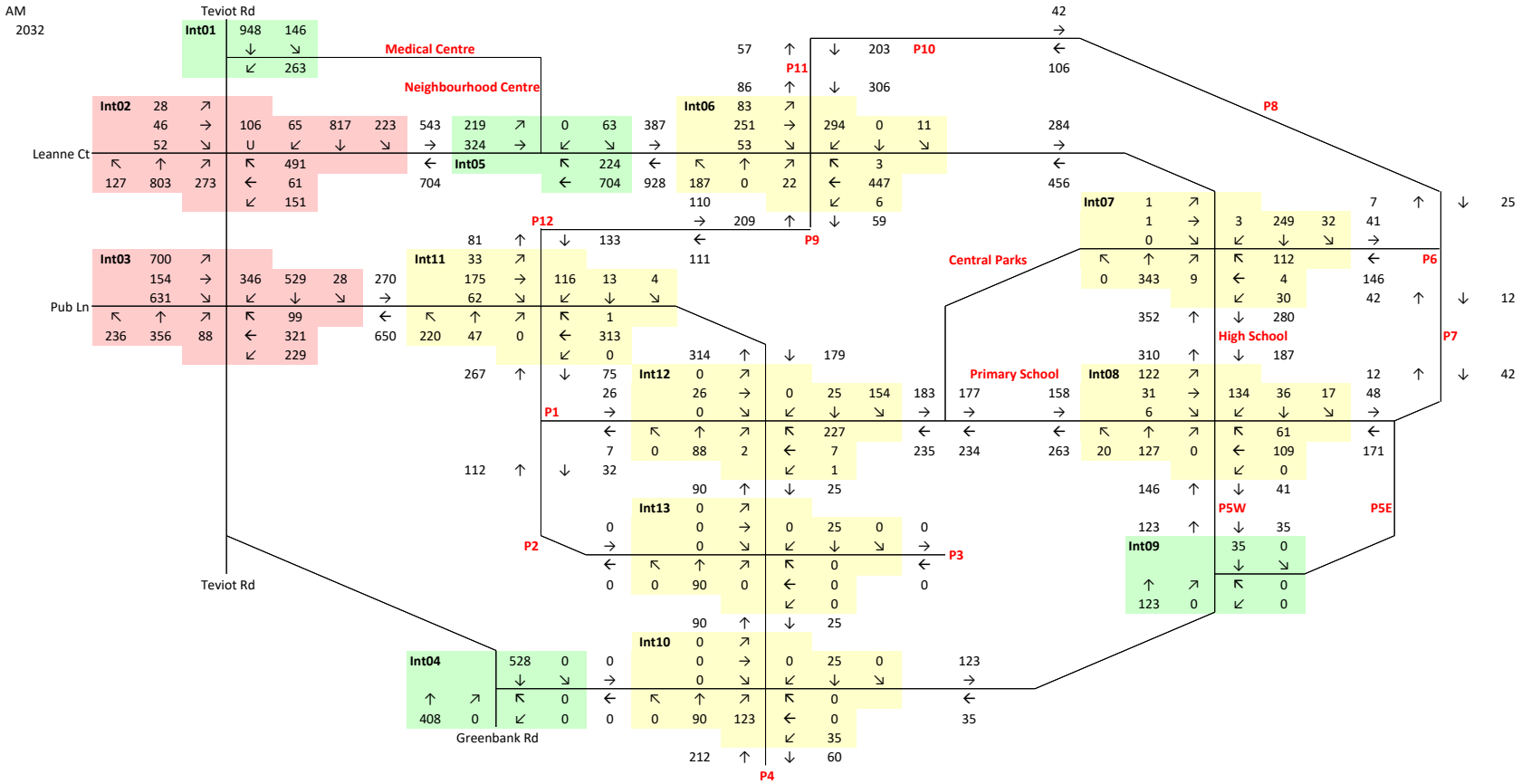
2032 “WITH DEVELOPMENT” TRAFFIC EXCLUDING GREENBANK ROAD ACCESS

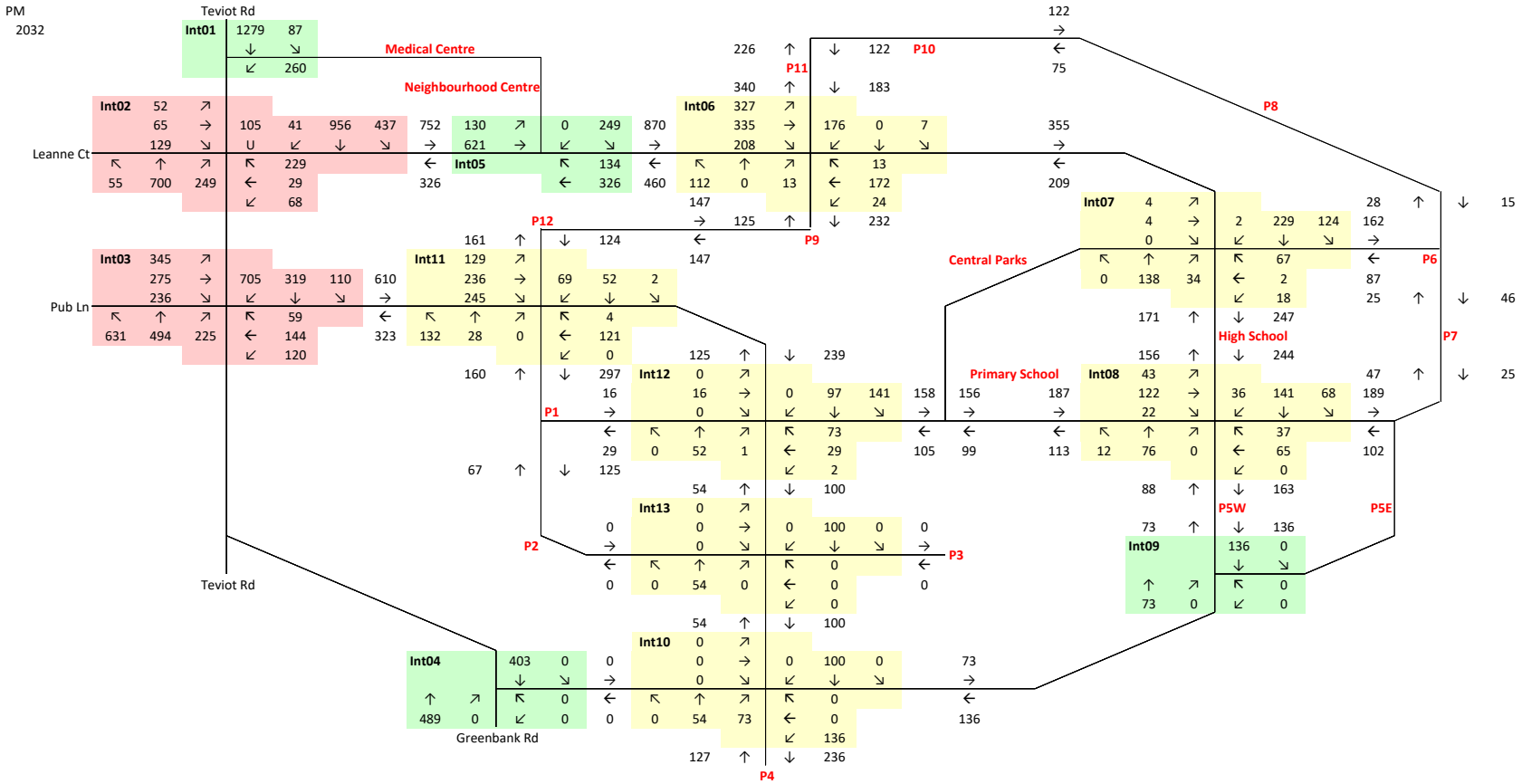


Greenbank Drive access		N
P1	365	100%
P2	226	100%
P3	0	100%
P4	426.73	100%
P5W	48	100%
P6	195	100%
P7	169	100%
P8	286	100%
P9	423	100%
P10	280	100%
P11	253	100%
P12	143	100%
P5E	258	100%
Primary	1400	100%
Medical	8000	100%
Retail	8000	100%
Secondary	1800	100%
Background		Y

Everleigh Drive link: Y

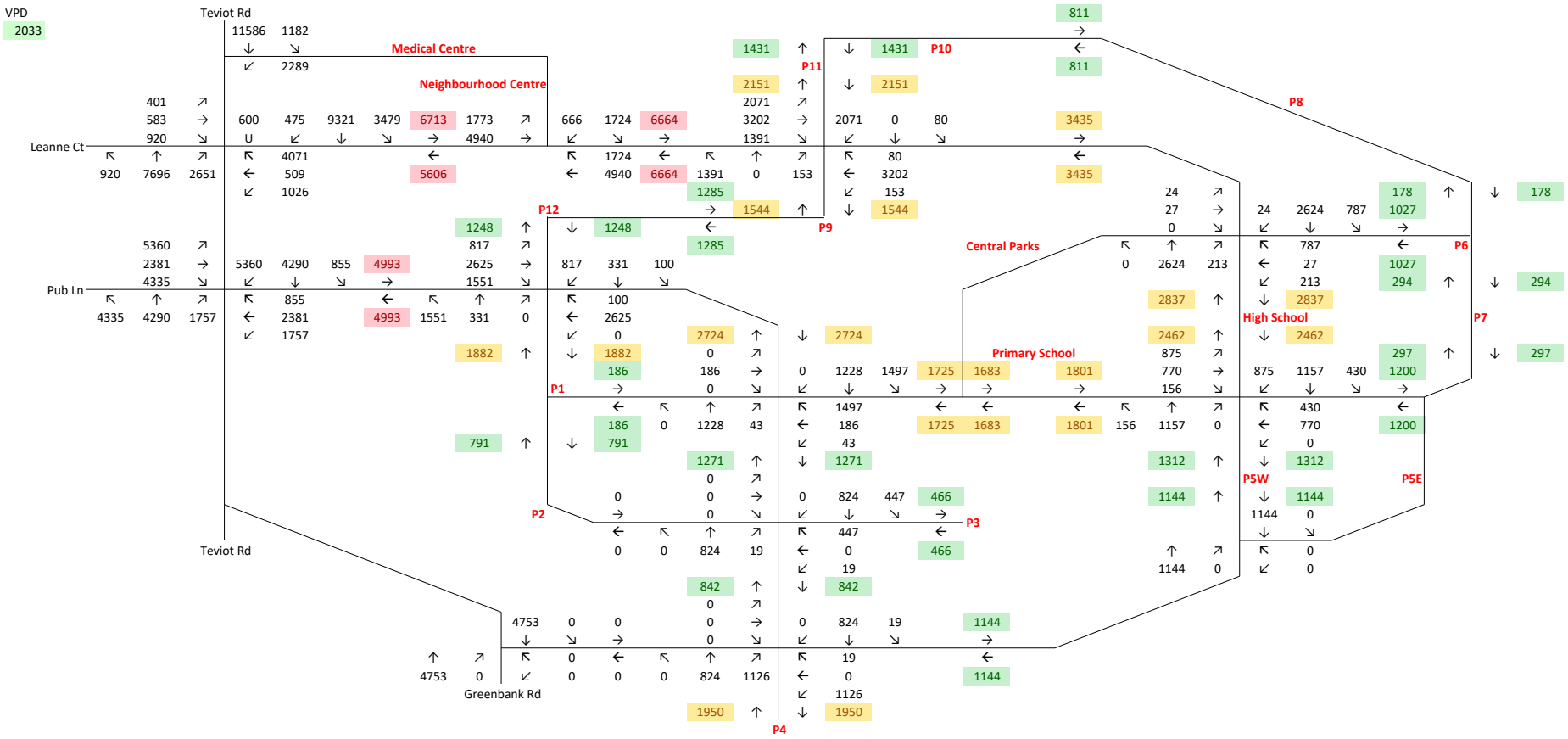
Anderson Drive link: Y


AM
2032
Teviot Rd
Int01
948
146
263
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd


PM
2032
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd

APPENDIX S

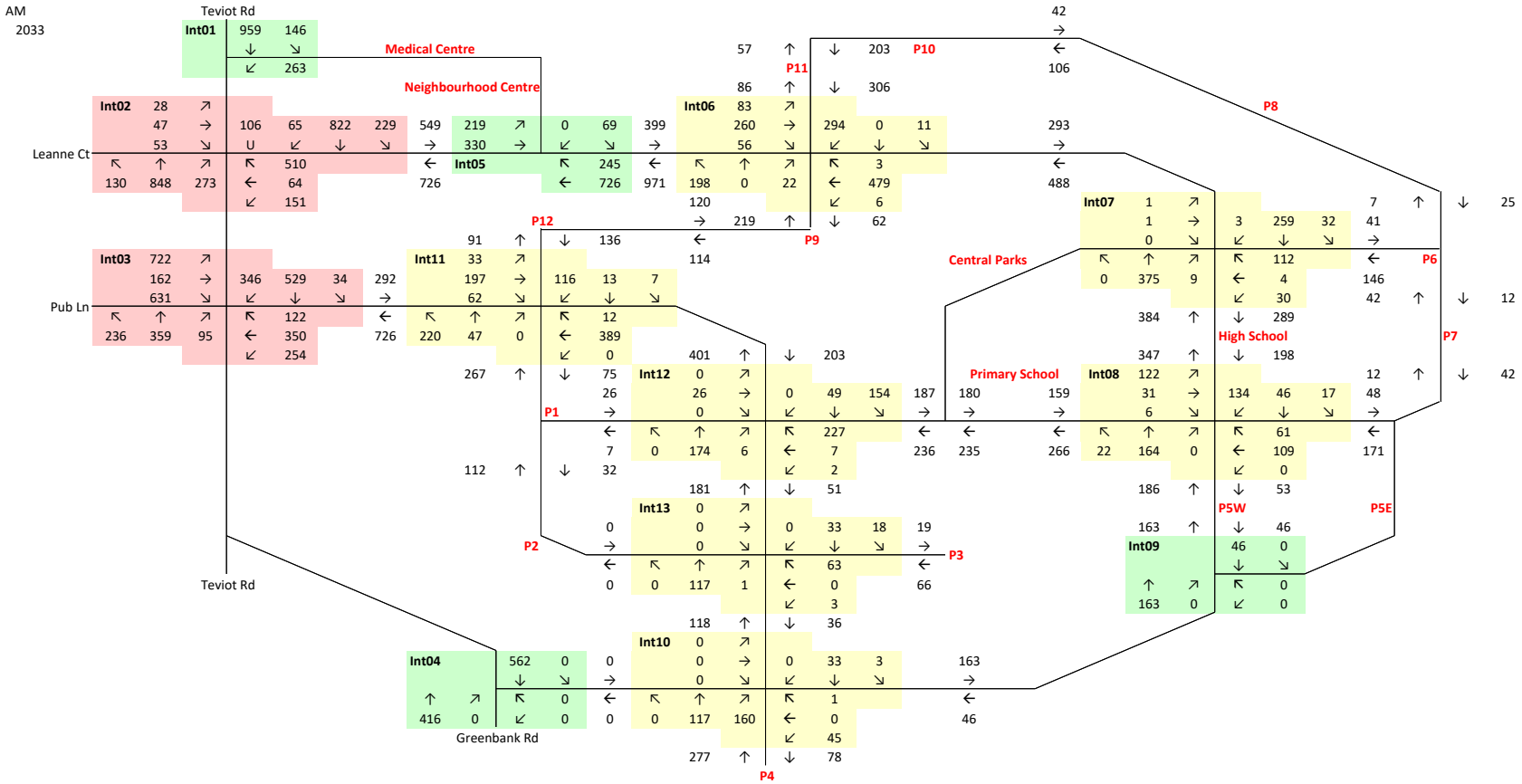
2033 “WITH DEVELOPMENT” TRAFFIC EXCLUDING GREENBANK ROAD ACCESS

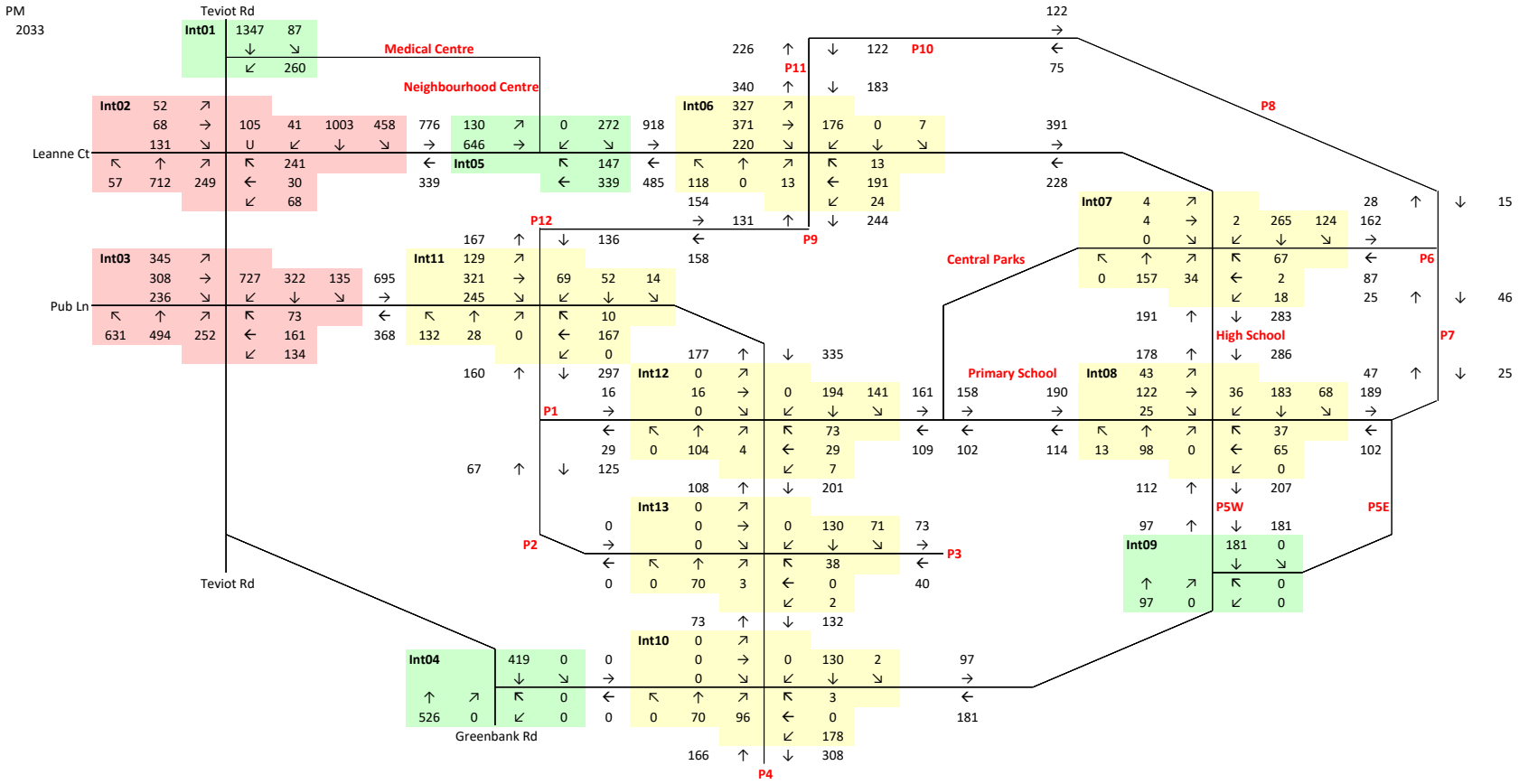


Greenbank Drive access		N
P1	365	100%
P2	226	100%
P3	133	100%
P4	557	100%
P5W	48	100%
P6	195	100%
P7	169	100%
P8	286	100%
P9	423	100%
P10	280	100%
P11	253	100%
P12	143	100%
P5E	258	100%
Primary	1400	100%
Medical	8000	100%
Retail	8000	100%
Secondary	1800	100%
Background		Y

Everleigh Drive link: Y

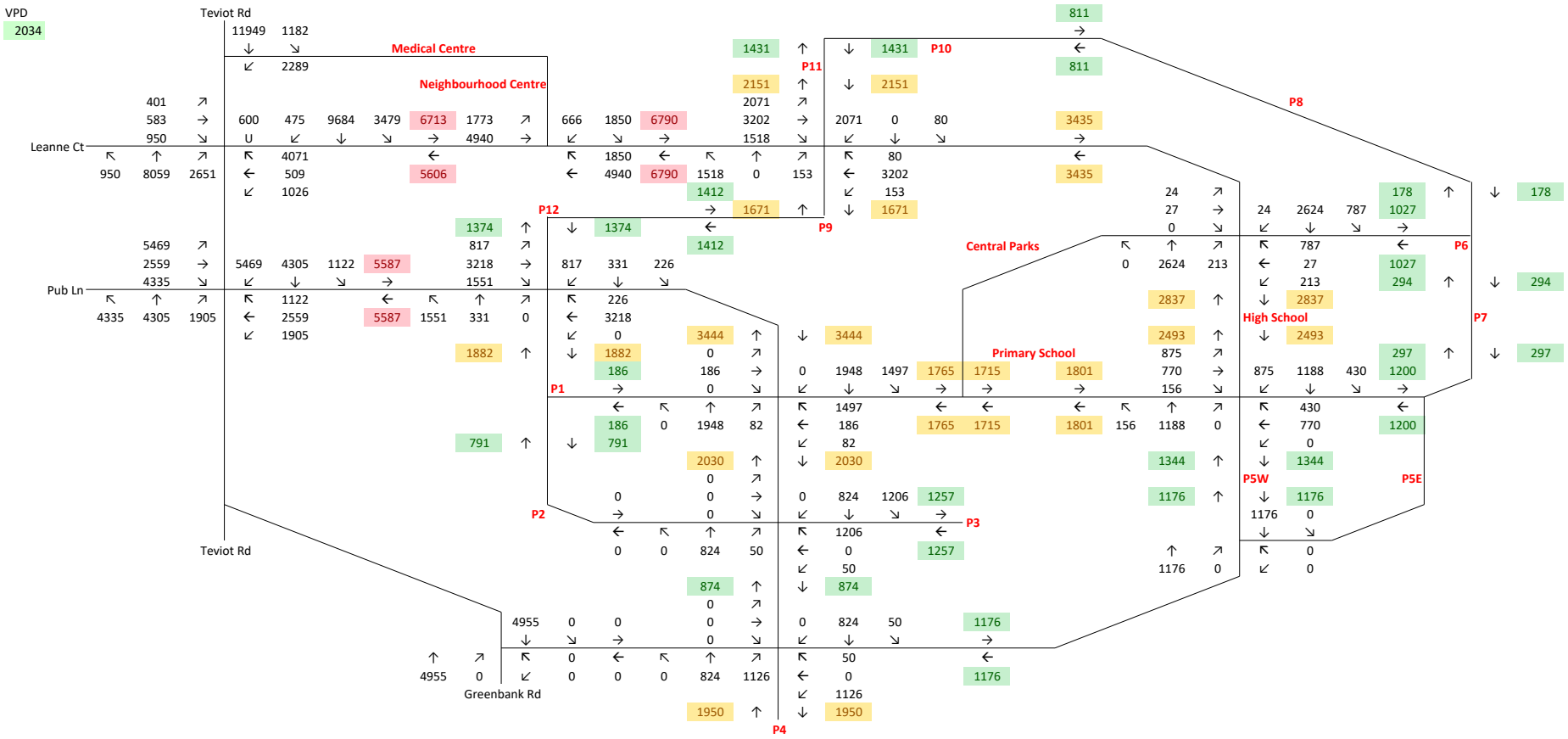
Anderson Drive link: Y


AM
2033
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd


PM
2033
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Int02
Leanne Ct
Int05
Int06
P8
P10
P11
P12
P9
Int03
Pub Ln
Int11
Central Parks
Int07
P6
High School
P7
Primary School
Int08
Int12
P1
Int13
P2
P3
P5W
P5E
Int09
Int04
Int10
Greenbank Rd
P4

APPENDIX T

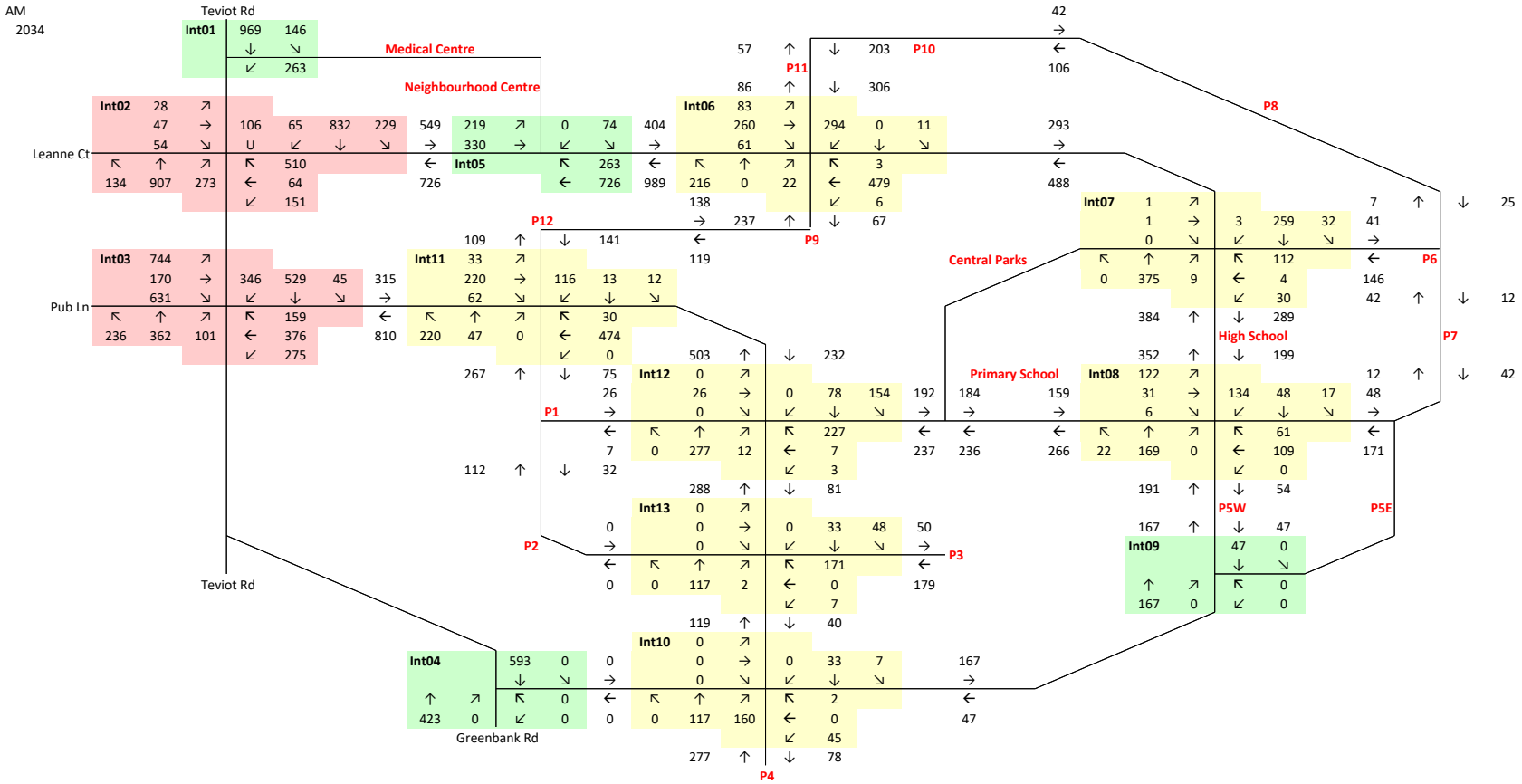
2034 “WITH DEVELOPMENT” TRAFFIC EXCLUDING GREENBANK ROAD ACCESS

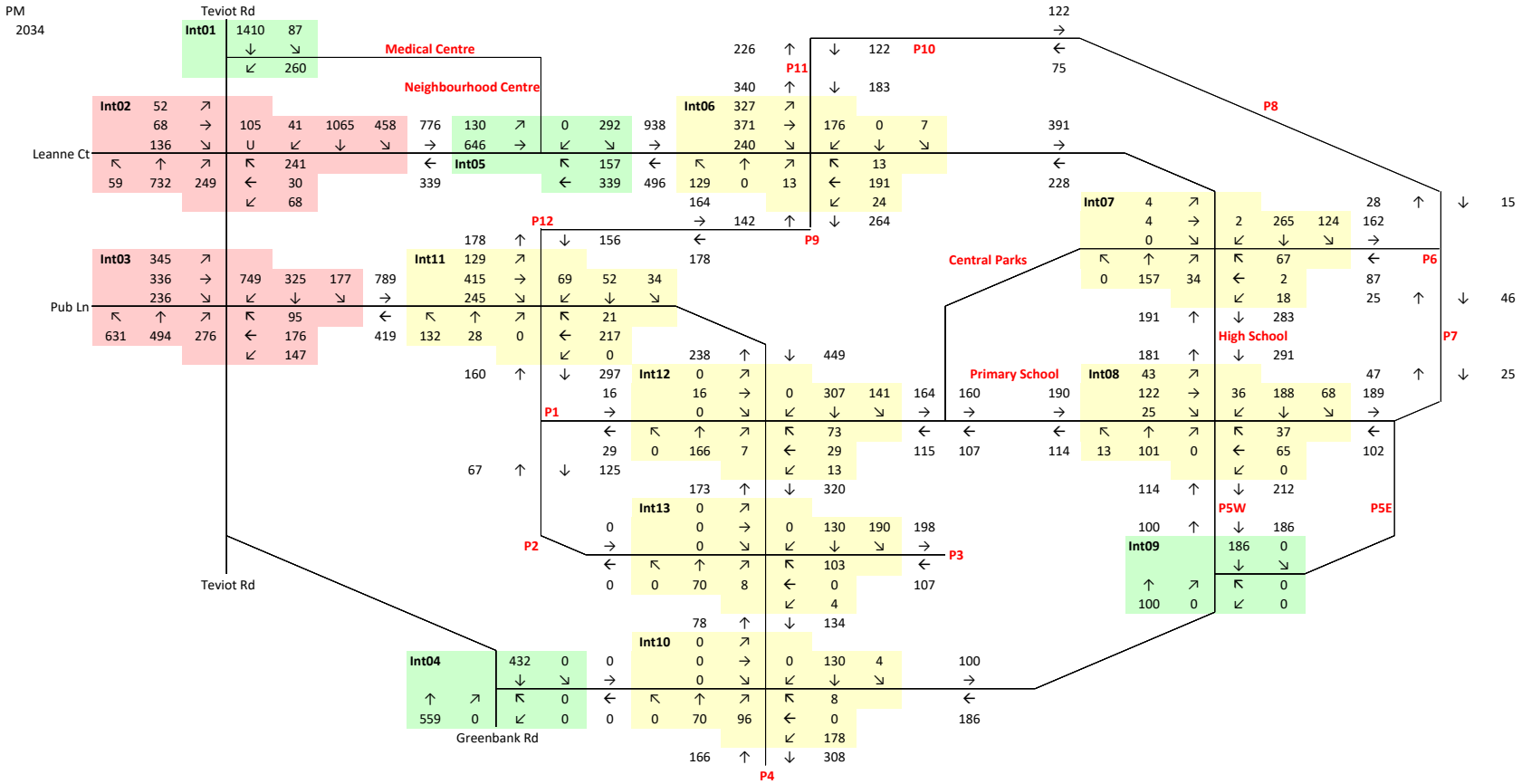


Greenbank Drive access		N
P1	365	100%
P2	226	100%
P3	359	100%
P4	557	100%
P5W	48	100%
P6	195	100%
P7	169	100%
P8	286	100%
P9	423	100%
P10	280	100%
P11	253	100%
P12	143	100%
P5E	258	100%
Primary	1400	100%
Medical	8000	100%
Retail	8000	100%
Secondary	1800	100%
Background		Y

Everleigh Drive link: Y

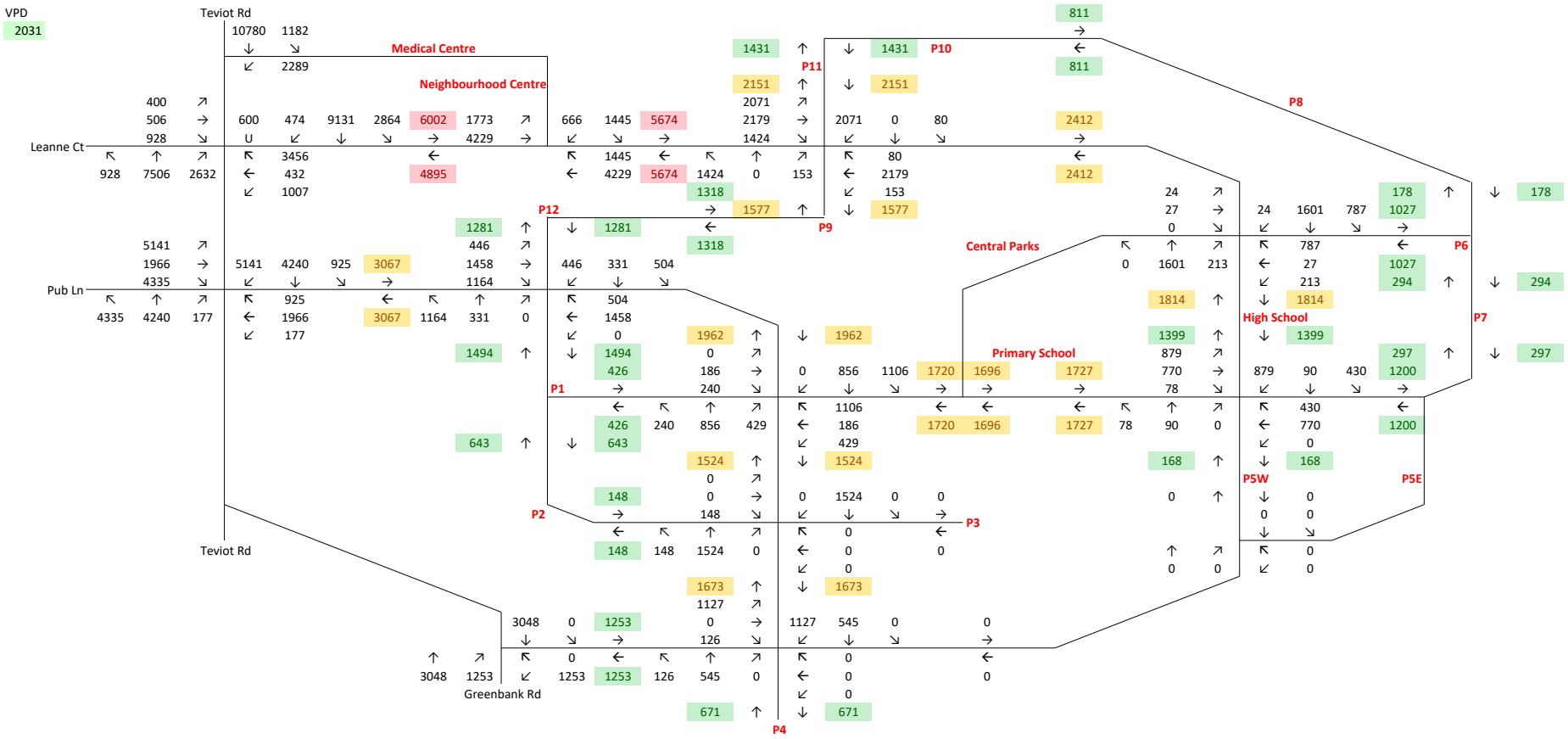
Anderson Drive link: Y


AM
2034
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd


PM
2034
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd

APPENDIX U

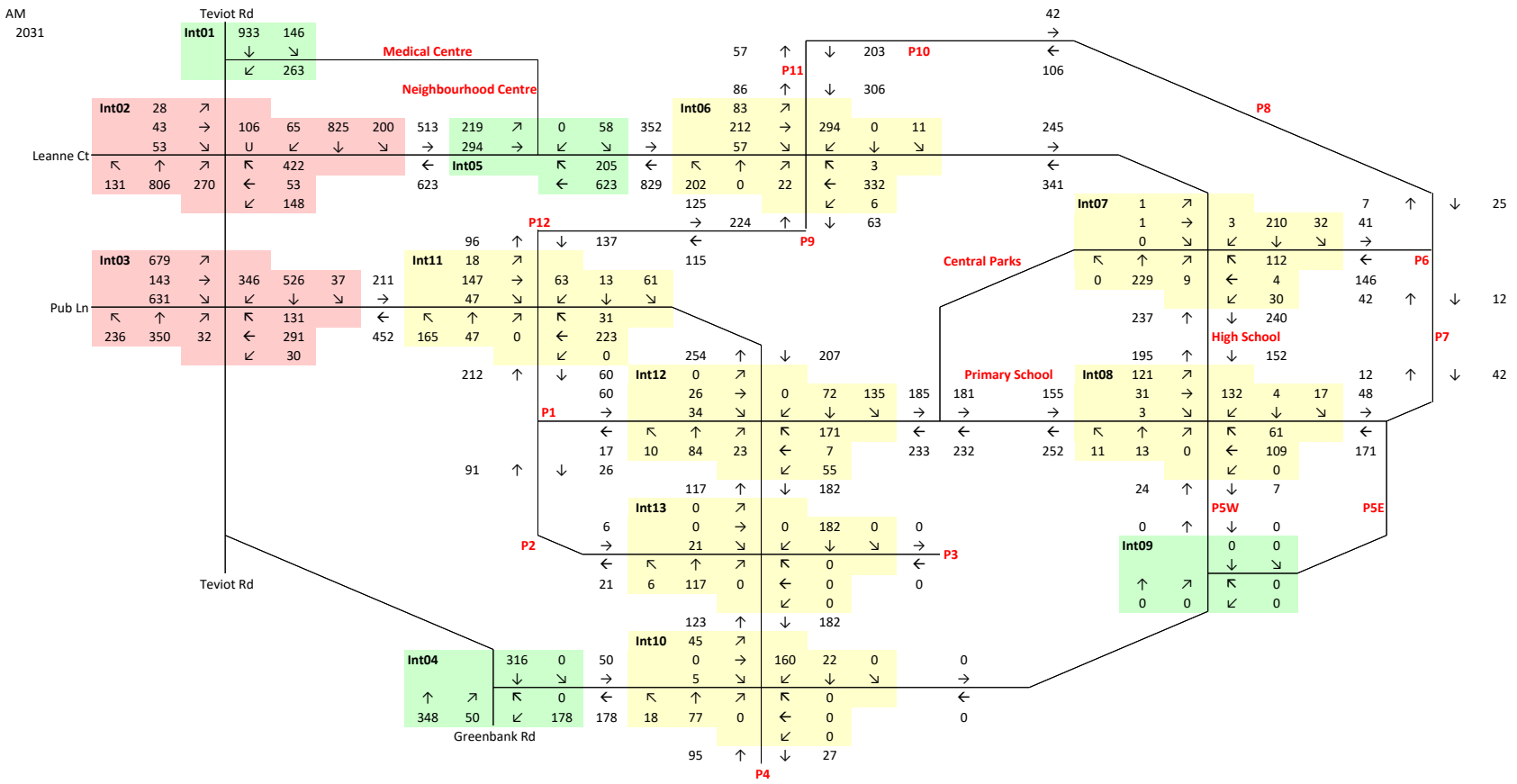
2031 “WITH DEVELOPMENT” TRAFFIC EXCLUDING ANDERSON DRIVE LINK

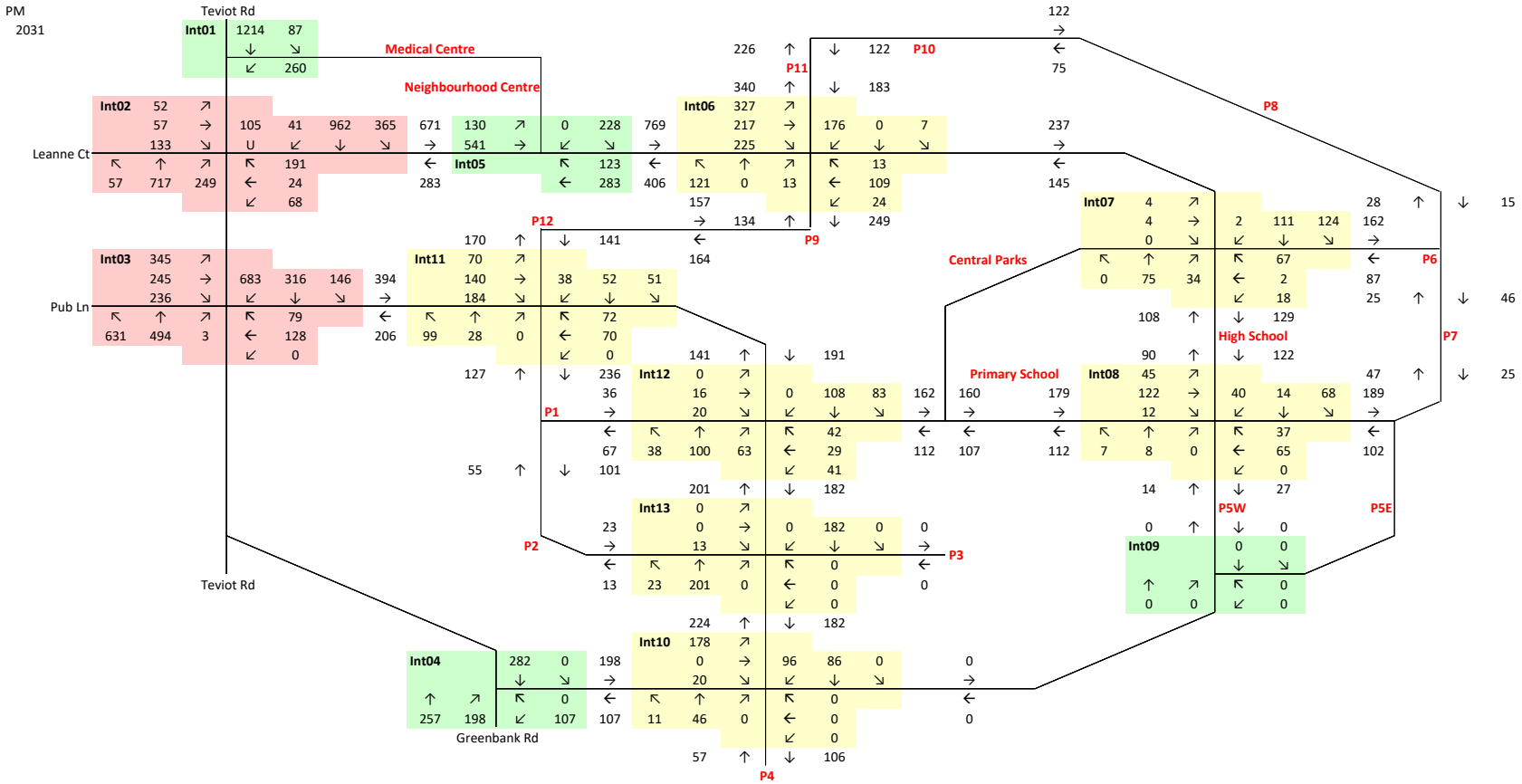


Greenbank Drive access		Y
P1	365	100%
P2	226	100%
P3	0	100%
P4	191.75	100%
P5W	48	100%
P6	195	100%
P7	169	100%
P8	286	100%
P9	423	100%
P10	280	100%
P11	253	100%
P12	143	100%
P5E	258	100%
Primary	1400	100%
Medical	8000	100%
Retail	8000	100%
Secondary	1650	100%
Background		Y

Everleigh Drive link: Y

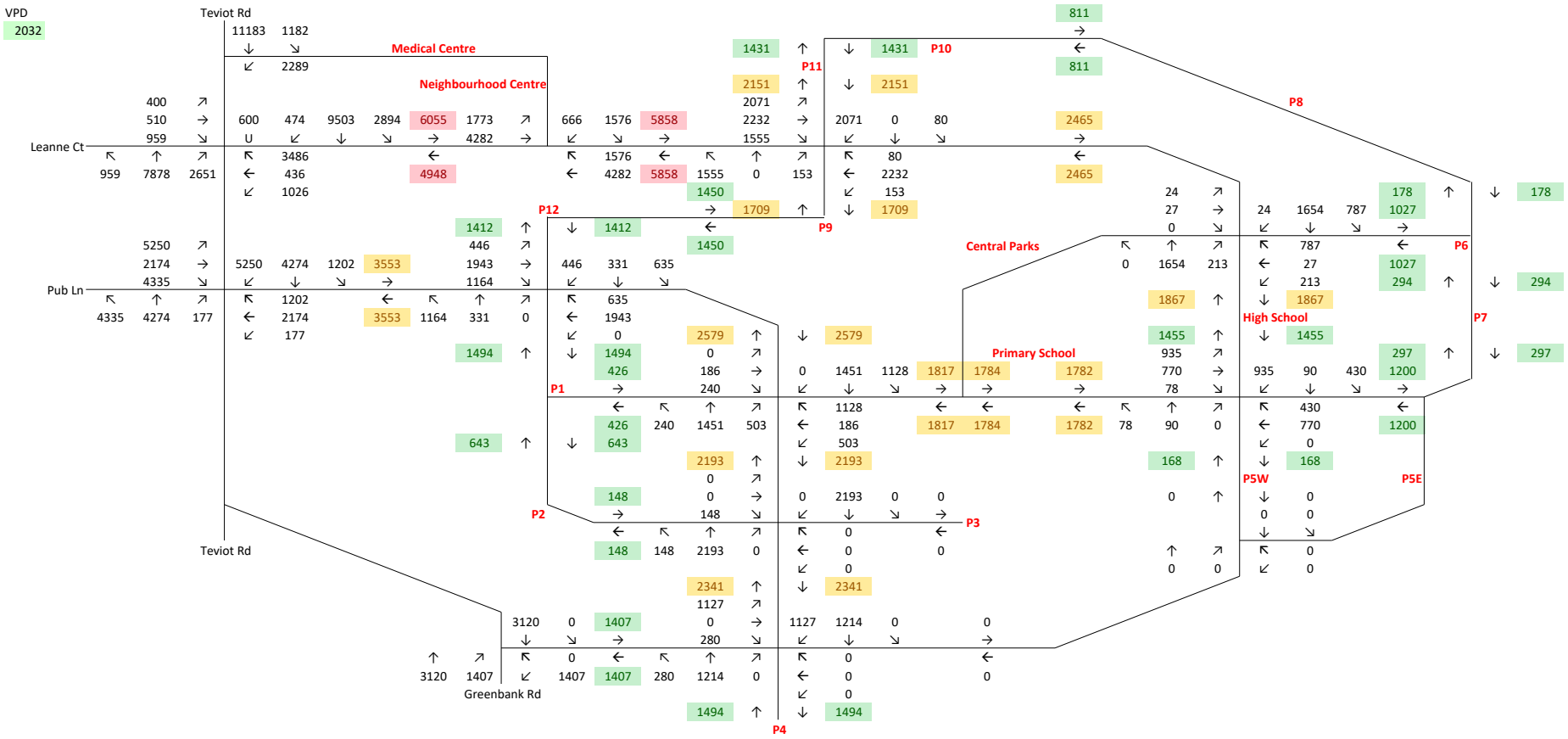
Anderson Drive link: N


AM
2031
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
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P2
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P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd


PM
2031
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Int02
Leanne Ct
Int05
Int03
Pub Ln
Int11
Int06
P8
P10
P11
P12
P9
Central Parks
Int07
P6
High School
P7
Primary School
Int08
Int12
P1
P5W
P5E
P2
P3
Int09
Int13
Int10
Int04
Greenbank Rd
P4

APPENDIX V

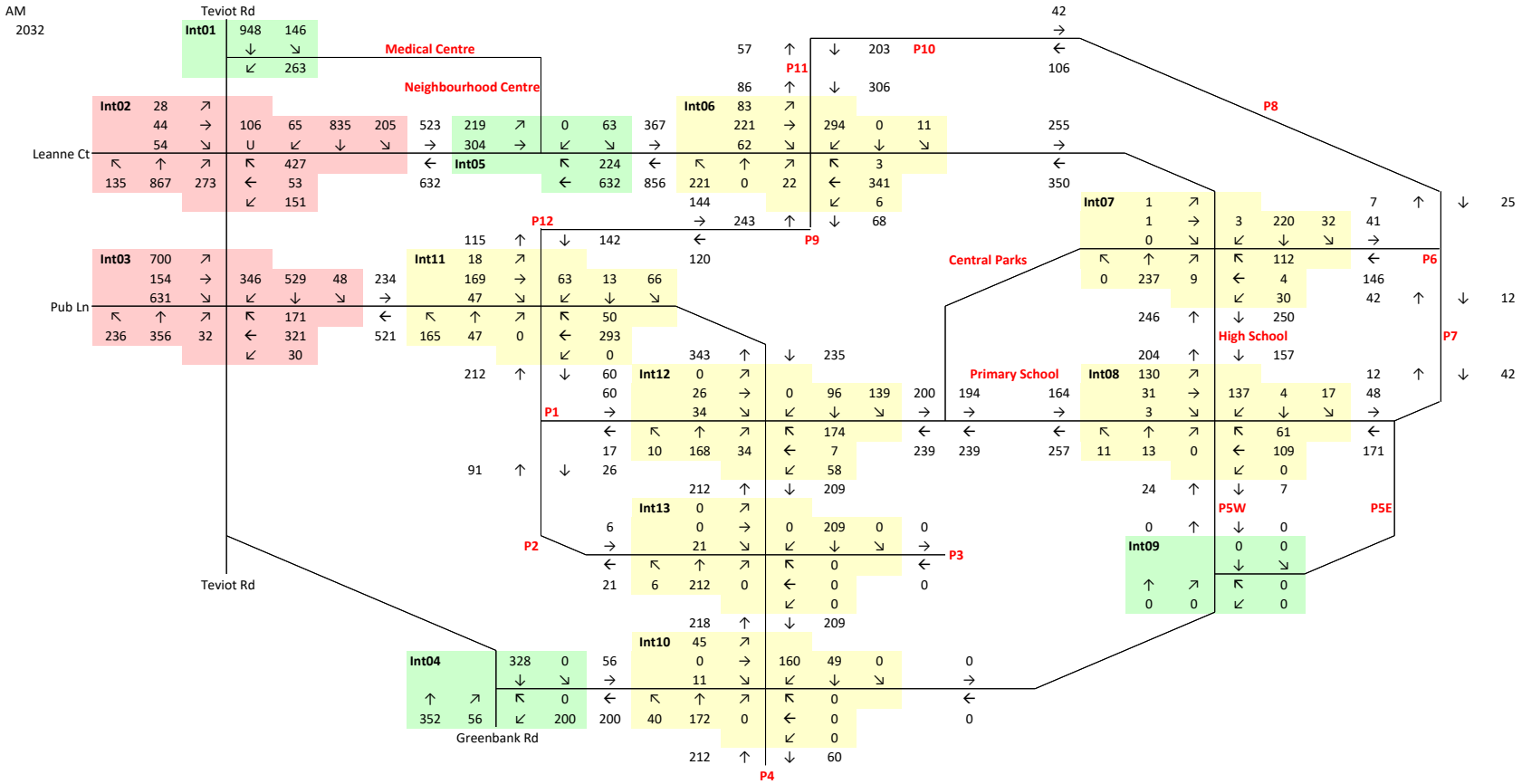
2032 “WITH DEVELOPMENT” TRAFFIC EXCLUDING ANDERSON DRIVE LINK

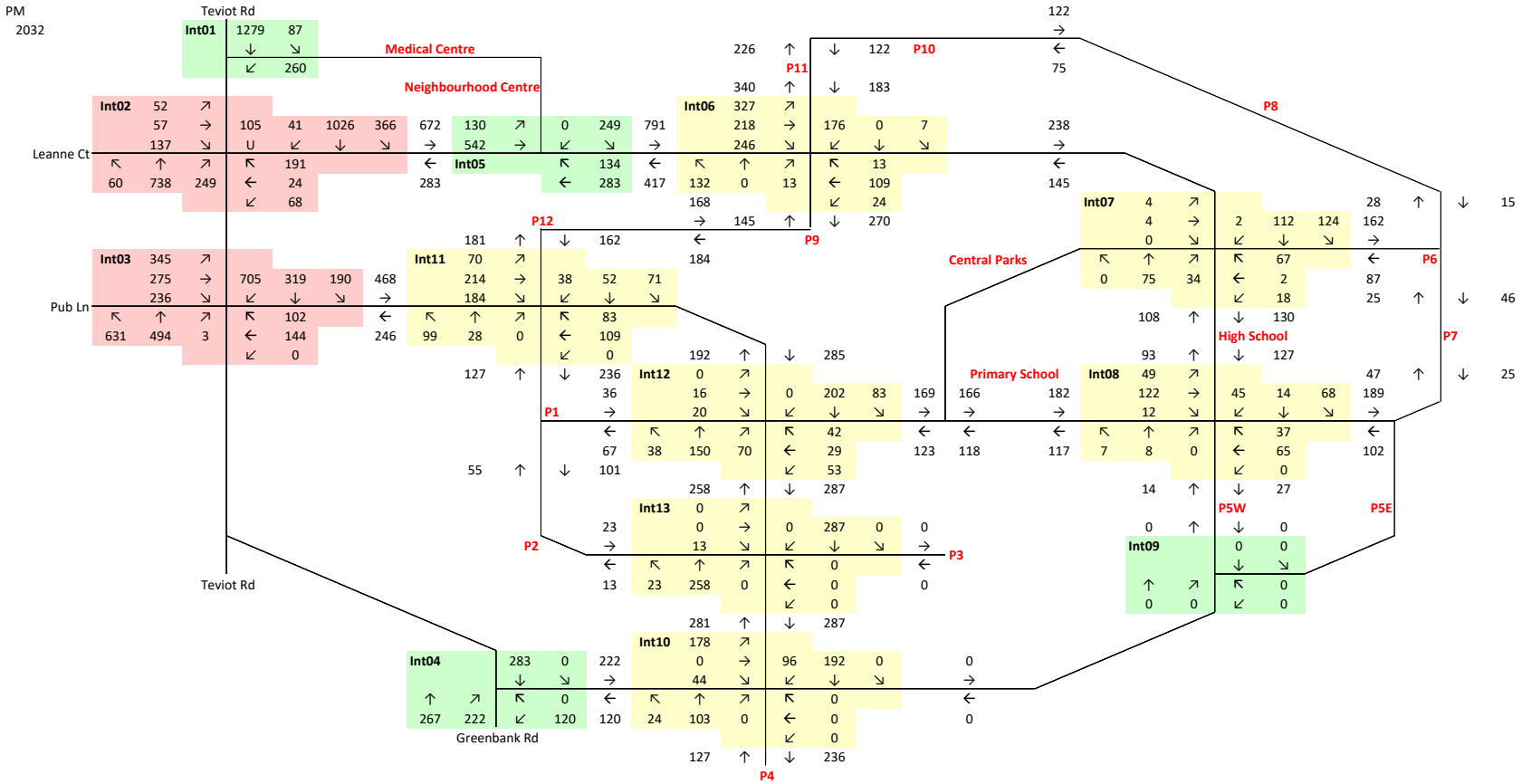


Greenbank Drive access		Y
P1	365	100%
P2	226	100%
P3	0	100%
P4	426.73	100%
P5W	48	100%
P6	195	100%
P7	169	100%
P8	286	100%
P9	423	100%
P10	280	100%
P11	253	100%
P12	143	100%
P5E	258	100%
Primary	1400	100%
Medical	8000	100%
Retail	8000	100%
Secondary	1800	100%
Background		Y

Everleigh Drive link: Y

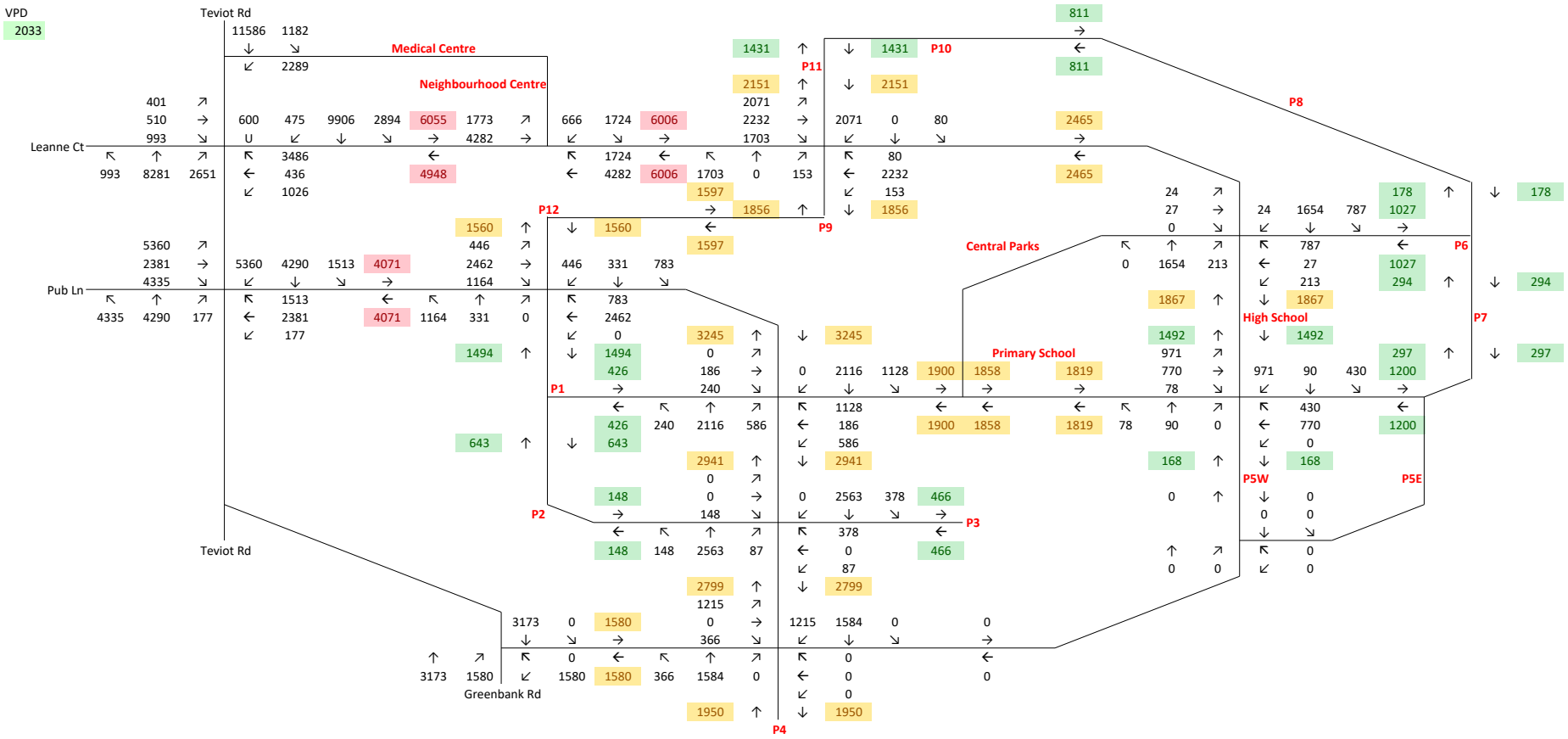
Anderson Drive link: N


AM
2032
Teviot Rd
Int01
948
146
263
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
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P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd


