APPENDIX D

Integrated Transportation Assessment

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T4 STRUCTURE PLAN, TE AWAMUTU

INTEGRATED TRANSPORTATION ASSESSMENT

PREPARED FOR LYN CUDBY & LY&NZ INVESTMENT LTD

July 2024

Stantec

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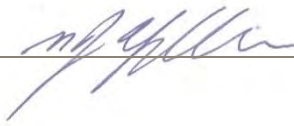
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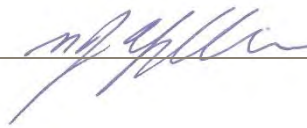
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QUALITY STATEMENT

PROJECT MANAGER	PROJECT TECHNICAL LEAD
Melissa Ryan	Mark Apeldoorn

PREPARED BY			
Rhulani Mothelesi	p.p.:		12/07/2024

REVIEWED BY			
Mark Apeldoorn			12/07/2024

APPROVED FOR ISSUE BY			
Melissa Ryan			12/07/2024

HAMILTON
PWC Building, Level 3, 109 Ward Street, Hamilton Central, Hamilton 3204
PO Box 13-052, Armagh, Christchurch 8141
TEL +64 7 839 0241, FAX +64 7 839 4234

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REVISION SCHEDULE

Rev No.	Date	Description	Signature or Typed Name (documentation on file)		
			Prepared by	Reviewed by	Approved by
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B	12/08/23	Final Draft	R. Mothelesi	M. Apeldoorn	M. Apeldoorn
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Abbreviations / Acronyms

ADT	Average Daily Traffic Volume
AEE	Assessment of Environmental Effects
AGRD	Austroads Guide to Road Design
CAS	Crash Analysis System
Council	Waipā District Council
CTMP	Construction Traffic Management Plan
District Plan	Waipā District Plan
HCV	Heavy Commercial Vehicle
ITA	Integrated Transportation Assessment
km/h	kilometres per hour
LTP	Long Term Plan 2021-2031
LOS	Level of Service
MRDS	Medium Density Residential Standards
NIMT	North Island Mainline Trunk
NPS-UD	National Policy Statement on Urban Development
O-D	Origin and Destination
ONF	One Network Framework
ONRC	One Network Road Classification
PCU	Passenger Car Unit
PPC	Private Plan Change
PT	Public Transport
RAMM	Road Assessment and Maintenance Management
RITS	Regional Infrastructure Technical Specifications
ROW	Right of way
RLTP	Regional Land Transport Plan
RPS	Regional Policy Statement
RPTP	Regional Public Transport Plan
RR453	Research Report 453 "*Trips and Parking Related to Land Use*"
SH	State Highway
SISD	Safe Intersection Sight Distance
vpd	vehicles per day
vph	vehicles per hour
Waka Kotahi	Waka Kotahi NZ Transport Agency
WRC	Waikato Regional Council

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Executive Summary

Proposed Zoning Uplift and T4 Structure Plan

Proposal Overview

Stantec New Zealand (Stantec) has been engaged by Lyn Cudby, who is the owner of the southern block within the T4 growth cell (approx. 18 ha), to prepare an Integrated Transportation Assessment (ITA) to support the proposed zoning of the two land holdings comprising the T4 Growth Cell in Te Awamutu from "Deferred Residential" to "Medium Density Residential" through a Private Plan Change (PPC) to Waipā District Council (Council). The zoning proposal also seeks to embed a new structure plan for the growth cell into the Waipā District Plan (the District Plan).

Subsequent to commissioning, Lyn Cudby has formed an agreement with LY&NZ Investment Limited who is the owner of the northern land parcel within the T4 Growth Cell. Under the terms of their agreement, we understand Lyn Cudby and LY&NZ Investment Limited have agreed to jointly be one party for the purposes of technical assessments and for the private plan change application.'

The rezoning proposal and proposed structure plan has been assessed on the basis of a concept for subdivision development of 310 residential lots ranging between 400m^2 and 600m^2 in size with the potential for increased density supporting up to 362 dwellings. This is equivalent to a net residential density of about 25 and up to 27 dwellings per hectare, which is consistent with the requirements of the Regional Policy Statement (RPS) for greenfield locations (20-35 dwellings per hectare) and proposed Rule 2A.3.2.2 of Plan Change 26: Residential Zone Intensification (PC26) (a minimum net target density of 25-35 dwellings per hectare). At this stage, development is anticipated to occur in stages over the medium to long term, subject to market conditions and resource consent processes.

This ITA describes and evaluates the transportation elements of the proposal to inform the acceptability of the structure plan in terms of its transport impact. Provisional assessment has been made of the transport network improvements expected to be necessary to support it and which can be expected to be established as conditions to any subsequent application for subdivision consent.

Predicted Trip Generation and Distribution

Based on conservative trip rate data from the *NZ Transport Agency Research Report 453*, the proposed residential activities within the proposed T4 Structure Plan are anticipated to generate up to about 2,545 vehicle trips per day and up to 280 vehicle trips per hour during the typical commuter peak periods for 310 dwellings; or up to 3,015 vehicle trips per day, 327 in the peak hour (two way totals).

The majority of the trips expected to be generated by the proposed land use activities within the structure plan area are anticipated to arrive from/ depart to the east and north. This is consistent with the locality of the existing employment and educational areas within the township.

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Transportation Elements of the proposed T4 Structure Plan

Proposed Internal Transport Network

A network of internal roads has been designed at a concept level to demonstrate how the structure plan area could be serviced. These include:

- A proposed Collector Road along the structure plan's western boundary. The Collector is proposed to form the initial stages of the strategic "Western Arterial" corridor, although the corridor is understood to now be planned with a reduced strategic function. At its southern end, the Collector Road is proposed to be located within the current designation and land owned by Council.
- A supporting network of local roads, cul-de-sacs and private rights-of-way's (ROWs) providing property access.

While the intended form of the Collector Road departs from District Plan requirements, the departure is considered acceptable for this specific development since development within the structure plan will only occur on one side of the corridor (the eastern side). The western side adjoins either rural zoned land or undevelopable land (land identified as being within the "environment buffer"). Accordingly, parking facilities, shared walking and cycling facilities, and services corridor are proposed on the side of the road that development is anticipated to occur.

With the exception of the proposed road reserve and carriageway widths, the proposed internal local road cross-sections generally comply with the standards set out in the District Plan. It is assessed that there is sufficient space within the proposed corridors to provide for the required parking, walking/cycling, and services corridors to accommodate the traffic demand expectations on these lower-use environments.

While the proposed structure plan reflects the high-level network configuration, the finer details of the road network will be refined, and assessed, at future subdivision stages.

Access Proposals / New Intersections

Vehicle access to the structure plan area is proposed to be provided via the proposed Collector Road corridor with new connections to the existing road network as follows:

- To the north, via a new intersection on Rewi Street;
- To the south, via a new intersection on Puniu Road; and
- To the east, via a new local road connection to Wallace Terrace.

Flexibility is sought on the form of intersection that would be appropriate on Rewi Street and Puniu Road in the interim period (to support the proposed land use activities within the proposed structure plan area) as well as the long-term (to support the future extension of the proposed Collector Road northwards towards Station Road, and southwards towards Golf Road as part of the "Western Arterial" works).

The interim/staged form of the new intersections on Rewi Street and Puniu Road to support the T4 structure plan traffic demands are indicatively identified as "Tee" intersection with right-turn bay facilities. While the assessed T-intersection configurations do not generally align as effectively with Safe Systems principles compared to a roundabout or traffic signals, crash prediction models predicted a much lower injury crash rate at both intersections. Further, to enhance Safe System

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alignment, several supporting safety treatments (raised tables, street lighting, signage and markings, etc.) are recommended to be incorporated into the intersection design to improve the safety of all road users. The alignment of the plan change collector road has been engaged with Council with the preferred alignment being to locate its approach to Rewi Street as far west as possible to minimise potential impacts on the Centennial Reserve land.

While the long-term configuration of both intersections will be confirmed in future as part of the "Western Arterial" works, the proposed interim intersection designs have been overlaid on top of the anticipated long-term strategic design to ensure that they are located at the correct location from day one to minimise future construction costs. The concept drawings also show that the future long-term option (indicatively roundabouts) is not foreclosed.

Walking and Cycling Infrastructure

The pedestrian and cycle network is designed to enable movement within the structure plan area. A 3m wide shared path network runs throughout the structure plan area and is supported by various on-road connections and standard footpaths. The 4 m wide bi-directional cycle path and footpath on the proposed Collector Road corridor provides connection to the Council planned walking and cycling infrastructure on Rewi Street and Puniu Road / Bank Street.

Overall, the proposed walking/ cycling network is expected to create a sustainable and attractive network for pedestrians and cyclists.

Future Public Transport Operations

Adequate space is available within the proposed internal road network to enable public transport infrastructure (such as bus stops) in the future, where that is progressed.

Transport Infrastructure Staging

It is desirable to allow flexibility for development within the whole of the structure plan area (to enable the two land parcels comprising the structure plan area to be able to be developed independently of one another, if needed), while managing the potential consequential traffic effects on the immediate adjoining road network.

To enable this flexibility, indicative staging recommendations have been assessed and are described at Appendix I. These have been based on the indicative structure plan layout and potential development within the two areas provided. However, any staging will be a matter for consideration during future subdivision consent processes. The structure plan enables the land parcels to be developed in stages. Where any alternate staging is proposed through subdivision consent, the potential effects of that are able to be assessed in conjunction with those processes, including any varied distributional effects on the transport network. It is considered that the recommendations in this report form the basis for future staging requirements to provide guidance and establish a baseline for any future staging proposals.

Transportation Effects Assessment

Overall, it is concluded that the traffic and transport elements of the proposed T4 Structure Plan have been appropriately planned to ensure multi-modal integration with the broader Te Awamutu area.

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The overall transportation effects on the adjoining road network of the plan change proposal are assessed as no more than minor, provided any future subdivision consent process addresses staging requirements.

Construction Traffic Effects

Separate resource consents will be required for each earthworks/ construction phase to determine and mitigate the associated transport related effects (including safety effects), if any. These will enable consideration of any specific temporary traffic management and/or construction traffic management measures, should these be a requirement. The construction traffic effects are able to be managed for the duration of works through conditions requiring specific Construction Traffic Management Plans (CTMPs).

Conclusion

By way of an overall assessment, it is concluded that the transportation planning aspects of the zoning uplift and structure plan proposal, subject to the infrastructure staging recommendation being addressed at the subdivision consent stage, are appropriately aligned with the planned intent for the area and will be less than minor.

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1. Introduction

1.1 Background

The owners[1] of the two land holdings comprising the T4 Growth Cell in Te Awamutu seek to rezone the site from Deferred Residential Zone to Medium Residential Zone through a Private Plan Change (PPC) application to Waipā District Council (Council). The site is approximately 27.25 ha in size and is identified as being a residential growth cell located in Te Awamutu. The PPC also seeks to embed a new structure plan for the growth cell into the Waipā District Plan (the District Plan).

The proposed zoning and structure plan will enable development of 310 and potentially up to 362 residential dwellings ranging between 400m^2 and 600m^2 in size. At this stage, development of the proposed T4 Structure Plan area is anticipated to occur in stages over the medium to long term, subject to market conditions and resource consent processes.

1.2 Report Purpose

Stantec New Zealand (Stantec) has been engaged by the T4 Growth Cell landowners to prepare an Integrated Transportation Impact Assessment (ITA) to support the proposed rezoning and structure plan. This ITA assesses the transportation elements of the zoning proposal and outlines the recommended transport infrastructure improvement works required to support it.

The scope of the ITA includes the following:

- An assessment of the existing transportation environment in the vicinity of the site, including:
  - Undertaking a site investigation to establish the existing transport network features and condition.
  - Investigating whether any crash history exists that could highlight safety issues on the surrounding road network, using Waka Kotahi NZ Transport Agency's (Waka Kotahi) Crash Analysis System (CAS) database.
- A description of the subject site, including details such as the site location, site layout, existing activities within the site, and a description of the adjacent and surrounding land use.
- Investigation into the preferred access location(s) and intersection/ access forms, including an assessment against the District Plan access formation standards.
- Estimation of the expected trip generation and distribution of trips associated with the proposed land use activities.
- A description of the potential effects of the trips associated with the proposed zoning on the performance and safety of the existing adjoining roads supporting the site.

[1] 'Lyn Cudby is the owner of the southern land block within the T4 growth cell (approx. 18 Ha). Subsequent to commissioning, Lyn Cudby has formed an agreement with LY&NZ Investment Limited who is the owner of the northern land parcel within the T4 Growth Cell. Under the terms of their agreement, we understand Lyn Cudby and LY&NZ Investment Limited have agreed to jointly be one party for the purposes of technical assessments and for the private plan change application.'

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- Identification of the existing and likely future public transport and active mode (walking and cycling) network provisions and infrastructure needed to support and promote mode neutral travel choices for the future residents of the proposed structure plan area.
- A description and assessment of the potential construction traffic effects on the adjoining transport network.
- A description of the relevant transportation policies and how the zoning proposal aligns with these, including the Waikato Regional Land Transport and Public Transport Plans, the Future Proof Strategy, and the Government Policy Statement on Land Transport.
- Evaluation of the proposal in terms of its compliance with the relevant objectives, policies and rule provisions of the District Plan.

1.3 Site Location and Description

The locality of the T4 Growth Cell is illustrated in Figure 1, while the extent of the two sites comprising the T4 Growth Cell is illustrated in Figure 2.

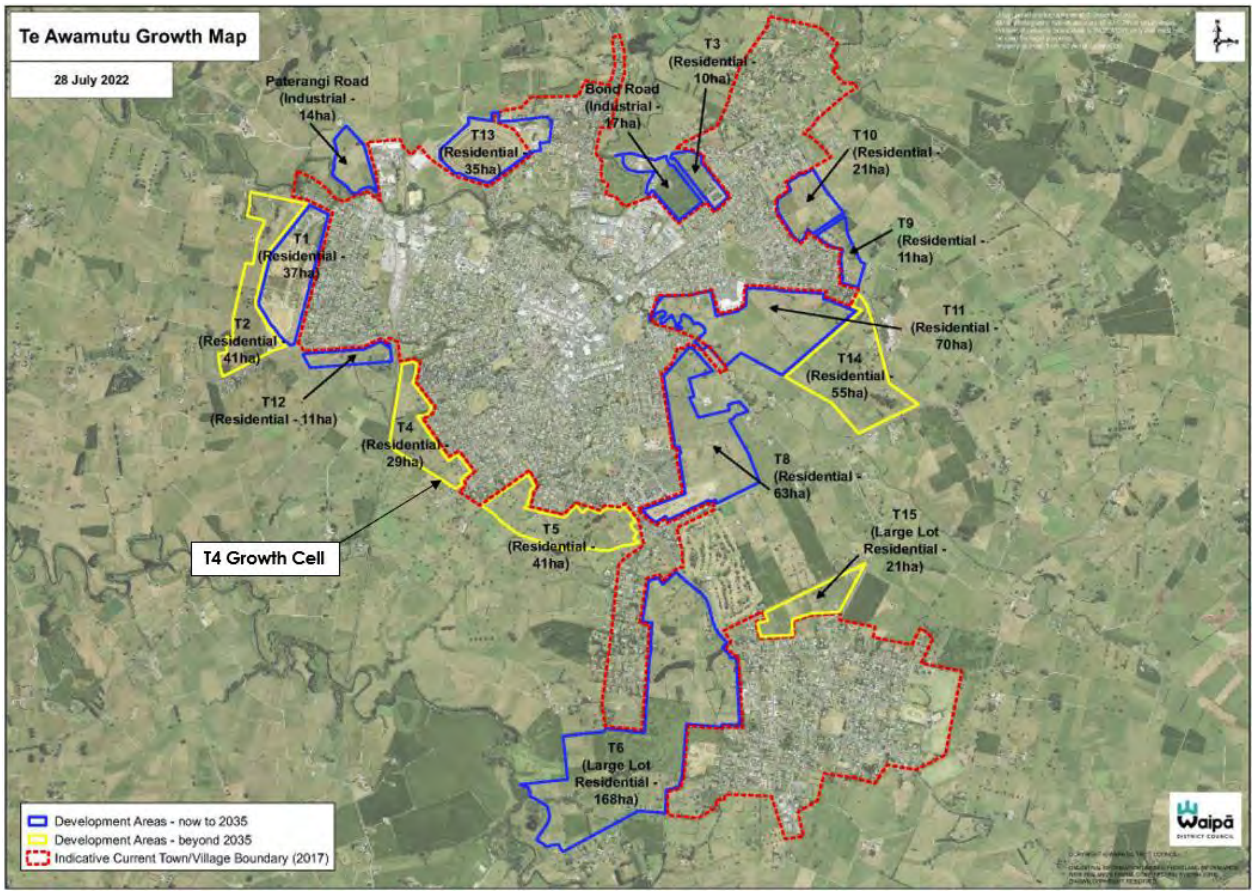


Figure 1: Locality Map (source: Waipā District Plan, *Appendix S1 – Future Growth Cells*)

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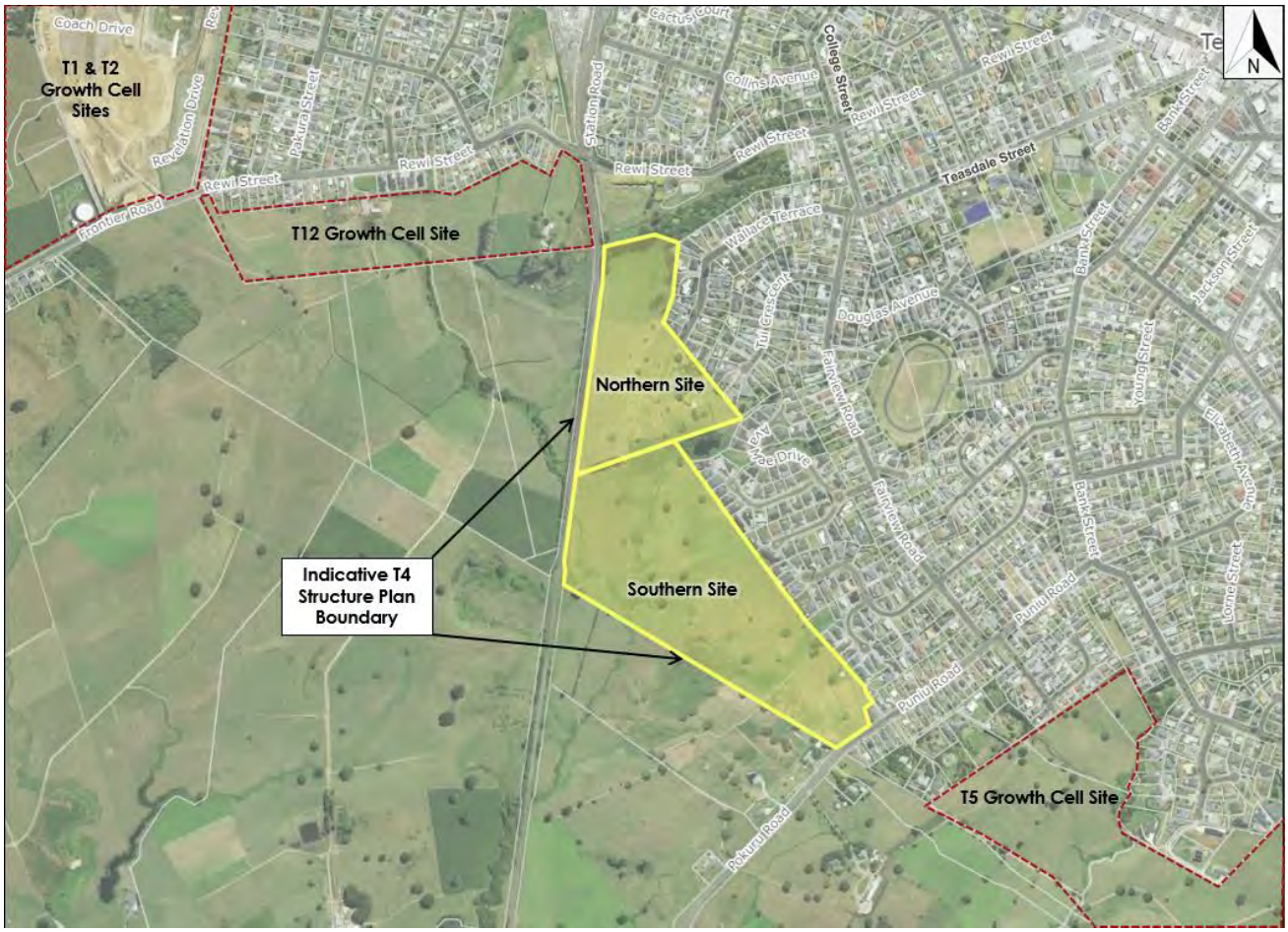


Figure 2: Zoning Sites Extents

Figure 1 and Figure 2 show the proposed T4 Structure Plan area is located approximately 1.5 km south-west of the Te Awamutu town centre, along the south-western boundary of the existing town/ village boundary.

The recently approved T1 and T2 Growth Cells and future T5 and T12 Growth Cells are all located within 1 km of the proposed structure plan boundaries. The now decommissioned Te Awamutu train station is located approximately 600 m north of the structure plan area.

As illustrated on Figure 2, the proposed structure plan area is comprised of two land parcels as follows:

- Northern Site / Area 1: The land parcel, which is approximately 9 ha in size, is bordered by the North Island Main Trunk (NIMT)to the west, and Council's Centennial Park reserve to the north. Area 1 has the legal description: Lot 2 Deposited Plan South Auckland 18699.
- Southern Site / Area 2: The land parcel is approximately 18.25 ha in size. It is bordered by Puniu Road to the south, and partially by the NIMT along the north-western corner. Area 2 has the legal description: Part Lot 1 Deposited Plan South Auckland 10432.

The land adjacent to the structure plan area is zoned as follows under the District Plan:

- Rural along the western boundary of the structure plan area;

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- Residential along the eastern and southern boundaries of the structure plan area; and
- Reserve along the northern boundary of the northern site.

The area to the west of the growth cell is mostly used for rural/ agricultural activities, while the urban areas to the east, south, north-west and far north of the growth cell form part of the existing Te Awamutu township. The adjacent urban areas generally comprise of single-family residential dwellings units.

2. Strategic Planning Context

A summary of the key guiding strategic planning documents is set out in Appendix A. By way of an overall summary, the following key observations can be made:

- The T4 Growth Cell is an identified and planned residential growth area for Te Awamutu;
- In planning for growth, the strategic guidance places an emphasis on:
  - Maintaining and enhancing efficient use of the transport networks;
  - Increasing density when compared with existing urban form;
  - Integrating new development areas with the existing urban environment;
  - Providing for multi-modal transport outcomes to minimise reliance of motor-vehicles and single occupant vehicle-based travel; and
  - Provide for future public transport servicing to be integrated with development when that is planned.

It is evident that the future growth planning anticipates the T4 Growth Cell and requires it to be planned in a way that ensures it is appropriately integrated with the existing urban environment. The extent to which this has been implemented is described in the sections that follow.

3. Existing Transport Environment

3.1 Existing Land Use

The two sites comprising the structure plan area are currently zoned Deferred Residential under the District Plan. Both sites are currently used for rural activities, with the northern site primary used for agricultural/ farming activities and the southern site as land for pasture.

Area 1 contains one dwelling which is situated near the south-eastern corner of the site, with access to the existing property currently provided via a private vehicle crossing at 540 Wallace Terrace, Te Awamutu. The existing farming activities are accessed via an adjacent farm gate on Wallace Terrace.

Access to the existing agricultural activities within Area 2 is currently provided via a farm gate on Puniu Road. No public roads exist through the two land parcels.

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The eastern boundary of these two lots adjoins the existing urban developed edge of Te Awamutu. A number of locations include established reserve connectivity together with a link via the Wallace Terrace local road environment.

The land adjoining Rewi Street, Centennial Park, has a reserve status.

3.2 Existing Road Network Characteristics

As illustrated on Figure 2 above, the existing network of roads surrounding the T4 Growth Cell includes Rewi Street, Puniu Road, Wallace Terrace/ Teasdale Street and Fairview Road.

A summary of the main characteristics of each road is provided in Table 1 and discussed in the subsections to follow. The current road classification is illustrated in Figure 3.

Table 1: Road network characteristics

Road Corridor	Road Section	Road Classification		Posted Speed limit (km/h)	Formed Carriageway width (m)[2]
		District Plan	ONRC		
Rewi Street	Station Road to College Street	Collector Road	Primary Collector	50km/h	11.8 m
Puniu Road	Pokuru Road to Fairview Road	Collector Road	Primary Collector	50km/h	10.4 m
Pokuru Road	Puniu Road to NIMT Overbridge	Collector Road	Primary Collector	80km/h	7.5 m
Wallace Terrace	T4 boundary to Fairview Road	Local Road	Access	50km/h	12.4 m
Teasdale Street	Fairview Road to Princess Street	Local Road	Secondary Collector	50km/h	11.6 m
Downes Street	College Street to Teasdale Street	Collector Road	Secondary Collector	50km/h	12.0 m
Fairview Road	Wallace Terrace to Puniu Road	Collector Road	Secondary Collector	50km/h	11.0 – 11.2 m

[2] Data has been sourced from Mobile Road

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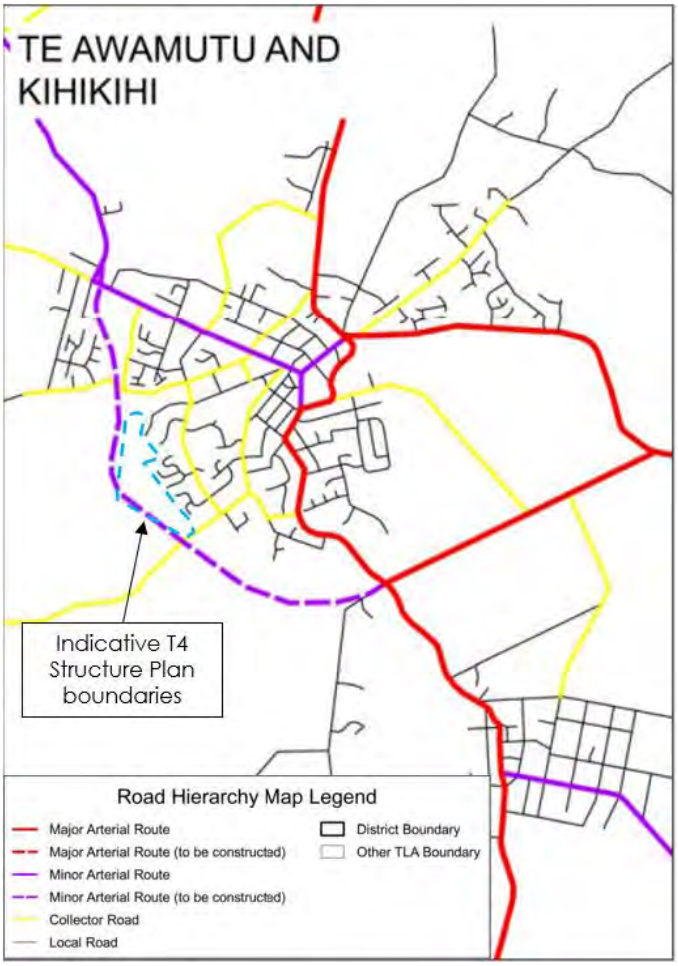


Figure 3: District Plan Road Hierarchy

3.2.1 Rewi Street

Rewi Street is classified in the District Plan[3] as a Collector Road and in terms of the One Road Network Classification (ONRC) as a Primary Collector. The road corridor runs generally east-west through Te Awamutu township. It becomes Mutu Street to the east of the structure plan area (at its intersection with Alexandra Street), and Frontier Road to the west of the structure plan area. The Rewi Street / Frontier Road corridor is one of the primary east-west routes connecting Te Awamutu with west Waipā. To the east, Rewi Street changes into Mutu Street and connects further north to State Highway (SH) 3.

The road corridor has a posted speed limit of 50km/h. This changes to 60km/h when the road corridor becomes Frontier Road, and the surrounding environment becomes more peri-urban. To the east the speed limit reduces to a 40km/h speed environment, east of Downes Street, on the approach to the commercial town area.

Rewi Street has a 20 m legal width. The section of the road corridor between Station Road and College Street is currently a two-lane two-way road with an approximately 11.8 m wide sealed carriageway. The proposed connection point to the structure plan area (refer to Section 6.4 for

[3] Source: District Plan Map 48

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the proposed access arrangement) is located approximately 70 m east of the Rewi Street / Station Road intersection. At this location, Rewi Street has:

- An approximately 4 m wide eastbound lane;
- An approximately 5 m wide westbound lane with on-street parking permitted; and
- Kerb and channel treatment on both sides of the road.

The current formation of the road is illustrated on Figure 4.



Figure 4: Rewi Street looking east from the proposed location of the structure plan access

3.2.2 Puniu Road & Pokuru Road

Puniu Road is an approximately 655 m long road corridor running generally east-west through the southern areas of Te Awamutu township. To the east of the growth cell, the road becomes Bank Street (at its intersection with Bridgeman Road), while the road becomes Pokuru Road at the south-western corner of the growth cell, where the surrounding road environment changes from urban to rural.

Both Puniu Road and Pokuru Road are classified in the District Plan as Collector Roads and in terms of the ONRC as Primary Collectors. The Puniu Road / Pokuru Road corridor is another primary east-west route connecting Te Awamutu with west Waipā.

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The speed limit on Puniu Road is currently 50km/h. The speed limit changes to 80km/h immediately west of the growth cell at the current town/ urban boundary (approximately 20 m west of the property at 617 Puniu Road).

The section of Puniu Road along the growth cell frontage has a legal width of approximately 20 m and is built to an urban road standard. This section of the road has an approximately 10.4 m wide sealed carriageway with the following features (refer to Figure 5 for an illustration of the current formation of the road):

- Two 3.3 – 3.5 m wide traffic lanes;
- Approximately 1.5 – 2 m wide sealed shoulders on both sides of the road; and
- Kerb and channel treatment on both sides of the road.



Figure 5: Puniu Road looking east from the structure plan area frontage



Figure 6: Pokuru Road looking west from the structure plan area frontage

Pokuru Road, the section immediately west of the structure plan area, has a legal width of approximately 20 m and an approximately 7.5 m wide sealed carriageway. The two-way two-lane rural road has the following features (refer to Figure 6 for an illustration of the current formation of the road):

- Two 3.5 m wide traffic lanes;
- An approximately 0.5 m sealed shoulder on the northern side of the road; and
- An approximately 0.5 – 1 m wide sealed shoulder on the southern side.

3.2.3 Wallace Terrace

Wallace Terrace is classified as a Local Road in the District Plan Road Hierarchy and an Access Road in terms of the ONRC. The two-way two-lane no-exit road is approximately 500 m in length and has a legal width of 20 m. The road has an approximately 12.4 m wide sealed carriageway

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with on-street parking on both sides of the road. The road has a winding alignment with steep grades at either end of the road.

The road has a 50km/h posted speed limit. Given the urbanised road environment and roadside friction in the form of on-street parking, it is considered unlikely that vehicle operating speeds would be significantly higher than the posted speed limit.

3.2.4 Fairview Road, Teasdale Street & Downes Street

Fairview Road, Teasdale Street and Downes Street are classified in terms of the ONRC as Secondary Collectors. The District Plan Road Hierarchy classifies Fairview Road and Downes Street as Collector Roads, while Teasdale Street is classified as a Local Road.

All three road corridors have a legal width of 20 m, provide for one traffic lane in each direction, one-street parking on both sides of the road, have kerb and channel treatment on both sides of the road, and a sealed carriageway width as follows:

- Fairview Road: 11.0 – 11.2 m;
- Teasdale Street: 11.6 m; and
- Downes Street: 12 m.

The posted speed limit on all three roads is 50km/h.

3.3 Baseline Traffic Demands

3.3.1 Existing Traffic Demands

The existing (2023) baseline traffic demands for the adjacent adjoining road network are provided in Table 2 to follow. Table 2 shows the latest (2022/23 traffic counts) traffic count provided by Council, as well as traffic demands estimates (2022 estimates) from Mobile Road.

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Table 2: Existing 2023 Baseline Traffic Volumes

Road Corridor	Road Section	2022/23 Council Traffic Counts		Mobile Road Estimates (2022/23)	
		ADT (vpd)	% Heavy Vehicles	ADT (vpd)	% Heavy Vehicles
Rewi Street	Station Road to College Street	3,725 vpd	4.5%	3,195 vpd	5.5%
	College Street to Alexandra Street	4,735 vpd	8.4%	4,299 vpd	8.4%
Puniu Road	Pokuru Road to Fairview Road	No data available		2,556 vpd	6.0%
	Fairview Road to Bank Street	3,610 vpd	8.02%	3,294 vpd	6.0%
Pokuru Road	Puniu Road to NIMT Overbridge	3,413 vpd	6.0%	3,170 vpd	6.0%
Wallace Terrace	T4 boundary to Fairview Road	No data available		134 vpd	6.0%
Teasdale Street	Fairview Road to Princess Street	No data available		1,339 vpd	6.0%
	Princess Street to Jacobs Street	No data available		1,998 vpd	6.0%
	Jacobs Street to Vaile Street	5,204 vpd	5.5%	4,732 vpd	4.0%

The following was noted based on the traffic demand estimates in Table 2 above:

- According to the Mobile Road website, the section of Rewi Street between Station Road and College Street is estimated to carry an Average Daily Traffic (ADT) volume of approximately 3,195 vehicles per day (vpd) with approximately 5.5% of the ADT being heavy commercial vehicles (HCVs), while the section to the east of College Street carries an ADT volume of approximately 4,299 vpd with approximately 8.4% HCVs. More recent traffic count surveys provided by Council show that the section to the road to the west of Station Road now carries on average 3,725 vpd (with 4.5% HCVs), while the section to the east of College Street carries on average 4,735 vpd (with 8.4% HCVs).
- According to the Mobile Road website, the section of Puniu Road along the site frontage is estimated to carry an AADT volume of approximately 2,556 vpd with approximately 6% HCVs, while Pokuru Road carries an ADT volume of approximately 3,170 vpd with approximately 6% HCVs. The latest traffic count data provided by Council shows that the Puniu Road and Pokuru Road carry approximately 8-10% more traffic than the current estimates on the Mobile Road website.
- Wallace Terrace is estimated on the Mobile Road website as carrying an ADT volume of approximately 134 vpd with approximately 6% HCVs. However, based on the current number

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of dwellings along the cul-de-sac, the road corridor is estimated as more likely carrying in the order of 426 vpd[4] at its eastern end.

- According to the Mobile Road website, the section of Teasdale Street near Fairview Road / Downes Street is estimated to carry an ADT volume of approximately 1,339 vpd with approximately 6% HCVs. Based on the latest traffic count data provided by Council, the section to the east of Jacobs Street carries approximately 10% more traffic than the current estimates on the Mobile Road website.

3.3.2 Future Baseline Traffic Demands (WRTM)

The WRTM's validated 2018, and projected 2031 and 2041 baseline traffic volumes for the adjacent road network are provided in Table 3 to follow.

Table 3: WRTM's Predicted 2018, 2031 and 2041 Baseline Traffic Volumes

Road Corridor	Validated 2018 ADT	Predicted 2031 ADT	Predicted 2041 ADT
Rewi Street	2,419 vpd	2,692 vpd	2,706 vpd
Puniu Road	2,283 vpd	2,410 vpd	2,612 vpd
Pokuru Road	2,283 vpd	2,410 vpd	2,612 vpd
Teasdale Street	1,425 vpd	1,440 vpd	1,525 vpd
Downes Street	1,638 vpd	1,517 vpd	1,612 vpd
Fairview Road	1,864 vpd	1,682 vpd	1,802 vpd

A comparison of the WRTM's ADT volumes against Council's latest (2022/23) traffic count data and traffic demand estimates sourced from Mobile Road showed that:

- The WRTM's predicted baseline volumes were, on average, 25-40% lower than the latest traffic count data.
- The WRTM generally estimates a low traffic growth between the 2018 and 2031 assessment years (and in some cases, e.g.: Downes Street and Fairview Road, a negative growth in traffic between this period). On average, the regional model predicts a growth of less than 1% per annum between the 2031 and 2041 assessment periods. The WRTM therefore predicts only a marginal change in the present traffic demand on the adjoining road network.

On the basis of the above, as a conservative approach to the subsequent assessments in this report, the WRTM's baseline traffic volume projections were increased by 35%. The adopted 2031/41 baseline traffic demands are summarised in Table 4.

[4] The ADT on Wallace Terrace was estimated based on the existing number of dwellings. There are currently about 52 dwellings on Wallace Terrace. On the basis of the assessed daily trip rate of 8.2 trips per day (refer to Section 7.1 of this report), this indicates the current environment is expected to generate in the order of 426 trips per day at its eastern end.

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Table 4: Adopted 2023, 2031 and 2041 Baseline Traffic Volumes[5]

Road Corridor	2023 Baseline ADT	Predicted 2031 Baseline ADT	Predicted 2041 Baseline ADT
Rewi Street	3,725 vpd	3,635 vpd	3,655 vpd
Puniu Road	3,145 vpd	3,255 vpd	3,530 vpd
Pokuru Road	3,145 vpd	3,255 vpd	3,530 vpd
Teasdale Street	1,340 vpd	2,410 vpd	2,745vpd
Downes Street	5,205 vpd	2,050 vpd	2,180 vpd

3.4 Other Transport Modes

3.4.1 Existing Public Transport Services

There are currently no public transport services within easy walking distance of the structure plan area.

Te Awamutu is currently served by a regional bus service which is operated by BUSIT, a sub-contractor to the Waikato Regional Council (WRC). The No. 24 bus service operates between Hamilton and Te Awamutu, seven days a week. The bus service currently stops in the town centre (the I-Site at 1 Gorst Avenue). The bus stop is located approximately 2 km from the eastern boundary of the structure plan area.

The bus service also offers extended services as follows:

- To/ from Kihikihi on Tuesday and Thursday;
- From Rukuhia School to Hamilton on weekdays; and
- A school assist service to Hamilton Boys High School and Southwell School on weekdays during the school term.

The bus route and bus stops that service the above-mentioned bus services are show in Figure 7.

[5] Values have been rounded up to the nearest multiple of 5.

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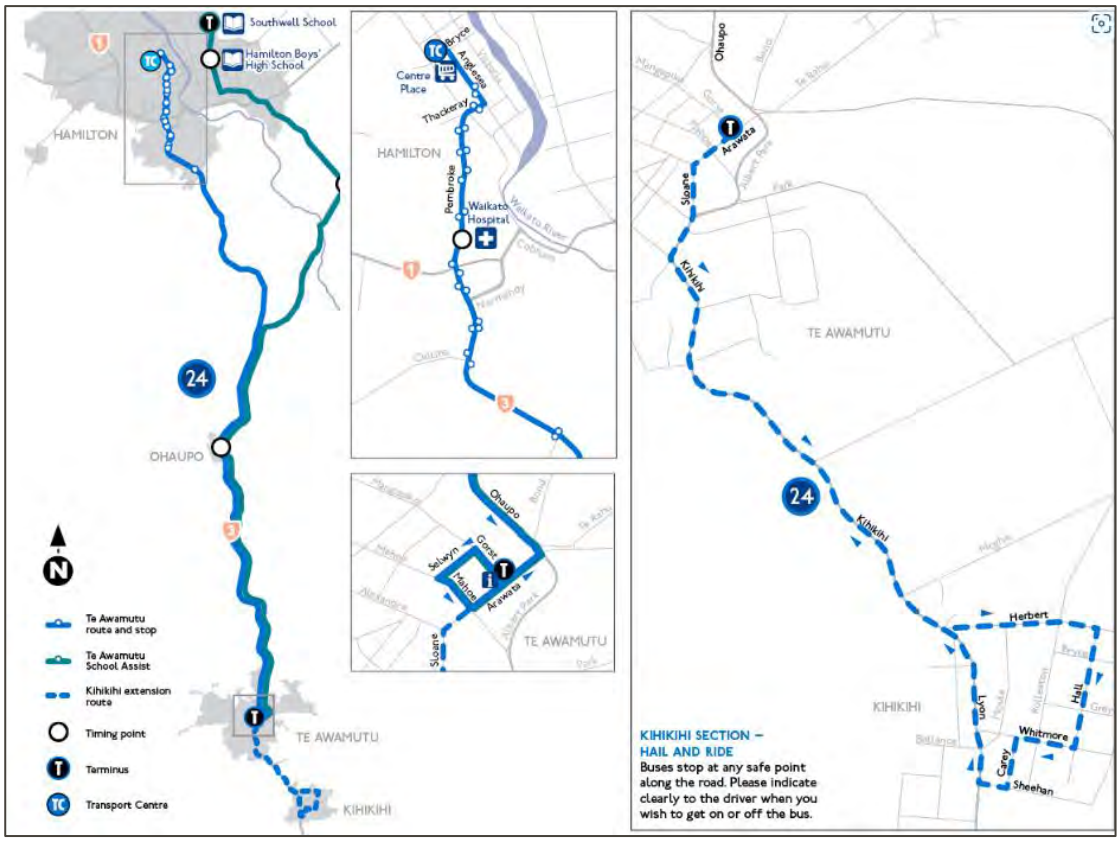


Figure 7: No. 24 – Te Awamutu, Bus Route (Source: BUSIT 2023)

3.4.2 Existing Walking and Cycling Infrastructure

Footpaths are currently provided as follows along the adjoining road network:

- On the northern side of Rewi Street at the location of the future proposed access intersection;
- On the eastern side of Wallace Terrace (from the structure plan boundary to no. 366 Wallace Terrace) and on both sides of the road up to where the road terminates at the Fairview Road intersection; and
- On the southern side of Puniu Road along the structure plan frontage.