PM
2032
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Central Parks
Primary School
High School
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
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P5E
P5W
P6
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P8
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P10
P11
P12
Greenbank Rd

APPENDIX W

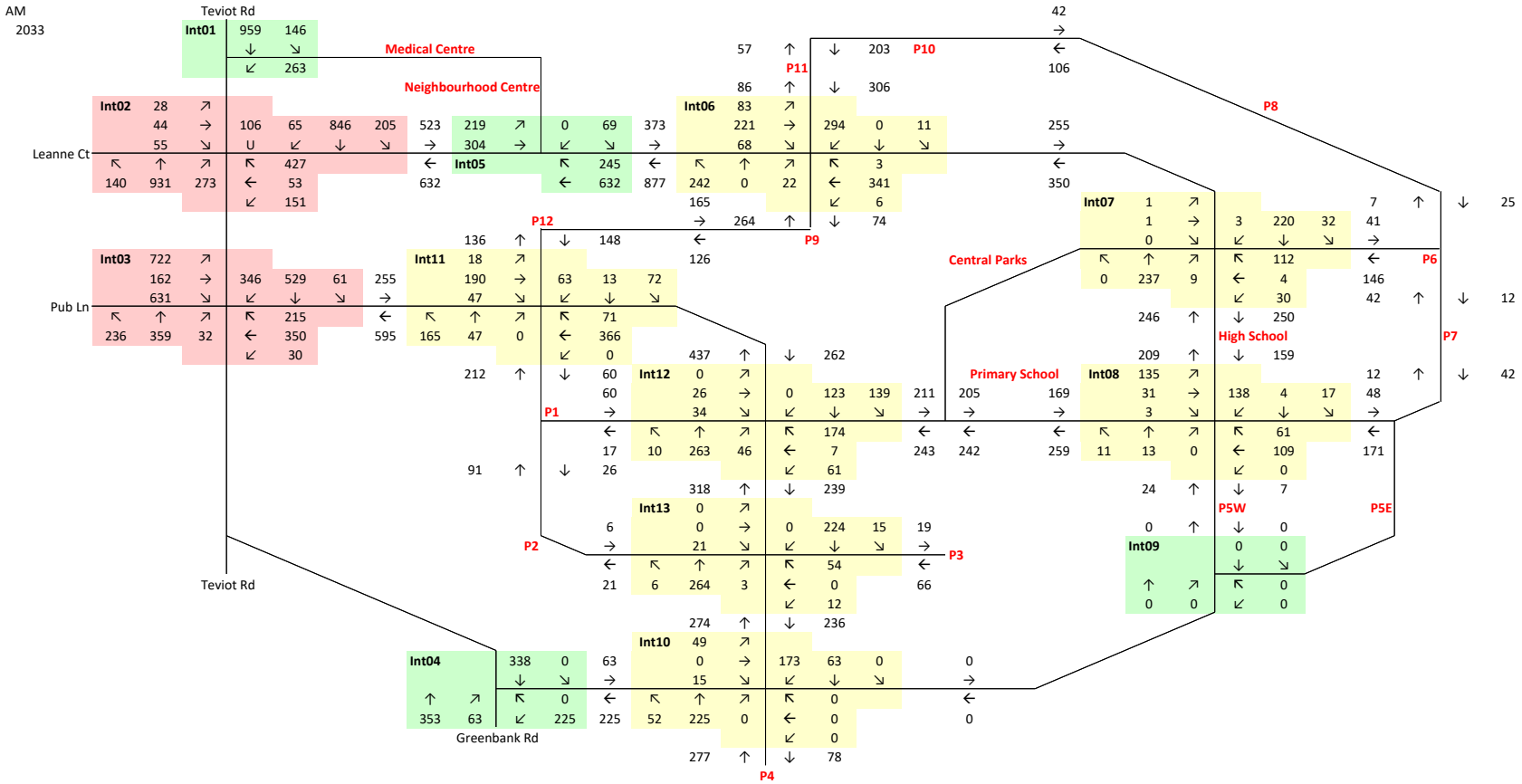
2033 “WITH DEVELOPMENT” TRAFFIC EXCLUDING ANDERSON DRIVE LINK

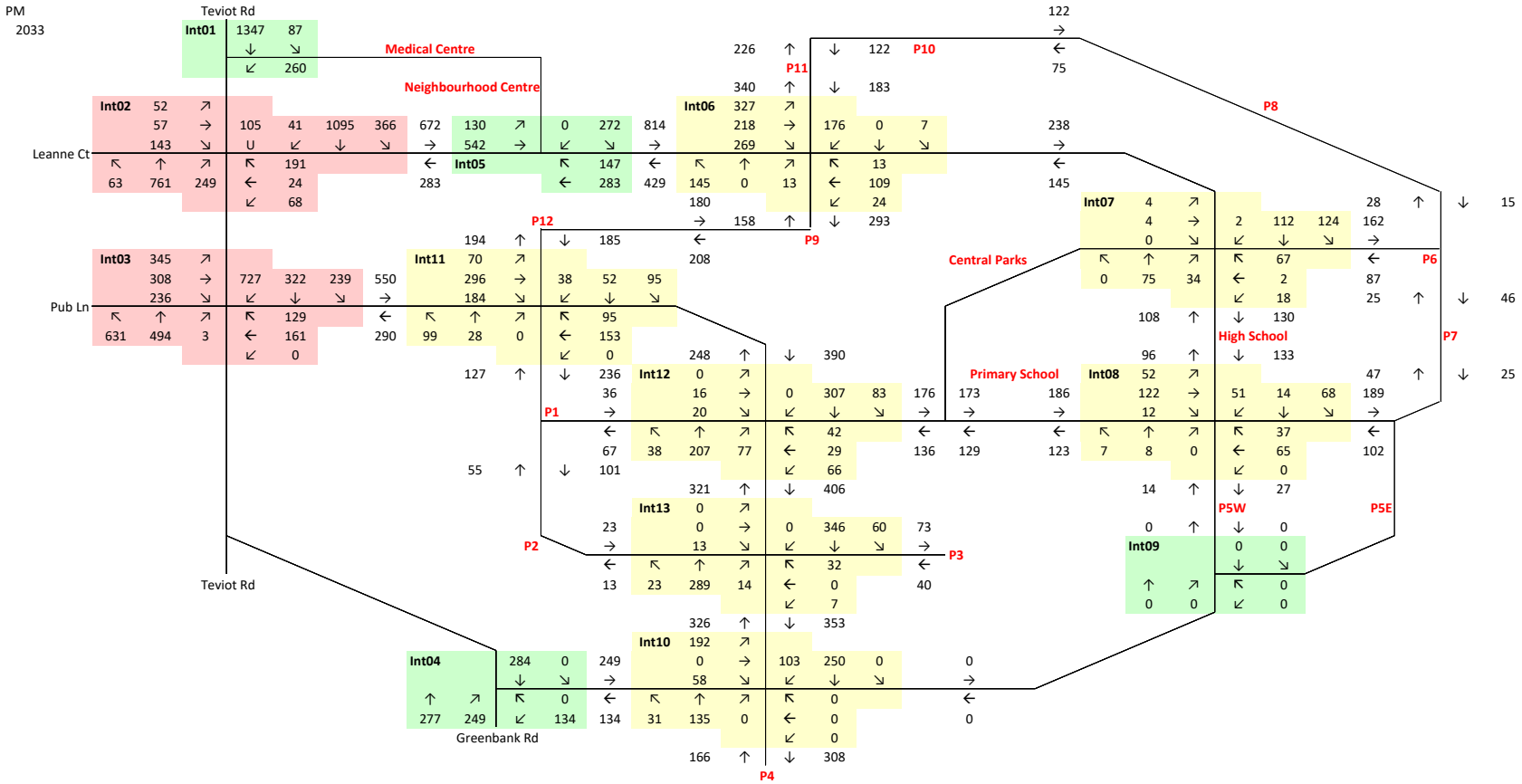


Greenbank Drive access		Y
P1	365	100%
P2	226	100%
P3	133	100%
P4	557	100%
P5W	48	100%
P6	195	100%
P7	169	100%
P8	286	100%
P9	423	100%
P10	280	100%
P11	253	100%
P12	143	100%
P5E	258	100%
Primary	1400	100%
Medical	8000	100%
Retail	8000	100%
Secondary	1800	100%
Background		Y

Everleigh Drive link: Y

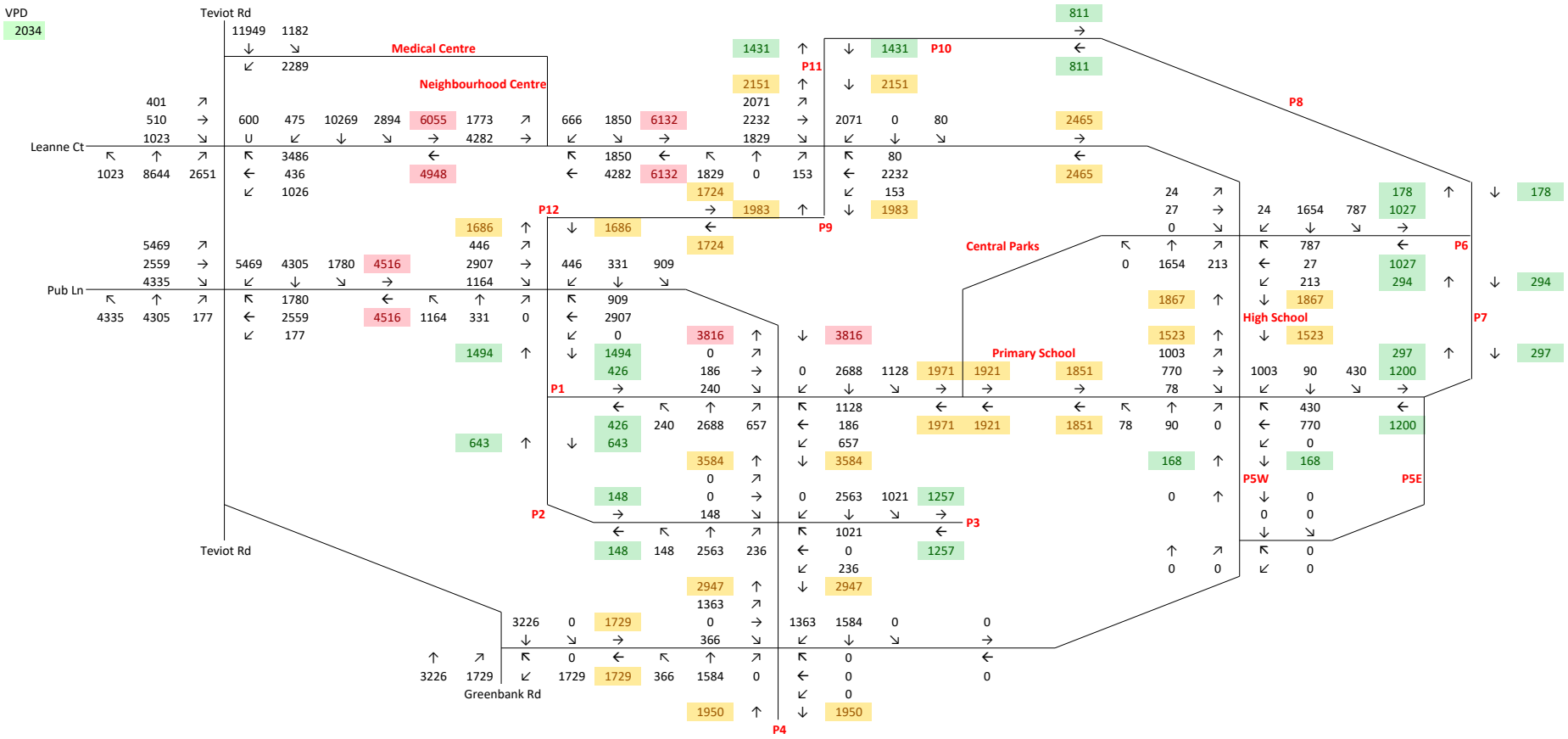
Anderson Drive link: N


AM
2033
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd


PM
2033
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Central Parks
Primary School
High School
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Int02
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Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
Greenbank Rd

APPENDIX X

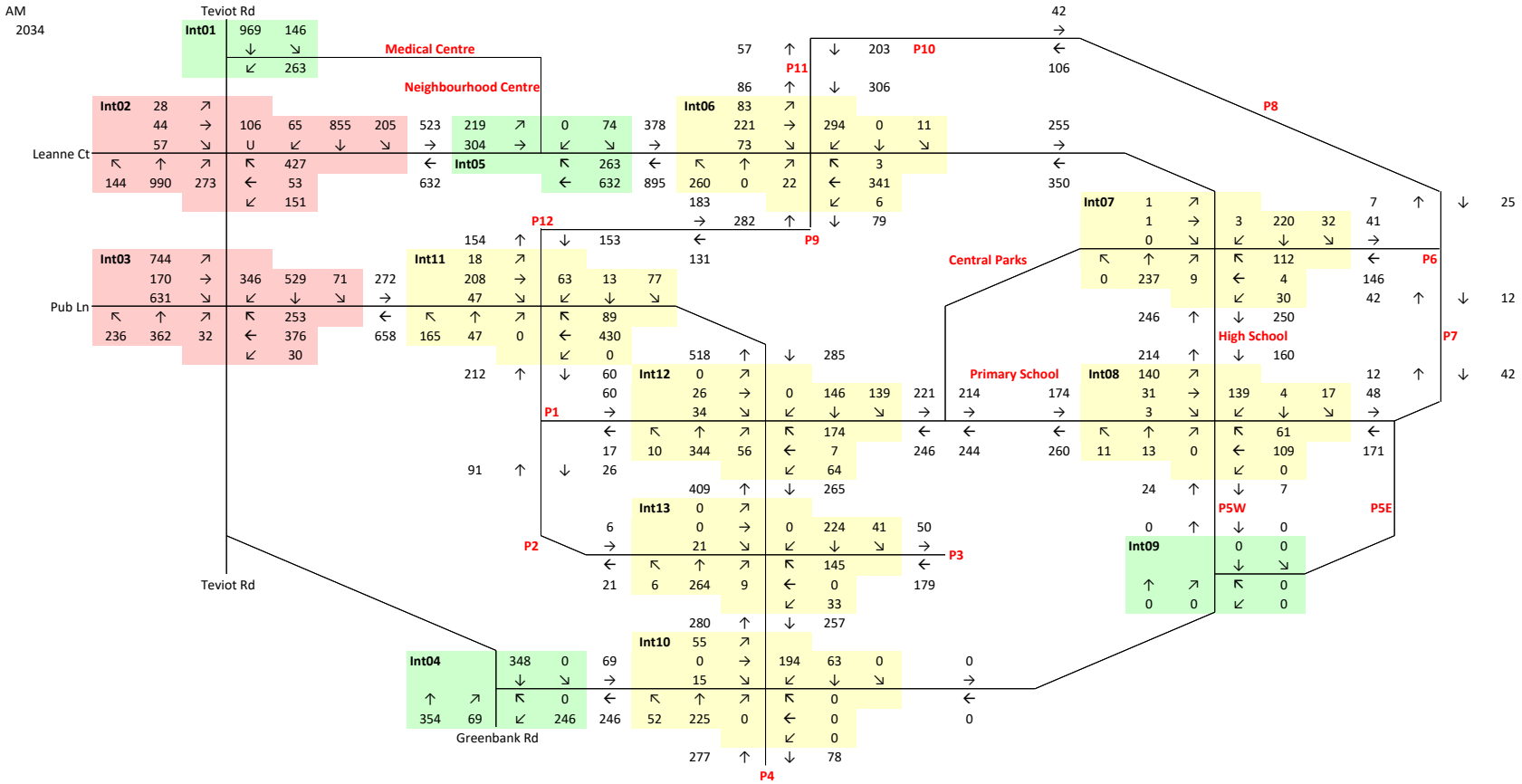
2034 “WITH DEVELOPMENT” TRAFFIC EXCLUDING ANDERSON DRIVE LINK

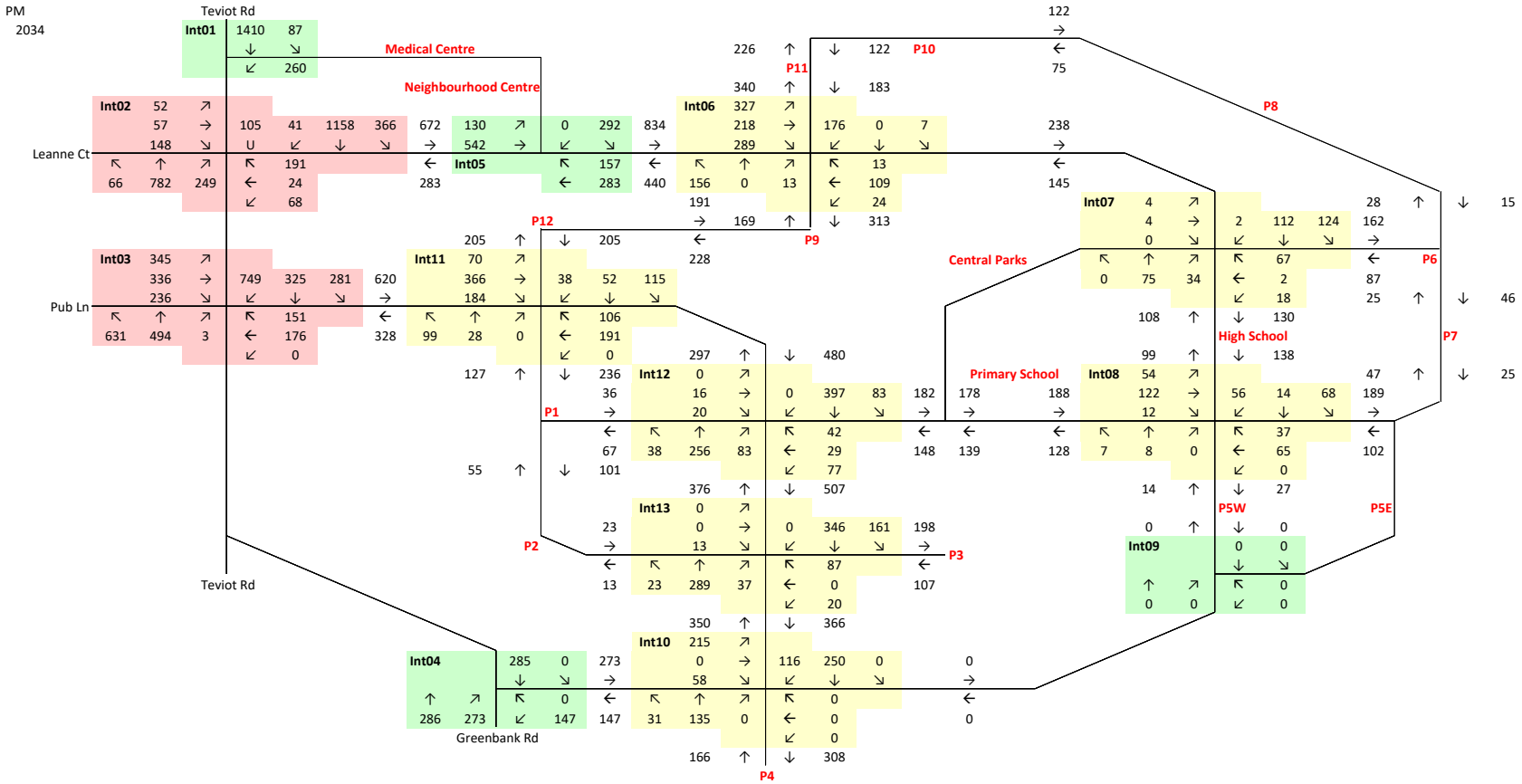


Greenbank Drive access		Y
P1	365	100%
P2	226	100%
P3	359	100%
P4	557	100%
P5W	48	100%
P6	195	100%
P7	169	100%
P8	286	100%
P9	423	100%
P10	280	100%
P11	253	100%
P12	143	100%
P5E	258	100%
Primary	1400	100%
Medical	8000	100%
Retail	8000	100%
Secondary	1800	100%
Background		Y

Everleigh Drive link: Y

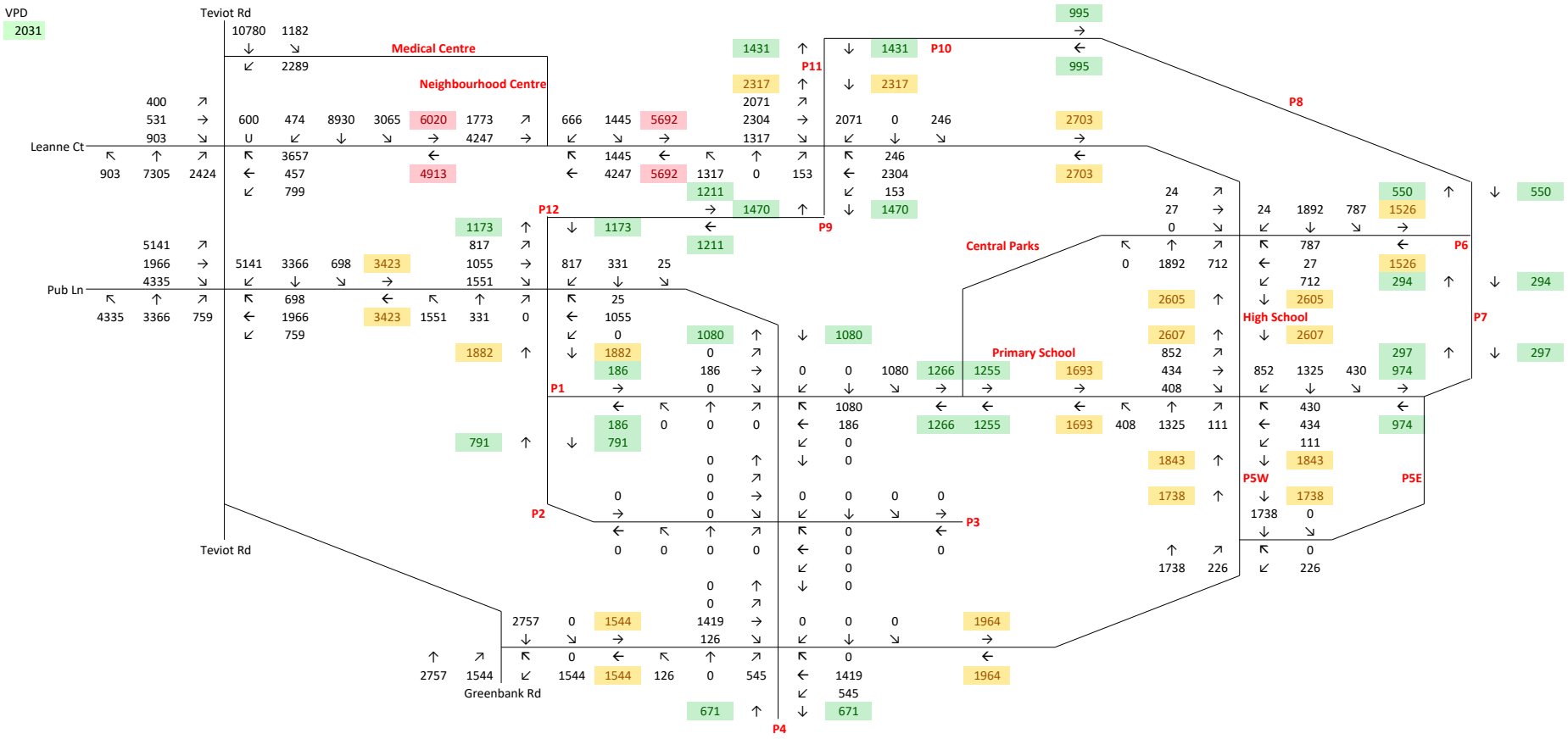
Anderson Drive link: N


AM
2034
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd


PM
2034
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Int02
Leanne Ct
Int05
Int03
Pub Ln
Int11
Int06
P12
P11
P10
P9
P8
Central Parks
Int07
P6
High School
P7
Primary School
Int08
Int12
P1
P5W
P5E
Int09
P2
P3
Int13
Int10
Int04
Greenbank Rd
P4

APPENDIX Y

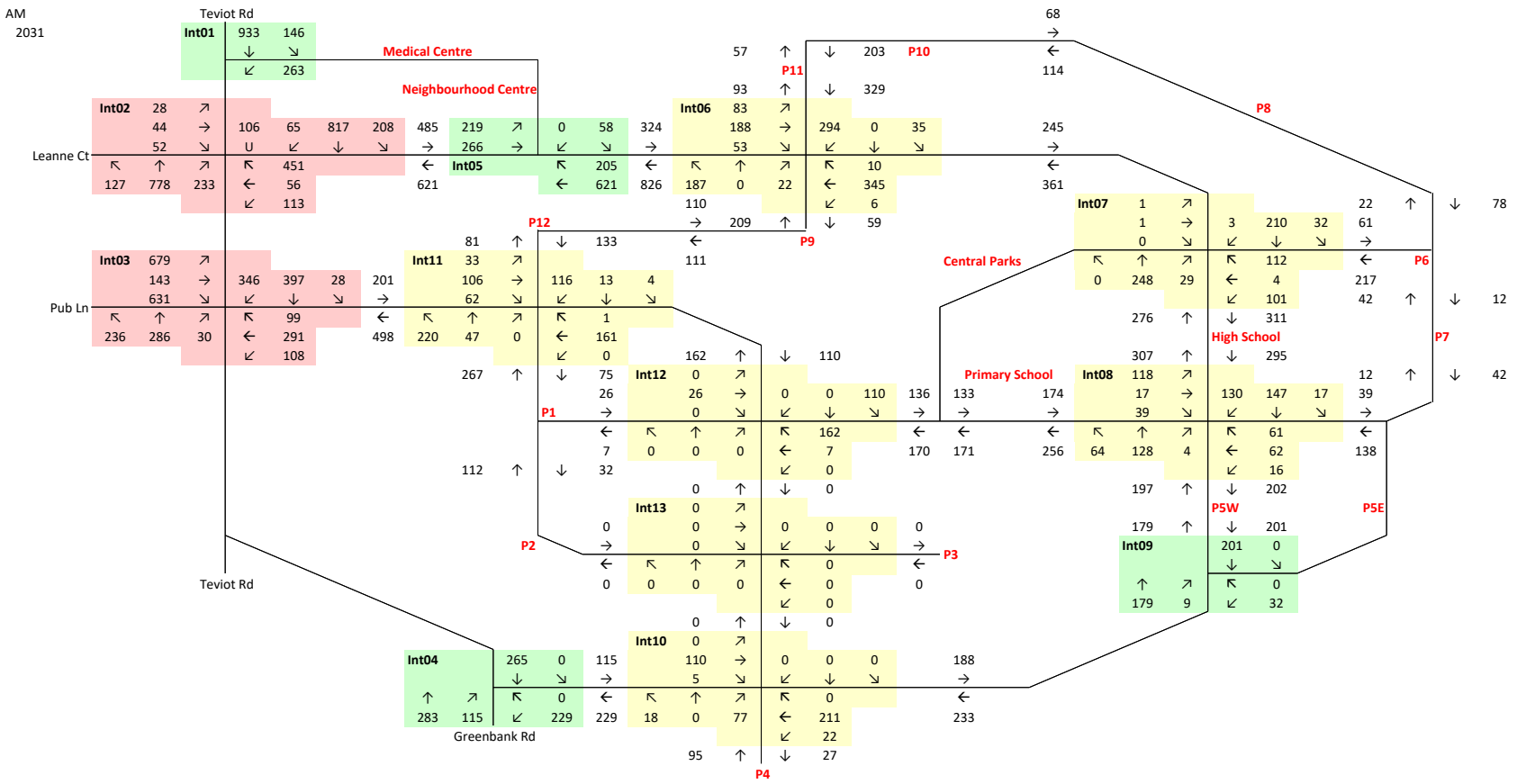
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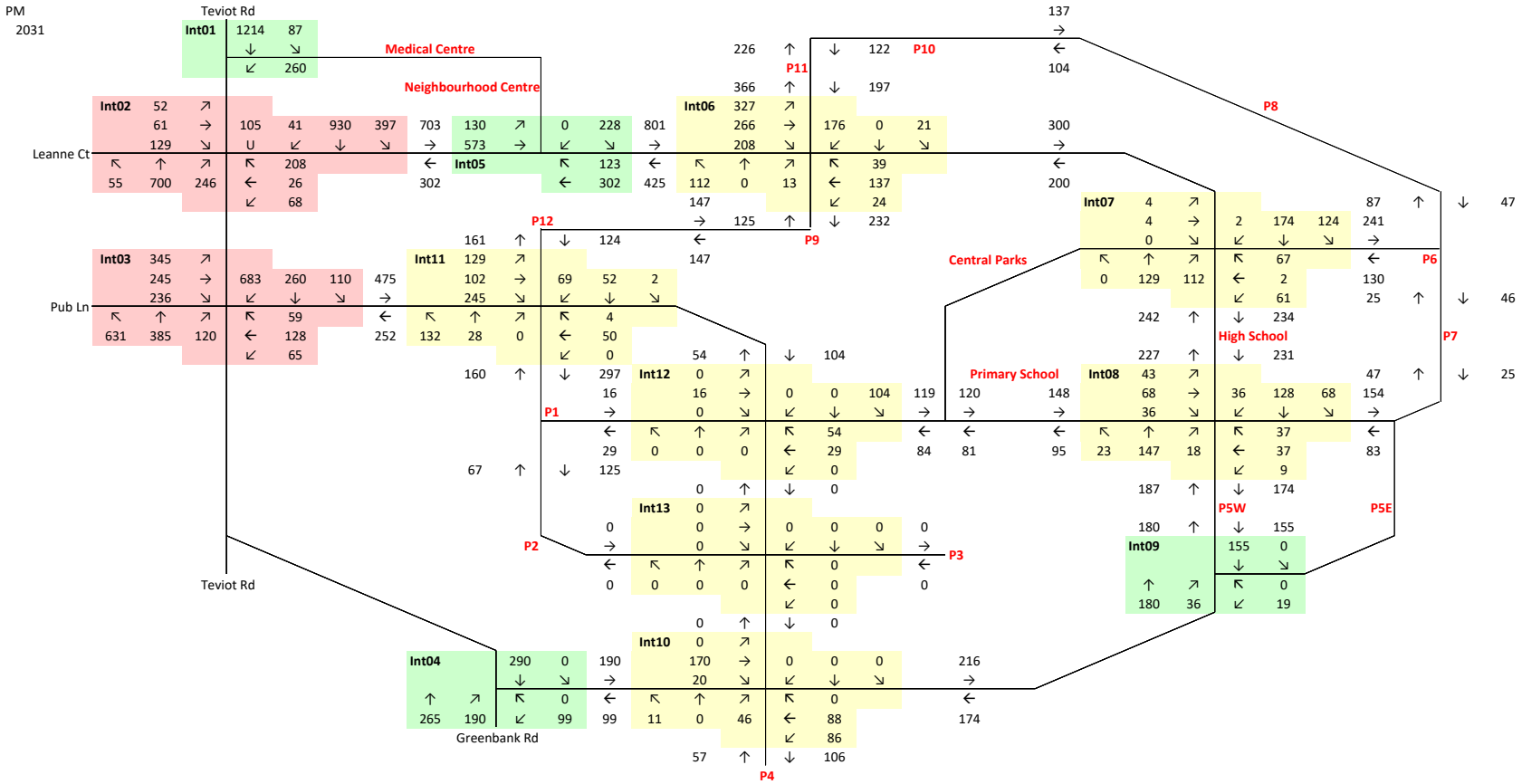


Greenbank Drive access		Y
P1	365	100%
P2	226	100%
P3	0	100%
P4	191.75	100%
P5W	48	100%
P6	195	100%
P7	169	100%
P8	286	100%
P9	423	100%
P10	280	100%
P11	253	100%
P12	143	100%
P5E	258	100%
Primary	1400	100%
Medical	8000	100%
Retail	8000	100%
Secondary	1650	100%
Background		Y

Everleigh Drive link: N

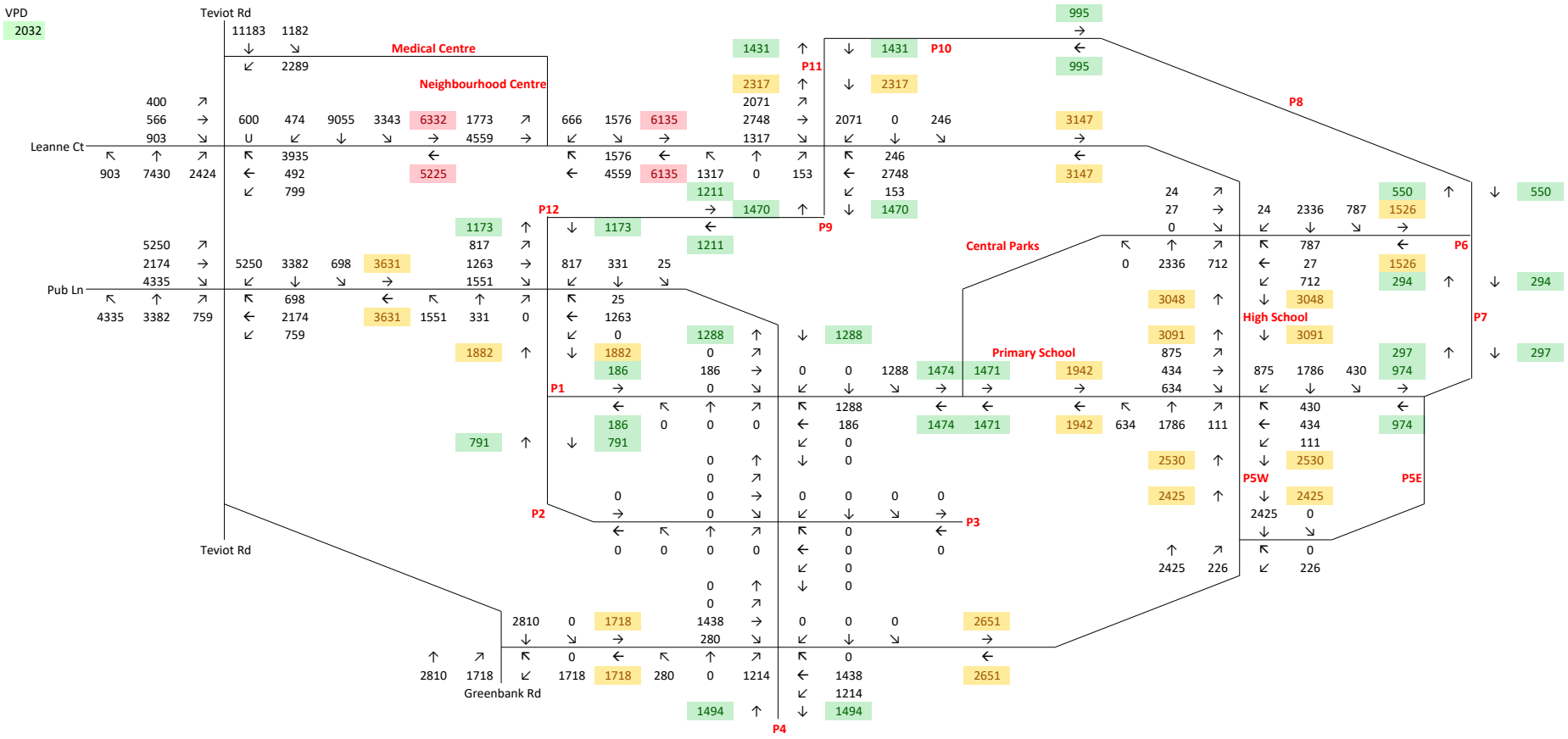
Anderson Drive link: Y


AM
2031
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
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Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd


PM
2031
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
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P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd

APPENDIX Z

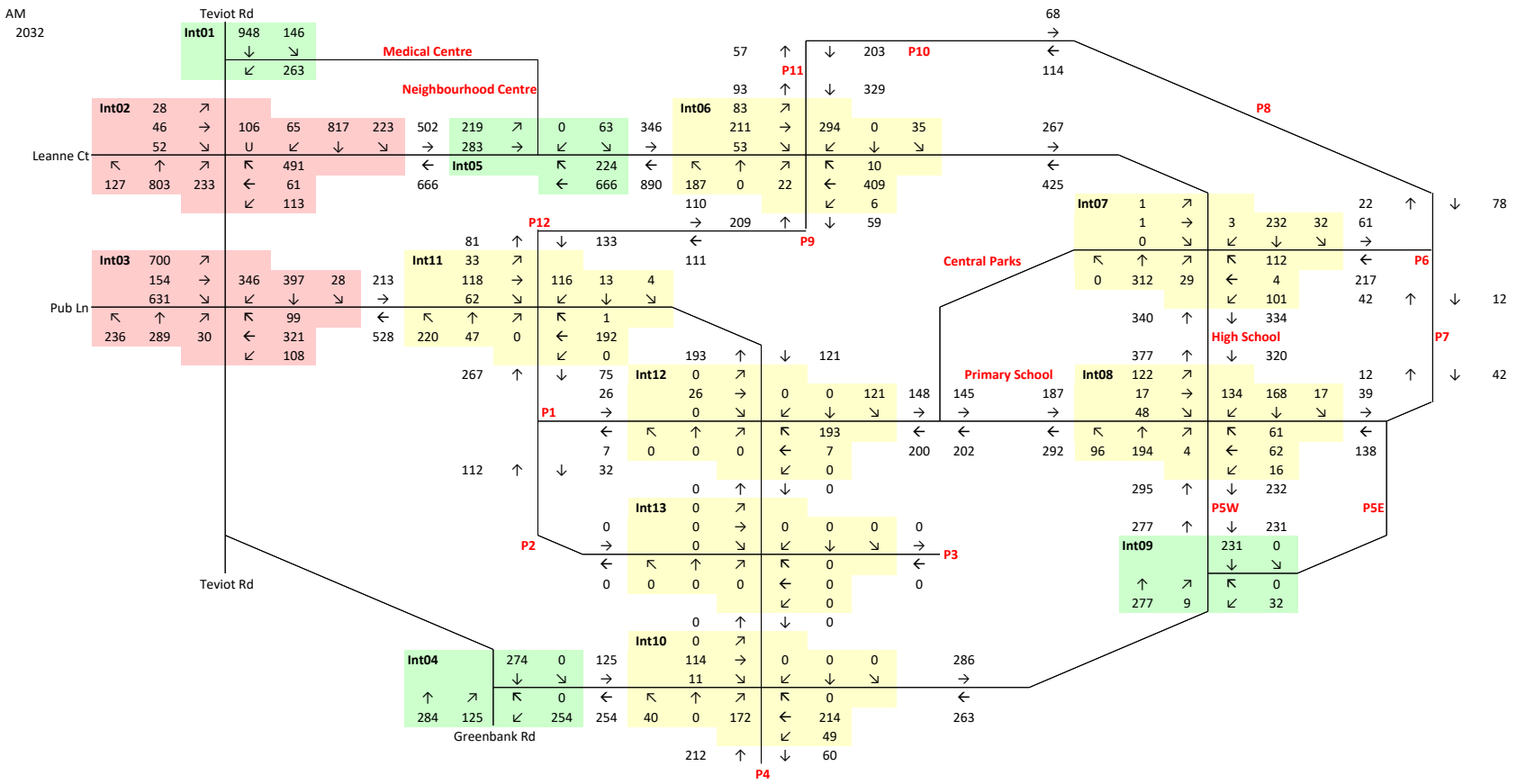
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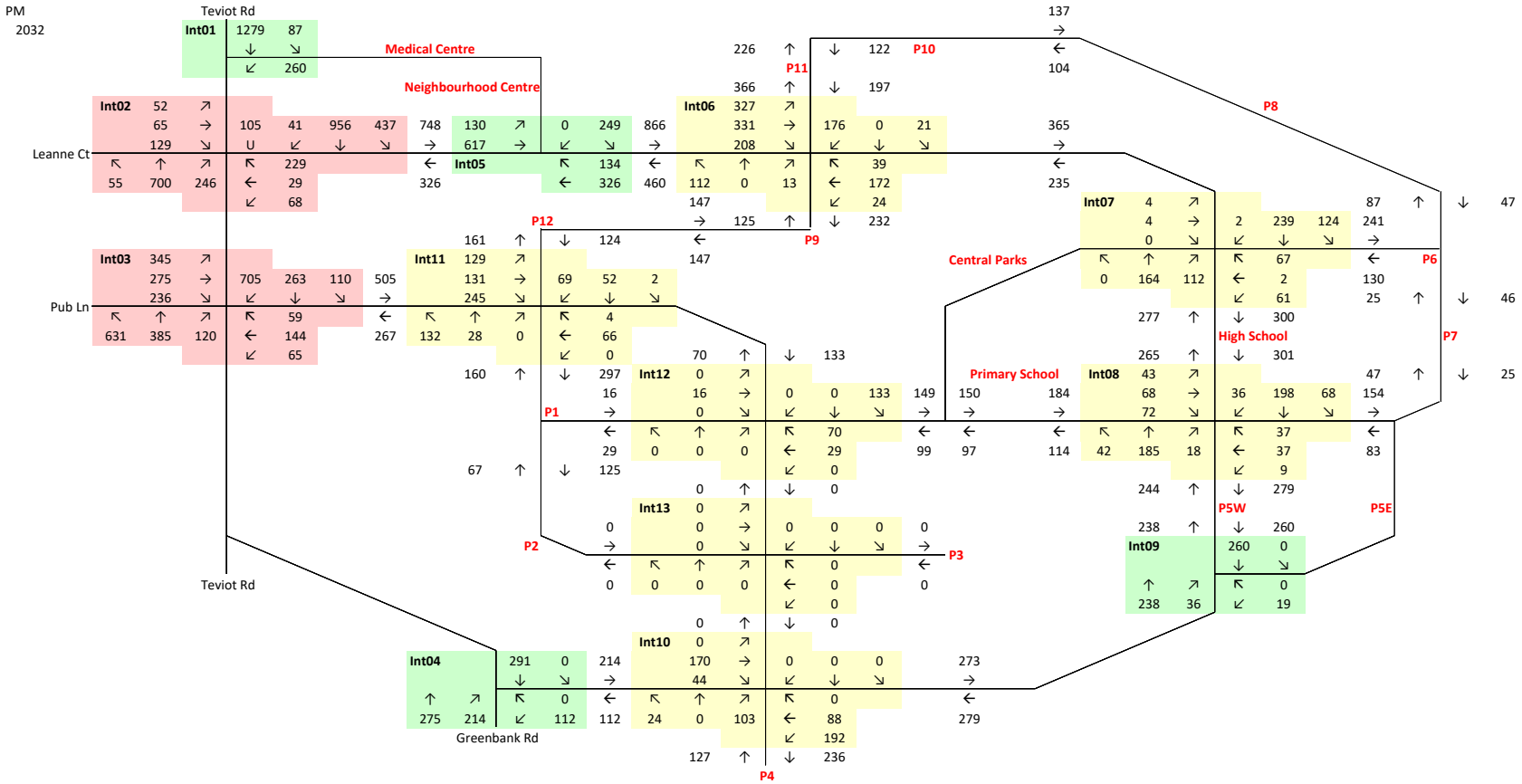


Greenbank Drive access		Y
P1	365	100%
P2	226	100%
P3	0	100%
P4	426.73	100%
P5W	48	100%
P6	195	100%
P7	169	100%
P8	286	100%
P9	423	100%
P10	280	100%
P11	253	100%
P12	143	100%
P5E	258	100%
Primary	1400	100%
Medical	8000	100%
Retail	8000	100%
Secondary	1800	100%
Background		Y

Everleigh Drive link: N

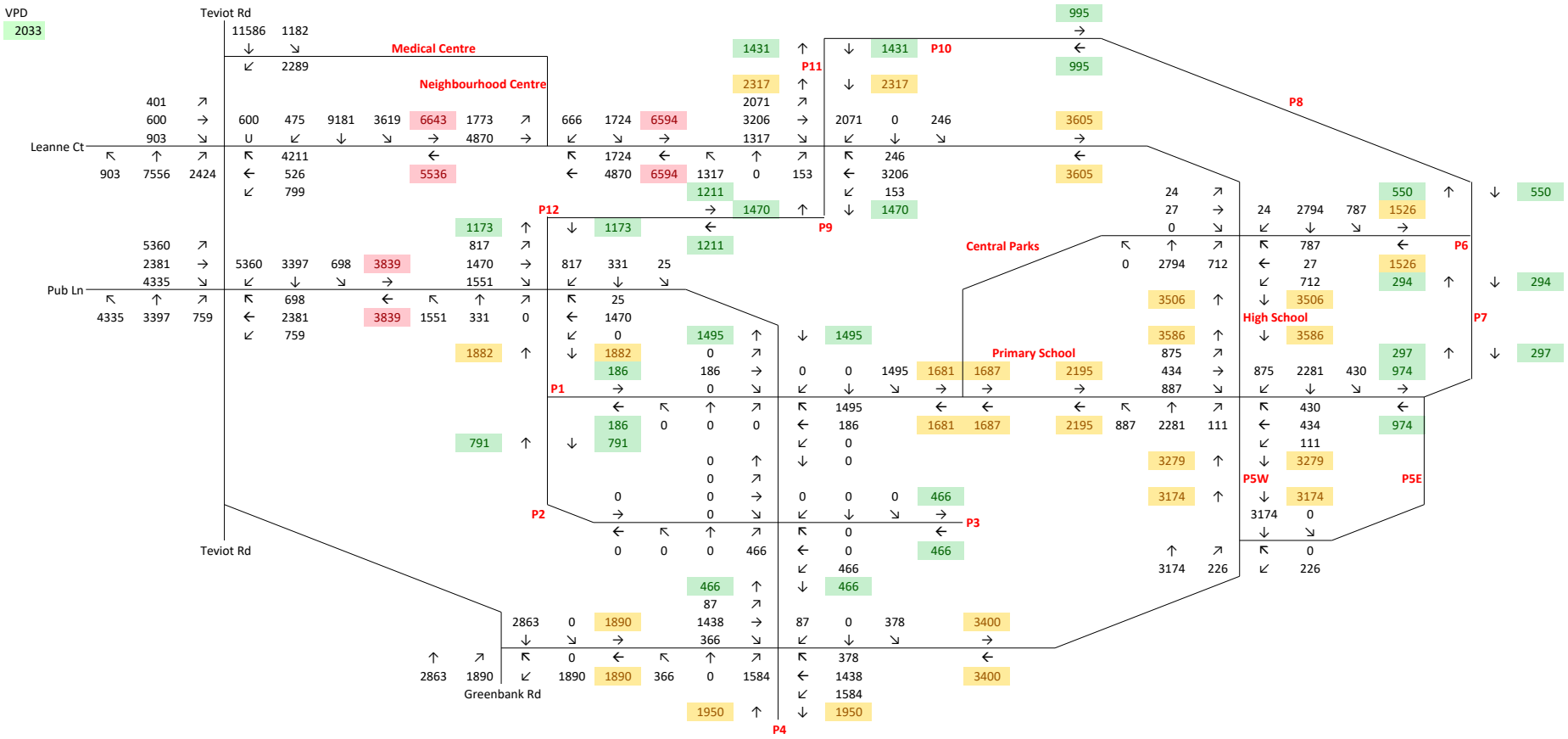
Anderson Drive link: Y


AM
2032
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd


PM
2032
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
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Int04
Int05
Int06
Int07
Int08
Int09
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Int11
Int12
Int13
P1
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P4
P5E
P5W
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P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd

APPENDIX AA

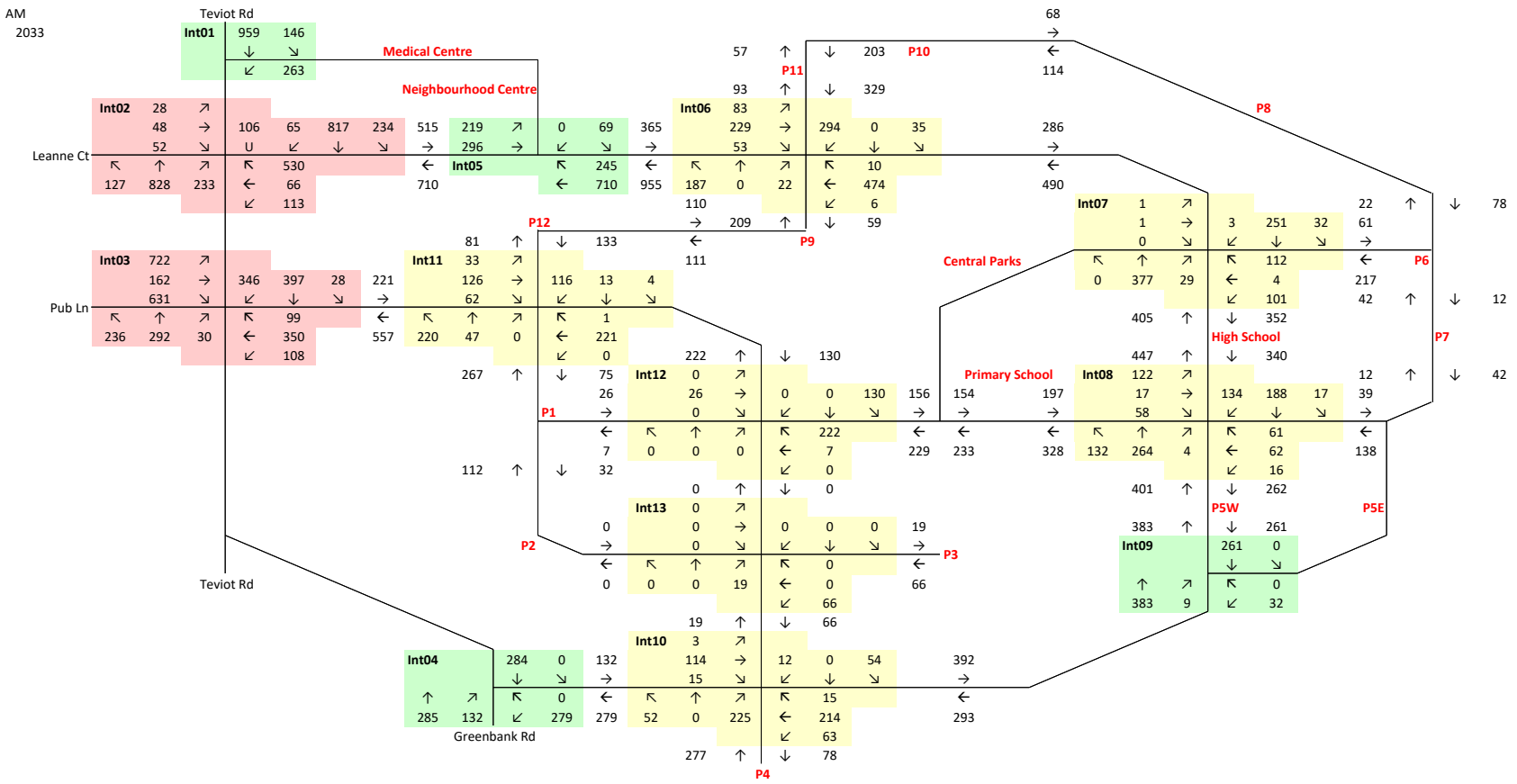
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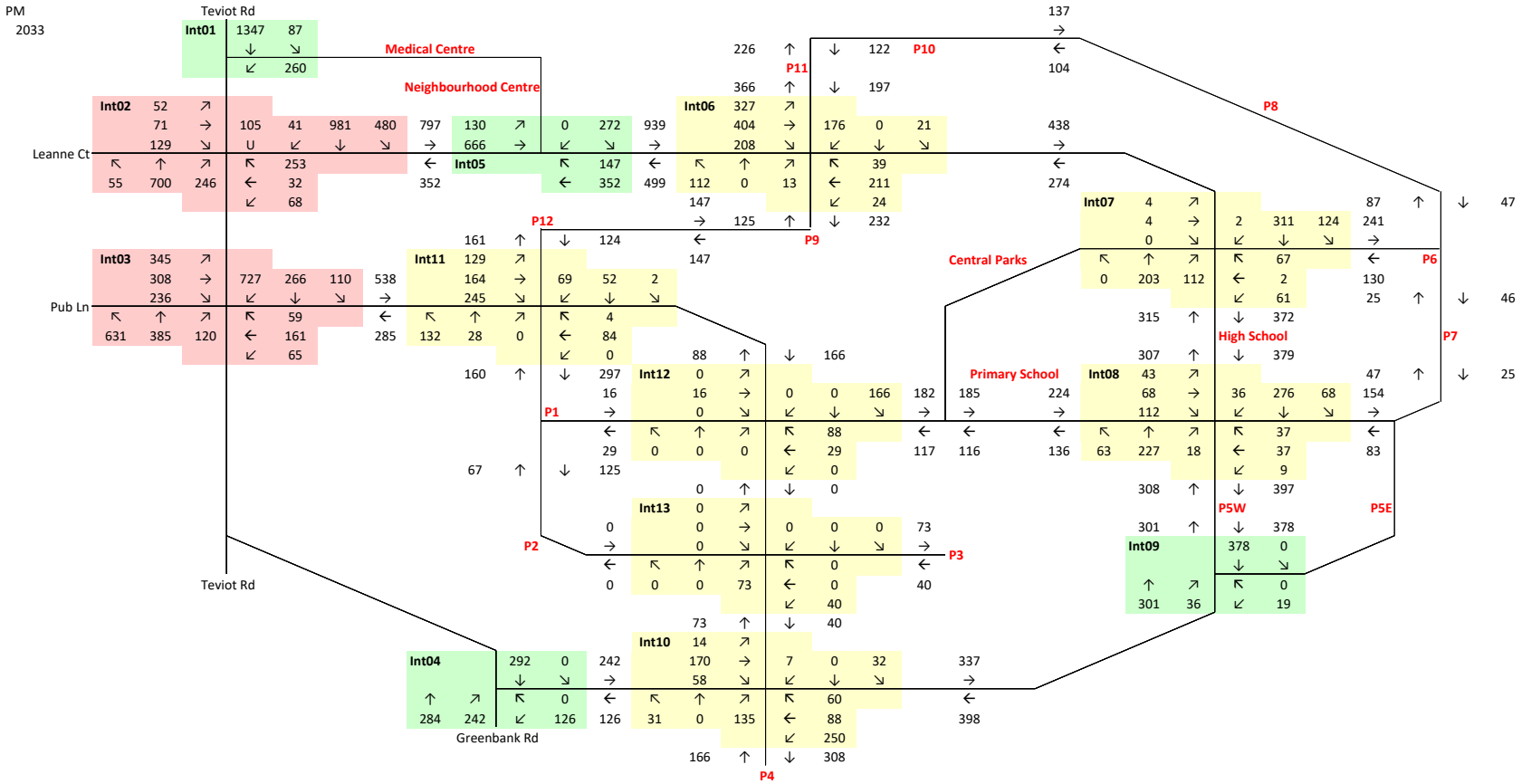


Greenbank Drive access		Y
P1	365	100%
P2	226	100%
P3	133	100%
P4	557	100%
P5W	48	100%
P6	195	100%
P7	169	100%
P8	286	100%
P9	423	100%
P10	280	100%
P11	253	100%
P12	143	100%
P5E	258	100%
Primary	1400	100%
Medical	8000	100%
Retail	8000	100%
Secondary	1800	100%
Background		Y

Everleigh Drive link: N

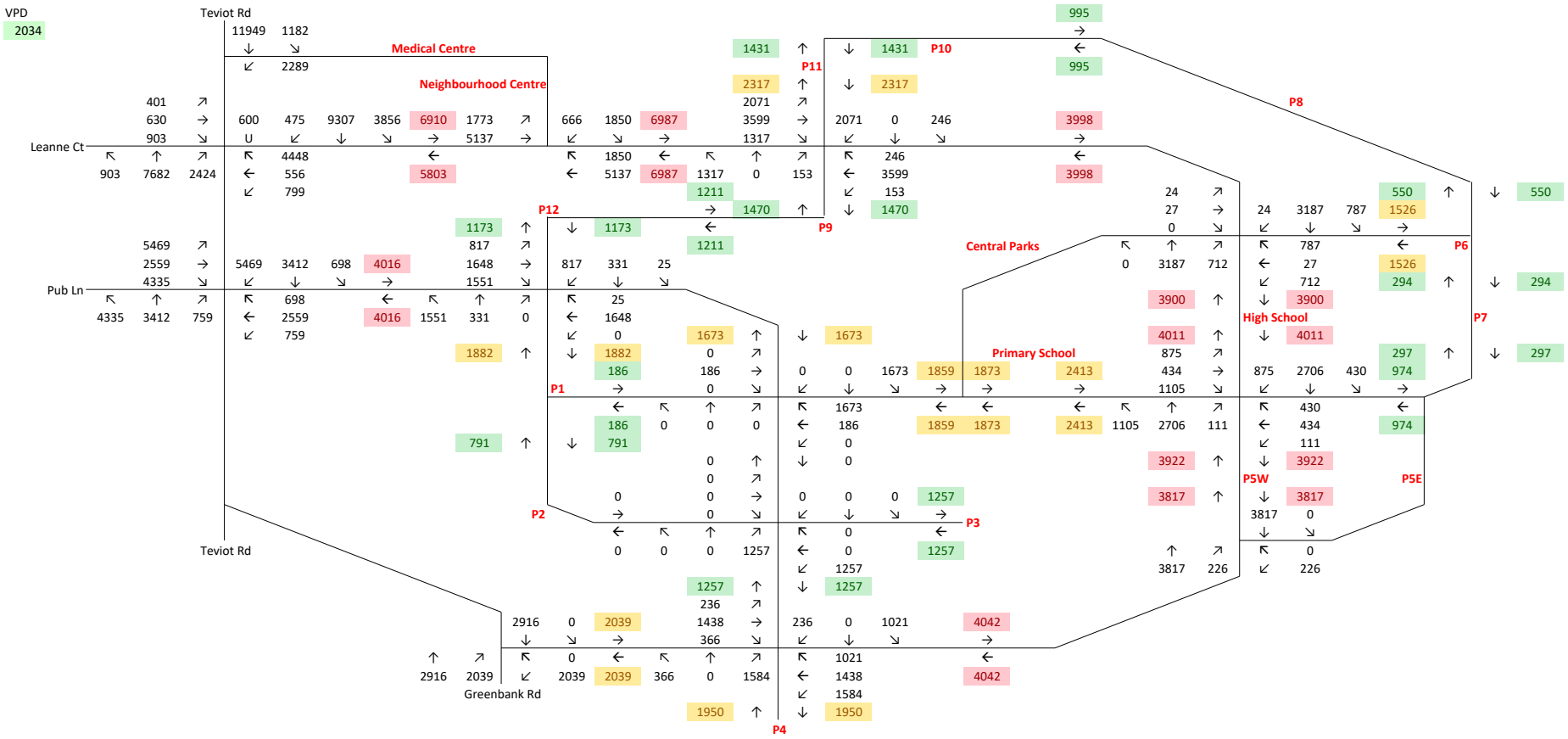
Anderson Drive link: Y


AM
2033
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
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Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd


PM
2033
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd

APPENDIX BB

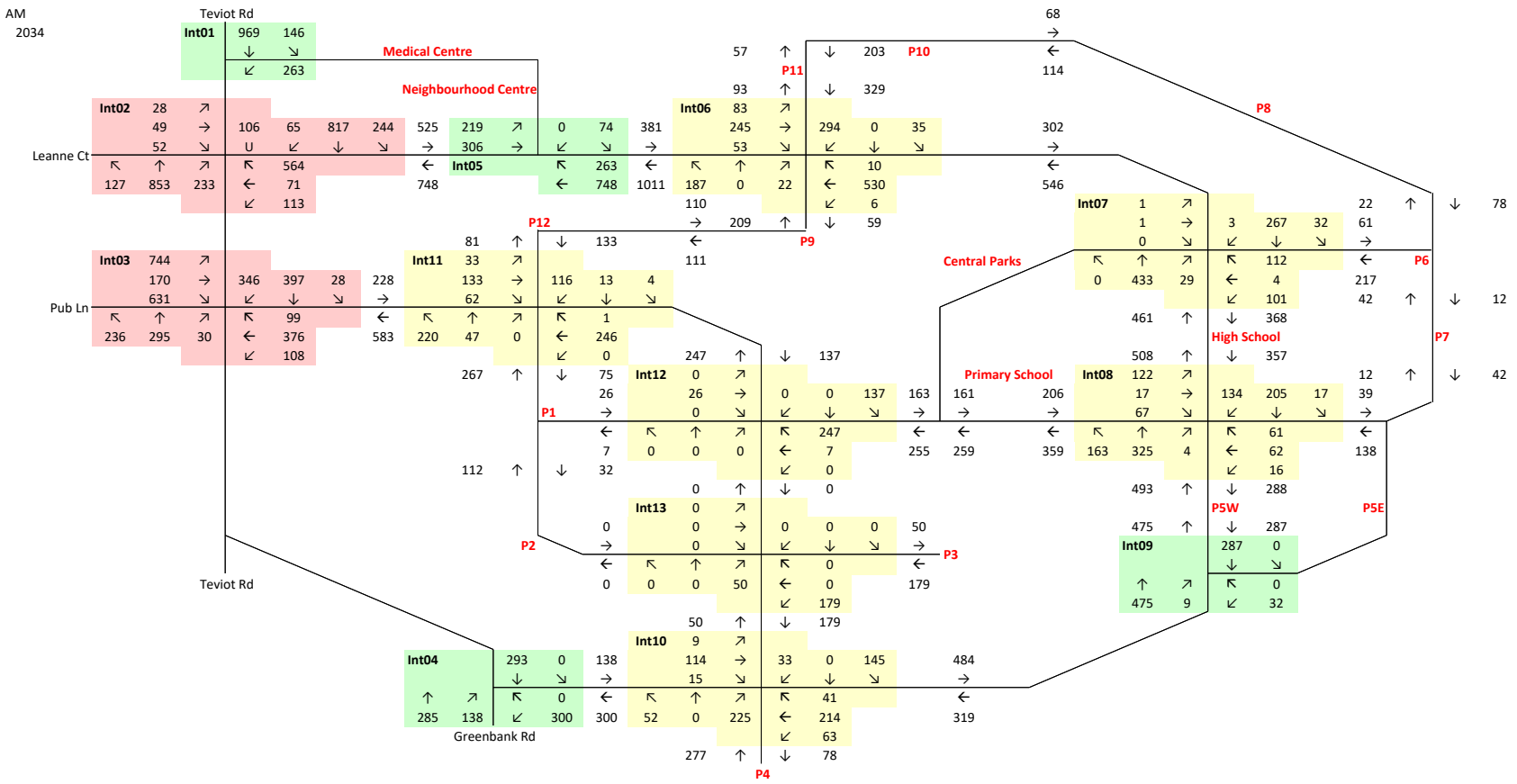
2034 “WITH DEVELOPMENT” TRAFFIC EXCLUDING CONNECTIVITY BETWEEN P2 AND P3 / P4

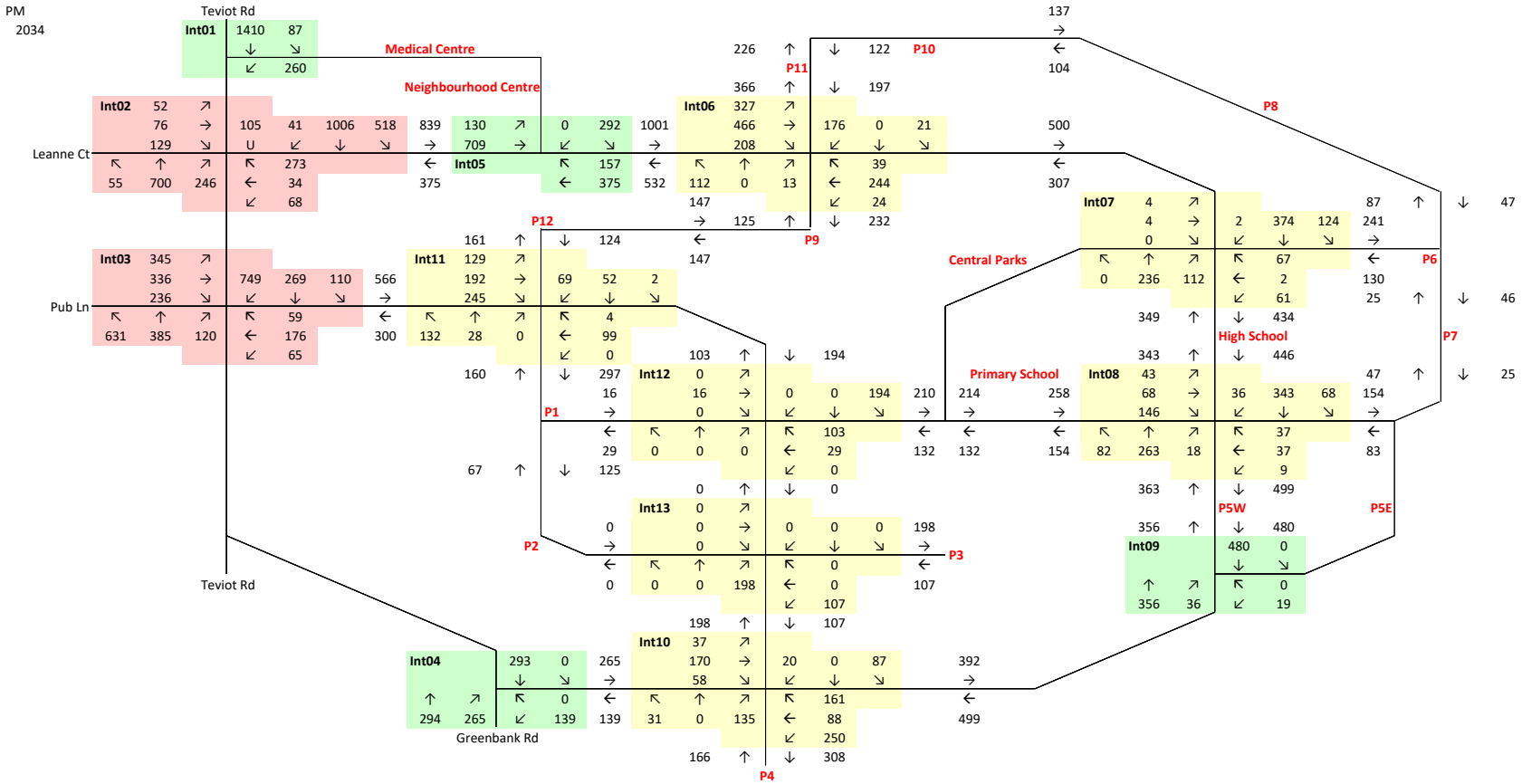


Greenbank Drive access		Y
P1	365	100%
P2	226	100%
P3	359	100%
P4	557	100%
P5W	48	100%
P6	195	100%
P7	169	100%
P8	286	100%
P9	423	100%
P10	280	100%
P11	253	100%
P12	143	100%
P5E	258	100%
Primary	1400	100%
Medical	8000	100%
Retail	8000	100%
Secondary	1800	100%
Background		Y

Everleigh Drive link: N

Anderson Drive link: Y


AM
2034
Teviot Rd
Int01
969
146
263
Medical Centre
Neighbourhood Centre
Int02
Leanne Ct
Int05
Int03
Pub Ln
Int11
Int06
Int12
Int13
Int10
Int04
Greenbank Rd
Teviot Rd
P1
P2
P3
P4
P5W
P5E
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Int07
Int08
Int09


PM
2034
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Central Parks
Primary School
High School
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Greenbank Rd

Premise

APPENDIX D

INTERSECTION ANALYSIS REPORT

P000170-R03

Premise

MIRVAC QUEENSLAND PTY LTD

Everleigh

INTERSECTION ANALYSIS

Report No: P000170/R03
Rev: C
12 July 2024

MIRVAC QUEENSLAND PTY LTD
EVERLEIGH
INTERSECTION ANALYSIS

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DOCUMENT AUTHORISATION					
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C	12/07/24	Updated Figures			
Prepared By		**Reviewed By**		**Authorised By**	
Bradley Jones		Bradley Jones		Bradley Jones RPEQ 19986	

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APPENDIX H SIDRA OUTPUT – INTERSECTION 8: ANDERSON DRIVE / IVORY PARKWAY / GUROMAN DRIVE ROUNDABOUT
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APPENDIX K SIDRA OUTPUT – INTERSECTION 11: EVERLEIGH DRIVE / GUROMAN DRIVE / KESSELS BOULEVARD ROUNDABOUT
APPENDIX L SIDRA OUTPUT – INTERSECTION 12: EVERLEIGH DRIVE / IVORY PARKWAY / EMERALD PARADE ROUNDABOUT
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1. INTRODUCTION

Premise Brisbane Pty Ltd (Premise) was commissioned by Mirvac Queensland Pty Ltd (Mirvac) to undertake intersection analysis for Everleigh Master Planned Community (Everleigh). This intersection analysis is based on "Everleigh: Traffic Modelling" (P000170/R01) by Premise for Mirvac. The intersection analysis will be used to:

- Update the Everleigh Movement Network Infrastructure Master Plan (MNIMP); and
- Assess the traffic impact of the ROL13 development application to create up to 670 dwellings and a high school in Everleigh Precinct 5, 6 and 7.

1.1 Background

On 9 August 2017 Economic Development Queensland (EDQ) approved "Movement Network Infrastructure Master Plan" dated 03 March 2017 by MWH for Mirvac (the approved MNIMP). The approved MNIMP was based on:

- "Mirvac Greenbank Site – Detailed Traffic Modelling" dated 07/11/2016 by MWH for Mirvac (MWH traffic modelling); and
- "Mirvac Development Application – 2051 SIDRA Intersection Analysis" dated 3 April 2017 by MWH for Mirvac (MWH intersection analysis).

Recently, land uses not previously contemplated have been proposed for inclusion within Everleigh. The addition of these land uses has triggered updating of traffic modelling, intersection analysis and the MNIMP for Everleigh.

Premise prepared "Everleigh: Traffic Modelling" (P000170/R01) to supersede MWH traffic modelling. P000170 reflects the proposed land use and road hierarchy plan shown by Figure 1. The proposed scale of each land use is:

- Residential – 3,562 dwellings, predominantly detached with some duplex, terrace, attached and land lease product.
- Schools – Primary school designed for 1,400 students and 140 staff, and high school designed for 1,800 students and 190 staff.
- Neighbourhood Centre – 8,000m^2 gross floor area (GFA).
- State community health centre – 8,000m^2 GFA.
- Parks and reserves for local recreation, neighbourhood recreation, regional sports and recreation, conservation, and drainage.

Intersection analysis in this report is based on traffic modelling documented in P000170-R01.

Figure 1 – Proposed Everleigh land use and road hierarchy plan (Source: Urbis)



LEGEND

- Greater Flagstone UDA Boundary
- Site Boundary
- Cadastre Boundaries
- Existing Easements
- Rail Corridor
- Potential Train Station [1]
- Indicative Location of Signalised Intersections
- Indicative Location of Roundabout Intersections
- Potential Left In Left Out

Road Typologies

Urban Arterial (Teviot Road)	
Rural Arterial (Greenbank Road)	
Trunk Connector 1 (Leanne Court)	29.0m
Trunk Connector 2 (Pub Lane)	23.0m
Neighbourhood Connector 1 (Green Build Outs)	21.0m
Neighbourhood Connector 2 (Green Build Outs)	20.0m
Neighbourhood Connector 3 (Greenbank Road)	26.0m
Park Connector 1 (Green Build Outs)	20.0m
Park Connector 2 (Green Build Outs)	22.5m

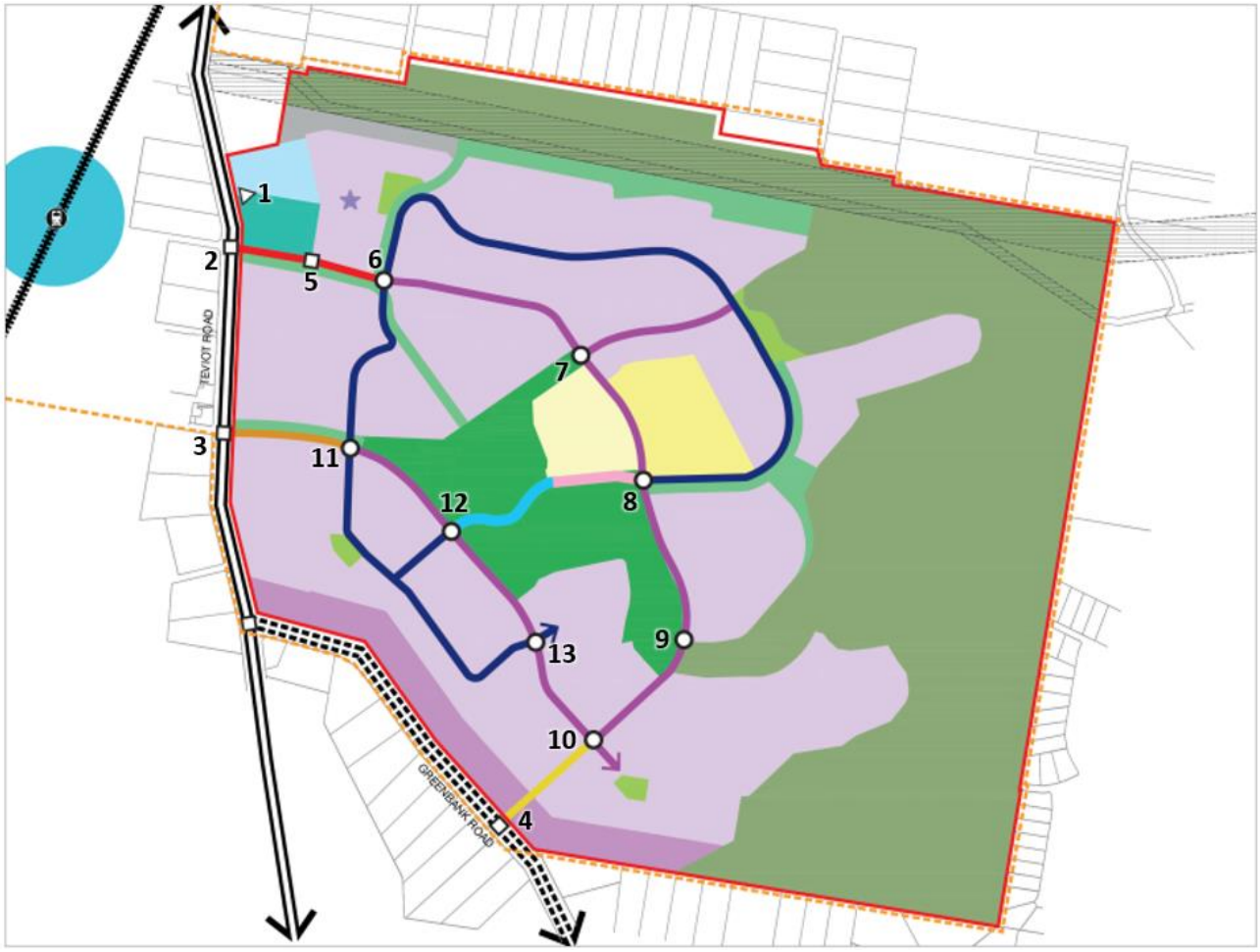
Land Uses

- Residential - Standard Lots
- Residential - Interface Lots
- Potential Land Lease Community (LLC)
- Neighbourhood Centre
- State Community Health Centre
- District Centre (external) [1]
- Conservation Parkland (Corridor Park)
- Combined Regional Recreation and Regional Sports Park
- Major Linear Park
- Indicative Locations of Neighbourhood Parks
- Indicative Location of State Primary School
- Indicative Location of State High School (subject to State agency aquisition)
- Future Investigation Area

1.2 Scope and Study Area

The scope and study area for this report is limited to analysis of the numbered intersections in Figure 2.

Figure 2 – Key map of road intersections



Analysis is based on traffic for:

- The complete road network in the design year (2044) being 10 years after completion of the final development stage; and
- The critical road network staging scenario for each intersection as identified in Table 1 to identify triggers for construction of new road links between 2030 and 2034.

Table 1 – Critical Road Network Staging Scenario for Intersection Analysis

Intersection		Road Network Scenario		
Number	Description	Greenbank Road access	Anderson Drive link	P2/P3 connection
1	Teviot Road / Centre left-in-left-out	Yes	No	No
2	Teviot Road / Leanne Court / Anderson Drive signals	No	Yes	No
3	Teviot Road / Pub Lane / Everleigh Drive signals	No	No	Yes
4	Greenbank Road / Anderson Drive T-intersection	Yes	No	No
5	Anderson Drive / Centre T-intersection	No	Yes	No
6	Anderson Drive / Guroman Drive roundabout	No	Yes	Yes
7	Anderson Drive / Road 103 / Road 53 roundabout	Yes	Yes	No
8	Anderson Drive / Ivory Parkway / Guroman Drive roundabout	Yes	Yes	No
9	Anderson Drive / Road 85 T-intersection	Yes	Yes	No
10	Anderson Drive / Everleigh Drive roundabout	Yes	Yes	No
11	Everleigh Drive / Guroman Drive / Kessels Boulevard roundabout	No	No	Yes
12	Everleigh Drive / Ivory Parkway / Emerald Parade roundabout	No	No	Yes
13	Everleigh Drive / Kessels Boulevard / P3 roundabout	Yes	No	Yes

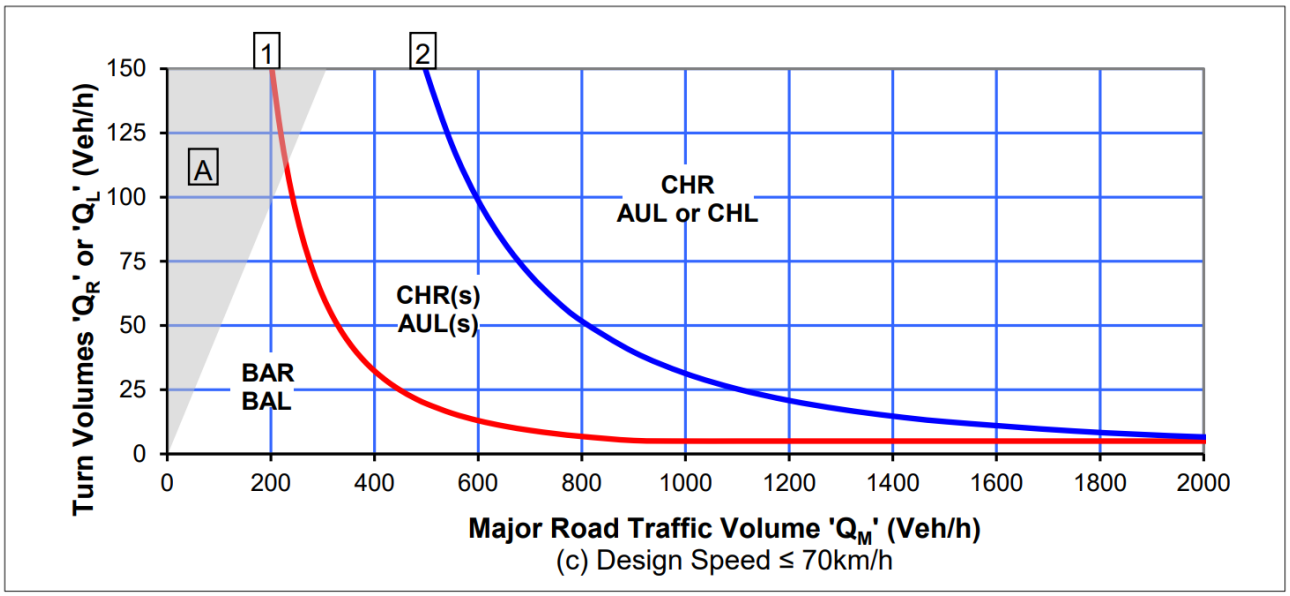
2. INTERSECTION ANALYSIS

Intersection analysis was undertaken with consideration to the requirements of the Department of Transport and Main Roads' (TMR's) "Guide to Traffic Impact Assessment" (GTIA) and includes:

- Turn warrant assessment for priority-controlled intersections; and
- Analysis using SIDRA Intersection Version 9.1 software (SIDRA) for all intersections.

Turn warrant assessments are based on normal design domain warrants published in Austroads' "Guide to Traffic Management Part 6: Intersections, Interchanges and Crossings Management" (AGTM06-20) for a design speed less than or equal to 70km/h. Adopted warrants are shown by Figure 3

Figure 3 – Warrants for turn treatments on major roads at unsignalised intersections



SIDRA is an advanced micro-analytical traffic tool for evaluation of intersections. SIDRA reports intersection performance in terms of a range of parameters including:

- **Demand Volumes (V):** The modelled number of vehicles arriving at the intersection during the assessment hour. Demand volumes are calculated by dividing the peak hour volume by the peak flow factor (PFF). SIDRA's default PFF of 95% has been adopted for all movements.
- **Degree of Saturation (DoS):** The ratio of the demand volume, V, to the theoretical capacity. An intersection is considered to be operating at its practical capacity when the DoS reaches 0.80 for priority control and 0.85 for a roundabout. For traffic signals, the desirable maximum DoS is 0.90 but 0.95 is considered tolerable during peak periods and cycle times may be increased up to 150sec to reduce DoS.
- **Average Delay (D):** The mean control delay including both queuing delay and geometric delay for all vehicles arriving during the assessment period including the delay experienced after the end of the flow period until the departure of the last vehicle arriving during the flow period. The GTIA

specifies that average delays exceeding 42 seconds for any movement at a priority or roundabout controlled intersection are a safety issue; and

- **95th Percentile Back of Queue Length (Q):** The maximum backward extent of the queue relative to the stop line or give-way / yield line during a signal cycle or gap acceptance cycle below which 95% of all queue lengths fall. The 95th percentile back of queue length is generally accepted as the maximum queue length for design purposes.

Intersection layout diagrams in the following sub-sections have been produced using SIDRA Intersection Version 9.1. These layout pictures are schematic functional drawings reflecting SIDRA input data and are not design drawings.

2.1 Intersection 1: Teviot Road / Centre Left-In-Left-Out

Table 2 summarises the turn warrant assessment for the Teviot Road / centre left-in-left-out (LILO) (Intersection 1) based on Teviot Road having a four (4) lane, two (2) way cross section. An auxiliary (AUL) or channelised (CHL) left turn treatment is warranted on Teviot Road at the Neighbourhood Centre / State Community Health Centre LILO access.

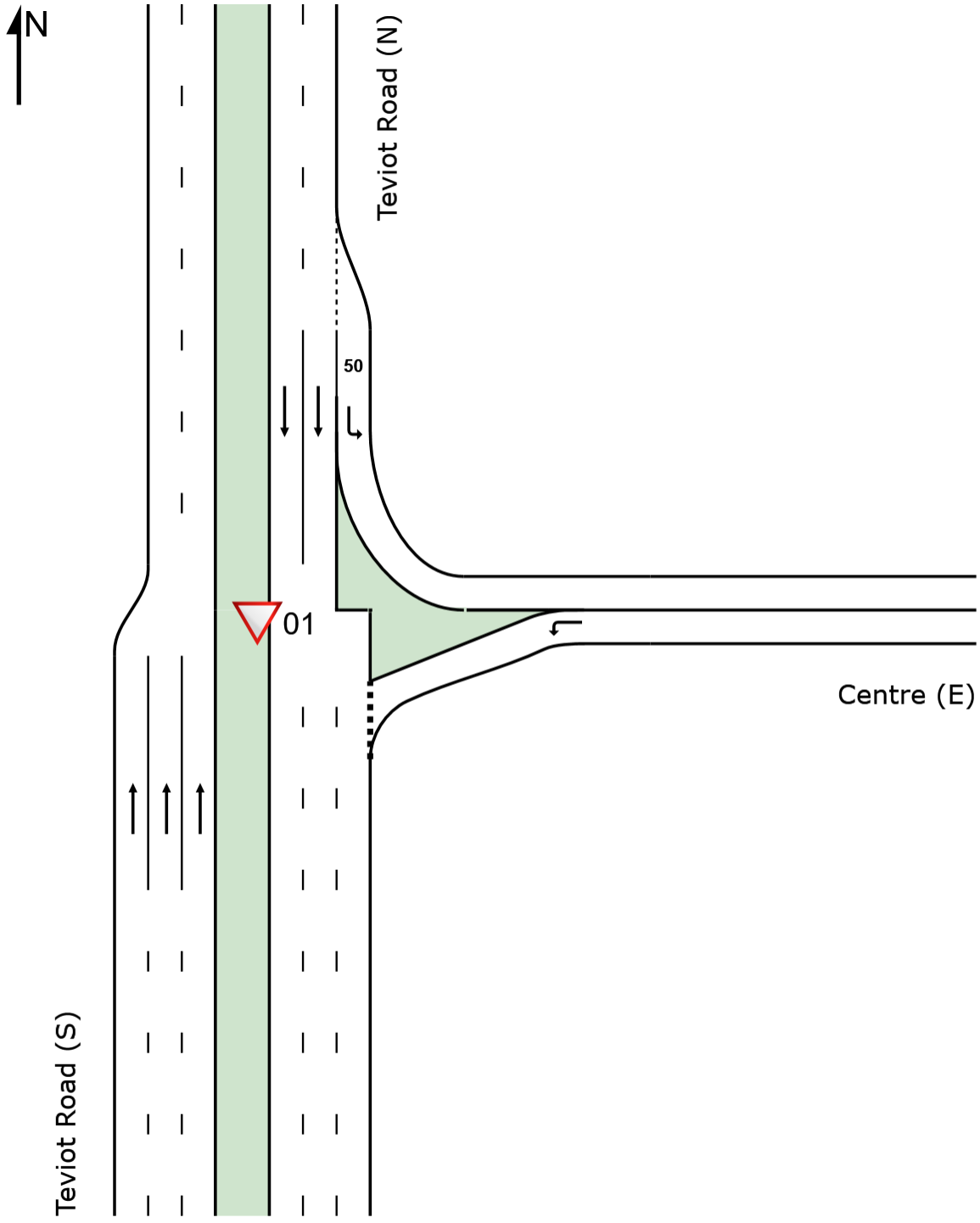
Table 2 – Teviot Road / Centre Left-In-Left-Out (Intersection 1) Turn Warrant Assessment

Scenario		**Design Year (2044)**		**Critical Road Network in 2034**	
Peak		**AM**	**PM**	**AM**	**PM**
Left	Q_M	485	832	485	705
	Q_L	146	87	146	87
	Treatment	AUL(S)	AUL or CHL	AUL(S)	AUL or CHL
Right	Q_M	NA	NA	NA	NA
	Q_R	NA	NA	NA	NA
	Treatment	NA	NA	NA	NA

SIDRA analysis outputs for the Teviot Road / centre LILO (Intersection 1) are enclosed in Appendix A based on the intersection layout shown by Figure 4. Analysis was undertaken for peak hour traffic in the design year (2044) with full development of the Everleigh Road network and at development completion (2034) with the critical road network. Key findings are:

- The maximum DoS is 0.730 for the left-out movement during the PM peak hour in the design year (2044). This is acceptable.
- The maximum average delay for any movement reported by SIDRA is 23.5sec for the left-out movement during the PM peak hour in the design year (2044). This is acceptable.
- The maximum queue length expected to form on the exit from the Neighbourhood Centre / State Community Health Centre is four (4) vehicles. Therefore, no right turn movements should be permitted on the access within 32m of Teviot Road traffic lanes.

Figure 4 – Intersection 1: Teviot Road / Centre left-in-left-out (Source: SIDRA)

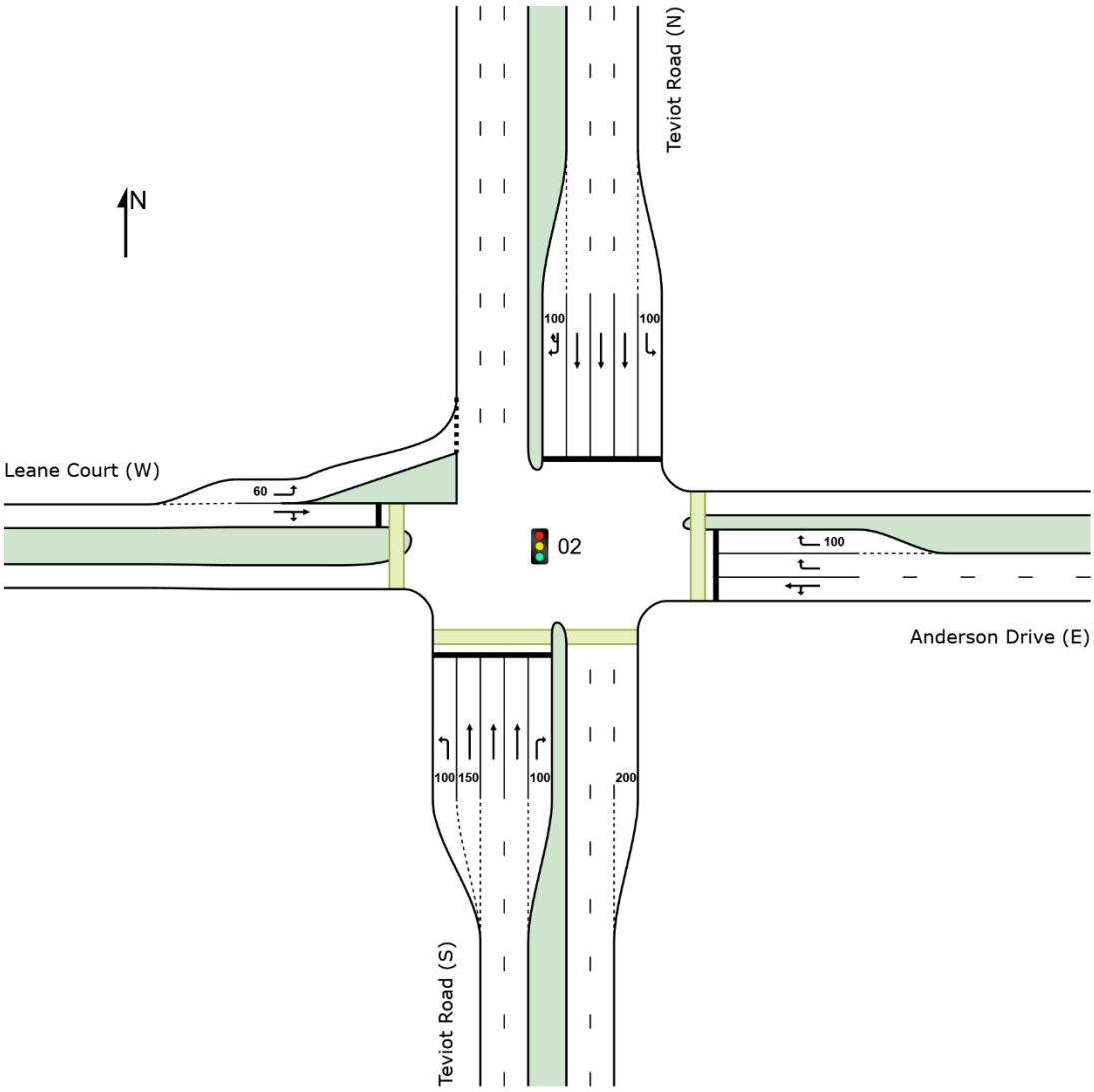


2.2 Intersection 2: Teviot Road / Leanne Court / Anderson Drive Signals

SIDRA analysis outputs for the Teviot Road / Leanne Court / Anderson Drive signals (Intersection 2) are enclosed in Appendix B based on the intersection layout shown by Figure 5. This layout is consistent with the Teviot Road upgrade scheduled to commence construction in mid-2024. Analysis was undertaken for peak hour traffic in the design year (2044) with full development of the Everleigh Road network and the critical road network in 2033 which, based on P000170/R01, is the last year that this road network may be appropriate. Key findings are:

- The maximum DoS is 0.887 with a 100sec cycle time during the PM peak hour in 2033 with the critical road network.
- The next highest DoS of 0.886 during the AM peak hour in the design year (2044) but with a cycle time of just 70sec.
- Intersection DoS are acceptable.
- Delays and queue lengths may be improved through coordination with adjacent traffic signal.

Figure 5 – Intersections 2: Teviot Road / Leanne Court / Anderson Drive signals (Source: SIDRA)

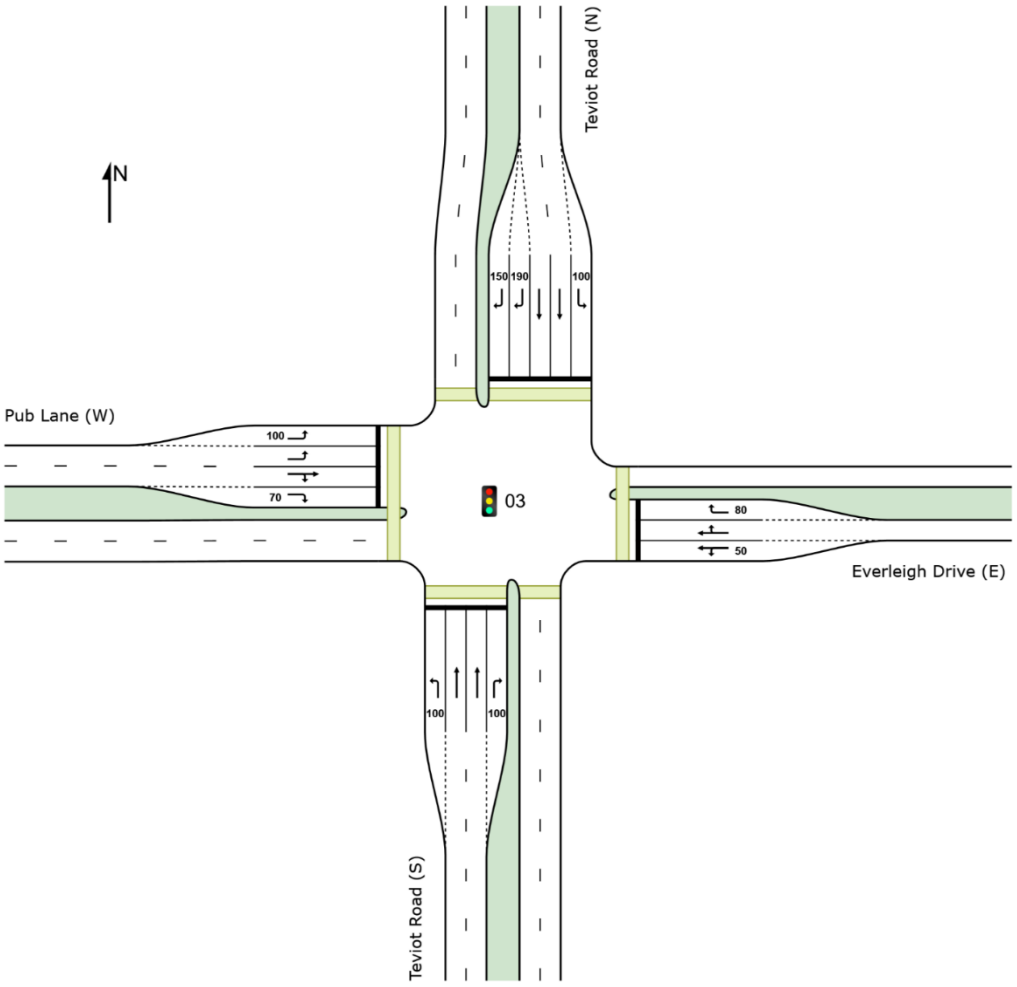


2.3 Intersection 3: Teviot Road / Pub Lane / Everleigh Drive Signals

SIDRA analysis outputs for the Teviot Road / Pub Lane . Anderson Drive signals (Intersection 3) are enclosed in Appendix C based on the intersection layout shown by Figure 6. This layout is consistent with the Teviot Road upgrade scheduled to commence construction in mid-2024. Analysis was undertaken for peak hour traffic in the design year (2044) with full development of the Everleigh road network and various road network scenarios over the period 2031 to 2033. Key findings are:

- The maximum DoS during the AM peak hour in the design year (2044) with full development of the Everleigh road network is 0.841 with a 120sec cycle time which is acceptable.
- The maximum DoS during the PM peak hour in the design year (2044) with full development of the Everleigh road network is 0.927 with a 150sec cycle time which is tolerable.
- The maximum DoS during the PM peak hour with the critical road network is 0.887 with a 120sec cycle time which is acceptable.
- During the AM peak hour the critical road network reaches the limit of acceptable operation between 2031 and 2032..
- In order for the Teviot Road / Pub Lane / Everleigh Drive signals (Intersection 3) to accommodate AM peak hour traffic after 2031 it is necessary to provide access to P3 and P4 via Greenbank Road,
- Delays and queues lengths may be improved through coordination with adjacent traffic signals.

Figure 6 – Intersection 3: Teviot Road / Pub Lane / Everleigh Drive signals (Source: SIDRA)



2.4 Intersection 4: Greenbank Road / Anderson Drive T-intersection

Table 3 summarises the turn warrant assessment for the Greenbank Road / Anderson Drive T-intersection (Intersection 4) based on Greenbank Road having a two (2) lane, two (2) way cross section. To accommodate design year (2044) traffic, a channelised right (CHR) turn treatment is warranted on Greenbank Road at the Anderson Drive T-intersection. Though not warranted by design year traffic an auxiliary (AUL) or channelised (CHL) left turn treatment may be warranted on Greenbank Road at the Anderson Drive T-intersection to accommodate traffic prior to completion of the Everleigh road network.

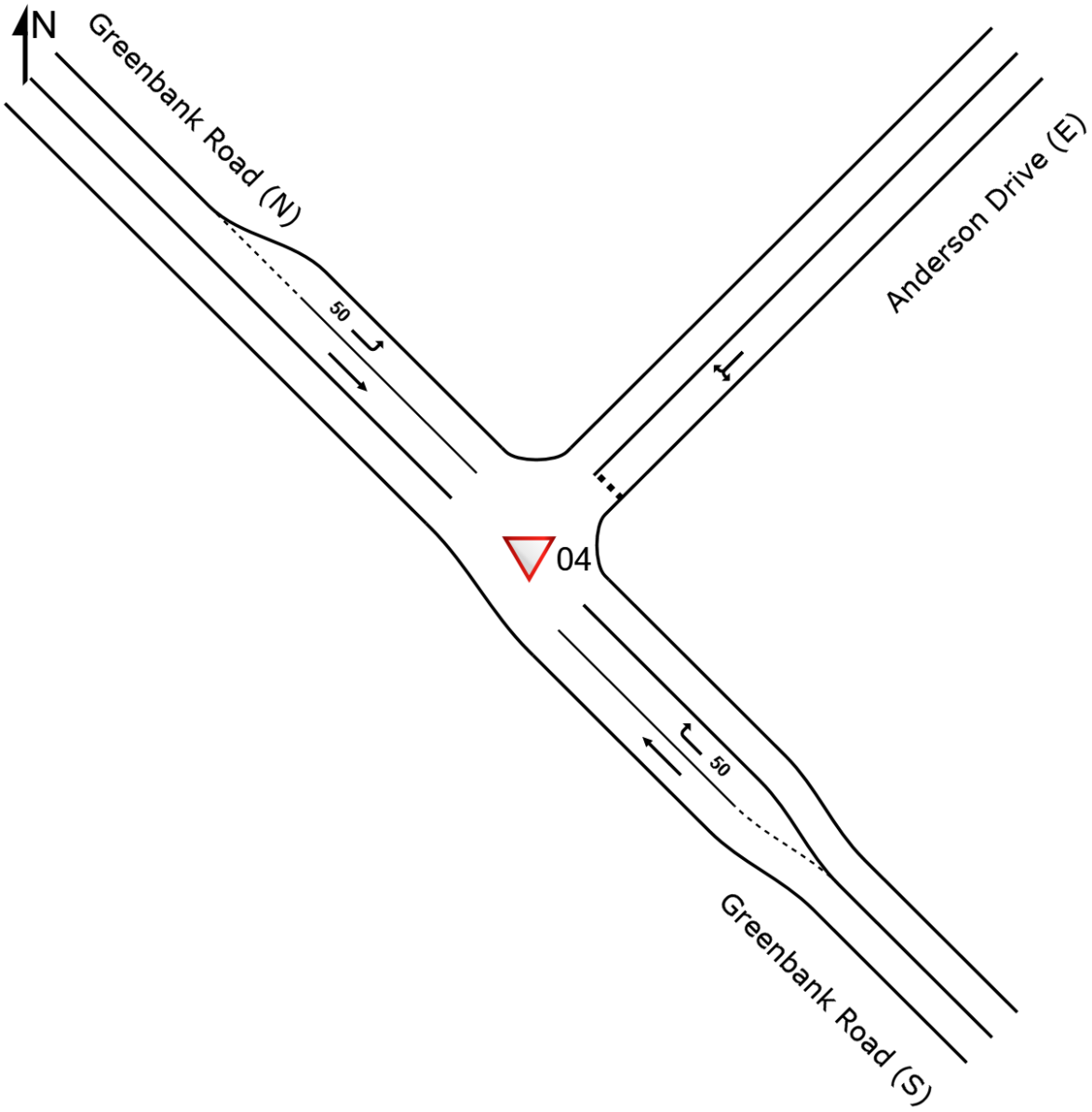
Table 3 – Greenbank Road / Anderson Drive T-intersection (Intersection 4) Turn Warrant Assessment

Scenario		**Design Year (2044)**		**Critical Road Network in 2034**	
Peak		**AM**	**PM**	**AM**	**PM**
Left	Q_M	282	238	508	381
	Q_L	1	1	104	411
	Treatment	BAL	BAL	AUL(S)	AUL or CHL
Right	Q_M	547	510	1011	1256
	Q_R	168	385	24	95
	Treatment	CHR	CHR	CHR(S)	CHR

SIDRA analysis outputs for the Greenbank Road / Anderson Drive T-intersection (Intersection 4) are enclosed in Appendix D based on the intersection layout shown by Figure 7. Analysis was undertaken for peak hour traffic in the design year (2044) with full development of the Everleigh Road network and for the years 2031 to 2034 with the critical road network. Key findings are:

- In the design year (2044) with full development of the Everleigh road network, the maximum DoS is 0.456 for traffic exiting Everleigh during the AM peak hour and the maximum average delay is 22.4sec for the right turn out of Anderson Drive during the PM peak hour. This is acceptable.
- The critical road network reaches the limit of acceptable operation during the PM peak hour between 2032 and 2033, and during the AM peak hour between 2031 and 2032. The critical movement is the right turn out of Anderson Drive.
- Providing a second access for P3 and P4 will significantly reduce, if not eliminate, the demand to turn right out of Anderson Drive onto Greenbank Road allowing the proposed priority intersection to accommodate full development with acceptable DoS and delays.

Figure 7 – Intersection 4: Greenbank Road / Anderson Drive T-intersection (Source: SIDRA)

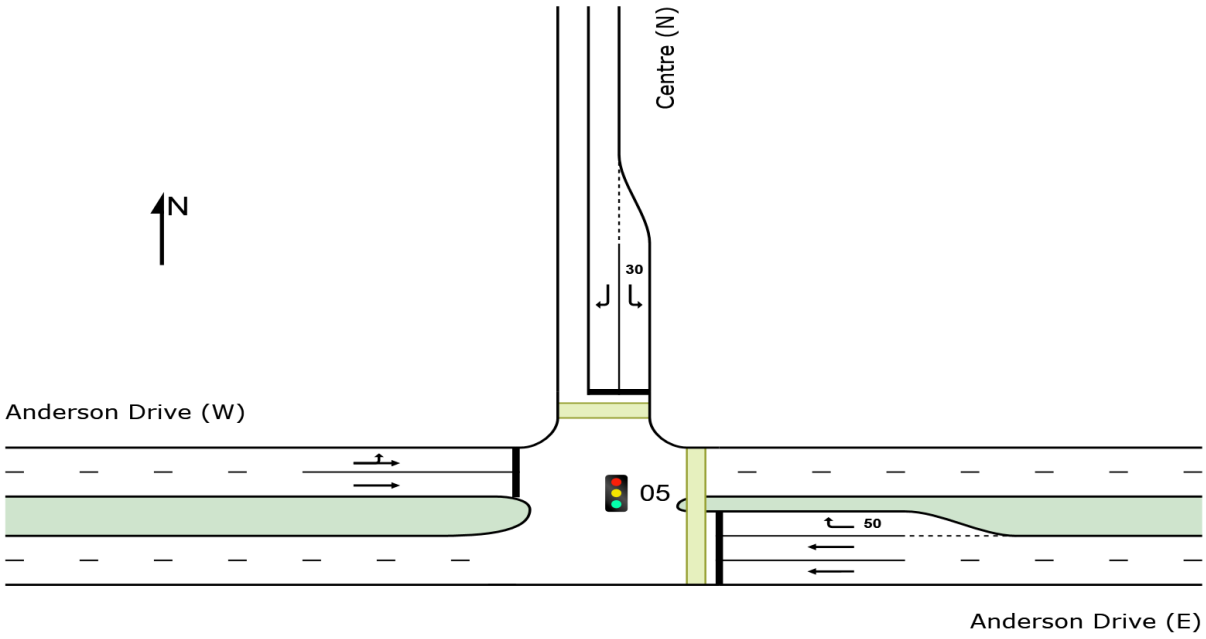


2.5 Intersection 5: Anderson Drive / Centre T-intersection

SIDRA analysis outputs for the Anderson Drive / Centre signals (Intersection 5) are enclosed in Appendix E based on the intersection layout shown by Figure 5. This layout is consistent with the layout proposed in "Traffic Engineering Report: Everleigh Town Centre" (22BRT0339) dated 10/11/2022 by TTM Consulting Pty Ltd for Mirvac. Analysis was undertaken for peak hour traffic in the design year (2044) with full development of the Everleigh Road network and the critical road network in 2033 which, based on P000170/R01, is the last year that this road network may be appropriate. Key findings are:

- The practical minimum cycle time is 60sec during all peaks with the maximum DoS being 0.710 during the PM peak hour in 2033 with the critical road network. This is acceptable.
- Delays and queue lengths may be improved through coordination with adjacent traffic signal.

Figure 8 – Intersections 5: Anderson Drive / Centre signals (Source: SIDRA)



2.6 Intersection 6: Anderson Drive / Guroman Drive Roundabout

SIDRA analysis outputs for the Anderson Drive / Guroman Drive single-lane roundabout (Intersection 6) are enclosed in Appendix F. Analysis was undertaken for peak hour traffic in the design year (2044) with full development of the Everleigh Road network and at development completion (2034) with the critical road network. Key findings are:

- The maximum DoS is 0.666 for the west approach during the PM peak hour in the design year (2044). This is acceptable.
- The maximum average delay for any movement reported by SIDRA is 16.0sec for the right turn from Guroman Drive to Anderson Drive eastbound during the AM peak hour at development completion (2034) with the critical road network. This is acceptable.
- The maximum queue length expected to form at the roundabout is eight (8) vehicles on Anderson Drive and three (3) vehicles on Guroman Drive. SIDRA indicates that though queues on Anderson Drive are relatively long, delays are short, generally less than 10sec. The short delays imply that any queues which form at the roundabout are rolling queues where traffic slows but does not necessarily have to stop at the roundabout.

2.7 Intersection 7: Anderson Drive / Road 103 / Road 53 Roundabout

SIDRA analysis outputs for the Anderson Drive / Road 103 (Neighbourhood Connector 1) / Road 53 (central park access) single-lane roundabout (Intersection 7) are enclosed in Appendix G. Analysis was undertaken for peak hour traffic in the design year (2044) with full development of the Everleigh Road network and the critical road network in 2033 which, based on P000170/R01, is the last year that this road network may be appropriate. Key findings are:

- The maximum DoS is 0.359 for the Anderson Drive north approach during the PM peak hour in 2033 with the critical road network. This is acceptable.
- The maximum average delay for any movement reported by SIDRA is 11.5sec for the right turn out of the central park during the AM peak hour in 2033 with the critical road network. This is acceptable.
- The maximum queue length is on the Anderson Drive north approach during the PM peak hour in 2033 with the critical road network. The queue is not expected to exceed three (3) vehicles which is acceptable.

2.8 Intersection 8: Anderson Drive / Ivory Parkway / Guroman Drive Roundabout

SIDRA analysis outputs for the Anderson Drive / Ivory Parkway / Guroman Drive single-lane roundabout (Intersection 8) are enclosed in Appendix H. Analysis was undertaken for peak hour traffic in the design year (2044) with full development of the Everleigh Road network and the critical road network in 2033 which, based on P000170/R01, is the last year that this road network may be appropriate. Key findings are:

- The maximum DoS is 0.392 for the Anderson Drive south approach during the AM peak hour in 2033 with the critical road network. This is acceptable.
- The maximum average delay for any movement reported by SIDRA is 11.2sec for the right turn out of the Ivory Parkway during the PM peak hour in 2033 with the critical road network. This is acceptable.
- The maximum queue length is on the Anderson Drive south approach during the AM peak hour in 2033 with the critical road network. The queue is not expected to exceed three (3) vehicles which is acceptable.

2.9 Intersection 9: Anderson Drive / Road 83 T-intersection

SIDRA analysis outputs for the Anderson Drive / Road 83 (P5 access) single-lane roundabout (Intersection 9) are enclosed in Appendix I. Analysis was undertaken for peak hour traffic in the design year (2044) with full development of the Everleigh Road network and the critical road network in 2033 which, based on P000170/R01, is the last year that this road network may be appropriate. Key findings are:

- The maximum DoS is 0.273 for the Anderson Drive north approach during the PM peak hour in 2033 with the critical road network. This is acceptable.
- The maximum average delay for any movement reported by SIDRA is 11.1sec for the right turn on to Anderson Drive during the PM peak hour in 2033 with the critical road network. This is acceptable.
- The maximum queue length is two (2) vehicles on Anderson Drive in 2033 with the critical road network. This is acceptable.

2.10 Intersection 10: Anderson Drive / Everleigh Drive Roundabout

SIDRA analysis outputs for the Anderson Drive / Everleigh Drive single-lane roundabout (Intersection 10) are enclosed in Appendix J. Analysis was undertaken for peak hour traffic in the design year (2044) with full development of the Everleigh Road network and the critical road network in 2033 which, based on P000170/R01, is the last year that this road network may be appropriate. Key findings are:

- The maximum DoS is 0.331 for the Anderson Drive west approach during the PM peak hour in the design year (2044). This is acceptable.
- The maximum average delay for any movement reported by SIDRA is 11.2sec for the right turn out of P4 during the AM peak hour in the design year (2044). This is acceptable.
- The maximum queue length is on the Anderson Drive west approach during the PM peak hour in the design year (2044). The queue is not expected to exceed three (3) vehicles which is acceptable.

2.11 Intersection 11: Everleigh Drive / Guroman Drive / Kessels Boulevard Roundabout

SIDRA analysis outputs for the Everleigh Drive / Guroman Drive / Kessels Boulevard single-lane roundabout (Intersection 11) are enclosed in Appendix K. Analysis was undertaken for peak hour traffic in the design year (2044) with full development of the Everleigh Road network and the critical road network in 2033 which, based on P000170/R01, is the last year that this road network may be appropriate. Key findings are:

- The maximum DoS is 0.588 for the Everleigh Drive west approach during the PM peak hour in 2033 with the critical road network. This is acceptable.
- The maximum average delay for any movement reported by SIDRA is 14.0sec for the right turn out of Kessels Boulevard during the AM peak hour in 2033 with the critical road network. This is acceptable.
- The maximum queue length is six (6) vehicles on the Everleigh Drive west approach in 2033 with the critical road network. SIDRA indicates that though queues on Anderson Drive are relatively long, delays are very short, less than 10sec. The very short delays imply that any queues which form at the roundabout are rolling queues where traffic slows but does not necessarily have to stop at the roundabout.

2.12 Intersection 12: Everleigh Drive / Ivory Parkway / Emerald Parade Roundabout

SIDRA analysis outputs for the Everleigh Drive / Ivory Parkway / Emerald Parade single-lane roundabout (Intersection 12) are enclosed in Appendix L. Analysis was undertaken for peak hour traffic in the design year (2044) with full development of the Everleigh Road network and the critical road network in 2033 which, based on P000170/R01, is the last year that this road network may be appropriate. Key findings are:

- The maximum DoS is 0.345 for the Everleigh Drive north approach during the PM peak hour in 2033 with the critical road network. This is acceptable.
- The maximum average delay for any movement reported by SIDRA is 12.0sec for the right turn out of Emerald Parade during the AM peak hour in 2033 with the critical road network. This is acceptable.
- The maximum queue length is on the Everleigh Drive north approach during the PM peak hour in 2033 with the critical road network. The queue is not expected to exceed three (3) vehicles which is acceptable.

2.13 Intersection 13: Everleigh Drive / Kessels Boulevard Roundabout

SIDRA analysis outputs for the Everleigh Drive / Kessels Boulevard single-lane roundabout (Intersection 13) are enclosed in Appendix M. Analysis was undertaken for peak hour traffic in the design year (2044) with full development of the Everleigh Road network and the critical road network in 2033 which, based on P000170/R01, is the last year that this road network may be appropriate. Key findings are:

- The maximum DoS is 0.285 for the Everleigh Drive north approach during the PM peak hour in 2033 with the critical road network. This is acceptable.
- The maximum average delay for any movement reported by SIDRA is 10.6sec for the right turn on to Everleigh Drive northbound during the PM peak hour in 2033 with the critical road network. This is acceptable.
- The maximum queue length is two (2) vehicles on Everleigh Drive which is acceptable.

3. ROAD NETWORK STAGING

All proposed intersection treatments can accommodate forecast design year (2044) traffic 10 years after completion of the final development stage.

All proposed intersections can accommodate all interim road network scenarios except for:

- Intersection 3: Teviot Road / Pub Lane / Everleigh Drive signals; and
- Intersection 4: Greenbank Road / Anderson Drive T-intersection.

Depending on the sequencing of road network constructions in P3 and P4 of Everleigh, these intersections could reach their practical capacity by 2032.

Based on the intersection analysis contained in this report and the road link capacity considerations discussed in P000170/R01 it is concluded that:

- Initial development of P3 and P4 could be supported by any one (1) of the following three (3) access options:
  - Greenbank Road / Anderson Drive T-intersection (Intersection 4) from the south;
  - Extension of Anderson Drive south from P5 (Intersection 9) including crossing of a designated waterway for waterway barrier works; or
  - Extension of Everleigh Drive east from P2 through P3.
- Prior to 2032 P3 and P4 will require a second access and one (1) of the two (2) accesses must be the Greenbank Road / Anderson Drive T-intersection (Intersection 4). This is required to ensure that both Intersections 3 and 4 continue operating below their practical capacity after 2031.
- Prior to 2034, all three (3) access routes will be required. This is to ensure that traffic volumes on both Everleigh Drive and Anderson Drive remain at a level which is appropriate for a Neighbourhood Connector.