In terms of wider pedestrian infrastructure, Figure 8 shows the current walking tracks within Te Awamutu township. As shown in the figure, the Pioneer Walk route is an approximately 1.6 km through the central and northern areas of Te Awamutu. Rewi Street and the Centennial Park reserve are identified in the map as forming part of the walking route.

Cyclists currently share the carriageway with general traffic on both Rewi Street and Puniu Road.

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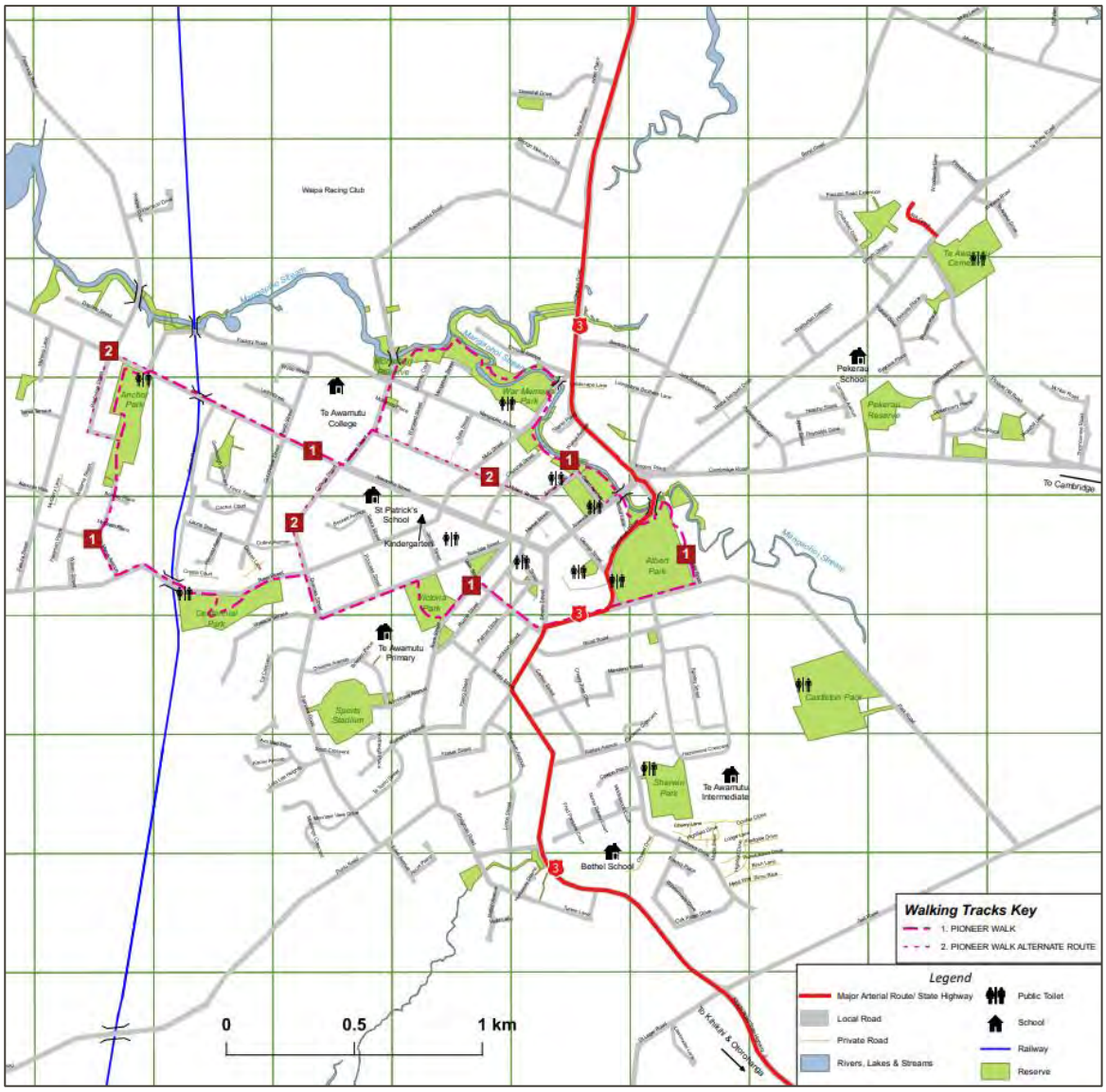


Figure 8: Te Awamutu Walking Tracks (Source: Waipā District Council)

4. Future Transport Environment

4.1 Consented Land Use Developments

The following are approved structure plans / consented land use developments located within close proximity to the T4 growth cell:

- The T1 Structure Plan is an approximately 37 ha growth cell located approximately 1 km west of the proposed structure plan area on Frontier Road. It is bordered by Pirongia Road to the north and Frontier Road to the south. The approved structure plan was assessed in the ITA report prepared for the T1 Growth Cell[6], as enabling development of approximately 444 residential dwellings. Construction of the first stages of residential development (located along

[6] T1 Growth Cell Te Awamutu Integrated Transport Assessment by Traffic Design Group (TDG) now Stantec (dated 19 November 2018) for Frontier Developments Ltd

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the northern areas of the structure plan with access from Pirongia Road) has been completed, with development within the balance of the growth area underway.

- The T2 Structure Plan area is located adjacent to the T1 Structure plan along its western boundary. The approved structure plan was assessed in the ITA report prepared for the T2 Growth Cell[7], as enabling development of an approximately 9.45 ha retirement village, a northern residential area of 16.2 ha with potential for approximately 197-246 residential dwellings (post 2035), and a southern residential area of 8.76 ha with a proposed subdivision layout including 113 lots. Works are currently underway within the retirement village site and southern residential area.

With access to both growth cells planned to be provided via both Pirongia Road in the north, and Frontier Road in the south, the planned land use activities within the consented T1 and T2 structure plan areas will result in an increase in traffic along both the Pirongia Road / Alexandra Street and Frontier Road/ Rewi Street corridors. The anticipated increase in the future baseline traffic volumes along Frontier Road is summarised in Table 5.

Table 5: Consented T1 & T2 Structure Plan Traffic Volume Forecasts on Frontier Road / Rewi Street

Growth Cell	Period	Inbound		Outbound	
		From the West of the structure plan Access	From the East of the structure plan Access	To the West of the structure plan Access	To the East of the structure plan Access
T1 Structure Plan	Daily	447 vpd	283 vpd	447 vph	283 vpd
	AM Peak	26 vph	17 vph	73 vph	46 vph
	PM Peak	63 vph	40 vph	36 vph	23 vph
T2 Structure Plan	Daily	180 vpd	419 vpd	180 vpd	419 vpd
	AM Peak	14 vph	32 vph	27 vph	63 vph
	PM Peak	27 vph	63 vph	14 vph	32 vph

The figures in Table 5 above have been included as part of the baseline traffic volume forecasts for this assessment. The adopted 2031/41 baseline traffic demands on Rewi Street, inclusive of the consented T1 and T2 Structure Plan traffic demands are summarised in Table 6.

Table 6: 2031/41 baseline traffic demands on Rewi Street, inclusive of the consented T1 and T2 Structure Plan traffic volume forecasts

Assessment Year	Baseline Traffic Demands (vpd)	T1 Structure Plan Traffic Volume Forecasts (vpd)	T2 Structure Plan Traffic Volume Forecasts (vpd)	Total Predicted Baseline Traffic Demands (vpd)
2031	3,635 vpd	566 vpd	838 vpd	5,039 vpd
2041	3,655 vpd	566 vpd	838 vpd	5,059 vpd

[7] T2 Growth Cell Te Awamutu Integrated Transport Assessment by Stantec (dated 12 October 2020) for Sanderson Group Ltd and Kotare Properties Ltd

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4.2 Planned Transport Network Projects / Improvement Works

The following are planned transport infrastructure projects located within the vicinity of the T4 growth cell:

- The Te Awamutu Western Arterial. The designation for the future transport corridor was completed in 2006 and is set to expire after February 2023. Council has confirmed during the pre-application meeting that the existing arterial designation, which is partially located within the proposed structure plan boundaries (refer to Figure 3 for an illustration of the designation alignment), will likely be uplifted within this calendar year (2023) in favour of a more local Collector Road corridor.
- The Waipā District Council Annual Plan 2022/23 identifies the following transportation projects within the vicinity of the proposed structure plan:
    - Frontier Road Plan Change Roading.
    - Urban walking and cycling projects. Figure 9 shows the future planned urban mobility network. As shown in the figure, Frontier Road/ Rewi Street and Pirongia Road/ Alexandra Street are identified as future cycle routes. In these environments, and for the anticipated cycling demands, cycling will typically be planned for and accommodated within the wider carriageway space.
- A 3.0m shared path for walking and recreational cycling connectivity to both the Pirongia Road and Frontier Road frontages is understood to be establishing with the T1 Growth Cell.
- Council has also advised it has a potential local pedestrian safety improvement concept intended when funding becomes available to apply to the Rewi Street / Station Road intersection.

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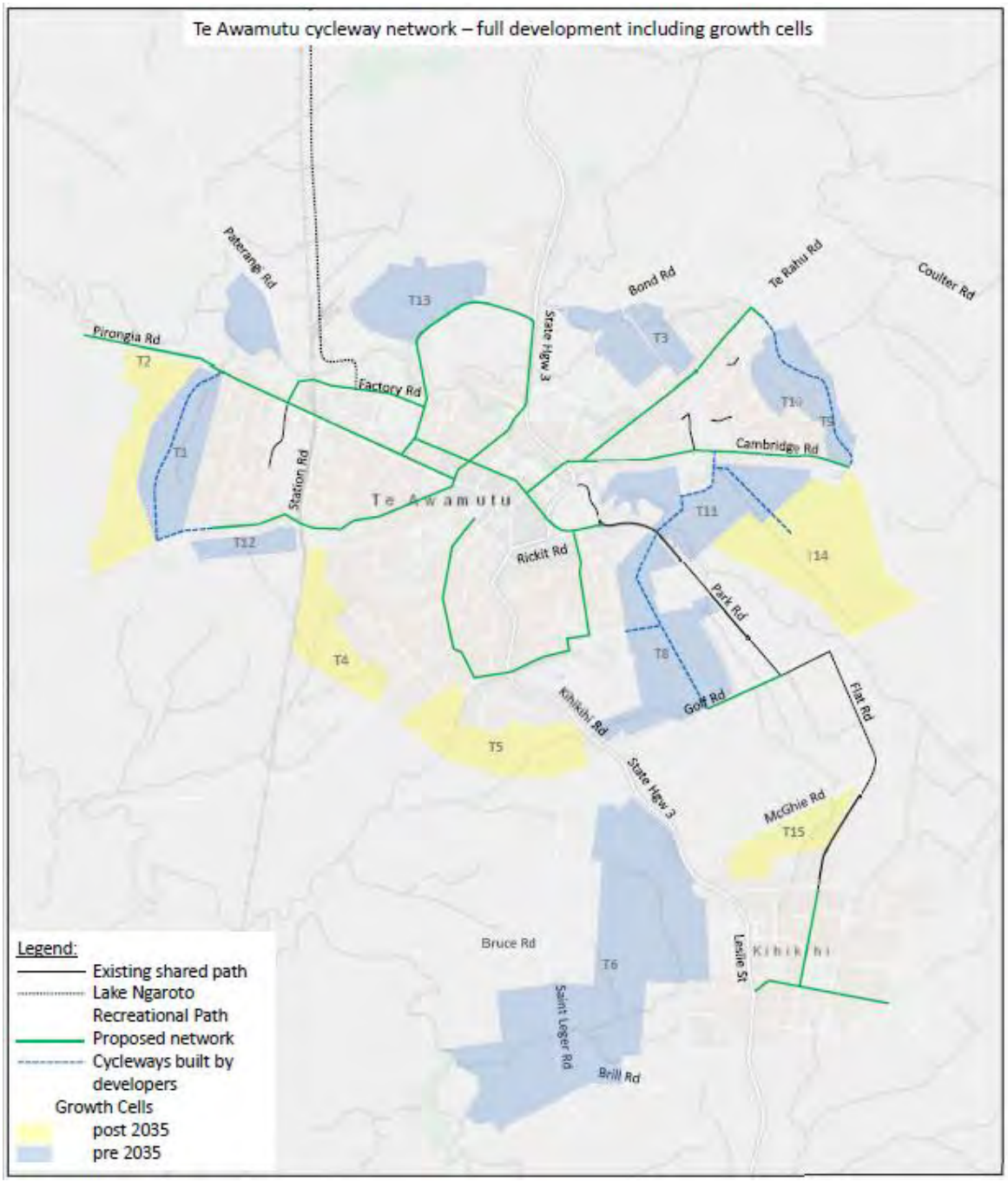


Figure 9: Future planned Cycleway network in Te Awamutu

5. Road Safety Environment

Crash data for the previous full five-year period (January 2018 to December 2022, including up to June 2023) was sourced from Waka Kotahi's Crash Analysis System (CAS) and analysed to identify any road safety related issues within the vicinity of the proposed structure plan area. The assessed area included:

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- Puniu Road: the section along the structure plan frontage up to and including the Fairview Road intersection;
- Pokuru Road: from Puniu Road to approximately 250 m west of the south-western boundary of the structure plan area;
- Rewi Street: the section between Station Road and College Street, inclusive of the two intersections; and
- Wallace Terrace: Up to and including the Fairview Road and Downes Street intersections.

A total of 12 crashes were recorded within the study area in the previous five-year period. A brief summary of the recorded crashes is provided in Table 7, while the locations of the recorded crashes are illustrated in Figure 10.

Table 7: Crash summary for the previous five years (January 2018 to June 2023)

Road Section	Crash Severity				Crash Types	
	Fatal	Serious	Minor	Non-Injury	Midblock	Intersection/ Access
Rewi Street (Station Road to College Street)	0	0	1	5	2 x Loss of control/ run-off road 1 x Sideswipe while overtaking	1 x Right Turn 2 x Crossroads/ T-bone
Puniu Road (Pokuru Road to Fairview Road)	0	0	1	1	1 x Collision with parked vehicle 1 x Loss of control/ Run-off road	-
Pokuru Road (Puniu Road to 250 m west of the structure plan boundary)	0	0	0	3	1 x Head-on 1 x Loss of control/ Run-off road 1 x Collision with animal	-
Wallace Terrace (structure plan boundary to Downes Street)	0	0	0	1	-	1 x Lost load / Rear-end
Total	0	0	2	10	8	4

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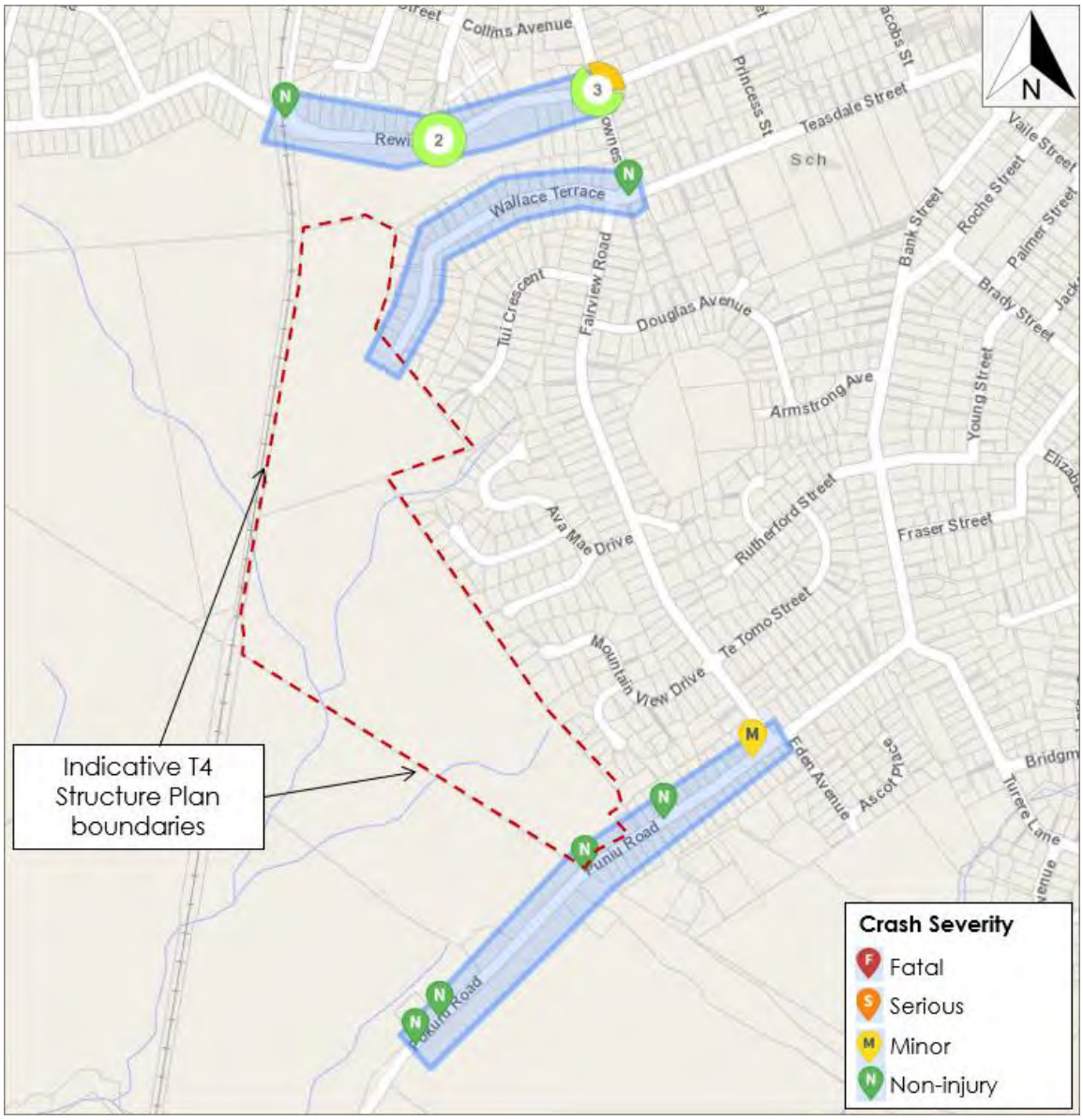


Figure 10: CAS Search Area and Reported Crash Locations

The following observations were made from the analysis of the historic crash data:

- Six crashes were recorded along the section of Rewi Street between Station Road and College Street within the previous 5-year period. One crash resulted in minor injuries, while the five remaining crashes did not result in any injuries. The specific details of the crashes are summarised as follows:
    - Two crashes occurred as a result of a vehicle on Rewi Street losing control while navigating the horizontal bend just east of the Te Awamutu Skate Park access.
    - Four crashes occurred at/ in the vicinity of the adjoining Station Road and College Street intersections. Three crashes were side impact crashes where a vehicle on the minor road failed to give-way to a vehicle on Rewi Street, while the remaining crash (sideswipe) was related to a vehicle overtaking s stationery vehicle parked near the intersection. The one

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crash that occurred at the Station Road intersection was attributed to the sight lines looking north being restricted by the railway bridge parapet.

- Two crashes were reported along the section of Puniu Road between Pokuru Road and Fairview Road within the previous 5-year period. Only one crash resulted in injuries.
    - The minor injury crash occurred as a result of a distracted driver colliding into a parked vehicle.
    - The non-injury crash occurred as a result of a vehicle on Puniu Road losing control while traveling west. The crash was attributed to the driver experiencing a minor medical event.
- Three crashes were reported along the assessed section of Pokuru Road. All three crashes occurred during inclement weather conditions (either at night or during periods of poor weather) and did not result in any injuries.
    - The first crash occurred as a result of a driver losing control of the vehicle while navigating a bend and colliding head-on with a vehicle on the opposing traffic lane.
    - The second crash occurred as a result of a fatigued driver falling asleep while driving, crossing the road centreline onto the opposing traffic lane and landing on a small bank on the opposing carriageway.
    - The third crash occurred when a vehicle collided into a stray animal that had walked onto the road.
- Only one crash, which did not result in any injuries, was recorded along the section of Wallace Terrace between the structure plan boundary and Downes Street. The crash occurred at the Downes Street intersection, when a southbound vehicle that was being towed rolled away and collided into a vehicle that was approaching the intersection from the north.

While no death or serious injury crashes (DSI) were recorded on the adjoining road network, the 5-year historic crash data indicated some commonality in the crash types on the assessed section of Rewi Street (either intersection related crashes, or loss of control crashes at the nearby bend). In terms of crashes recorded on Pokuru Road, while there is little commonality in the crash types, the crashes have similar contributing factor (periods of poor visibility). The crashes occurred in the vicinity of the urban/rural speed transition where there is currently a change in the road's horizontal alignment.

A further update of the safety records for the period June 2023 to June 2024 has been assessed. The assessment has identified 3 further crashes on Rewi Street as follows:

- A non-injury crash on Rewi St 126m east of Station Road involving a single vehicle loss of control at 11:30pm, alcohol was above the limit and road conditions were wet;
- A serious injury crash on Rewi Street 146m east of Station Road involving a west-bound cyclist hitting the rear of a turning vehicle; and
- A non-injury crash at the Rewi Street / Station Road intersection involving a vehicle colliding with a pedestrian on a mobility scooter.

On the basis of the above, it is considered that the proposed development of the T4 Structure Plan should have regard for:

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- The potential to move the urban speed limit further west on Puniu Road and improve visibility during poor weather conditions, which could be beneficial to the safety performance of this area;
- Providing safer speeds along the section of the two road corridors where access to the structure plan area is proposed; and
- Particular consideration for the safe design of the plan change intersection with Rewi Street.

6. Proposed Zoning and Structure Plan

6.1 Overview

The proposed structure plan illustrated on Figure 11 shows the extent of land sought to be zoned Medium Density Residential, a commercial overlay area which identifies potential locations for a local neighbourhood centre, as well as the primary transport connections within the structure plan area. A preliminary layout of the proposed transport network is illustrated on Figure 12. Figure 12 also shows the possible lot sizes and configuration that could be achieved, although any development in the structure plan area is subject to a subdivision consent process which will confirm the transport network. A4 scale maps showing the proposed structure plan, and preliminary Transport Network layout plan are contained in Appendix C.

The key transportation elements of the proposed structure plan are shown in Figure 11 and Figure 12 and include:

- A proposed Collector Road along the structure plan's western boundary.
    - The proposed Collector Road within the structure plan area is proposed to form the initial stages of the strategic "Western Arterial" corridor, although the corridor is understood to now be planned with a reduced strategic function. As previously mentioned in Section 4.2, the designation to the north of Puniu Road will likely be uplifted within this year (2023) in favour of a more collector road corridor.
    - Council staff have advised that Council owns the area of land between the NIMT and Puniu Road / Pokuru Road forming the "Western Arterial" designation alignment. Accordingly, as shown in the structure plan in Figure 11, the southern section of the proposed collector road is proposed to be located within the designation boundary and not within the structure plan boundaries.
- New connections to the adjoining road network as follows:
    - New access intersections on Rewi Street and Puniu Road / Pokuru Road; and
    - A new local road connection to Wallace Terrace.
- A supporting network of local roads, cul-de-sacs and private rights-of-way's (ROWs) providing property access;
- A connected walking and cycling network, with:

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- A 4 m wide bi-directional cycle path on the eastern side as well as 1.8 m wide footpaths on both sides of the proposed Collector Road corridor;
- A 3 m wide shared path on at least one of the primary local road network, with footpaths on the opposite side of the road; and
- Off-road shared paths through the proposed open-space/ stormwater reserves.

- Adequate space within the proposed internal road network to enable public transport infrastructure (such as bus stops) in the future.

These elements are discussed in detail in the sections that follow.

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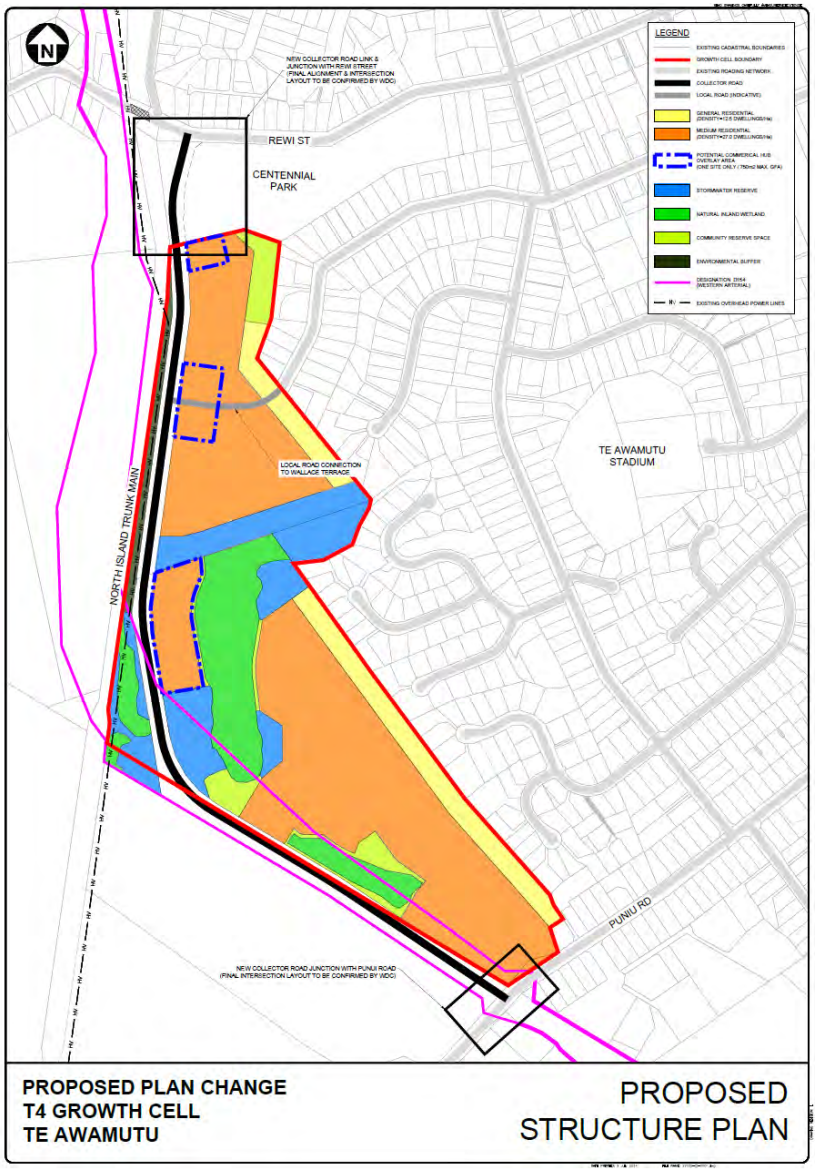


Figure 11: Proposed T4 Structure Plan

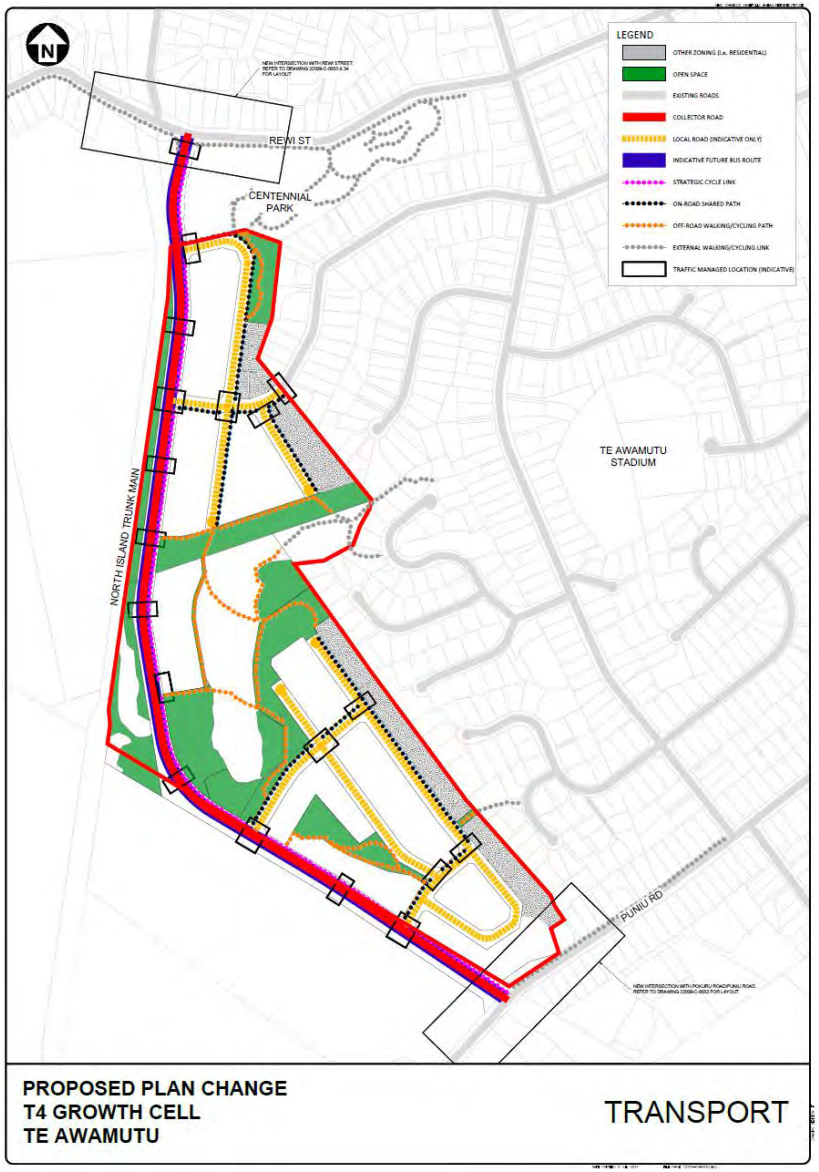


Figure 12: Preliminary Subdivision Concept Plan/ Transport Network Plan

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6.2 Anticipated Development Yield

To inform trip generation, the anticipated development yield assumptions are described below.

Combined, the two land parcels comprising the proposed T4 Structure Plan area are approximately 27.25 ha in size. The following constraints have, however, been identified which restricts the amount of land that is able to be developed:

- A portion of the growth cell is low lying and resultantly lies within a floodplain, and some areas are identified as being natural inland wetlands. The low-lying areas are not considered suitable for development and have accordingly been identified as stormwater management areas and public open spaces/ active reserves.
- There is a steep embankment on the north-eastern corner of the structure plan area that would require significant earthworks to enable the affected area to be developable. Accordingly, this area has been identified as a public open space/ active reserve.
- The presence of high-voltage overhead powerlines and the NIMT railway line along the north-western boundary of the growth cell. Rule 2.4.2.38 of the District Plan specifies a minimum 12 m setback from a National Grid Support Structure. Accordingly, an environment buffer (10-12 m from the north-western site boundary) has been identified.
- The existing Western Arterial Designation and proposed road reserve areas.

The extent of developable land which is anticipated to be available within the structure plan has been indicatively shown on Figure 11 and Figure 12. The two figures show that approximately 12.4 ha of land within the structure plan area could be utilised for residential development.

Based on a net residential density of 20-25 dwellings per hectare, the proposed zoning and structure plan is assessed as enabling the development of up to 310 residential dwellings with lot sizes ranging between 400m^2 and 600m^2. The adopted density is consistent with the requirements of the Regional Policy Statement (RPS)[8] for greenfield locations, and proposed Rule 2A.3.2.2 of Plan Change 26: Residential Zone Intensification (PC26)[9].

This anticipated residential yield has been adopted for the purposes of transport assessments. The yield basis is summarised in Table 8 below.

Table 8: Proposed T4 Structure Plan area - Assessed Development Yield

Area	Gross Area (ha)	Net Developable Area (ha)[10]	Estimated Dwelling Units (no.)
Area 1	9.00	3.8	76 - 94
Area 2	18.25	8.6	172 - 216
Total	27.25	12.4	248 - 310

[8] The RPS sets out the following net medium density targets within the Waipā district: 25-35 dwellings/ ha in defined intensification areas and 20-25 dwellings/ha in greenfield locations.
[9] Proposed Rule 2A.3.2.2 in the notified version of PC26 specifies a minimum target density of 25 to 35 dwellings per hectare (net after taking into account public spaces and infrastructure).
[10] Excluding active reserves, stormwater management areas, environmental buffers, and road reserve areas

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Following the comprehensive analyses on these bases, the applicants have further engaged with Council, the outcome of which is that Council has indicated a preference for higher density outcomes where that is achievable.

Taking this indicated preference into consideration the applicants have investigated an increased target density for medium density to 27.0 Dwellings per ha and checked this against the subdivision concept for feasibility. The outcome of this assessment has been as follows:

- The subdivision concept has an estimated dwellings potential at up to 362 total (39 general residential and 323 medium density) or total gross density of 25.3 dwellings/ha. This equates to gross density in each zone as follows:
    - General Res. = 14.7 dwellings/ha
    - Medium Res. = 27.6 dwellings/ha
- In the event the developer targets minimum density in the general residential zone (i.e. 12.5 dwellings/ha) the overall scheme still achieves an overall density target at 24.8 dwellings/ha.

The earlier comprehensive technical analyses have not been revised on these later bases, however the potential incremental effect has been assessed and is noted as follows:

- The potential incremental additional trip demand should the increased density be achieved accounts for an estimated 47 additional vehicle trips (two-way total) in the peak hour[11];
- When distributed across the future three points of connection, the potential net additional demand accounts for about an additional 15 vehicle movements (two-way total) at each location;
- The nett effect of this increment is assessed and considered in the later sections of the report evaluating the operational capacity at these locations. The overall outcome can be summarised here as being negligible to the conclusions on the transport infrastructure recommended and the timing for it, as is later assessed.

6.3 Proposed Internal Road Network and Hierarchy

An indicative network of internal roads to service the proposed structure plan area is illustrated in Figure 12. The proposed internal road network comprises of the following road typologies:

- Collector Road (25 m);
- Local Road (20 m); and
- Local Access Road (18 m).

The preliminary cross-section elements for each road typology above are summarised in the subsections to follow. A4 scale drawings showing the preliminary cross-sections are contained in

[11] Assessed based on the assumptions described at s7.1 of this report

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Appendix C. These have been developed in consultation with Council staff and would be subject to design authorisation and assessment as part of the intended subdivision consents.

The proposed cross-sections have been assessed against District Plan requirements (Appendix T4) as well as road design standards provided in Table 3.2 of the New Zealand Standard 4404 (NZS4404: *Land Development and Subdivision Infrastructure*). Council staff have also provided, as guidance, draft standards outlining cross-section features by ONRC that are planned to be circulated for consultation as part of the current review of the Regional Infrastructure Technical Specifications (RITS). These draft standards were also referenced during the comparative assessment.

6.3.1 Collector Road (25 m)

The indicative cross-section for the proposed Collector Road is illustrated on Figure 13, while the proposed cross-section elements are summarised in Table 9 below.

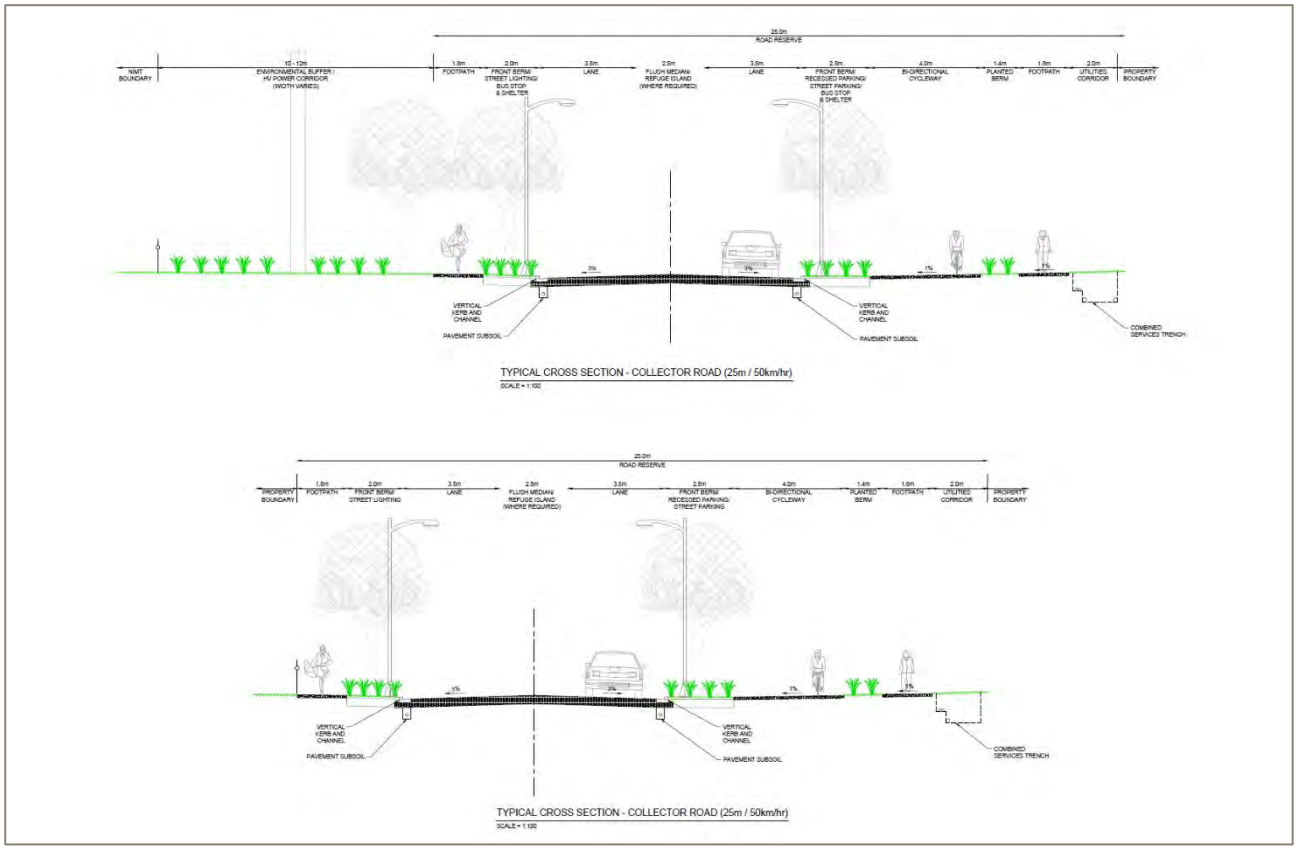


Figure 13: Proposed Collector Road cross-section (25 m)

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Table 9: Collector Road (25 m) cross-section summary

Cross-section Element	District Plan Requirements (Appendix T4): Collector Road	NZS4404:2010 (Table 3.2) Connector/ Collector (± 8,000 vpd)	Draft RITS Standards: Secondary Collector (1,000 - 3,000 vpd)	Proposed: Collector Road
Minimum road reserve (m)	25 m	20 m	20 m	25 m
Minimum sealed carriageway width (m)	15 m	-	11 m	12.0 m including the recessed parking one-side
Lane width (m)	2 x 3.5 m	2 x 4.2 m (excluding shoulder)	2 x 3.5 m + 2 m sealed shoulders	2 x 3.5 m + 2.5 m flush median
On-street parking (m)	2.5 m wide, 1 park per lot	Recessed parking	2 x 2 m	2.5 m recessed on eastern side only
Cycling infrastructure (m)	1.5 m cycle lane on both sides	Separate provision where local authority defined cycle route	Shared with pedestrians (see below)	4 m bi-directional cycle path on eastern side
Pedestrian infrastructure(m)	1.5 m footpath on both sides	2 m footpath on both sides	1 x 1.8 m footpath + 1 x 3 m shared path	1.8 m footpath on both sides
Utilities/ services corridor (m)	Min 2.1 m on both sides	-	Min 2 m on both sides	2 m on eastern side only
Front berm, street tree, swale, lighting, recessed parking and bus stops	Provision on both sides	-	Streetlights located at boundary	2 m front berm on western side + 1.4 m berm on eastern side between cycle path and footpath
Speed Environment	-	50km/h	50km/h	50km/h operating environment

As shown in Table 9, while the preliminary proposed cross-section elements do not fully comply with the standards set out in Appendix T4 of the District Plan, the intended form of the Collector Road is considered acceptable and appropriate for this specific development for the following reasons:

- Development within the structure plan will only occur on one side of the corridor (the eastern side) as the western side adjoins either rural zoned land or undevelopable land (land identified as being within the "environment buffer"). Accordingly, the following features are proposed on the side of the road that development is anticipated to occur:
    - On-street parking on just the eastern side and not on both sides as required in the District Plan.
    - A 4 m wide off-street bi-directional cycle path on the eastern side instead of on-road cycle lanes on both sides as required in the District Plan.