APPENDIX A

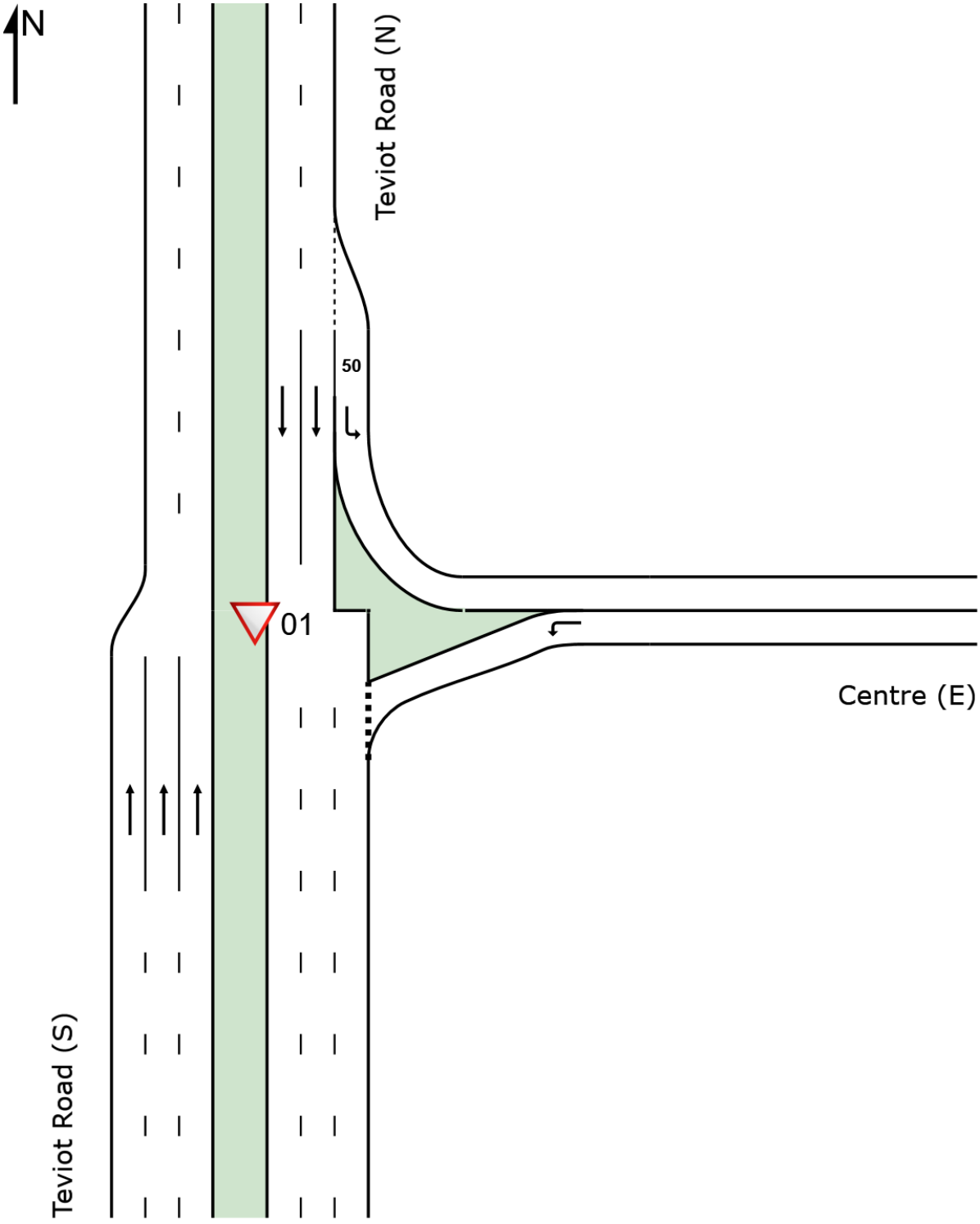
SIDRA OUTPUT – INTERSECTION 1: TEVIOT ROAD / CENTRE LEFT-IN-LEFT-OUT

SITE LAYOUT

Site: 01 [INT01 (Site Folder: 2044AM)]

Teviot Road / P13 - Prority Control
2044AM
Site Category: (None)
Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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Project: C:\12dS\data\12dSynergy\P000170 Everleigh Traffic Movement_15965\14. Engineering - Traffic\02. SIDRA\P000170 SIDRA Models.sip9

MOVEMENT SUMMARY

Site: 01 [INT01 (Site Folder: 2044AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / P13 - Prority Control
2044AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Teviot Road (S)															
2	T1	All MCs	1786	5.0	1786	5.0	0.430	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach			1786	5.0	1786	5.0	0.430	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.7
East: Centre (E)															
4	L2	All MCs	277	5.0	277	5.0	0.385	10.2	LOS B	1.9	14.0	0.59	0.84	0.76	43.6
Approach			277	5.0	277	5.0	0.385	10.2	LOS B	1.9	14.0	0.59	0.84	0.76	43.6
North: Teviot Road (N)															
7	L2	All MCs	154	5.0	154	5.0	0.086	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	56.2
8	T1	All MCs	1020	5.0	1020	5.0	0.270	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach			1174	5.0	1174	5.0	0.270	1.0	NA	0.0	0.0	0.00	0.07	0.00	59.3
All Vehicles			3237	5.0	3237	5.0	0.430	1.2	NA	1.9	14.0	0.05	0.10	0.07	58.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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LANE SUMMARY

Site: 01 [INT01 (Site Folder: 2044AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / P13 - Prority Control
2044AM
Site Category: (None)
Give-Way (Two-Way)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Teviot Road (S)															
Lane 1	162	5.0	162	5.0	1889	0.086	20[6]	0.0	LOS A	0.0	0.0	Full	140	0.0	0.0
Lane 2	812	5.0	812	5.0	1889	0.430	100	0.0	LOS A	0.0	0.0	Full	140	0.0	0.0
Lane 3	812	5.0	812	5.0	1889	0.430	100	0.0	LOS A	0.0	0.0	Full	140	0.0	0.0
Approach	1786	5.0	1786	5.0		0.430		0.0	NA	0.0	0.0				
East: Centre (E)															
Lane 1	277	5.0	277	5.0	718	0.385	100	10.2	LOS B	1.9	14.0	Full	400	0.0	0.0
Approach	277	5.0	277	5.0		0.385		10.2	LOS B	1.9	14.0				
North: Teviot Road (N)															
Lane 1	154	5.0	154	5.0	1793	0.086	100	5.7	LOS A	0.0	0.0	Short	50	0.0	NA
Lane 2	510	5.0	510	5.0	1889	0.270	100	0.2	LOS A	0.0	0.0	Full	1500	0.0	0.0
Lane 3	510	5.0	510	5.0	1889	0.270	100	0.2	LOS A	0.0	0.0	Full	1500	0.0	0.0
Approach	1174	5.0	1174	5.0		0.270		1.0	NA	0.0	0.0				
All Vehicles	3237	5.0	3237	5.0		0.430		1.2	NA	1.9	14.0				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects

Approach Lane Flows (veh/h)

South: Teviot Road (S)

Mov. From S To Exit:	T1 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	162	162	5.0	1889	0.086	20[6]	NA	NA
Lane 2	812	812	5.0	1889	0.430	100	NA	NA
Lane 3	812	812	5.0	1889	0.430	100	NA	NA
Approach	1786	1786	5.0		0.430			

East: Centre (E)

Mov. From E To Exit:	L2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	277	277	5.0	718	0.385	100	NA	NA

Approach	277	277	5.0			0.385			
North: Teviot Road (N)									
Mov. From N To Exit:	L2 E	T1 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	154	-	154	5.0	1793	0.086	100	0.0	2
Lane 2	-	510	510	5.0	1889	0.270	100	NA	NA
Lane 3	-	510	510	5.0	1889	0.270	100	NA	NA
Approach	154	1020	1174	5.0		0.270			
	Total	%HV	Deg.Satn (v/c)						
All Vehicles	3237	5.0		0.430					

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.											

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Teviot Road (S)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
East: Centre (E)				
Lane 1	0.0	0.0	0.0	0.0
North: Teviot Road (N)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0

MOVEMENT SUMMARY

Site: 01 [INT01 (Site Folder: 2044PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / P13 - Prority Control
2044PM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Teviot Road (S)															
2	T1	All MCs	1079	5.0	1079	5.0	0.260	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			1079	5.0	1079	5.0	0.260	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
East: Centre (E)															
4	L2	All MCs	274	5.0	274	5.0	0.730	23.5	LOS C	4.3	31.7	0.90	1.23	1.89	33.9
Approach			274	5.0	274	5.0	0.730	23.5	LOS C	4.3	31.7	0.90	1.23	1.89	33.9
North: Teviot Road (N)															
7	L2	All MCs	92	5.0	92	5.0	0.051	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	56.2
8	T1	All MCs	1751	5.0	1751	5.0	0.463	0.5	LOS A	0.0	0.0	0.00	0.00	0.00	59.6
Approach			1842	5.0	1842	5.0	0.463	0.8	NA	0.0	0.0	0.00	0.03	0.00	59.4
All Vehicles			3195	5.0	3195	5.0	0.730	2.5	NA	4.3	31.7	0.08	0.12	0.16	58.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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LANE SUMMARY

Site: 01 [INT01 (Site Folder: 2044PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / P13 - Prority Control
2044PM
Site Category: (None)
Give-Way (Two-Way)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Teviot Road (S)															
Lane 1	98	5.0	98	5.0	1889	0.052	20[6]	0.0	LOS A	0.0	0.0	Full	140	0.0	0.0
Lane 2	490	5.0	490	5.0	1889	0.260	100	0.0	LOS A	0.0	0.0	Full	140	0.0	0.0
Lane 3	490	5.0	490	5.0	1889	0.260	100	0.0	LOS A	0.0	0.0	Full	140	0.0	0.0
Approach	1079	5.0	1079	5.0		0.260		0.0	NA	0.0	0.0				
East: Centre (E)															
Lane 1	274	5.0	274	5.0	375	0.730	100	23.5	LOS C	4.3	31.7	Full	400	0.0	0.0
Approach	274	5.0	274	5.0		0.730		23.5	LOS C	4.3	31.7				
North: Teviot Road (N)															
Lane 1	92	5.0	92	5.0	1793	0.051	100	5.7	LOS A	0.0	0.0	Short	50	0.0	NA
Lane 2	875	5.0	875	5.0	1889	0.463	100	0.5	LOS A	0.0	0.0	Full	1500	0.0	0.0
Lane 3	875	5.0	875	5.0	1889	0.463	100	0.5	LOS A	0.0	0.0	Full	1500	0.0	0.0
Approach	1842	5.0	1842	5.0		0.463		0.8	NA	0.0	0.0				
All Vehicles	3195	5.0	3195	5.0		0.730		2.5	NA	4.3	31.7				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects

Approach Lane Flows (veh/h)

South: Teviot Road (S)

Mov. From S To Exit:	T1 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	98	98	5.0	1889	0.052	20[6]	NA	NA
Lane 2	490	490	5.0	1889	0.260	100	NA	NA
Lane 3	490	490	5.0	1889	0.260	100	NA	NA
Approach	1079	1079	5.0		0.260			

East: Centre (E)

Mov. From E To Exit:	L2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	274	274	5.0	375	0.730	100	NA	NA

Approach	274	274	5.0			0.730			
North: Teviot Road (N)									
Mov. From N To Exit:	L2 E	T1 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	92	-	92	5.0	1793	0.051	100	0.0	2
Lane 2	-	875	875	5.0	1889	0.463	100	NA	NA
Lane 3	-	875	875	5.0	1889	0.463	100	NA	NA
Approach	92	1751	1842	5.0		0.463			
	Total	%HV	Deg.Satn (v/c)						
All Vehicles	3195	5.0		0.730					

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.											

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Teviot Road (S)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
East: Centre (E)				
Lane 1	0.0	0.0	0.0	0.0
North: Teviot Road (N)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0

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MOVEMENT SUMMARY

Site: 01 [INT01 (Site Folder: 34AM+S)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / P13 - Prority Control
2034AM with P3/P4 access via Greenbank Road only
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Teviot Road (S)															
2	T1	All MCs	1521	5.0	1521	5.0	0.366	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach			1521	5.0	1521	5.0	0.366	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.8
East: Centre (E)															
4	L2	All MCs	282	5.0	282	5.0	0.393	10.2	LOS B	2.0	14.5	0.60	0.85	0.78	43.5
Approach			282	5.0	282	5.0	0.393	10.2	LOS B	2.0	14.5	0.60	0.85	0.78	43.5
North: Teviot Road (N)															
7	L2	All MCs	154	5.0	154	5.0	0.086	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	56.2
8	T1	All MCs	1020	5.0	1020	5.0	0.270	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach			1174	5.0	1174	5.0	0.270	1.0	NA	0.0	0.0	0.00	0.07	0.00	59.3
All Vehicles			2977	5.0	2977	5.0	0.393	1.4	NA	2.0	14.5	0.06	0.11	0.07	58.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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LANE SUMMARY

Site: 01 [INT01 (Site Folder: 34AM+S)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / P13 - Prority Control
2034AM with P3/P4 access via Greenbank Road only
Site Category: (None)
Give-Way (Two-Way)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Teviot Road (S)															
Lane 1	138	5.0	138	5.0	1889	0.073	20[6]	0.0	LOS A	0.0	0.0	Full	140	0.0	0.0
Lane 2	691	5.0	691	5.0	1889	0.366	100	0.0	LOS A	0.0	0.0	Full	140	0.0	0.0
Lane 3	691	5.0	691	5.0	1889	0.366	100	0.0	LOS A	0.0	0.0	Full	140	0.0	0.0
Approach	1521	5.0	1521	5.0		0.366		0.0	NA	0.0	0.0				
East: Centre (E)															
Lane 1	282	5.0	282	5.0	718	0.393	100	10.2	LOS B	2.0	14.5	Full	400	0.0	0.0
Approach	282	5.0	282	5.0		0.393		10.2	LOS B	2.0	14.5				
North: Teviot Road (N)															
Lane 1	154	5.0	154	5.0	1793	0.086	100	5.7	LOS A	0.0	0.0	Short	50	0.0	NA
Lane 2	510	5.0	510	5.0	1889	0.270	100	0.2	LOS A	0.0	0.0	Full	1500	0.0	0.0
Lane 3	510	5.0	510	5.0	1889	0.270	100	0.2	LOS A	0.0	0.0	Full	1500	0.0	0.0
Approach	1174	5.0	1174	5.0		0.270		1.0	NA	0.0	0.0				
All Vehicles	2977	5.0	2977	5.0		0.393		1.4	NA	2.0	14.5				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects

Approach Lane Flows (veh/h)

South: Teviot Road (S)

Mov. From S To Exit:	T1 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	138	138	5.0	1889	0.073	20[6]	NA	NA
Lane 2	691	691	5.0	1889	0.366	100	NA	NA
Lane 3	691	691	5.0	1889	0.366	100	NA	NA
Approach	1521	1521	5.0		0.366			

East: Centre (E)

Mov. From E To Exit:	L2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	282	282	5.0	718	0.393	100	NA	NA

Approach	282	282	5.0			0.393			
North: Teviot Road (N)									
Mov. From N To Exit:	L2 E	T1 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	154	-	154	5.0	1793	0.086	100	0.0	2
Lane 2	-	510	510	5.0	1889	0.270	100	NA	NA
Lane 3	-	510	510	5.0	1889	0.270	100	NA	NA
Approach	154	1020	1174	5.0		0.270			
	Total	%HV	Deg.Satn (v/c)						
All Vehicles	2977	5.0		0.393					

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.											

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Teviot Road (S)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
East: Centre (E)				
Lane 1	0.0	0.0	0.0	0.0
North: Teviot Road (N)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0

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MOVEMENT SUMMARY

Site: 01 [INT01 (Site Folder: 34PM+S)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / P13 - Prority Control
2034PM with P3/P4 access via Greenbank Road only
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Teviot Road (S)															
2	T1	All MCs	1079	5.0	1079	5.0	0.260	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			1079	5.0	1079	5.0	0.260	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
East: Centre (E)															
4	L2	All MCs	295	5.0	295	5.0	0.601	16.4	LOS C	3.4	24.8	0.80	1.09	1.39	38.5
Approach			295	5.0	295	5.0	0.601	16.4	LOS C	3.4	24.8	0.80	1.09	1.39	38.5
North: Teviot Road (N)															
7	L2	All MCs	92	5.0	92	5.0	0.051	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	56.2
8	T1	All MCs	1484	5.0	1484	5.0	0.393	0.4	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach			1576	5.0	1576	5.0	0.393	0.7	NA	0.0	0.0	0.00	0.03	0.00	59.5
All Vehicles			2949	5.0	2949	5.0	0.601	2.0	NA	3.4	24.8	0.08	0.12	0.14	58.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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LANE SUMMARY

Site: 01 [INT01 (Site Folder: 34PM+S)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / P13 - Prority Control
2034PM with P3/P4 access via Greenbank Road only
Site Category: (None)
Give-Way (Two-Way)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Teviot Road (S)															
Lane 1	98	5.0	98	5.0	1889	0.052	20[6]	0.0	LOS A	0.0	0.0	Full	140	0.0	0.0
Lane 2	490	5.0	490	5.0	1889	0.260	100	0.0	LOS A	0.0	0.0	Full	140	0.0	0.0
Lane 3	490	5.0	490	5.0	1889	0.260	100	0.0	LOS A	0.0	0.0	Full	140	0.0	0.0
Approach	1079	5.0	1079	5.0		0.260		0.0	NA	0.0	0.0				
East: Centre (E)															
Lane 1	295	5.0	295	5.0	490	0.601	100	16.4	LOS C	3.4	24.8	Full	400	0.0	0.0
Approach	295	5.0	295	5.0		0.601		16.4	LOS C	3.4	24.8				
North: Teviot Road (N)															
Lane 1	92	5.0	92	5.0	1793	0.051	100	5.7	LOS A	0.0	0.0	Short	50	0.0	NA
Lane 2	742	5.0	742	5.0	1889	0.393	100	0.4	LOS A	0.0	0.0	Full	1500	0.0	0.0
Lane 3	742	5.0	742	5.0	1889	0.393	100	0.4	LOS A	0.0	0.0	Full	1500	0.0	0.0
Approach	1576	5.0	1576	5.0		0.393		0.7	NA	0.0	0.0				
All Vehicles	2949	5.0	2949	5.0		0.601		2.0	NA	3.4	24.8				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects

Approach Lane Flows (veh/h)

South: Teviot Road (S)

Mov. From S To Exit:	T1 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	98	98	5.0	1889	0.052	20[6]	NA	NA
Lane 2	490	490	5.0	1889	0.260	100	NA	NA
Lane 3	490	490	5.0	1889	0.260	100	NA	NA
Approach	1079	1079	5.0		0.260			

East: Centre (E)

Mov. From E To Exit:	L2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	295	295	5.0	490	0.601	100	NA	NA

Approach	295	295	5.0			0.601			
North: Teviot Road (N)									
Mov. From N To Exit:	L2 E	T1 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	92	-	92	5.0	1793	0.051	100	0.0	2
Lane 2	-	742	742	5.0	1889	0.393	100	NA	NA
Lane 3	-	742	742	5.0	1889	0.393	100	NA	NA
Approach	92	1484	1576	5.0		0.393			
	Total	%HV	Deg.Satn (v/c)						
All Vehicles	2949	5.0		0.601					

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.											

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Teviot Road (S)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
East: Centre (E)				
Lane 1	0.0	0.0	0.0	0.0
North: Teviot Road (N)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0

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APPENDIX B

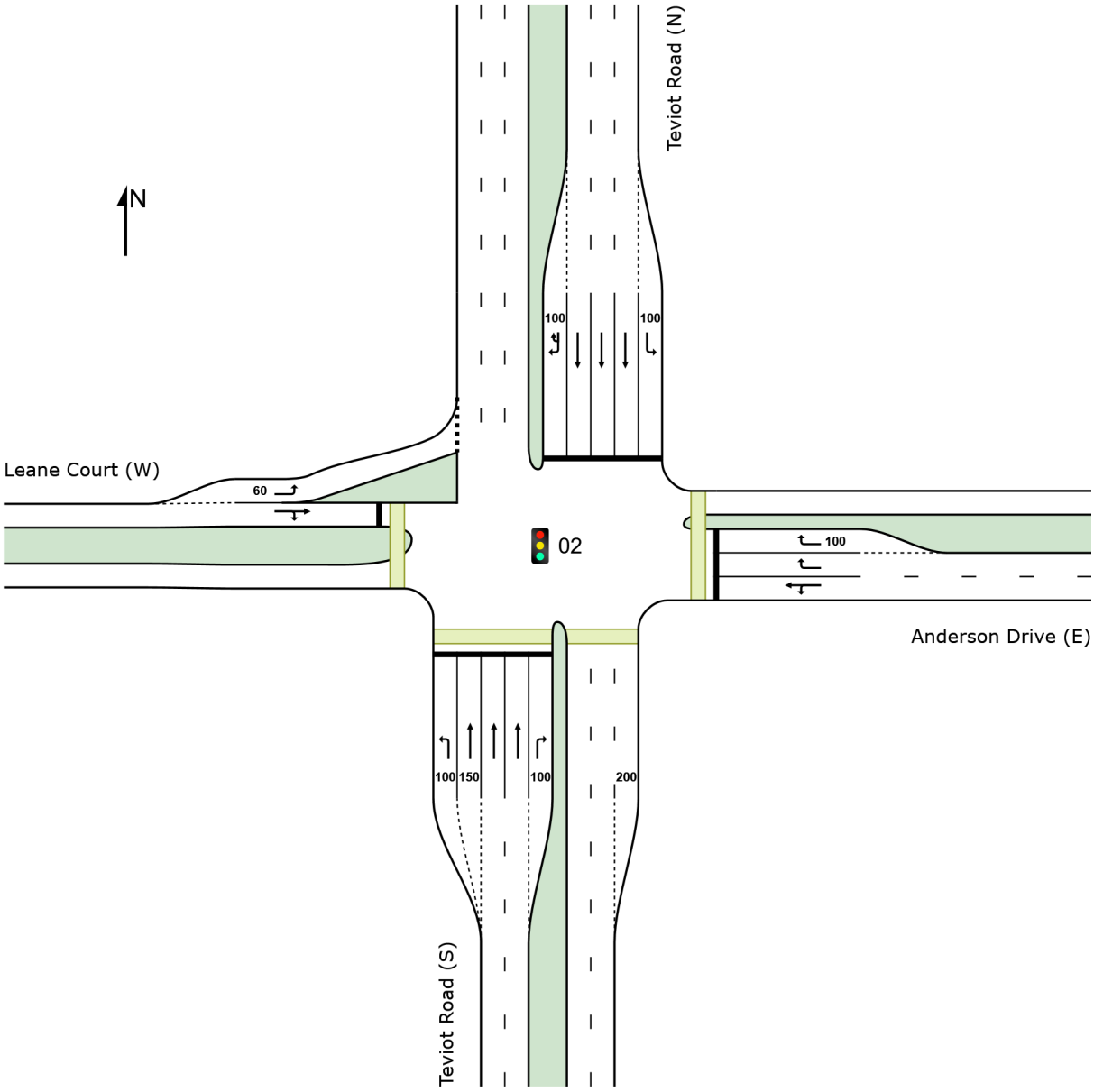
SIDRA OUTPUT – INTERSECTIONS 2: TEVIOT ROAD / LEANNE COURT / ANDERSON DRIVE SIGNALS

SITE LAYOUT

Site: 02 [INT02 (Site Folder: 2044AM)]

Teviot Road / Anderson Drive / Leane Court - Singals
2044 AM
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



PHASING SUMMARY

Site: 02 [INT02 (Site Folder: 2044AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / Anderson Drive / Leane Court - Singals
2044 AM
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 70 seconds (Site Practical Cycle Time)

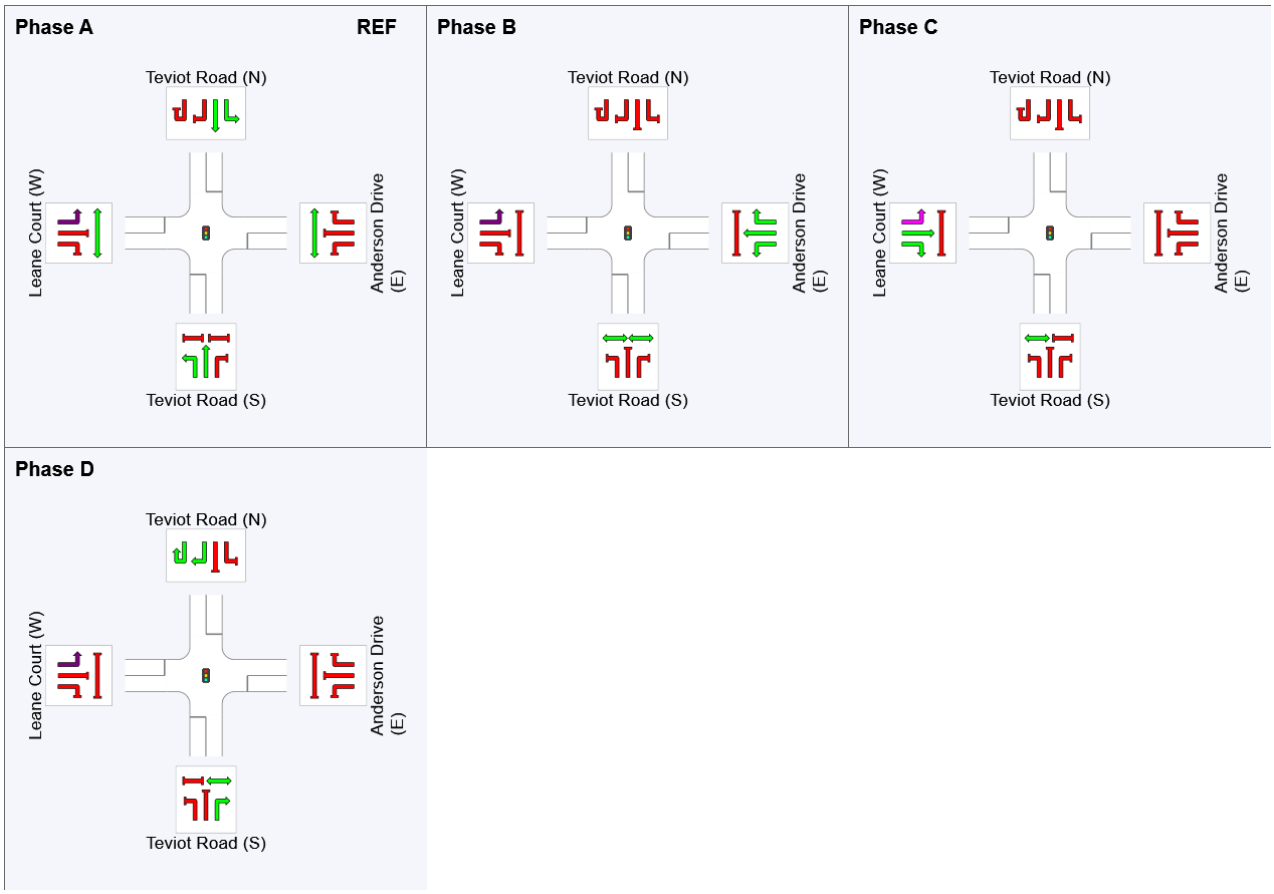
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Four-Phase Leading Right Turns
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D
Reference Phase: Phase A

Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	23	41	53
Green Time (sec)	17	12	6	11
Phase Time (sec)	23	18	12	17
Phase Split	33%	26%	17%	24%
Phase Frequency (%)	100.0	100.0	100.0	100.0

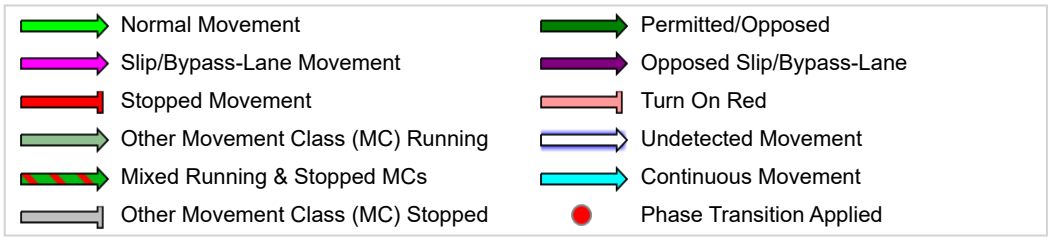
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase

VAR: Variable Phase



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MOVEMENT SUMMARY

Site: 02 [INT02 (Site Folder: 2044AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / Anderson Drive / Leane Court - Singals
2044 AM
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 70 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Teviot Road (S)															
1	L2	All MCs	141	5.0	141	5.0	0.367	31.7	LOS C	4.3	31.0	0.90	0.78	0.90	38.7
2	T1	All MCs	1219	5.0	1219	5.0	* 0.886	38.3	LOS D	16.6	121.0	1.00	1.09	1.36	31.1
3	R2	All MCs	245	5.0	245	5.0	* 0.870	46.0	LOS D	9.9	72.0	1.00	1.05	1.42	28.7
Approach			1605	5.0	1605	5.0	0.886	38.9	LOS D	16.6	121.0	0.99	1.06	1.33	31.5
East: Anderson Drive (E)															
4	L2	All MCs	119	5.0	119	5.0	0.665	39.5	LOS D	6.5	47.1	0.99	0.85	1.08	32.0
5	T1	All MCs	67	5.0	67	5.0	0.665	31.0	LOS C	6.5	47.1	0.99	0.85	1.08	32.6
6	R2	All MCs	537	5.0	537	5.0	* 0.873	45.7	LOS D	10.8	79.1	1.00	1.05	1.41	18.4
Approach			723	5.0	723	5.0	0.873	43.3	LOS D	10.8	79.1	1.00	1.00	1.32	22.4
North: Teviot Road (N)															
7	L2	All MCs	241	5.0	241	5.0	0.627	33.8	LOS C	7.8	57.2	0.96	0.83	0.98	21.6
8	T1	All MCs	876	5.0	876	5.0	0.636	26.8	LOS C	9.3	67.6	0.95	0.81	0.96	36.5
9	R2	All MCs	68	5.0	68	5.0	0.769	41.3	LOS D	6.7	49.0	1.00	0.92	1.24	28.3
9u	U	All MCs	112	5.0	112	5.0	0.769	42.8	LOS D	6.7	49.0	1.00	0.92	1.24	17.2
Approach			1297	5.0	1297	5.0	0.769	30.2	LOS C	9.3	67.6	0.96	0.83	1.00	32.0
West: Leane Court (W)															
10	L2	All MCs	31	5.0	31	5.0	0.062	19.5	LOS B	0.6	4.7	0.71	0.68	0.71	38.5
11	T1	All MCs	49	5.0	49	5.0	* 0.675	37.3	LOS D	3.9	28.6	1.00	0.85	1.16	31.0
12	R2	All MCs	57	5.0	57	5.0	0.675	43.0	LOS D	3.9	28.6	1.00	0.85	1.16	35.9
Approach			137	5.0	137	5.0	0.675	35.7	LOS D	3.9	28.6	0.94	0.81	1.06	34.7
All Vehicles			3762	5.0	3762	5.0	0.886	36.6	LOS D	16.6	121.0	0.98	0.96	1.21	30.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Teviot Road (S)												
P11	Stage 1	50	53	29.3	LOS C	0.1	0.1	0.92	0.92	183.2	200.0	1.09

P12 Stage 2	50	53	12.6	LOS B	0.1	0.1	0.83	0.83	166.4	200.0	1.20
East: Anderson Drive (E)											
P2 Full	50	53	29.3	LOS C	0.1	0.1	0.92	0.92	183.2	200.0	1.09
West: Leane Court (W)											
P4 Full	50	53	29.3	LOS C	0.1	0.1	0.92	0.92	183.2	200.0	1.09
All Pedestrians	200	211	25.1	LOS C	0.1	0.1	0.89	0.89	179.0	200.0	1.12

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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PHASING SUMMARY

Site: 02 [INT02 (Site Folder: 2044PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / Anderson Drive / Leane Court - Singals
2044 AM
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100 seconds (Site Practical Cycle Time)

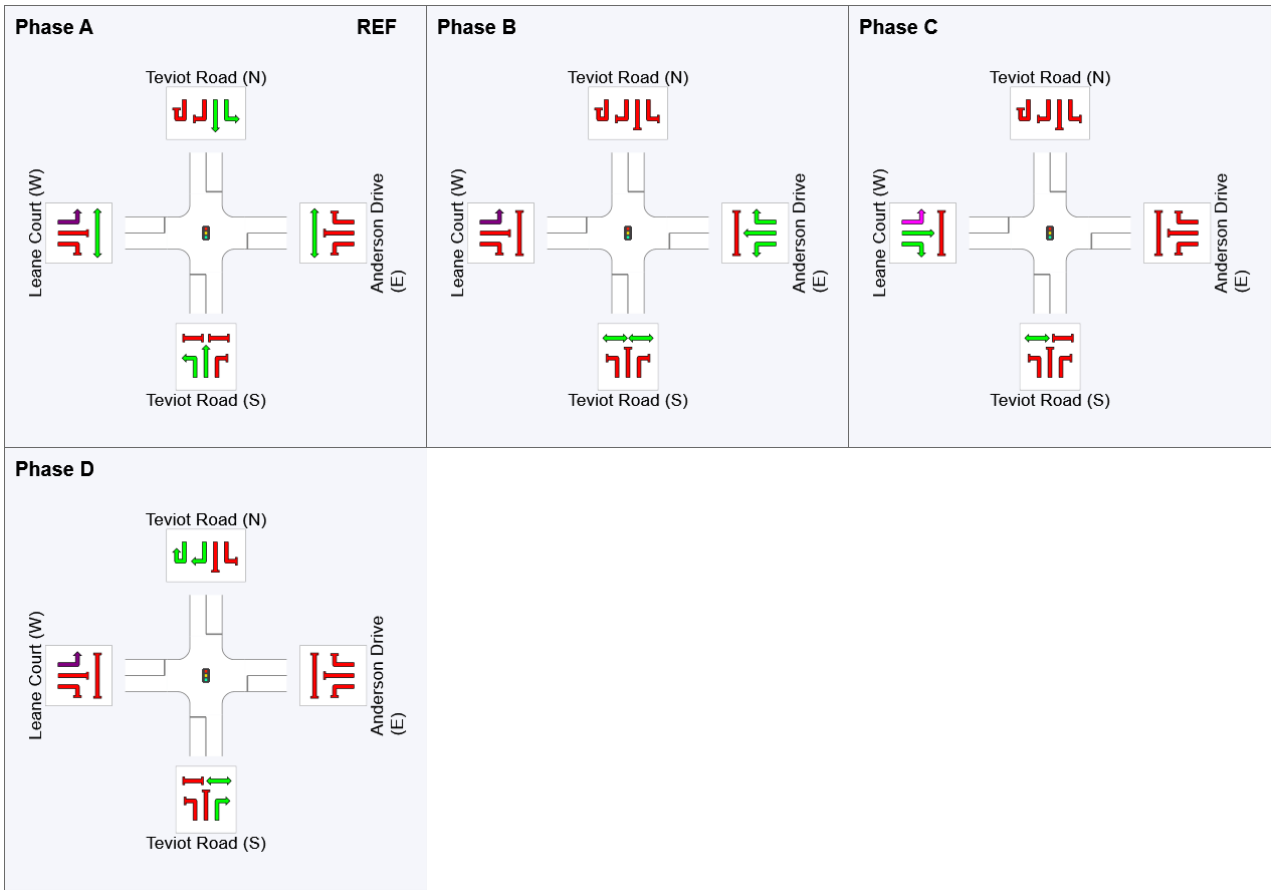
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Four-Phase Leading Right Turns
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D
Reference Phase: Phase A

Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	41	57	77
Green Time (sec)	35	10	14	17
Phase Time (sec)	41	16	20	23
Phase Split	41%	16%	20%	23%
Phase Frequency (%)	100.0	100.0	100.0	100.0

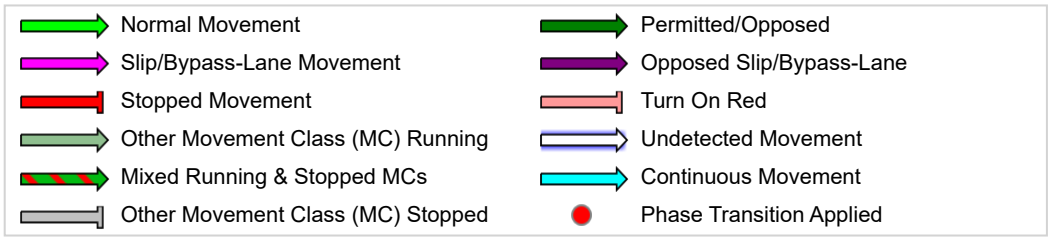
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase

VAR: Variable Phase



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MOVEMENT SUMMARY

Site: 02 [INT02 (Site Folder: 2044PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / Anderson Drive / Leane Court - Singals
2044 AM
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Teviot Road (S)															
1	L2	All MCs	62	5.0	62	5.0	0.108	31.3	LOS C	2.1	15.5	0.74	0.72	0.74	38.9
2	T1	All MCs	771	5.0	771	5.0	0.389	26.3	LOS C	9.4	68.8	0.80	0.68	0.80	36.6
3	R2	All MCs	259	5.0	259	5.0	* 0.849	57.2	LOS E	13.9	101.7	1.00	0.98	1.25	25.6
Approach			1092	5.0	1092	5.0	0.849	33.9	LOS C	13.9	101.7	0.84	0.75	0.90	33.3
East: Anderson Drive (E)															
4	L2	All MCs	72	5.0	72	5.0	0.732	61.9	LOS E	5.4	39.4	1.00	0.87	1.18	25.5
5	T1	All MCs	32	5.0	32	5.0	* 0.732	51.2	LOS D	5.4	39.4	1.00	0.87	1.18	25.6
6	R2	All MCs	254	5.0	254	5.0	0.707	56.6	LOS E	6.5	47.3	1.00	0.86	1.13	15.9
Approach			357	5.0	357	5.0	0.732	57.2	LOS E	6.5	47.3	1.00	0.87	1.14	19.2
North: Teviot Road (N)															
7	L2	All MCs	482	5.0	482	5.0	* 0.840	46.1	LOS D	24.4	178.3	1.00	0.93	1.13	17.8
8	T1	All MCs	1386	5.0	1386	5.0	0.699	30.8	LOS C	19.5	142.3	0.92	0.81	0.92	34.6
9	R2	All MCs	44	5.0	44	5.0	0.627	49.3	LOS D	7.4	53.8	0.98	0.83	1.01	25.8
9u	U	All MCs	111	5.0	111	5.0	0.627	50.8	LOS D	7.4	53.8	0.98	0.83	1.01	15.2
Approach			2023	5.0	2023	5.0	0.840	36.0	LOS D	24.4	178.3	0.94	0.84	0.98	29.4
West: Leane Court (W)															
10	L2	All MCs	55	5.0	55	5.0	0.066	13.1	LOS B	1.0	7.3	0.46	0.66	0.46	43.0
11	T1	All MCs	72	5.0	72	5.0	* 0.841	52.8	LOS D	11.5	84.1	1.00	0.99	1.26	26.0
12	R2	All MCs	143	5.0	143	5.0	0.841	58.5	LOS E	11.5	84.1	1.00	0.99	1.26	31.1
Approach			269	5.0	269	5.0	0.841	47.8	LOS D	11.5	84.1	0.89	0.92	1.10	31.1
All Vehicles			3741	5.0	3741	5.0	0.849	38.2	LOS D	24.4	178.3	0.92	0.82	0.98	29.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Teviot Road (S)												
P11	Stage 1	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	198.1	200.0	1.01

P12 Stage 2	50	53	19.9	LOS B	0.1	0.1	0.88	0.88	173.7	200.0	1.15
East: Anderson Drive (E)											
P2 Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	198.1	200.0	1.01
West: Leane Court (W)											
P4 Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	198.1	200.0	1.01
All Pedestrians	200	211	38.2	LOS D	0.1	0.1	0.93	0.93	192.0	200.0	1.04

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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PHASING SUMMARY

Site: 02 [INT02 (Site Folder: 33AM+N)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / Anderson Drive / Leane Court - Singals
2033 AM with Anderson Drive link
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 80 seconds (Site Practical Cycle Time)

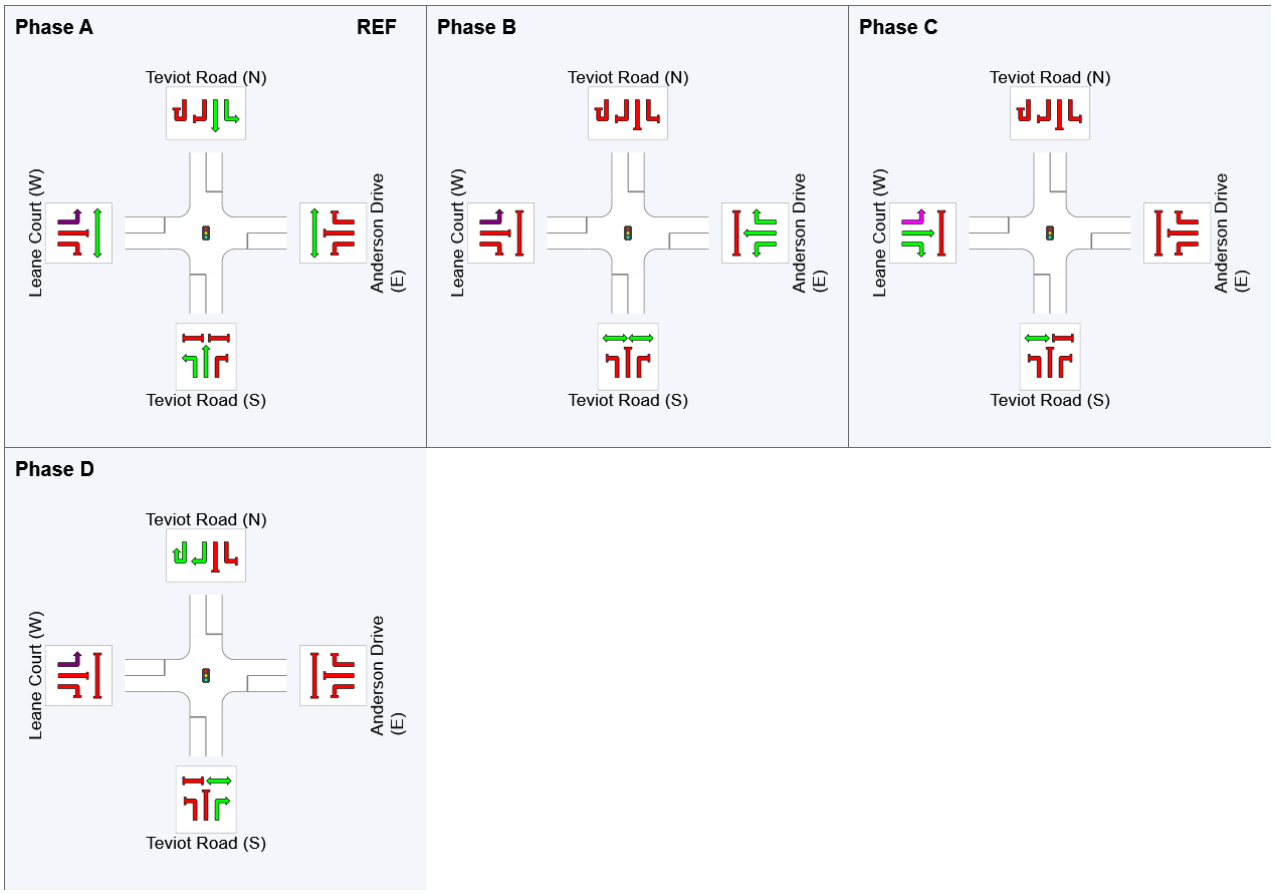
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Four-Phase Leading Right Turns
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D
Reference Phase: Phase A

Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	23	45	57
Green Time (sec)	17	16	6	17
Phase Time (sec)	23	22	12	23
Phase Split	29%	28%	15%	29%
Phase Frequency (%)	100.0	100.0	100.0	100.0

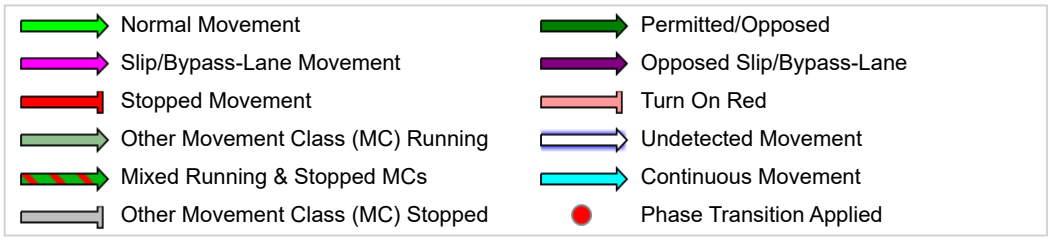
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase

VAR: Variable Phase



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MOVEMENT SUMMARY

Site: 02 [INT02 (Site Folder: 33AM+N)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / Anderson Drive / Leane Court - Singals
2033 AM with Anderson Drive link
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 80 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Teviot Road (S)															
1	L2	All MCs	134	5.0	134	5.0	0.398	37.4	LOS D	4.7	34.6	0.92	0.78	0.92	36.6
2	T1	All MCs	872	5.0	872	5.0	* 0.724	34.0	LOS C	11.3	82.2	0.99	0.88	1.07	32.9
3	R2	All MCs	287	5.0	287	5.0	* 0.754	40.9	LOS D	11.4	83.5	0.99	0.90	1.12	30.3
Approach			1293	5.0	1293	5.0	0.754	35.9	LOS D	11.4	83.5	0.98	0.87	1.07	32.8
East: Anderson Drive (E)															
4	L2	All MCs	159	5.0	159	5.0	0.686	41.9	LOS D	8.8	64.6	0.99	0.86	1.06	31.0
5	T1	All MCs	69	5.0	69	5.0	0.686	33.5	LOS C	8.8	64.6	0.99	0.86	1.06	31.4
6	R2	All MCs	558	5.0	558	5.0	* 0.778	42.6	LOS D	11.4	83.1	1.00	0.92	1.16	19.3
Approach			786	5.0	786	5.0	0.778	41.6	LOS D	11.4	83.1	1.00	0.90	1.13	23.3
North: Teviot Road (N)															
7	L2	All MCs	246	5.0	246	5.0	0.733	41.7	LOS D	9.8	71.5	1.00	0.88	1.11	19.0
8	T1	All MCs	860	5.0	860	5.0	0.714	34.0	LOS C	11.0	80.6	0.98	0.87	1.06	33.0
9	R2	All MCs	68	5.0	68	5.0	0.569	37.3	LOS D	6.6	47.9	0.95	0.81	0.95	29.7
9u	U	All MCs	112	5.0	112	5.0	0.569	38.9	LOS D	6.6	47.9	0.95	0.81	0.95	18.3
Approach			1286	5.0	1286	5.0	0.733	36.1	LOS D	11.0	80.6	0.98	0.86	1.05	29.3
West: Leane Court (W)															
10	L2	All MCs	29	5.0	29	5.0	0.052	17.1	LOS B	0.6	4.4	0.61	0.67	0.61	40.1
11	T1	All MCs	51	5.0	51	5.0	* 0.764	44.6	LOS D	4.5	33.2	1.00	0.90	1.27	28.6
12	R2	All MCs	55	5.0	55	5.0	0.764	50.3	LOS D	4.5	33.2	1.00	0.90	1.27	33.6
Approach			135	5.0	135	5.0	0.764	40.9	LOS D	4.5	33.2	0.92	0.85	1.13	32.7
All Vehicles			3500	5.0	3500	5.0	0.778	37.4	LOS D	11.4	83.5	0.98	0.87	1.08	29.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Teviot Road (S)												
P11	Stage 1	50	53	34.3	LOS D	0.1	0.1	0.93	0.93	188.1	200.0	1.06

P12 Stage 2	50	53	14.8	LOS B	0.1	0.1	0.85	0.85	168.6	200.0	1.19
East: Anderson Drive (E)											
P2 Full	50	53	34.3	LOS D	0.1	0.1	0.93	0.93	188.1	200.0	1.06
West: Leane Court (W)											
P4 Full	50	53	34.3	LOS D	0.1	0.1	0.93	0.93	188.1	200.0	1.06
All Pedestrians	200	211	29.4	LOS C	0.1	0.1	0.91	0.91	183.3	200.0	1.09

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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PHASING SUMMARY

Site: 02 [INT02 (Site Folder: 33PM+N)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / Anderson Drive / Leane Court - Singals
2033 PM with Anderson Drive link
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100 seconds (Site Practical Cycle Time)

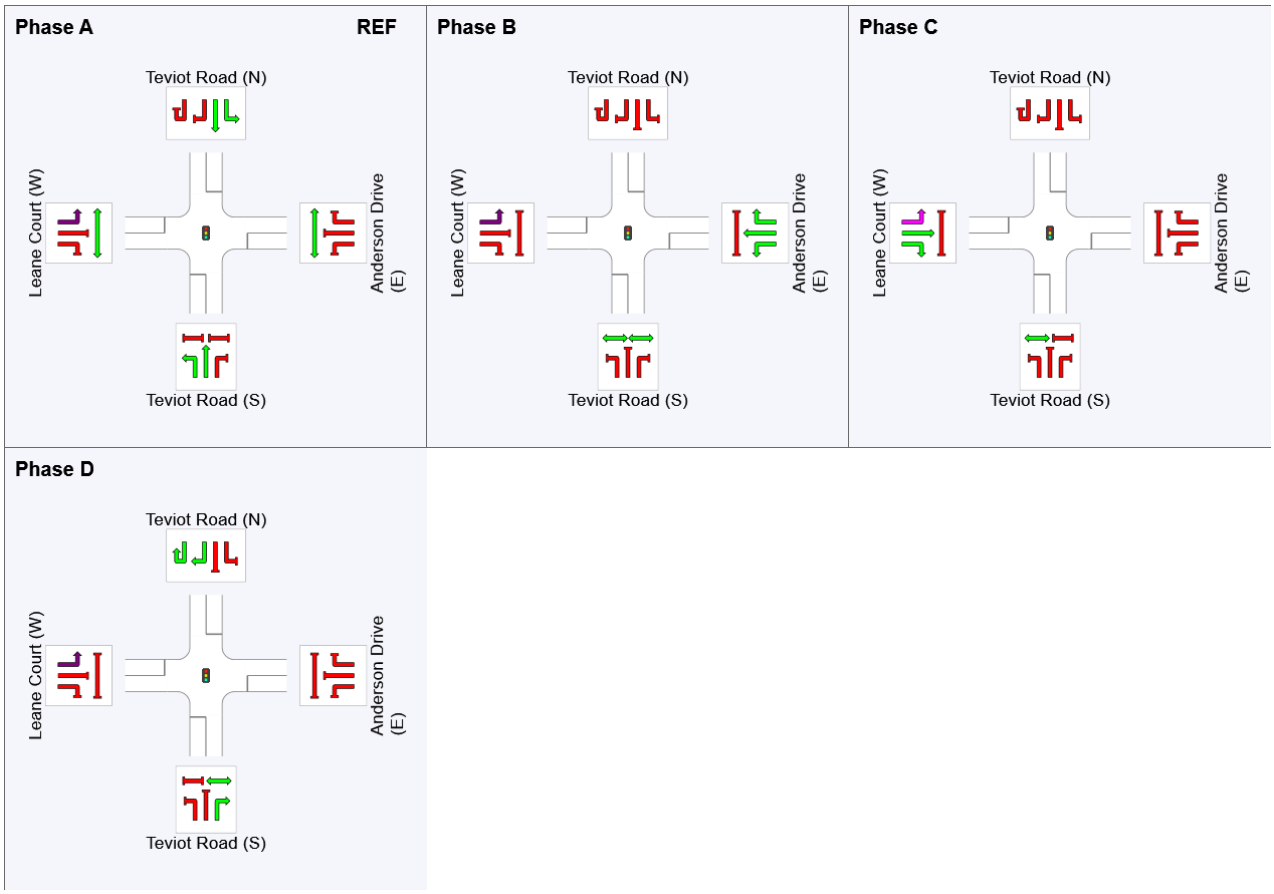
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Four-Phase Leading Right Turns
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D
Reference Phase: Phase A

Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	42	58	77
Green Time (sec)	36	10	13	17
Phase Time (sec)	42	16	19	23
Phase Split	42%	16%	19%	23%
Phase Frequency (%)	100.0	100.0	100.0	100.0

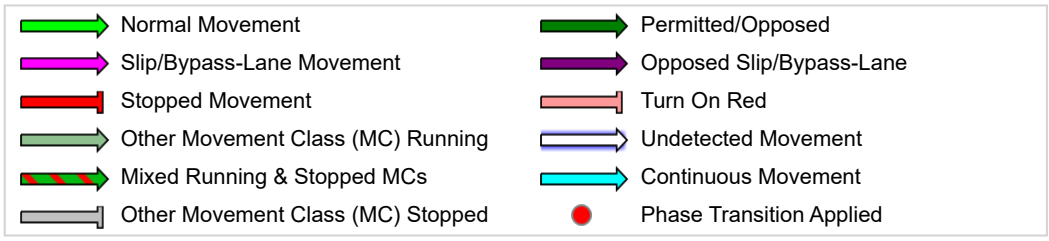
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase

VAR: Variable Phase



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MOVEMENT SUMMARY

Site: 02 [INT02 (Site Folder: 33PM+N)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / Anderson Drive / Leane Court - Singals
2033 PM with Anderson Drive link
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Teviot Road (S)															
1	L2	All MCs	58	5.0	58	5.0	0.098	30.4	LOS C	1.9	14.2	0.72	0.72	0.72	39.2
2	T1	All MCs	737	5.0	737	5.0	0.361	25.3	LOS C	8.8	64.3	0.78	0.66	0.78	37.2
3	R2	All MCs	262	5.0	262	5.0	*0.860	58.1	LOS E	14.3	104.1	1.00	0.99	1.27	25.4
Approach			1057	5.0	1057	5.0	0.860	33.7	LOS C	14.3	104.1	0.83	0.74	0.90	33.4
East: Anderson Drive (E)															
4	L2	All MCs	72	5.0	72	5.0	0.743	61.3	LOS E	5.5	40.4	1.00	0.88	1.19	25.4
5	T1	All MCs	34	5.0	34	5.0	*0.743	51.5	LOS D	5.5	40.4	1.00	0.88	1.19	25.5
6	R2	All MCs	266	5.0	266	5.0	0.743	57.4	LOS E	6.9	50.3	1.00	0.89	1.17	15.8
Approach			372	5.0	372	5.0	0.743	57.7	LOS E	6.9	50.3	1.00	0.89	1.17	19.0
North: Teviot Road (N)															
7	L2	All MCs	505	5.0	505	5.0	*0.854	46.8	LOS D	26.0	190.2	1.00	0.94	1.15	17.6
8	T1	All MCs	1033	5.0	1033	5.0	0.506	27.3	LOS C	13.2	96.1	0.83	0.72	0.83	36.3
9	R2	All MCs	43	5.0	43	5.0	0.624	49.2	LOS D	7.3	53.4	0.98	0.82	1.00	25.8
9u	U	All MCs	111	5.0	111	5.0	0.624	50.8	LOS D	7.3	53.4	0.98	0.82	1.00	15.2
Approach			1692	5.0	1692	5.0	0.854	35.2	LOS D	26.0	190.2	0.90	0.80	0.95	28.9
West: Leane Court (W)															
10	L2	All MCs	55	5.0	55	5.0	0.066	12.7	LOS B	1.0	7.1	0.45	0.65	0.45	43.3
11	T1	All MCs	75	5.0	75	5.0	*0.887	57.5	LOS E	11.9	86.6	1.00	1.04	1.37	24.8
12	R2	All MCs	136	5.0	136	5.0	0.887	63.2	LOS E	11.9	86.6	1.00	1.04	1.37	30.0
Approach			265	5.0	265	5.0	0.887	51.2	LOS D	11.9	86.6	0.89	0.96	1.18	30.0
All Vehicles			3385	5.0	3385	5.0	0.887	38.5	LOS D	26.0	190.2	0.89	0.80	0.97	29.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Teviot Road (S)												
P11	Stage 1	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	198.1	200.0	1.01

P12 Stage 2	50	53	20.0	LOS C	0.1	0.1	0.88	0.88	173.9	200.0	1.15
East: Anderson Drive (E)											
P2 Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	198.1	200.0	1.01
West: Leane Court (W)											
P4 Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	198.1	200.0	1.01
All Pedestrians	200	211	38.2	LOS D	0.1	0.1	0.93	0.93	192.1	200.0	1.04

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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APPENDIX C