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- A services/ utilities corridor only on the eastern side and not on both sides as required in the District Plan.

- Accordingly, a narrower sealed carriageway width (9.5 m excluding recessed parking and 12.0m inclusive of it) as opposed to the District Plan's minimum required 15 m) is proposed. Even with the narrower width, it is assessed that there is sufficient space within the proposed corridor to provide for parking, public transport and walking/cycling infrastructure, services and berms that are aligned to how development within the structure plan area is intended to occur (land development is anticipated on one side only).
- In addition to the District Plan requirements:
  - The proposed cross-section elements and speed environment (50km/h) align with, and in most cases exceed, the recommendations in the NZS4404:2010 and draft RITS guidelines.
  - The proposed pedestrian and cycling infrastructure (1.8 m footpaths and 4 m off-road cycle way) align with Waka Kotahi's latest best practice walking and cycling standards and guidance.
  - The proposed 2.5 m flush median, together with the proposed 50km/h operating speed environment, achieves safe management of turning movements at intersections along the collector road corridor and also supports safely staged pedestrian crossing places frequently established together with safe speed management along the corridor.

6.3.2 Local Road (20 m)

The proposed 20 m Local Road corridor will function as the primary access corridor to the proposed residential activities within the structure plan area. A 3 m wide shared path is proposed on at least one side of the corridor which connects to the bi-directional cycleway along the proposed Collector Road as well as the off-road paths within the open-space/ stormwater reserves.

The indicative cross-section for the proposed Local Road is illustrated in Figure 14, while the proposed cross-section elements are summarised in Table 10 below.

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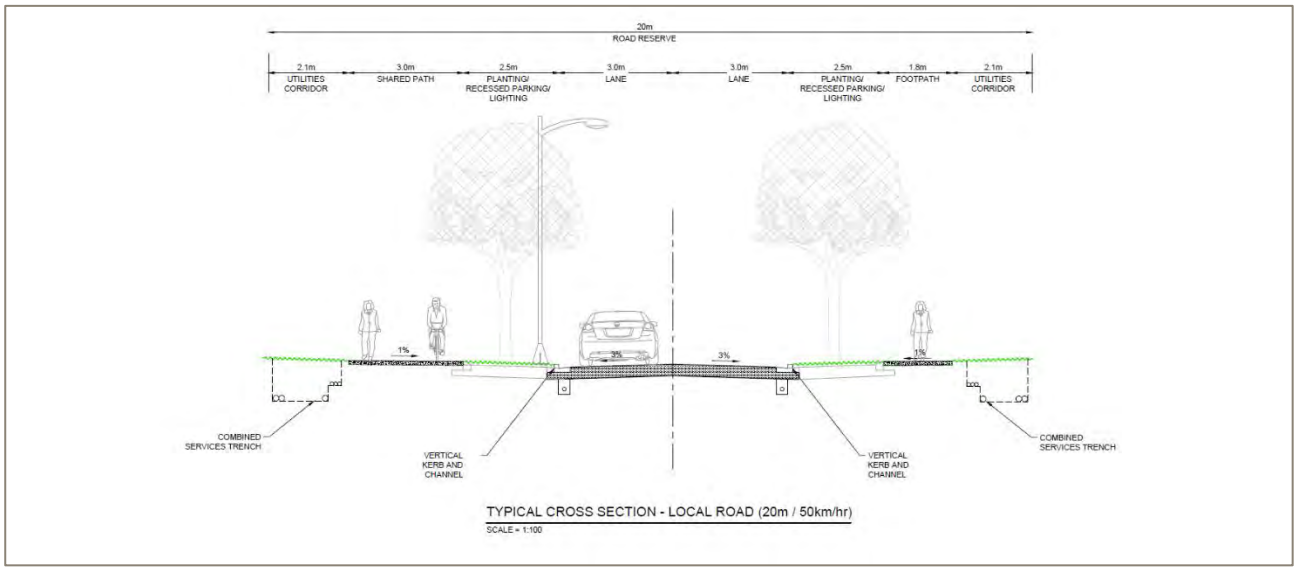


Figure 14: Proposed Local Road cross-section (20 m)

Table 10: Local Road (20 m) cross-section summary

Cross-section Element	District Plan Requirements (Appendix T4): Local Road	NZS4404:2010 (Table 3.2) Local Road (± 2,000 vpd)	Draft RITS Standards: Access Road (200 – 1,000 vpd)	Proposed: Local Road
Minimum road reserve (m)	21 m	15 m	20 m	20 m
Minimum sealed carriageway width (m)	11 m	-	7 m	11 m
Lane width (m)	2 x 3 m	5.5 – 5.7 m	2 x 3 m + 0.5 m sealed shoulders	2 x 3 m
On-street parking (m)	2.5 m wide, 1 park per lot	Up to 100 dwellings: shared on-street. Over 100 dwellings: separate recessed parking	On-street	2 x 2.5 m recessed parking bays
Cycling infrastructure (m)	Shared environment	Shared in movement lane	On-road	Shared with pedestrians (see below)
Pedestrian infrastructure(m)	1.5 m footpath on both sides	Minimum 1.5 m footpath on one side	2 x 1.8m footpath	1 x 1.8 m footpath + 1 x 3 m shared path
Utilities/ services corridor (m)	Min 2.1 m on both sides	-	Min 1.5 m on both sides	2 x 2.1 m
Front berm, street tree, swale, lighting, recessed	Provision on both sides	-	-	Provision on both sides

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Cross-section Element	District Plan Requirements (Appendix T4): Local Road	NZS4404:2010 (Table 3.2) Local Road (± 2,000 vpd)	Draft RITS Standards: Access Road (200 – 1,000 vpd)	Proposed: Local Road
parking and bus stops				
Speed Environment	-	40km/h	40km/h	40km/h operating environment[12]

As shown in Table 10 above, with the exception of the proposed road reserve width, the proposed Local Road cross-section complies with (and in some cases, exceeds) the minimum District Plan requirements. While a slightly narrower road reserve width is proposed, the 20 m width is considered appropriate for this development for the following reasons:

- There is sufficient space within the proposed corridor to provide for the required parking, walking/cycling, and services corridors.
- The proposed pedestrian and cycling infrastructure exceed the District Plan requirements and is in line with the latest standards and guidelines by Waka Kotahi.
- The proposed road reserve width is consistent with the cross-sections adopted for the local road cross-section within the recently approved T1 and T2 Structure Plans.

In addition to the above, the proposed cross-section elements and speed environment (40km/h operating environment) align with the recommendations in the NZS4404:2010 and draft RITS guidelines.

6.3.3 Local Access Road (18 m)

The indicative cross-section for the proposed Local Access Road is illustrated in Figure 15, while the proposed cross-section elements are summarised in Table 11 below.

[12] The cross section indicates the corridor could support speed environment signing at 50km/h if desired by Council however the formation of the corridor and indicated transport network structure will safely support a 40km/h operating speed environment.

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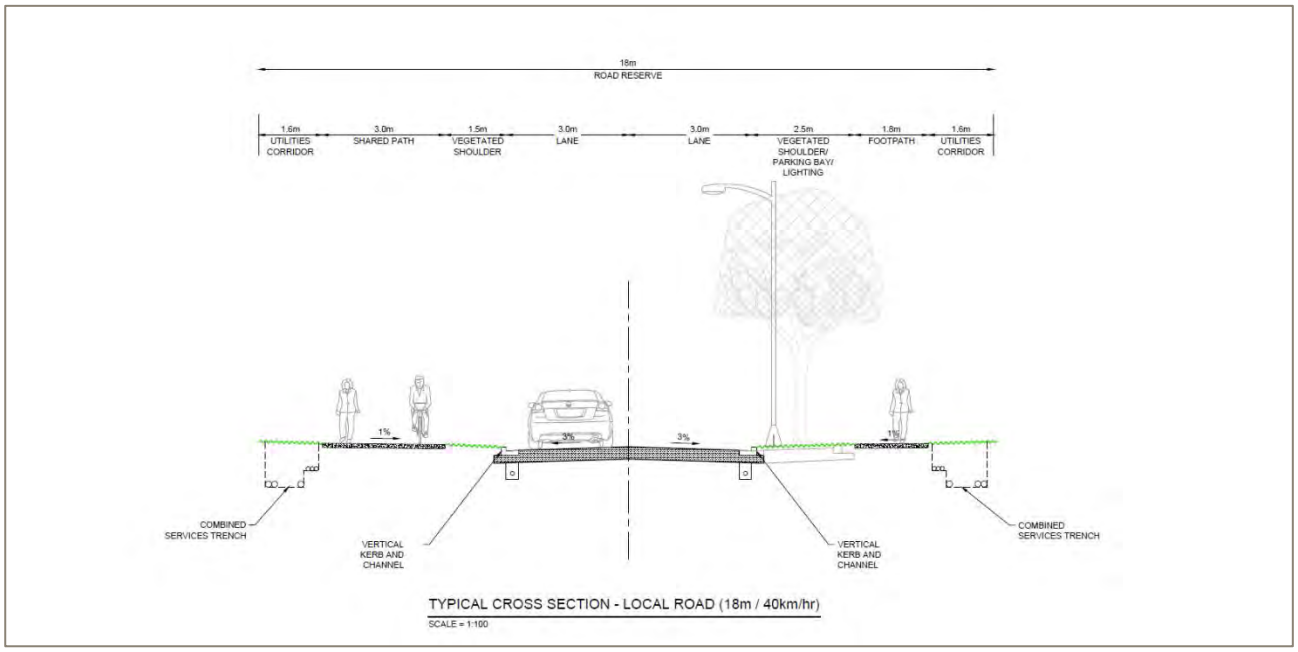


Figure 15: Proposed Local Access Road cross-section (18 m)

Table 11: Local Access Road (18 m) cross-section summary

Cross-section Element	District Plan Requirements (Appendix T4): Local Road (Cul-de-sac)	NZS4404:2010 (Table 3.2) Local Road (± 2,000 vpd)	Draft RITS Standards: Access Low Volume (< 200 pd)	Proposed
Minimum road reserve (m)	21 m	15 m	18 m	18 m
Minimum sealed carriageway width (m)	11 m	-	6 m	8.2 m
Lane width (m)	2 x 3 m	5.5 – 5.7 m	2 x 3 m	2 x 3 m
On-street parking (m)	2.5 m wide, 0.75 parks per lot	Up to 100 dwellings: shared on-street. Over 100 dwellings: separate recessed parking	On-street	1 x 2.2 m recessed parking bays
Cycling infrastructure (m)	Shared environment	Shared in movement lane	On-road	On-road and a shared path of 3.0m one side
Pedestrian infrastructure(m)	1.5 m footpath on both sides	Minimum 1.5 m footpath on one side	1 x 1.8m footpath	1 x 1.8 m footpath + 1 x 3 m shared path
Utilities/ services corridor (m)	Min 2.1 m on both sides	-	Min 1.5 m on both sides	2 x 1.6 m
Front berm, street tree, swale, lighting, recessed	Provision on both sides	-	-	Provision on both sides

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Cross-section Element	District Plan Requirements (Appendix T4): Local Road (Cul-de-sac)	NZS4404:2010 (Table 3.2) Local Road (± 2,000 vpd)	Draft RITS Standards: Access Low Volume (< 200 pd)	Proposed
parking and bus stops				
Speed Environment	-	40km/h	40km/h	40km/h operating environment

As shown in Table 11, the only difference between the Local Access Road compared to the Local Road is that a shared path is not provided (i.e.: cyclists share the movement lane with vehicles) and the road typology has a narrower services corridor (1.5 m compared to the 2.1 m). As assessed in Section 6.3.2, while a narrower road reserve and carriageway width is proposed (compared to the District Plan requirements), there is sufficient space within the proposed corridor to provide for the required parking, walking/cycling, and services corridors to accommodate the traffic demand expectations on these lower-use environments. Furthermore, the proposed cross-section elements and speed environment (40km/h operating environment) align with the recommendations in the NZS4404:2010 and draft RITS guidelines.

6.3.4 Assessment Overview

The overall internal road cross-section arrangement has been planned based on the managed speed environment approach. The road cross-section dimensions have been developed to match the desired speed and amenity outcomes of the road, delivering a safe speed zone environment and clear road hierarchy across the proposed structure plan area.

Notwithstanding the above, the above cross-sections are indicative and would be subject to further design and approval by Council.

6.4 Proposed Accesses

6.4.1 Vehicle Access

As illustrated in the proposed T4 Structure Plan in Figure 11, vehicle access to the proposed structure plan area is proposed to be via new connections to the existing road network as follows:

- To the north, via a new intersection on Rewi Street;
- To the south, via a new intersection on Puniu Road; and
- To the east, via a new local road connection to Wallace Terrace.

Flexibility on the form of intersection that would be appropriate on Rewi Street and Puniu Road in the interim period (to support the land use activities within the proposed structure plan area)

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as well as the long-term (to support the future extension of the proposed Collector Road as part of the Wester Arterial works) is sought.

Engagement with Council staff has indicated the following in terms of the appropriate form of access that could be implemented on Rewi Street and Puniu Road in the short-term prior to the Western Arterial corridor being in place:

- In terms of the connection to Rewi Street:
    - The Centennial Park reserve on the northern boundary of the proposed structure plan area was recently declared a recreational reserve. Delivery of this section of the Collector Road (through the reserve) would likely take some time as the status of the reserve would firstly need to be changed in order to enable a road to be formed through it, if that could be achieved.
    - Council staff have described it (Council) has separately considered an integrated solution incorporating the adjacent railway overbridge and Station Road intersection. Council has advised that Station Road could be lifted on its approach to Rewi Street to improve sightlines looking westwards, and the overbridge widened to enable improved walking/ cycling linkages. These works are accepted as being in part a Council responsibility (rather than a private developer responsibility). Council has also indicated an interim local safety solution for an intersection arrangement that has been had regard for and is aligned with in the proposed intersection form described in the following sections.
    - The Centennial Park access matter has the potential to impact the ability of the structure plan area (more specifically the northern land parcel) to proceed and indicates a need for a development threshold trigger to be established.
    - On the basis of the above, the Collector Road connection to Puniu Road as well as the proposed local road connection to Wallace Terrace may both need to function as the primary access points until the collector road is connected to Rewi Street, subject to the appropriate traffic management in place as an interim measure to mitigate any safety and/or efficiency effects.
- In terms of the connection to Puniu Road:
    - Council has indicated it would be supportive of an "interim" intersection form supporting the anticipated T4 structure plan demands, provided the intersection design incorporates Safe Systems principles.
    - The long-term "strategic" intersection form to support the future planned extension of the proposed collector road southwards (towards Golf Road) would be confirmed in future as part of the "Western Arterial" works.
    - While the Collector Road alignment and proposed future intersection on Puniu Road / Pokuru Road is generally located within the "Western Arterial" designation, minor alterations to the designation boundaries may be required to accommodate the ultimate works for the intersection.
- The staged approach should balance development cost with effects and affordable infrastructure.

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The proposed interim intersection form to support the T4 Structure Plan traffic demands is assessed in Section 8.3. The long-term configuration of both intersections would be confirmed in future as part of the "Western Arterial" works.

6.4.2 Walking and Cycling Access

The proposed walking and cycling networks are shown on Figure 12 in the context of the surrounding area.

As shown in Figure 12, pedestrians and cyclists will have six points of access to/from the existing transport network:

- Two points of access from Rewi Street (the proposed Collector Road and through the neighbouring Centennial Park reserve);
- One from the new intersection on Puniu Road;
- One through the new local road connection onto Wallace Terrace; and
- Two points of access through the open-space network.

The pedestrian and cycle network is designed to enable movement within the structure plan area. A 3 m wide shared path network runs throughout the structure plan area and is supported by various on-road connections and standard footpaths. The 4 m wide bi-directional path and footpath on the proposed Collector Road corridor provides connection to the planned walking and cycling infrastructure on Rewi Street and Puniu Road.

Overall, the proposed walking/ cycling network is expected to create a sustainable and attractive network for pedestrians and cyclists.

6.4.3 Public Transport Accessibility

As previously mentioned, adequate space is available within the proposed internal road network to enable public transport infrastructure (such as bus stops) in the future.

7. Predicted Travel Demand

7.1 Predicted Trip Generation

The predicted trip generation has been assessed on the basis of published trip rate data in the NZ Transport Agency *Research Report 453* for single residential dwellings in "outer suburban" areas. These trip rates are consistent with the rates adopted for the recently approved T1 and T2 Structure Plan transportation assessments for the respective residential activity elements and are appropriate for evaluation of the potential traffic effects.

Table 12 provides a summary of the number of trips that are anticipated to be generated by the proposed land use activities within the structure plan area. The predicted trip generation was estimated based on:

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- A daily trip rate of 8.2 trips/ dwelling/ day, and peak period rate of 0.9 trips/ dwelling/ hour during the peak operating periods[13] for up to 310 dwellings.
- The following directional distribution rates[14]:
  - Daily: 50% inbound, 50% outbound;
  - AM Peak period: 25% inbound, 75% outbound; and
  - PM Peak period: 63% inbound, 37% outbound.

Table 12: T4 Structure Plan Predicted Trip Generation – Total Inbound and Outbound Trips

Assessed Period		Area 1	Area 2	Total – T4 Structure Plan Area
Daily	IN (vpd)	308 – 386	710 – 886	1,017 – 1,272
	Out (vpd)	308 – 386	710 – 886	1,017 – 1,272
	Total (vpd)	615 – 771	1,419 – 1,772	2,034 -2,543
AM Peak	IN (vph)	17 – 21	39 – 49	56 – 70
	Out (vph)	51 – 64	117 – 146	168 – 210
	Total (vph)	68 – 85	156 – 195	224 – 280
PM Peak	IN (vph)	43 – 54	98 – 123	141 – 176
	Out (vph)	25 – 31	58 – 72	83 – 104
	Total (vph)	68 – 85	156 – 195	224 – 280

As shown in Table 12, the proposed residential activities within the structure plan area are anticipated to generate up to 2,543 vehicle trips per day, and up to 280 vehicle trips per hour during the typical commuter peak period, these determined at the 85th percentile rate level for a single dwelling.

The potential incremental effect of a higher density involving up to 362 dwellings has been assessed and described at section 6.2. When distributed across the future three points of connection, the potential net additional demand accounts for about an additional 15 peak hour vehicle movements (two-way total) at each location. The overall outcome is assessed as a negligible impact on the conclusions on the transport infrastructure recommended and the timing for it, as is later assessed.

Furthermore, it is noted that the trip generation estimates in Table 12 include some conservative margin (high-side) estimation given that:

- The vehicle-based trip generation estimates have not been reduced to factor in future higher walking, cycling and public transport trip mode share targeted by the Regional Council. Given the proximity of the structure plan area to the Te Awamutu town centre, schools/ educational institutions and other employment nodes within the township, it is anticipated that a notable portion of the trips generated by the proposed activities within

[13] Source: Table C.1 in the *NZ Transport Agency research report 453* - 85th percentile trip rates for Outer Suburban Dwellings
[14] Source: Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition* – directional distribution rates for Single-Family Detached Housing (Land Use Code 210)

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the structure plan area could reasonably be made by these alternative modes[15]. The proposed walking and cycling network within the structure plan area has been developed to support mode shift outcomes from the initial stages of development.

- The adopted peak hour trip rate is approximately 30-60% (AM) and 10-20% (PM) higher than the trip rates within the WRTM for adjacent comparable nodes[16]. The WRTM uses a 2-hourly trip rate of 1.0-1.21 and 1.34-1.45 trips per dwelling for the AM and PM peak periods respectively, which converted[17] to an hourly trip rate equates to 0.57-0.69 and 0.75-0.80 trips/ dwelling/ hour for the AM and PM peak hours respectively.

While the proposed structure plan in Figure 11 includes a commercial overlay for a neighbourhood centre, it is understood that any commercial centre developed within the structure plan area would likely only serve the local community (i.e.: residents within the structure plan area) or those incidentally passing through. On this basis, no additional external trip generation is anticipated as a result of the potential commercial activity. Furthermore, the estimates in Table 12 have included the trip generation due to residential activities in place of any commercial overlay demand where that arises.

7.2 Predicted Trip Distribution

The adopted external distribution for trips generated by the proposed land use activities within the structure plan area was informed by:

- Origin and Destination (O-D) data[18] collected as part of the 2018 Census for the Te Awamutu Stadium statistical area for work and school journeys. According to the O-D data:
  - The majority of the people who live in Te Awamutu also work / attend school locally. A large proportion of trips within the Te Awamutu Stadium statistical area travels to/from the town centre as well as the northern and eastern areas of Te Awamutu.
  - A notable portion of Te Awamutu residents commute to Hamilton for work.
  - Only a small number of Te Awamutu residents commute to areas to the east (towards Cambridge), south (towards Kihikihi) and west (towards Pirongia) of Te Awamutu for school or work.
- Directional distribution and intersection turning movement data sourced from the WRTM traffic demand estimates.
- Trip distribution assumptions adopted for the T1 and T2 Structure Plan transportation assessments.

[15] Based on the 2018 Census data for the Te Awamutu Stadium statistical area, the total mode share for walking, cycling and PT trips is approximately 8.3% for work-based trips and 43.7% for education-based trips.
[16] Nodes comprising the Te Awamutu West (WRTM node 772, 773, 777 & 778) and Fraser Street (WRTM node 749 & 750) statistical areas.
[17] Based on the following conversion factors: AM peak period = 0.571, and PM peak period = 0.556
[18] Source: https://commuter.waka.app/, accessed 15 March 2023

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Table 13 below provides a summary of adopted trip distribution assumptions based on travel data from the above-mentioned sources.

Table 13: Trip distribution and assignment assumptions

Origin / Destination	Adopted Trip Distribution	Travel Route from the T4 Structure Plan Area	Adopted Trip Assignment – Area 1	Adopted Trip Assignment – Area 2
To / From the East	45%	via Rewi Street	15%	35%
		via Wallace Terrace & Teasdale Street	20%	0%
		via Puniu Road	10%	10%
To/ From the North	20%	via College Street	20%	20%
To / From the West	35%	via Rewi Street	20%	20%
		via Pokuru Road	15%	15%

As shown in Table 13 above, the majority of the trips expected to be generated by the proposed land use activities within the structure plan area are anticipated to arrive from/ depart to the east and north. This is consistent with the locality of the existing employment and educational areas within the township. Accordingly, the Collector Road connection to Rewi Street (and Wallace Terrace to a lesser extent) is expected to carry a greater proportion of the overall traffic demand generated within the structure plan area.

The estimated traffic volumes that are expected to be generated by the proposed residential activities within the structure plan area during the AM and PM peak periods are illustrated in the figures provided in Appendix D.

8. Assessment of Transportation Effects

8.1 Assessment Methodology and Scope

It was confirmed through a pre-application meeting with Council that wider transport network effects assessment and/ or data collection was not required to support this plan change, given the identification of the growth cell as a future residential zone. Accordingly, the following is confirmed in terms of the methodology for assessing the proposal's transportation elements and effects:

- Wider transportation modelling using the WRTM was not undertaken. The scope of the transportation assessment would only focus on the immediate adjoining transport environment.
- In lieu of new traffic count data, the WRTM's baseline traffic volumes would be sourced to inform trip generation and distribution assumptions.

In addition to the above, the scope of the assessment was limited to:

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- A 10 and 20-year assessment period. A 2031 and 2041 future year assessment was considered in line with the WRTM's assessment periods.
- Assessing the collector road corridor within the section through the T4 Structure Plan only. The assessments have not considered the implications of having the entire "Western Arterial" corridor in place. That is assessed as a strategic function of Council if it determines to progress that. Current indications are the function of the corridor will be as a local collector/distributor.
- Assuming the proposed collector road (and internal roading) would primarily be used by traffic that is anticipated to be generated by the land use activities within the structure plan area. The potential impact of externally generated traffic (i.e., traffic not associated with / generated by activities within the structure plan area) potentially using the Collector Road as a bypass/ through route has not been considered in depth here. Notwithstanding this, it is evident there is substantial capacity to accommodate additional traffic demands associated with a wider use should it eventuate. The corridor is to be traffic managed in terms of its speed function and therefore wider and material trip re-distribution is not expected to impact the corridor. Without the entire "Western Arterial" corridor being in place, it is considered that the proposed collector road would primarily function as an access road to the T4 Structure Plan.

8.2 Adjoining Road Corridors - Capacity Assessment

Table 14 provides a summary of the estimated ADT figures on the surrounding road network with the addition of the proposed structure plan traffic. These ADT figures are considered to be conservative as they are based on the upper range of the estimated trip generation in Table 12. The ADT figures are also based on the trip distribution assumptions in Table 13.

Table 14: Estimated 2031/2041 ADT demands with the additional structure plan traffic

Road Corridor	Predicted Baseline Demands (vpd)			Proposed T4 Structure Plan Traffic Demands (vpd)	Total Baseline + T4 Structure Plan Traffic Demands (vpd)	
	2031 Assessment Year	2041 Assessment Year	T1 & T2 Structure Plan Traffic Forecast (vpd)		2031 Assessment Year	2041 Assessment Year
Rewi Street – West of Collector Road	3,635 vpd	3,655 vpd	1,404 vpd	508 vpd	5,547 vpd	5,567 vpd
Rewi Street – East of Collector Road	3,635 vpd	3,655 vpd	1,404 vpd	1,244 vpd	6,283 vpd	6,303 vpd
Wallace Terrace	425 vpd	426 vpd	-	154 vpd	579 vpd	580 vpd
Puniu Road – East of Collector Road	3,255 vpd	3,530 vpd	-	254 vpd	3,509 vpd	3,784 vpd
Pokuru Road – West of Collector Road	3,255 vpd	3,530 vpd	-	381 vpd	3,636 vpd	3,911 vpd

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The following assessment relates to the ADT figures in Table 14:

- The ADT on the section of Rewi Street to the west of the proposed Collector Road is estimated to increase by approximately 10%, while the section to the east of the Collector is estimated to increase by approximately 25% with the addition of the proposed structure plan traffic to the 2031/41 baseline. In total, the section of Rewi Street between Station Road and College Street is anticipated to carry an ADT of 5,550 – 6,300 vpd with the additional structure plan traffic. This remains well within the capability of the carriageway formation currently in place and the collector function of the corridor.
- While the ADT on Wallace Terrace is expected to increase by approximately 35%, to total ADT is expected to remain low (less than 1,000 vpd).
- The ADT on Puniu Road and Pokuru Road is expected to increase by on average 10%.
- The additional structure plan traffic is not expected to adversely impact the capacity of the surrounding road corridors for the following reasons:
    - In accordance with the ONF, the traffic demands on Puniu Road and Pokuru Road are expected to remain within the levels expected on Collector Roads (between 3,000 and 5,000 vpd for Primary and Secondary Collectors).
    - Similarly, the traffic demands on Wallace Terrace are expected to remain within the levels expected for Access Roads (between 200 and 1,000 vpd).
    - The predicted peak hour volumes (which are typically 10% of the daily traffic volumes) are estimated to be well below the typical midblock capacity[19] of a two-way urban road.

8.3 Proposed Intersections - Capacity and Safety Assessment

8.3.1 Interim Intersection Configuration

The interim intersection configuration for the two new intersections on Rewi and Puniu Road are described below.

Similar to the surrounding existing intersections on Rewi Street and Puniu Road, it is anticipated that a 'Tee' intersection layout (with free-flow on Rewi Street and Puniu Road) will likely be the appropriate configuration for the proposed road intersections. The appropriate control (either a compulsory Stop or Give-way) for each access should be determined at detailed design stage.

Given the estimated volume of turning traffic at both intersections (refer to the figures in Appendix D), consideration has been given to the warrants for turn treatments contained in the Austroads *Guide to Road Design Part 4: Intersections and Crossings* (AGRD Part4) to determine whether auxiliary turning facilities would be required. For ease of reference, the turn warrants for roads with a design speed of less than 100km/h is illustrated in Figure 16.

[19] According to Table 4.3 of the RTA's Guide to Traffic Generating Developments, the typical mid-block capacity of a two-way urban road is 900 pcu/hour per lane (or 2,200 pcu/hour for two lanes).

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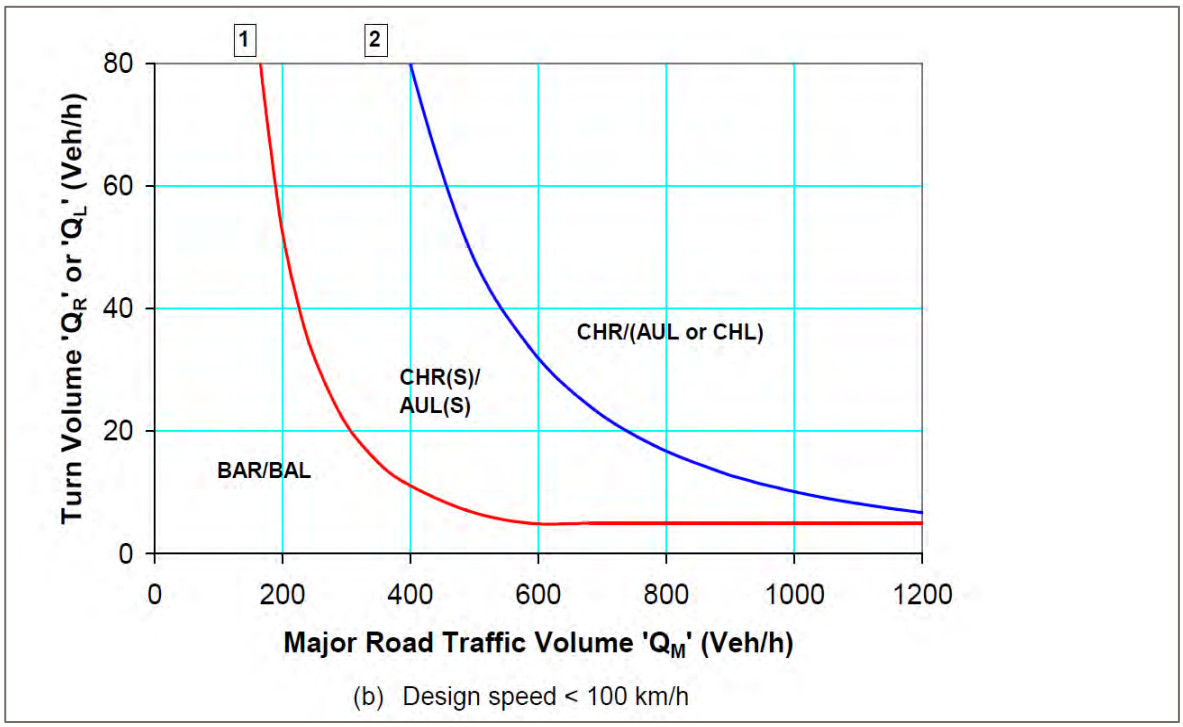


Figure 16: Warrants for turn treatments on the major road at unsignalized intersection (source: AGRD Part 4)

The findings from the turn warrant assessment are provided in Appendix E and summarised as follows:

- A channelised right-turn bay on both Rewi Street and Puniu Road would be required at both intersections as a minimum.
- In terms of left-turn bays, the turn warrant assessment shows that:
  - A full-length auxiliary left-turn lane would be required on Rewi Street. This is largely driven by the estimated volume of left-turning vehicle from Rewi Street and onto the proposed Collector Road (approximately 85-90 vph during the PM peak).
  - A short auxiliary left-turn lane would be required on Puniu Road as a minimum with the full structure plan traffic demands. Only approximately 25-30 vph (also during the PM peak) are anticipated to turn left onto the proposed Collector Road from Pokuru Road. The need for a left-turn bay is therefore driven by the volume of eastbound through traffic on Puniu Road.

On the basis of the above, the inclusion of right-turn bays at both intersections is proposed. While the turn warrant assessment identified left-turn facilities as being required, these are not recommended at the proposed intersections for the following reasons:

- The assessed traffic demand (both the baseline as well as structure plan demands) are based on very conservative assumptions, i.e., the WRTM projected demands have been increased by 35% and higher trip generation rate compared to the WRTM were used.

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- Left-turn facilities have not been provided at existing neighbouring intersections with similar (and higher) turning volumes, including the new access intersections to the T1 and T2 Structure Plan areas. No safety issues related to crashes (rear-end) involving left-turning vehicles have been observed at these neighbouring intersections.
- Introducing auxiliary left turn lanes introduces a potential "hidden vehicle" safety hazard to the intersection and is also strongly supportive of a vehicle-based level of operation, not warranted within a local neighbourhood context.
- Vehicle speeds at the intersection will be significantly lowered (30 – 40km/h) with the implementation of the recommended traffic management and safety treatments at the intersections (refer to Section 8.3.4 for the recommended treatments). This will improve the safety of all vehicles (and especially vehicles turning onto the proposed Collector Road) at the two intersections.
- The capacity assessment in Section 8.3.3 of this report illustrate that the proposed intersections will likely operate at exceptional levels of service without auxiliary left-turn facilities.

Notwithstanding the above, the need for left-turn facilities at both intersections should be assessed and confirmed as part of the subsequent resource consent applications once the future traffic demands at the intersection have been confirmed.

8.3.2 Safety Assessment

Intersection Crash Prediction Analysis

The potential safety impacts associated with establishing a T-intersection on Rewi Street and Puniu Road in place of a Safe Systems aligned intersection (i.e., a roundabout or traffic signals) has been assessed based on the Waka Kotahi's *High-Risk Intersections Guide* and associated *Crash Estimation Compendium – New Zealand crash risk factors* guideline.

Comparative evaluations have been made based on the injury crash prediction models described in Section 6 of the *Crash Estimation Compendium – New Zealand crash risk factors guideline* for the 2023, 2031 and 2041 future year demands. A summary of the findings from the injury crash prediction models is provided in Appendix F and summarised as follows:

- A standard T-intersection at these two locations is predicted to have a slightly lower injury crash rate compared to a single-lane roundabout.
- The predicted injury crash rate for a T-intersection at these two locations is expected to be significantly improved with the inclusion of a painted right turn bay on Rewi Street / Puniu Road.

On the basis of the above, a T-intersection with a right turn bay is considered to be an appropriate and acceptable interim configuration for both intersections.

Notwithstanding the above, a roundabout is recognised as a safe system intersection form for all movements and is likely to produce enhanced safety outcomes for some modes, such as for pedestrian crossing movements.

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Intersection Sight Distances

Provision of safe intersection sight distances (SISD) at the proposed intersections is one of the key indicators of safety performance. Section 3.2 of the ARGD Part 4A sets out the minimum SISD as well as the method of measurement. Table 15 to follow provides a summary of the observed and required SISD at the proposed intersections.

Table 15: Achievable vs Required safe intersection sight distances at the proposed intersections on Rewi Street and Puniu Road

Intersection	Assessed Direction	Posted Speed Limit	Design Speed[20]	Austroads minimum sight distances[21]	Achievable Sight Distances	Compliance with min. sight distance requirements
Collector Road & Rewi Street Intersection	To the left of the proposed intersection (i.e., looking westwards on Rewi Street)	50km/h	60km/h	123 m	175 m	Compliance expected
	To the right of the proposed intersection (i.e., looking eastwards on Rewi Street)	50km/h	60km/h	123 m	240 m	Compliance expected
Collector Road & Puniu Road Intersection	To the left of the proposed intersection (i.e., looking westwards on Pokuru Road)	80km/h	90km/h	181 m	195 m	Compliance expected
	To the right of the proposed intersection (i.e., looking eastwards on Puniu Road)	50km/h	60km/h	123 m	> 200 m	Compliance expected

The sight distance assessments in Table 15 confirm that the observed sight distances are anticipated to comply with (and exceed) minimum sight distance requirements. On this basis, no adverse safety effects are anticipated with establishing a T-intersection at the proposed locations.

Intersection Spacing

Table 3-4 in the RITS includes recommended minimum spacing between intersections on different types of roads.

[20] Posted speed limit + 10km/h.
[21] Sight distances based on a 2 second reaction time.

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On both Rewi Street and Puniu Road, which are both classified as Collector Roads, intersections should be spaced a minimum 90 m from the nearest intersection on the same side of the road, and a minimum 45 m from the nearest intersection on the opposite side of the road.

The proposed intersection on Rewi Street is located approximately 70 m from the nearest intersection (i.e., Station Road), while the proposed intersection on Puniu Road is located more than 350 m from the nearest intersection (i.e., Fairview Road).

As shown above, the proposed intersections have also been placed to comply with the minimum separation requirements.

8.3.3 Capacity Assessment

The efficiency performance of the proposed intersections on Rewi Street and Puniu Road with the full structure plan traffic demands added to the projected 2031/41 baseline traffic demands have been modelled using SIDRA Intersection 9.0. Input volumes for the SIDRA modelling are illustrated in the figures in Appendix D. A summary of the intersection performance assessments is provided in Table 16 and Table 17 for the 2031 and 2041 horizon years respectively, while the SIDRA Intersection output files are provided in Appendix G.

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Table 16: SIDRA Modelling Summaries - 2031 Assessment Year

Intersection Approach	2031 AM Peak Hour			2031 PM Peak Hour		
	Ave Delay (s)	95th %-tile queue (m)	LOS	Ave Delay (s)	95th %-tile queue (m)	LOS
Proposed Collector Road / Rewi Street Intersection						
South: Collector Road	19.4	14.6	C	21.6	7.6	C
East: Rewi Street	0.7	0.0	-	0.8	0.0	-
West: Rewi Street	0.3	0.4	-	1.0	1.4	-
Intersection	3.4	14.6	-	2.3	7.6	-
Proposed Collector Road / Puniu Road Intersection						
East: Puniu Road	0.3	0.2	-	0.4	0.5	-
North: Collector Road	10.9	2.4	B	13.0	1.6	B
West: Pokuru Road	0.2	0.0	-	0.4	0.0	-
Intersection	1.3	2.4	-	0.9	1.6	-

Table 17: SIDRA Modelling Summaries - 2041 Assessment Year

Intersection Approach	2041 AM Peak Hour			2041 PM Peak Hour		
	Ave Delay (s)	95th %-tile queue (m)	LOS	Ave Delay (s)	95th %-tile queue (m)	LOS
Proposed Collector Road / Rewi Street Intersection						
South: Collector Road	20.4	15.4	C	23.3	8.3	C
East: Rewi Street	0.6	0.0	-	0.8	0.0	-
West: Rewi Street	0.3	0.4	-	1.0	1.4	-
Intersection	3.5	15.4	-	2.4	8.3	-
Proposed Collector Road / Puniu Road Intersection						
East: Puniu Road	0.3	0.2	-	0.4	0.5	-
North: Collector Road	11.2	2.5	B	13.8	1.7	B
West: Pokuru Road	0.2	0.0	-	0.4	0.0	-
Intersection	1.3	2.5	-	0.9	1.7	-

As shown in Table 16 and Table 17 above, both proposed intersections are expected to operate well within their capacity during the morning and evening peak hours for both the 2031 and 2041 assessment periods. Operating in the range LOS B to C, it is apparent the potential impact of an increased density involving up to 362 dwellings as described at section 6.2 (in the order of a further 15 vehicle movements two-way at each road network access point) is readily able to be accommodated.