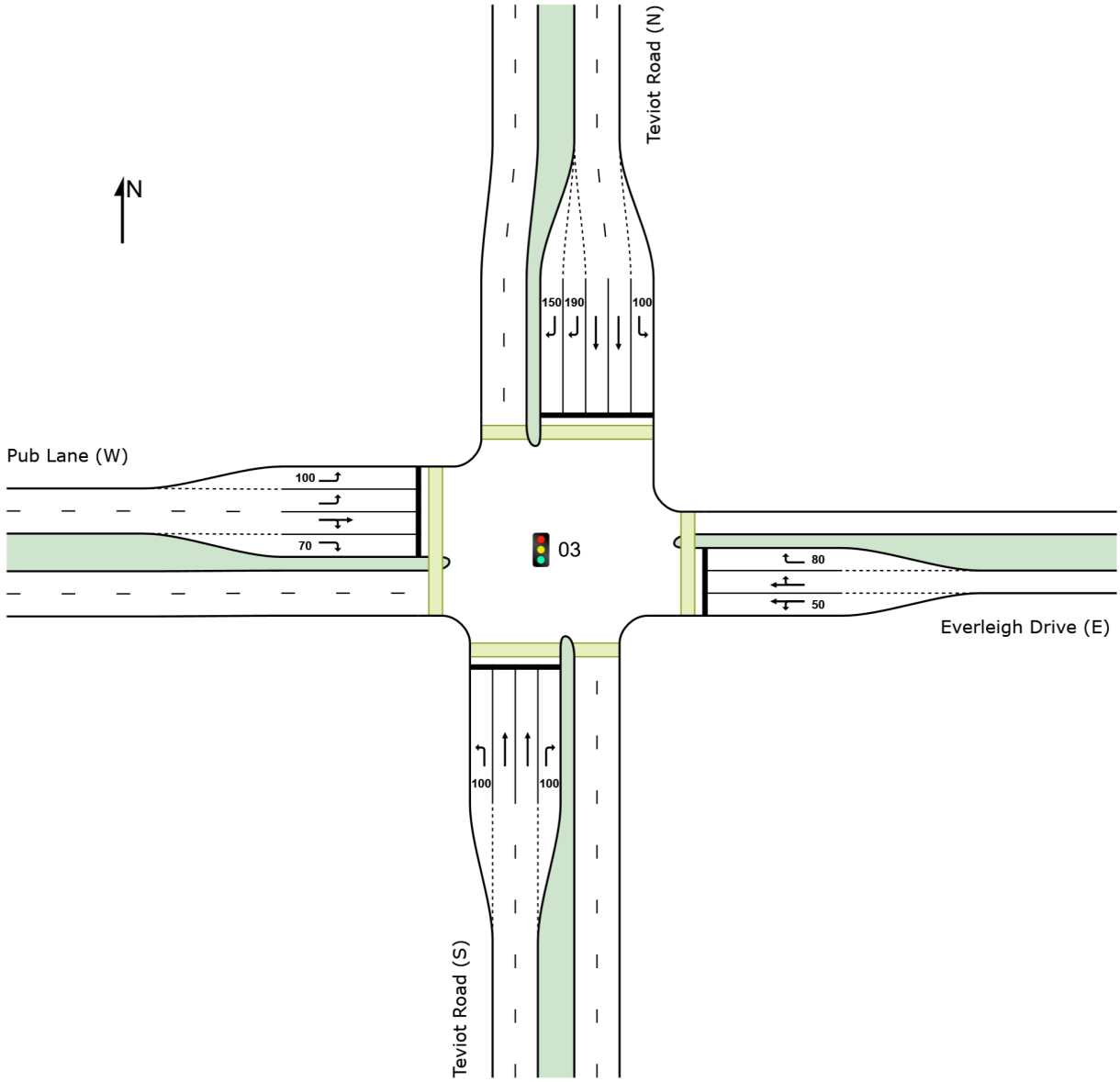
SIDRA OUTPUT – INTERSECTION 3: TEVIOT ROAD / PUB LANE / EVERLEIGH DRIVE SIGNALS

SITE LAYOUT

Site: 03 [INT03 (Site Folder: 2044AM)]

Teviot Road / Pub Lane / Everleigh Drive - Existing Traffic Signals
2044 Morning Peak Hour
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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Project: C:\12dS\data\12dSynergy\P000170 Everleigh Traffic Movement_15965\14. Engineering - Traffic\02. SIDRA\P000170 SIDRA Models.sip9

PHASING SUMMARY

Site: 03 [INT03 (Site Folder: 2044AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / Pub Lane / Everleigh Drive - Existing Traffic Signals
2044 Morning Peak Hour
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Sequence1
Input Phase Sequence: A, B, C, D, D1*, D2*
Output Phase Sequence: A, B, C, D, D2*
Reference Phase: Phase A
(* Variable Phase)

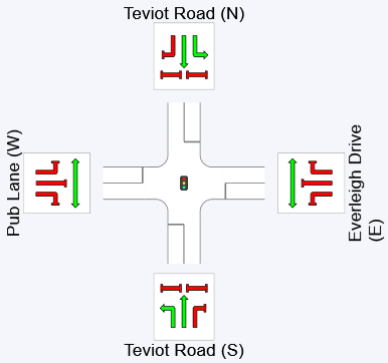
Phase Timing Summary

Phase	A	B	C	D	D2
Phase Change Time (sec)	0	26	75	96	108
Green Time (sec)	20	43	15	6	6
Phase Time (sec)	26	49	21	12	12
Phase Split	22%	41%	18%	10%	10%
Phase Frequency (%)	100.0	100.0	100.0	100.0	100.0

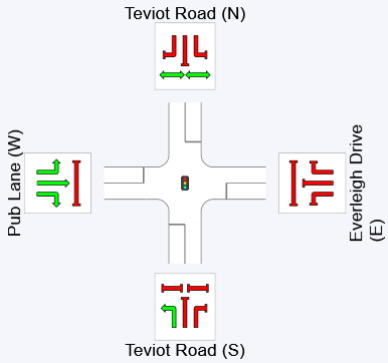
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

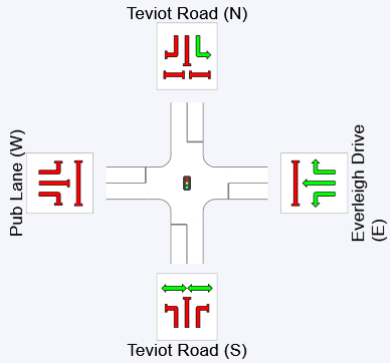
Phase A REF



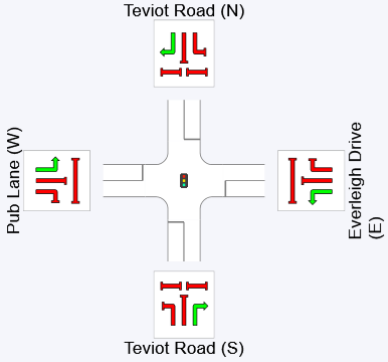
Phase B



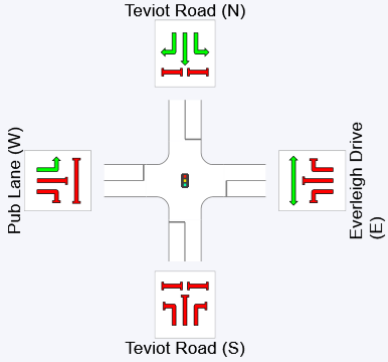
Phase C



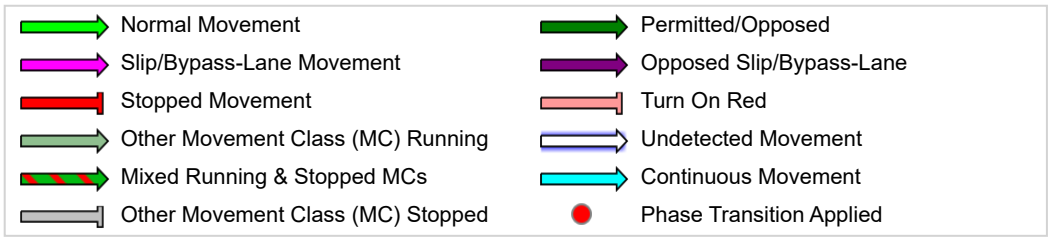
Phase D



Phase D2 VAR



REF: Reference Phase
VAR: Variable Phase



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MOVEMENT SUMMARY

Site: 03 [INT03 (Site Folder: 2044AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / Pub Lane / Everleigh Drive - Existing Traffic Signals
2044 Morning Peak Hour
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Teviot Road (S)															
1	L2	All MCs	248	5.0	248	5.0	0.252	20.5	LOS C	7.5	54.5	0.56	0.73	0.56	37.8
2	T1	All MCs	343	5.0	343	5.0	* 0.545	50.3	LOS D	9.4	68.5	0.97	0.79	0.97	33.6
3	R2	All MCs	1	5.0	1	5.0	0.012	65.8	LOS E	0.1	0.4	0.97	0.59	0.97	25.8
Approach			593	5.0	593	5.0	0.545	37.8	LOS D	9.4	68.5	0.80	0.77	0.80	34.8
East: Everleigh Drive (E)															
4	L2	All MCs	1	5.0	1	5.0	0.841	59.1	LOS E	12.6	92.0	1.00	0.98	1.23	26.5
5	T1	All MCs	396	5.0	396	5.0	* 0.841	62.8	LOS E	12.6	92.0	1.00	0.97	1.23	19.3
6	R2	All MCs	167	5.0	167	5.0	0.747	64.3	LOS E	10.1	73.7	1.00	0.88	1.12	26.6
Approach			564	5.0	564	5.0	0.841	63.3	LOS E	12.6	92.0	1.00	0.95	1.20	21.9
North: Teviot Road (N)															
7	L2	All MCs	47	5.0	47	5.0	0.072	21.9	LOS C	1.3	9.8	0.68	0.70	0.68	40.8
8	T1	All MCs	418	5.0	418	5.0	0.415	39.1	LOS D	10.1	73.8	0.87	0.73	0.87	37.2
9	R2	All MCs	364	5.0	364	5.0	0.677	59.7	LOS E	10.5	76.5	1.00	0.84	1.04	24.1
Approach			829	5.0	829	5.0	0.677	47.2	LOS D	10.5	76.5	0.92	0.77	0.93	31.5
West: Pub Lane (W)															
10	L2	All MCs	1014	5.0	1014	5.0	* 0.585	18.0	LOS B	12.1	88.3	0.77	0.81	0.77	39.8
11	T1	All MCs	179	5.0	179	5.0	* 0.808	48.3	LOS D	23.9	174.6	0.97	0.91	1.05	23.9
12	R2	All MCs	664	5.0	664	5.0	0.808	54.0	LOS D	23.9	174.6	0.97	0.91	1.05	27.1
Approach			1857	5.0	1857	5.0	0.808	33.8	LOS C	23.9	174.6	0.86	0.85	0.90	31.4
All Vehicles			3843	5.0	3843	5.0	0.841	41.6	LOS D	23.9	174.6	0.88	0.84	0.93	30.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Teviot Road (S)												
P11	Stage 1	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
P12	Stage 2	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96

East: Everleigh Drive (E)											
P2 Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
North: Teviot Road (N)											
P31 Stage 1	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
P32 Stage 2	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
West: Pub Lane (W)											
P4 Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
All Pedestrians	300	316	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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Project: C:\12dS\data\12dSynergy\P000170 Everleigh Traffic Movement_15965\14. Engineering - Traffic\02. SIDRA\P000170 SIDRA Models.sip9

PHASING SUMMARY

Site: 03 [INT03 (Site Folder: 2044PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / Pub Lane / Everleigh Drive - Existing Traffic Signals
2044 Morning Peak Hour
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 150 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Sequence1
Input Phase Sequence: A, B, C, D, D1*, D2*
Output Phase Sequence: A, B, C, D, D2*
Reference Phase: Phase A
(* Variable Phase)

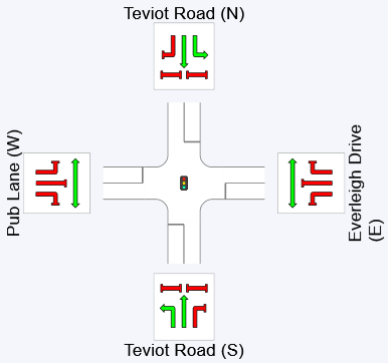
Phase Timing Summary

Phase	A	B	C	D	D2
Phase Change Time (sec)	0	27	77	98	110
Green Time (sec)	21	44	15	6	34
Phase Time (sec)	27	50	21	12	40
Phase Split	18%	33%	14%	8%	27%
Phase Frequency (%)	100.0	100.0	100.0	100.0	100.0

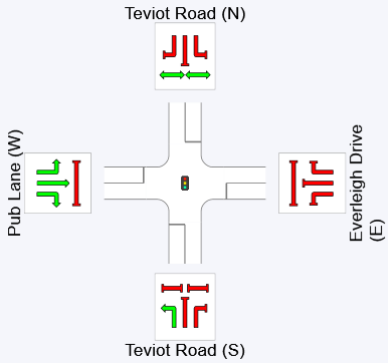
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

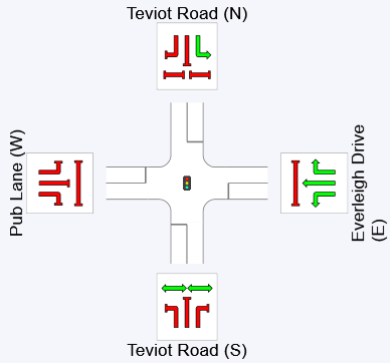
Phase A REF



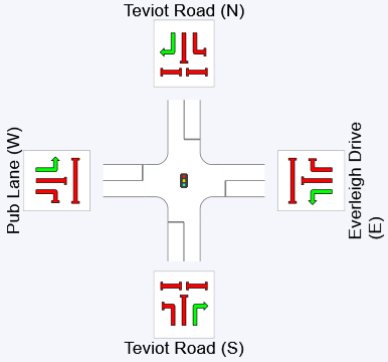
Phase B



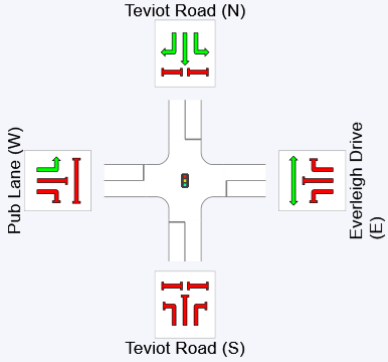
Phase C



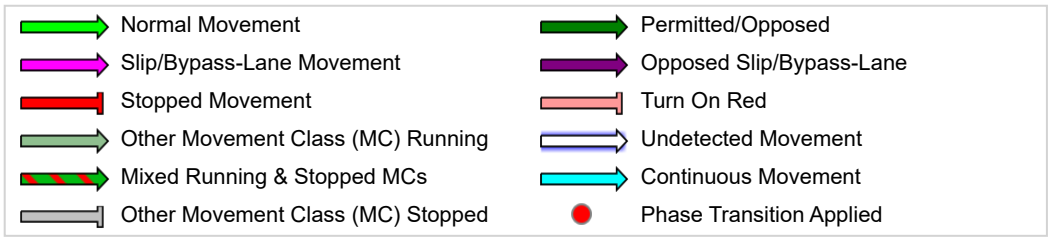
Phase D



Phase D2 VAR



REF: Reference Phase
VAR: Variable Phase



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MOVEMENT SUMMARY

Site: 03 [INT03 (Site Folder: 2044PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / Pub Lane / Everleigh Drive - Existing Traffic Signals
2044 Morning Peak Hour
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 150 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Teviot Road (S)															
1	L2	All MCs	664	5.0	664	5.0	*0.916	78.3	LOS E	52.2	381.0	1.00	0.98	1.14	22.9
2	T1	All MCs	405	5.0	405	5.0	0.766	78.8	LOS E	15.0	109.2	1.00	0.90	1.09	28.5
3	R2	All MCs	1	5.0	1	5.0	0.015	82.4	LOS F	0.1	0.6	0.98	0.59	0.98	22.7
Approach			1071	5.0	1071	5.0	0.916	78.5	LOS E	52.2	381.0	1.00	0.95	1.12	22.7
East: Everleigh Drive (E)															
4	L2	All MCs	1	5.0	1	5.0	0.515	66.7	LOS E	6.9	50.4	0.99	0.78	0.99	25.0
5	T1	All MCs	185	5.0	185	5.0	0.515	70.5	LOS E	6.9	50.5	0.99	0.78	0.99	17.8
6	R2	All MCs	100	5.0	100	5.0	0.515	76.7	LOS E	6.9	50.5	0.99	0.78	0.99	24.2
Approach			286	5.0	286	5.0	0.515	72.6	LOS E	6.9	50.5	0.99	0.78	0.99	20.5
North: Teviot Road (N)															
7	L2	All MCs	186	5.0	186	5.0	*0.213	20.4	LOS C	5.9	43.0	0.61	0.73	0.61	41.6
8	T1	All MCs	315	5.0	315	5.0	0.205	30.4	LOS C	7.3	53.4	0.69	0.57	0.69	40.7
9	R2	All MCs	1019	5.0	1019	5.0	*0.927	78.1	LOS E	42.4	309.6	1.00	1.02	1.20	20.5
Approach			1520	5.0	1520	5.0	0.927	61.1	LOS E	42.4	309.6	0.89	0.89	1.02	25.8
West: Pub Lane (W)															
10	L2	All MCs	363	5.0	363	5.0	0.175	13.6	LOS B	3.5	25.8	0.50	0.70	0.50	42.8
11	T1	All MCs	354	5.0	354	5.0	0.775	66.1	LOS E	24.2	176.5	0.98	0.88	1.01	21.4
12	R2	All MCs	248	5.0	248	5.0	0.472	64.4	LOS E	14.8	108.2	0.87	0.81	0.87	25.5
Approach			965	5.0	965	5.0	0.775	45.9	LOS D	24.2	176.5	0.77	0.79	0.78	26.2
All Vehicles			3842	5.0	3842	5.0	0.927	63.0	LOS E	52.2	381.0	0.90	0.87	0.99	24.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Teviot Road (S)												
P11	Stage 1	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90
P12	Stage 2	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90

East: Everleigh Drive (E)											
P2 Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90
North: Teviot Road (N)											
P31 Stage 1	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90
P32 Stage 2	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90
West: Pub Lane (W)											
P4 Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90
All Pedestrians	300	316	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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Project: C:\12dS\data\12dSynergy\P000170 Everleigh Traffic Movement_15965\14. Engineering - Traffic\02. SIDRA\P000170 SIDRA Models.sip9

PHASING SUMMARY

Site: 03 [INT03 (Site Folder: 33AM+W)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / Pub Lane / Everleigh Drive - Existing Traffic Signals
2033Morning Peak Hour with P3/P4 access via P2
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 150 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Sequence1
Input Phase Sequence: A, B, C, D, D1*, D2*
Output Phase Sequence: A, B, C, D
Reference Phase: Phase A
(* Variable Phase)

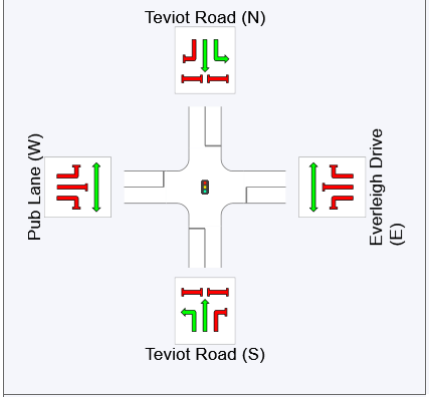
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	29	85	127
Green Time (sec)	23	50	36	17
Phase Time (sec)	29	56	42	23
Phase Split	19%	37%	28%	15%
Phase Frequency (%)	100.0	100.0	100.0	100.0

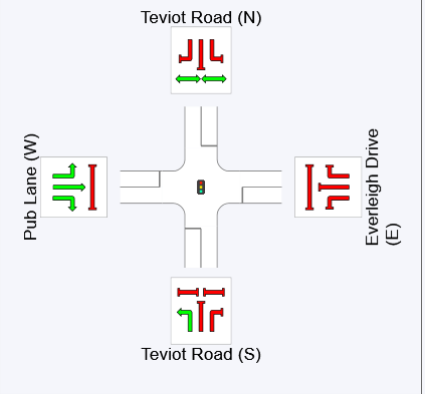
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

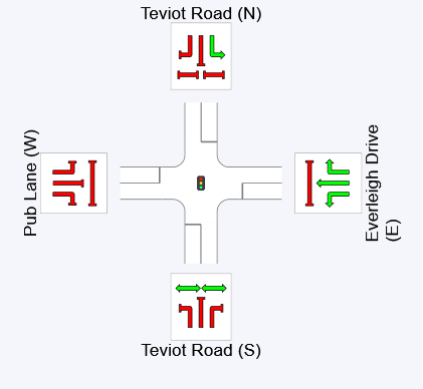
Phase A **REF**



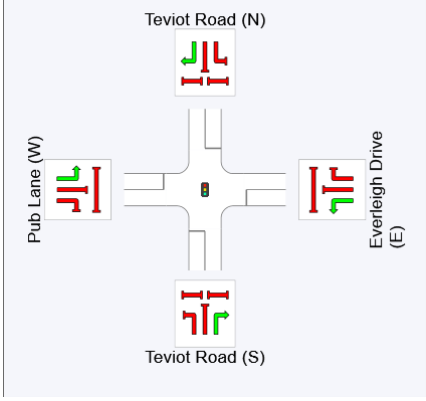
Phase B



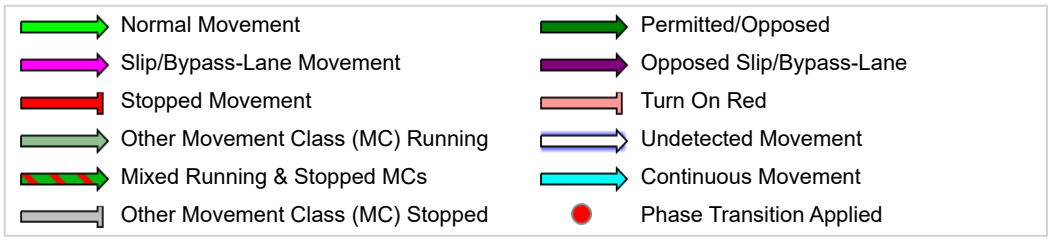
Phase C



Phase D



REF: Reference Phase
VAR: Variable Phase



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MOVEMENT SUMMARY

Site: 03 [INT03 (Site Folder: 33AM+W)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / Pub Lane / Everleigh Drive - Existing Traffic Signals
2033Morning Peak Hour with P3/P4 access via P2
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 150 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Teviot Road (S)															
1	L2	All MCs	248	5.0	248	5.0	0.273	27.9	LOS C	10.2	74.4	0.61	0.75	0.61	33.8
2	T1	All MCs	378	5.0	378	5.0	0.652	65.2	LOS E	13.2	96.3	0.99	0.82	0.99	29.7
3	R2	All MCs	100	5.0	100	5.0	0.492	74.5	LOS E	7.0	51.4	0.98	0.79	0.98	24.1
Approach			726	5.0	726	5.0	0.652	53.7	LOS D	13.2	96.3	0.86	0.79	0.86	29.7
East: Everleigh Drive (E)															
4	L2	All MCs	267	5.0	267	5.0	0.995	133.7	LOS F	34.3	250.2	1.00	1.15	1.46	18.5
5	T1	All MCs	368	5.0	368	5.0	* 0.995	139.4	LOS F	34.3	250.2	1.00	1.22	1.48	12.7
6	R2	All MCs	226	5.0	226	5.0	0.526	59.3	LOS E	14.4	105.2	0.92	0.82	0.92	27.8
Approach			862	5.0	862	5.0	0.995	116.6	LOS F	34.3	250.2	0.98	1.09	1.33	15.9
North: Teviot Road (N)															
7	L2	All MCs	64	5.0	64	5.0	0.096	23.7	LOS C	2.0	14.6	0.68	0.71	0.68	39.9
8	T1	All MCs	557	5.0	557	5.0	* 0.961	95.4	LOS F	25.0	182.3	1.00	1.14	1.38	24.1
9	R2	All MCs	364	5.0	364	5.0	0.896	89.8	LOS F	14.9	109.0	1.00	0.99	1.29	18.7
Approach			985	5.0	985	5.0	0.961	88.7	LOS F	25.0	182.3	0.98	1.06	1.30	22.8
West: Pub Lane (W)															
10	L2	All MCs	760	5.0	760	5.0	* 0.497	23.0	LOS C	11.7	85.6	0.78	0.80	0.78	36.8
11	T1	All MCs	171	5.0	171	5.0	* 1.001	125.1	LOS F	42.7	311.7	1.00	1.24	1.45	12.8
12	R2	All MCs	664	5.0	664	5.0	1.001	131.0	LOS F	42.7	311.7	1.00	1.20	1.45	15.7
Approach			1595	5.0	1595	5.0	1.001	78.9	LOS E	42.7	311.7	0.89	1.01	1.13	19.7
All Vehicles			4168	5.0	4168	5.0	1.001	84.6	LOS F	42.7	311.7	0.93	1.00	1.17	21.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Teviot Road (S)												
P11	Stage 1	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90
P12	Stage 2	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90

East: Everleigh Drive (E)											
P2 Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90
North: Teviot Road (N)											
P31 Stage 1	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90
P32 Stage 2	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90
West: Pub Lane (W)											
P4 Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90
All Pedestrians	300	316	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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Project: C:\12dS\data\12dSynergy\P000170 Everleigh Traffic Movement_15965\14. Engineering - Traffic\02. SIDRA\P000170 SIDRA Models.sip9

PHASING SUMMARY

Site: 03 [INT03 (Site Folder: 33PM+W)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / Pub Lane / Everleigh Drive - Existing Traffic Signals
2033 Evening Peak Hour with P3/P4 access via P2
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Sequence1
Input Phase Sequence: A, B, C, D, D1*, D2*
Output Phase Sequence: A, B, C, D, D2*
Reference Phase: Phase A
(* Variable Phase)

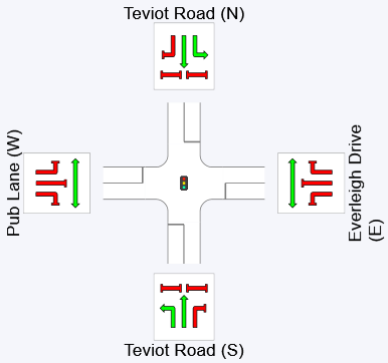
Phase Timing Summary

Phase	A	B	C	D	D2
Phase Change Time (sec)	0	29	64	85	119
Green Time (sec)	23	29	15	28	***
Phase Time (sec)	29	35	21	34	1
Phase Split	24%	29%	18%	28%	1%
Phase Frequency (%)	100.0	100.0	100.0	100.0	100.0

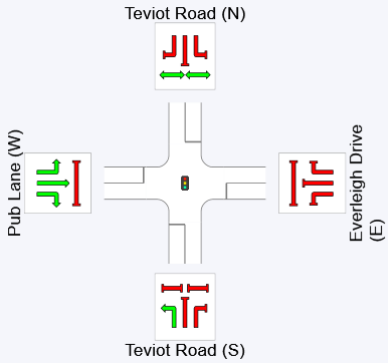
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

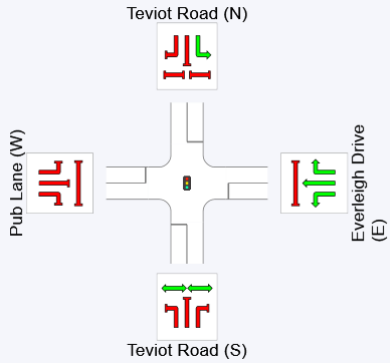
Phase A REF



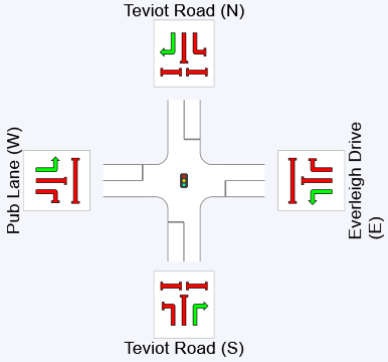
Phase B



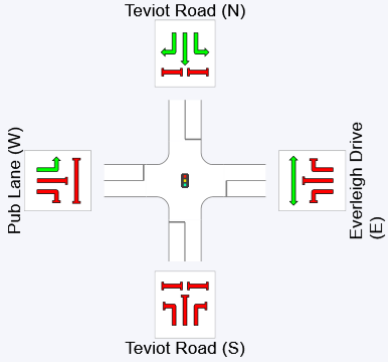
Phase C



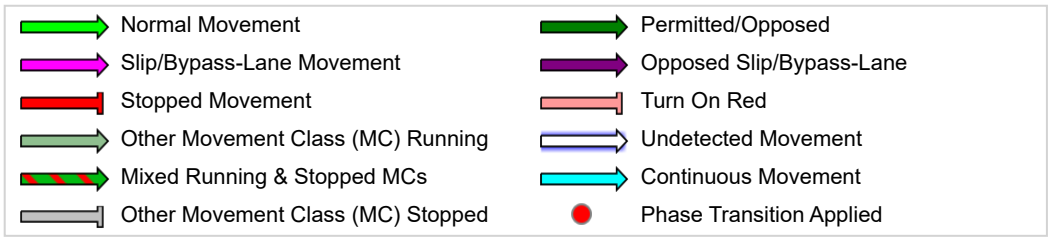
Phase D



Phase D2 VAR



REF: Reference Phase
VAR: Variable Phase



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MOVEMENT SUMMARY

Site: 03 [INT03 (Site Folder: 33PM+W)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / Pub Lane / Everleigh Drive - Existing Traffic Signals
2033 Evening Peak Hour with P3/P4 access via P2
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Teviot Road (S)															
1	L2	All MCs	664	5.0	664	5.0	*0.887	56.6	LOS E	40.7	297.4	0.99	0.96	1.12	26.3
2	T1	All MCs	520	5.0	520	5.0	0.718	54.9	LOS D	14.7	107.7	0.99	0.86	1.03	33.4
3	R2	All MCs	265	5.0	265	5.0	0.634	50.7	LOS D	14.1	103.2	0.96	0.83	0.96	29.6
Approach			1449	5.0	1449	5.0	0.887	54.9	LOS D	40.7	297.4	0.98	0.90	1.06	28.3
East: Everleigh Drive (E)															
4	L2	All MCs	141	5.0	141	5.0	0.585	47.1	LOS D	9.7	71.2	0.97	0.81	0.97	28.4
5	T1	All MCs	169	5.0	169	5.0	*0.585	61.1	LOS E	9.7	71.2	0.99	0.80	0.99	21.1
6	R2	All MCs	136	5.0	136	5.0	0.585	60.8	LOS E	7.9	57.4	0.99	0.80	0.99	27.5
Approach			446	5.0	446	5.0	0.585	56.6	LOS E	9.7	71.2	0.98	0.80	0.98	25.8
North: Teviot Road (N)															
7	L2	All MCs	252	5.0	252	5.0	0.468	24.6	LOS C	6.3	45.9	0.86	0.80	0.86	39.4
8	T1	All MCs	339	5.0	339	5.0	0.449	45.9	LOS D	8.8	64.4	0.93	0.76	0.93	34.9
9	R2	All MCs	765	5.0	765	5.0	*0.883	64.1	LOS E	24.8	181.0	1.00	0.99	1.21	23.1
Approach			1356	5.0	1356	5.0	0.883	52.2	LOS D	24.8	181.0	0.96	0.90	1.08	28.6
West: Pub Lane (W)															
10	L2	All MCs	363	5.0	363	5.0	0.221	16.5	LOS B	3.8	27.7	0.64	0.74	0.64	40.8
11	T1	All MCs	324	5.0	324	5.0	0.731	47.8	LOS D	17.9	130.9	0.98	0.86	1.01	23.5
12	R2	All MCs	248	5.0	248	5.0	0.573	50.5	LOS D	12.9	94.3	0.93	0.82	0.93	26.4
Approach			936	5.0	936	5.0	0.731	36.4	LOS D	17.9	130.9	0.84	0.80	0.85	29.6
All Vehicles			4187	5.0	4187	5.0	0.887	50.1	LOS D	40.7	297.4	0.94	0.87	1.01	28.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Teviot Road (S)												
P11	Stage 1	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
P12	Stage 2	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96

East: Everleigh Drive (E)											
P2 Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
North: Teviot Road (N)											
P31 Stage 1	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
P32 Stage 2	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
West: Pub Lane (W)											
P4 Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
All Pedestrians	300	316	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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Project: C:\12dS\data\12dSynergy\P000170 Everleigh Traffic Movement_15965\14. Engineering - Traffic\02. SIDRA\P000170 SIDRA Models.sip9

PHASING SUMMARY

Site: 03 [INT03 (Site Folder: 32AM+W)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / Pub Lane / Everleigh Drive - Existing Traffic Signals
2032 Morning Peak Hour with P3/P4 access via P2
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 150 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Sequence1
Input Phase Sequence: A, B, C, D, D1*, D2*
Output Phase Sequence: A, B, C, D
Reference Phase: Phase A
(* Variable Phase)

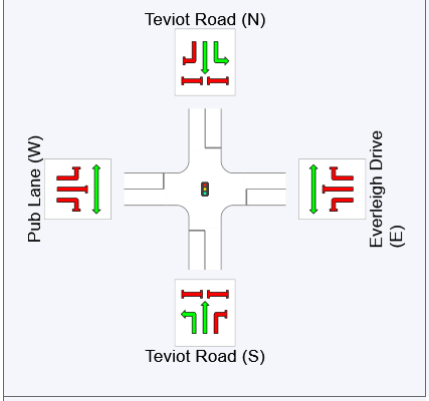
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	30	87	126
Green Time (sec)	24	51	33	18
Phase Time (sec)	30	57	39	24
Phase Split	20%	38%	26%	16%
Phase Frequency (%)	100.0	100.0	100.0	100.0

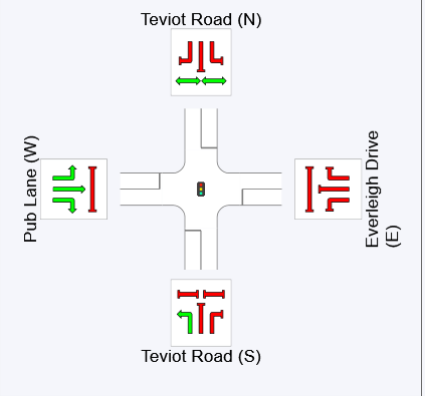
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

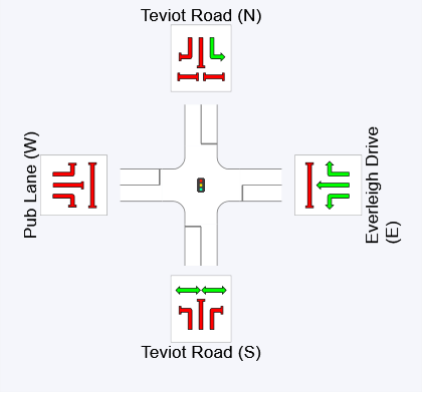
Phase A **REF**



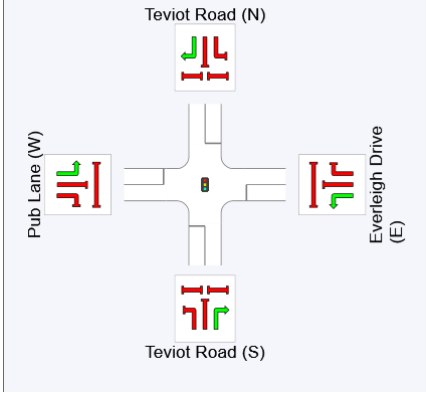
Phase B



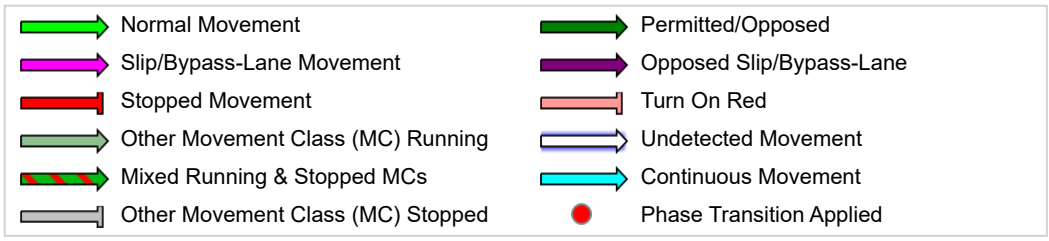
Phase C



Phase D



REF: Reference Phase
VAR: Variable Phase



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MOVEMENT SUMMARY

Site: 03 [INT03 (Site Folder: 32AM+W)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / Pub Lane / Everleigh Drive - Existing Traffic Signals
2032 Morning Peak Hour with P3/P4 access via P2
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 150 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Teviot Road (S)															
1	L2	All MCs	248	5.0	248	5.0	0.266	26.7	LOS C	9.9	72.3	0.60	0.74	0.60	34.4
2	T1	All MCs	375	5.0	375	5.0	0.620	64.0	LOS E	12.9	94.5	0.99	0.81	0.99	30.0
3	R2	All MCs	93	5.0	93	5.0	0.430	73.0	LOS E	6.4	46.9	0.97	0.78	0.97	24.4
Approach			716	5.0	716	5.0	0.620	52.2	LOS D	12.9	94.5	0.85	0.78	0.85	30.1
East: Everleigh Drive (E)															
4	L2	All MCs	241	5.0	241	5.0	* 0.944	109.9	LOS F	27.7	201.9	1.00	1.07	1.33	21.2
5	T1	All MCs	338	5.0	338	5.0	0.944	116.0	LOS F	27.7	201.9	1.00	1.11	1.35	14.9
6	R2	All MCs	180	5.0	180	5.0	0.456	60.4	LOS E	11.4	83.5	0.92	0.81	0.92	27.5
Approach			759	5.0	759	5.0	0.944	100.8	LOS F	27.7	201.9	0.98	1.03	1.24	17.5
North: Teviot Road (N)															
7	L2	All MCs	51	5.0	51	5.0	0.078	24.2	LOS C	1.6	11.6	0.69	0.71	0.69	39.6
8	T1	All MCs	557	5.0	557	5.0	* 0.921	83.9	LOS F	23.3	170.4	1.00	1.08	1.28	25.9
9	R2	All MCs	364	5.0	364	5.0	0.846	83.8	LOS F	14.3	104.3	1.00	0.94	1.20	19.5
Approach			972	5.0	972	5.0	0.921	80.7	LOS F	23.3	170.4	0.98	1.01	1.22	24.1
West: Pub Lane (W)															
10	L2	All MCs	737	5.0	737	5.0	0.467	21.9	LOS C	10.5	76.9	0.75	0.79	0.75	37.5
11	T1	All MCs	162	5.0	162	5.0	* 0.961	103.7	LOS F	38.3	279.7	1.00	1.12	1.33	14.9
12	R2	All MCs	664	5.0	664	5.0	0.961	109.5	LOS F	38.3	279.7	1.00	1.10	1.33	18.1
Approach			1563	5.0	1563	5.0	0.961	67.6	LOS E	38.3	279.7	0.88	0.96	1.06	21.7
All Vehicles			4009	5.0	4009	5.0	0.961	74.3	LOS E	38.3	279.7	0.92	0.95	1.10	22.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Teviot Road (S)												
P11	Stage 1	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90
P12	Stage 2	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90

East: Everleigh Drive (E)											
P2 Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90
North: Teviot Road (N)											
P31 Stage 1	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90
P32 Stage 2	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90
West: Pub Lane (W)											
P4 Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90
All Pedestrians	300	316	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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Project: C:\12dS\data\12dSynergy\P000170 Everleigh Traffic Movement_15965\14. Engineering - Traffic\02. SIDRA\P000170 SIDRA Models.sip9

PHASING SUMMARY

Site: 03 [INT03 (Site Folder: 31AM+W)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / Pub Lane / Everleigh Drive - Existing Traffic Signals
2031 Morning Peak Hour with P3/P4 access via P2
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 110 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Sequence1
Input Phase Sequence: A, B, C, D, D1*, D2*
Output Phase Sequence: A, B, C, D, D2*
Reference Phase: Phase A
(* Variable Phase)

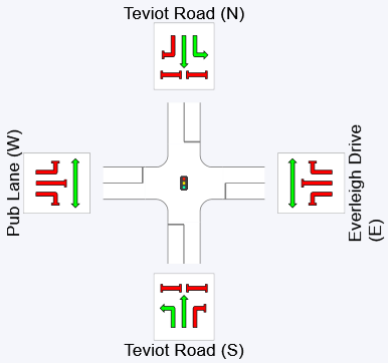
Phase Timing Summary

Phase	A	B	C	D	D2
Phase Change Time (sec)	0	26	66	91	106
Green Time (sec)	20	34	19	9	***
Phase Time (sec)	26	40	25	15	4
Phase Split	24%	36%	23%	14%	4%
Phase Frequency (%)	100.0	100.0	100.0	100.0	100.0

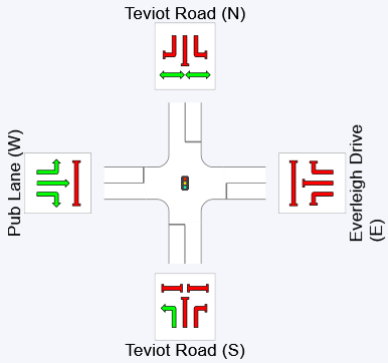
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

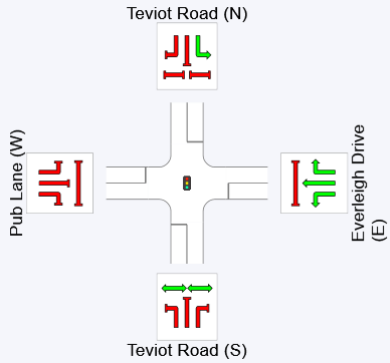
Phase A REF



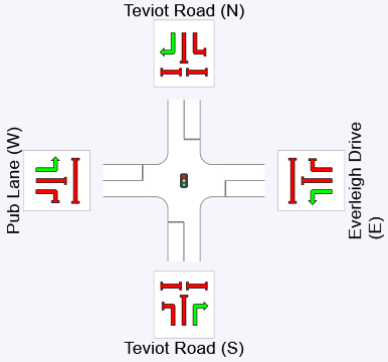
Phase B



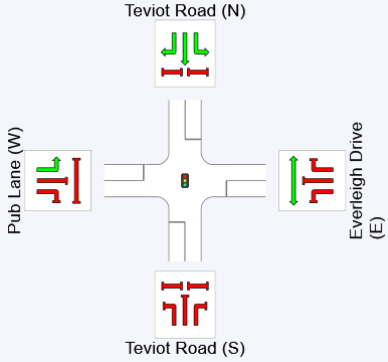
Phase C



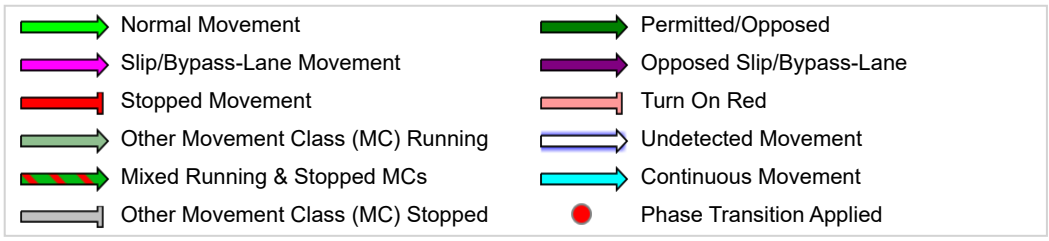
Phase D



Phase D2 VAR



REF: Reference Phase
VAR: Variable Phase



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MOVEMENT SUMMARY

Site: 03 [INT03 (Site Folder: 31AM+W)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / Pub Lane / Everleigh Drive - Existing Traffic Signals
2031 Morning Peak Hour with P3/P4 access via P2
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 110 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Teviot Road (S)															
1	L2	All MCs	248	5.0	248	5.0	0.267	21.3	LOS C	7.4	53.7	0.60	0.74	0.60	37.3
2	T1	All MCs	368	5.0	368	5.0	* 0.536	44.8	LOS D	9.1	66.7	0.96	0.79	0.96	35.3
3	R2	All MCs	86	5.0	86	5.0	0.588	61.4	LOS E	4.8	34.7	1.00	0.79	1.03	26.8
Approach			703	5.0	703	5.0	0.588	38.5	LOS D	9.1	66.7	0.83	0.77	0.84	34.5
East: Everleigh Drive (E)															
4	L2	All MCs	219	5.0	219	5.0	0.818	58.4	LOS E	15.6	113.7	1.00	0.94	1.17	28.3
5	T1	All MCs	306	5.0	306	5.0	* 0.818	60.0	LOS E	15.6	113.7	1.00	0.95	1.18	21.4
6	R2	All MCs	138	5.0	138	5.0	0.445	50.5	LOS D	6.8	49.5	0.94	0.79	0.94	30.1
Approach			663	5.0	663	5.0	0.818	57.5	LOS E	15.6	113.7	0.99	0.92	1.12	24.9
North: Teviot Road (N)															
7	L2	All MCs	39	5.0	39	5.0	0.060	19.2	LOS B	0.9	6.6	0.68	0.69	0.68	42.3
8	T1	All MCs	554	5.0	554	5.0	0.672	43.2	LOS D	13.9	101.1	0.97	0.82	0.98	35.8
9	R2	All MCs	364	5.0	364	5.0	* 0.859	66.2	LOS E	10.9	79.6	1.00	0.98	1.30	22.6
Approach			957	5.0	957	5.0	0.859	51.0	LOS D	13.9	101.1	0.97	0.88	1.09	30.8
West: Pub Lane (W)															
10	L2	All MCs	715	5.0	715	5.0	0.498	19.3	LOS B	7.7	56.2	0.80	0.80	0.80	39.0
11	T1	All MCs	151	5.0	151	5.0	0.860	52.8	LOS D	23.6	172.2	1.00	0.98	1.18	22.0
12	R2	All MCs	664	5.0	664	5.0	* 0.860	58.6	LOS E	23.6	172.2	1.00	0.97	1.18	25.4
Approach			1529	5.0	1529	5.0	0.860	39.7	LOS D	23.6	172.2	0.91	0.89	1.00	29.2
All Vehicles			3853	5.0	3853	5.0	0.860	45.3	LOS D	23.6	172.2	0.92	0.87	1.02	29.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Teviot Road (S)												
P11	Stage 1	50	53	49.3	LOS E	0.2	0.2	0.95	0.95	203.1	200.0	0.98
P12	Stage 2	50	53	49.3	LOS E	0.2	0.2	0.95	0.95	203.1	200.0	0.98

East: Everleigh Drive (E)											
P2 Full	50	53	49.3	LOS E	0.2	0.2	0.95	0.95	203.1	200.0	0.98
North: Teviot Road (N)											
P31 Stage 1	50	53	49.3	LOS E	0.2	0.2	0.95	0.95	203.1	200.0	0.98
P32 Stage 2	50	53	49.3	LOS E	0.2	0.2	0.95	0.95	203.1	200.0	0.98
West: Pub Lane (W)											
P4 Full	50	53	49.3	LOS E	0.2	0.2	0.95	0.95	203.1	200.0	0.98
All Pedestrians	300	316	49.3	LOS E	0.2	0.2	0.95	0.95	203.1	200.0	0.98

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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Project: C:\12dS\data\12dSynergy\P000170 Everleigh Traffic Movement_15965\14. Engineering - Traffic\02. SIDRA\P000170 SIDRA Models.sip9

PHASING SUMMARY

Site: 03 [INT03 (Site Folder: 32AM+N)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / Pub Lane / Everleigh Drive - Existing Traffic Signals
2032 Morning Peak Hour with P3/P4 access via Anderson Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 150 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Sequence1
Input Phase Sequence: A, B, C, D, D1*, D2*
Output Phase Sequence: A, B, C, D
Reference Phase: Phase A
(* Variable Phase)

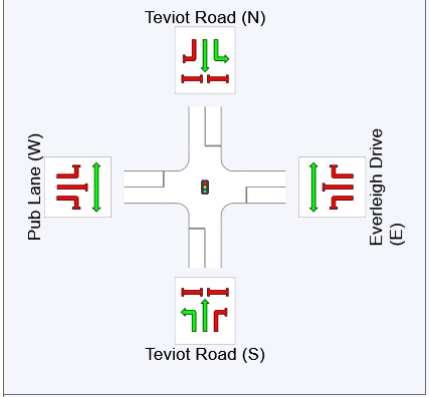
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	29	85	123
Green Time (sec)	23	50	32	21
Phase Time (sec)	29	56	38	27
Phase Split	19%	37%	25%	18%
Phase Frequency (%)	100.0	100.0	100.0	100.0

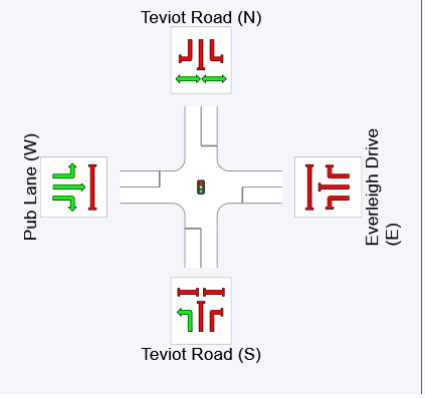
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

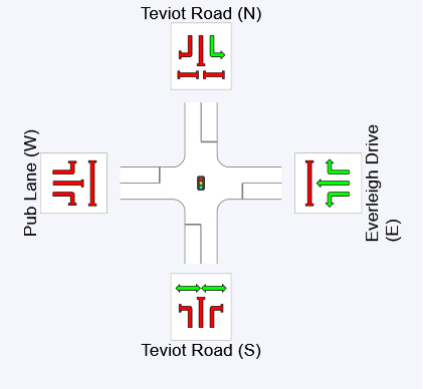
Phase A **REF**



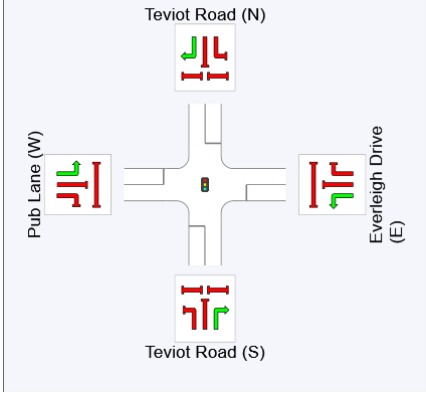
Phase B



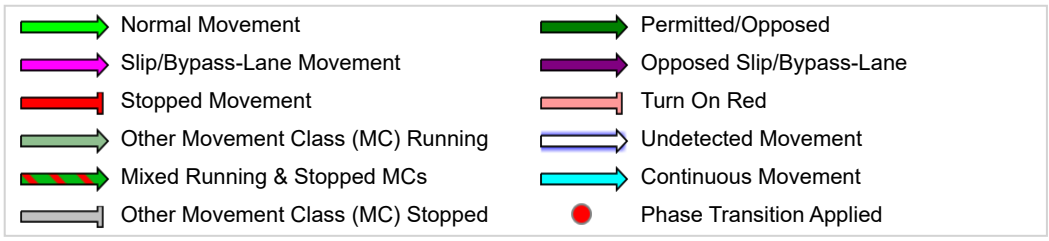
Phase C



Phase D



REF: Reference Phase
VAR: Variable Phase



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MOVEMENT SUMMARY

Site: 03 [INT03 (Site Folder: 32AM+N)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / Pub Lane / Everleigh Drive - Existing Traffic Signals
2032 Morning Peak Hour with P3/P4 access via Anderson Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 150 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Teviot Road (S)															
1	L2	All MCs	248	5.0	248	5.0	0.273	27.9	LOS C	10.2	74.4	0.61	0.75	0.61	33.8
2	T1	All MCs	375	5.0	375	5.0	0.647	65.1	LOS E	13.1	95.4	0.99	0.82	0.99	29.7
3	R2	All MCs	93	5.0	93	5.0	0.369	69.5	LOS E	6.2	45.5	0.95	0.78	0.95	25.1
Approach			716	5.0	716	5.0	0.647	52.8	LOS D	13.1	95.4	0.86	0.79	0.86	30.0
East: Everleigh Drive (E)															
4	L2	All MCs	241	5.0	241	5.0	* 0.733	86.7	LOS F	26.4	192.5	1.00	0.92	1.00	25.8
5	T1	All MCs	338	5.0	338	5.0	0.733	97.4	LOS F	26.4	192.5	0.99	0.88	1.02	19.3
6	R2	All MCs	104	5.0	104	5.0	0.272	67.7	LOS E	6.4	46.5	0.88	0.77	0.88	27.9
Approach			683	5.0	683	5.0	0.733	89.1	LOS F	26.4	192.5	0.98	0.88	0.99	18.7
North: Teviot Road (N)															
7	L2	All MCs	29	5.0	29	5.0	0.047	24.3	LOS C	0.9	6.6	0.69	0.69	0.69	39.6
8	T1	All MCs	557	5.0	557	5.0	* 0.961	95.4	LOS F	25.0	182.3	1.00	1.14	1.38	24.1
9	R2	All MCs	364	5.0	364	5.0	0.725	74.9	LOS E	13.2	96.7	1.00	0.86	1.06	21.0
Approach			951	5.0	951	5.0	0.961	85.3	LOS F	25.0	182.3	0.99	1.02	1.24	23.3
West: Pub Lane (W)															
10	L2	All MCs	737	5.0	737	5.0	0.453	21.1	LOS C	10.2	74.6	0.73	0.79	0.73	37.9
11	T1	All MCs	162	5.0	162	5.0	* 0.985	116.0	LOS F	40.6	296.5	1.00	1.18	1.40	13.6
12	R2	All MCs	664	5.0	664	5.0	0.985	121.8	LOS F	40.6	296.5	1.00	1.14	1.40	16.6
Approach			1563	5.0	1563	5.0	0.985	73.7	LOS E	40.6	296.5	0.87	0.98	1.09	20.6
All Vehicles			3913	5.0	3913	5.0	0.985	75.4	LOS E	40.6	296.5	0.92	0.94	1.06	22.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Teviot Road (S)												
P11	Stage 1	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90
P12	Stage 2	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90

East: Everleigh Drive (E)											
P2 Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90
North: Teviot Road (N)											
P31 Stage 1	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90
P32 Stage 2	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90
West: Pub Lane (W)											
P4 Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90
All Pedestrians	300	316	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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Project: C:\12dS\data\12dSynergy\P000170 Everleigh Traffic Movement_15965\14. Engineering - Traffic\02. SIDRA\P000170 SIDRA Models.sip9

PHASING SUMMARY

Site: 03 [INT03 (Site Folder: 34AM+S)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / Pub Lane / Everleigh Drive - Existing Traffic Signals
2034 Morning Peak Hour with P3/P4 access via Greenbank Road
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Sequence1
Input Phase Sequence: A, B, C, D, D1*, D2*
Output Phase Sequence: A, B, C, D, D2*
Reference Phase: Phase A
(* Variable Phase)

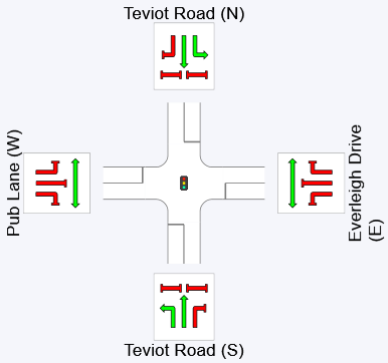
Phase Timing Summary

Phase	A	B	C	D	D2
Phase Change Time (sec)	0	29	75	100	119
Green Time (sec)	23	40	19	13	***
Phase Time (sec)	29	46	25	19	1
Phase Split	24%	38%	21%	16%	1%
Phase Frequency (%)	100.0	100.0	100.0	100.0	100.0

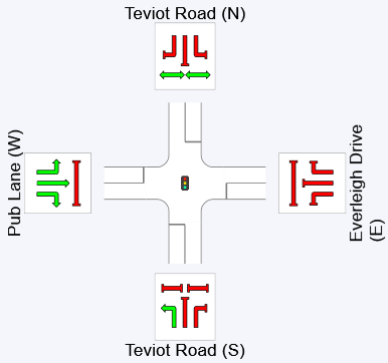
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

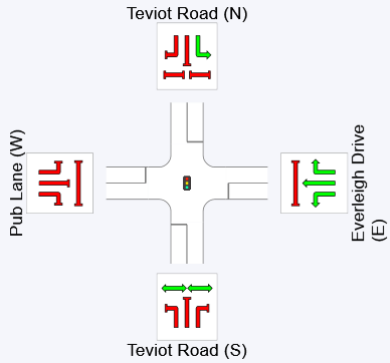
Phase A REF



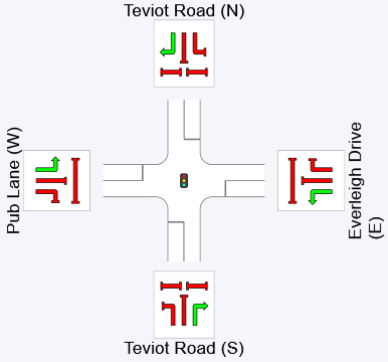
Phase B



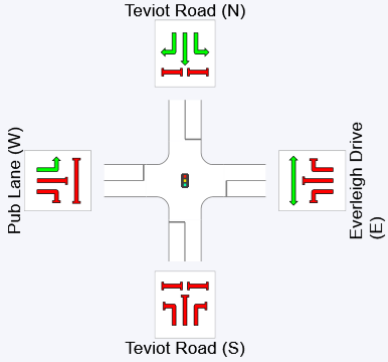
Phase C



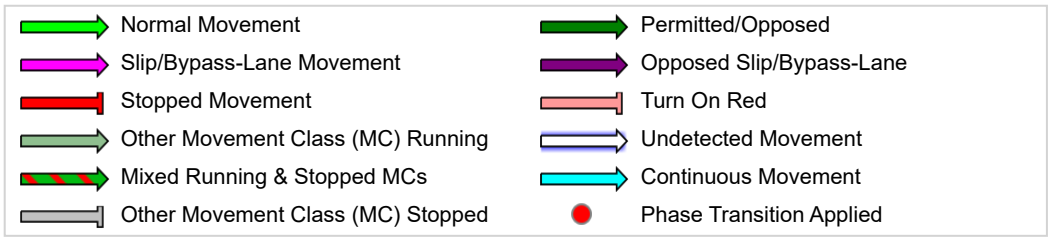
Phase D



Phase D2 VAR



REF: Reference Phase
VAR: Variable Phase



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MOVEMENT SUMMARY

Site: 03 [INT03 (Site Folder: 34AM+S)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / Pub Lane / Everleigh Drive - Existing Traffic Signals
2034 Morning Peak Hour with P3/P4 access via Greenbank Road
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Teviot Road (S)															
1	L2	All MCs	356	5.0	356	5.0	0.361	21.7	LOS C	11.5	84.0	0.60	0.76	0.60	37.1
2	T1	All MCs	620	5.0	620	5.0	* 0.856	58.7	LOS E	19.5	142.7	1.00	1.00	1.19	31.3
3	R2	All MCs	124	5.0	124	5.0	0.639	63.5	LOS E	7.3	53.3	1.00	0.82	1.04	26.3
Approach			1100	5.0	1100	5.0	0.856	47.3	LOS D	19.5	142.7	0.87	0.90	0.98	31.8
East: Everleigh Drive (E)															
4	L2	All MCs	212	5.0	212	5.0	0.865	70.4	LOS E	17.1	124.9	1.00	0.98	1.24	25.9
5	T1	All MCs	287	5.0	287	5.0	* 0.865	73.5	LOS E	17.1	124.9	1.00	1.00	1.25	19.2
6	R2	All MCs	104	5.0	104	5.0	0.367	55.2	LOS E	5.6	40.6	0.94	0.78	0.94	28.8
Approach			603	5.0	603	5.0	0.865	69.3	LOS E	17.1	124.9	0.99	0.96	1.19	22.2
North: Teviot Road (N)															
7	L2	All MCs	29	5.0	29	5.0	0.049	21.6	LOS C	0.8	5.6	0.70	0.69	0.70	40.9
8	T1	All MCs	624	5.0	624	5.0	0.826	55.4	LOS E	19.0	139.0	1.00	0.96	1.14	32.1
9	R2	All MCs	364	5.0	364	5.0	* 0.870	72.1	LOS E	11.9	86.9	1.00	0.99	1.30	21.5
Approach			1018	5.0	1018	5.0	0.870	60.4	LOS E	19.0	139.0	0.99	0.96	1.19	28.5
West: Pub Lane (W)															
10	L2	All MCs	783	5.0	783	5.0	0.514	19.7	LOS B	9.3	68.0	0.78	0.80	0.78	38.8
11	T1	All MCs	148	5.0	148	5.0	* 0.896	64.4	LOS E	28.1	205.1	1.00	1.03	1.23	19.9
12	R2	All MCs	695	5.0	695	5.0	0.896	70.2	LOS E	28.1	205.1	1.00	1.01	1.23	23.4
Approach			1626	5.0	1626	5.0	0.896	45.3	LOS D	28.1	205.1	0.90	0.91	1.02	27.3
All Vehicles			4347	5.0	4347	5.0	0.896	52.7	LOS D	28.1	205.1	0.93	0.93	1.07	28.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Teviot Road (S)												
P11	Stage 1	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
P12	Stage 2	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96

East: Everleigh Drive (E)											
P2 Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
North: Teviot Road (N)											
P31 Stage 1	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
P32 Stage 2	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
West: Pub Lane (W)											
P4 Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
All Pedestrians	300	316	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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Project: C:\12dS\data\12dSynergy\P000170 Everleigh Traffic Movement_15965\14. Engineering - Traffic\02. SIDRA\P000170 SIDRA Models.sip9

PHASING SUMMARY

Site: 03 [INT03 (Site Folder: 32AM-S)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / Pub Lane / Everleigh Drive - Existing Traffic Signals
2032 Morning Peak Hour without Greenbank Road access
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 150 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Sequence1
Input Phase Sequence: A, B, C, D, D1*, D2*
Output Phase Sequence: A, B, C, D
Reference Phase: Phase A
(* Variable Phase)

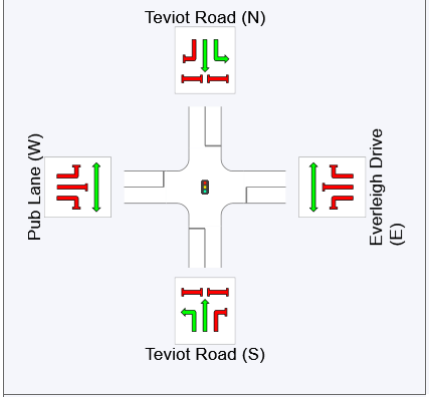
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	29	85	123
Green Time (sec)	23	50	32	21
Phase Time (sec)	29	56	38	27
Phase Split	19%	37%	25%	18%
Phase Frequency (%)	100.0	100.0	100.0	100.0

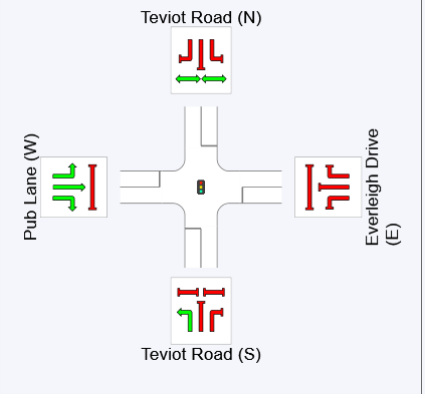
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

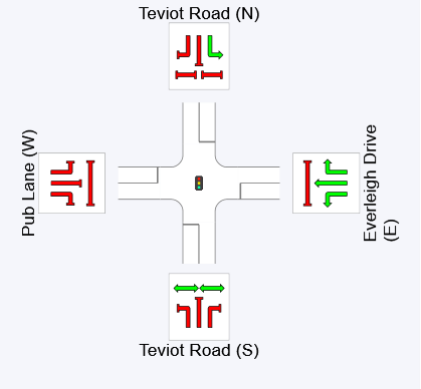
Phase A **REF**



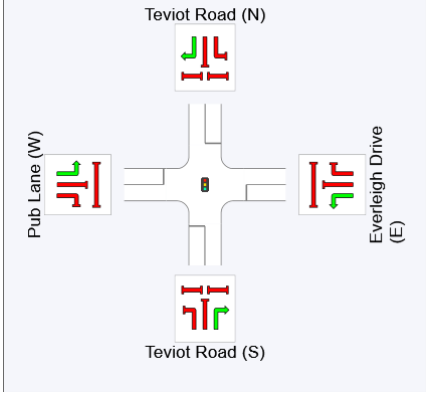
Phase B



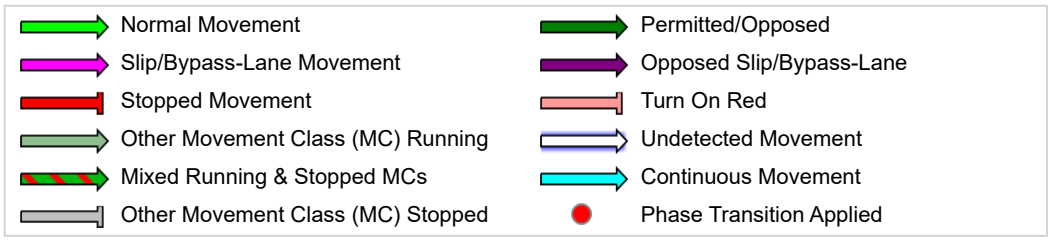
Phase C



Phase D



REF: Reference Phase
VAR: Variable Phase



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MOVEMENT SUMMARY

Site: 03 [INT03 (Site Folder: 32AM-S)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / Pub Lane / Everleigh Drive - Existing Traffic Signals
2032 Morning Peak Hour without Greenbank Road access
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 150 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Teviot Road (S)															
1	L2	All MCs	248	5.0	248	5.0	0.273	27.9	LOS C	10.2	74.4	0.61	0.75	0.61	33.8
2	T1	All MCs	375	5.0	375	5.0	0.647	65.1	LOS E	13.1	95.4	0.99	0.82	0.99	29.7
3	R2	All MCs	93	5.0	93	5.0	0.369	69.5	LOS E	6.2	45.5	0.95	0.78	0.95	25.1
Approach			716	5.0	716	5.0	0.647	52.8	LOS D	13.1	95.4	0.86	0.79	0.86	30.0
East: Everleigh Drive (E)															
4	L2	All MCs	241	5.0	241	5.0	* 0.733	86.7	LOS F	26.4	192.5	1.00	0.92	1.00	25.8
5	T1	All MCs	338	5.0	338	5.0	0.733	97.4	LOS F	26.4	192.5	0.99	0.88	1.02	19.3
6	R2	All MCs	104	5.0	104	5.0	0.272	67.7	LOS E	6.4	46.5	0.88	0.77	0.88	27.9
Approach			683	5.0	683	5.0	0.733	89.1	LOS F	26.4	192.5	0.98	0.88	0.99	18.7
North: Teviot Road (N)															
7	L2	All MCs	29	5.0	29	5.0	0.047	24.3	LOS C	0.9	6.6	0.69	0.69	0.69	39.6
8	T1	All MCs	557	5.0	557	5.0	* 0.961	95.4	LOS F	25.0	182.3	1.00	1.14	1.38	24.1
9	R2	All MCs	364	5.0	364	5.0	0.725	74.9	LOS E	13.2	96.7	1.00	0.86	1.06	21.0
Approach			951	5.0	951	5.0	0.961	85.3	LOS F	25.0	182.3	0.99	1.02	1.24	23.3
West: Pub Lane (W)															
10	L2	All MCs	737	5.0	737	5.0	0.453	21.1	LOS C	10.2	74.6	0.73	0.79	0.73	37.9
11	T1	All MCs	162	5.0	162	5.0	* 0.985	116.0	LOS F	40.6	296.5	1.00	1.18	1.40	13.6
12	R2	All MCs	664	5.0	664	5.0	0.985	121.8	LOS F	40.6	296.5	1.00	1.14	1.40	16.6
Approach			1563	5.0	1563	5.0	0.985	73.7	LOS E	40.6	296.5	0.87	0.98	1.09	20.6
All Vehicles			3913	5.0	3913	5.0	0.985	75.4	LOS E	40.6	296.5	0.92	0.94	1.06	22.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Teviot Road (S)												
P11	Stage 1	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90
P12	Stage 2	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90

East: Everleigh Drive (E)											
P2 Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90
North: Teviot Road (N)											
P31 Stage 1	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90
P32 Stage 2	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90
West: Pub Lane (W)											
P4 Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90
All Pedestrians	300	316	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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Project: C:\12dS\data\12dSynergy\P000170 Everleigh Traffic Movement_15965\14. Engineering - Traffic\02. SIDRA\P000170 SIDRA Models.sip9

PHASING SUMMARY

Site: 03 [INT03 (Site Folder: 33AM-N)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / Pub Lane / Everleigh Drive - Existing Traffic Signals
2033 Morning Peak Hour without connection between P4 and P5
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 110 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Sequence1
Input Phase Sequence: A, B, C, D, D1*, D2*
Output Phase Sequence: A, B, C, D, D2*
Reference Phase: Phase A
(* Variable Phase)

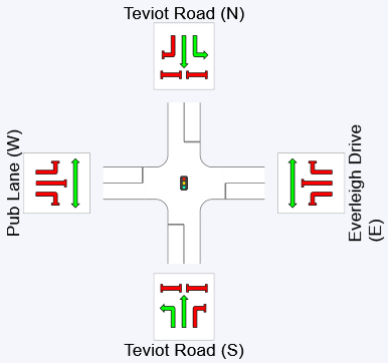
Phase Timing Summary

Phase	A	B	C	D	D2
Phase Change Time (sec)	0	26	69	90	105
Green Time (sec)	20	37	15	9	***
Phase Time (sec)	26	43	21	15	5
Phase Split	24%	39%	19%	14%	5%
Phase Frequency (%)	100.0	100.0	100.0	100.0	100.0

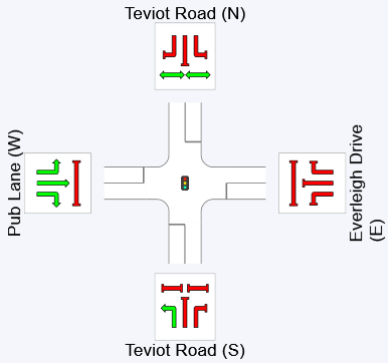
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

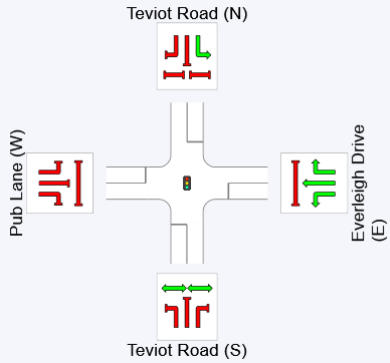
Phase A REF



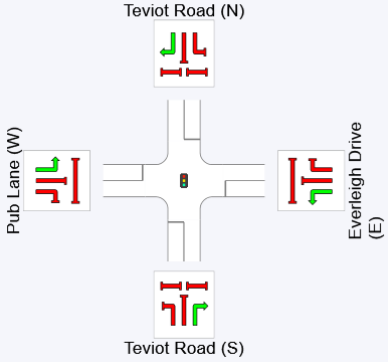
Phase B



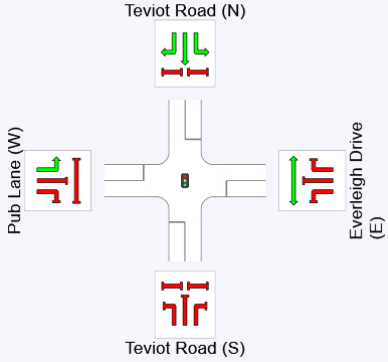
Phase C



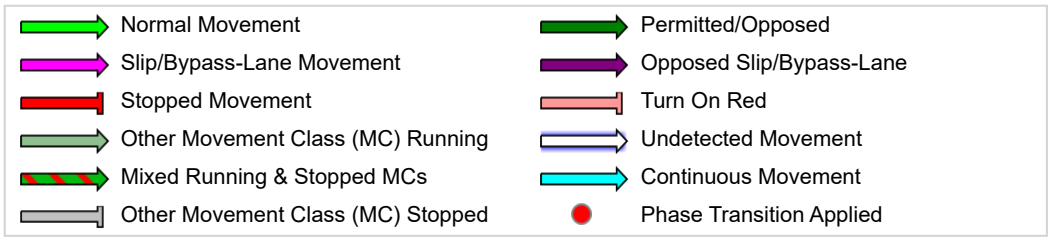
Phase D



Phase D2 VAR



REF: Reference Phase
VAR: Variable Phase



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MOVEMENT SUMMARY

Site: 03 [INT03 (Site Folder: 33AM-N)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Teviot Road / Pub Lane / Everleigh Drive - Existing Traffic Signals
2033 Morning Peak Hour without connection between P4 and P5
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 110 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Teviot Road (S)															
1	L2	All MCs	248	5.0	248	5.0	0.254	19.6	LOS B	6.9	50.6	0.56	0.73	0.56	38.4
2	T1	All MCs	378	5.0	378	5.0	* 0.550	44.9	LOS D	9.4	68.7	0.96	0.79	0.96	35.2
3	R2	All MCs	34	5.0	34	5.0	0.230	58.9	LOS E	1.8	12.9	0.97	0.73	0.97	27.4
Approach			660	5.0	660	5.0	0.550	36.1	LOS D	9.4	68.7	0.81	0.76	0.81	35.5
East: Everleigh Drive (E)															
4	L2	All MCs	32	5.0	32	5.0	0.832	51.7	LOS D	12.2	89.2	1.00	0.97	1.23	27.7
5	T1	All MCs	368	5.0	368	5.0	* 0.832	57.7	LOS E	12.4	90.2	1.00	0.97	1.22	20.5
6	R2	All MCs	226	5.0	226	5.0	0.832	62.8	LOS E	12.4	90.2	1.00	0.96	1.23	27.1
Approach			626	5.0	626	5.0	0.832	59.2	LOS E	12.4	90.2	1.00	0.97	1.23	23.7
North: Teviot Road (N)															
7	L2	All MCs	64	5.0	64	5.0	0.106	21.1	LOS C	1.6	11.9	0.72	0.71	0.72	41.2
8	T1	All MCs	557	5.0	557	5.0	0.649	42.0	LOS D	13.7	100.2	0.96	0.81	0.96	36.2
9	R2	All MCs	364	5.0	364	5.0	* 0.798	61.6	LOS E	10.4	75.9	1.00	0.92	1.19	23.6
Approach			985	5.0	985	5.0	0.798	47.9	LOS D	13.7	100.2	0.96	0.85	1.03	31.7
West: Pub Lane (W)															
10	L2	All MCs	760	5.0	760	5.0	0.486	18.0	LOS B	8.3	60.5	0.76	0.79	0.76	39.8
11	T1	All MCs	171	5.0	171	5.0	0.803	44.3	LOS D	22.0	160.5	0.97	0.91	1.06	24.4
12	R2	All MCs	664	5.0	664	5.0	* 0.803	50.1	LOS D	22.0	160.5	0.97	0.91	1.06	27.7
Approach			1595	5.0	1595	5.0	0.803	34.2	LOS C	22.0	160.5	0.87	0.85	0.92	31.2
All Vehicles			3866	5.0	3866	5.0	0.832	42.1	LOS D	22.0	160.5	0.91	0.86	0.98	30.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Teviot Road (S)												
P11	Stage 1	50	53	49.3	LOS E	0.2	0.2	0.95	0.95	203.1	200.0	0.98
P12	Stage 2	50	53	49.3	LOS E	0.2	0.2	0.95	0.95	203.1	200.0	0.98

East: Everleigh Drive (E)											
P2 Full	50	53	49.3	LOS E	0.2	0.2	0.95	0.95	203.1	200.0	0.98
North: Teviot Road (N)											
P31 Stage 1	50	53	49.3	LOS E	0.2	0.2	0.95	0.95	203.1	200.0	0.98
P32 Stage 2	50	53	49.3	LOS E	0.2	0.2	0.95	0.95	203.1	200.0	0.98
West: Pub Lane (W)											
P4 Full	50	53	49.3	LOS E	0.2	0.2	0.95	0.95	203.1	200.0	0.98
All Pedestrians	300	316	49.3	LOS E	0.2	0.2	0.95	0.95	203.1	200.0	0.98

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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Project: C:\12dS\data\12dSynergy\P000170 Everleigh Traffic Movement_15965\14. Engineering - Traffic\02. SIDRA\P000170 SIDRA Models.sip9

APPENDIX D

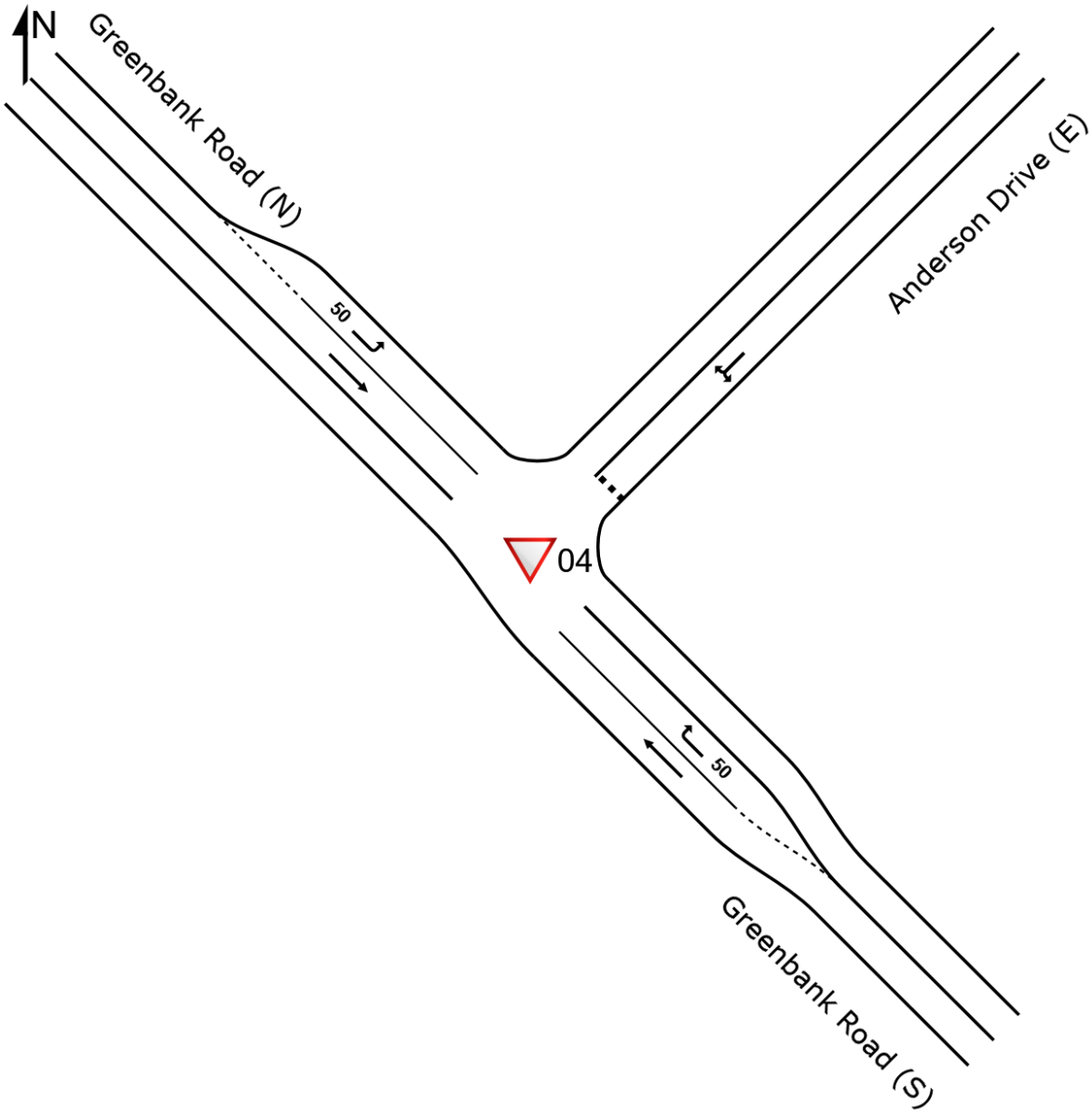
SIDRA OUTPUT – INTERSECTION 4: GREENBANK ROAD / ANDERSON DRIVE T-INTERSECTION

SITE LAYOUT

Site: 04 [INT04 (Site Folder: 2044AM)]

Greenbank Road / Anderson Drive - Priority Control
2044 AM
Site Category: (None)
Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 04 [INT04 (Site Folder: 2044AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Greenbank Road / Anderson Drive - Priority Control
2044 AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Greenbank Road (S)															
2	T1	All MCs	278	5.0	278	5.0	0.147	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
3	R2	All MCs	177	5.0	177	5.0	0.174	7.1	LOS A	0.7	5.3	0.42	0.66	0.42	49.8
Approach			455	5.0	455	5.0	0.174	2.8	NA	0.7	5.3	0.16	0.26	0.16	56.8
NorthEast: Anderson Drive (E)															
4	L2	All MCs	429	5.0	429	5.0	0.456	8.4	LOS A	2.9	20.9	0.51	0.74	0.64	49.1
6	R2	All MCs	1	5.0	1	5.0	0.456	19.9	LOS C	2.9	20.9	0.51	0.74	0.64	52.1
Approach			431	5.0	431	5.0	0.456	8.4	LOS A	2.9	20.9	0.51	0.74	0.64	49.1
NorthWest: Greenbank Road (N)															
7	L2	All MCs	1	5.0	1	5.0	0.001	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.9
8	T1	All MCs	297	5.0	297	5.0	0.157	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			298	5.0	298	5.0	0.157	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles			1183	5.0	1183	5.0	0.456	4.1	NA	2.9	20.9	0.25	0.37	0.29	55.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 04 [INT04 (Site Folder: 2044PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Greenbank Road / Anderson Drive - Priority Control
2044 PM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Greenbank Road (S)															
2	T1	All MCs	285	5.0	285	5.0	0.151	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
3	R2	All MCs	405	5.0	405	5.0	0.377	7.2	LOS A	2.0	14.8	0.46	0.66	0.48	49.7
Approach			691	5.0	691	5.0	0.377	4.3	NA	2.0	14.8	0.27	0.39	0.28	54.7
NorthEast: Anderson Drive (E)															
4	L2	All MCs	214	5.0	214	5.0	0.217	7.0	LOS A	0.9	6.3	0.38	0.63	0.38	50.1
6	R2	All MCs	1	5.0	1	5.0	0.217	22.4	LOS C	0.9	6.3	0.38	0.63	0.38	52.8
Approach			215	5.0	215	5.0	0.217	7.0	LOS A	0.9	6.3	0.38	0.63	0.38	50.1
NorthWest: Greenbank Road (N)															
7	L2	All MCs	1	5.0	1	5.0	0.001	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.9
8	T1	All MCs	251	5.0	251	5.0	0.133	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			252	5.0	252	5.0	0.133	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles			1157	5.0	1157	5.0	0.377	3.9	NA	2.0	14.8	0.23	0.35	0.24	55.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 04 [INT04 (Site Folder: 34AM+S)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Greenbank Road / Anderson Drive - Priority Control
2034 AM with P3/P4 access via Greenbank Road
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Greenbank Road (S)															
2	T1	All MCs	420	5.0	420	5.0	0.222	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
3	R2	All MCs	25	5.0	25	5.0	0.039	9.5	LOS A	0.1	1.0	0.56	0.75	0.56	47.9
Approach			445	5.0	445	5.0	0.222	0.6	NA	0.1	1.0	0.03	0.04	0.03	59.4
NorthEast: Anderson Drive (E)															
4	L2	All MCs	89	5.0	89	5.0	2.160	1056.5	LOS F	164.4	1199.8	1.00	7.30	23.90	2.7
6	R2	All MCs	389	5.0	389	5.0	2.160	1076.7	LOS F	164.4	1199.8	1.00	7.30	23.90	3.9
Approach			479	5.0	479	5.0	2.160	1073.0	LOS F	164.4	1199.8	1.00	7.30	23.90	3.7
NorthWest: Greenbank Road (N)															
7	L2	All MCs	109	5.0	109	5.0	0.061	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	53.9
8	T1	All MCs	535	5.0	535	5.0	0.283	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach			644	5.0	644	5.0	0.283	1.1	NA	0.0	0.0	0.00	0.10	0.00	58.8
All Vehicles			1568	5.0	1568	5.0	2.160	328.3	NA	164.4	1199.8	0.31	2.28	7.31	11.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 04 [INT04 (Site Folder: 34PM+S)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Greenbank Road / Anderson Drive - Priority Control
2034 PM with P3/P4 access via Greenbank Road
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Greenbank Road (S)															
2	T1	All MCs	488	5.0	488	5.0	0.259	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
3	R2	All MCs	100	5.0	100	5.0	0.197	11.9	LOS B	0.7	5.3	0.68	0.87	0.68	46.2
Approach			588	5.0	588	5.0	0.259	2.1	NA	0.7	5.3	0.12	0.15	0.12	58.0
NorthEast: Anderson Drive (E)															
4	L2	All MCs	54	5.0	54	5.0	1.707	651.7	LOS F	78.1	570.3	1.00	5.10	15.89	4.2
6	R2	All MCs	233	5.0	233	5.0	1.707	681.4	LOS F	78.1	570.3	1.00	5.10	15.89	5.9
Approach			286	5.0	286	5.0	1.707	675.8	LOS F	78.1	570.3	1.00	5.10	15.89	5.6
NorthWest: Greenbank Road (N)															
7	L2	All MCs	433	5.0	433	5.0	0.241	5.7	LOS A	0.0	0.0	0.00	0.57	0.00	53.8
8	T1	All MCs	401	5.0	401	5.0	0.212	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			834	5.0	834	5.0	0.241	3.0	NA	0.0	0.0	0.00	0.30	0.00	56.8
All Vehicles			1708	5.0	1708	5.0	1.707	115.4	NA	78.1	570.3	0.21	1.05	2.70	24.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 04 [INT04 (Site Folder: 33AM+S)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Greenbank Road / Anderson Drive - Priority Control
2033 AM with P3/P4 access via Greenbank Road
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Greenbank Road (S)															
2	T1	All MCs	419	5.0	419	5.0	0.222	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
3	R2	All MCs	19	5.0	19	5.0	0.028	9.1	LOS A	0.1	0.7	0.55	0.72	0.55	48.2
Approach			438	5.0	438	5.0	0.222	0.5	NA	0.1	0.7	0.02	0.03	0.02	59.5
NorthEast: Anderson Drive (E)															
4	L2	All MCs	67	5.0	67	5.0	1.531	495.0	LOS F	83.2	607.7	1.00	5.35	16.69	5.4
6	R2	All MCs	294	5.0	294	5.0	1.531	514.1	LOS F	83.2	607.7	1.00	5.35	16.69	7.6
Approach			361	5.0	361	5.0	1.531	510.5	LOS F	83.2	607.7	1.00	5.35	16.69	7.2
NorthWest: Greenbank Road (N)															
7	L2	All MCs	83	5.0	83	5.0	0.046	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.9
8	T1	All MCs	524	5.0	524	5.0	0.278	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach			607	5.0	607	5.0	0.278	0.9	NA	0.0	0.0	0.00	0.08	0.00	59.0
All Vehicles			1406	5.0	1406	5.0	1.531	131.6	NA	83.2	607.7	0.26	1.42	4.29	22.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 04 [INT04 (Site Folder: 33PM+S)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Greenbank Road / Anderson Drive - Priority Control
2033 PM with P3/P4 access via Greenbank Road
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Greenbank Road (S)															
2	T1	All MCs	478	5.0	478	5.0	0.253	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
3	R2	All MCs	75	5.0	75	5.0	0.126	10.4	LOS B	0.5	3.4	0.60	0.84	0.60	47.2
Approach			553	5.0	553	5.0	0.253	1.5	NA	0.5	3.4	0.08	0.11	0.08	58.5
NorthEast: Anderson Drive (E)															
4	L2	All MCs	40	5.0	40	5.0	1.084	122.7	LOS F	19.1	139.5	1.00	2.46	6.22	15.4
6	R2	All MCs	176	5.0	176	5.0	1.084	147.8	LOS F	19.1	139.5	1.00	2.46	6.22	20.3
Approach			216	5.0	216	5.0	1.084	143.2	LOS F	19.1	139.5	1.00	2.46	6.22	19.5
NorthWest: Greenbank Road (N)															
7	L2	All MCs	326	5.0	326	5.0	0.182	5.7	LOS A	0.0	0.0	0.00	0.57	0.00	53.8
8	T1	All MCs	400	5.0	400	5.0	0.212	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			726	5.0	726	5.0	0.212	2.6	NA	0.0	0.0	0.00	0.26	0.00	57.2
All Vehicles			1495	5.0	1495	5.0	1.084	22.5	NA	19.1	139.5	0.17	0.52	0.93	46.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 04 [INT04 (Site Folder: 32AM+S)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Greenbank Road / Anderson Drive - Priority Control
2032 AM with P3/P4 access via Greenbank Road
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Greenbank Road (S)															
2	T1	All MCs	418	5.0	418	5.0	0.221	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
3	R2	All MCs	12	5.0	12	5.0	0.016	8.7	LOS A	0.1	0.4	0.53	0.69	0.53	48.5
Approach			429	5.0	429	5.0	0.221	0.3	NA	0.1	0.4	0.01	0.02	0.01	59.7
NorthEast: Anderson Drive (E)															
4	L2	All MCs	42	5.0	42	5.0	0.887	35.8	LOS E	7.6	55.5	0.96	1.57	3.04	29.5
6	R2	All MCs	181	5.0	181	5.0	0.887	52.8	LOS F	7.6	55.5	0.96	1.57	3.04	35.2
Approach			223	5.0	223	5.0	0.887	49.6	LOS E	7.6	55.5	0.96	1.57	3.04	34.3
NorthWest: Greenbank Road (N)															
7	L2	All MCs	52	5.0	52	5.0	0.029	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.9
8	T1	All MCs	515	5.0	515	5.0	0.273	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach			566	5.0	566	5.0	0.273	0.6	NA	0.0	0.0	0.00	0.05	0.00	59.3
All Vehicles			1219	5.0	1219	5.0	0.887	9.5	NA	7.6	55.5	0.18	0.32	0.56	53.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 04 [INT04 (Site Folder: 32PM+S)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Greenbank Road / Anderson Drive - Priority Control
2032 PM with P3/P4 access via Greenbank Road
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Greenbank Road (S)															
2	T1	All MCs	468	5.0	468	5.0	0.248	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
3	R2	All MCs	46	5.0	46	5.0	0.066	9.0	LOS A	0.2	1.8	0.55	0.76	0.55	48.2
Approach			515	5.0	515	5.0	0.248	0.9	NA	0.2	1.8	0.05	0.07	0.05	59.1
NorthEast: Anderson Drive (E)															
4	L2	All MCs	25	5.0	25	5.0	0.556	13.8	LOS B	2.6	18.8	0.87	1.09	1.38	37.2
6	R2	All MCs	108	5.0	108	5.0	0.556	31.5	LOS D	2.6	18.8	0.87	1.09	1.38	42.3
Approach			134	5.0	134	5.0	0.556	28.1	LOS D	2.6	18.8	0.87	1.09	1.38	41.5
NorthWest: Greenbank Road (N)															
7	L2	All MCs	202	5.0	202	5.0	0.113	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	53.9
8	T1	All MCs	399	5.0	399	5.0	0.211	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			601	5.0	601	5.0	0.211	2.0	NA	0.0	0.0	0.00	0.19	0.00	57.9
All Vehicles			1249	5.0	1249	5.0	0.556	4.3	NA	2.6	18.8	0.11	0.24	0.17	56.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 04 [INT04 (Site Folder: 31AM+S)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Greenbank Road / Anderson Drive - Priority Control
2031 AM with P3/P4 access via Greenbank Road
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Greenbank Road (S)															
2	T1	All MCs	414	5.0	414	5.0	0.219	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
3	R2	All MCs	5	5.0	5	5.0	0.007	8.3	LOS A	0.0	0.2	0.51	0.64	0.51	48.8
Approach			419	5.0	419	5.0	0.219	0.2	NA	0.0	0.2	0.01	0.01	0.01	59.8
NorthEast: Anderson Drive (E)															
4	L2	All MCs	19	5.0	19	5.0	0.369	11.1	LOS B	1.5	10.7	0.81	0.99	1.04	40.5
6	R2	All MCs	81	5.0	81	5.0	0.369	24.0	LOS C	1.5	10.7	0.81	0.99	1.04	45.1
Approach			100	5.0	100	5.0	0.369	21.5	LOS C	1.5	10.7	0.81	0.99	1.04	44.4
NorthWest: Greenbank Road (N)															
7	L2	All MCs	23	5.0	23	5.0	0.013	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.9
8	T1	All MCs	501	5.0	501	5.0	0.265	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach			524	5.0	524	5.0	0.265	0.4	NA	0.0	0.0	0.00	0.03	0.00	59.6
All Vehicles			1043	5.0	1043	5.0	0.369	2.3	NA	1.5	10.7	0.08	0.11	0.10	58.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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APPENDIX E

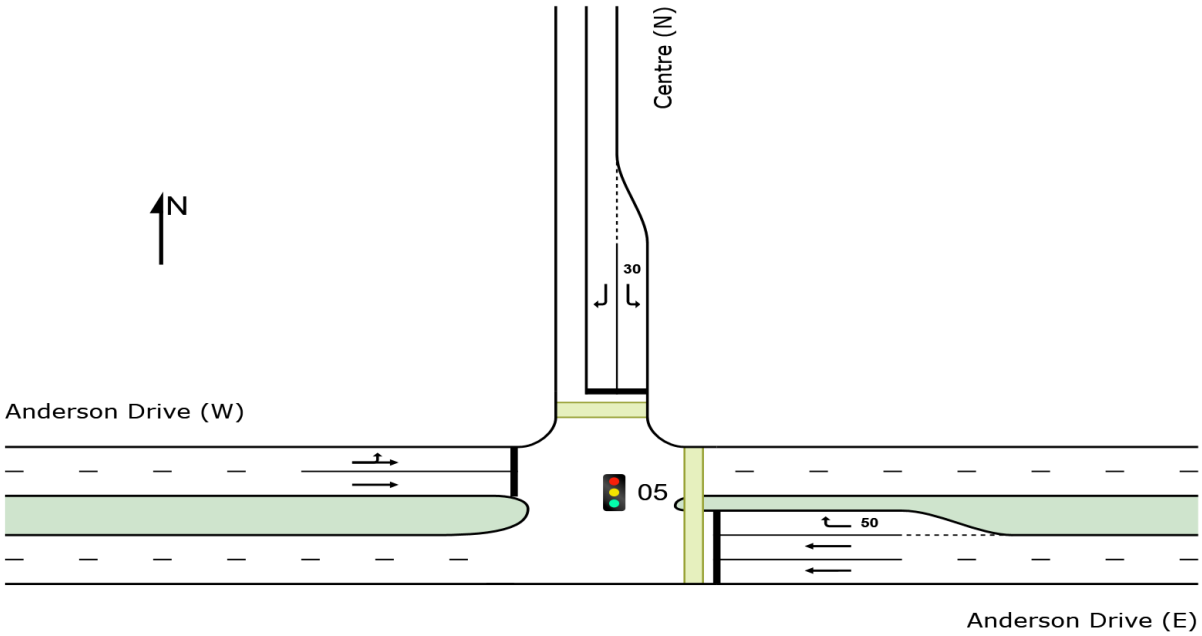
SIDRA OUTPUT – INTERSECTIN 5: ANDERSON DRIVE / CENTRE T-INTERSECTION

SITE LAYOUT

Site: 05 [INT05 (Site Folder: 2044AM)]

Anderson Drive / Neighbourhood Centre - Signal Control
2044 AM
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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Organisation: PREMISE GROUP SERVICES PTY LTD | Licence: PLUS / 1PC | Created: Sunday, 24 March 2024 10:04:53 PM
Project: C:\12dS\data\12dSynergy\P000170 Everleigh Traffic Movement_15965\14. Engineering - Traffic\02. SIDRA\P000170 SIDRA Models.sip9

PHASING SUMMARY

Site: 05 [INT05 (Site Folder: 2044AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anderson Drive / Neighbourhood Centre - Signal Control
2044 AM
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 60 seconds (Site Practical Cycle Time)

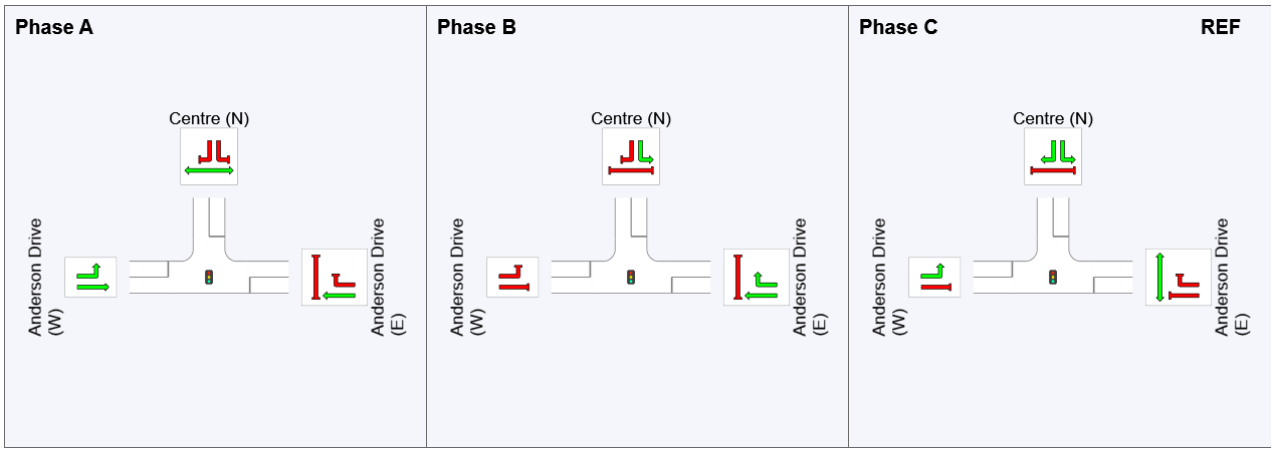
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Convert Function Default
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C
Reference Phase: Phase C

Phase Timing Summary

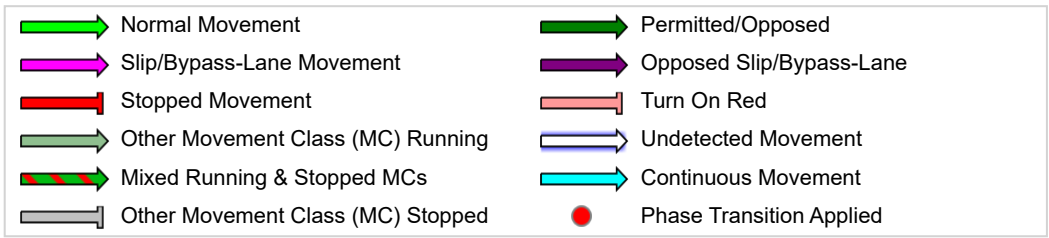
Phase	A	B	C
Phase Change Time (sec)	21	40	0
Green Time (sec)	13	14	15
Phase Time (sec)	19	20	21
Phase Split	32%	33%	35%
Phase Frequency (%)	100.0	100.0	100.0

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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Project: C:\12dS\data\12dSynergy\P000170 Everleigh Traffic Movement_15965\14. Engineering - Traffic\02. SIDRA\P000170 SIDRA Models.sip9

MOVEMENT SUMMARY

Site: 05 [INT05 (Site Folder: 2044AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anderson Drive / Neighbourhood Centre - Signal Control
2044 AM
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 60 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Anderson Drive (E)															
5	T1	All MCs	724	5.0	724	5.0	0.349	8.1	LOS A	5.9	43.3	0.59	0.51	0.59	44.6
6	R2	All MCs	277	5.0	277	5.0	* 0.662	29.7	LOS C	7.9	57.3	0.96	0.85	1.02	31.7
Approach			1001	5.0	1001	5.0	0.662	14.1	LOS B	7.9	57.3	0.70	0.61	0.71	38.8
North: Centre (N)															
7	L2	All MCs	78	5.0	78	5.0	0.074	11.4	LOS B	1.0	7.2	0.46	0.67	0.46	42.8
9	R2	All MCs	1	5.0	1	5.0	0.002	23.7	LOS C	0.0	0.2	0.76	0.59	0.76	34.7
Approach			79	5.0	79	5.0	0.074	11.6	LOS B	1.0	7.2	0.46	0.67	0.46	42.7
West: Anderson Drive (W)															
10	L2	All MCs	231	5.0	231	5.0	0.668	25.5	LOS C	7.5	54.7	0.97	0.85	1.04	31.5
11	T1	All MCs	304	5.0	304	5.0	* 0.668	28.8	LOS C	7.9	57.3	0.97	0.84	1.04	28.9
Approach			535	5.0	535	5.0	0.668	27.4	LOS C	7.9	57.3	0.97	0.85	1.04	30.3
All Vehicles			1615	5.0	1615	5.0	0.668	18.4	LOS B	7.9	57.3	0.77	0.69	0.81	35.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Anderson Drive (E)												
P2	Full	50	53	24.4	LOS C	0.1	0.1	0.90	0.90	178.2	200.0	1.12
North: Centre (N)												
P3	Full	50	53	24.4	LOS C	0.1	0.1	0.90	0.90	178.2	200.0	1.12
All Pedestrians		0	105	24.4	LOS C	0.1	0.1	0.90	0.90	178.2	200.0	1.12

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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PHASING SUMMARY

Site: 05 [INT05 (Site Folder: 2044PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anderson Drive / Neighbourhood Centre - Signal Control
2044 PM
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 60 seconds (Site Practical Cycle Time)

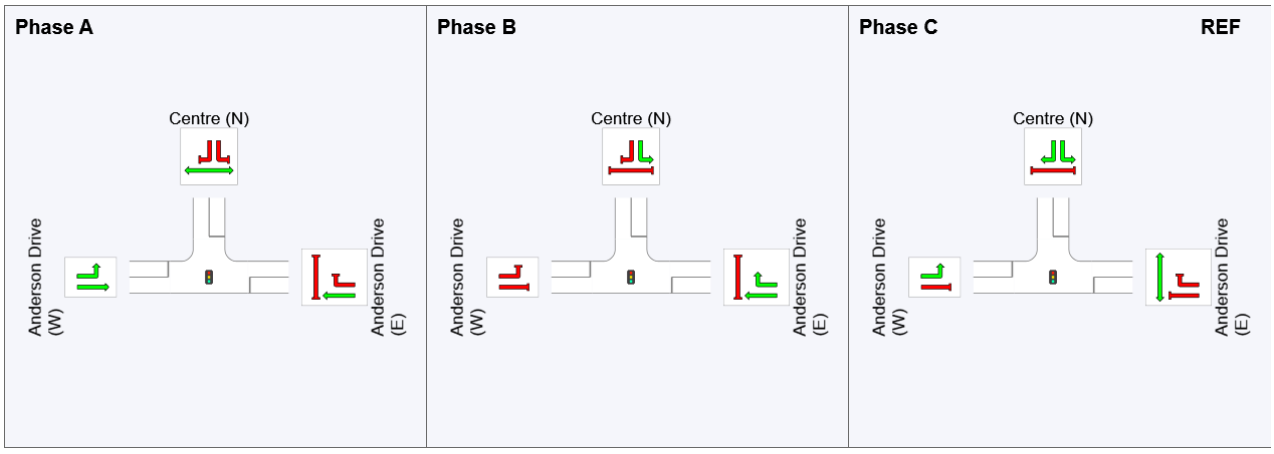
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Convert Function Default
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C
Reference Phase: Phase C

Phase Timing Summary

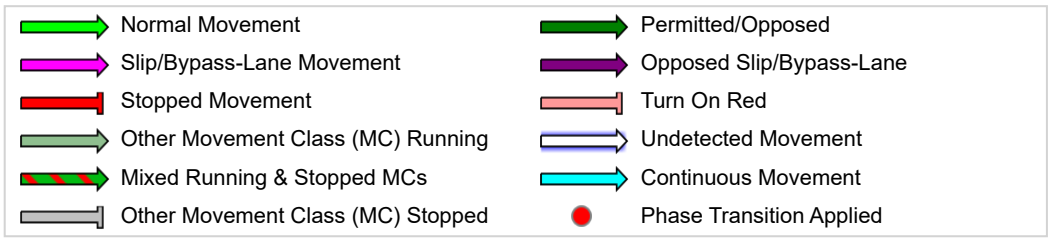
Phase	A	B	C
Phase Change Time (sec)	21	46	0
Green Time (sec)	19	8	15
Phase Time (sec)	25	14	21
Phase Split	42%	23%	35%
Phase Frequency (%)	100.0	100.0	100.0

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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Project: C:\12dS\data\12dSynergy\P000170 Everleigh Traffic Movement_15965\14. Engineering - Traffic\02. SIDRA\P000170 SIDRA Models.sip9

MOVEMENT SUMMARY

Site: 05 [INT05 (Site Folder: 2044PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anderson Drive / Neighbourhood Centre - Signal Control
2044 PM
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 60 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Anderson Drive (E)															
5	T1	All MCs	357	5.0	357	5.0	0.172	7.2	LOS A	2.6	18.9	0.53	0.43	0.53	45.9
6	R2	All MCs	165	5.0	165	5.0	* 0.691	35.5	LOS D	5.1	37.4	1.00	0.87	1.15	29.3
Approach			522	5.0	522	5.0	0.691	16.2	LOS B	5.1	37.4	0.68	0.57	0.72	37.1
North: Centre (N)															
7	L2	All MCs	307	5.0	307	5.0	0.355	16.1	LOS B	5.7	41.4	0.66	0.76	0.66	39.2
9	R2	All MCs	1	5.0	1	5.0	0.002	23.7	LOS C	0.0	0.2	0.76	0.59	0.76	34.7
Approach			308	5.0	308	5.0	0.355	16.1	LOS B	5.7	41.4	0.66	0.76	0.66	39.2
West: Anderson Drive (W)															
10	L2	All MCs	137	5.0	137	5.0	0.685	12.6	LOS B	10.8	79.1	0.93	0.84	0.97	35.3
11	T1	All MCs	676	5.0	676	5.0	* 0.685	23.2	LOS C	11.0	80.6	0.93	0.83	0.97	31.6
Approach			813	5.0	813	5.0	0.685	21.4	LOS C	11.0	80.6	0.93	0.83	0.97	32.4
All Vehicles			1643	5.0	1643	5.0	0.691	18.8	LOS B	11.0	80.6	0.80	0.74	0.84	35.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Anderson Drive (E)												
P2	Full	50	53	24.4	LOS C	0.1	0.1	0.90	0.90	178.2	200.0	1.12
North: Centre (N)												
P3	Full	50	53	24.4	LOS C	0.1	0.1	0.90	0.90	178.2	200.0	1.12
All Pedestrians		0	105	24.4	LOS C	0.1	0.1	0.90	0.90	178.2	200.0	1.12

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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PHASING SUMMARY

Site: 05 [INT05 (Site Folder: 33AM+N)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anderson Drive / Neighbourhood Centre - Signal Control
2033 AM with P3/P4 access via Anderson Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 60 seconds (Site Practical Cycle Time)

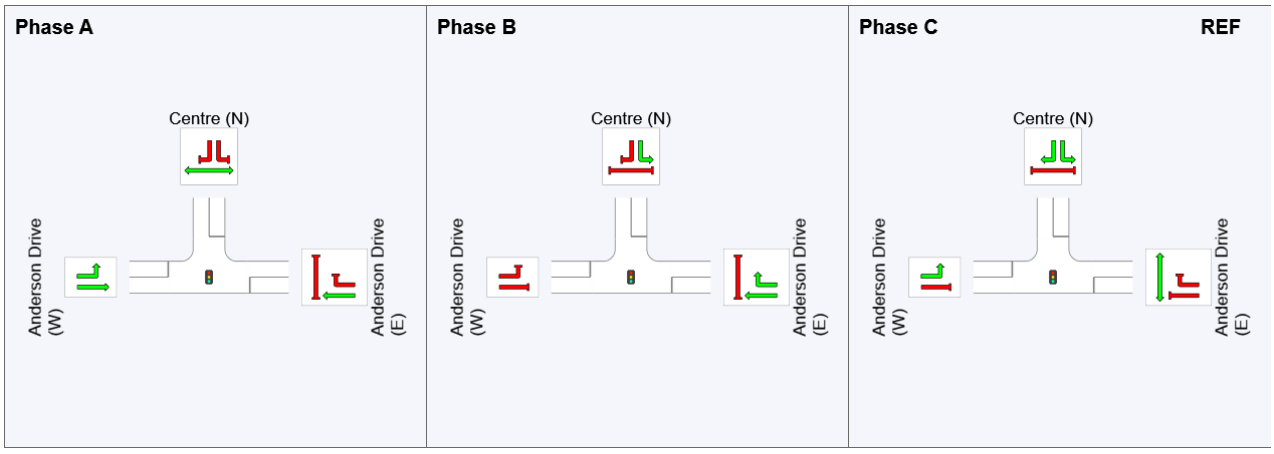
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Convert Function Default
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C
Reference Phase: Phase C

Phase Timing Summary

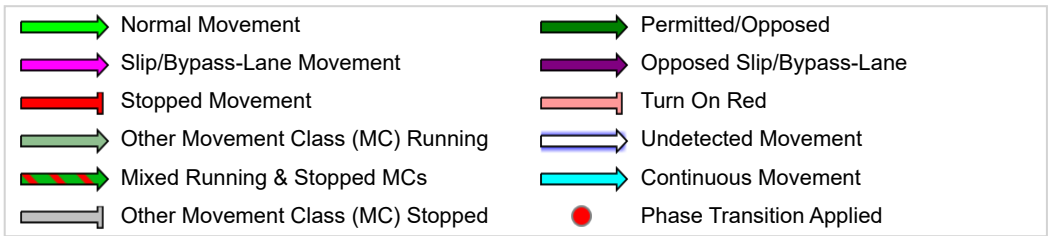
Phase	A	B	C
Phase Change Time (sec)	21	41	0
Green Time (sec)	14	13	15
Phase Time (sec)	20	19	21
Phase Split	33%	32%	35%
Phase Frequency (%)	100.0	100.0	100.0

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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Project: C:\12dS\data\12dSynergy\P000170 Everleigh Traffic Movement_15965\14. Engineering - Traffic\02. SIDRA\P000170 SIDRA Models.sip9

MOVEMENT SUMMARY

Site: 05 [INT05 (Site Folder: 33AM+N)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anderson Drive / Neighbourhood Centre - Signal Control
2033 AM with P3/P4 access via Anderson Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 60 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Anderson Drive (E)															
5	T1	All MCs	787	5.0	787	5.0	0.379	8.3	LOS A	6.6	48.1	0.61	0.53	0.61	44.4
6	R2	All MCs	258	5.0	258	5.0	* 0.664	30.6	LOS C	7.4	54.1	0.97	0.85	1.04	31.3
Approach			1045	5.0	1045	5.0	0.664	13.8	LOS B	7.4	54.1	0.70	0.61	0.71	38.9
North: Centre (N)															
7	L2	All MCs	73	5.0	73	5.0	0.071	11.9	LOS B	1.0	7.0	0.47	0.67	0.47	42.4
9	R2	All MCs	1	5.0	1	5.0	0.002	23.7	LOS C	0.0	0.2	0.76	0.59	0.76	34.7
Approach			74	5.0	74	5.0	0.071	12.1	LOS B	1.0	7.0	0.48	0.67	0.48	42.3
West: Anderson Drive (W)															
10	L2	All MCs	231	5.0	231	5.0	0.677	22.5	LOS C	8.1	59.5	0.96	0.86	1.03	32.0
11	T1	All MCs	354	5.0	354	5.0	* 0.677	29.1	LOS C	8.5	62.1	0.96	0.85	1.03	29.1
Approach			584	5.0	584	5.0	0.677	26.5	LOS C	8.5	62.1	0.96	0.85	1.03	30.5
All Vehicles			1703	5.0	1703	5.0	0.677	18.1	LOS B	8.5	62.1	0.78	0.69	0.81	35.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Anderson Drive (E)												
P2	Full	50	53	24.4	LOS C	0.1	0.1	0.90	0.90	178.2	200.0	1.12
North: Centre (N)												
P3	Full	50	53	24.4	LOS C	0.1	0.1	0.90	0.90	178.2	200.0	1.12
All Pedestrians		0	105	24.4	LOS C	0.1	0.1	0.90	0.90	178.2	200.0	1.12

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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PHASING SUMMARY

Site: 05 [INT05 (Site Folder: 33PM+N)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anderson Drive / Neighbourhood Centre - Signal Control
2033 PM with P3/P4 access via Anderson Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 60 seconds (Site Practical Cycle Time)

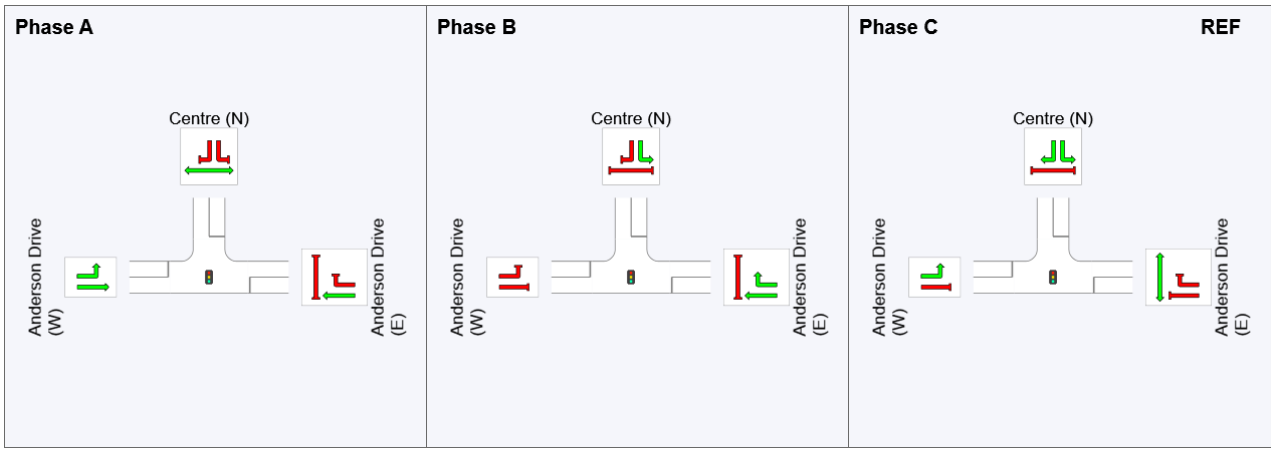
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Convert Function Default
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C
Reference Phase: Phase C

Phase Timing Summary

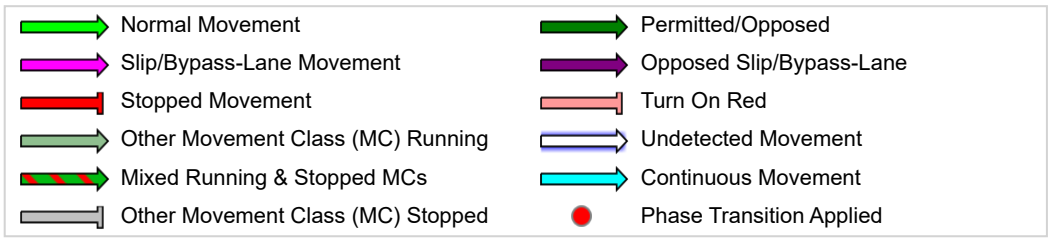
Phase	A	B	C
Phase Change Time (sec)	21	46	0
Green Time (sec)	19	8	15
Phase Time (sec)	25	14	21
Phase Split	42%	23%	35%
Phase Frequency (%)	100.0	100.0	100.0

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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Project: C:\12dS\data\12dSynergy\P000170 Everleigh Traffic Movement_15965\14. Engineering - Traffic\02. SIDRA\P000170 SIDRA Models.sip9