Overall, a high degree of efficiency, little/ no queuing and minimal delays are expected on both Rewi Steet and Puniu Road/ Pokuru Road with the proposed intersection forms.

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8.3.4 Assessment Overview

Assessment Summary

On the basis of the above efficiency, safety, and sight distance assessments, it is concluded that the proposed access intersections on Rewi Street and Puniu Road (as T-intersections with right-turn facilities) would be sufficient (from both a capacity and safety perspective) to accommodate the predicted structure plan traffic demands.

While the assessed T-intersection configurations do not generally align as effectively with Safe Systems principles compared to a roundabout or traffic signals, crash prediction models predicted a much lower injury crash rate at both intersections, with the intersections designed as a T-intersection including the safely separated right-turn facilities.

Further, to enhance the Safe Systems outcomes, the following supporting treatments are recommended to be incorporated into the intersection design to improve the safety of all road users:

- Raising the intersection to reduce vehicle operating speeds through the intersection;
- Traffic management/ traffic calming measures on the approaches to or at the intersection;
- Street lighting to improve the intersection visibility during the night-time and inclement weather conditions; and
- Sufficient advanced warning of the intersection (though either signs, road markings or both).

In terms of the proposed intersection on Puniu Road, given that it will be located at the existing urban/ rural edge of Te Awamutu township (where the posted speed limit transitions from 80km/h to 50km/h), it is further recommended that the existing 80/50km/h speed threshold treatment be moved an appropriate distance (about 200-240m) west of the future intersection and established together with an urban/rural threshold. This would be located on a straight section of the road at about the western boundary of 16 Pokuru Road.

The applicants would support appropriate safe speed limits and traffic management measures should these be able to be advanced by Council. Notwithstanding any speed limit and sign-posted outcome, the recommendations made to support the structure plan will support an appropriately safe traffic speed operating environment.

Preliminary Intersection Concept Design

A4 scaled preliminary concept design drawings of the two proposed intersections are provided in Appendix H. For ease of reference, these are illustrated on Figure 17 to Figure 19 for the Rewi Street and Puniu Road intersections respectively.

Indicative outlines of the potential future long-term configuration of the two intersections (indicatively roundabouts, subject to further assessments and detailed engineering design) to support the future extension of the Western Arterial corridor are illustrated in the drawings in Appendix H. The proposed interim intersection design (T-intersections with right-turn bays) have been overlaid on top of the long-term strategic design to ensure that the interim intersections are located at the correct location from day one to minimise future construction costs. A staged arrangement is shown on Figure 18 and Figure 19 reflecting the necessary intersection form required to support the structure plan as the longer term arrangement that demonstrates

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integration with Council's indicative upgrade intentions for the Station Road intersection approach to Rewi Street. The concept drawings also show that the future long-term option (roundabout) is not foreclosed.

It can be seen that while indicative location and layouts are shown, there remains substantial space within the general area to support a number of alternative arrangements/locations should these be preferred pursuant to subdivision consents.

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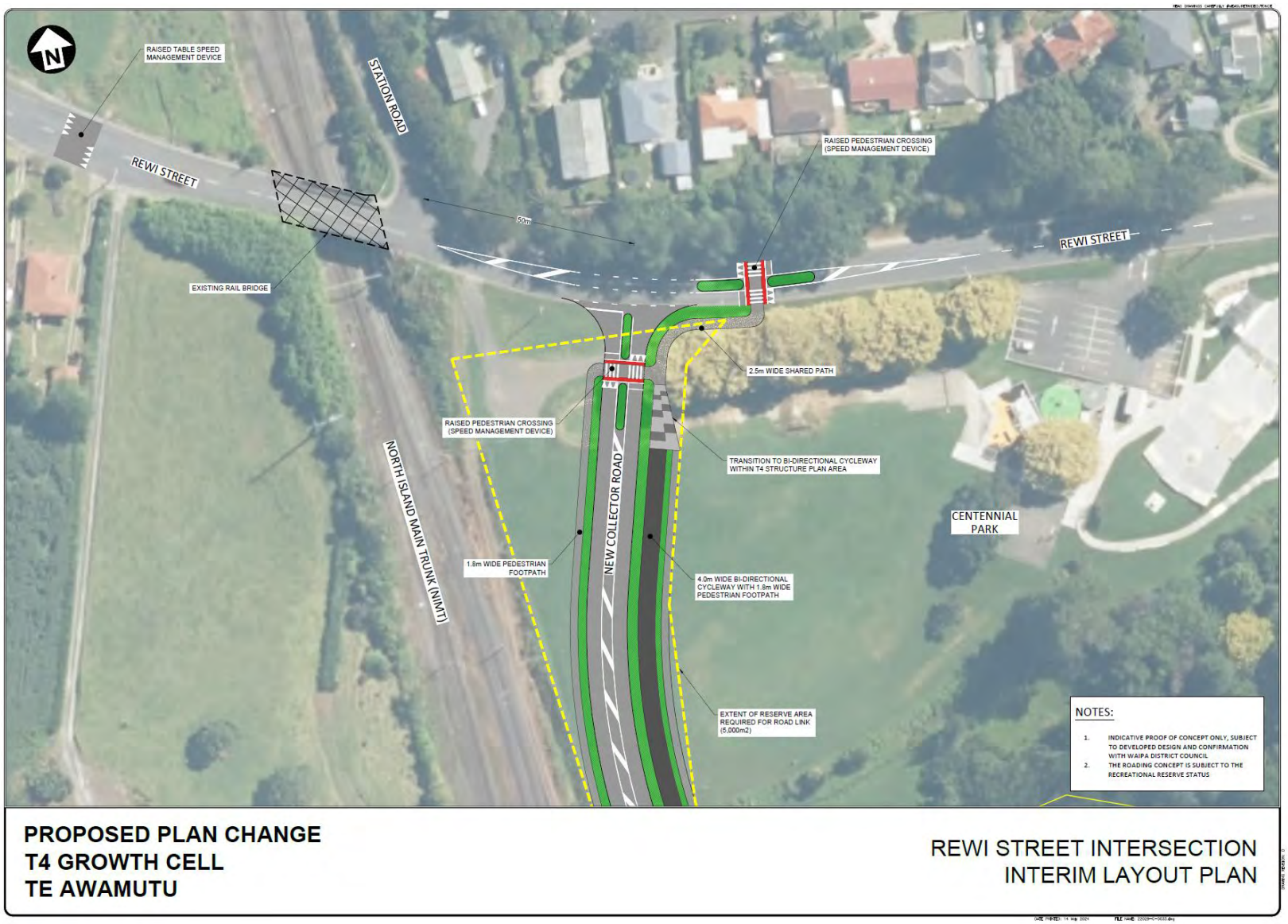


Figure 17: Proposed Collector Road / Rewi Street intersection – Concept design of interim solution

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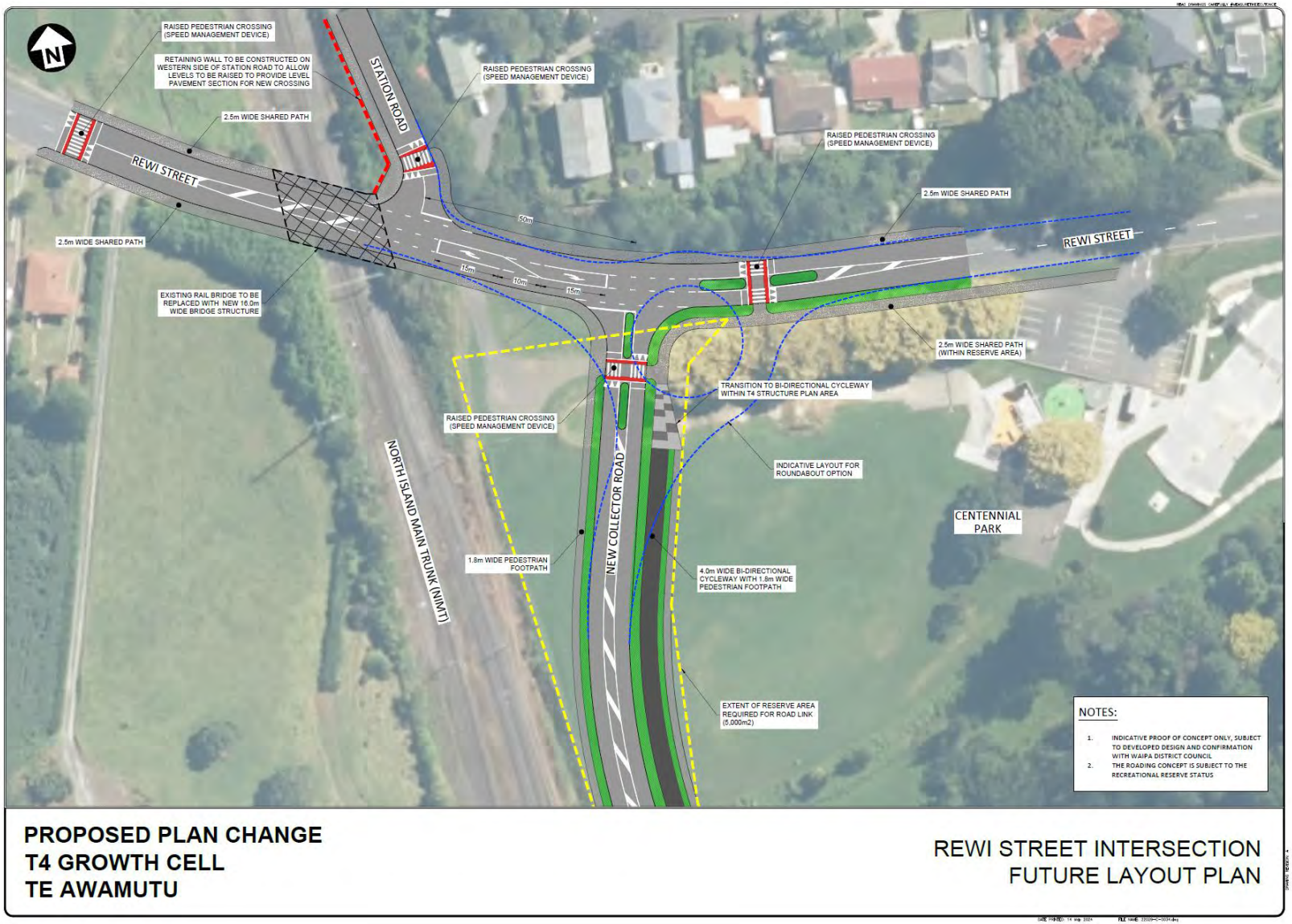


Figure 18: Proposed Collector Road / Rewi Street intersection – Concept design of long term integrated solution

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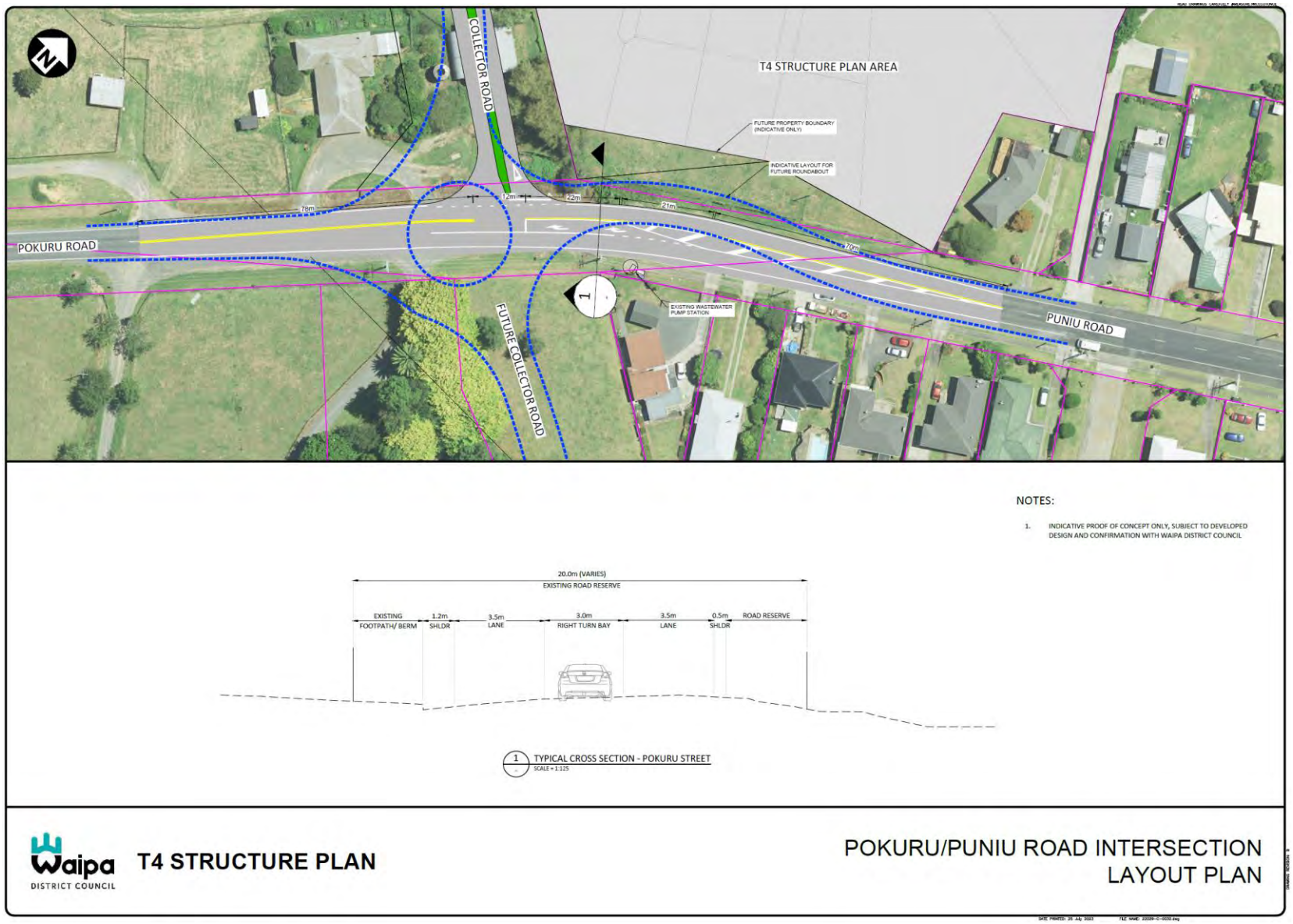


Figure 19: Proposed Collector Road / Puniu Road intersection - Concept design of interim solution

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8.4 Road Safety Assessment

The historic crash data assessment identified several crashes around the area where the new intersections on Rewi Street and Puniu Road are proposed to be located. The crashes recorded on Rewi Street are mainly related to the horizontal bend located to the east of the proposed intersection, as well as operations at the adjacent Station Road and College Street intersections. The crashes recorded on Puniu Road / Pokuru Road were loss of control crashes which mainly occurred during periods of low visibility.

Traffic management and safety improvement measures have been identified as being necessary and to be implemented in conjunction with design development on Rewi Steet and Puniu Road at the proposed intersections. These include the existing 80/50km/h speed threshold treatment on Pokuru Road, anticipated to be relocated about 200-240m) west of the future intersection and established together with an urban/rural threshold to reflect a move from rural to urban land use well in advance of the proposed intersection. This relocation and the associated works are able to be accommodated wholly within the current road corridor as it exists. Notwithstanding the ability to amend the speed limit sign-posted location, a traffic management threshold will introduce a changed traffic environment outcome that is aligned with the designed intersection form. As for the other infrastructure elements described, these works are identified as being able to be accommodated within the current road corridor formation and are expected to be established as conditions to any subsequent subdivision consent application. The structure plan is able to be supported in the knowledge that these associated works are not reliant on third party property to be established.

The proposed access points have also been designed and located with appropriate visibility and spacing. These are also to include the establishment of a painted right turn bay on Rewi Street and Puniu Road intersections, and traffic management/ safety improvement measures. These include safe raised table crossings at the Rewi Street/Collector Road intersection to create a safer speed management environment and improve local road crossing safety linked with both the structure plan and Centennial Park areas. Road cross-sections and a network of shared use paths have been planned and designed to provide for safe and efficient movement of people and vehicles.

Overall, it is concluded that the planned transport networks, and proposed upgrades to existing networks, are appropriate to accommodate the activity expected to be generated within the structure plan area.

8.5 Construction Related Effects

Construction of the proposed structure plan area and the internal road network is expected to occur in stages starting with ground improvement works. The bulk of the internal earthworks and formation development is expected to be internalised and associated with cut-to-fill equilibrium outcomes. The vast majority of construction traffic associated with the building works will be incrementally distributed over time as housing development progresses. This may variably utilise and be distributed between the various vehicular points of access, subject to how these are established.

Separate resource consents will be required for each earthworks / construction phase to determine and mitigate the associated transport related effects (including safety effects), if any.

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These will enable consideration of any specific temporary traffic management and/or construction traffic management measures, should these be a requirement.

On these bases, it is assessed that construction traffic management effects are expected to be appropriately internalised and/or incrementally distributed where aligned with dwelling construction. The required subdivision and/or resource consent applications are expected to provide appropriately for specific and potential construction effects to be evaluated and for appropriate management measures to be implemented, where these are warranted.

9. Transport Infrastructure Staging

9.1 Overview

The applicants seeks to facilitate flexibility for development within the whole of the structure plan area (in terms of access provision), while managing the potential consequential traffic effects on the immediate adjoining road network. With the structure plan area comprised of two land parcels with different owners, it was identified that the two sites (Area 1 to the north and Area 2 to the south) needed to be enabled to be developed independently of the other if required.

The structure plan proposal enables the land parcels to be developed in stages. Where any alternate staging is proposed through subdivision consent, the potential effects of that are able to be assessed in conjunction with those processes, including any varied distributional effects on the transport network. It is considered that the recommendations in this report form the basis for future staging requirements to provide guidance and establish a baseline for any future staging proposals.

On this basis, the following further considerations have been identified:

- The level of development that could reasonably be progressed within the northern site ("Area 1") prior to the Collector Road connection to Rewi Street or Puniu Road being required;
- The interim form of access that could reasonably be established on Puniu Road / Pokuru Road to service the proposed residential activities within the southern site ("Area 2") prior to the full Collector Road corridor (and connection to Rewi Street) being in place;
- The development threshold figure triggering the full Collector Road corridor and both connections to Rewi Street and Puniu Road, ensuring an integrated and completed network outcome is delivered through the structure plan implementation (through the subdivision consent process).

Any staging requirements will ultimately be determined via a subdivision consent process. This is anticipated to assess the specific transport effects or a confirmed subdivision land use and roading layout. The findings of a potential staging assessment described in the subsequent sections demonstrate how a staging application through subdivision consent could be considered and the key matters it would be expected to engage with.

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9.2 Staging Assessment Findings

An indicative and comprehensive staging assessment is set out in Appendix I based on the preliminary subdivision concept layout developed as part of this plan change application. The key conclusions from the structure plan staging assessment are summarised as follows:

- For development within the northern site, it is assessed that access to the initial stages could be provided via a local road connection to Wallace Terrace. The Collector Road connection to either Rewi Street or Puniu Road is assessed as being required once approximately 70 residential dwellings are developed within the northern site (Area 1), appropriately providing for management of the potential transport demand effects expected to be generated on Wallace Terrace.
- For development within the southern site (Area 2), access could either be provided via the proposed intersection on Puniu Road (the proposed Collector Road / Puniu Road intersection could be established as a T-intersection with a channelised right-turn bay on Puniu Road), or via the Collector Road connection from the northern development and Rewi Street (the proposed Collector Road / Rewi Street intersection would could also be established as a T-intersection with a right-bay on Rewi Street).
- If access to the southern development is provided via the proposed intersection on Puniu Road, the Collector Road connection northwards to either Rewi Street or the Wallace Terrace extension is assessed as being required once about 150 residential dwellings are developed within the southern development. The Collector Road connection between Area 1 and Area 2 would required at this threshold to ensure local safety outcomes were achieved at the Puniu Road intersection.
- Long term, the northern Rewi Street intersection is expected to carry a greater proportion of the overall traffic demand generated within the structure plan area. However, delivery of this key road connection will likely take some time to be enabled. Prior to this linkage being in place it is assessed that the Collector Road / Puniu Road intersection and local road connection to Wallace Terrace could accommodate up to 220 dwellings, subject to pedestrian, cycle and traffic speed management measures being implemented on Wallace Terrace to mitigate potential transport safety effects resulting from an increase in the daily traffic demands at these locations.
- Prior to development of more than 220 dwellings across the whole of the structure plan area it is concluded the full Collector Road inclusive of the intersections with Rewi Street and Puniu Road should preferably be formed. Where this was not able to be established, further consideration would need to be given to intersection forms and any alternate transport distribution outcome.
- The proposed intersections on Rewi Street and Puniu Road as T-intersections with the auxiliary right-turning facilities described above (and additional safety treatments such as raising the intersection or some approaches, street lighting, signage, and markings), are assessed as being able to accommodate the full T4 Structure Plan development up to the 2041 horizon year.
- Further key considerations in terms of staging intersection form should consider the potential additional cost impacts of construction together with the different road formation, drainage, utilities, and servicing requirements as well as future potential traffic disruption resulting from a change.

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10. District Plan Assessment

10.1 Objectives and Policies

Table 18 below presents a summary of how the proposed structure plan supports the relevant Objectives and Policies from Section 16.3 of the District Plan.

Table 18: District Plan Objective and Policy Assessment

Objective/Policy	Assessment
Objective - Ensuring sustainable, integrated, safe, efficient and affordable multi-modal land transport system.	
16.3.1 - All new development, subdivision and transport infrastructure shall be designed and developed to contribute to a sustainable, safe integrated, efficient (including energy efficient network design) and affordable multi-modal land transport system.	Supports The roading network within the structure plan provides good connectivity to the existing transportation network. In particular, it considers connection to existing and planned walking and cycling networks and provides good levels of permeability for these modes. The structure plan transportation networks also support any the future provision of public transport services to/ from the area.
Policy – Design elements	
16.3.1.1 – Development, subdivision and transport infrastructure shall be designed and located to: (a) Minimise energy consumption in construction, maintenance and operation of the network;	Supports The structure plan connects to the existing roading network at three points. This provides a range of direct connections for different origins and destinations.
(b) Accommodate and encourage alternative modes of transport;	Supports The layout of the structure plan includes a bi-directional cycle path along the north-south Collector Road, shared paths, local roads, and reserves through which people will be able to walk and cycle. All roads are proposed to have a local road design basis, which encourages walking and cycling.
(c) Give effective road hierarchy; and	Supports The structure plan road network appropriately connects with the existing hierarchy and provides a clear hierarchy within the two development areas.
(d) Contribute to: (i) Integrated transport and land use planning and a safe road system approach; (ii) Reducing deaths and serious injuries on roads; (iii) An effective and efficient road network; and (iv) Efficient movement of freight.	Supports The structure plan's integrated transport network provides direct connections to existing commercial and education activities within its vicinity, including the town centre and Te Awamutu Primary School on Teasdale Street. These linkages support the residential land use, reducing the need for people to travel by car to f access employment and education facilities.

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Objective/Policy	Assessment
	The local road nature of the network reflects the residential environment, supporting low vehicle speeds and promoting a safe road system approach. The two connections to the existing road network (on Rewi Street and Puniu Road) have been designed with safe system principles in the forefront. The proposed intersection design includes raised tables on one or more of the approaches to reduce vehicle speeds, street lighting, and the appropriate advanced warning signs and markings. The structure plan connects to the existing roading network at three points, therefore maximising the operational potential of the network.
Policy – Ensuring future connections	
16.3.1.2 - Development, subdivision and transport infrastructure shall be designed and located to: (a) Link to existing transportation networks, including roads, walking, cycling and passenger transport; and	Supports The layout of the structure plan connects to existing and planned vehicular, cycle and pedestrian networks.
(b) Accommodate future transport network connections and walking, cycling and passenger transport options to Deferred Zones and future growth areas.	Supports The structure plan accommodates walking and cycle facilities and connects these to the frontage roads.
Policy – The timing and availability of planned funding for transport infrastructure	
16.3.1.3 – The provision of transport infrastructure for any development or subdivision shall be managed in such a way that it takes into account the timing and availability of planned funding for transport infrastructure.	Supports The Collector Road, internal road network and interim intersections on Rewi Street and Puniu Road will potentially be developer led with funding to be developed through a private development agreement between the developer and the Council. The interim intersections have been designed to minimise future construction costs of the long-term solution, but it is recognised these, if to be pursued, result in additional re-work and cost outcomes. Currently there are no public transport infrastructure planned for the structure plan however the local roads have been designed to accommodate future use by buses connecting through it.
Objective – Integrated land use and transport: ensuring a pattern of land uses and a land transport system which is safe, effective and compatible	
16.3.2 – land use and transport system successfully interface with each other through attention to design, safety and amenity	Supports The structure plan encourages walking and cycling by providing a bi-directional cycle way along the Collector Road and shared paths through the structure plan area, off-road paths through the reserves, as well as a local road network that supports walking and cycling.
Policy – Integrated land use and transport	

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Objective/Policy	Assessment
16.3.2.1 – Development, subdivision and transport infrastructure shall be located, designed and managed to: (a) Minimise conflict on and across arterial routes and provide appropriate access;	Supports The structure plan is not on an arterial route, however, an appropriate access is provided its local and collector interfaces.
(b) Include access that is safe and appropriate for all road users, including those with restricted mobility;	Supports Access to the structure plan connects to existing networks and provides safe and appropriate access for all road users through existing and planned walking and cycling networks.
(c) Minimise the need for travel and transport where practicable; and	Supports The structure plan's transport network provides direct connections to existing commercial and education activities within its vicinity, including the town centre and Te Awamutu Primary School on Teasdale Street. These linkages support the residential land use, reducing the need for people to travel by car to access employment and education facilities. The proximity of the whole site to the rest of Te Awamutu township also promotes this.
(d) Facilitate travel demand management opportunities where practicable.	Supports Walking and cycling are promoted within the structure plan and the location of the site provides good opportunities to access a wide range of goods and services within Te Awamutu reducing the need to travel elsewhere.
Policy – Enhance pedestrian safety	
16.3.2.2 – To improve pedestrian safety in proximity to schools and other community facilities, and commercial areas including pedestrian frontage areas; the standard of pedestrian networks shall be enhanced to accommodate and encourage greater use.	Supports The structure plan layout recognises the need to facilitate pedestrians in the residential development. The structure plan supports pedestrian safety throughout the development with low-speed cross-sections, traffic managed areas, and other measures that will be detailed in the resource consent.
Policy – Safe roads	
16.3.2.3 – development and subdivision design and construction shall contribute to a safe road environment by: (a) Providing safe and appropriate locations for vehicle entrances, driveways, pedestrian and cycle routes; and	Supports Multimodal accesses to the structure plan connect to the existing networks in locations that are considered to be appropriate. The low-speed environment within the structure plan promotes safe vehicle access and a safe cycle and pedestrian environment.
(b) Designing and locating transport network, lighting, street furniture and landscaping to minimise conflict, maintain visibility, and provide for maintenance activities.	Supports The proposed roads within the structure plan can accommodate amenities that can promote safety within the development.
Policy – Managing effects on character and amenity	

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Objective/Policy	Assessment
16.3.2.4 – Development, subdivision and transport infrastructure shall be located, designed and managed to: (a) Avoid, remedy, or mitigate adverse effects of transport on character and amenity;	Supports Appropriately suitable transport infrastructure design amenity has been described
(b) Facilitate opportunities to enhance character and amenity; and	Supports The internal road network promotes the residential character within the structure plan area through lower speed environment and a network of cycle and pedestrian facilities.
(c) Ensure that the outcomes sought in the Waipā 2050 Growth Strategy, Town Concept Plan 2010 Plans, and the character Precinct statements in Section 6 – Commercial Zone of this Plan are achieved.	**Supports** The T4 Structure Plan area contributes to the growth of Te Awamutu and is part of the future town boundary under the Town Concept Plan 2010. It is likely that the development will retain the uncongested nature of Te Awamutu.
Objective – Maintaining transport network efficiency	
16.3.3 – To maintain the ability of the network to distribute people and goods safely, efficiently and effectively.	Supports The structure plan connects to the existing roading network at three points and takes advantage of the connections previously planned for the Western Arterial ring road. Therefore, it maximises the operational potential of the network.
Policy – Effects of development or subdivision on the transport network	
16.3.3.1 – Avoid, remedy or mitigate the adverse effects of development or subdivision on the operation and maintenance of the transport network, including from: (a) Traffic generation, load type, or vehicle characteristics;	Supports The structure plan road network will be appropriately designed to accommodate the predominantly light vehicle traffic associated with residential use. This traffic is not expected to cause adverse effects on the existing road network. Other vehicles such as refuse removal and buses have been designed for, are able to be accommodated and will be specifically considered in the future required consents.
(b) The collection and disposal of stormwater; and	N/A
(c) Reverse sensitivity effects where development or subdivision adjoins existing and planned roads.	Supports The structure plan network has been planned to appropriately connect to existing and planned roads. An integrated land use and transport approach has been applied and no reverse sensitivity issues are expected.
Policy – Location of network facilities	
16.3.3.2 – When significant alterations to existing utilities occur in the road reserve, or new network utilities locate in the road reserve, the network utilities must avoid, remedy, or mitigate impacts on:	Support expected The roading corridors within the structure plan have the potential to accommodate amenities and utilities with minimum disruption on the transportation network.

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Objective/Policy	Assessment
(a) The operation, renewal and development of the transportation network; and	
(b) Existing and planned landscaping, tree planting, footpath, lighting, bus bays, intended carparks, and any other amenity enhancements.	As above.
Objective – Provision of vehicle entrance, parking, loading and manoeuvring areas	
16.3.4 – The provision of adequate and well located vehicle entrances and parking, loading and manoeuvring areas that contribute to both the efficient functioning of the site and the adjacent transport network.	Supports The structure plan connects to the existing roading network at three points and provides connections to existing residential areas and schools, therefore maximising the operational potential of the network. A network of local roads allows vehicle access, manoeuvring and parking to be achieved efficiently within the northern and southern areas.
Policy – Location of vehicle entrances	
16.3.4.1 – To maintain the safe and efficient functioning of adjoining roads and railways, vehicle entrances to all activities shall be located and formed to achieve safe sight lines and entry and egress from the site. In some locations, adjoining rail lines, State Highways, and the District's Commercial Zones; vehicle entrances will be limited and will require assessment due to the complexity of the roading environment, or the importance of provision of pedestrians.	Supports Safe sight lines from the structure plan area to the existing road network are achievable. An appropriately low speed environment within the structure plan allows safe sight line where visibility between vehicle, cycle and pedestrian can be maintained.
Policies - Ensuring adequate parking, loading and manoeuvring areas on site	
16.3.4.2 - To maintain the efficient functioning of adjoining roads, all activities shall provide sufficient area on site to accommodate the parking, loading and manoeuvring area requirements of the activity.	Supports Residential lots have not been designed as yet but are expected to be able to accommodate their own parking and loading needs. All parking, loading and manoeuvring needs are expected to be accommodated on site, with no reliance on adjoining roads.
16.3.4.3 - Activities that operate at different times and have adjoining sites may be able to share the use of the same parking spaces.	N/A
16.3.4.4 - Certain activities may be able to demonstrate through the provision of a travel plan, that staff or occupants of the activity can access the activity through alternative means of travel, thus reducing the requirements for carparks.	This will be addressed in the resource consent process, as applicable.
Policy - Cash in lieu of parking in the Commercial Zones	
16.3.4.5 - When a development is unable to meet the car parking requirements of the Plan, due to insufficient site area, or being located where it is undesirable to interrupt a road frontage with vehicle entrances; mitigation of the non-provision of car parking could be achieved through a cash contribution in lieu.	Support expected Parking is likely to be provided in the structure plan area, however this alternative mechanism is available should it be needed in future.
Policy - Encouraging the adaptive re-use of heritage items	

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Objective/Policy	Assessment
16.3.4.6 - To achieve the adaptive re-use of heritage items, as listed in Appendix N1, a reduction in the requirement for vehicle entrances, and on-site parking, loading and manoeuvring areas can be considered where these cannot practicably be incorporated on-site due to the location of the heritage item on the site and the size of the site.	Supports The T4 Growth Cell transport elements are assessed as not affecting any heritage items listed in Appendix N1.
Objective - Minimising adverse effects of the transport network	
16.3.5 - The transport network can have effects on the adjacent environment that must be mitigated through design.	Supports The structure plan network has been designed to minimise changes to the natural landscape and protect amenity values, such as public access to the rural interface on the western side of the structure plan.
Policy – Natural environment	
16.3.5.1 - Transport infrastructure, including its layout within a development and subdivision, shall be designed and located to avoid, remedy or mitigate adverse effects on the adjacent environment, having regard to stormwater collection, treatment and disposal, earthworks, noise and the landscape areas identified within this Plan and on the Planning Maps.	Supports The road layout generally follows the natural topography of the site. The reserve areas have been designed to provide stormwater retention and will also have a transportation and amenity function through the inclusion of walking and cycling networks. Stormwater design has been separately assessed by others.
Policy - Noise and vibration	
16.3.5.2 - Noise sensitive activities, adjacent to strategic roads, including State Highways, collector roads in the Rural Zone and Large Lot Residential Zones, and railway lines; will require acoustic attenuation to ensure the continuation of the ability to achieve acoustic privacy.	Supports The uncongested nature of the adjacent roads means vehicular transport noise is unlikely to affect the structure plan area. The detailed acoustic impacts for both road and rail are assessed separately.

10.2 Rules

The proposal has been evaluated with respect to the Transportation Rules in Section 16.5 of the District Plan. Table 19 below summarises the relevant transportation rules with commentary where appropriate on the level of compliance which can be achieved.

Table 19: District Plan Transportation Rule Assessment

Rule	Assessment
Road Hierarchy	
16.4.2.1 All structure plans, plan changes, developments, and subdivisions must be consistent with the road hierarchy, as contained in Appendix T5.	Complies The proposed road layout is consistent with the existing hierarchy and provides appropriate level roads to connect with the existing road hierarchy.
16.4.2.2 To maintain the effectiveness of the road hierarchy, a road network must be designed so	Complies

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Rule	Assessment
that a road connects to a road at the same level in the hierarchy, or directly above or below its place in the hierarchy.	The proposed Collector Road is proposed to connect to Rewi Street and Puniu Road, both of which are collector roads. The proposed local road connection to Wallace Terrace also connect to a local road.
16.4.2.3 To maintain the effectiveness of the road hierarchy, when a site has two road frontages, vehicle access and egress must be from the lesser road type.	Complies The structure plan area includes an indicative subdivision arrangement that internalises individual site access, focussed on the lesser road hierarchy point of access to protect the strategic function of the road network.
Vehicular access to sites in all zones	
16.4.2.4 Every site shall be provided with vehicle access to a formed road that is constructed to a permanent standard. The vehicle access shall be designed to accommodate the demands of all traffic from the activity on that site, taking into account the form and function of the road.	Complies The structure plan enables compliance in this regard.
Vehicle entrance separation from intersections and other vehicle entrances	
16.4.2.5 The minimum distance of a vehicle entrance (accessway) from an intersection or other entrance shall be as follows: (posted speed limit of 50km/h or 60km/h): 30m from the intersection (on the major road), and 20m from the intersection (on the minor road). Accesses should be less than 4m apart or greater than 11m apart.	Complies The nearest access on Rewi Street (to the Te Awamutu Skate Park) is located approximately 90 m east of the proposed intersection, while the nearest access to the proposed intersection on Puniu Road is located approximately 30 m to the west. Compliance is enabled by the structure plan.
Parking, loading and manoeuvring areas	
16.4.2.13 All activities that involve the erection, construction or substantial reconstruction, alteration or addition to a building on any site, or changes the use of any land or building, shall provide parking and loading / unloading for vehicles on the site at the rates specified in Appendix T1.	Compliance expected The residential lots within structure plan are expected to be able to comply with these requirements. There is nothing in the proposed structure plan layout that would preclude compliance with this rule.
16.4.2.14 Where assessment of the number of parking spaces required results in a fractional space being calculated, any fraction less than one-half shall be disregarded, and any fraction greater than or equal to one- half shall be counted as one space.	Compliance expected Parking and loading arrangements for the individual lots have not yet been determined, however there nothing in the proposed structure plan layout that would preclude compliance with this rule.
16.4.2.15 Vehicle parking, loading / unloading, and manoeuvring areas shall: (a) Not encroach on any yard setback, outdoor living area, vehicle or bicycle parking spaces; or other loading / unloading areas; and (b) Be designed, formed, and constructed in accordance with Appendix T2 and ensure that the surface of the required area provides a dust free environment; and (c) Provide for the safe and efficient disposal of surface stormwater clear of any adjoining access or road surface in a way that does not result in ponding or scouring; and (d) Be constructed to accommodate the anticipated use of the area by all traffic likely to access the site in the zone in which it is located,	Compliance expected Parking and loading arrangements for the individual lots have not yet been determined, however there nothing in the proposed structure plan layout that would preclude compliance with this rule.

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Rule	Assessment
including construction traffic taking into account pavement, surfacing, demarcation of spaces, aisles and circulation roads; and (e) Be provided on the site on which the building, activity or proposal is located.	
16.4.2.16 The design and layout of sites shall ensure that access to each required vehicle parking, loading and unloading space is directly from the required access or manoeuvring area.	Compliance expected Parking and loading arrangements for the individual lots have not yet been determined, however there nothing in the proposed structure plan layout that would preclude compliance with this rule.
16.4.2.17 Vehicle manoeuvring space, including those spaces located in a garage, and loading and unloading spaces, shall be provided on a site, of a standard adequate to accommodate a 90-percentile car, or a 99-percentile truck, as described in Appendix T2, in order to ensure that all vehicles have the ability to access the adjoining road in a forward direction after no more than a three-point turning manoeuvre on the site.	Compliance expected Driveways and parking for the individual lots have not yet been determined, however there nothing in the proposed structure plan layout that would preclude compliance with this rule.
16.4.2.18 All required carparks shall be marked or delineated on site, except in the Residential Zone.	N/A - The site is located within the residential zone.
Carpark landscaping and lighting	
16.4.2.21 All carparks must: Provide at least one tree planted for every 5 car parking spaces at a grade of no less than PB95. For the avoidance of doubt, PB95 is equivalent to a tree that is at least 1.5m tall at the time of planting; and Ensure lighting is designed to avoid shading areas or isolating areas of public use.	N/A – parking provision within the future residential lots is unlikely to exceed the threshold identified in this rule (5 car spaces)
Provision of bicycle parking facilities	
16.4.2.22 In areas other than the Rural Zone and Pedestrian Frontages, activities employing more than ten people must provide bicycle parking facilities at a rate of one bicycle park for every ten people employed.	N/A - The site is located within the residential zone.
Provision of an integrated transportation assessment	
16.4.2.23 A Simple or Broad Integrated Transport Assessment (ITA) shall be prepared for activities as required by this rule.	Complies As the expected daily trip generation is more than 1,500 vpd, a Broad ITA has been prepared to support this plan change application and structure plan.

Overall, it can be seen there is a sound alignment of the proposed structure plan with the relevant traffic and transport objectives, policies and rules.