MOVEMENT SUMMARY

Site: 05 [INT05 (Site Folder: 33PM+N)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anderson Drive / Neighbourhood Centre - Signal Control
2033 PM with P3/P4 access via Anderson Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 60 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Anderson Drive (E)															
5	T1	All MCs	371	5.0	371	5.0	0.178	7.2	LOS A	2.7	19.8	0.53	0.44	0.53	45.9
6	R2	All MCs	155	5.0	155	5.0	* 0.647	34.8	LOS C	4.7	34.4	1.00	0.84	1.10	29.5
Approach			525	5.0	525	5.0	0.647	15.4	LOS B	4.7	34.4	0.67	0.56	0.70	37.7
North: Centre (N)															
7	L2	All MCs	286	5.0	286	5.0	0.330	16.0	LOS B	5.2	38.0	0.65	0.76	0.65	39.3
9	R2	All MCs	1	5.0	1	5.0	0.002	23.7	LOS C	0.0	0.2	0.76	0.59	0.76	34.7
Approach			287	5.0	287	5.0	0.330	16.0	LOS B	5.2	38.0	0.65	0.75	0.65	39.3
West: Anderson Drive (W)															
10	L2	All MCs	137	5.0	137	5.0	0.710	13.1	LOS B	11.5	83.9	0.94	0.86	1.00	35.0
11	T1	All MCs	705	5.0	705	5.0	* 0.710	23.8	LOS C	11.7	85.4	0.94	0.85	1.00	31.2
Approach			842	5.0	842	5.0	0.710	22.0	LOS C	11.7	85.4	0.94	0.85	1.00	32.0
All Vehicles			1655	5.0	1655	5.0	0.710	18.9	LOS B	11.7	85.4	0.80	0.74	0.85	35.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Anderson Drive (E)												
P2	Full	50	53	24.4	LOS C	0.1	0.1	0.90	0.90	178.2	200.0	1.12
North: Centre (N)												
P3	Full	50	53	24.4	LOS C	0.1	0.1	0.90	0.90	178.2	200.0	1.12
All Pedestrians		0	105	24.4	LOS C	0.1	0.1	0.90	0.90	178.2	200.0	1.12

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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APPENDIX F

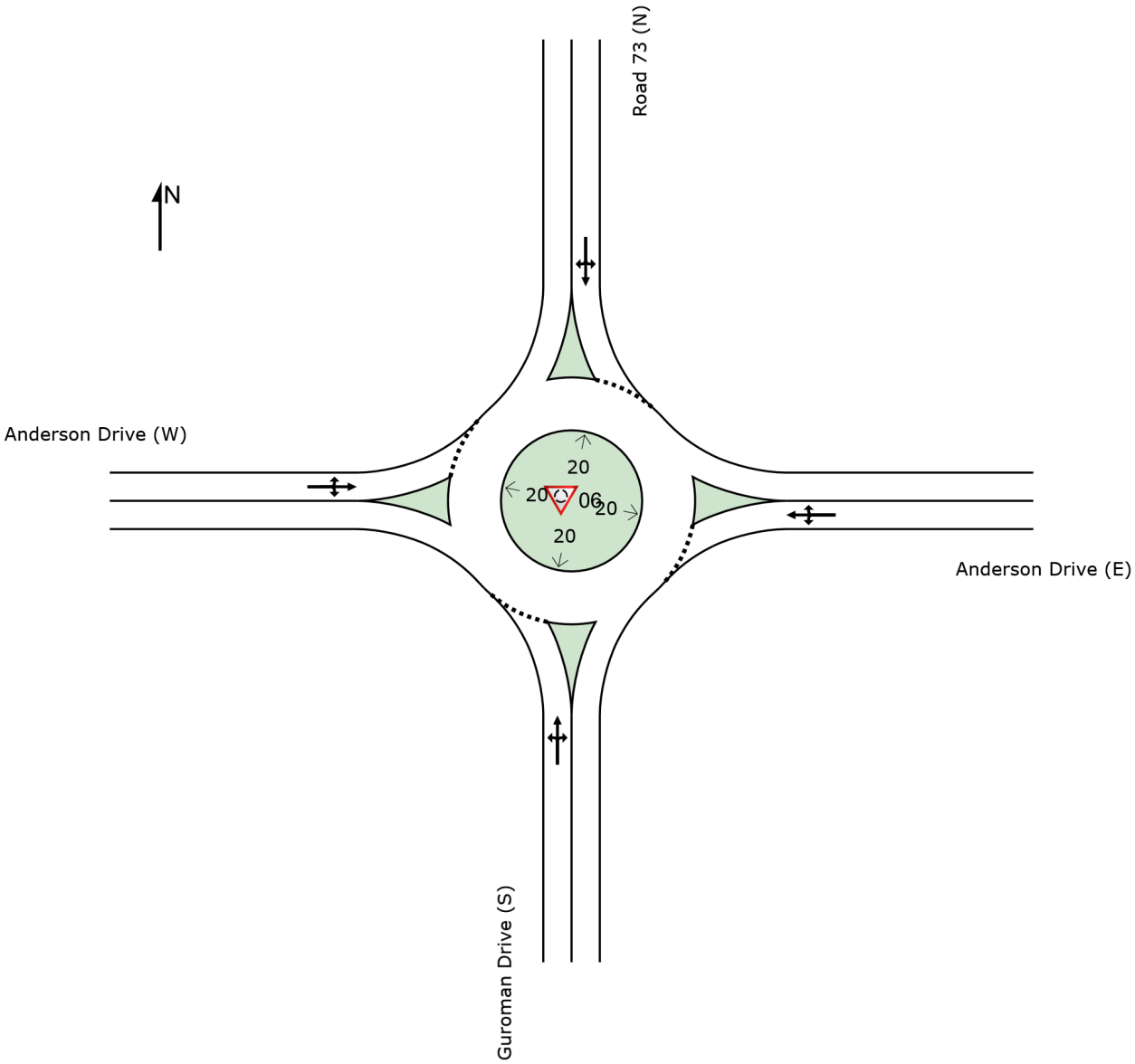
SIDRA OUTPUT – INTERSECTION 6: ANDERSON DRIVE / GUROMAN DRIVE ROUNDABOUT

SITE LAYOUT

Site: 06 [INT06 (Site Folder: 2044AM)]

Anderson Drive / Guroman Drive / Road 73 - Roundabout
2044 AM
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 06 [INT06 (Site Folder: 2044AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anderson Drive / Guroman Drive / Road 73 - Roundabout
2044 AM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Guroman Drive (S)															
1	L2	All MCs	227	5.0	227	5.0	0.387	10.3	LOS B	2.7	19.8	0.86	0.77	0.87	49.7
2	T1	All MCs	1	5.0	1	5.0	0.387	10.5	LOS B	2.7	19.8	0.86	0.77	0.87	50.1
3	R2	All MCs	23	5.0	23	5.0	0.387	15.1	LOS B	2.7	19.8	0.86	0.77	0.87	49.2
Approach			252	5.0	252	5.0	0.387	10.8	LOS B	2.7	19.8	0.86	0.77	0.87	49.7
East: Anderson Drive (E)															
4	L2	All MCs	6	5.0	6	5.0	0.502	7.0	LOS A	3.8	27.7	0.71	0.63	0.72	51.5
5	T1	All MCs	464	5.0	464	5.0	0.502	7.2	LOS A	3.8	27.7	0.71	0.63	0.72	51.9
6	R2	All MCs	11	5.0	11	5.0	0.502	11.8	LOS B	3.8	27.7	0.71	0.63	0.72	51.0
Approach			481	5.0	481	5.0	0.502	7.3	LOS A	3.8	27.7	0.71	0.63	0.72	51.9
North: Road 73 (N)															
7	L2	All MCs	37	5.0	37	5.0	0.339	6.1	LOS A	2.1	15.1	0.55	0.66	0.55	50.1
8	T1	All MCs	1	5.0	1	5.0	0.339	6.2	LOS A	2.1	15.1	0.55	0.66	0.55	50.4
9	R2	All MCs	309	5.0	309	5.0	0.339	10.9	LOS B	2.1	15.1	0.55	0.66	0.55	49.6
Approach			347	5.0	347	5.0	0.339	10.4	LOS B	2.1	15.1	0.55	0.66	0.55	49.7
West: Anderson Drive (W)															
10	L2	All MCs	87	5.0	87	5.0	0.261	4.1	LOS A	1.8	13.0	0.18	0.45	0.18	53.4
11	T1	All MCs	232	5.0	232	5.0	0.261	4.3	LOS A	1.8	13.0	0.18	0.45	0.18	53.8
12	R2	All MCs	64	5.0	64	5.0	0.261	8.9	LOS A	1.8	13.0	0.18	0.45	0.18	52.9
Approach			383	5.0	383	5.0	0.261	5.0	LOS A	1.8	13.0	0.18	0.45	0.18	53.6
All Vehicles			1463	5.0	1463	5.0	0.502	8.0	LOS A	3.8	27.7	0.56	0.61	0.57	51.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 06 [INT06 (Site Folder: 2044PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anderson Drive / Guroman Drive / Road 73 - Roundabout
2044 PM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Guroman Drive (S)															
1	L2	All MCs	136	5.0	136	5.0	0.163	6.4	LOS A	0.9	6.7	0.58	0.62	0.58	52.5
2	T1	All MCs	1	5.0	1	5.0	0.163	6.5	LOS A	0.9	6.7	0.58	0.62	0.58	52.9
3	R2	All MCs	14	5.0	14	5.0	0.163	11.2	LOS B	0.9	6.7	0.58	0.62	0.58	52.0
Approach			151	5.0	151	5.0	0.163	6.8	LOS A	0.9	6.7	0.58	0.62	0.58	52.5
East: Anderson Drive (E)															
4	L2	All MCs	25	5.0	25	5.0	0.292	6.8	LOS A	1.8	12.9	0.63	0.62	0.63	51.6
5	T1	All MCs	201	5.0	201	5.0	0.292	6.9	LOS A	1.8	12.9	0.63	0.62	0.63	51.9
6	R2	All MCs	41	5.0	41	5.0	0.292	11.6	LOS B	1.8	12.9	0.63	0.62	0.63	51.0
Approach			267	5.0	267	5.0	0.292	7.6	LOS A	1.8	12.9	0.63	0.62	0.63	51.8
North: Road 73 (N)															
7	L2	All MCs	22	5.0	22	5.0	0.278	8.4	LOS A	1.8	12.9	0.75	0.74	0.75	48.7
8	T1	All MCs	1	5.0	1	5.0	0.278	8.6	LOS A	1.8	12.9	0.75	0.74	0.75	49.0
9	R2	All MCs	185	5.0	185	5.0	0.278	13.2	LOS B	1.8	12.9	0.75	0.74	0.75	48.2
Approach			208	5.0	208	5.0	0.278	12.7	LOS B	1.8	12.9	0.75	0.74	0.75	48.3
West: Anderson Drive (W)															
10	L2	All MCs	344	5.0	344	5.0	0.666	4.5	LOS A	7.9	57.9	0.40	0.47	0.40	52.4
11	T1	All MCs	386	5.0	386	5.0	0.666	4.7	LOS A	7.9	57.9	0.40	0.47	0.40	52.8
12	R2	All MCs	253	5.0	253	5.0	0.666	9.3	LOS A	7.9	57.9	0.40	0.47	0.40	51.9
Approach			983	5.0	983	5.0	0.666	5.8	LOS A	7.9	57.9	0.40	0.47	0.40	52.5
All Vehicles			1609	5.0	1609	5.0	0.666	7.1	LOS A	7.9	57.9	0.50	0.55	0.50	51.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 06 [INT06 (Site Folder: 34AM-S)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anderson Drive / Guroman Drive / Road 73 - Roundabout
2034 AM without Greenbank Road access
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Guroman Drive (S)															
1	L2	All MCs	227	5.0	227	5.0	0.407	11.2	LOS B	3.0	21.6	0.88	0.80	0.93	49.1
2	T1	All MCs	1	5.0	1	5.0	0.407	11.3	LOS B	3.0	21.6	0.88	0.80	0.93	49.5
3	R2	All MCs	23	5.0	23	5.0	0.407	16.0	LOS B	3.0	21.6	0.88	0.80	0.93	48.7
Approach			252	5.0	252	5.0	0.407	11.6	LOS B	3.0	21.6	0.88	0.80	0.93	49.1
East: Anderson Drive (E)															
4	L2	All MCs	6	5.0	6	5.0	0.537	7.4	LOS A	4.4	32.0	0.73	0.65	0.77	51.5
5	T1	All MCs	504	5.0	504	5.0	0.537	7.6	LOS A	4.4	32.0	0.73	0.65	0.77	51.8
6	R2	All MCs	3	5.0	3	5.0	0.537	12.2	LOS B	4.4	32.0	0.73	0.65	0.77	50.9
Approach			514	5.0	514	5.0	0.537	7.6	LOS A	4.4	32.0	0.73	0.65	0.77	51.8
North: Road 73 (N)															
7	L2	All MCs	12	5.0	12	5.0	0.325	6.3	LOS A	2.0	14.3	0.58	0.67	0.58	49.8
8	T1	All MCs	1	5.0	1	5.0	0.325	6.5	LOS A	2.0	14.3	0.58	0.67	0.58	50.1
9	R2	All MCs	309	5.0	309	5.0	0.325	11.1	LOS B	2.0	14.3	0.58	0.67	0.58	49.3
Approach			322	5.0	322	5.0	0.325	10.9	LOS B	2.0	14.3	0.58	0.67	0.58	49.3
West: Anderson Drive (W)															
10	L2	All MCs	87	5.0	87	5.0	0.283	4.0	LOS A	2.1	15.4	0.17	0.44	0.17	53.5
11	T1	All MCs	274	5.0	274	5.0	0.283	4.2	LOS A	2.1	15.4	0.17	0.44	0.17	53.9
12	R2	All MCs	64	5.0	64	5.0	0.283	8.9	LOS A	2.1	15.4	0.17	0.44	0.17	52.9
Approach			425	5.0	425	5.0	0.283	4.9	LOS A	2.1	15.4	0.17	0.44	0.17	53.7
All Vehicles			1513	5.0	1513	5.0	0.537	8.2	LOS A	4.4	32.0	0.57	0.62	0.59	51.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 06 [INT06 (Site Folder: 34PM-S)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anderson Drive / Guroman Drive / Road 73 - Roundabout
2034 PM without Greenbank Road access
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Guroman Drive (S)															
1	L2	All MCs	136	5.0	136	5.0	0.159	6.2	LOS A	0.9	6.5	0.55	0.61	0.55	52.7
2	T1	All MCs	1	5.0	1	5.0	0.159	6.4	LOS A	0.9	6.5	0.55	0.61	0.55	53.0
3	R2	All MCs	14	5.0	14	5.0	0.159	11.0	LOS B	0.9	6.5	0.55	0.61	0.55	52.1
Approach			151	5.0	151	5.0	0.159	6.6	LOS A	0.9	6.5	0.55	0.61	0.55	52.6
East: Anderson Drive (E)															
4	L2	All MCs	25	5.0	25	5.0	0.261	6.7	LOS A	1.6	11.3	0.61	0.60	0.61	51.9
5	T1	All MCs	201	5.0	201	5.0	0.261	6.9	LOS A	1.6	11.3	0.61	0.60	0.61	52.3
6	R2	All MCs	14	5.0	14	5.0	0.261	11.5	LOS B	1.6	11.3	0.61	0.60	0.61	51.3
Approach			240	5.0	240	5.0	0.261	7.1	LOS A	1.6	11.3	0.61	0.60	0.61	52.2
North: Road 73 (N)															
7	L2	All MCs	7	5.0	7	5.0	0.250	8.4	LOS A	1.5	11.1	0.72	0.74	0.72	48.5
8	T1	All MCs	1	5.0	1	5.0	0.250	8.6	LOS A	1.5	11.1	0.72	0.74	0.72	48.8
9	R2	All MCs	185	5.0	185	5.0	0.250	13.2	LOS B	1.5	11.1	0.72	0.74	0.72	48.1
Approach			194	5.0	194	5.0	0.250	13.0	LOS B	1.5	11.1	0.72	0.74	0.72	48.1
West: Anderson Drive (W)															
10	L2	All MCs	344	5.0	344	5.0	0.629	4.2	LOS A	6.9	50.0	0.24	0.47	0.24	53.0
11	T1	All MCs	391	5.0	391	5.0	0.629	4.3	LOS A	6.9	50.0	0.24	0.47	0.24	53.4
12	R2	All MCs	253	5.0	253	5.0	0.629	9.0	LOS A	6.9	50.0	0.24	0.47	0.24	52.4
Approach			987	5.0	987	5.0	0.629	5.5	LOS A	6.9	50.0	0.24	0.47	0.24	53.0
All Vehicles			1572	5.0	1572	5.0	0.629	6.8	LOS A	6.9	50.0	0.39	0.54	0.39	52.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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APPENDIX G

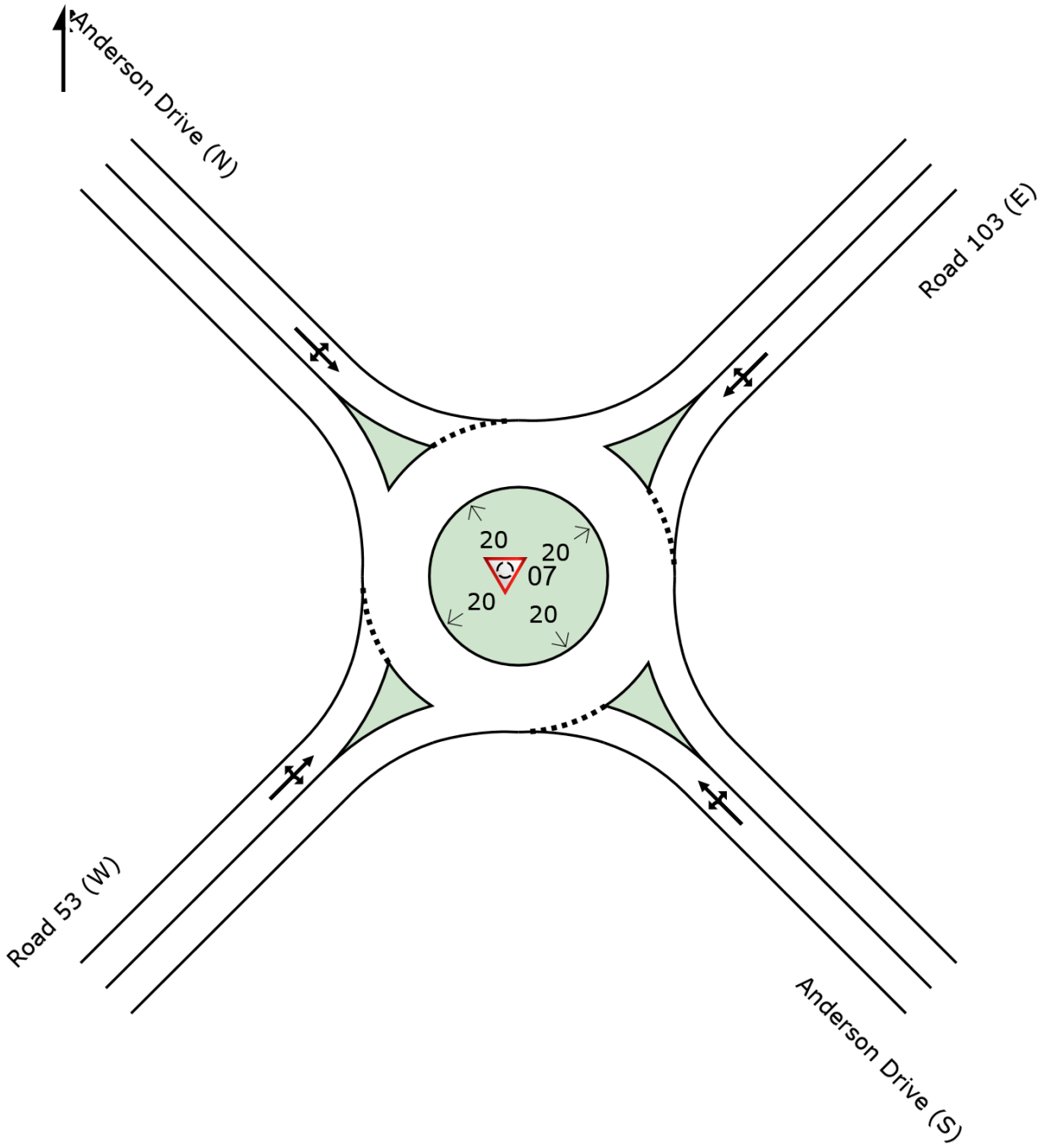
SIDRA OUTPUT – INTERSECTION 7: ANDERSON DRIVE / ROAD 103 / ROAD 53 ROUNDABOUT

SITE LAYOUT

Site: 07 [INT07 (Site Folder: 2044AM)]

Anderson Drive /Road 103 / Road 53 - Roundabout
2044 AM
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

Site: 07 [INT07 (Site Folder: 2044AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anderson Drive /Road 103 / Road 53 - Roundabout
2044 AM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Anderson Drive (S)															
1	L2	All MCs	1	5.0	1	5.0	0.313	4.7	LOS A	2.1	15.1	0.37	0.45	0.37	52.8
2	T1	All MCs	362	5.0	362	5.0	0.313	4.9	LOS A	2.1	15.1	0.37	0.45	0.37	53.2
3	R2	All MCs	31	5.0	31	5.0	0.313	9.5	LOS A	2.1	15.1	0.37	0.45	0.37	52.3
Approach			394	5.0	394	5.0	0.313	5.2	LOS A	2.1	15.1	0.37	0.45	0.37	53.1
NorthEast: Road 103 (E)															
4	L2	All MCs	106	5.0	106	5.0	0.212	5.4	LOS A	1.2	8.5	0.46	0.60	0.46	51.6
5	T1	All MCs	4	5.0	4	5.0	0.212	5.6	LOS A	1.2	8.5	0.46	0.60	0.46	52.0
6	R2	All MCs	118	5.0	118	5.0	0.212	10.3	LOS B	1.2	8.5	0.46	0.60	0.46	51.1
Approach			228	5.0	228	5.0	0.212	7.9	LOS A	1.2	8.5	0.46	0.60	0.46	51.4
NorthWest: Anderson Drive (N)															
7	L2	All MCs	34	5.0	34	5.0	0.200	4.1	LOS A	1.2	8.7	0.15	0.40	0.15	54.0
8	T1	All MCs	255	5.0	255	5.0	0.200	4.2	LOS A	1.2	8.7	0.15	0.40	0.15	54.4
9	R2	All MCs	3	5.0	3	5.0	0.200	8.9	LOS A	1.2	8.7	0.15	0.40	0.15	53.4
Approach			292	5.0	292	5.0	0.200	4.3	LOS A	1.2	8.7	0.15	0.40	0.15	54.3
SouthWest: Road 53 (W)															
10	L2	All MCs	1	5.0	1	5.0	0.004	6.4	LOS A	0.0	0.1	0.57	0.55	0.57	51.5
11	T1	All MCs	1	5.0	1	5.0	0.004	6.6	LOS A	0.0	0.1	0.57	0.55	0.57	51.9
12	R2	All MCs	1	5.0	1	5.0	0.004	11.2	LOS B	0.0	0.1	0.57	0.55	0.57	51.0
Approach			3	5.0	3	5.0	0.004	8.1	LOS A	0.0	0.1	0.57	0.55	0.57	51.4
All Vehicles			917	5.0	917	5.0	0.313	5.6	LOS A	2.1	15.1	0.32	0.47	0.32	53.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 07 [INT07 (Site Folder: 2044PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anderson Drive /Road 103 / Road 53 - Roundabout
2044 PM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Anderson Drive (S)															
1	L2	All MCs	1	5.0	1	5.0	0.232	4.3	LOS A	1.4	10.6	0.26	0.50	0.26	52.4
2	T1	All MCs	193	5.0	193	5.0	0.232	4.5	LOS A	1.4	10.6	0.26	0.50	0.26	52.8
3	R2	All MCs	118	5.0	118	5.0	0.232	9.1	LOS A	1.4	10.6	0.26	0.50	0.26	51.9
Approach			312	5.0	312	5.0	0.232	6.2	LOS A	1.4	10.6	0.26	0.50	0.26	52.5
NorthEast: Road 103 (E)															
4	L2	All MCs	64	5.0	64	5.0	0.132	5.5	LOS A	0.7	5.2	0.47	0.61	0.47	51.6
5	T1	All MCs	2	5.0	2	5.0	0.132	5.7	LOS A	0.7	5.2	0.47	0.61	0.47	51.9
6	R2	All MCs	71	5.0	71	5.0	0.132	10.3	LOS B	0.7	5.2	0.47	0.61	0.47	51.1
Approach			137	5.0	137	5.0	0.132	8.0	LOS A	0.7	5.2	0.47	0.61	0.47	51.3
NorthWest: Anderson Drive (N)															
7	L2	All MCs	131	5.0	131	5.0	0.331	4.7	LOS A	2.1	15.6	0.36	0.45	0.36	53.2
8	T1	All MCs	289	5.0	289	5.0	0.331	4.9	LOS A	2.1	15.6	0.36	0.45	0.36	53.6
9	R2	All MCs	2	5.0	2	5.0	0.331	9.5	LOS A	2.1	15.6	0.36	0.45	0.36	52.7
Approach			422	5.0	422	5.0	0.331	4.8	LOS A	2.1	15.6	0.36	0.45	0.36	53.5
SouthWest: Road 53 (W)															
10	L2	All MCs	4	5.0	4	5.0	0.010	5.7	LOS A	0.0	0.3	0.48	0.52	0.48	52.5
11	T1	All MCs	4	5.0	4	5.0	0.010	5.9	LOS A	0.0	0.3	0.48	0.52	0.48	52.9
12	R2	All MCs	1	5.0	1	5.0	0.010	10.5	LOS B	0.0	0.3	0.48	0.52	0.48	52.0
Approach			9	5.0	9	5.0	0.010	6.3	LOS A	0.0	0.3	0.48	0.52	0.48	52.6
All Vehicles			880	5.0	880	5.0	0.331	5.8	LOS A	2.1	15.6	0.34	0.49	0.34	52.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 07 [INT07 (Site Folder: 33AM-W)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anderson Drive /Road 103 / Road 53 - Roundabout
2033 AM with no connection between P2 and P3
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Anderson Drive (S)															
1	L2	All MCs	1	5.0	1	5.0	0.339	4.7	LOS A	2.3	16.9	0.38	0.45	0.38	52.8
2	T1	All MCs	397	5.0	397	5.0	0.339	4.9	LOS A	2.3	16.9	0.38	0.45	0.38	53.2
3	R2	All MCs	31	5.0	31	5.0	0.339	9.5	LOS A	2.3	16.9	0.38	0.45	0.38	52.3
Approach			428	5.0	428	5.0	0.339	5.2	LOS A	2.3	16.9	0.38	0.45	0.38	53.1
NorthEast: Road 103 (E)															
4	L2	All MCs	106	5.0	106	5.0	0.214	5.5	LOS A	1.2	8.6	0.46	0.61	0.46	51.6
5	T1	All MCs	4	5.0	4	5.0	0.214	5.7	LOS A	1.2	8.6	0.46	0.61	0.46	52.0
6	R2	All MCs	118	5.0	118	5.0	0.214	10.3	LOS B	1.2	8.6	0.46	0.61	0.46	51.1
Approach			228	5.0	228	5.0	0.214	8.0	LOS A	1.2	8.6	0.46	0.61	0.46	51.3
NorthWest: Anderson Drive (N)															
7	L2	All MCs	34	5.0	34	5.0	0.206	4.1	LOS A	1.2	9.0	0.16	0.40	0.16	54.0
8	T1	All MCs	264	5.0	264	5.0	0.206	4.2	LOS A	1.2	9.0	0.16	0.40	0.16	54.4
9	R2	All MCs	3	5.0	3	5.0	0.206	8.9	LOS A	1.2	9.0	0.16	0.40	0.16	53.4
Approach			301	5.0	301	5.0	0.206	4.3	LOS A	1.2	9.0	0.16	0.40	0.16	54.3
SouthWest: Road 53 (W)															
10	L2	All MCs	1	5.0	1	5.0	0.004	6.6	LOS A	0.0	0.1	0.59	0.55	0.59	51.3
11	T1	All MCs	1	5.0	1	5.0	0.004	6.8	LOS A	0.0	0.1	0.59	0.55	0.59	51.7
12	R2	All MCs	1	5.0	1	5.0	0.004	11.5	LOS B	0.0	0.1	0.59	0.55	0.59	50.8
Approach			3	5.0	3	5.0	0.004	8.3	LOS A	0.0	0.1	0.59	0.55	0.59	51.3
All Vehicles			961	5.0	961	5.0	0.339	5.6	LOS A	2.3	16.9	0.33	0.47	0.33	53.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 07 [INT07 (Site Folder: 33PM-W)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anderson Drive /Road 103 / Road 53 - Roundabout
2033 PM with no connection between P2 and P3
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Anderson Drive (S)															
1	L2	All MCs	1	5.0	1	5.0	0.247	4.3	LOS A	1.6	11.5	0.27	0.49	0.27	52.5
2	T1	All MCs	214	5.0	214	5.0	0.247	4.5	LOS A	1.6	11.5	0.27	0.49	0.27	52.9
3	R2	All MCs	118	5.0	118	5.0	0.247	9.1	LOS A	1.6	11.5	0.27	0.49	0.27	51.9
Approach			333	5.0	333	5.0	0.247	6.1	LOS A	1.6	11.5	0.27	0.49	0.27	52.5
NorthEast: Road 103 (E)															
4	L2	All MCs	64	5.0	64	5.0	0.136	5.7	LOS A	0.7	5.5	0.50	0.62	0.50	51.5
5	T1	All MCs	2	5.0	2	5.0	0.136	5.9	LOS A	0.7	5.5	0.50	0.62	0.50	51.9
6	R2	All MCs	71	5.0	71	5.0	0.136	10.5	LOS B	0.7	5.5	0.50	0.62	0.50	51.0
Approach			137	5.0	137	5.0	0.136	8.2	LOS A	0.7	5.5	0.50	0.62	0.50	51.2
NorthWest: Anderson Drive (N)															
7	L2	All MCs	131	5.0	131	5.0	0.359	4.7	LOS A	2.4	17.4	0.37	0.45	0.37	53.2
8	T1	All MCs	327	5.0	327	5.0	0.359	4.9	LOS A	2.4	17.4	0.37	0.45	0.37	53.6
9	R2	All MCs	2	5.0	2	5.0	0.359	9.5	LOS A	2.4	17.4	0.37	0.45	0.37	52.6
Approach			460	5.0	460	5.0	0.359	4.8	LOS A	2.4	17.4	0.37	0.45	0.37	53.5
SouthWest: Road 53 (W)															
10	L2	All MCs	4	5.0	4	5.0	0.010	5.8	LOS A	0.0	0.4	0.50	0.53	0.50	52.5
11	T1	All MCs	4	5.0	4	5.0	0.010	6.0	LOS A	0.0	0.4	0.50	0.53	0.50	52.9
12	R2	All MCs	1	5.0	1	5.0	0.010	10.7	LOS B	0.0	0.4	0.50	0.53	0.50	51.9
Approach			9	5.0	9	5.0	0.010	6.4	LOS A	0.0	0.4	0.50	0.53	0.50	52.6
All Vehicles			939	5.0	939	5.0	0.359	5.8	LOS A	2.4	17.4	0.35	0.49	0.35	52.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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APPENDIX H

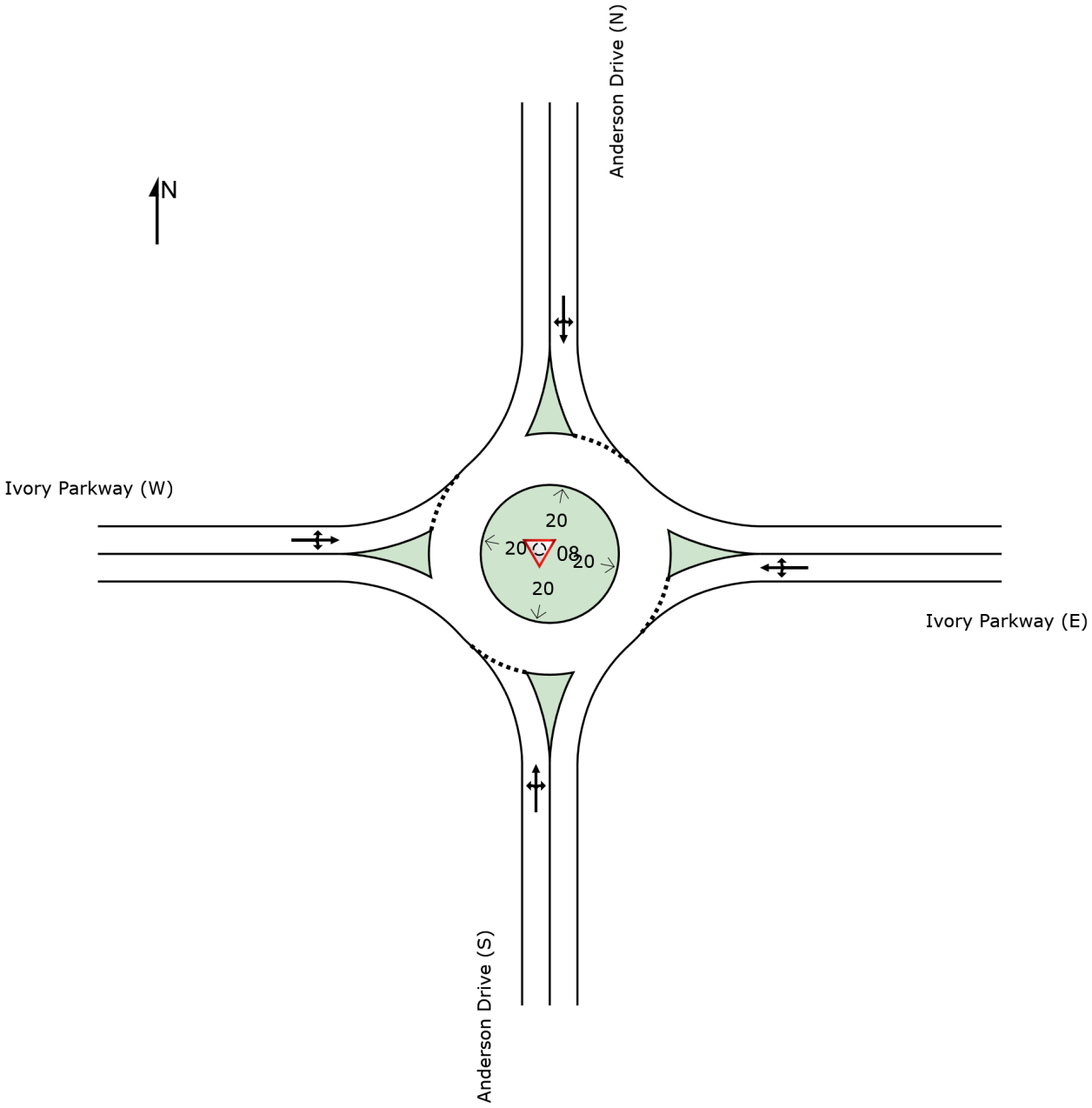
SIDRA OUTPUT – INTERSECTION 8: ANDERSON DRIVE / IVORY PARKWAY / GUROMAN DRIVE ROUNDABOUT

SITE LAYOUT

Site: 08 [INT08 (Site Folder: 2044AM)]

Anderson Drive / Ivory Parkway / P6 - Roundabout
2044 AM
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

Site: 08 [INT08 (Site Folder: 2044AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anderson Drive / Ivory Parkway / P6 - Roundabout
2044 AM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Anderson Drive (S)															
1	L2	All MCs	52	5.0	52	5.0	0.286	5.6	LOS A	1.7	12.5	0.50	0.53	0.50	52.5
2	T1	All MCs	248	5.0	248	5.0	0.286	5.8	LOS A	1.7	12.5	0.50	0.53	0.50	52.9
3	R2	All MCs	4	5.0	4	5.0	0.286	10.4	LOS B	1.7	12.5	0.50	0.53	0.50	52.0
Approach			304	5.0	304	5.0	0.286	5.8	LOS A	1.7	12.5	0.50	0.53	0.50	52.8
East: Ivory Parkway (E)															
4	L2	All MCs	17	5.0	17	5.0	0.148	6.0	LOS A	0.8	5.8	0.52	0.62	0.52	51.4
5	T1	All MCs	65	5.0	65	5.0	0.148	6.1	LOS A	0.8	5.8	0.52	0.62	0.52	51.7
6	R2	All MCs	64	5.0	64	5.0	0.148	10.8	LOS B	0.8	5.8	0.52	0.62	0.52	50.8
Approach			146	5.0	146	5.0	0.148	8.2	LOS A	0.8	5.8	0.52	0.62	0.52	51.3
North: Anderson Drive (N)															
7	L2	All MCs	18	5.0	18	5.0	0.251	4.2	LOS A	1.6	11.8	0.24	0.50	0.24	52.5
8	T1	All MCs	189	5.0	189	5.0	0.251	4.4	LOS A	1.6	11.8	0.24	0.50	0.24	52.9
9	R2	All MCs	141	5.0	141	5.0	0.251	9.0	LOS A	1.6	11.8	0.24	0.50	0.24	51.9
Approach			348	5.0	348	5.0	0.251	6.3	LOS A	1.6	11.8	0.24	0.50	0.24	52.5
West: Ivory Parkway (W)															
10	L2	All MCs	128	5.0	128	5.0	0.181	5.7	LOS A	1.0	7.5	0.51	0.59	0.51	52.4
11	T1	All MCs	18	5.0	18	5.0	0.181	5.9	LOS A	1.0	7.5	0.51	0.59	0.51	52.8
12	R2	All MCs	37	5.0	37	5.0	0.181	10.5	LOS B	1.0	7.5	0.51	0.59	0.51	51.9
Approach			183	5.0	183	5.0	0.181	6.7	LOS A	1.0	7.5	0.51	0.59	0.51	52.3
All Vehicles			982	5.0	982	5.0	0.286	6.5	LOS A	1.7	12.5	0.41	0.54	0.41	52.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 08 [INT08 (Site Folder: 2044PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anderson Drive / Ivory Parkway / P6 - Roundabout
2044 PM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Anderson Drive (S)															
1	L2	All MCs	15	5.0	15	5.0	0.204	4.5	LOS A	1.2	8.5	0.31	0.45	0.31	53.1
2	T1	All MCs	221	5.0	221	5.0	0.204	4.7	LOS A	1.2	8.5	0.31	0.45	0.31	53.5
3	R2	All MCs	19	5.0	19	5.0	0.204	9.4	LOS A	1.2	8.5	0.31	0.45	0.31	52.5
Approach			255	5.0	255	5.0	0.204	5.1	LOS A	1.2	8.5	0.31	0.45	0.31	53.4
East: Ivory Parkway (E)															
4	L2	All MCs	9	5.0	9	5.0	0.086	5.5	LOS A	0.4	3.3	0.47	0.60	0.47	51.6
5	T1	All MCs	39	5.0	39	5.0	0.086	5.7	LOS A	0.4	3.3	0.47	0.60	0.47	51.9
6	R2	All MCs	39	5.0	39	5.0	0.086	10.4	LOS B	0.4	3.3	0.47	0.60	0.47	51.0
Approach			87	5.0	87	5.0	0.086	7.8	LOS A	0.4	3.3	0.47	0.60	0.47	51.5
North: Anderson Drive (N)															
7	L2	All MCs	72	5.0	72	5.0	0.286	4.6	LOS A	1.8	13.3	0.34	0.46	0.34	53.0
8	T1	All MCs	257	5.0	257	5.0	0.286	4.7	LOS A	1.8	13.3	0.34	0.46	0.34	53.4
9	R2	All MCs	38	5.0	38	5.0	0.286	9.4	LOS A	1.8	13.3	0.34	0.46	0.34	52.4
Approach			366	5.0	366	5.0	0.286	5.2	LOS A	1.8	13.3	0.34	0.46	0.34	53.2
West: Ivory Parkway (W)															
10	L2	All MCs	45	5.0	45	5.0	0.131	5.4	LOS A	0.7	5.1	0.46	0.55	0.46	52.5
11	T1	All MCs	72	5.0	72	5.0	0.131	5.6	LOS A	0.7	5.1	0.46	0.55	0.46	52.9
12	R2	All MCs	21	5.0	21	5.0	0.131	10.2	LOS B	0.7	5.1	0.46	0.55	0.46	51.9
Approach			138	5.0	138	5.0	0.131	6.2	LOS A	0.7	5.1	0.46	0.55	0.46	52.6
All Vehicles			846	5.0	846	5.0	0.286	5.6	LOS A	1.8	13.3	0.36	0.49	0.36	53.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 08 [INT08 (Site Folder: 33AM-W)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anderson Drive / Ivory Parkway / P6 - Roundabout
2033 AM with no connection between P2 and P3
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Anderson Drive (S)															
1	L2	All MCs	139	5.0	139	5.0	0.392	5.8	LOS A	2.6	18.8	0.55	0.55	0.55	52.5
2	T1	All MCs	278	5.0	278	5.0	0.392	6.0	LOS A	2.6	18.8	0.55	0.55	0.55	52.8
3	R2	All MCs	4	5.0	4	5.0	0.392	10.6	LOS B	2.6	18.8	0.55	0.55	0.55	51.9
Approach			421	5.0	421	5.0	0.392	6.0	LOS A	2.6	18.8	0.55	0.55	0.55	52.7
East: Ivory Parkway (E)															
4	L2	All MCs	17	5.0	17	5.0	0.153	6.2	LOS A	0.8	6.1	0.54	0.63	0.54	51.2
5	T1	All MCs	65	5.0	65	5.0	0.153	6.4	LOS A	0.8	6.1	0.54	0.63	0.54	51.6
6	R2	All MCs	64	5.0	64	5.0	0.153	11.0	LOS B	0.8	6.1	0.54	0.63	0.54	50.7
Approach			146	5.0	146	5.0	0.153	8.4	LOS A	0.8	6.1	0.54	0.63	0.54	51.2
North: Anderson Drive (N)															
7	L2	All MCs	18	5.0	18	5.0	0.269	4.4	LOS A	1.8	12.8	0.29	0.50	0.29	52.3
8	T1	All MCs	198	5.0	198	5.0	0.269	4.6	LOS A	1.8	12.8	0.29	0.50	0.29	52.7
9	R2	All MCs	141	5.0	141	5.0	0.269	9.2	LOS A	1.8	12.8	0.29	0.50	0.29	51.8
Approach			357	5.0	357	5.0	0.269	6.4	LOS A	1.8	12.8	0.29	0.50	0.29	52.3
West: Ivory Parkway (W)															
10	L2	All MCs	128	5.0	128	5.0	0.211	5.9	LOS A	1.2	9.1	0.55	0.61	0.55	52.0
11	T1	All MCs	18	5.0	18	5.0	0.211	6.1	LOS A	1.2	9.1	0.55	0.61	0.55	52.4
12	R2	All MCs	61	5.0	61	5.0	0.211	10.8	LOS B	1.2	9.1	0.55	0.61	0.55	51.4
Approach			207	5.0	207	5.0	0.211	7.4	LOS A	1.2	9.1	0.55	0.61	0.55	51.9
All Vehicles			1132	5.0	1132	5.0	0.392	6.7	LOS A	2.6	18.8	0.47	0.56	0.47	52.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 08 [INT08 (Site Folder: 33PM-W)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anderson Drive / Ivory Parkway / P6 - Roundabout
2033 PM with no connection between P2 and P3
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Anderson Drive (S)															
1	L2	All MCs	66	5.0	66	5.0	0.257	4.6	LOS A	1.6	11.5	0.33	0.45	0.33	53.1
2	T1	All MCs	239	5.0	239	5.0	0.257	4.8	LOS A	1.6	11.5	0.33	0.45	0.33	53.5
3	R2	All MCs	19	5.0	19	5.0	0.257	9.4	LOS A	1.6	11.5	0.33	0.45	0.33	52.6
Approach			324	5.0	324	5.0	0.257	5.0	LOS A	1.6	11.5	0.33	0.45	0.33	53.4
East: Ivory Parkway (E)															
4	L2	All MCs	9	5.0	9	5.0	0.096	6.3	LOS A	0.5	3.8	0.57	0.64	0.57	51.1
5	T1	All MCs	39	5.0	39	5.0	0.096	6.5	LOS A	0.5	3.8	0.57	0.64	0.57	51.5
6	R2	All MCs	39	5.0	39	5.0	0.096	11.2	LOS B	0.5	3.8	0.57	0.64	0.57	50.6
Approach			87	5.0	87	5.0	0.096	8.6	LOS A	0.5	3.8	0.57	0.64	0.57	51.0
North: Anderson Drive (N)															
7	L2	All MCs	72	5.0	72	5.0	0.353	5.3	LOS A	2.4	17.2	0.49	0.52	0.49	52.4
8	T1	All MCs	291	5.0	291	5.0	0.353	5.5	LOS A	2.4	17.2	0.49	0.52	0.49	52.8
9	R2	All MCs	38	5.0	38	5.0	0.353	10.1	LOS B	2.4	17.2	0.49	0.52	0.49	51.9
Approach			400	5.0	400	5.0	0.353	5.9	LOS A	2.4	17.2	0.49	0.52	0.49	52.6
West: Ivory Parkway (W)															
10	L2	All MCs	45	5.0	45	5.0	0.227	5.7	LOS A	1.3	9.5	0.50	0.61	0.50	51.4
11	T1	All MCs	72	5.0	72	5.0	0.227	5.9	LOS A	1.3	9.5	0.50	0.61	0.50	51.7
12	R2	All MCs	118	5.0	118	5.0	0.227	10.5	LOS B	1.3	9.5	0.50	0.61	0.50	50.9
Approach			235	5.0	235	5.0	0.227	8.2	LOS A	1.3	9.5	0.50	0.61	0.50	51.2
All Vehicles			1046	5.0	1046	5.0	0.353	6.3	LOS A	2.4	17.2	0.45	0.53	0.45	52.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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APPENDIX I

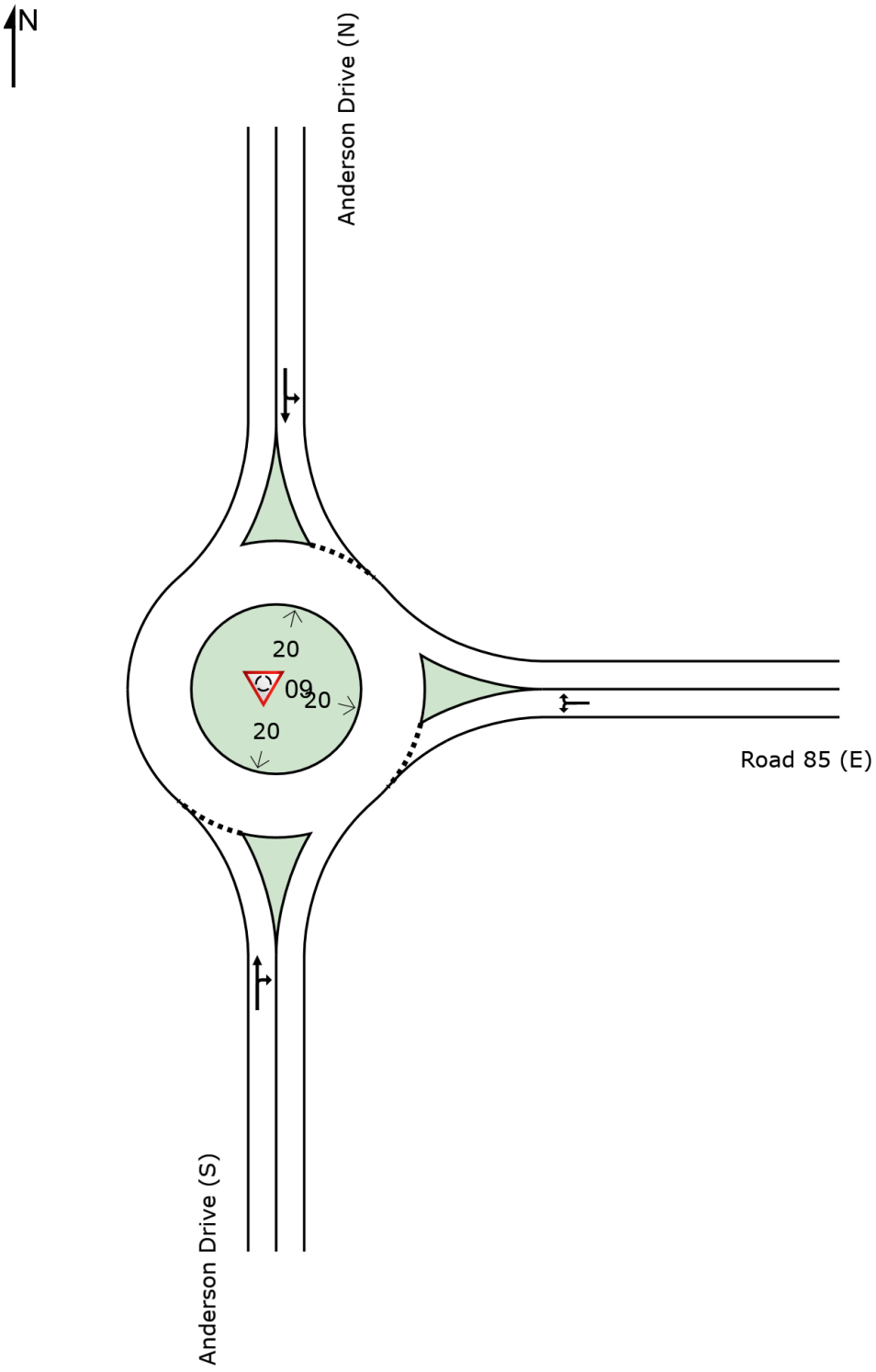
SIDRA OUTPUT – INTERSECTION 9: ANDERSON DRIVE / ROAD 83 T-INTERSECTION

SITE LAYOUT

Site: 09 [INT09 (Site Folder: 2044AM)]

Anderson Drive / P5- Roundabout Control
2044 AM
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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Project: C:\12dS\data\12dSynergy\P000170 Everleigh Traffic Movement_15965\14. Engineering - Traffic\02. SIDRA\P000170 SIDRA Models.sip9

MOVEMENT SUMMARY

Site: 09 [INT09 (Site Folder: 2044AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anderson Drive / P5- Roundabout Control
2044 AM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Anderson Drive (S)															
2	T1	All MCs	286	5.0	286	5.0	0.175	4.1	LOS A	1.2	8.8	0.02	0.41	0.02	53.5
3	R2	All MCs	9	5.0	9	5.0	0.175	8.7	LOS A	1.2	8.8	0.02	0.41	0.02	53.9
Approach			296	5.0	296	5.0	0.175	4.2	LOS A	1.2	8.8	0.02	0.41	0.02	53.6
East: Road 85 (E)															
4	L2	All MCs	34	5.0	34	5.0	0.033	5.3	LOS A	0.2	1.3	0.43	0.52	0.43	53.3
6	R2	All MCs	1	5.0	1	5.0	0.033	10.2	LOS B	0.2	1.3	0.43	0.52	0.43	53.3
Approach			35	5.0	35	5.0	0.033	5.4	LOS A	0.2	1.3	0.43	0.52	0.43	53.3
North: Anderson Drive (N)															
7	L2	All MCs	1	5.0	1	5.0	0.154	3.9	LOS A	0.9	6.6	0.07	0.39	0.07	54.8
8	T1	All MCs	241	5.0	241	5.0	0.154	4.1	LOS A	0.9	6.6	0.07	0.39	0.07	53.4
Approach			242	5.0	242	5.0	0.154	4.1	LOS A	0.9	6.6	0.07	0.39	0.07	53.4
All Vehicles			573	5.0	573	5.0	0.175	4.3	LOS A	1.2	8.8	0.07	0.41	0.07	53.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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Project: C:\12dS\data\12dSynergy\P000170 Everleigh Traffic Movement_15965\14. Engineering - Traffic\02. SIDRA\P000170 SIDRA Models.sip9

MOVEMENT SUMMARY

Site: 09 [INT09 (Site Folder: 2044PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anderson Drive / P5- Priority Control
2044 PM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Anderson Drive (S)															
2	T1	All MCs	246	5.0	246	5.0	0.168	4.1	LOS A	1.2	8.5	0.02	0.45	0.02	53.1
3	R2	All MCs	38	5.0	38	5.0	0.168	8.7	LOS A	1.2	8.5	0.02	0.45	0.02	53.5
Approach			284	5.0	284	5.0	0.168	4.7	LOS A	1.2	8.5	0.02	0.45	0.02	53.2
East: LCC (E)															
4	L2	All MCs	20	5.0	20	5.0	0.020	5.4	LOS A	0.1	0.8	0.45	0.52	0.45	53.1
6	R2	All MCs	1	5.0	1	5.0	0.020	10.3	LOS B	0.1	0.8	0.45	0.52	0.45	53.1
Approach			21	5.0	21	5.0	0.020	5.7	LOS A	0.1	0.8	0.45	0.52	0.45	53.1
North: Anderson Drive (N)															
7	L2	All MCs	1	5.0	1	5.0	0.188	4.1	LOS A	1.1	8.3	0.17	0.39	0.17	54.4
8	T1	All MCs	267	5.0	267	5.0	0.188	4.3	LOS A	1.1	8.3	0.17	0.39	0.17	52.8
Approach			268	5.0	268	5.0	0.188	4.3	LOS A	1.1	8.3	0.17	0.39	0.17	52.8
All Vehicles			574	5.0	574	5.0	0.188	4.6	LOS A	1.2	8.5	0.11	0.42	0.11	53.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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Project: C:\12dS\data\12dSynergy\P000170 Everleigh Traffic Movement_15965\14. Engineering - Traffic\02. SIDRA\P000170 SIDRA Models.sip9

MOVEMENT SUMMARY

Site: 09 [INT09 (Site Folder: 33AM-W)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anderson Drive / P5- Roundabout Control
2033 AM with no connection between P2 and P3
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Anderson Drive (S)															
2	T1	All MCs	403	5.0	403	5.0	0.243	4.1	LOS A	1.8	13.4	0.02	0.41	0.02	53.6
3	R2	All MCs	9	5.0	9	5.0	0.243	8.7	LOS A	1.8	13.4	0.02	0.41	0.02	53.9
Approach			413	5.0	413	5.0	0.243	4.2	LOS A	1.8	13.4	0.02	0.41	0.02	53.6
East: Road 85 (E)															
4	L2	All MCs	34	5.0	34	5.0	0.034	5.5	LOS A	0.2	1.3	0.45	0.53	0.45	53.2
6	R2	All MCs	1	5.0	1	5.0	0.034	10.4	LOS B	0.2	1.3	0.45	0.53	0.45	53.2
Approach			35	5.0	35	5.0	0.034	5.7	LOS A	0.2	1.3	0.45	0.53	0.45	53.2
North: Anderson Drive (N)															
7	L2	All MCs	1	5.0	1	5.0	0.174	3.9	LOS A	1.0	7.6	0.07	0.39	0.07	54.8
8	T1	All MCs	275	5.0	275	5.0	0.174	4.1	LOS A	1.0	7.6	0.07	0.39	0.07	53.4
Approach			276	5.0	276	5.0	0.174	4.1	LOS A	1.0	7.6	0.07	0.39	0.07	53.4
All Vehicles			723	5.0	723	5.0	0.243	4.2	LOS A	1.8	13.4	0.06	0.41	0.06	53.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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Project: C:\12dS\data\12dSynergy\P000170 Everleigh Traffic Movement_15965\14. Engineering - Traffic\02. SIDRA\P000170 SIDRA Models.sip9

MOVEMENT SUMMARY

Site: 09 [INT09 (Site Folder: 33PM-W)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anderson Drive / P5- Roundabout Control
2033 PM with no connection between P2 and P3
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Anderson Drive (S)															
2	T1	All MCs	317	5.0	317	5.0	0.209	4.1	LOS A	1.6	11.4	0.02	0.44	0.02	53.2
3	R2	All MCs	38	5.0	38	5.0	0.209	8.7	LOS A	1.6	11.4	0.02	0.44	0.02	53.6
Approach			355	5.0	355	5.0	0.209	4.6	LOS A	1.6	11.4	0.02	0.44	0.02	53.3
East: Road 85 (E)															
4	L2	All MCs	20	5.0	20	5.0	0.023	6.3	LOS A	0.1	0.9	0.55	0.56	0.55	52.7
6	R2	All MCs	1	5.0	1	5.0	0.023	11.1	LOS B	0.1	0.9	0.55	0.56	0.55	52.7
Approach			21	5.0	21	5.0	0.023	6.5	LOS A	0.1	0.9	0.55	0.56	0.55	52.7
North: Anderson Drive (N)															
7	L2	All MCs	1	5.0	1	5.0	0.273	4.1	LOS A	1.8	13.3	0.19	0.39	0.19	54.3
8	T1	All MCs	398	5.0	398	5.0	0.273	4.3	LOS A	1.8	13.3	0.19	0.39	0.19	52.7
Approach			399	5.0	399	5.0	0.273	4.3	LOS A	1.8	13.3	0.19	0.39	0.19	52.7
All Vehicles			775	5.0	775	5.0	0.273	4.5	LOS A	1.8	13.3	0.12	0.42	0.12	53.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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Project: C:\12dS\data\12dSynergy\P000170 Everleigh Traffic Movement_15965\14. Engineering - Traffic\02. SIDRA\P000170 SIDRA Models.sip9