11. Conclusions

The following key conclusions are drawn from this ITA report for the proposed deferred zoning uplift and development enabled by the T4 Structure Plan:

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- The proposed zone uplifting will enable the development of approximately 12.4 ha (net developable area) of residential development. This is equivalent to up to 310 residential dwellings on lots ranging between 400m^2 and 600m^2 in size (i.e., a net residential density of 20-25 dwellings per hectare). Where an increased density is achieved it has been assessed this could potentially support up to 362 dwellings[22].
- Based on published trip rate data in the *NZ Transport Agency Research Report 453*, the proposed residential activities within the proposed T4 Structure Plan are anticipated to generate up to about 2,545 vehicle trips per day and up to 280 vehicle trips per hour during the typical commuter peak periods for 310 dwellings; or up to 3,015 vehicle trips per day, 327 in the peak hour (two way totals) in relation to the potential 362 dwellings scenario.
- The majority of the trips expected to be generated by the proposed land use activities within the structure plan area are anticipated to arrive from/ depart to the east and north. This is consistent with the locality of the existing employment and educational areas within the township.
- A network of internal roads has been designed at a concept level to demonstrate how the structure plan area could be serviced. While the structure plan reflects the high-level network configuration, the finer details of the road network will be refined at future subdivision stages. These include:
    - A proposed Collector Road along the structure plan's western boundary.
        - The Collector Road is proposed to form the initial stages of the strategic "Western Arterial" corridor, although the corridor is understood to now be planned with a reduced strategic function. At its southern end, the collector road is proposed to be located within the current designation and land owned by Council.
        - While the intended form of the Collector Road departs from District Plan requirements, the departure is assessed as appropriate in the context of the structure plan proposed, particularly where development activity will only be enabled on one side of the corridor (the eastern side). Accordingly, parking facilities, shared walking and cycling facilities, and services corridor are only proposed on the side of the road that development is anticipated to occur.
    - A supporting network of local roads, cul-de-sacs and private rights-of-way's (ROWs) providing property access. With the exception of the proposed road reserve and carriage way widths, the proposed internal local road cross-sections generally comply with the standards set out in the District Plan. It is however, assessed that there is sufficient space within the proposed corridors to provide for the required parking, walking/cycling, and services corridors to accommodate the traffic demand expectations on these lower-use environments.
- Vehicle access to the structure plan area is proposed to be provided via the Collector Road corridor with new connections to the Rewi Street and Puniu Road, as well as a new local road connection to Wallace Terrace.
    - The interim/staged form of new intersections on Rewi Street and Puniu Road to support the T4 structure plan traffic demands are indicatively identified as "Tee" intersection with right-turn bay facilities. While the assessed T-intersection configurations do not generally

[22] Described at section 6.2

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align as effectively with Safe Systems principles compared to a roundabout or traffic signals, crash prediction models predicted a lower injury crash rate at both intersections with low traffic flow demands. Further, to enhance safe system design alignment, several supporting safety treatments (raised tables, street lighting, signage and markings, etc.) are able to be incorporated into the intersection design (refer to the concept drawings in Appendix H) to ensure appropriately safety outcomes for all road users.

  - While the long-term configuration of both intersections will be confirmed in future as part of the "Western Arterial" works, the proposed interim intersection designs have been overlaid on top of the anticipated long-term strategic design to ensure that the interim intersections are located at the correct location from day one to minimise future construction costs. The concept drawings provided in Appendix H also show that the future long-term option (indicatively roundabouts) is not foreclosed.

- Overall, the proposed walking/ cycling network is expected to create a sustainable and attractive network for pedestrians and cyclists. A 3 m wide shared path network runs throughout the structure plan area and is supported by various on-road connections and standard footpaths. The 4 m wide bi-directional cycle path and footpath on the proposed Collector Road corridor provides connection to the Council planned walking and cycling infrastructure on Rewi Street and Puniu Road / Bank Street.
- Adequate space is available within the proposed internal road network to enable public transport infrastructure (such as bus stops) in the future.
- The applicants seek to enable flexibility for future development within the whole of the structure plan area (in terms of access provision), while managing the potential consequential traffic effects on the immediate adjoining road network. With the structure plan area comprised of two land parcels with different owners, it was identified that the two sites (Area 1 to the north and Area 2 to the south) could be enabled to be developed independently of the other if needed.
- To further enable development flexibility, the potential for transport infrastructure staging provisions has been assessed and described. The exact nature of staging requirements would need to be considered as part of the subdivision consent process, once the layout of each development area has been confirmed. The assessments in this report however provide an indication of the nature of staging that could be required to manage transportation effects. It is evident that any staging provisions ultimately attached to a subdivision consent, would be capable of managing the transport effects wholly within the current transport corridor environment and without reliance on third party land.

Resource/subdivision consents are expected to be required for earthworks/ construction phases to determine and manage the associated transport related effects (including safety effects), if any. These will enable consideration of any specific temporary traffic management and/or construction traffic management measures, should these be a requirement. The construction traffic effects are able to be managed for the duration of works through conditions requiring specific Construction Traffic Management Plans (CTMPs).

By way of an overall assessment, it is concluded that the traffic and transport elements of the proposed T4 Structure Plan have been appropriately planned to ensure multi-modal integration with the broader Te Awamutu area. It is assessed that the transportation planning aspects of the zoning uplift and structure plan proposal are appropriately aligned with the planned intent for the area.

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The transportation effects on the adjoining road network of the plan change proposal are assessed as no more than minor, subject to transportation infrastructure and development staging being addressed as part of the subsequent subdivision consent process.

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Appendices

We design with community in mind

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Appendix A Strategic Planning Context

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Waipā 2050 District Growth Strategy

Waipā 2050 provides direction as to how and where an additional 25,000 people will be accommodated in the Waipā District (between 2017 and 2050), whilst retaining the special features of the District.

Te Awamutu and Kihikihi are expected to grow to a total of 18,400 people by 2050, an increase of 5,400 on the 2017 population. This is equivalent to annual growth of 104 households. Compact housing such as retirement villages is expected to make up 20% of the growth in Te Awamutu.

The site is identified as the 'T4' area within the Te Awamutu Urban Growth Plan. This is an approximately 29ha growth cell identified for future residential development (beyond 2035). As shown on Figure 1, the T4 Growth Cell sits on the western edge of Te Awamutu.

In relation to transport, Waipā 2050 recognises "*maintain, develop and enhance efficient transport networks*" as a key District Challenge (Table 5). The consequential matter to consider is implementation of sustainable transport networks. The implementation of Waipā 2050 is enabled primarily by the District Plan, as well as structure plans and the Council's 10-year Plan.

Future Proof Sub-Regional Growth Strategy

The Future Proof Strategy is a 30-year growth management and implementation plan specific to the Hamilton, Waipā and Waikato sub-region. Future Proof sets out how the area should develop into the future.

In relation to Te Awamutu and transport, the Strategy includes better public transport and improved opportunities for walking and cycling, and increased densities within the existing town boundaries including a range of housing choices and densities.

In relation to residential development generally, Future Proof includes the following relevant principles:

- Promote increased densities in new residential development and more intensive redevelopment of existing urban areas.
- Ensure development is planned to support safe and efficient transport infrastructure, including public transport provision and reduced dependence on motor vehicles.
- Recognise the need for stronger links between land-use and transport in respect of the settlement pattern and ensure capacity is matched with development potential.

Regional Policy Statement (RPS)

The purpose of the Regional Policy Statement (RPS) is to provide an overview of the how the Waikato Region will manage its natural and physical resources. It describes the issues, policies and methods to achieve integrated management. The RPS must be given effect to by the Waipā District Council District Plan.

The RPS (Policy 6.1) recognises the importance of planned and co-ordinated subdivisions and integrating land use development with transport infrastructure. A key aspect of information required to support new urban development is the demonstration of multi-modal transport connections with the subdivision, to neighbouring areas and to existing transport infrastructure.

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Waikato Regional Land Transport Plan (RLTP) 2021-2051

The Regional Land Transport Plan (RLTP) sets the strategic direction for land transport in the Region. It describes what the region is aiming to achieve for the land transport system and how this will contribute to an effective, efficient and safe land transport system, as required under the Land Transport Management Act 2003 (LTMA).

The RLTP includes two projects of relevance to Te Awamutu. The Hamilton to Te Awamutu section of SH3 is identified for safer corridor works. The project is number 14 on the list of priority projects.

Waikato Regional Public Transport Plan (RPTP) 2022-2032

The Waikato Regional Public Transport Plan (RPTP) sets the objectives and policies for public transport in the Waikato region. It outlines a future plan for the public transport network and development plans for the next 10 years (2022-2032).

In relation to Te Awamutu, it includes a vision to implement mass transit start up projects including frequent public transport service between Te Awamutu and Hamilton, in the next 10 years.

Waipā District Council Long Term Plan 2021-2031

The Long-Term Plan (LTP) sets Council's direction over the ten-year period (2021-2031). It explains what Council's activities will be and how they will be funded.

The Plan does not contain any specific transport projects in the vicinity of the site. As expected, the Plan does not include any works to support the T4 growth cell, as it identified in Council's planning as being beyond 2035.

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Appendix B CAS Data

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NZ TRANSPORT AGENCY WAKA KOTAHI | CAS

Untitled query

Saved sites

Puniu Road / Pokuru Road, Wallace Terrace, Rewi Street: Station Road to College Street

Crash year

2018 — 2023

Crash severity

Fatal Crash, Serious Crash, Minor Crash, Non-Injury Crash

Plain English report

12 results from your query.

1-12 of 12

Site Centre: Midpoint	Crash road	Side road	Feature	Distance from side road/feature	Direction	Reference station	Route position	Easting	Northing	Longitude	Latitude	ID	Date	Day of week	Time	Description of events	Crash factors	Surface condition	Natural light	Weather	Junction	Control	Casualty count fatal	Casualty count serious	Casualty count minor	Social cost $(m)
1802733-5790380	**REWI STREET**	STATION ROAD			I			1802741	5790376	175.309409	-38.011639	2021204504	06/11/2021	Sat	10:49	Car/Wagon1 EDB on REWI STREET hit Lite2 turning right onto AXROAD from the left	CAR/WAGON1, alcohol test below limit LTE2, alcohol test below limit, did not check/notice another party from other dirn, failed to give way at priority traffic control, ENV: other visibility limited	Dry	Bright sun	Fine	T Junction	Stop	0	0	0	0.05
1802946-5788862	**POKURU ROAD**		PUNIU ROAD	400m	S			1802946	5788862	175.312168	-38.025231	2020153512	30/05/2020	Sat	07:08	Car/Wagon1 SDB on Pokuru road lost control on curve and hit Car/Wagon2 head on	CAR/WAGON1, alcohol test above limit or test refused, inappropriate speed for road conditions, lost control - road conditions, ENV: slippery road due to rain	Wet	Overcast	Light rain	Nil (Default)	Unknown	0	0	0	0.05
1802985-5790347	**REWI STREET**	DOWNES STREET		276m	W			1802984	5790345	175.312185	-38.011864	2020166592	13/10/2020	Tue	12:26	Car/Wagon1 EDB on Rewi Street lost control turning left; went off road to left, Car/Wagon1 hit kerb, bank	CAR/WAGON1, alcohol test below limit, lost control when turning, speed entering corner/curve	Wet	Overcast	Light rain	Nil (Default)	Nil	0	0	0	0.05
1802985-5790347	**REWI STREET**	STATION ROAD		239m	E			1802985	5790346	175.312202	-38.011855	201986479	30/11/2019	Sat	16:49	Car/Wagon1 WDB on REWI STREET missed inters or end of road, Car/Wagon1 hit bank	CAR/WAGON1, alcohol test below limit, lost control when turning, new driver/under instruction, ENV: heavy rain	Wet	Overcast	Heavy rain	Nil (Default)	Nil	0	0	0	0.03
1802986-5788907	**POKURU ROAD**		PUNIU ROAD	340m	S			1802985	5788906	175.312607	-38.024822	2020157014	01/07/2020	Wed	17:51	Van1 EDB on Pokuru road hit obstruction, Van1 hit farm animals (straying)	VAN1, alcohol test below limit, ENV: farm animal straying	Dry	Dark	Fine	Nil (Default)	Nil	0	0	0	0.05
1803224-5789146	**POKURU ROAD**		PUNIU ROAD	217m	S			1803067	5788985	175.313518	-38.024096	2022236357	29/09/2022	Thu	06:30	Car/Wagon1 SDB on POKURU ROAD lost control; went off road to right, Car/Wagon1 hit bank	CAR/WAGON1, alcohol test below limit, fatigue due to lack of sleep, too far right	Dry	Dark	Fine	Nil (Default)	Nil	0	0	0	0.05
1803245-5790429	**DOWNES STREET**	REWI STREET			I			1803247	5790421	175.315163	-38.011121	201963350	02/04/2019	Tue	16:30	Car/Wagon1 NDB on Downes Street hit Lite2 crossing at right angle from right	CAR/WAGON1, alcohol test below limit, did not check/notice another party from other dirn, failed to give way at priority traffic control, other attention diverted, other inattentive LTE2, alcohol test below limit	Dry	Bright sun	Fine	Crossroads	Stop	0	0	0	0.03
1803245-5790429	**DOWNES STREET**	REWI STREET			I			1803246	5790420	175.315151	-38.011128	201898147	05/09/2018	Wed	11:00	Truck1 NDB on DOWNES STREET changing lanes/overtaking to right hit Lite2	TRUCK1, did not check/notice another party behind	Dry	Unknown	Null	Crossroads	Stop	0	0	0	0.03
1803245-5790429	**REWI STREET**	COLLEGE STREET			I			1803252	5790432	175.315211	-38.011024	201970461	07/10/2019	Mon	21:45	Car/Wagon1 WDB on REWI STREET hit Car/Wagon2 crossing at right angle from right, Car/Wagon1 hit fence, kerb, Car/Wagon2 hit letterbox, kerb	CAR/WAGON2, alcohol suspected, did not stop at stop sign, drugs suspected, inappropriate speed for road conditions, other attention diverted CAR/WAGON1, alcohol test below limit	Dry	Dark	Light rain	Crossroads	Stop	0	0	1	0.10
1803296-5790253	**DOWNES STREET**	TEASDALE STREET			I			1803293	5790260	175.315725	-38.012560	201896269	18/12/2018	Tue	13:00	load or trailer from Car/Wagon1 DRN on DOWNES STREET hit Car/Wagon2	CAR/WAGON2, alcohol test below limit, vehicle being towed CAR/WAGON3, alcohol test below limit CAR/WAGON1, load not well secured or load moved	Dry	Bright sun	Fine	T Junction	Give way	0	0	0	0.03
1803353-5789232	**PUNIU ROAD**	FAIRVIEW ROAD		220m	W			1803353	5789232	175.316696	-38.021809	201845294	21/07/2018	Sat	03:34	Car/Wagon1 WDB on Pokura Road lost control; went off road to left, Car/Wagon1 hit non specific pole	CAR/WAGON1, alcohol test below limit, lost control - road conditions, sudden action, sudden illness	Wet	Dark	Fine	Nil (Default)	Unknown	0	0	0	0.03
1803499-5789333	**PUNIU ROAD**	FAIRVIEW ROAD		41m	S			1803498	5789332	175.318326	-38.020867	2021195670	22/07/2021	Thu	16:40	Lite1 SDB on PUNIU ROAD hit parked veh, Lite1 hit parked (unattended) vehicle	LTE1, alcohol test below limit, attention diverted by food, cigarettes, beverages, too far left	Wet	Dark	Fine	Nil (Default)	Nil	0	0	1	0.11

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CODED CRASH ID	Crash road	Distance	Direction	Side road	Date	Day of week	Time	Description of events	Crash factors	Surface condition	Natural light	Weather	Junction	Control	Casualty count fatal	Casualty count serious	Casualty count minor
1368400	REWI STREET	126	E	STATION ROAD	26/05/2023	Fri	23:30	Ute1 WDB on REWI STREET lost control; went off road to left, Ute1 hit power pole, traffic sign	UTE1, alcohol test above limit or test refused, attention diverted by cell phone, too far left	Wet	Dark	Mist or Fog	Nil (Default)	Nil	0	0	0
1375647	REWI STREET	148	E	STATION ROAD	28/12/2023	Thu	10:41	Cycle1 WDB on REWI STREET hit rear of left turning SUV2 WDB on REWI STREET	CYCLE1, failed to notice indication of vehicle in front	Dry	Overcast	Fine	Driveway	Nil	0	1	0
1386910	STATION ROAD		I	REWI STREET	12/10/2023	Thu	16:12	Ute1 SDB on STATION ROAD hit PEDESTRIAN crossing road from left side	WHEELED PEDESTRIAN (WHEELCHAIRS, MOBILITY SCOOTERS2, wheeled pedestrian inconsiderate/dangerous actions, ENV: other signs or signals, other visibility limited, visibility limited by curve	Dry	Overcast	Fine	T Junction	Stop	0	0	0

Appendix C Proposed T4 Structure Plan and Cross Sections

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Version: 2, Version Date: 26/02/2026

READ DRAWINGS CAREFULLY #MEASURETWICECUTONCE

N

NEW COLLECTOR ROAD LINK &
JUNCTION WITH REWI STREET
(FINAL ALIGNMENT & INTERSECTION
LAYOUT TO BE CONFIRMED BY WDC)

REWI ST

CENTENNIAL
PARK

LOCAL ROAD CONNECTION
TO WALLACE TERRACE

NORTH ISLAND TRUNK MAIN

TE AWAMUTU
STADIUM

PUNIU RD

NEW COLLECTOR ROAD JUNCTION WITH PUNUI ROAD
(FINAL INTERSECTION LAYOUT TO BE CONFIRMED BY WDC)

HV

LEGEND

- EXISTING CADASTRAL BOUNDARIES
- GROWTH CELL BOUNDARY
- EXISTING ROADING NETWORK
- COLLECTOR ROAD
- LOCAL ROAD (INDICATIVE)
- GENERAL RESIDENTIAL (DENSITY=12.5 DWELLINGS/Ha)
- MEDIUM RESIDENTIAL (DENSITY=27.0 DWELLINGS/Ha)
- POTENTIAL COMMERICAL HUB OVERLAY AREA (ONE SITE ONLY / 750m2 MAX. GFA)
- STORMWATER RESERVE
- NATURAL INLAND WETLAND
- COMMUNITY RESERVE SPACE
- ENVIRONMENTAL BUFFER
- DESIGNATION D154 (WESTERN ARTERIAL)
- HV — EXISTING OVERHEAD POWER LINES

PROPOSED PLAN CHANGE
T4 GROWTH CELL
TE AWAMUTU

PROPOSED STRUCTURE PLAN

DRAWING REVISION: L

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READ DRAWINGS CAREFULLY. ANY DISCREPANCIES TO BE REPORTED TO ENGINEER BEFORE CONSTRUCTION

N

NEW COLLECTOR ROAD LINK & JUNCTION WITH REWI STREET TO BE COMPLETED AS PART OF STAGE 2

REWI ST

CENTENNIAL PARK

LOCAL ROAD CONNECTION TO WALLACE TERRACE TO BE COMPLETED AS PART OF STAGE 1

STAGE 1 NORTH
(MAX. 70 DWELLINGS)

NORTH ISLAND TRUNK MAIN

TE AWAMUTU STADIUM

STAGE 1 SOUTH
(MAX. 150 DWELLINGS)

PUNIU RD

NEW COLLECTOR ROAD JUNCTION WITH PUNUI ROAD TO BE COMPLETED AS PART OF STAGE 1

LEGEND

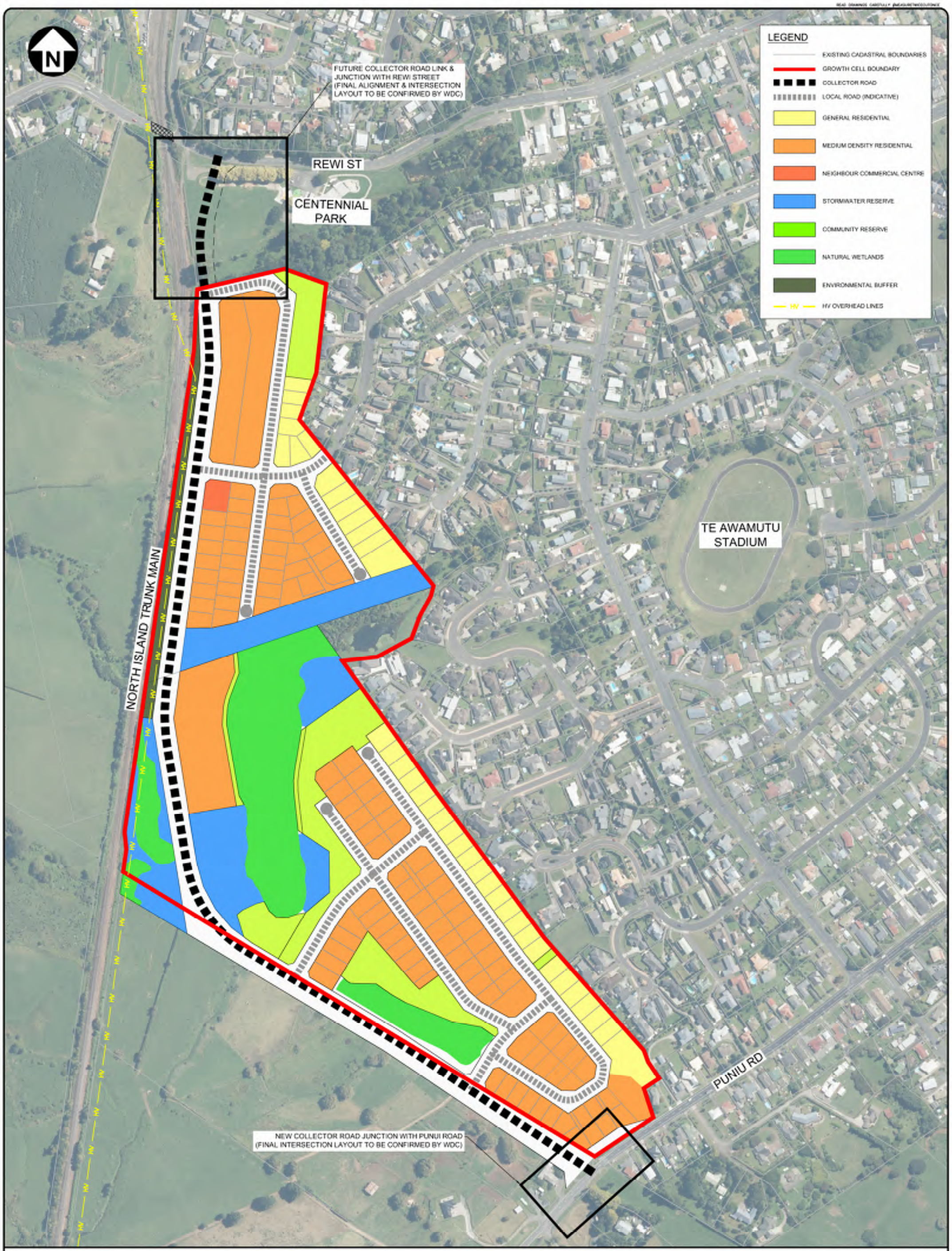
- EXISTING CADASTRAL BOUNDARIES
- GROWTH CELL BOUNDARY
- T4 STAGE 1 DEVELOPMENT AREA
- T4 STAGE 2 DEVELOPMENT AREA
- COLLECTOR ROAD (STAGE 1 SECTION)
- LOCAL ROAD (STAGE 1 SECTION)
- COLLECTOR ROAD (STAGE 2 SECTION)

PROPOSED PLAN CHANGE
T4 GROWTH CELL
TE AWAMUTU

INDICATIVE STAGING

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PROPOSED PLAN CHANGE
T4 GROWTH CELL
TE AWAMUTU

SUBDIVISION CONCEPT
INDICATIVE LAYOUT

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READ DRAWINGS CAREFULLY. DIMENSIONS TAKE PRECEDENCE

N

LEGEND

- GROWTH CELL BOUNDARY
- 45 EXISTING CONTOUR (2.0m INTERVAL)
- EXISTING CONTOUR (0.5m INTERVAL)
- 45 PROPOSED DESIGN CONTOUR (2.0m INTERVAL)
- PROPOSED DESIGN CONTOUR (0.5m INTERVAL)
- POSSIBLE RETAINING STRUCTURE

NOTES:

1. CONCEPT DESIGN ONLY. EARTHWORKS CONTOURS SHOWN ARE BASED ON PROPOSED DESIGN SURFACE LEVELS
2. DESIGN OF EARTHWORKS (AND ASSOCIATED INFRASTRUCTURE) IS STILL SUBJECT TO FURTHER DESIGN DEVELOPMENT AND APPROVAL BY RELEVANT AUTHORITIES
3. STRUCTURE PLAN LAYOUT IS SUBJECT TO CONFIRMATION BY WAIPA DISTRICT COUNCIL
4. EXISTING CONTOURS SHOWN ARE BASED ON WRC LIDAR INFORMATION (2007/2008)

REWI ST

CENTENNIAL PARK

TE AWAMUTU STADIUM

NORTH ISLAND TRUNK MAIN

PUNIU RD

PROPOSED PLAN CHANGE
T4 GROWTH CELL
TE AWAMUTU

EARTHWORKS INDICATIVE LEVELS

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Version: 2, Version Date: 26/02/2026

READ DRAWINGS CAREFULLY. ANY DISCREPANCIES FOUND

N

REWI ST

CENTENNIAL PARK

NORTH ISLAND TRUNK MAIN

PUNIU RD

K 0025
L 0026
M 0026
J 0025
I 0026
F 0023
H 0024
B 0021
G 0024
D 0022
C 0022
E 0027
A 0021

LEGEND

GROWTH CELL BOUNDARY

EARTHWORKS (CUT FILL AREAS)

- > 4m CUT
- 3.0m TO 4.0m CUT
- 2.0m TO 3.0mCUT
- 1.0m TO 2.0m CUT
- 0.5m TO 1.0m CUT
- SITE CONTOURING (±0.5m)
- 0.5m TO 1.0m FILL
- 1.0m TO 2.0m FILL
- 2.0m TO 3.0m FILL
- 3.0m TO 4.0m FILL
- >4.0m FILL

NOTES:

1. CUT FILL DIAGRAM SHOWN IS INDICATIVE AND BASED ON AND INITIAL CONCEPT DEVELOPMENT FOR COMPARISON PURPOSES. FINAL EARTHWORKS IS SUBJECT TO FURTHER DESIGN
2. CUT FILL AREAS SHOWN ARE BASED ON SURFACE TO SURFACE LEVELS WITH NO ALLOWANCE FOR VOLUMETRIC ADJUSTMENTS OF ANY KIND
3. THE FINAL MASTER PLAN LAYOUT IS SUBJECT TO CONFIRMATION BY WAIPA DISTRICT COUNCIL
4. EXISTING LEVELS USED ARE BASED ON WRC LIDAR INFORMATION (2007/2008)

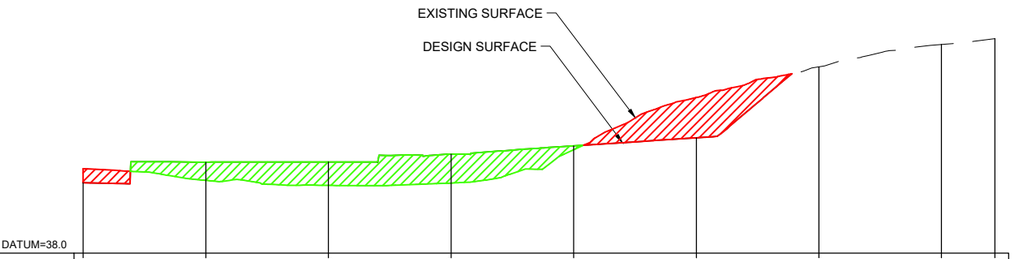
PROPOSED PLAN CHANGE
T4 GROWTH CELL
TE AWAMUTU

EARTHWORKS
INDICATIVE CUT FILL DIAGRAM

DRAWING REVISION: 1

DATE PRINTED: 9 July 2024 FILE NAME: 22024-C-002Vdwg

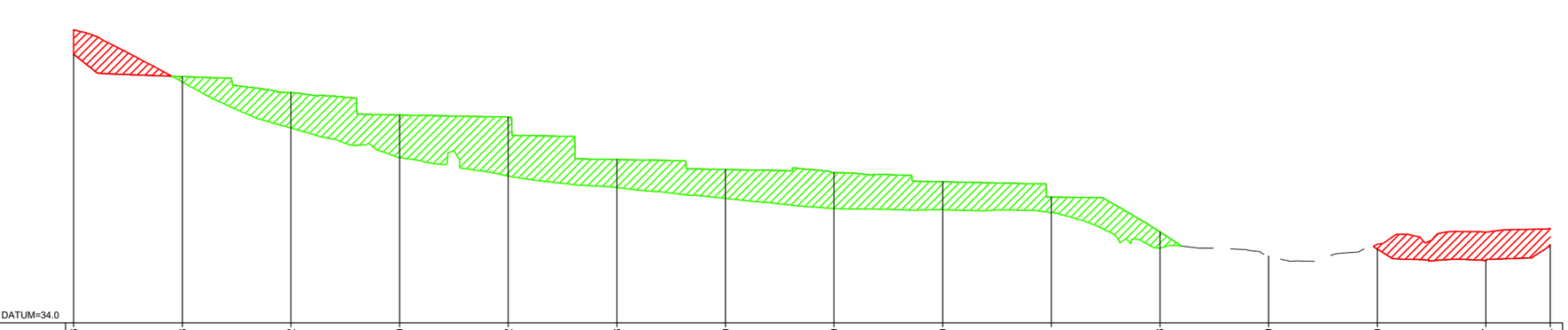
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026



	DATUM=38.0								
DESIGN SURFACE	43.735	45.412	45.428	46.072	46.747	47.407	53.189	55.019	55.485
EXISTING SURFACE	44.876	43.932	43.534	43.719	46.422	50.684	53.189	55.019	55.485
CUT / FILL	-1.141	1.480	1.895	2.353	0.325	-3.278			
DISTANCE	0	20	40	60	80	100	120	140	148.7

A / 0020 EARTHWORKS CROSS SECTION A-A

SCALE; HORIZONTAL = 1:1000 & VERTICAL = 1:500



	DATUM=34.0													
DESIGN SURFACE	58.653	56.623	55.142	53.090	52.902	48.998	48.080	47.799	46.950	45.551	42.348	40.139	40.770	39.707	41.084
EXISTING SURFACE	60.908	56.121	51.891	49.170	47.486	46.414	45.433	44.496	44.377	44.122	40.859	40.139	41.211	42.327	42.666
CUT / FILL	-2.255	0.502	3.251	3.920	5.416	2.584	2.647	3.304	2.574	1.430	1.489		-0.441	-2.620	-1.583
DISTANCE	0	20	40	60	80	100	120	140	160	180	200	220	240	260	271.9

B / 0020 EARTHWORKS CROSS SECTION B-B

SCALE; HORIZONTAL = 1:1000 & VERTICAL = 1:500

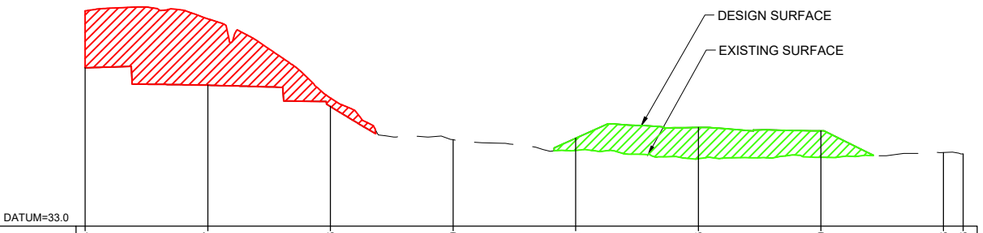
PROPOSED PLAN CHANGE
T4 GROWTH CELL
TE AWAMUTU

EARTHWORKS
CROSS SECTIONS
SHEET 1

DRAWING REVISION: F

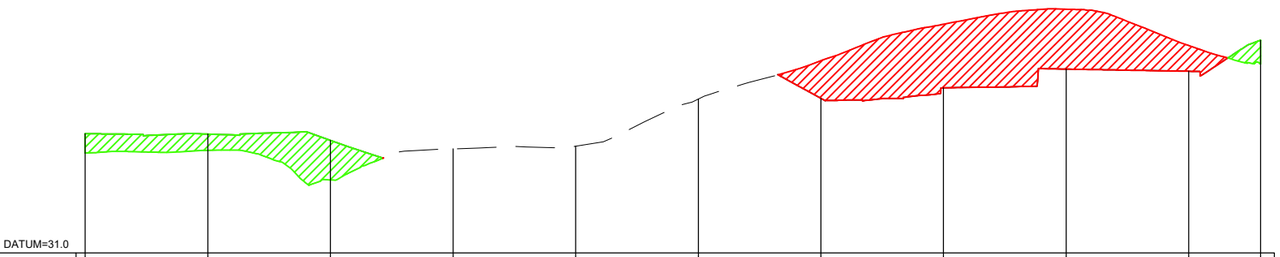
DATE PRINTED: 9 July 2024 FILE NAME: 22029-C-0021.dwg

Document Set ID: 11324660
Version: 2, Version Date: 26/02/2026



	DATUM=33.0							
DESIGN SURFACE	45.914	44.487	42.758	40.050	40.171	41.043	40.769	38.998	38.888
EXISTING SURFACE	50.541	49.897	43.457	40.050	39.168	38.498	38.610	38.998	38.888
CUT / FILL	-4.627	-5.410	-0.699		1.003	2.545	2.158		
DISTANCE	0	20	40	60	80	100	120	140	143.2

C 0020 EARTHWORKS CROSS SECTION C-C
SCALE; HORIZONTAL = 1:1000 & VERTICAL = 1:500



	DATUM=31.0										
DESIGN SURFACE	40.715	40.679	40.158	39.479	39.698	43.538	43.594	44.445	45.977	45.798	48.336
EXISTING SURFACE	39.133	39.364	36.936	39.479	39.698	43.538	46.662	49.633	50.856	47.895	46.390
CUT / FILL	1.582	1.316	3.223				-3.068	-5.188	-4.879	-2.098	1.946
DISTANCE	0	20	40	60	80	100	120	140	160	180	191.7

D 0020 EARTHWORKS CROSS SECTION D-D
SCALE; HORIZONTAL = 1:1000 & VERTICAL = 1:500

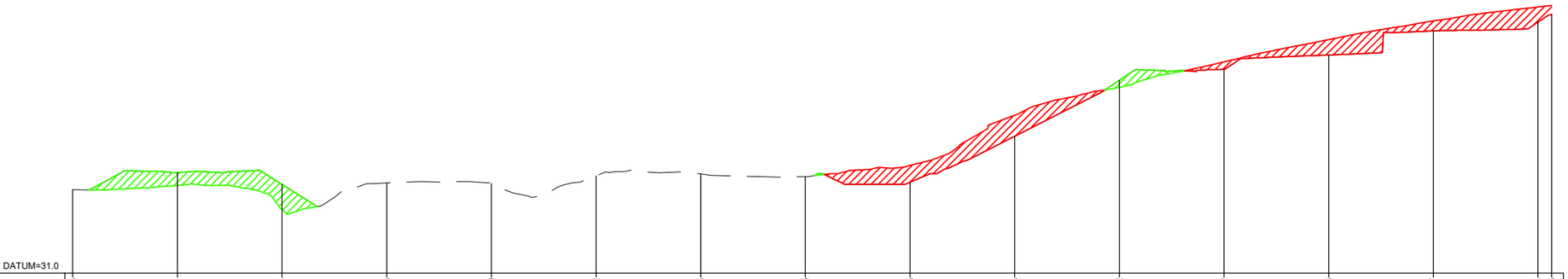
PROPOSED PLAN CHANGE
T4 GROWTH CELL
TE AWAMUTU

EARTHWORKS
CROSS SECTIONS
SHEET 2

DRAWING REVISION: F

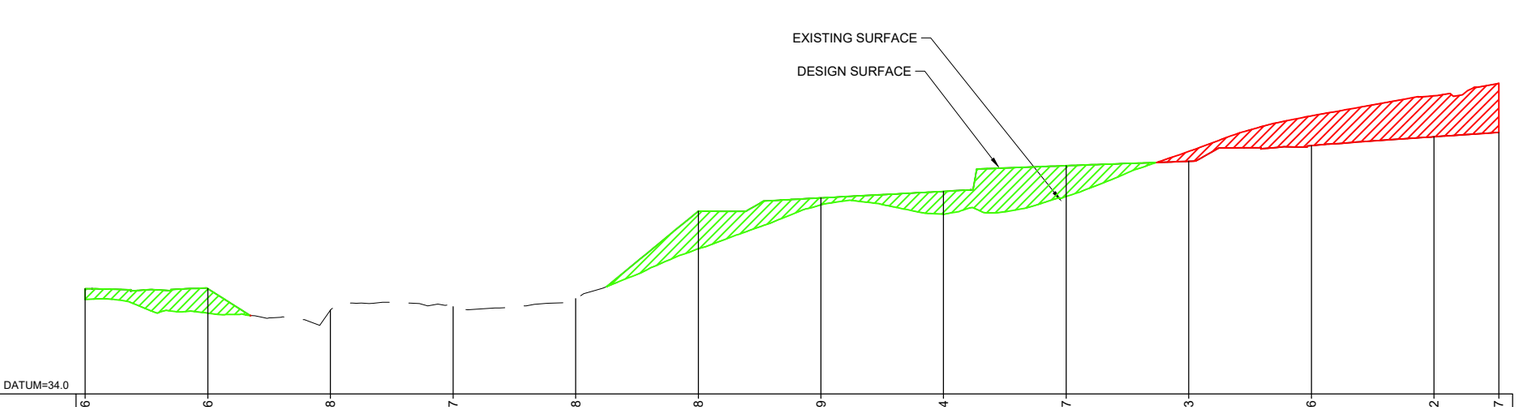
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Version: 2, Version Date: 26/02/2026



DESIGN SURFACE	38.983	40.621	39.484	39.618	39.559	40.302	40.483	40.215	39.685	44.083	49.422	50.492	51.846	54.147	54.984	55.676
EXISTING SURFACE	38.983	39.377	37.114	39.618	39.559	40.302	40.483	40.215	41.300	46.077	48.755	51.194	53.311	55.107	56.426	56.573
CUT / FILL	0.000	1.245	2.370	0.000	0.000	0.000	0.000	0.000	-1.615	-1.994	0.667	-0.702	-1.465	-0.960	-1.441	-0.897
DISTANCE	0	20	40	60	80	100	120	140	160	180	200	220	240	260	280	282.6

E
0020
EARTHWORKS CROSS SECTION E-E
SCALE; HORIZONTAL = 1:1000 & VERTICAL = 1:500



DESIGN SURFACE	42.566	42.576	40.838	41.107	41.768	48.888	49.969	50.504	52.597	52.953	54.236	54.952	55.307
EXISTING SURFACE	41.690	40.574	40.838	41.107	41.768	45.821	49.395	48.646	50.085	53.762	56.664	58.295	59.308
CUT / FILL	0.875	2.002				3.067	0.574	1.859	2.513	-0.809	-2.428	-3.342	-4.001
DISTANCE	0	20	40	60	80	100	120	140	160	180	200	220	230.6

F
0020
EARTHWORKS CROSS SECTION F-F
SCALE; HORIZONTAL = 1:1000 & VERTICAL = 1:500

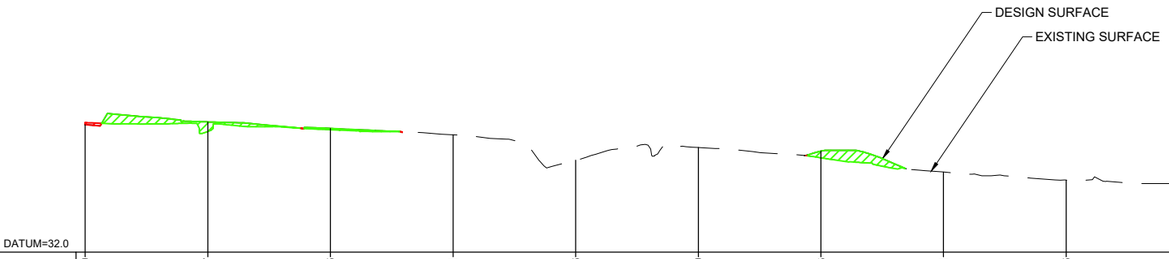
PROPOSED PLAN CHANGE
T4 GROWTH CELL
TE AWAMUTU

EARTHWORKS
CROSS SECTIONS
SHEET 3

DRAWING REVISION: 0

DATE PRINTED: 9 July 2024 FILE NAME: 22029-C-0023.dwg

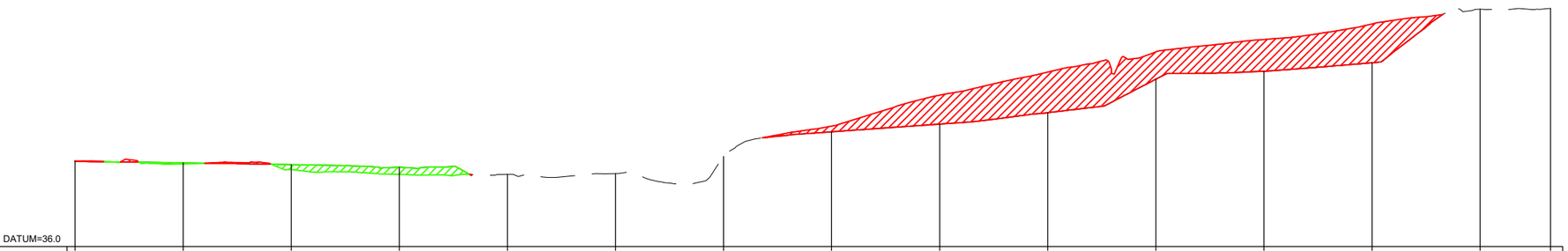
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026



DESIGN SURFACE	42.389	42.617	42.086	41.571	39.486	40.529	40.233	38.531	37.876	37.551	37.371
EXISTING SURFACE	42.562	41.841	41.984	41.571	39.486	40.529	39.688	38.531	37.876	37.551	37.371
CUT / FILL	-0.172	0.776	0.103	0.000	0.000	0.000	0.546	0.000	0.000	0.000	0.000
DISTANCE	0	20	40	60	80	100	120	140	160	180	197.1

G / 0020 EARTHWORKS CROSS SECTION G-G

SCALE; HORIZONTAL = 1:1000 & VERTICAL = 1:500



DESIGN SURFACE	43.869	43.732	43.577	43.325	42.671	42.738	44.340	46.606	47.317	48.376	51.477	52.216	52.998	57.963	58.036
EXISTING SURFACE	43.900	43.639	43.132	42.667	42.671	42.738	44.340	47.133	50.003	52.139	54.009	55.156	56.597	57.963	58.036
CUT / FILL	-0.031	0.093	0.445	0.658				-0.527	-2.686	-3.763	-2.532	-2.941	-3.599	0.000	0.000
DISTANCE	0	20	40	60	80	100	120	140	160	180	200	220	240	260	273

H / 0020 EARTHWORKS CROSS SECTION H-H

SCALE; HORIZONTAL = 1:1000 & VERTICAL = 1:500

PROPOSED PLAN CHANGE
T4 GROWTH CELL
TE AWAMUTU

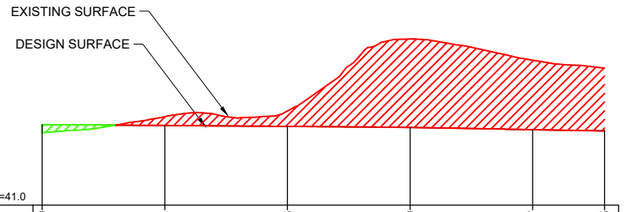
EARTHWORKS
CROSS SECTIONS
SHEET 4

DRAWING REVISION: G

DATE PRINTED: 9 July 2024 FILE NAME: 22029-C-0024.dwg

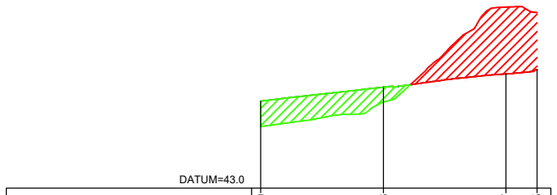
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

READ DRAWINGS CAREFULLY & MEASURE TWICE CUT ONCE



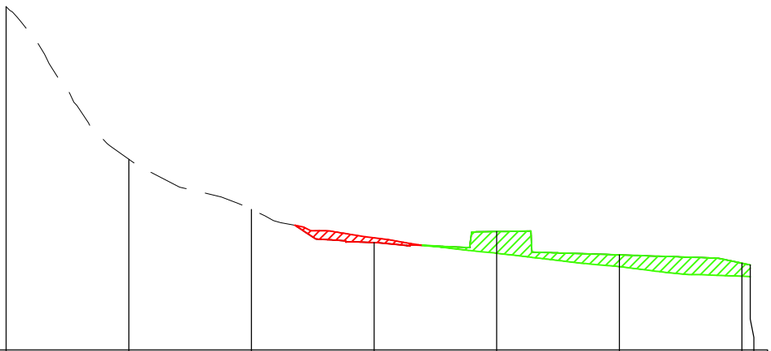
DESIGN SURFACE	47.569	47.494	47.418	47.330	47.157	47.055
EXISTING SURFACE	46.914	48.210	48.673	54.547	52.820	52.178
CUT / FILL	0.655	-0.716	-1.255	-7.216	-5.663	-5.124
DISTANCE	0	20	40	60	80	91.7

I / 0020 EARTHWORKS CROSS SECTION I-I
SCALE; HORIZONTAL = 1:1000 & VERTICAL = 1:500



DESIGN SURFACE	50.100	51.226	52.307	52.645
EXISTING SURFACE	48.019	50.030	57.765	57.307
CUT / FILL	2.082	1.196	-5.458	-4.662
DISTANCE	0	20	40	45.1

J / 0020 EARTHWORKS CROSS SECTION J-J
SCALE; HORIZONTAL = 1:1000 & VERTICAL = 1:500



DESIGN SURFACE	69.982	57.531	53.436	50.747	51.638	49.736	49.059 48.913
EXISTING SURFACE	69.982	57.531	53.436	51.125	49.872	48.781	47.994 47.965
CUT / FILL				-0.379	1.766	0.955	1.065 0.948
DISTANCE	0	20	40	60	80	100	120 121.4

K / 0020 EARTHWORKS CROSS SECTION K-K
SCALE; HORIZONTAL = 1:1000 & VERTICAL = 1:500

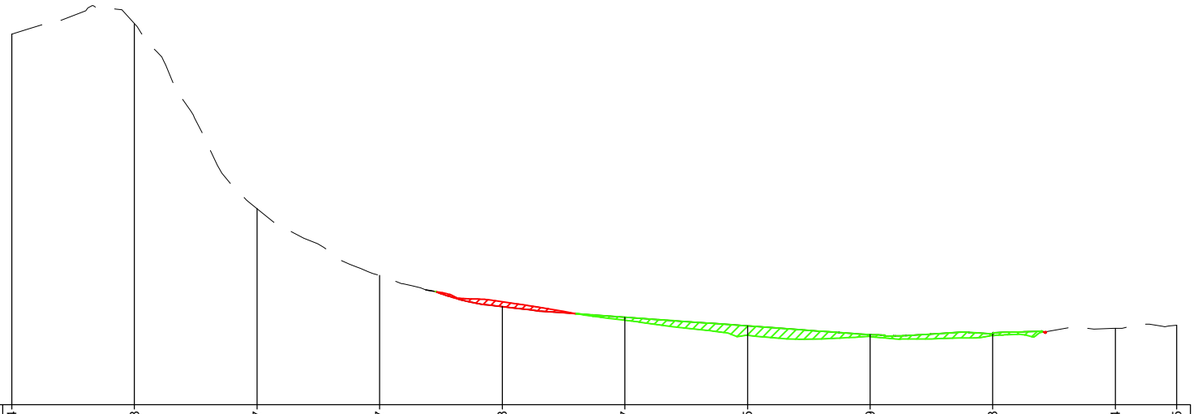
PROPOSED PLAN CHANGE
T4 GROWTH CELL
TE AWAMUTU

EARTHWORKS
CROSS SECTIONS
SHEET 5

DRAWING REVISION: F

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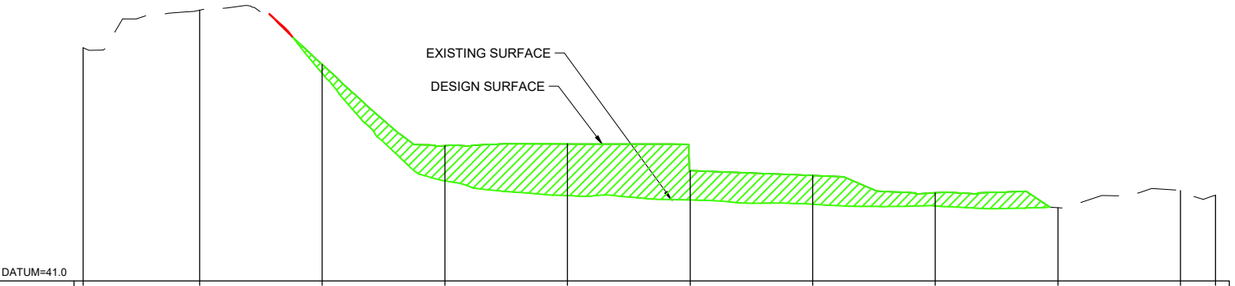
Document Set ID: 11324666
Version: 2, Version Date: 26/02/2026



DESIGN SURFACE	73.194	74.058	58.967	53.537	50.988	50.127	49.415	48.709	48.758	49.214	49.475
EXISTING SURFACE	73.194	74.058	58.967	53.537	51.380	49.873	48.674	48.546	48.629	49.214	49.475
CUT / FILL	0.000	0.000	0.000	0.000	-0.393	0.254	0.741	0.163	0.129	0.000	0.000
DISTANCE	0	20	40	60	80	100	120	140	160	180	190

L 0020 EARTHWORKS CROSS SECTION L-L

SCALE; HORIZONTAL = 1:1000 & VERTICAL = 1:500



DESIGN SURFACE	60.007	63.062	58.630	52.016	52.157	49.987	49.589	48.176	46.954	48.362	47.971
EXISTING SURFACE	60.007	63.062	57.905	49.152	47.948	47.585	47.244	47.103	46.954	48.362	47.971
CUT / FILL			0.724	2.864	4.209	2.402	2.344	1.073			
DISTANCE	1	20	40	60	80	100	120	140	160	180	185.7

M 0020 EARTHWORKS CROSS SECTION M-M

SCALE; HORIZONTAL = 1:1000 & VERTICAL = 1:500

PROPOSED PLAN CHANGE
T4 GROWTH CELL
TE AWAMUTU

EARTHWORKS
CROSS SECTIONS
SHEET 6

DRAWING REVISION: D

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READ DRAWINGS CAREFULLY #MEASURETWICECUTONCE

N

NEW INTERSECTION WITH REWI STREET.
REFER TO DRAWING 22029-C-0033 & 34
FOR LAYOUT

REWI ST

CENTENNIAL
PARK

NORTH ISLAND TRUNK MAIN

TE AWAMUTU
STADIUM

PUNIU RD

NEW INTERSECTION WITH POKURU ROAD/PUNIU ROAD.
REFER TO DRAWING 22029-C-0032 FOR LAYOUT

LEGEND

- OTHER ZONING (i.e. RESIDENTIAL)
- OPEN SPACE
- EXISTING ROADS
- COLLECTOR ROAD
- LOCAL ROAD (INDICATIVE ONLY)
- INDICATIVE FUTURE BUS ROUTE
- STRATEGIC CYCLE LINK
- ON-ROAD SHARED PATH
- OFF-ROAD WALKING/CYCLING PATH
- EXTERNAL WALKING/CYCLING LINK
- TRAFFIC MANAGED LOCATION (INDICATIVE)

PROPOSED PLAN CHANGE
T4 GROWTH CELL
TE AWAMUTU

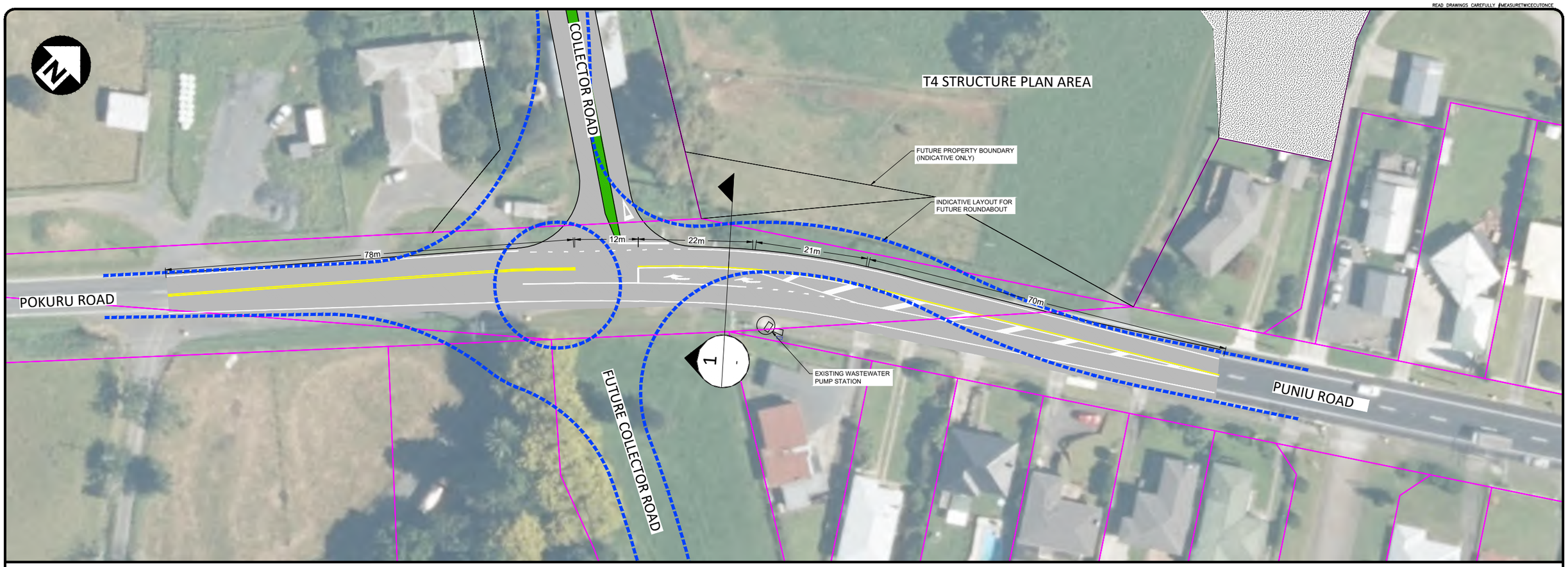
TRANSPORT

DRAWING REVISION: F

DATE PRINTED: 9 July 2024 FILE NAME: 22029-C-0030.dwg

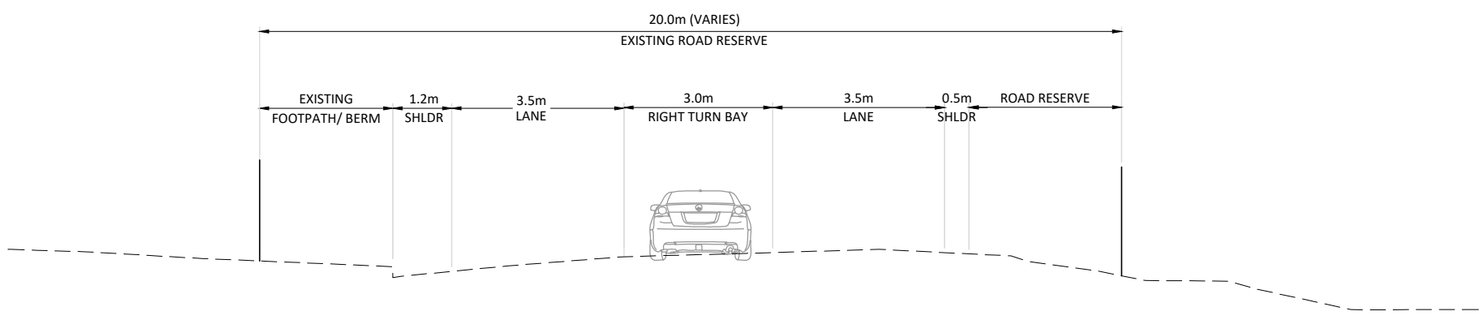
Document Set ID: 11324600
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READ DRAWINGS CAREFULLY // MEASURE TWICE CUT ONCE



NOTES:

1. INDICATIVE PROOF OF CONCEPT ONLY, SUBJECT TO DEVELOPED DESIGN AND CONFIRMATION WITH WAIPA DISTRICT COUNCIL



1 TYPICAL CROSS SECTION - POKURU STREET
SCALE = 1:125

PROPOSED PLAN CHANGE
T4 GROWTH CELL
TE AWAMUTU

POKURU/PUNIU ROAD INTERSECTION
INDICATIVE LAYOUT PLAN

DRAWING REVISION: D

DATE PRINTED: 9 July 2024 FILE NAME: 22029-C-0032.dwg

Document Set ID: 11324666
Version: 2, Version Date: 26/02/2026

READ DRAWINGS CAREFULLY // MEASURETWICECUTONCE

RAISED TABLE SPEED MANAGEMENT DEVICE

STATION ROAD

REWI STREET

EXISTING RAIL BRIDGE

50m

RAISED PEDESTRIAN CROSSING (SPEED MANAGEMENT DEVICE)

REWI STREET

2.5m WIDE SHARED PATH

RAISED PEDESTRIAN CROSSING (SPEED MANAGEMENT DEVICE)

TRANSITION TO BI-DIRECTIONAL CYCLEWAY WITHIN T4 STRUCTURE PLAN AREA

NORTH ISLAND MAIN TRUNK (NIMT)

NEW COLLECTOR ROAD

CENTENNIAL PARK

1.8m WIDE PEDESTRIAN FOOTPATH

4.0m WIDE BI-DIRECTIONAL CYCLEWAY WITH 1.8m WIDE PEDESTRIAN FOOTPATH

EXTENT OF RESERVE AREA REQUIRED FOR ROAD LINK (5,000m2)

NOTES:

1. INDICATIVE PROOF OF CONCEPT ONLY, SUBJECT TO DEVELOPED DESIGN AND CONFIRMATION WITH WAIPA DISTRICT COUNCIL
2. THE ROADING CONCEPT IS SUBJECT TO THE RECREATIONAL RESERVE STATUS

PROPOSED PLAN CHANGE
T4 GROWTH CELL
TE AWAMUTU

INTERIM REWI STREET INTERSECTION
INDICATIVE LAYOUT PLAN

DRAWING REVISION: E

DATE PRINTED: 9 July 2024 FILE NAME: 22029-C-0033.dwg

Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

READ DRAWINGS CAREFULLY & MEASURETWICECUTONCE

RAISED PEDESTRIAN CROSSING (SPEED MANAGEMENT DEVICE)

RETAINING WALL TO BE CONSTRUCTED ON WESTERN SIDE OF STATION ROAD TO ALLOW LEVELS TO BE RAISED TO PROVIDE LEVEL PAVEMENT SECTION FOR NEW CROSSING

2.5m WIDE SHARED PATH

REWI STREET

2.5m WIDE SHARED PATH

EXISTING RAIL BRIDGE TO BE REPLACED WITH NEW 16.0m WIDE BRIDGE STRUCTURE

STATION ROAD

RAISED PEDESTRIAN CROSSING (SPEED MANAGEMENT DEVICE)

50m

15m

10m

15m

RAISED PEDESTRIAN CROSSING (SPEED MANAGEMENT DEVICE)

2.5m WIDE SHARED PATH

REWI STREET

2.5m WIDE SHARED PATH (WITHIN RESERVE AREA)

TRANSITION TO BI-DIRECTIONAL CYCLEWAY WITHIN T4 STRUCTURE PLAN AREA

RAISED PEDESTRIAN CROSSING (SPEED MANAGEMENT DEVICE)

INDICATIVE LAYOUT FOR ROUNDABOUT OPTION

NORTH ISLAND MAIN TRUNK (NIMT)

NEW COLLECTOR ROAD

CENTENNIAL PARK

1.8m WIDE PEDESTRIAN FOOTPATH

4.0m WIDE BI-DIRECTIONAL CYCLEWAY WITH 1.8m WIDE PEDESTRIAN FOOTPATH

EXTENT OF RESERVE AREA REQUIRED FOR ROAD LINK (5,000m2)

NOTES:

1. INDICATIVE PROOF OF CONCEPT ONLY, SUBJECT TO DEVELOPED DESIGN AND CONFIRMATION WITH WAIPA DISTRICT COUNCIL
2. THE ROADING CONCEPT IS SUBJECT TO THE RECREATIONAL RESERVE STATUS

PROPOSED PLAN CHANGE
T4 GROWTH CELL
TE AWAMUTU

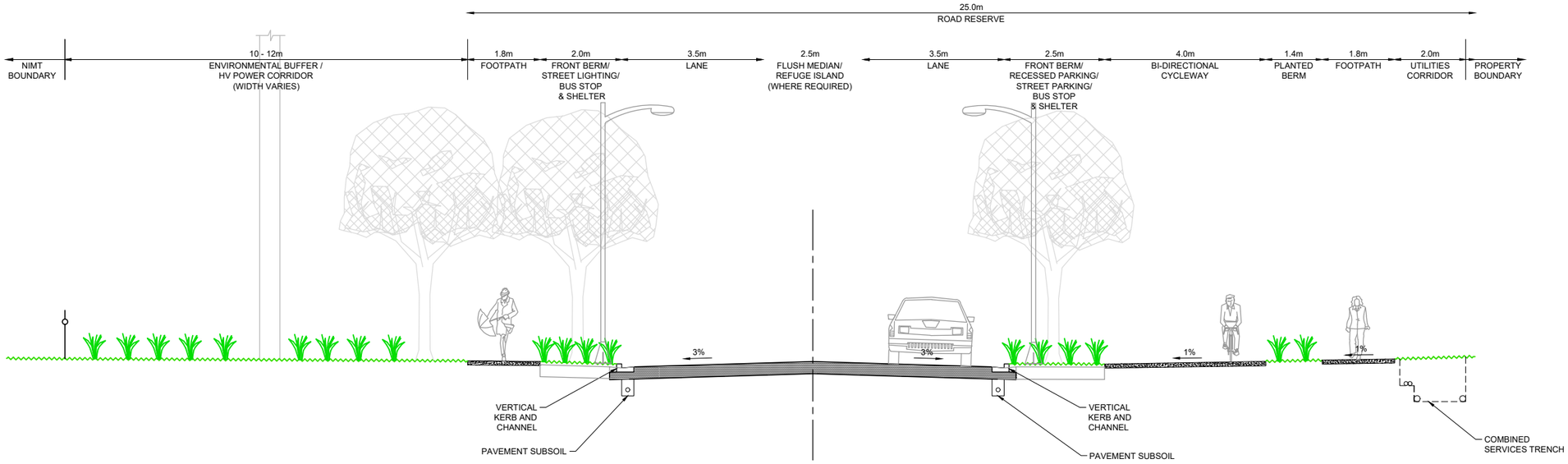
FUTURE REWI STREET INTERSECTION
INDICATIVE LAYOUT PLAN

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DATE PRINTED: 9 July 2024 FILE NAME: 22029-C-0034.dwg

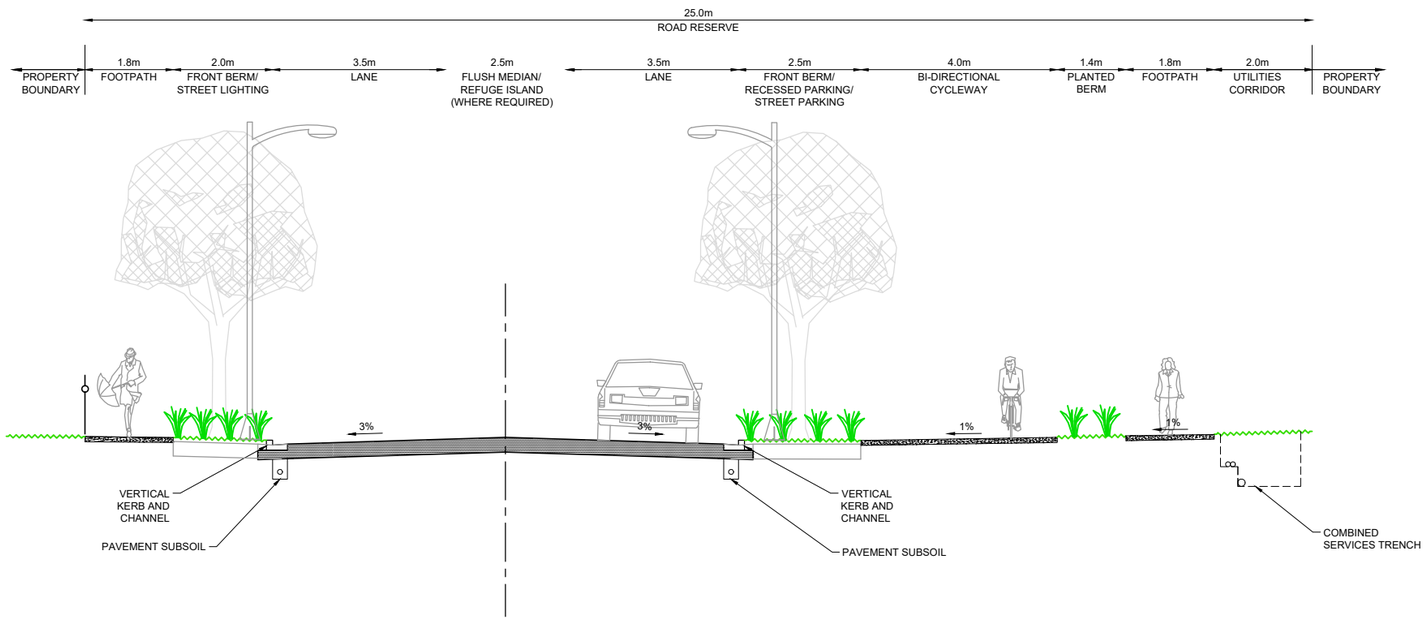
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

READ DRAWINGS CAREFULLY & MEASURETWICECUTONCE



TYPICAL CROSS SECTION - COLLECTOR ROAD (25m / 50km/hr)

SCALE = 1:100



TYPICAL CROSS SECTION - COLLECTOR ROAD (25m / 50km/hr)

SCALE = 1:100

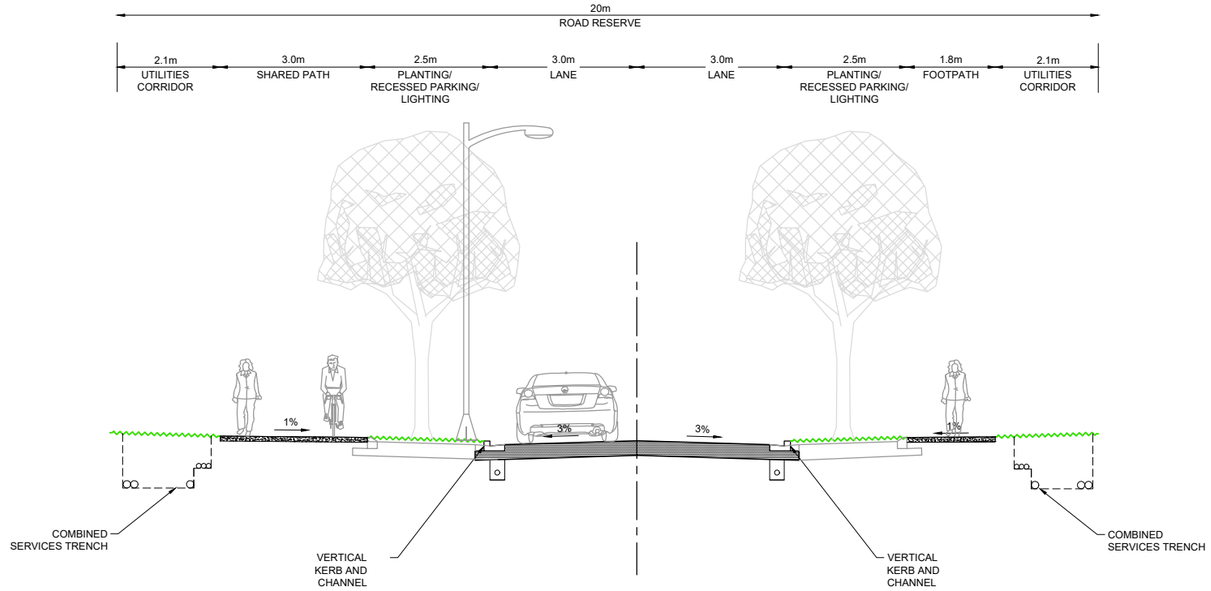
PROPOSED PLAN CHANGE
T4 GROWTH CELL
TE AWAMUTU

TRANSPORT NETWORK
TYPICAL CROSS SECTIONS
SHEET 1

DRAWING REVISION: D

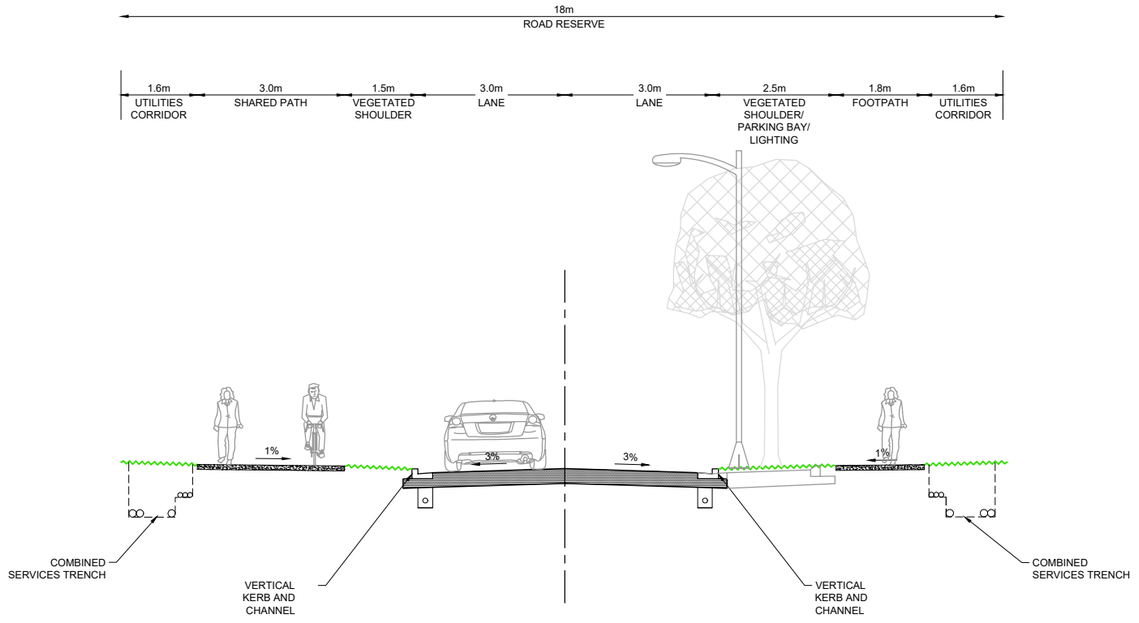
DATE PRINTED: 9 July 2024 FILE NAME: 22029-C-0035.dwg

Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026



TYPICAL CROSS SECTION - LOCAL ROAD (20m / 50km/hr)

SCALE = 1:100



TYPICAL CROSS SECTION - LOCAL ROAD (18m / 40km/hr)

SCALE = 1:100

PROPOSED PLAN CHANGE
T4 GROWTH CELL
TE AWAMUTU

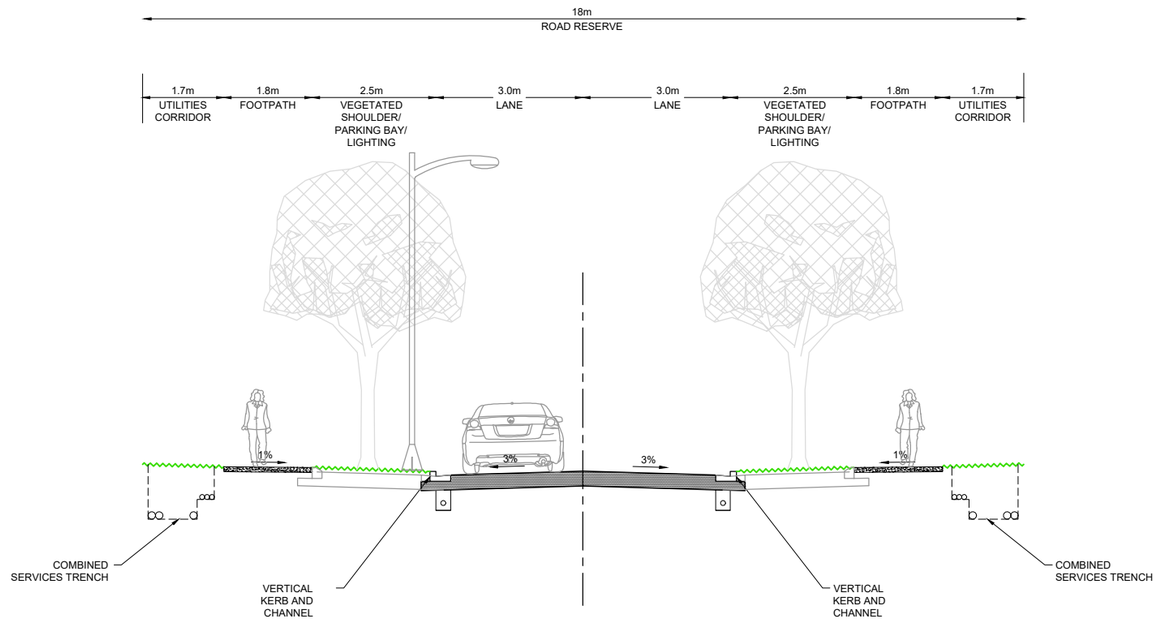
TRANSPORT NETWORK
TYPICAL CROSS SECTIONS
SHEET 2

DRAWING REVISION: C

DATE PRINTED: 9 July 2024 FILE NAME: 22029-C-0036.dwg

Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

READ DRAWINGS CAREFULLY & MEASURE TWICE CUT ONCE



TYPICAL CROSS SECTION - LOCAL ROAD (18m / 40km/hr)

SCALE = 1:100

PROPOSED PLAN CHANGE
T4 GROWTH CELL
TE AWAMUTU

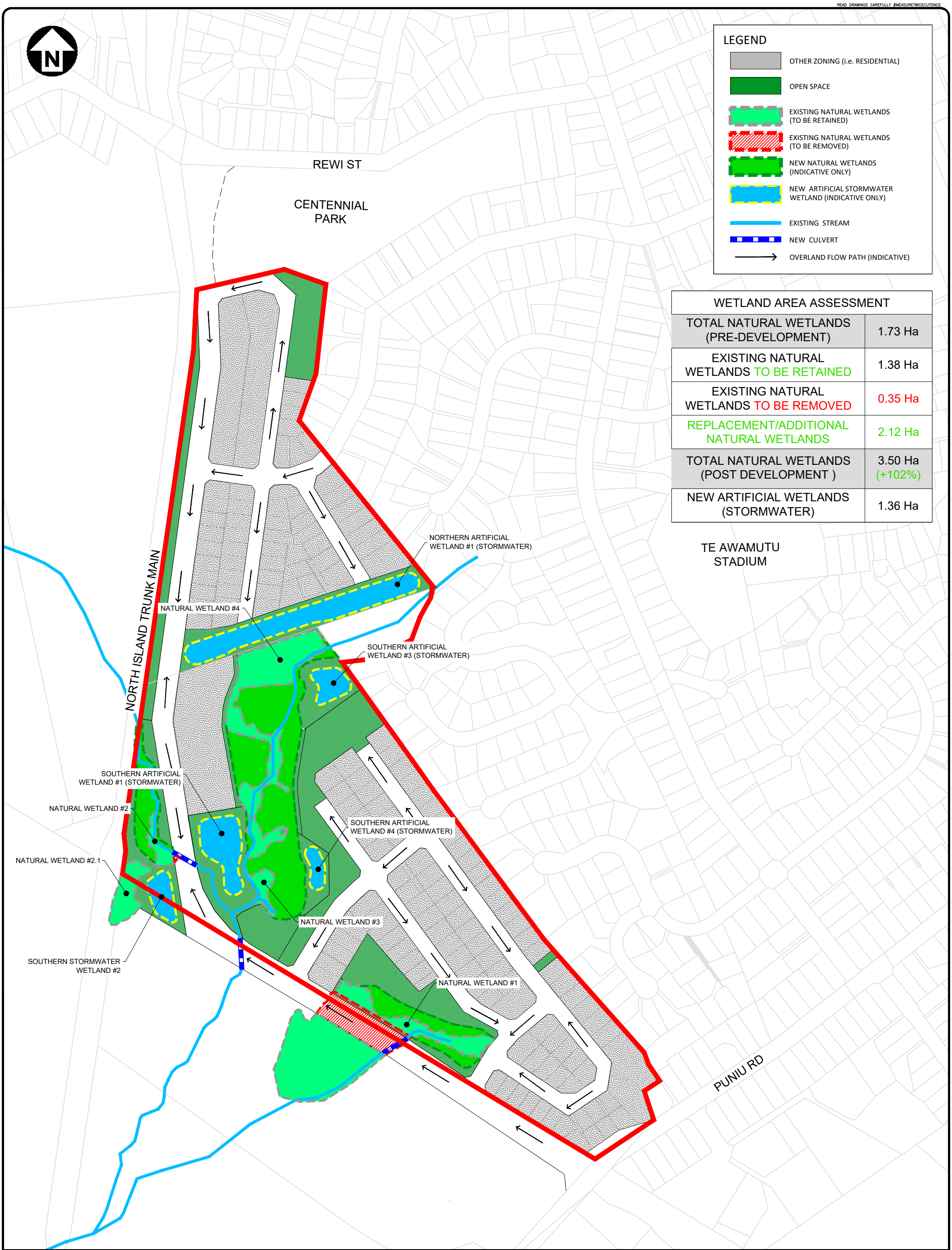
TRANSPORT NETWORK
TYPICAL CROSS SECTIONS
SHEET 3

DRAWING REVISION: C

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READ DRAWINGS CAREFULLY #MEASURETWICECUTONCE



WETLAND AREA ASSESSMENT	
TOTAL NATURAL WETLANDS (PRE-DEVELOPMENT)	1.73 Ha
EXISTING NATURAL WETLANDS TO BE RETAINED	1.38 Ha
EXISTING NATURAL WETLANDS TO BE REMOVED	0.35 Ha
REPLACEMENT/ADDITIONAL NATURAL WETLANDS	2.12 Ha
TOTAL NATURAL WETLANDS (POST DEVELOPMENT)	3.50 Ha (+102%)
NEW ARTIFICIAL WETLANDS (STORMWATER)	1.36 Ha