APPENDIX J

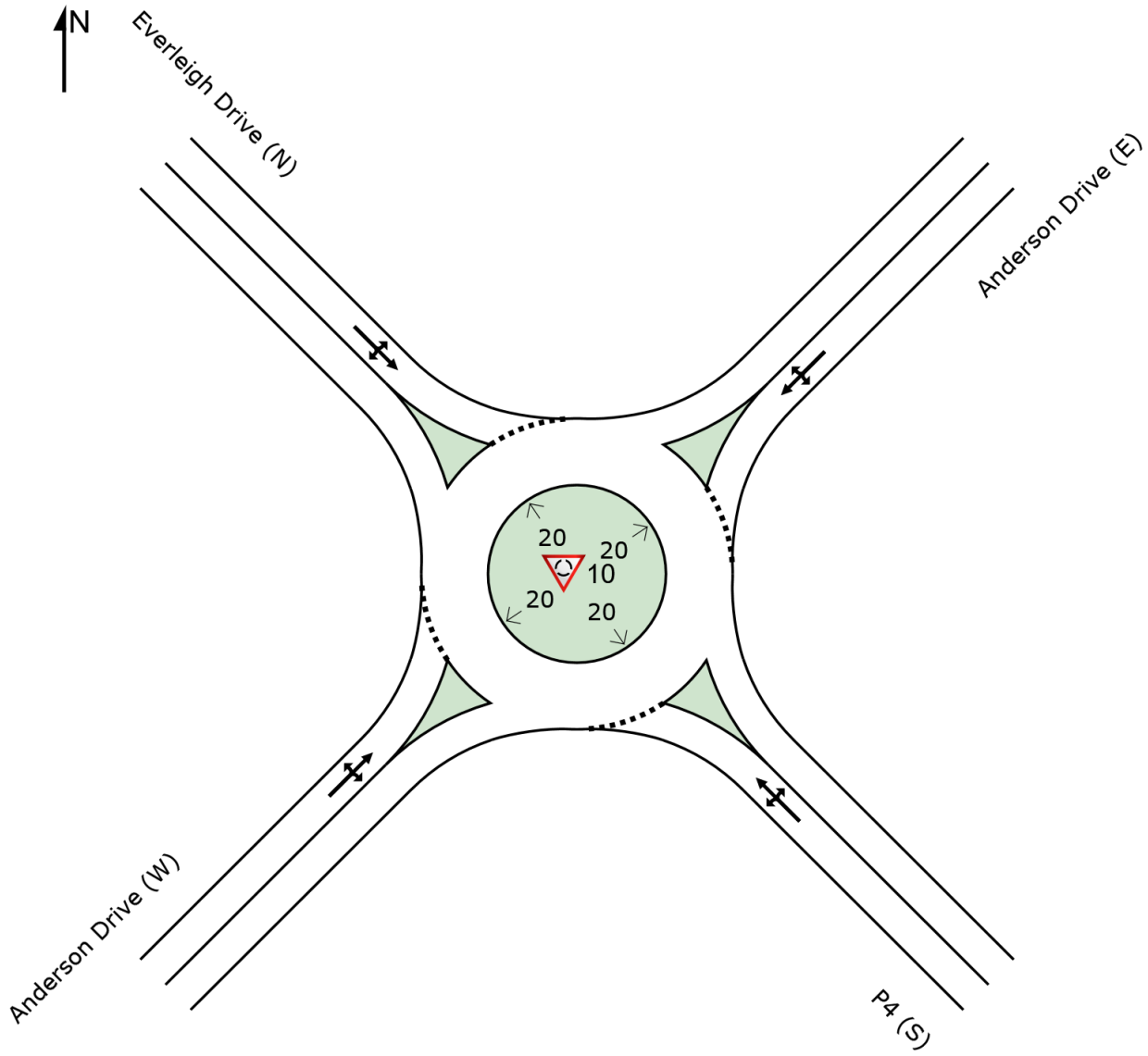
SIDRA OUTPUT – INTERSECTION 10: ANDERSON DRIVE / EVERLEIGH DRIVE ROUNDABOUT

SITE LAYOUT

Site: 10 [INT10 (Site Folder: 2044AM)]

Anderson Drive / Everleigh Drive / P4 - Roundabout
2044 AM
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

Site: 10 [INT10 (Site Folder: 2044AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anderson Drive / Everleigh Drive / P4 - Roundabout
2044 AM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: P4 (S)															
1	L2	All MCs	55	5.0	55	5.0	0.299	6.3	LOS A	1.8	13.2	0.58	0.65	0.58	50.8
2	T1	All MCs	68	5.0	68	5.0	0.299	6.5	LOS A	1.8	13.2	0.58	0.65	0.58	51.2
3	R2	All MCs	168	5.0	168	5.0	0.299	11.2	LOS B	1.8	13.2	0.58	0.65	0.58	50.3
Approach			292	5.0	292	5.0	0.299	9.2	LOS A	1.8	13.2	0.58	0.65	0.58	50.6
NorthEast: Anderson Drive (E)															
4	L2	All MCs	47	5.0	47	5.0	0.239	5.0	LOS A	1.4	10.6	0.42	0.48	0.42	52.9
5	T1	All MCs	225	5.0	225	5.0	0.239	5.2	LOS A	1.4	10.6	0.42	0.48	0.42	53.3
6	R2	All MCs	2	5.0	2	5.0	0.239	9.8	LOS A	1.4	10.6	0.42	0.48	0.42	52.3
Approach			275	5.0	275	5.0	0.239	5.2	LOS A	1.4	10.6	0.42	0.48	0.42	53.2
NorthWest: Everleigh Drive (N)															
7	L2	All MCs	7	5.0	7	5.0	0.170	5.6	LOS A	0.9	6.9	0.49	0.64	0.49	50.4
8	T1	All MCs	19	5.0	19	5.0	0.170	5.8	LOS A	0.9	6.9	0.49	0.64	0.49	50.7
9	R2	All MCs	148	5.0	148	5.0	0.170	10.4	LOS B	0.9	6.9	0.49	0.64	0.49	49.9
Approach			175	5.0	175	5.0	0.170	9.7	LOS A	0.9	6.9	0.49	0.64	0.49	50.0
SouthWest: Anderson Drive (W)															
10	L2	All MCs	42	5.0	42	5.0	0.166	5.2	LOS A	1.0	7.0	0.46	0.52	0.46	52.6
11	T1	All MCs	120	5.0	120	5.0	0.166	5.4	LOS A	1.0	7.0	0.46	0.52	0.46	53.0
12	R2	All MCs	16	5.0	16	5.0	0.166	10.1	LOS B	1.0	7.0	0.46	0.52	0.46	52.0
Approach			178	5.0	178	5.0	0.166	5.8	LOS A	1.0	7.0	0.46	0.52	0.46	52.8
All Vehicles			919	5.0	919	5.0	0.299	7.4	LOS A	1.8	13.2	0.49	0.57	0.49	51.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 10 [INT10 (Site Folder: 2044PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anderson Drive / Everleigh Drive / P4 - Roundabout
2044 PM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: P4 (S)															
1	L2	All MCs	33	5.0	33	5.0	0.154	5.0	LOS A	0.8	6.0	0.38	0.58	0.38	51.5
2	T1	All MCs	41	5.0	41	5.0	0.154	5.1	LOS A	0.8	6.0	0.38	0.58	0.38	51.9
3	R2	All MCs	101	5.0	101	5.0	0.154	9.8	LOS A	0.8	6.0	0.38	0.58	0.38	51.0
Approach			175	5.0	175	5.0	0.154	7.8	LOS A	0.8	6.0	0.38	0.58	0.38	51.3
NorthEast: Anderson Drive (E)															
4	L2	All MCs	187	5.0	187	5.0	0.262	5.3	LOS A	1.6	11.6	0.47	0.53	0.47	53.0
5	T1	All MCs	93	5.0	93	5.0	0.262	5.5	LOS A	1.6	11.6	0.47	0.53	0.47	53.4
6	R2	All MCs	8	5.0	8	5.0	0.262	10.1	LOS B	1.6	11.6	0.47	0.53	0.47	52.4
Approach			288	5.0	288	5.0	0.262	5.5	LOS A	1.6	11.6	0.47	0.53	0.47	53.1
NorthWest: Everleigh Drive (N)															
7	L2	All MCs	4	5.0	4	5.0	0.169	5.8	LOS A	0.9	6.8	0.51	0.62	0.51	51.1
8	T1	All MCs	76	5.0	76	5.0	0.169	6.0	LOS A	0.9	6.8	0.51	0.62	0.51	51.5
9	R2	All MCs	89	5.0	89	5.0	0.169	10.7	LOS B	0.9	6.8	0.51	0.62	0.51	50.6
Approach			169	5.0	169	5.0	0.169	8.5	LOS A	0.9	6.8	0.51	0.62	0.51	51.0
SouthWest: Anderson Drive (W)															
10	L2	All MCs	165	5.0	165	5.0	0.331	4.9	LOS A	2.2	15.8	0.41	0.50	0.41	52.7
11	T1	All MCs	179	5.0	179	5.0	0.331	5.0	LOS A	2.2	15.8	0.41	0.50	0.41	53.1
12	R2	All MCs	61	5.0	61	5.0	0.331	9.7	LOS A	2.2	15.8	0.41	0.50	0.41	52.2
Approach			405	5.0	405	5.0	0.331	5.7	LOS A	2.2	15.8	0.41	0.50	0.41	52.8
All Vehicles			1038	5.0	1038	5.0	0.331	6.4	LOS A	2.2	15.8	0.44	0.54	0.44	52.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 10 [INT10 (Site Folder: 33AM-W)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anderson Drive / Everleigh Drive / P4 - Roundabout
2044 AM with no connection between P2 and P3
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: P4 (S)															
1	L2	All MCs	55	5.0	55	5.0	0.270	5.5	LOS A	1.6	11.3	0.47	0.63	0.47	50.6
2	T1	All MCs	1	5.0	1	5.0	0.270	5.7	LOS A	1.6	11.3	0.47	0.63	0.47	51.0
3	R2	All MCs	237	5.0	237	5.0	0.270	10.3	LOS B	1.6	11.3	0.47	0.63	0.47	50.1
Approach			293	5.0	293	5.0	0.270	9.4	LOS A	1.6	11.3	0.47	0.63	0.47	50.2
NorthEast: Anderson Drive (E)															
4	L2	All MCs	66	5.0	66	5.0	0.208	4.1	LOS A	1.2	8.8	0.14	0.42	0.14	54.0
5	T1	All MCs	225	5.0	225	5.0	0.208	4.2	LOS A	1.2	8.8	0.14	0.42	0.14	54.4
6	R2	All MCs	16	5.0	16	5.0	0.208	8.9	LOS A	1.2	8.8	0.14	0.42	0.14	53.4
Approach			307	5.0	307	5.0	0.208	4.4	LOS A	1.2	8.8	0.14	0.42	0.14	54.2
NorthWest: Everleigh Drive (N)															
7	L2	All MCs	57	5.0	57	5.0	0.072	5.8	LOS A	0.4	2.8	0.51	0.60	0.51	52.5
8	T1	All MCs	1	5.0	1	5.0	0.072	6.0	LOS A	0.4	2.8	0.51	0.60	0.51	52.9
9	R2	All MCs	13	5.0	13	5.0	0.072	10.7	LOS B	0.4	2.8	0.51	0.60	0.51	52.0
Approach			71	5.0	71	5.0	0.072	6.7	LOS A	0.4	2.8	0.51	0.60	0.51	52.4
SouthWest: Anderson Drive (W)															
10	L2	All MCs	3	5.0	3	5.0	0.130	5.3	LOS A	0.7	5.2	0.45	0.52	0.45	52.4
11	T1	All MCs	120	5.0	120	5.0	0.130	5.4	LOS A	0.7	5.2	0.45	0.52	0.45	52.8
12	R2	All MCs	16	5.0	16	5.0	0.130	10.1	LOS B	0.7	5.2	0.45	0.52	0.45	51.9
Approach			139	5.0	139	5.0	0.130	6.0	LOS A	0.7	5.2	0.45	0.52	0.45	52.7
All Vehicles			809	5.0	809	5.0	0.270	6.7	LOS A	1.6	11.3	0.35	0.53	0.35	52.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 10 [INT10 (Site Folder: 33PM-W)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anderson Drive / Everleigh Drive / P4 - Roundabout
2044 PM with no connection between P2 and P3
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: P4 (S)															
1	L2	All MCs	33	5.0	33	5.0	0.151	4.8	LOS A	0.8	5.9	0.36	0.60	0.36	50.9
2	T1	All MCs	1	5.0	1	5.0	0.151	5.0	LOS A	0.8	5.9	0.36	0.60	0.36	51.3
3	R2	All MCs	142	5.0	142	5.0	0.151	9.6	LOS A	0.8	5.9	0.36	0.60	0.36	50.4
Approach			176	5.0	176	5.0	0.151	8.7	LOS A	0.8	5.9	0.36	0.60	0.36	50.5
NorthEast: Anderson Drive (E)															
4	L2	All MCs	263	5.0	263	5.0	0.304	4.3	LOS A	2.0	14.6	0.26	0.48	0.26	53.3
5	T1	All MCs	93	5.0	93	5.0	0.304	4.5	LOS A	2.0	14.6	0.26	0.48	0.26	53.7
6	R2	All MCs	63	5.0	63	5.0	0.304	9.1	LOS A	2.0	14.6	0.26	0.48	0.26	52.7
Approach			419	5.0	419	5.0	0.304	5.1	LOS A	2.0	14.6	0.26	0.48	0.26	53.3
NorthWest: Everleigh Drive (N)															
7	L2	All MCs	34	5.0	34	5.0	0.043	5.8	LOS A	0.2	1.6	0.50	0.59	0.50	52.6
8	T1	All MCs	1	5.0	1	5.0	0.043	6.0	LOS A	0.2	1.6	0.50	0.59	0.50	52.9
9	R2	All MCs	7	5.0	7	5.0	0.043	10.6	LOS B	0.2	1.6	0.50	0.59	0.50	52.0
Approach			42	5.0	42	5.0	0.043	6.7	LOS A	0.2	1.6	0.50	0.59	0.50	52.5
SouthWest: Anderson Drive (W)															
10	L2	All MCs	15	5.0	15	5.0	0.227	5.1	LOS A	1.3	9.4	0.42	0.53	0.42	52.3
11	T1	All MCs	179	5.0	179	5.0	0.227	5.3	LOS A	1.3	9.4	0.42	0.53	0.42	52.6
12	R2	All MCs	61	5.0	61	5.0	0.227	10.0	LOS A	1.3	9.4	0.42	0.53	0.42	51.7
Approach			255	5.0	255	5.0	0.227	6.4	LOS A	1.3	9.4	0.42	0.53	0.42	52.4
All Vehicles			892	5.0	892	5.0	0.304	6.2	LOS A	2.0	14.6	0.34	0.52	0.34	52.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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APPENDIX K

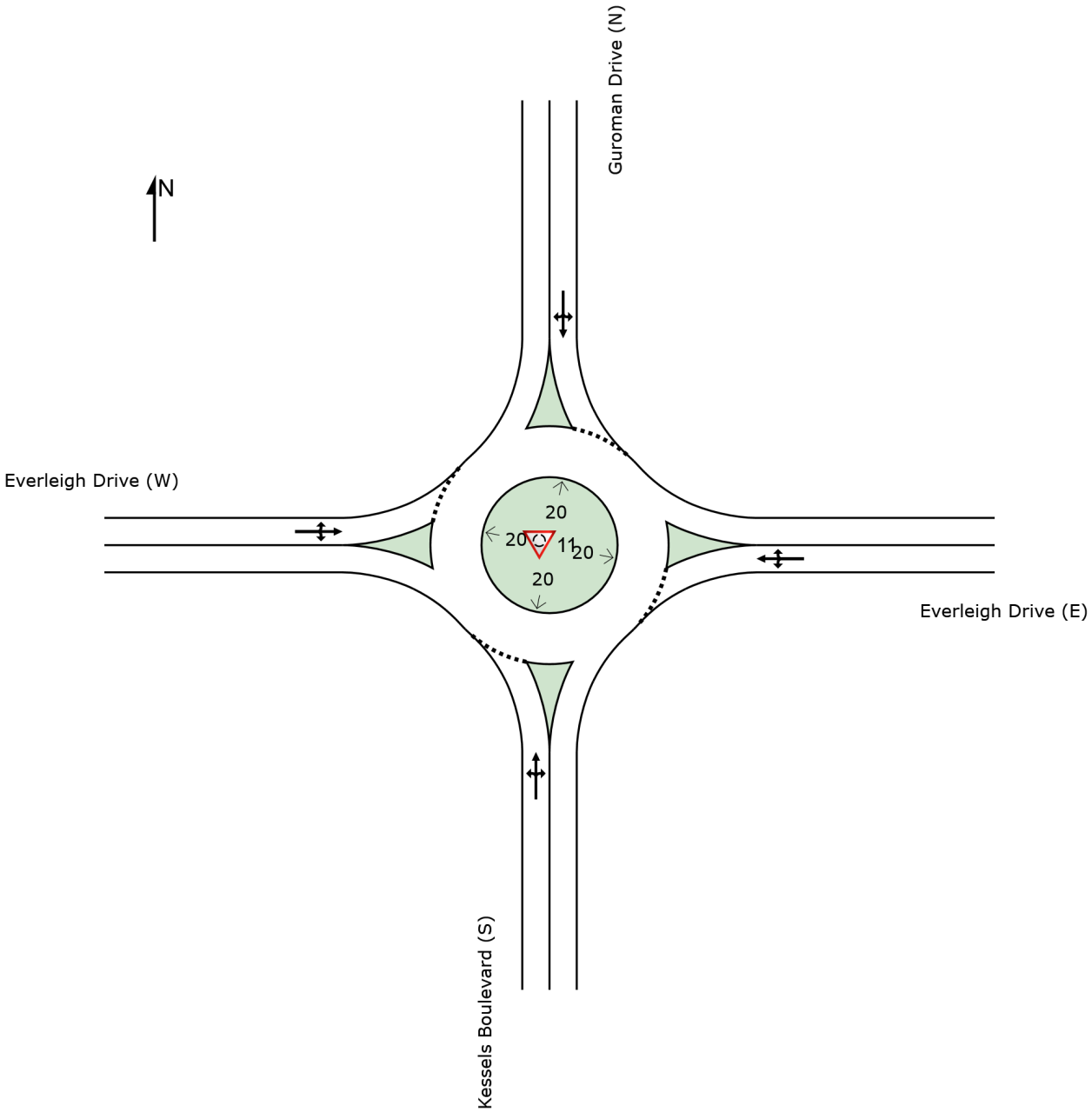
SIDRA OUTPUT – INTERSECTION 11: EVERLEIGH DRIVE / GUROMAN DRIVE / KESSELS BOULEVARD ROUNDABOUT

SITE LAYOUT

Site: 11 [INT11 (Site Folder: 2044AM)]

Kessels Boulevard / Everleigh Drive / Guroman - Roundabout
2044 AM
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

Site: 11 [INT11 (Site Folder: 2044AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Kessels Boulevard / Everleigh Drive / Guroman - Roundabout
2044 AM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kessels Boulevard (S)															
1	L2	All MCs	174	5.0	174	5.0	0.242	6.6	LOS A	1.4	10.4	0.60	0.61	0.60	52.5
2	T1	All MCs	49	5.0	49	5.0	0.242	6.8	LOS A	1.4	10.4	0.60	0.61	0.60	52.9
3	R2	All MCs	1	5.0	1	5.0	0.242	11.4	LOS B	1.4	10.4	0.60	0.61	0.60	51.9
Approach			224	5.0	224	5.0	0.242	6.7	LOS A	1.4	10.4	0.60	0.61	0.60	52.6
East: Everleigh Drive (E)															
4	L2	All MCs	1	5.0	1	5.0	0.295	4.7	LOS A	1.8	13.3	0.35	0.47	0.35	52.8
5	T1	All MCs	323	5.0	323	5.0	0.295	4.9	LOS A	1.8	13.3	0.35	0.47	0.35	53.2
6	R2	All MCs	46	5.0	46	5.0	0.295	9.5	LOS A	1.8	13.3	0.35	0.47	0.35	52.2
Approach			371	5.0	371	5.0	0.295	5.4	LOS A	1.8	13.3	0.35	0.47	0.35	53.1
North: Guroman Drive (N)															
7	L2	All MCs	67	5.0	67	5.0	0.132	5.0	LOS A	0.7	5.1	0.40	0.57	0.40	52.0
8	T1	All MCs	14	5.0	14	5.0	0.132	5.2	LOS A	0.7	5.1	0.40	0.57	0.40	52.4
9	R2	All MCs	66	5.0	66	5.0	0.132	9.8	LOS A	0.7	5.1	0.40	0.57	0.40	51.4
Approach			147	5.0	147	5.0	0.132	7.2	LOS A	0.7	5.1	0.40	0.57	0.40	51.8
West: Everleigh Drive (W)															
10	L2	All MCs	19	5.0	19	5.0	0.177	4.4	LOS A	1.0	7.3	0.28	0.47	0.28	52.9
11	T1	All MCs	158	5.0	158	5.0	0.177	4.6	LOS A	1.0	7.3	0.28	0.47	0.28	53.3
12	R2	All MCs	49	5.0	49	5.0	0.177	9.2	LOS A	1.0	7.3	0.28	0.47	0.28	52.3
Approach			226	5.0	226	5.0	0.177	5.6	LOS A	1.0	7.3	0.28	0.47	0.28	53.0
All Vehicles			968	5.0	968	5.0	0.295	6.0	LOS A	1.8	13.3	0.40	0.52	0.40	52.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 11 [INT11 (Site Folder: 2044PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Kessels Boulevard / Everleigh Drive / Guroman - Roundabout
2044 PM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kessels Boulevard (S)															
1	L2	All MCs	104	5.0	104	5.0	0.128	5.3	LOS A	0.7	5.1	0.46	0.54	0.46	53.1
2	T1	All MCs	29	5.0	29	5.0	0.128	5.5	LOS A	0.7	5.1	0.46	0.54	0.46	53.5
3	R2	All MCs	1	5.0	1	5.0	0.128	10.2	LOS B	0.7	5.1	0.46	0.54	0.46	52.6
Approach			135	5.0	135	5.0	0.128	5.4	LOS A	0.7	5.1	0.46	0.54	0.46	53.2
East: Everleigh Drive (E)															
4	L2	All MCs	1	5.0	1	5.0	0.218	5.6	LOS A	1.2	9.0	0.49	0.58	0.49	51.6
5	T1	All MCs	142	5.0	142	5.0	0.218	5.8	LOS A	1.2	9.0	0.49	0.58	0.49	52.0
6	R2	All MCs	84	5.0	84	5.0	0.218	10.4	LOS B	1.2	9.0	0.49	0.58	0.49	51.1
Approach			227	5.0	227	5.0	0.218	7.5	LOS A	1.2	9.0	0.49	0.58	0.49	51.6
North: Guroman Drive (N)															
7	L2	All MCs	68	5.0	68	5.0	0.183	6.7	LOS A	1.1	7.7	0.61	0.64	0.61	51.6
8	T1	All MCs	55	5.0	55	5.0	0.183	6.9	LOS A	1.1	7.7	0.61	0.64	0.61	52.0
9	R2	All MCs	40	5.0	40	5.0	0.183	11.5	LOS B	1.1	7.7	0.61	0.64	0.61	51.1
Approach			163	5.0	163	5.0	0.183	7.9	LOS A	1.1	7.7	0.61	0.64	0.61	51.6
West: Everleigh Drive (W)															
10	L2	All MCs	74	5.0	74	5.0	0.415	4.7	LOS A	3.0	22.2	0.39	0.51	0.39	52.1
11	T1	All MCs	273	5.0	273	5.0	0.415	4.9	LOS A	3.0	22.2	0.39	0.51	0.39	52.5
12	R2	All MCs	194	5.0	194	5.0	0.415	9.5	LOS A	3.0	22.2	0.39	0.51	0.39	51.6
Approach			540	5.0	540	5.0	0.415	6.5	LOS A	3.0	22.2	0.39	0.51	0.39	52.1
All Vehicles			1065	5.0	1065	5.0	0.415	6.8	LOS A	3.0	22.2	0.45	0.55	0.45	52.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 11 [INT11 (Site Folder: 33AM+W)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Kessels Boulevard / Everleigh Drive / Guroman - Roundabout
2033 AM with P3/P4 access via P2
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kessels Boulevard (S)															
1	L2	All MCs	232	5.0	232	5.0	0.395	9.2	LOS A	2.7	19.8	0.82	0.74	0.82	50.7
2	T1	All MCs	49	5.0	49	5.0	0.395	9.4	LOS A	2.7	19.8	0.82	0.74	0.82	51.1
3	R2	All MCs	1	5.0	1	5.0	0.395	14.0	LOS B	2.7	19.8	0.82	0.74	0.82	50.2
Approach			282	5.0	282	5.0	0.395	9.2	LOS A	2.7	19.8	0.82	0.74	0.82	50.8
East: Everleigh Drive (E)															
4	L2	All MCs	1	5.0	1	5.0	0.485	5.4	LOS A	3.7	26.7	0.54	0.52	0.54	52.1
5	T1	All MCs	508	5.0	508	5.0	0.485	5.6	LOS A	3.7	26.7	0.54	0.52	0.54	52.5
6	R2	All MCs	59	5.0	59	5.0	0.485	10.3	LOS B	3.7	26.7	0.54	0.52	0.54	51.5
Approach			568	5.0	568	5.0	0.485	6.1	LOS A	3.7	26.7	0.54	0.52	0.54	52.4
North: Guroman Drive (N)															
7	L2	All MCs	20	5.0	20	5.0	0.152	5.6	LOS A	0.8	6.0	0.48	0.63	0.48	50.6
8	T1	All MCs	14	5.0	14	5.0	0.152	5.7	LOS A	0.8	6.0	0.48	0.63	0.48	51.0
9	R2	All MCs	122	5.0	122	5.0	0.152	10.4	LOS B	0.8	6.0	0.48	0.63	0.48	50.1
Approach			156	5.0	156	5.0	0.152	9.4	LOS A	0.8	6.0	0.48	0.63	0.48	50.3
West: Everleigh Drive (W)															
10	L2	All MCs	35	5.0	35	5.0	0.262	4.5	LOS A	1.6	11.9	0.33	0.48	0.33	52.8
11	T1	All MCs	235	5.0	235	5.0	0.262	4.7	LOS A	1.6	11.9	0.33	0.48	0.33	53.1
12	R2	All MCs	65	5.0	65	5.0	0.262	9.4	LOS A	1.6	11.9	0.33	0.48	0.33	52.2
Approach			335	5.0	335	5.0	0.262	5.6	LOS A	1.6	11.9	0.33	0.48	0.33	52.9
All Vehicles			1341	5.0	1341	5.0	0.485	7.0	LOS A	3.7	26.7	0.54	0.57	0.54	51.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 11 [INT11 (Site Folder: 33PM+W)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Kessels Boulevard / Everleigh Drive / Guroman - Roundabout
2033 PM with P3/P4 access via P2
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kessels Boulevard (S)															
1	L2	All MCs	139	5.0	139	5.0	0.173	5.9	LOS A	1.0	7.2	0.54	0.58	0.54	52.9
2	T1	All MCs	29	5.0	29	5.0	0.173	6.1	LOS A	1.0	7.2	0.54	0.58	0.54	53.3
3	R2	All MCs	1	5.0	1	5.0	0.173	10.7	LOS B	1.0	7.2	0.54	0.58	0.54	52.3
Approach			169	5.0	169	5.0	0.173	5.9	LOS A	1.0	7.2	0.54	0.58	0.54	52.9
East: Everleigh Drive (E)															
4	L2	All MCs	1	5.0	1	5.0	0.285	6.4	LOS A	1.7	12.4	0.58	0.59	0.58	51.7
5	T1	All MCs	235	5.0	235	5.0	0.285	6.5	LOS A	1.7	12.4	0.58	0.59	0.58	52.1
6	R2	All MCs	39	5.0	39	5.0	0.285	11.2	LOS B	1.7	12.4	0.58	0.59	0.58	51.2
Approach			275	5.0	275	5.0	0.285	7.2	LOS A	1.7	12.4	0.58	0.59	0.58	52.0
North: Guroman Drive (N)															
7	L2	All MCs	66	5.0	66	5.0	0.271	8.9	LOS A	1.7	12.6	0.77	0.73	0.77	49.8
8	T1	All MCs	55	5.0	55	5.0	0.271	9.1	LOS A	1.7	12.6	0.77	0.73	0.77	50.2
9	R2	All MCs	73	5.0	73	5.0	0.271	13.7	LOS B	1.7	12.6	0.77	0.73	0.77	49.3
Approach			194	5.0	194	5.0	0.271	10.8	LOS B	1.7	12.6	0.77	0.73	0.77	49.7
West: Everleigh Drive (W)															
10	L2	All MCs	136	5.0	136	5.0	0.588	4.5	LOS A	5.7	41.5	0.37	0.48	0.37	52.3
11	T1	All MCs	447	5.0	447	5.0	0.588	4.7	LOS A	5.7	41.5	0.37	0.48	0.37	52.7
12	R2	All MCs	258	5.0	258	5.0	0.588	9.3	LOS A	5.7	41.5	0.37	0.48	0.37	51.8
Approach			841	5.0	841	5.0	0.588	6.1	LOS A	5.7	41.5	0.37	0.48	0.37	52.3
All Vehicles			1479	5.0	1479	5.0	0.588	6.9	LOS A	5.7	41.5	0.48	0.55	0.48	52.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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APPENDIX L

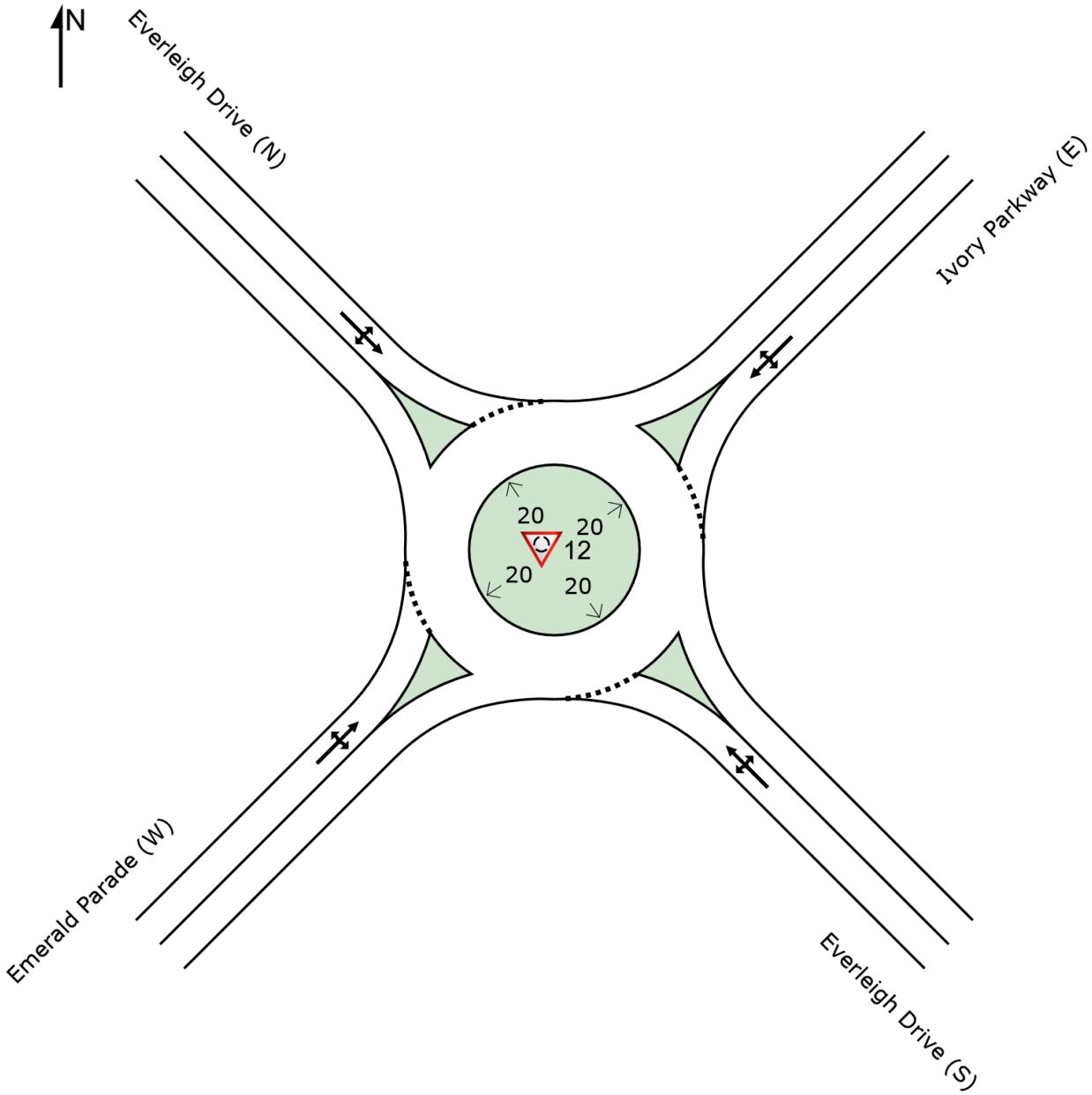
SIDRA OUTPUT – INTERSECTION 12: EVERLEIGH DRIVE / IVORY PARKWAY / EMERALD PARADE ROUNDABOUT

SITE LAYOUT

Site: 12 [INT12 (Site Folder: 2044AM)]

Emerald Parade / Ivory Parkway / Everleigh Drive - Roundabout
2044 AM
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

Site: 12 [INT12 (Site Folder: 2044AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Emerald Parade / Ivory Parkway / Everleigh Drive - Roundabout
2044 AM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Everleigh Drive (S)															
1	L2	All MCs	11	5.0	11	5.0	0.204	4.8	LOS A	1.2	8.5	0.37	0.47	0.37	52.9
2	T1	All MCs	217	5.0	217	5.0	0.204	5.0	LOS A	1.2	8.5	0.37	0.47	0.37	53.3
3	R2	All MCs	13	5.0	13	5.0	0.204	9.6	LOS A	1.2	8.5	0.37	0.47	0.37	52.3
Approach			240	5.0	240	5.0	0.204	5.2	LOS A	1.2	8.5	0.37	0.47	0.37	53.2
NorthEast: Ivory Parkway (E)															
4	L2	All MCs	3	5.0	3	5.0	0.139	4.7	LOS A	0.7	5.3	0.33	0.61	0.33	50.6
5	T1	All MCs	7	5.0	7	5.0	0.139	4.9	LOS A	0.7	5.3	0.33	0.61	0.33	50.9
6	R2	All MCs	153	5.0	153	5.0	0.139	9.5	LOS A	0.7	5.3	0.33	0.61	0.33	50.1
Approach			163	5.0	163	5.0	0.139	9.2	LOS A	0.7	5.3	0.33	0.61	0.33	50.1
NorthWest: Everleigh Drive (N)															
7	L2	All MCs	114	5.0	114	5.0	0.173	4.3	LOS A	1.0	7.3	0.25	0.44	0.25	53.7
8	T1	All MCs	113	5.0	113	5.0	0.173	4.5	LOS A	1.0	7.3	0.25	0.44	0.25	54.2
9	R2	All MCs	1	5.0	1	5.0	0.173	9.1	LOS A	1.0	7.3	0.25	0.44	0.25	53.2
Approach			227	5.0	227	5.0	0.173	4.4	LOS A	1.0	7.3	0.25	0.44	0.25	53.9
SouthWest: Emerald Parade (W)															
10	L2	All MCs	1	5.0	1	5.0	0.066	5.9	LOS A	0.3	2.5	0.50	0.63	0.50	51.1
11	T1	All MCs	27	5.0	27	5.0	0.066	6.1	LOS A	0.3	2.5	0.50	0.63	0.50	51.4
12	R2	All MCs	36	5.0	36	5.0	0.066	10.7	LOS B	0.3	2.5	0.50	0.63	0.50	50.6
Approach			64	5.0	64	5.0	0.066	8.6	LOS A	0.3	2.5	0.50	0.63	0.50	50.9
All Vehicles			695	5.0	695	5.0	0.204	6.2	LOS A	1.2	8.5	0.34	0.50	0.34	52.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 12 [INT12 (Site Folder: 2044PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Emerald Parade / Ivory Parkway / Everleigh Drive - Roundabout
2044 PM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Everleigh Drive (S)															
1	L2	All MCs	40	5.0	40	5.0	0.174	4.3	LOS A	1.0	7.4	0.25	0.42	0.25	53.5
2	T1	All MCs	182	5.0	182	5.0	0.174	4.5	LOS A	1.0	7.4	0.25	0.42	0.25	53.9
3	R2	All MCs	7	5.0	7	5.0	0.174	9.1	LOS A	1.0	7.4	0.25	0.42	0.25	53.0
Approach			229	5.0	229	5.0	0.174	4.6	LOS A	1.0	7.4	0.25	0.42	0.25	53.8
NorthEast: Ivory Parkway (E)															
4	L2	All MCs	14	5.0	14	5.0	0.083	5.3	LOS A	0.4	3.0	0.43	0.59	0.43	51.6
5	T1	All MCs	31	5.0	31	5.0	0.083	5.5	LOS A	0.4	3.0	0.43	0.59	0.43	52.0
6	R2	All MCs	44	5.0	44	5.0	0.083	10.2	LOS B	0.4	3.0	0.43	0.59	0.43	51.1
Approach			88	5.0	88	5.0	0.083	7.8	LOS A	0.4	3.0	0.43	0.59	0.43	51.5
NorthWest: Everleigh Drive (N)															
7	L2	All MCs	84	5.0	84	5.0	0.239	4.1	LOS A	1.5	10.6	0.19	0.41	0.19	53.9
8	T1	All MCs	257	5.0	257	5.0	0.239	4.3	LOS A	1.5	10.6	0.19	0.41	0.19	54.3
9	R2	All MCs	1	5.0	1	5.0	0.239	9.0	LOS A	1.5	10.6	0.19	0.41	0.19	53.3
Approach			342	5.0	342	5.0	0.239	4.3	LOS A	1.5	10.6	0.19	0.41	0.19	54.2
SouthWest: Emerald Parade (W)															
10	L2	All MCs	1	5.0	1	5.0	0.035	5.0	LOS A	0.2	1.3	0.38	0.57	0.38	51.6
11	T1	All MCs	17	5.0	17	5.0	0.035	5.2	LOS A	0.2	1.3	0.38	0.57	0.38	52.0
12	R2	All MCs	21	5.0	21	5.0	0.035	9.8	LOS A	0.2	1.3	0.38	0.57	0.38	51.1
Approach			39	5.0	39	5.0	0.035	7.7	LOS A	0.2	1.3	0.38	0.57	0.38	51.5
All Vehicles			699	5.0	699	5.0	0.239	5.0	LOS A	1.5	10.6	0.25	0.45	0.25	53.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 12 [INT12 (Site Folder: 33AM+W)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Emerald Parade / Ivory Parkway / Everleigh Drive - Roundabout
2033 AM with P3/P4 access via P2
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Everleigh Drive (S)															
1	L2	All MCs	1	5.0	1	5.0	0.332	5.5	LOS A	2.1	15.2	0.50	0.53	0.50	52.2
2	T1	All MCs	328	5.0	328	5.0	0.332	5.7	LOS A	2.1	15.2	0.50	0.53	0.50	52.6
3	R2	All MCs	33	5.0	33	5.0	0.332	10.4	LOS B	2.1	15.2	0.50	0.53	0.50	51.7
Approach			362	5.0	362	5.0	0.332	6.1	LOS A	2.1	15.2	0.50	0.53	0.50	52.5
NorthEast: Ivory Parkway (E)															
4	L2	All MCs	9	5.0	9	5.0	0.198	4.4	LOS A	1.1	8.1	0.27	0.59	0.27	50.7
5	T1	All MCs	7	5.0	7	5.0	0.198	4.6	LOS A	1.1	8.1	0.27	0.59	0.27	51.1
6	R2	All MCs	239	5.0	239	5.0	0.198	9.2	LOS A	1.1	8.1	0.27	0.59	0.27	50.2
Approach			256	5.0	256	5.0	0.198	8.9	LOS A	1.1	8.1	0.27	0.59	0.27	50.3
NorthWest: Everleigh Drive (N)															
7	L2	All MCs	162	5.0	162	5.0	0.188	4.2	LOS A	1.1	7.8	0.22	0.44	0.22	53.9
8	T1	All MCs	93	5.0	93	5.0	0.188	4.4	LOS A	1.1	7.8	0.22	0.44	0.22	54.3
9	R2	All MCs	1	5.0	1	5.0	0.188	9.0	LOS A	1.1	7.8	0.22	0.44	0.22	53.3
Approach			256	5.0	256	5.0	0.188	4.3	LOS A	1.1	7.8	0.22	0.44	0.22	54.1
SouthWest: Emerald Parade (W)															
10	L2	All MCs	1	5.0	1	5.0	0.037	7.2	LOS A	0.2	1.5	0.63	0.61	0.63	51.8
11	T1	All MCs	27	5.0	27	5.0	0.037	7.4	LOS A	0.2	1.5	0.63	0.61	0.63	52.2
12	R2	All MCs	1	5.0	1	5.0	0.037	12.0	LOS B	0.2	1.5	0.63	0.61	0.63	51.3
Approach			29	5.0	29	5.0	0.037	7.6	LOS A	0.2	1.5	0.63	0.61	0.63	52.1
All Vehicles			903	5.0	903	5.0	0.332	6.5	LOS A	2.1	15.2	0.36	0.52	0.36	52.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 12 [INT12 (Site Folder: 33PM+W)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Emerald Parade / Ivory Parkway / Everleigh Drive - Roundabout
2033 PM with P3/P4 access via P2
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Everleigh Drive (S)															
1	L2	All MCs	1	5.0	1	5.0	0.173	4.5	LOS A	1.0	7.4	0.31	0.44	0.31	53.1
2	T1	All MCs	197	5.0	197	5.0	0.173	4.7	LOS A	1.0	7.4	0.31	0.44	0.31	53.5
3	R2	All MCs	19	5.0	19	5.0	0.173	9.3	LOS A	1.0	7.4	0.31	0.44	0.31	52.5
Approach			217	5.0	217	5.0	0.173	5.1	LOS A	1.0	7.4	0.31	0.44	0.31	53.4
NorthEast: Ivory Parkway (E)															
4	L2	All MCs	36	5.0	36	5.0	0.144	6.0	LOS A	0.8	5.6	0.51	0.63	0.51	51.2
5	T1	All MCs	31	5.0	31	5.0	0.144	6.1	LOS A	0.8	5.6	0.51	0.63	0.51	51.6
6	R2	All MCs	77	5.0	77	5.0	0.144	10.8	LOS B	0.8	5.6	0.51	0.63	0.51	50.7
Approach			143	5.0	143	5.0	0.144	8.6	LOS A	0.8	5.6	0.51	0.63	0.51	51.0
NorthWest: Everleigh Drive (N)															
7	L2	All MCs	148	5.0	148	5.0	0.345	4.1	LOS A	2.3	16.8	0.18	0.41	0.18	54.0
8	T1	All MCs	365	5.0	365	5.0	0.345	4.3	LOS A	2.3	16.8	0.18	0.41	0.18	54.4
9	R2	All MCs	1	5.0	1	5.0	0.345	8.9	LOS A	2.3	16.8	0.18	0.41	0.18	53.4
Approach			515	5.0	515	5.0	0.345	4.3	LOS A	2.3	16.8	0.18	0.41	0.18	54.2
SouthWest: Emerald Parade (W)															
10	L2	All MCs	1	5.0	1	5.0	0.018	5.3	LOS A	0.1	0.6	0.43	0.49	0.43	52.7
11	T1	All MCs	17	5.0	17	5.0	0.018	5.5	LOS A	0.1	0.6	0.43	0.49	0.43	53.1
12	R2	All MCs	1	5.0	1	5.0	0.018	10.1	LOS B	0.1	0.6	0.43	0.49	0.43	52.1
Approach			19	5.0	19	5.0	0.018	5.7	LOS A	0.1	0.6	0.43	0.49	0.43	53.0
All Vehicles			894	5.0	894	5.0	0.345	5.2	LOS A	2.3	16.8	0.27	0.45	0.27	53.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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APPENDIX M

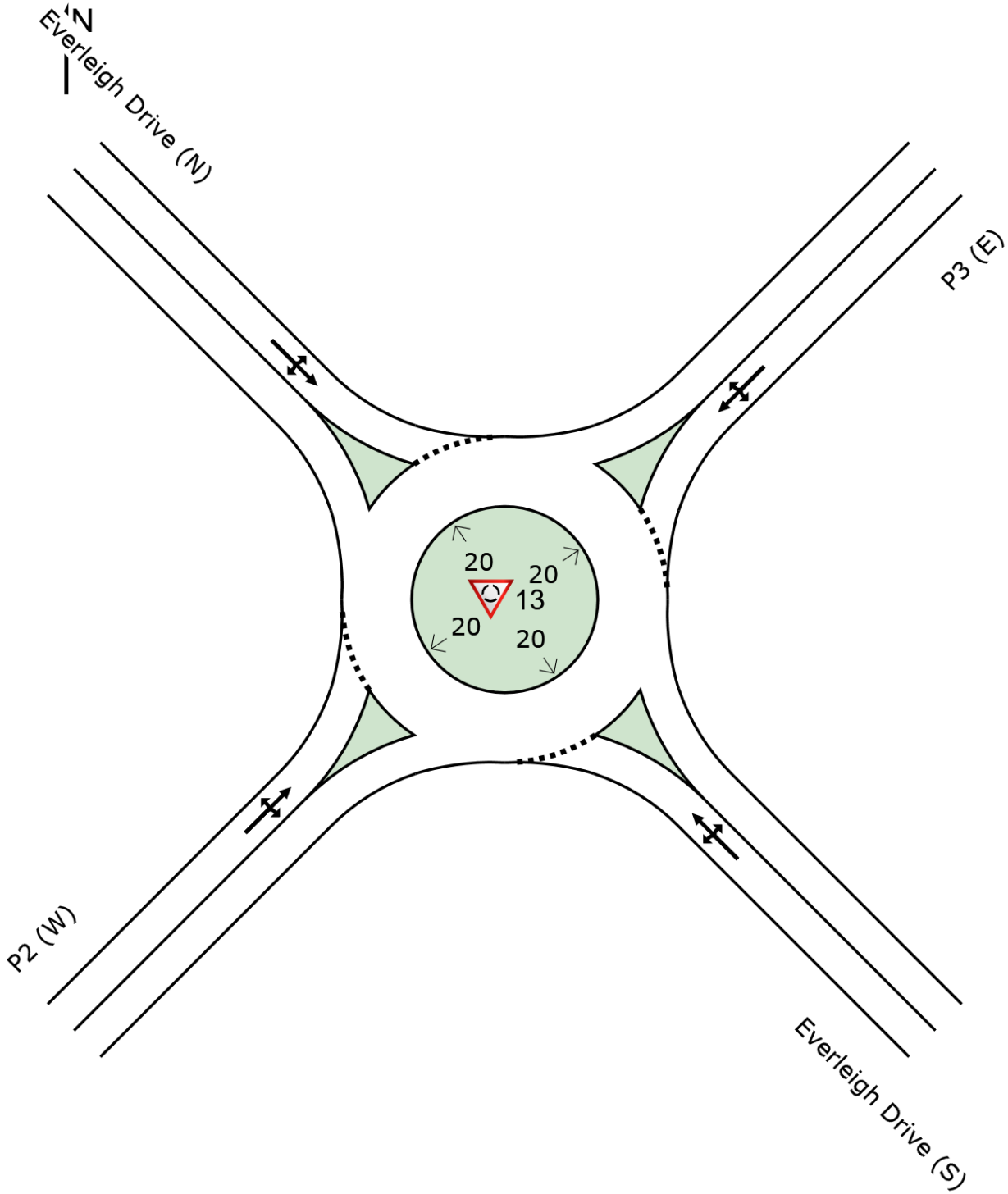
SIDRA OUTPUT – INTERSECTION 13: EVERLEIGH DRIVE / KESSELS BOULEVARD ROUNDABOUT

SITE LAYOUT

Site: 13 [INT13 (Site Folder: 2044AM)]

Everleigh Drive / P2 / P3 - Roundabout
2044 AM
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 13 [INT13 (Site Folder: 2044AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Everleigh Drive / P2 / P3 - Roundabout
2044 AM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Everleigh Drive (S)															
1	L2	All MCs	6	5.0	6	5.0	0.096	4.7	LOS A	0.5	3.6	0.33	0.47	0.33	53.0
2	T1	All MCs	95	5.0	95	5.0	0.096	4.8	LOS A	0.5	3.6	0.33	0.47	0.33	53.4
3	R2	All MCs	12	5.0	12	5.0	0.096	9.5	LOS A	0.5	3.6	0.33	0.47	0.33	52.4
Approach			113	5.0	113	5.0	0.096	5.3	LOS A	0.5	3.6	0.33	0.47	0.33	53.2
NorthEast: P3 (E)															
4	L2	All MCs	43	5.0	43	5.0	0.161	4.8	LOS A	0.8	6.1	0.34	0.59	0.34	51.1
5	T1	All MCs	1	5.0	1	5.0	0.161	4.9	LOS A	0.8	6.1	0.34	0.59	0.34	51.5
6	R2	All MCs	145	5.0	145	5.0	0.161	9.6	LOS A	0.8	6.1	0.34	0.59	0.34	50.6
Approach			189	5.0	189	5.0	0.161	8.5	LOS A	0.8	6.1	0.34	0.59	0.34	50.7
NorthWest: Everleigh Drive (N)															
7	L2	All MCs	41	5.0	41	5.0	0.124	4.1	LOS A	0.7	4.8	0.15	0.41	0.15	54.1
8	T1	All MCs	133	5.0	133	5.0	0.124	4.2	LOS A	0.7	4.8	0.15	0.41	0.15	54.5
9	R2	All MCs	1	5.0	1	5.0	0.124	8.9	LOS A	0.7	4.8	0.15	0.41	0.15	53.5
Approach			175	5.0	175	5.0	0.124	4.2	LOS A	0.7	4.8	0.15	0.41	0.15	54.4
SouthWest: P2 (W)															
10	L2	All MCs	1	5.0	1	5.0	0.022	5.1	LOS A	0.1	0.8	0.40	0.61	0.40	50.5
11	T1	All MCs	1	5.0	1	5.0	0.022	5.3	LOS A	0.1	0.8	0.40	0.61	0.40	50.8
12	R2	All MCs	22	5.0	22	5.0	0.022	9.9	LOS A	0.1	0.8	0.40	0.61	0.40	50.0
Approach			24	5.0	24	5.0	0.022	9.5	LOS A	0.1	0.8	0.40	0.61	0.40	50.0
All Vehicles			501	5.0	501	5.0	0.161	6.3	LOS A	0.8	6.1	0.27	0.50	0.27	52.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 113 [INT13 (Site Folder: 2044PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Everleigh Drive / P2 / P3 - Roundabout
2044 PM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Everleigh Drive (S)															
1	L2	All MCs	24	5.0	24	5.0	0.166	4.4	LOS A	0.9	6.7	0.27	0.47	0.27	52.9
2	T1	All MCs	142	5.0	142	5.0	0.166	4.6	LOS A	0.9	6.7	0.27	0.47	0.27	53.3
3	R2	All MCs	47	5.0	47	5.0	0.166	9.2	LOS A	0.9	6.7	0.27	0.47	0.27	52.4
Approach			214	5.0	214	5.0	0.166	5.6	LOS A	0.9	6.7	0.27	0.47	0.27	53.1
NorthEast: P3 (E)															
4	L2	All MCs	25	5.0	25	5.0	0.097	4.7	LOS A	0.5	3.6	0.33	0.60	0.33	51.1
5	T1	All MCs	1	5.0	1	5.0	0.097	4.9	LOS A	0.5	3.6	0.33	0.60	0.33	51.5
6	R2	All MCs	87	5.0	87	5.0	0.097	9.5	LOS A	0.5	3.6	0.33	0.60	0.33	50.6
Approach			114	5.0	114	5.0	0.097	8.4	LOS A	0.5	3.6	0.33	0.60	0.33	50.7
NorthWest: Everleigh Drive (N)															
7	L2	All MCs	161	5.0	161	5.0	0.222	4.2	LOS A	1.3	9.3	0.22	0.43	0.22	53.9
8	T1	All MCs	144	5.0	144	5.0	0.222	4.4	LOS A	1.3	9.3	0.22	0.43	0.22	54.3
9	R2	All MCs	1	5.0	1	5.0	0.222	9.1	LOS A	1.3	9.3	0.22	0.43	0.22	53.3
Approach			306	5.0	306	5.0	0.222	4.3	LOS A	1.3	9.3	0.22	0.43	0.22	54.1
SouthWest: P2 (W)															
10	L2	All MCs	1	5.0	1	5.0	0.015	5.2	LOS A	0.1	0.5	0.41	0.60	0.41	50.6
11	T1	All MCs	1	5.0	1	5.0	0.015	5.4	LOS A	0.1	0.5	0.41	0.60	0.41	50.9
12	R2	All MCs	14	5.0	14	5.0	0.015	10.0	LOS B	0.1	0.5	0.41	0.60	0.41	50.1
Approach			16	5.0	16	5.0	0.015	9.4	LOS A	0.1	0.5	0.41	0.60	0.41	50.2
All Vehicles			649	5.0	649	5.0	0.222	5.6	LOS A	1.3	9.3	0.26	0.48	0.26	53.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 13 [INT13 (Site Folder: 33AM-N)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Everleigh Drive / P2 / P3 - Roundabout
2033 AM without Anderson Drive link
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Everleigh Drive (S)															
1	L2	All MCs	6	5.0	6	5.0	0.209	4.2	LOS A	1.3	9.2	0.22	0.40	0.22	53.7
2	T1	All MCs	278	5.0	278	5.0	0.209	4.4	LOS A	1.3	9.2	0.22	0.40	0.22	54.1
3	R2	All MCs	3	5.0	3	5.0	0.209	9.0	LOS A	1.3	9.2	0.22	0.40	0.22	53.1
Approach			287	5.0	287	5.0	0.209	4.4	LOS A	1.3	9.2	0.22	0.40	0.22	54.1
NorthEast: P3 (E)															
4	L2	All MCs	13	5.0	13	5.0	0.065	5.2	LOS A	0.3	2.3	0.41	0.62	0.41	50.8
5	T1	All MCs	1	5.0	1	5.0	0.065	5.4	LOS A	0.3	2.3	0.41	0.62	0.41	51.2
6	R2	All MCs	57	5.0	57	5.0	0.065	10.0	LOS B	0.3	2.3	0.41	0.62	0.41	50.3
Approach			71	5.0	71	5.0	0.065	9.1	LOS A	0.3	2.3	0.41	0.62	0.41	50.4
NorthWest: Everleigh Drive (N)															
7	L2	All MCs	16	5.0	16	5.0	0.171	4.0	LOS A	1.0	7.3	0.13	0.39	0.13	54.1
8	T1	All MCs	236	5.0	236	5.0	0.171	4.2	LOS A	1.0	7.3	0.13	0.39	0.13	54.5
9	R2	All MCs	1	5.0	1	5.0	0.171	8.9	LOS A	1.0	7.3	0.13	0.39	0.13	53.5
Approach			253	5.0	253	5.0	0.171	4.2	LOS A	1.0	7.3	0.13	0.39	0.13	54.5
SouthWest: P2 (W)															
10	L2	All MCs	1	5.0	1	5.0	0.024	5.5	LOS A	0.1	0.9	0.45	0.63	0.45	50.3
11	T1	All MCs	1	5.0	1	5.0	0.024	5.7	LOS A	0.1	0.9	0.45	0.63	0.45	50.6
12	R2	All MCs	22	5.0	22	5.0	0.024	10.4	LOS B	0.1	0.9	0.45	0.63	0.45	49.8
Approach			24	5.0	24	5.0	0.024	9.9	LOS A	0.1	0.9	0.45	0.63	0.45	49.9
All Vehicles			635	5.0	635	5.0	0.209	5.1	LOS A	1.3	9.2	0.22	0.43	0.22	53.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 13 [INT13 (Site Folder: 33PM-N)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Everleigh Drive / P2 / P3 - Roundabout
2033 PM without Anderson Drive link
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Everleigh Drive (S)															
1	L2	All MCs	24	5.0	24	5.0	0.235	4.1	LOS A	1.5	10.9	0.17	0.41	0.17	53.8
2	T1	All MCs	304	5.0	304	5.0	0.235	4.3	LOS A	1.5	10.9	0.17	0.41	0.17	54.2
3	R2	All MCs	15	5.0	15	5.0	0.235	8.9	LOS A	1.5	10.9	0.17	0.41	0.17	53.2
Approach			343	5.0	343	5.0	0.235	4.5	LOS A	1.5	10.9	0.17	0.41	0.17	54.1
NorthEast: P3 (E)															
4	L2	All MCs	7	5.0	7	5.0	0.043	5.8	LOS A	0.2	1.5	0.48	0.64	0.48	50.6
5	T1	All MCs	1	5.0	1	5.0	0.043	6.0	LOS A	0.2	1.5	0.48	0.64	0.48	51.0
6	R2	All MCs	34	5.0	34	5.0	0.043	10.6	LOS B	0.2	1.5	0.48	0.64	0.48	50.1
Approach			42	5.0	42	5.0	0.043	9.7	LOS A	0.2	1.5	0.48	0.64	0.48	50.2
NorthWest: Everleigh Drive (N)															
7	L2	All MCs	63	5.0	63	5.0	0.285	4.1	LOS A	1.8	13.1	0.15	0.40	0.15	54.0
8	T1	All MCs	364	5.0	364	5.0	0.285	4.2	LOS A	1.8	13.1	0.15	0.40	0.15	54.5
9	R2	All MCs	1	5.0	1	5.0	0.285	8.9	LOS A	1.8	13.1	0.15	0.40	0.15	53.5
Approach			428	5.0	428	5.0	0.285	4.2	LOS A	1.8	13.1	0.15	0.40	0.15	54.4
SouthWest: P2 (W)															
10	L2	All MCs	1	5.0	1	5.0	0.016	5.6	LOS A	0.1	0.6	0.46	0.61	0.46	50.4
11	T1	All MCs	1	5.0	1	5.0	0.016	5.8	LOS A	0.1	0.6	0.46	0.61	0.46	50.8
12	R2	All MCs	14	5.0	14	5.0	0.016	10.4	LOS B	0.1	0.6	0.46	0.61	0.46	49.9
Approach			16	5.0	16	5.0	0.016	9.8	LOS A	0.1	0.6	0.46	0.61	0.46	50.0
All Vehicles			829	5.0	829	5.0	0.285	4.7	LOS A	1.8	13.1	0.18	0.42	0.18	54.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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Premise



Premise