PROPOSED PLAN CHANGE
T4 GROWTH CELL
TE AWAMUTU

STORMWATER

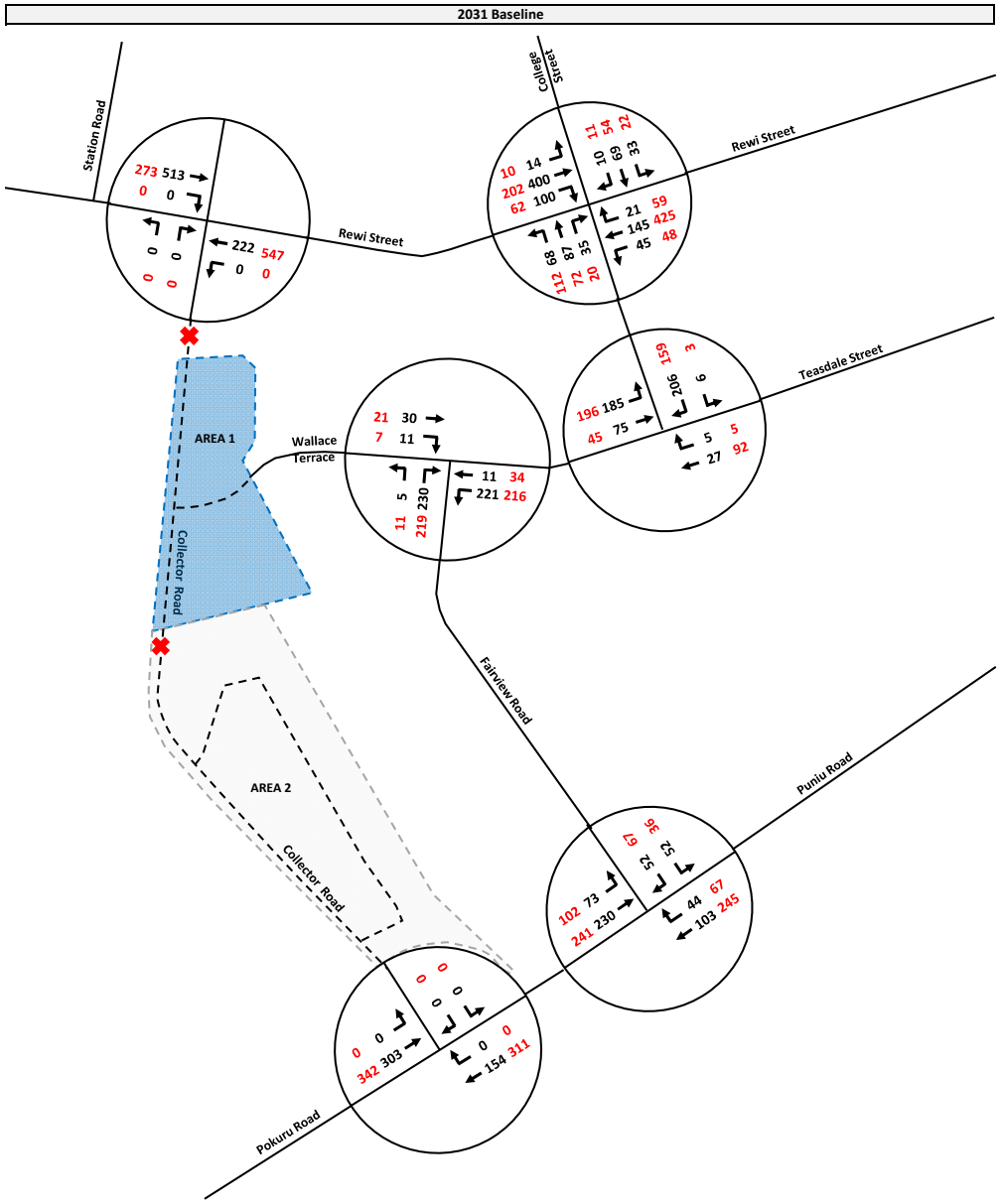
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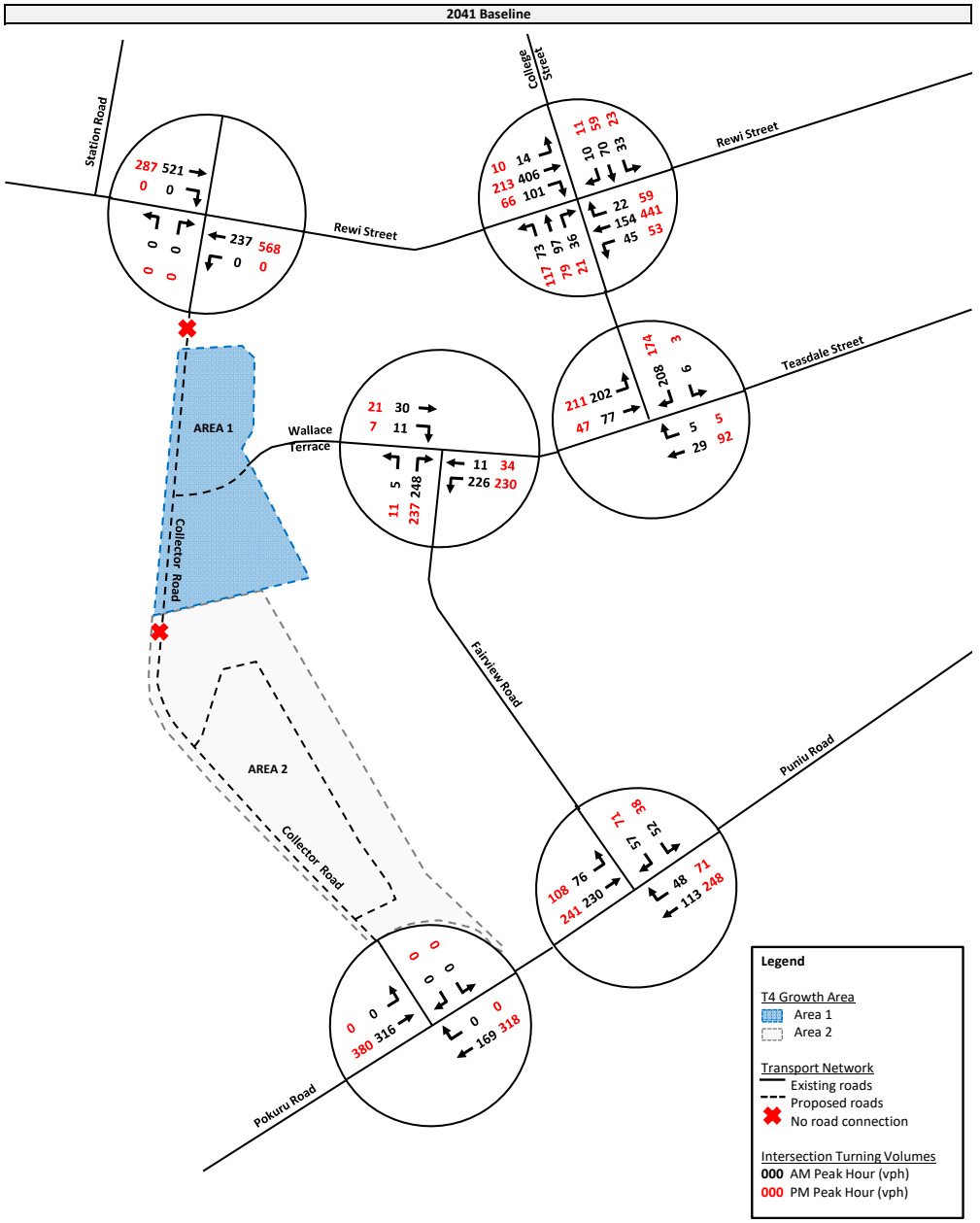
DATE PRINTED: 9 July 2024 FILE NAME: 22029-C-0040.dwg

Document Set ID: 11324600
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Appendix D 2031/41 AM and PM Peak Turning Movement Network Plots

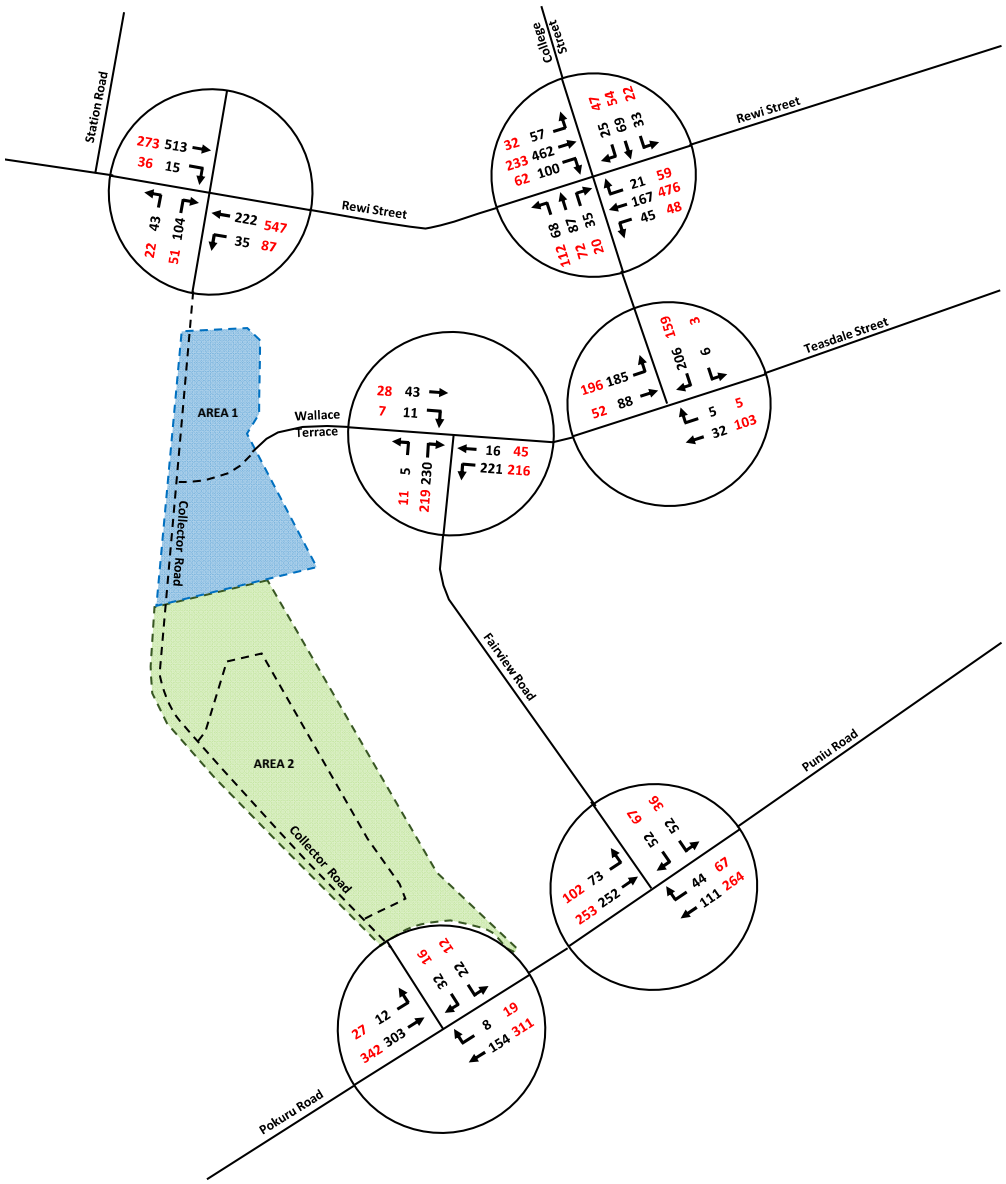
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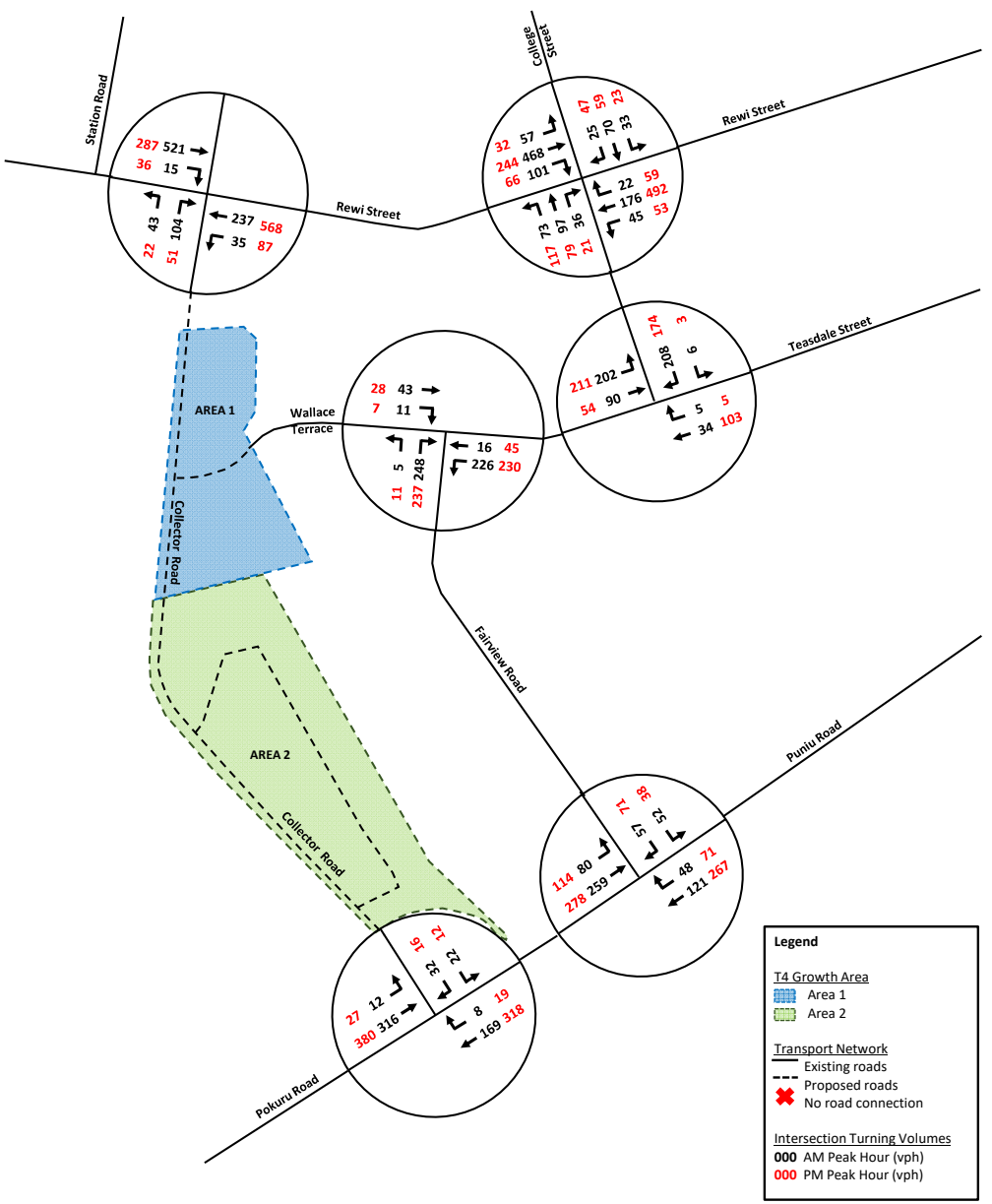


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2031 Baseline + Area 1 (94 dwellings) & Area 2 (216 dwellings) + Rewi Street & Puniu Road connections



2041 Baseline + Area 1 (94 dwellings) & Area 2 (216 dwellings) + Rewi Street & Puniu Road connections



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Appendix E 2031/41 Turn Warrant Assessment with Full Structure Plan Traffic Demands

Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

			2031 Horizon Year				2041 Horizon Year			
			AM Peak		PM Peak		AM Peak		PM Peak	
Proposed Intersection	**Turn type**		**Turn Volume (vph)**	**Min. Treatment**	**Turn Volume (vph)**	**Min. Treatment**	**Turn Volume (vph)**	**Min. Treatment**	**Turn Volume (vph)**	**Min. Treatment**
Collector Road / Rewi Street Intersection	Right turn in	Qr	15	Treatment: CHR(S)	36	Treatment: CHR	15	Treatment: CHR(S)	36	Treatment: CHR
		Qm	770		907		793		942	
	Left turn in	Ql	35	Treatment: BAL	87	Treatment: AUL / CHL	35	Treatment: BAL	87	Treatment: AUL / CHL
		Qt2	222		547		237		568	
Collector Road / Puniu Road Intersection	Right turn in	Qr	8	Treatment: CHR(S)	19	Treatment: CHR(S)	8	Treatment: CHR(S)	19	Treatment: CHR(S)
		Qm	469		680		497		725	
	Left turn in	Ql	12	Treatment: BAL	27	Treatment: AUL(S)	12	Treatment: BAL	27	Treatment: AUL(S)
		Qt2	303		342		316		380	

Document Set ID: 11324600
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Appendix F Intersection Crash Prediction Analysis

Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

		ADT Inputs				Priority T-intersection							Priority T-intersection with RTB							Roundabout (Single-lane)						Injury crash rate (Years per injury crash)		
Scenario	Total dwellings	Qmajor 1	QMajor 2	Qminor 1	Qminor 2	b0	b1	b2	A_T (Injury Crashes / year)	Crash Modification Factor(s)	Adjusted A_T (Injury Crashes / year)	Adjusted A_T (Years per injury crash)	b0	b1	b2	A_T (Injury Crashes / year)	Crash Modification Factor(s)	Adjusted A_T (Injury Crashes / year)	Adjusted A_T (Years per injury crash)	b0	b1	A_T (Injury Crashes / year)	Crash Modification Factor(s)	Adjusted A_T (Injury Crashes / year)	Adjusted A_T (Years per injury crash)	Priority T-intersection	Priority T-intersection with RTB	Roundabout (Single-lane)
Collector Road / Rewi Street Intersection																											
2031 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	5,547	6,282	1,752	-	0.0000489	0.76	0.20	0.2	1.0	0.2	6.0	0.0000489	0.76	0.20	0.2	0.7	0.1	9.2	0.000481	0.58	0.18	1.00	0.18	5.41	6.0	9.2	5.4
2041 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	5,565	6,301	1,752	-	0.0000489	0.76	0.20	0.2	1.0	0.2	5.9	0.0000489	0.76	0.20	0.2	0.7	0.1	9.2	0.000481	0.58	0.19	1.00	0.19	5.41	5.9	9.2	5.4
Collector Road / Puniu Road Intersection																											
2031 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	3,635	3,508	636	-	0.0000489	0.76	0.20	0.1	1.0	0.1	11.1	0.0000489	0.76	0.20	0.1	0.7	0.1	17.0	0.000481	0.58	0.13	1.00	0.13	7.64	11.1	17.0	7.6
2041 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	3,318	3,780	636	-	0.0000489	0.76	0.20	0.1	1.0	0.1	10.7	0.0000489	0.76	0.20	0.1	0.7	0.1	16.5	0.000481	0.58	0.13	1.00	0.13	7.66	10.7	16.5	7.7

Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

Appendix G SIDRA Intersection Output Files

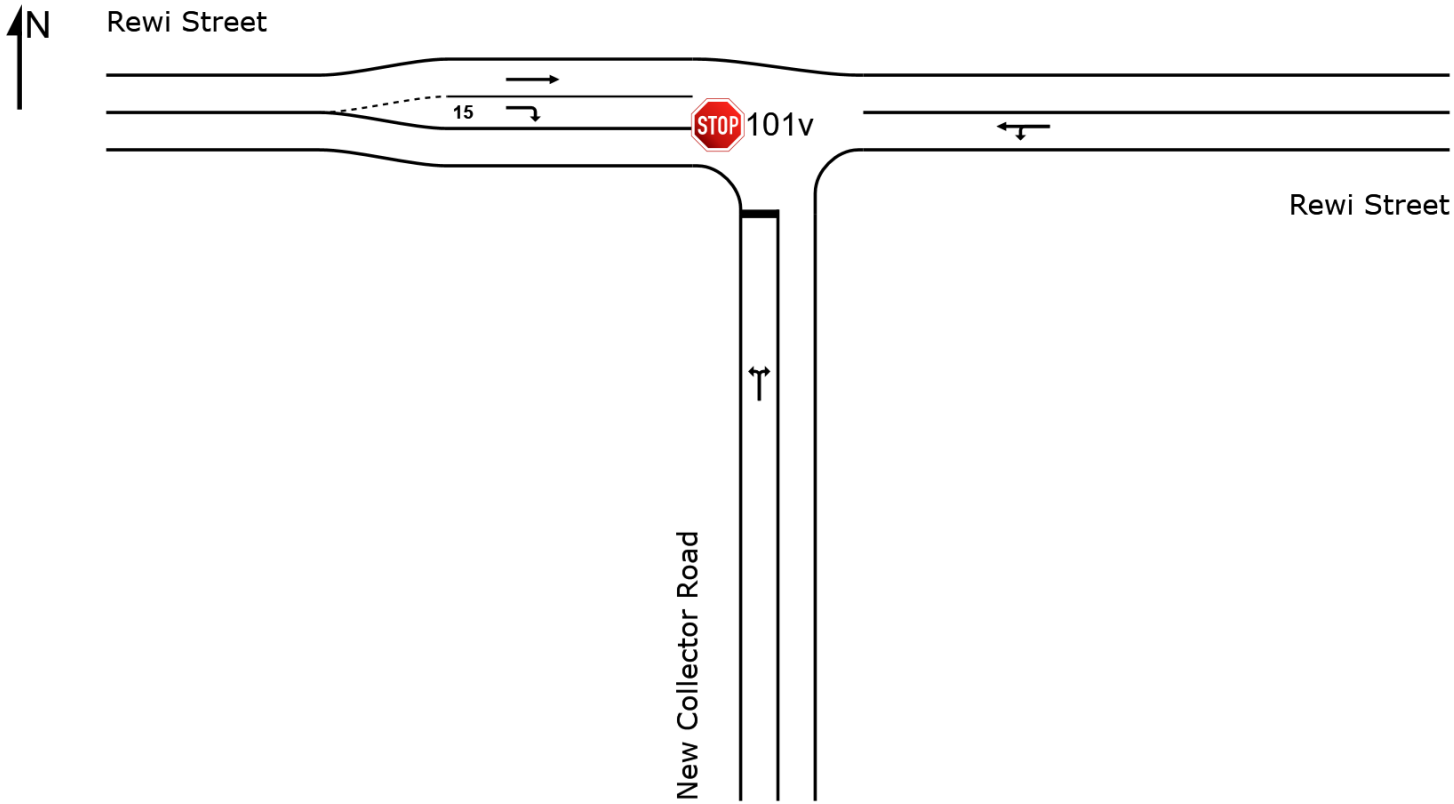
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101v [Collector Road / Rewi Street_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Collector Road / Rewi Street Intersection w/o left-turn bay)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

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



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Project: Z:\310205677\7_technical\SIDRA\1. collector road & rewi street_20230530.sip9

MOVEMENT SUMMARY

Site: 101v [Collector Road / Rewi Street_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Collector Road / Rewi Street Intersection w/o left-turn bay)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Collector Road														
1	L2	43	5.0	45	5.0	0.417	11.3	LOS B	2.0	14.6	0.67	1.05	0.94	39.7
3	R2	104	5.0	109	5.0	0.417	22.8	LOS C	2.0	14.6	0.67	1.05	0.94	39.5
Approach		147	5.0	155	5.0	0.417	19.4	LOS C	2.0	14.6	0.67	1.05	0.94	39.5
East: Rewi Street														
4	L2	35	5.0	37	5.0	0.147	4.6	LOS A	0.0	0.0	0.00	0.07	0.00	48.9
5	T1	222	10.0	234	10.0	0.147	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	49.5
Approach		257	9.3	271	9.3	0.147	0.7	NA	0.0	0.0	0.00	0.07	0.00	49.4
West: Rewi Street														
11	T1	513	10.0	540	10.0	0.293	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
12	R2	15	5.0	16	5.0	0.012	5.5	LOS A	0.1	0.4	0.37	0.54	0.37	45.4
Approach		528	9.9	556	9.9	0.293	0.3	NA	0.1	0.4	0.01	0.02	0.01	49.7
All Vehicles		932	8.9	981	8.9	0.417	3.4	NA	2.0	14.6	0.11	0.19	0.15	47.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

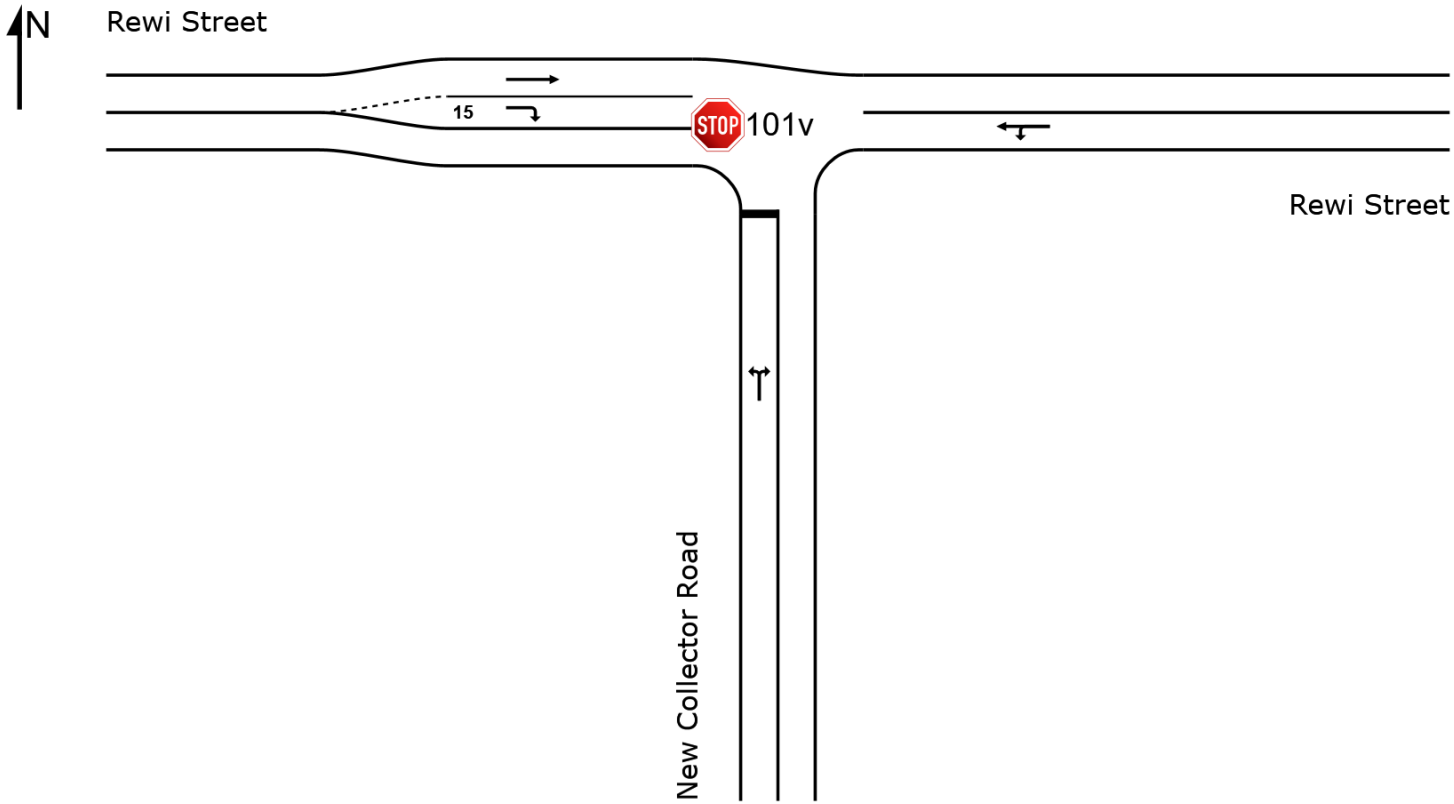
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SITE LAYOUT

Site: 101v [Collector Road / Rewi Street_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Collector Road / Rewi Street Intersection w/o left-turn bay)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101v [Collector Road / Rewi Street_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Collector Road / Rewi Street Intersection w/o left-turn bay)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Collector Road														
1	L2	22	5.0	23	5.0	0.279	12.8	LOS B	1.0	7.6	0.79	1.04	0.92	38.9
3	R2	51	5.0	54	5.0	0.279	25.4	LOS D	1.0	7.6	0.79	1.04	0.92	38.7
Approach		73	5.0	77	5.0	0.279	21.6	LOS C	1.0	7.6	0.79	1.04	0.92	38.7
East: Rewi Street														
4	L2	87	5.0	92	5.0	0.362	4.7	LOS A	0.0	0.0	0.00	0.07	0.00	48.8
5	T1	547	10.0	576	10.0	0.362	0.1	LOS A	0.0	0.0	0.00	0.07	0.00	49.4
Approach		634	9.3	667	9.3	0.362	0.8	NA	0.0	0.0	0.00	0.07	0.00	49.3
West: Rewi Street														
11	T1	273	10.0	287	10.0	0.157	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
12	R2	36	5.0	38	5.0	0.048	8.1	LOS A	0.2	1.4	0.59	0.74	0.59	44.2
Approach		309	9.4	325	9.4	0.157	1.0	NA	0.2	1.4	0.07	0.09	0.07	49.2
All Vehicles		1016	9.0	1069	9.0	0.362	2.3	NA	1.0	7.6	0.08	0.15	0.09	48.3

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

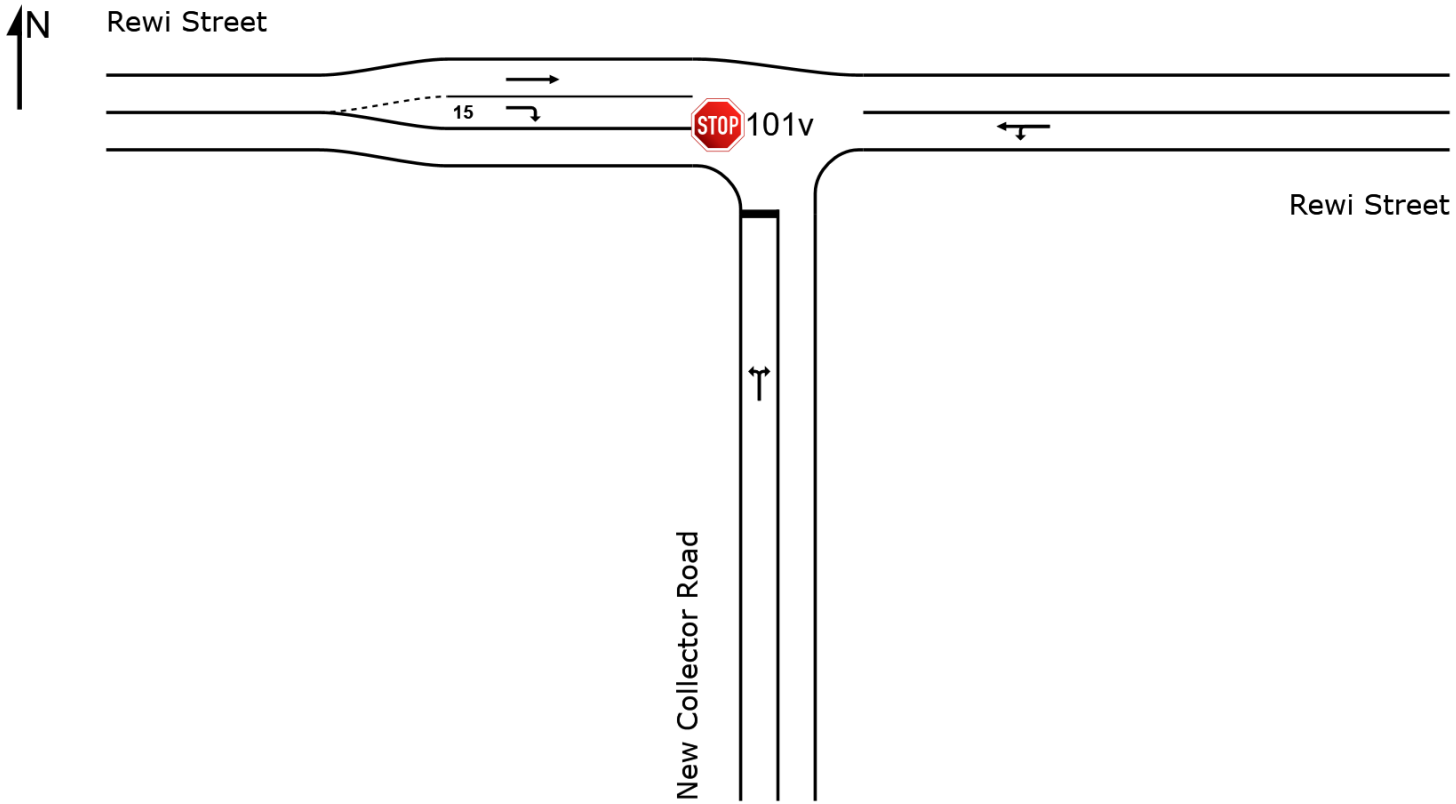
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SITE LAYOUT

Site: 101v [Collector Road / Rewi Street_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Collector Road / Rewi Street Intersection w/o left-turn bay)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101v [Collector Road / Rewi Street_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Collector Road / Rewi Street Intersection w/o left-turn bay)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Collector Road														
1	L2	43	5.0	45	5.0	0.436	11.8	LOS B	2.1	15.4	0.69	1.06	1.00	39.3
3	R2	104	5.0	109	5.0	0.436	24.0	LOS C	2.1	15.4	0.69	1.06	1.00	39.1
Approach		147	5.0	155	5.0	0.436	20.4	LOS C	2.1	15.4	0.69	1.06	1.00	39.1
East: Rewi Street														
4	L2	35	5.0	37	5.0	0.155	4.6	LOS A	0.0	0.0	0.00	0.07	0.00	49.0
5	T1	237	10.0	249	10.0	0.155	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	49.5
Approach		272	9.4	286	9.4	0.155	0.6	NA	0.0	0.0	0.00	0.07	0.00	49.4
West: Rewi Street														
11	T1	521	10.0	548	10.0	0.298	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
12	R2	15	5.0	16	5.0	0.012	5.6	LOS A	0.1	0.4	0.38	0.55	0.38	45.4
Approach		536	9.9	564	9.9	0.298	0.3	NA	0.1	0.4	0.01	0.02	0.01	49.7
All Vehicles		955	9.0	1005	9.0	0.436	3.5	NA	2.1	15.4	0.11	0.19	0.16	47.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

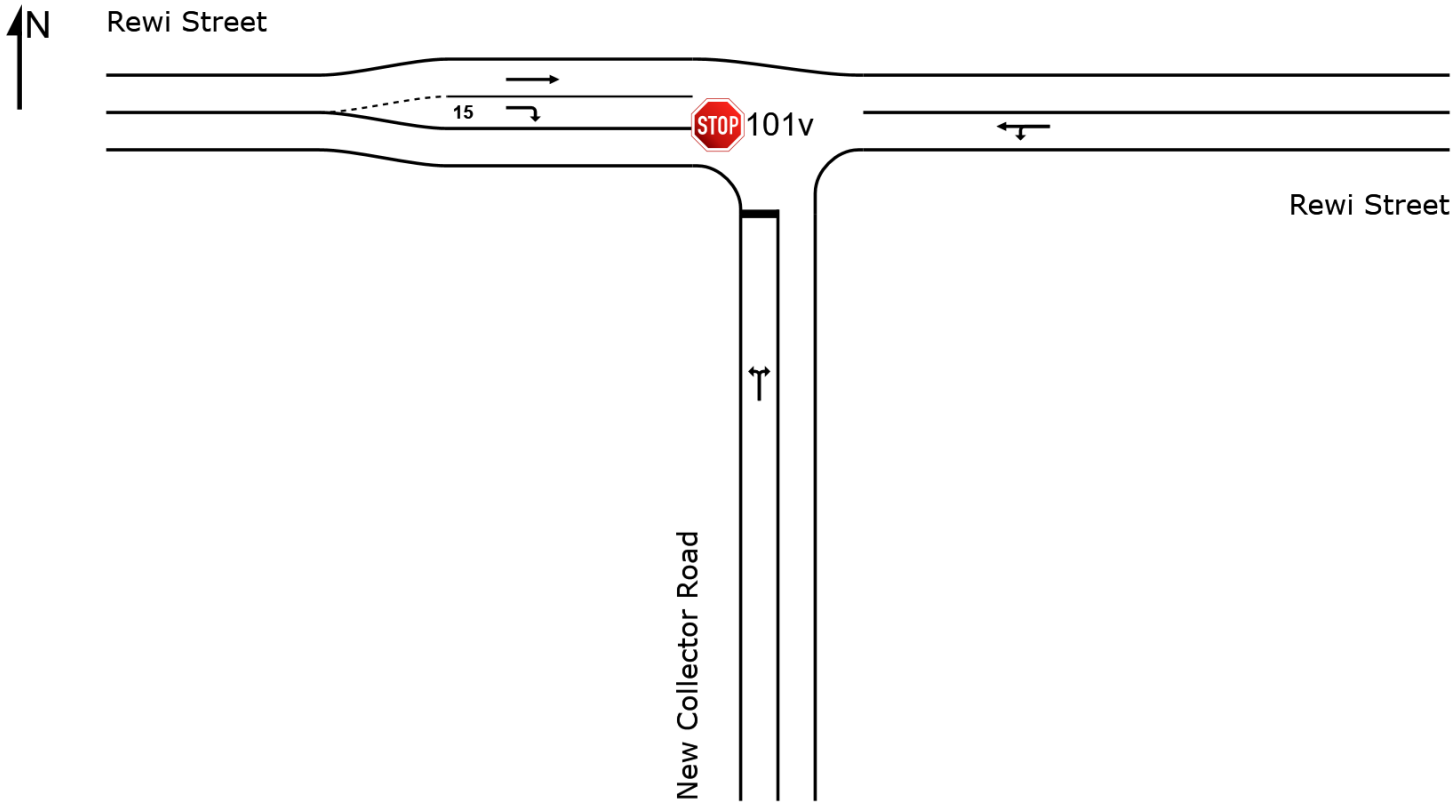
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SITE LAYOUT

Site: 101v [Collector Road / Rewi Street_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Collector Road / Rewi Street Intersection w/o left-turn bay)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

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



Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101v [Collector Road / Rewi Street_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Collector Road / Rewi Street Intersection w/o left-turn bay)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Collector Road														
1	L2	22	5.0	23	5.0	0.301	13.6	LOS B	1.1	8.3	0.81	1.05	0.96	38.3
3	R2	51	5.0	54	5.0	0.301	27.5	LOS D	1.1	8.3	0.81	1.05	0.96	38.0
Approach		73	5.0	77	5.0	0.301	23.3	LOS C	1.1	8.3	0.81	1.05	0.96	38.1
East: Rewi Street														
4	L2	87	5.0	92	5.0	0.374	4.7	LOS A	0.0	0.0	0.00	0.07	0.00	48.8
5	T1	568	10.0	598	10.0	0.374	0.2	LOS A	0.0	0.0	0.00	0.07	0.00	49.4
Approach		655	9.3	689	9.3	0.374	0.8	NA	0.0	0.0	0.00	0.07	0.00	49.3
West: Rewi Street														
11	T1	287	10.0	302	10.0	0.165	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
12	R2	36	5.0	38	5.0	0.050	8.3	LOS A	0.2	1.4	0.60	0.75	0.60	44.1
Approach		323	9.4	340	9.4	0.165	1.0	NA	0.2	1.4	0.07	0.08	0.07	49.2
All Vehicles		1051	9.1	1106	9.1	0.374	2.4	NA	1.1	8.3	0.08	0.14	0.09	48.3

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
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Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

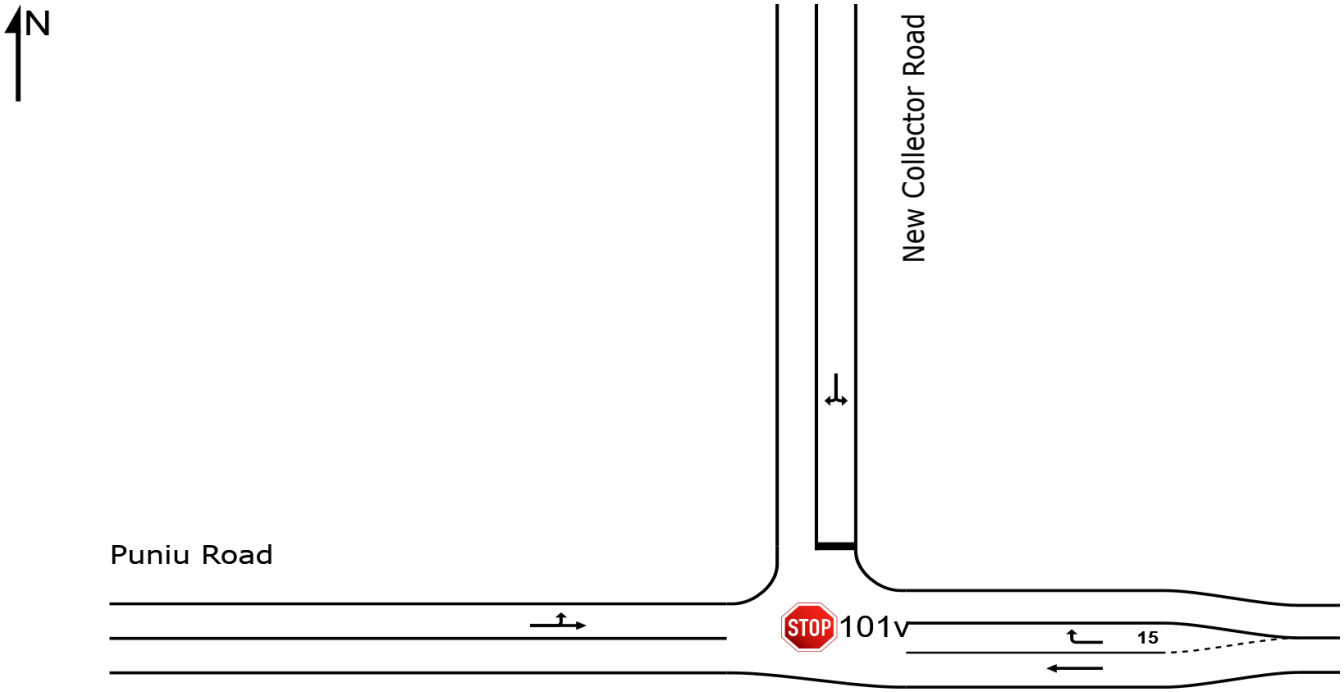
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SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road, Rewi Street and Wallace Terrace connection)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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Project: Z:\310205677\7_technical\SIDRA\2. collector road & puniu road_20230530.sip9

MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road, Rewi Street and Wallace Terrace connection)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	154	10.0	162	10.0	0.088	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
6	R2	8	5.0	8	5.0	0.007	5.8	LOS A	0.0	0.2	0.41	0.55	0.41	45.3
Approach		162	9.8	171	9.8	0.088	0.3	NA	0.0	0.2	0.02	0.03	0.02	49.7
North: New Collector Road														
7	L2	22	5.0	23	5.0	0.088	9.2	LOS A	0.3	2.4	0.51	0.93	0.51	43.7
9	R2	32	5.0	34	5.0	0.088	12.1	LOS B	0.3	2.4	0.51	0.93	0.51	43.3
Approach		54	5.0	57	5.0	0.088	10.9	LOS B	0.3	2.4	0.51	0.93	0.51	43.5
West: Puniu Road														
10	L2	12	5.0	13	5.0	0.179	4.7	LOS A	0.0	0.0	0.00	0.02	0.00	49.2
11	T1	303	10.0	319	10.0	0.179	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	49.8
Approach		315	9.8	332	9.8	0.179	0.2	NA	0.0	0.0	0.00	0.02	0.00	49.8
All Vehicles		531	9.3	559	9.3	0.179	1.3	NA	0.3	2.4	0.06	0.11	0.06	49.0

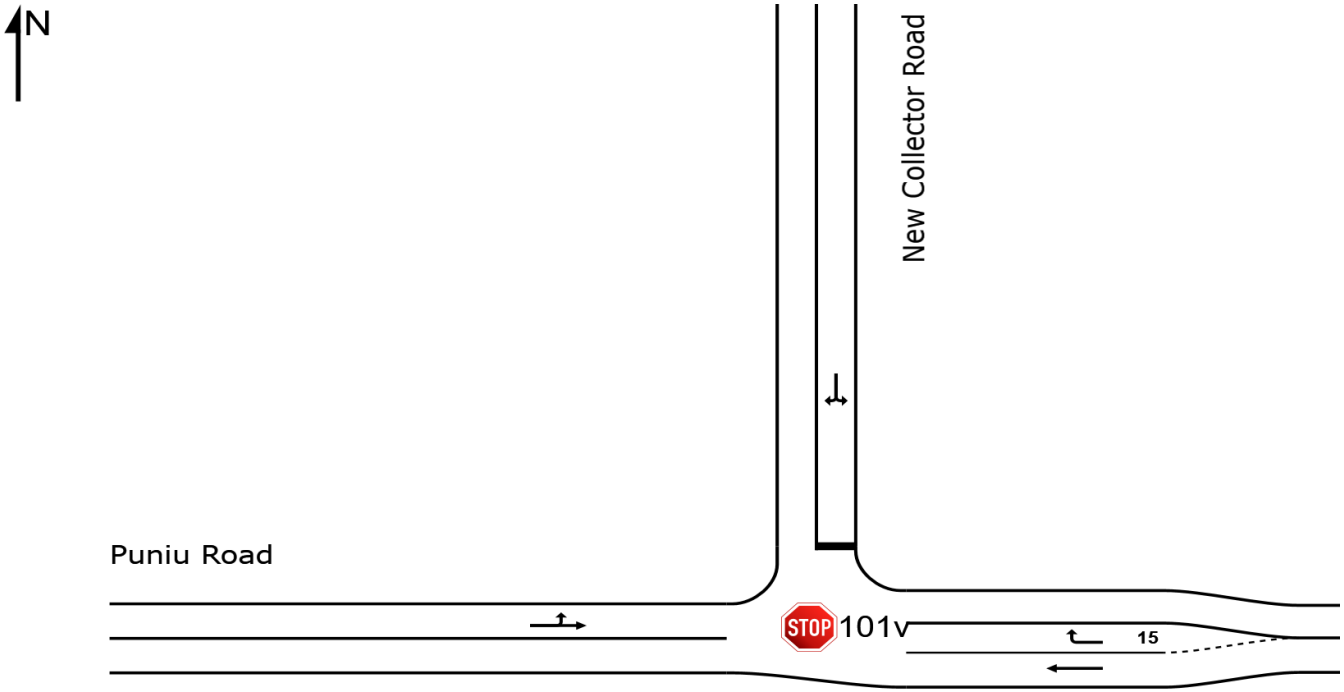
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road, Rewi Street and Wallace Terrace connection)]

New Site
Site Category: (None)
Stop (Two-Way)

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MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road, Rewi Street and Wallace Terrace connection)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	311	10.0	327	10.0	0.178	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
6	R2	19	5.0	20	5.0	0.017	6.1	LOS A	0.1	0.5	0.45	0.59	0.45	45.2
Approach		330	9.7	347	9.7	0.178	0.4	NA	0.1	0.5	0.03	0.03	0.03	49.6
North: New Collector Road														
7	L2	12	5.0	13	5.0	0.061	9.4	LOS A	0.2	1.6	0.57	0.94	0.57	42.7
9	R2	16	5.0	17	5.0	0.061	15.7	LOS C	0.2	1.6	0.57	0.94	0.57	42.3
Approach		28	5.0	29	5.0	0.061	13.0	LOS B	0.2	1.6	0.57	0.94	0.57	42.5
West: Puniu Road														
10	L2	27	5.0	28	5.0	0.210	4.7	LOS A	0.0	0.0	0.00	0.04	0.00	49.1
11	T1	342	10.0	360	10.0	0.210	0.1	LOS A	0.0	0.0	0.00	0.04	0.00	49.7
Approach		369	9.6	388	9.6	0.210	0.4	NA	0.0	0.0	0.00	0.04	0.00	49.6
All Vehicles		727	9.5	765	9.5	0.210	0.9	NA	0.2	1.6	0.03	0.07	0.03	49.3

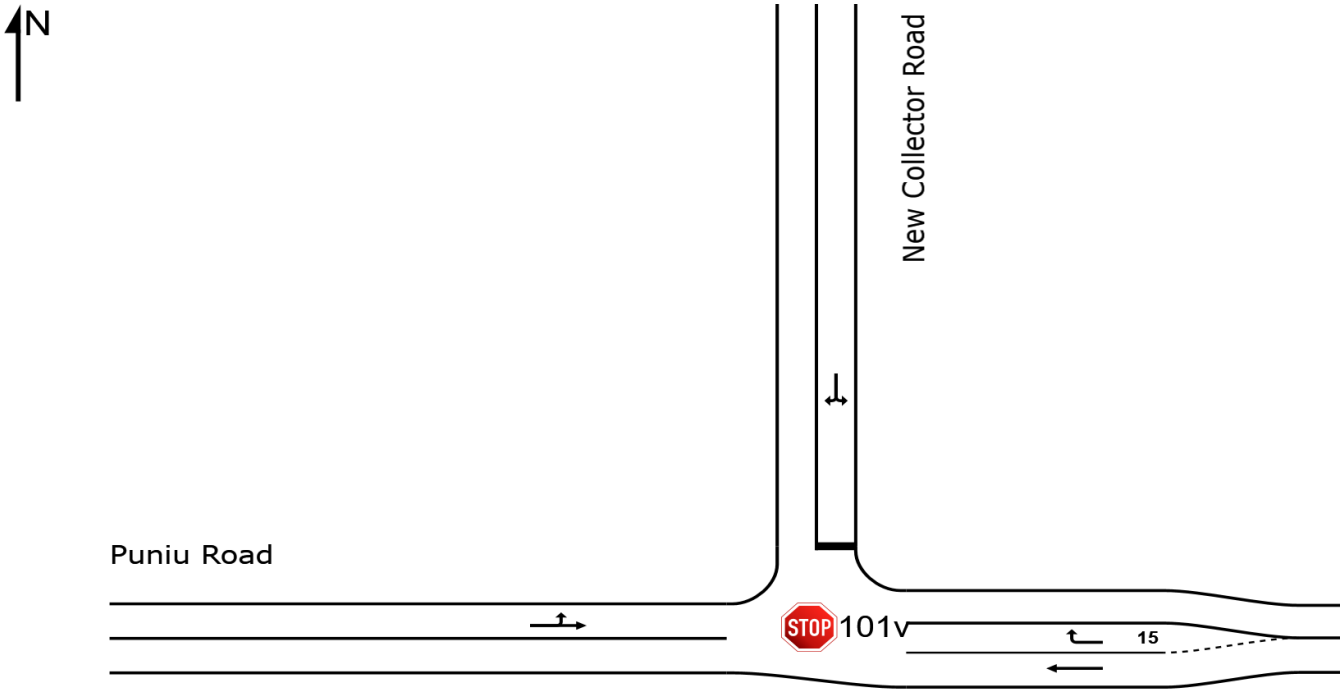
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
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Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road, Rewi Street and Wallace Terrace connection)]

New Site
Site Category: (None)
Stop (Two-Way)

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MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road, Rewi Street and Wallace Terrace connection)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	169	10.0	178	10.0	0.097	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
6	R2	8	5.0	8	5.0	0.007	5.8	LOS A	0.0	0.2	0.42	0.55	0.42	45.3
Approach		177	9.8	186	9.8	0.097	0.3	NA	0.0	0.2	0.02	0.02	0.02	49.7
North: New Collector Road														
7	L2	22	5.0	23	5.0	0.092	9.3	LOS A	0.3	2.5	0.52	0.93	0.52	43.5
9	R2	32	5.0	34	5.0	0.092	12.5	LOS B	0.3	2.5	0.52	0.93	0.52	43.2
Approach		54	5.0	57	5.0	0.092	11.2	LOS B	0.3	2.5	0.52	0.93	0.52	43.3
West: Puniu Road														
10	L2	12	5.0	13	5.0	0.187	4.7	LOS A	0.0	0.0	0.00	0.02	0.00	49.2
11	T1	316	10.0	333	10.0	0.187	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	49.8
Approach		328	9.8	345	9.8	0.187	0.2	NA	0.0	0.0	0.00	0.02	0.00	49.8
All Vehicles		559	9.3	588	9.3	0.187	1.3	NA	0.3	2.5	0.06	0.11	0.06	49.1

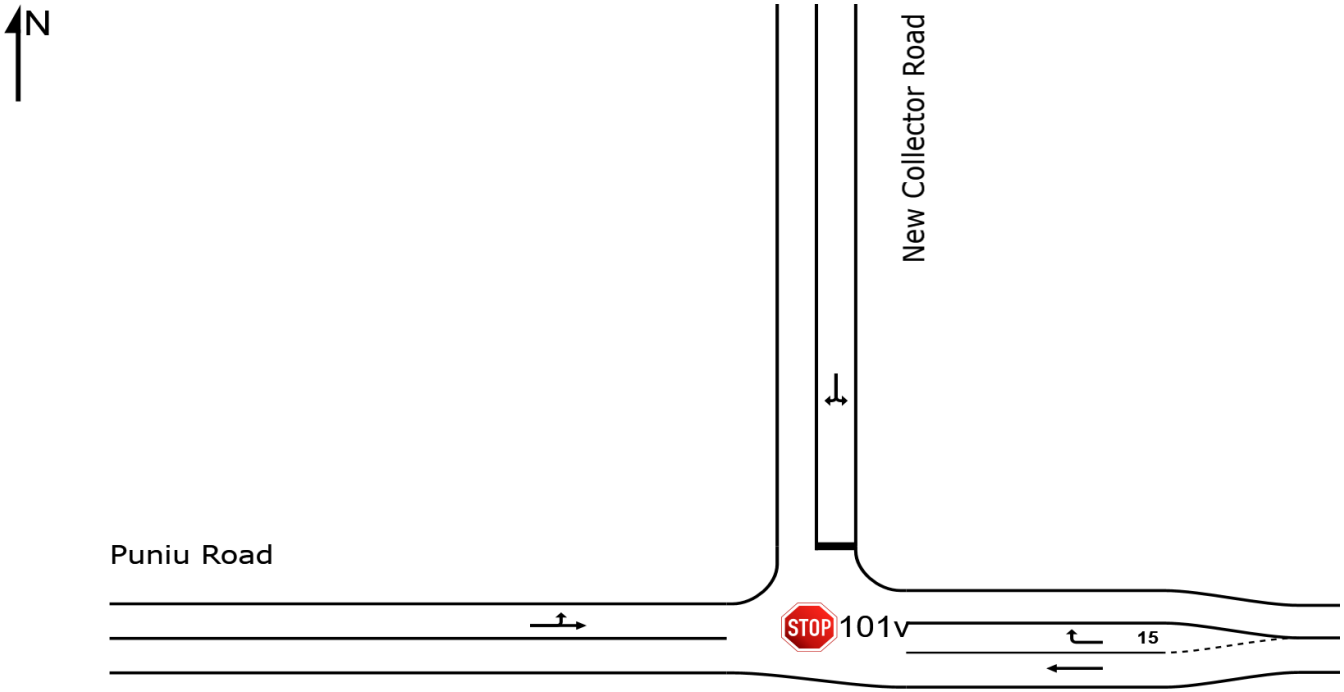
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Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road, Rewi Street and Wallace Terrace connection)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road, Rewi Street and Wallace Terrace connection)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	318	10.0	335	10.0	0.182	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
6	R2	19	5.0	20	5.0	0.018	6.3	LOS A	0.1	0.5	0.47	0.60	0.47	45.2
Approach		337	9.7	355	9.7	0.182	0.4	NA	0.1	0.5	0.03	0.03	0.03	49.6
North: New Collector Road														
7	L2	12	5.0	13	5.0	0.066	9.7	LOS A	0.2	1.7	0.59	0.95	0.59	42.3
9	R2	16	5.0	17	5.0	0.066	16.8	LOS C	0.2	1.7	0.59	0.95	0.59	42.0
Approach		28	5.0	29	5.0	0.066	13.8	LOS B	0.2	1.7	0.59	0.95	0.59	42.1
West: Puniu Road														
10	L2	27	5.0	28	5.0	0.232	4.7	LOS A	0.0	0.0	0.00	0.04	0.00	49.1
11	T1	380	10.0	400	10.0	0.232	0.1	LOS A	0.0	0.0	0.00	0.04	0.00	49.7
Approach		407	9.7	428	9.7	0.232	0.4	NA	0.0	0.0	0.00	0.04	0.00	49.6
All Vehicles		772	9.5	813	9.5	0.232	0.9	NA	0.2	1.7	0.03	0.07	0.03	49.3

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
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Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Appendix H Preliminary Intersection Layouts

Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

READ DRAWINGS CAREFULLY // MEASURETWICECUTONCE

RAISED TABLE SPEED MANAGEMENT DEVICE

STATION ROAD

REWI STREET

50m

EXISTING RAIL BRIDGE

RAISED PEDESTRIAN CROSSING (SPEED MANAGEMENT DEVICE)

REWI STREET

2.5m WIDE SHARED PATH

RAISED PEDESTRIAN CROSSING (SPEED MANAGEMENT DEVICE)

TRANSITION TO BI-DIRECTIONAL CYCLEWAY WITHIN T4 STRUCTURE PLAN AREA

NORTH ISLAND MAIN TRUNK (NIMT)

NEW COLLECTOR ROAD

CENTENNIAL PARK

1.8m WIDE PEDESTRIAN FOOTPATH

4.0m WIDE BI-DIRECTIONAL CYCLEWAY WITH 1.8m WIDE PEDESTRIAN FOOTPATH

EXTENT OF RESERVE AREA REQUIRED FOR ROAD LINK (5,000m2)

NOTES:

1. INDICATIVE PROOF OF CONCEPT ONLY, SUBJECT TO DEVELOPED DESIGN AND CONFIRMATION WITH WAIPA DISTRICT COUNCIL
2. THE ROADING CONCEPT IS SUBJECT TO THE RECREATIONAL RESERVE STATUS

PROPOSED PLAN CHANGE
T4 GROWTH CELL
TE AWAMUTU

REWI STREET INTERSECTION
INTERIM LAYOUT PLAN

DRAWING REVISION: D

DATE PRINTED: 14 May 2024 FILE NAME: 22029-C-0033.dwg

Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

READ DRAWINGS CAREFULLY // MEASURETWICECUTONCE

RAISED PEDESTRIAN CROSSING (SPEED MANAGEMENT DEVICE)

RETAINING WALL TO BE CONSTRUCTED ON WESTERN SIDE OF STATION ROAD TO ALLOW LEVELS TO BE RAISED TO PROVIDE LEVEL PAVEMENT SECTION FOR NEW CROSSING

2.5m WIDE SHARED PATH

REWI STREET

2.5m WIDE SHARED PATH

EXISTING RAIL BRIDGE TO BE REPLACED WITH NEW 16.0m WIDE BRIDGE STRUCTURE

STATION ROAD

RAISED PEDESTRIAN CROSSING (SPEED MANAGEMENT DEVICE)

50m

15m

10m

15m

RAISED PEDESTRIAN CROSSING (SPEED MANAGEMENT DEVICE)

2.5m WIDE SHARED PATH

REWI STREET

2.5m WIDE SHARED PATH (WITHIN RESERVE AREA)

TRANSITION TO BI-DIRECTIONAL CYCLEWAY WITHIN T4 STRUCTURE PLAN AREA

RAISED PEDESTRIAN CROSSING (SPEED MANAGEMENT DEVICE)

INDICATIVE LAYOUT FOR ROUNDABOUT OPTION

NORTH ISLAND MAIN TRUNK (NIMT)

NEW COLLECTOR ROAD

CENTENNIAL PARK

1.8m WIDE PEDESTRIAN FOOTPATH

4.0m WIDE BI-DIRECTIONAL CYCLEWAY WITH 1.8m WIDE PEDESTRIAN FOOTPATH

EXTENT OF RESERVE AREA REQUIRED FOR ROAD LINK (5,000m2)

NOTES:

1. INDICATIVE PROOF OF CONCEPT ONLY, SUBJECT TO DEVELOPED DESIGN AND CONFIRMATION WITH WAIPA DISTRICT COUNCIL
2. THE ROADING CONCEPT IS SUBJECT TO THE RECREATIONAL RESERVE STATUS

PROPOSED PLAN CHANGE
T4 GROWTH CELL
TE AWAMUTU

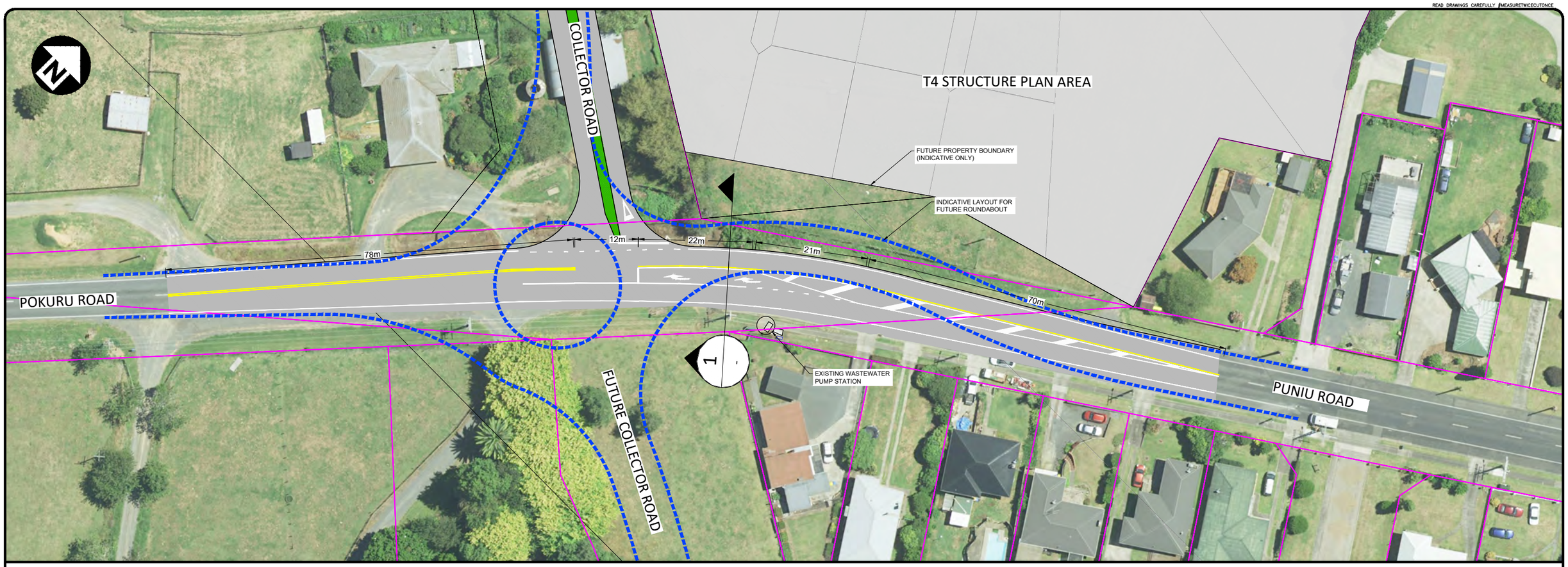
REWI STREET INTERSECTION
FUTURE LAYOUT PLAN

DRAWING REVISION: A

DATE PRINTED: 14 May 2024 FILE NAME: 22029-C-0034.dwg

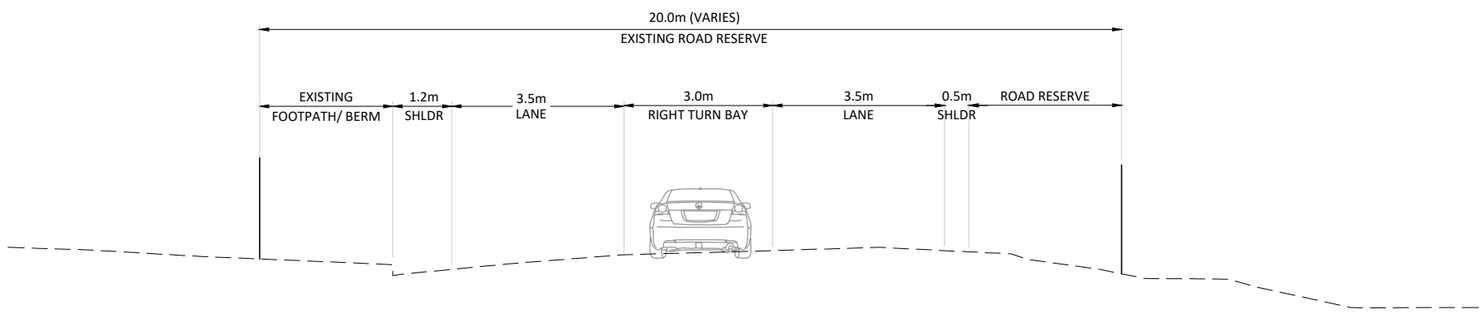
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NOTES:

1. INDICATIVE PROOF OF CONCEPT ONLY, SUBJECT TO DEVELOPED DESIGN AND CONFIRMATION WITH WAIPA DISTRICT COUNCIL



1 TYPICAL CROSS SECTION - POKURU STREET
SCALE = 1:125

Waipa DISTRICT COUNCIL

T4 STRUCTURE PLAN

POKURU/PUNIU ROAD INTERSECTION LAYOUT PLAN

DRAWING REVISION: B

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Appendix I Indicative Transport Infrastructure Staging Assessment

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Stantec

Memo

Project:	T4 Structure Plan, Te Awamutu	**Project No:**	310205677
To:	Liam McCaffrey / Geoff Cable	**Date:**	07/06/2023
	McCaffrey and Cable Consultants LTD		
From:	Rhulani Mothelesi / Mark Apeldoorn		
	Stantec New Zealand		

RE: Staging Assessment - Collector Road and proposed access intersections

1. Introduction

Stantec has been asked to provide advice with respect to the staging of the proposed Collector Road corridor within the proposed T4 Structure Plan area, and the proposed connections to the existing road network. The proposed connections are summarised as follows:

- New access intersections on Rewi Street and Puniu Road / Pokuru Road; and
- A new local road connection to Wallace Terrace.

Consideration has been given to the following aspects of the structure plan proposal (including initial consultation with Waipā District Council (Council) in relation to the road network and access staging):

- The structure plan area is comprised of two different land parcels with different owners. It is understood that the two sites would likely be developed separately, i.e.: each site needs to be able to be developed independently of the other.
- The stormwater reserve proposed within the structure plan area effectively sever the two sites, with connectivity (for vehicles) only possible via the Collector Road corridor.
- The proposed Collector Road within the structure plan area is proposed to form the initial stages of the strategic “Western Arterial” corridor although the corridor is understood to now be planned with a reduced strategic function. It is understood that Council will likely uplift the designation to the north of Puniu Road within this year (2023) in favour of a more collector road corridor.
- Some flexibility on what form of intersection would be appropriate to implement on Rewi Street and Puniu Road in the long term to support the future extension of the proposed Collector Road northwards (towards Station Road) and southwards (towards Golf Road) is desirable. This includes provision for staged development of the long term intersection form to balance development cost with effects and affordable infrastructure.
- In terms of the connection to Rewi Street:
  - The Centennial Park reserve on the northern boundary of the proposed structure plan area was recently declared a recreational reserve. Delivery of this section of the Collector Road (through the reserve) would likely take some time as the status of the reserve would firstly need to be changed in order to enable a road to be formed through it.
  - Council has described it has separately considered an integrated solution incorporating the adjacent railway overbridge and Station Road intersection. Council has advised that Station Road would need to be lifted on its approach to Rewi Street to improve sightlines looking westwards,

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and the overbridge widened to enable improved walking/ cycling linkages. These works are accepted as being in part a Council accountability matter.

  - The above will most likely impact the ability of the structure plan area (more specifically the northern land parcel) to proceed if a development threshold trigger requiring the northern link to Rewi Street is imposed.
  - Engagement with Council has therefore indicated that the Collector Road connection to Puniu Road as well as the proposed local road connection to Wallace Terrace may both need to function as the primary access points until the collector road is connected to Rewi Street, subject to the appropriate traffic management in place as a short-term measure to mitigate any safety and/or efficiency effects.

- In terms of the connection to Puniu Road:
  - Council has indicated it would be supportive of an “interim” intersection form supporting the anticipated T4 structure plan demands, provided the intersection design incorporates Safe Systems principles.
  - The long-term “strategic” intersection form to support the future planned extension of the proposed collector road southwards (towards Golf Road) would be confirmed in future as part of the “Western Arterial” works.
  - While the Collector Road alignment and proposed future intersection on Puniu Road / Pokuru Road is generally located within the “Western Arterial” designation, minor alterations to the designation boundaries may be required to accommodate the ultimate works for the intersection.
- Council has advised it owns the area of land between the North Island Main Trunk (NIMT) and Puniu Road / Pokuru Road forming the “Western Arterial” designation alignment. Accordingly, the southern section of the proposed collector road is proposed to be located within the designation.

The assessments that follow evaluate the potential effects associated with staging development and develop an infrastructure response targeted to address and manage these. Section 7 sets out recommended staging provisions for infrastructure to be included within the structure plan to deliver an appropriately managed and staged transport infrastructure response.

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2. Staging Assessment Overview and Scope

The assessments contained in this memorandum identify the following:

- The level of development that could be progressed within the northern site ("Area 1") prior to the Collector Road connection to Rewi Street or Puniu Road being required;
- The interim form of access that could be established on Puniu Road / Pokuru Road to service the proposed residential activities within the southern site ("Area 2") prior to the full Collector Road corridor (and connection to Rewi Street) being in place; and
- The interim configuration of the proposed intersections on Rewi Street and Puniu Road required to support the full structure plan development with the full internal transport network established. Consideration will be given to both the efficiency and safety performance of the two intersections.

The scope of the assessments in this memo were limited to:

- The local / immediate transport environment only. Wider transportation modelling has not been undertaken as part of this assessment.
- Assessing the Collector Road corridor within the section through the T4 Structure Plan only. The assessments have not considered the implications of having the entire "Western Arterial" corridor in place.
- Assuming the proposed Collector Road (and internal roading) would primarily be used by traffic that is anticipated to be generated by the land use activities within the structure plan area. The potential impact of externally generated traffic (i.e., traffic not associated with / generated by activities within the structure plan area) potentially using the Collector Road as a bypass/ through route have not been considered here. Without the entire "Western Arterial" corridor being in place, it is considered that the proposed Collector Road would primarily function as a local access road to the T4 Growth Cell.

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3. Predicted Travel Demand

To inform the assessments described in the subsequent sections of this memo, the estimated development yield and the predicted trip generation and distribution assumptions are outlined in the subsections to follow.

3.1 Proposed Rezoning and Estimated Development Yield

Combined, the two land parcels comprising the T4 growth cell are approximately 27.2 ha in size. Only approximately 12.35 ha can be developed due to the following constraints:

- A large portion of the growth cell is low lying and resultantly lies within a floodplain. These areas have been identified as stormwater management areas and open space / active reserves.
- A steep embankment within Area 1 that would require significant earthworks to enable the affected area to be developable.
- The presence of high-voltage overhead powerlines and the NIMT railway line along the north-western boundary of the growth cell.
- The existing Western Arterial Designation and proposed road reserve areas.

Based on a net residential density of 20-25 dwellings per hectare[1], the proposed rezoning and Structure Plan are assessed as enabling the development of approximately 248 - 310 residential dwellings with lot sizes ranging between 400m^2 and 600m^2 (refer to Table 1 below for a summary of the anticipated residential yield).

Table 1: Proposed T4 Structure Plan area - Assessed Development Yield

Area	Total Area	Gross Developable Area (ha)[2]	Net Developable Area (ha)[3]	Estimated Dwelling Units (no.)
Area 1	9.00	6.53	3.73	75 - 94
Area 2	18.25	13.25	8.61	173 - 216
Total	**27.25**	**19.78**	**12.35**	**248 - 310**

3.2 Predicted Trip Generation

Table 2 provides a summary of the number of trips that are anticipated to be generated by the proposed land use activities within the structure plan area. The predicted trip generation in Table 2 was estimated based on:

[1] The Waikato Regional Policy Statement sets out the following net medium density targets within Waipā: 25-35 dwellings/ ha in defined intensification areas and 20-25 dwellings/ha in greenfield locations.
[2] Excluding active reserves, stormwater management areas, and environmental buffers
[3] Excluding road reserve areas

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- A daily trip rate of 8.2 trips/ dwelling/ day, and peak period rate of 0.9 trips/ dwelling/ hour during the peak operating periods[4].
- The following directional distribution rates[5]:
  - Daily: 50% inbound, 50% outbound;
  - AM Peak period: 25% inbound, 75% outbound; and
  - PM Peak period: 63% inbound, 37% outbound.

Table 2: Predicted Trip Generation – Total Inbound and Outbound Trips

Assessed Period		Area 1	Area 2	Total – T4 Growth Cell
Daily	IN (vpd)	308 – 386	710 – 886	1,017 – 1,272
	Out (vpd)	308 – 386	710 – 886	1,017 – 1,272
	Total (vpd)	**615 – 771**	**1,419 – 1,772**	**2,034 -2,543**
AM Peak	IN (vph)	17 – 21	39 – 49	56 – 70
	Out (vph)	51 – 64	117 – 146	168 – 210
	Total (vph)	**68 – 85**	**156 – 195**	**224 – 280**
PM Peak	IN (vph)	43 – 54	98 – 123	141 – 176
	Out (vph)	25 – 31	58 – 72	83 – 104
	Total (vph)	**68 – 85**	**156 – 195**	**224 – 280**

As shown in Table 2, the proposed residential activities within the structure plan area are anticipated to generate up to 2,543 vehicle trips per day, and up to 280 vehicle trips per hour during the typical commuter peak period, these determined at the 85th percentile rate level for a single dwelling.

It is importance to note is that the trip generation estimates in Table 2 are considered to be a conservative estimation of the number of vehicle trips anticipated to be generated by the proposed activities within the structure plan area given that:

- The vehicle-based trip generation estimates have not been reduced to factor in future higher walking, cycling and public transport trip mode share. In reality, given the proximity of the structure plan area to the Te Awamutu town centre, schools/ educational institutions and other employment nodes within the township, it is anticipated that a notable portion of the trips generated by the proposed activities within the structure plan area would be made by these alternative modes[6]. The proposed walking and cycling network within the structure plan area has also been developed to support mode shift outcomes from the initial stages of development.

[4] Source: Table C.1 in the *NZ Transport Agency research report 453* - 85th percentile trip rates for Outer Suburban Dwellings
[5] Source: Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition* – directional distribution rates for Single-Family Detached Housing (Land Use Code 210)
[6] Based on the 2018 Census data for the Te Awamutu Stadium statistical area, the total mode share for walking, cycling and PT trips is approximately 8.3% for work-based trips and 43.7% for education-based trips.

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- The adopted peak hour trip rate is approximately 30-60% and 10-20% higher than the trip rates within the WRTM for adjacent comparable nodes[7] for the AM and PM peak periods respectively. The WRTM uses a 2-hourly trip rate of 1.0-1.21 and 1.34-1.45 trips per dwelling for the AM and PM peak periods respectively, which converted[8] to an hourly trip rate equates to 0.57-0.69 and 0.75-0.80 trips/ dwelling/ hour for the AM and PM peak hours respectively.

3.3 Predicted Trip Distribution

The predicted trip distribution adopted for this assessment was informed by:

- Directional distribution and intersection turning movement data sourced from the Waikato Regional Transportation Model (WRTM) traffic demand outputs[9];
- Origin and Destination (O-D) data[10] collected as part of the 2018 Census for the Te Awamutu Stadium statistical area for work and school journeys; and
- Trip distribution assumptions adopted for the T1 and T2 Structure Plan transportation assessments.

Table 3 below provides a summary of adopted trip distribution assumptions based on travel data from the above-mentioned sources.

Table 3: Trip distribution and assignment assumptions

Origin / Destination	Adopted Trip Distribution	Travel Route from the T4 Structure Plan Area	Adopted Trip Assignment – Area 1	Adopted Trip Assignment – Area 2
To / From the East	45%	via Rewi Street	15%	35%
		via Wallace Terrace & Teasdale Street	20%	0%
		via Puniu Road	10%	10%
To/ From the North	20%	via College Street	20%	20%
To / From the West	35%	via Rewi Street	20%	20%
		via Pokuru Road	15%	15%

As shown in Table 3 above, the majority of the trips expected to be generated by the proposed land use activities within the structure plan area northern are anticipated to arrive from/ depart to the east and north. This is consistent with the locality of the existing employment and educational areas within the township.

[7] Nodes comprising the Te Awamutu West (WRTM node 772, 773, 777 & 778) and Fraser Street (WRTM node 749 & 750) statistical areas
[8] Based on the following conversion factors: AM peak period = 0.571, and PM peak period = 0.556
[9] The 2018, 2031 and 2041 forecast models were sourced for purposes of the T4 Structure Plan Integrated Transportation Assessment.
[10] Source: https://commuter.waka.app/, accessed 15 March 2023

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Accordingly, the Collector Road connection to Rewi Street (and Wallace Terrace to a lesser extent) is expected to carry a greater proportion of the overall traffic demand generated within the structure plan area.

4. Interim Access for the Northern and Southern Development Areas

4.1 Interim Access for the Northern Development (Area 1)

Proposed Wallace Terrace Extension

Area 1 currently has legal access from Wallace Terrace[11]. Access from Wallace Terrace is proposed to be maintained via a new local road connection ("Wallace Terrace extension") which will extend westwards and connect with the proposed Collector Road. Prior to the Collector Road (and the connections to Rewi Street and Puniu Road) being in place, it is reasonable to expect that access to the proposed residential activities within Area 1 would be provided via Wallace Terrace and the proposed extension.

However:

- Wallace Terrace is classified in terms of the One Network Road Classification (ONRC) framework as an Access Road and the One Network Framework (ONF) as a local street. Local streets are defined[12] as having a low to minor movement function, with low to medium on-street activity anticipated related to people going about their daily lives.
- In terms of general traffic, Access roads are classified as carrying less than 1,000 vehicles per day (vpd) and less than 1,200 people movements per day[13]. There are currently about 52 dwellings on Wallace Terrace. At the assessed 8.2 trips per dwelling per day, this indicates the current environment is expected to generate in the order of 426 trips per day at its eastern end. This level of traffic is consistent with the amount of traffic expected on corridors with this road classification.

To maintain the intended function of the road (and minimise any effects on local residents along Wallace Terrace), traffic volumes along Wallace Terrace should be limited to no more than 1,000 vpd. At traffic levels above this level (i.e., > 1,000 vpd), the road would function more as an urban collector (in terms of the ONF) and a secondary collector (in terms of the ONRC). Neighbouring road corridors with the same road classification (Tui Crescent, Lola Lee Heights, Mountain View Drive, Te Tomo Street, Douglas Avenue, etc.) presently carry an ADT volume in the range of 200 – 800 vpd.

On this basis, a surplus capacity is assessed as supporting a further 573 trips per day (1,000 vpd minus 426 vpd), or an equivalent 70 dwellings being developed within the structure plan area. A total trip demand generated by this activity would maintain the trip demands on Wallace Terrace at a level consistent with the ONRC road classification and the current formed road environment.

Therefore, it is assessed that the Collector Road and connection to either Rewi Street or Puniu Road would be required once approximately 70 residential dwellings are developed within Area 1.

[11] The existing residential dwelling and farming activities within Area 1 are currently accessed off Wallace Terrace.
[12] Source: Waka Kotahi's *One Network Framework (ONF) - Detailed Design* guideline document (dated 17 November 2022)
[13] Source: Table 3 of Waka Kotahi's *One Network Framework (ONF) - Detailed Design* guideline document (dated 17 November 2022)

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By way of a further integration initiative, it is also recommended that a pedestrian / cycle link is established as part of this early-stage implementation between Area 1 and Rewi Street. This could be established through the General Reserve area linking with paths in the Centennial Park area and through to Rewi Street. This will deliver enhanced multi-modal connectivity and set the scene for mode share outcomes established through the neighbourhood design.

Impact of additional traffic on the performance of the adjoining intersections

The following local intersections are identified as being located along the likely travel route for trips generated within Area 1 (prior to the collector road connections to Rewi Street or Puniu Road being in place):

- Wallace Terrace / Fairview Road intersection;
- Teasdale Street / Downes Street intersection; and
- Rewi Street / College Street / Downes Street intersection.

The potential efficiency and safety impacts on these adjacent intersections were assessed to determine whether the additional traffic anticipated (up to 70 dwellings within Area 1) would adversely impact their performance. The efficiency performance was modelled using SIDRA Intersection 9.0, while the safety performance was assessed based on crash prediction models contained in the Waka Kotahi's *High-Risk Intersections* Guide and associated *Crash Estimation Compendium – New Zealand crash risk factors guideline (Section 6.0)*.

The following land use scenarios were analysed:

- **Scenario 1**: 2031 Baseline traffic, without the proposed Area 1 traffic;
- **Scenario 2**: 2031 Baseline traffic, with 70 dwellings developed within Area 1;
- **Scenario 3**: 2041 Baseline traffic, without the proposed Area 1 traffic; and
- **Scenario 4**: 2041 Baseline traffic, with 70 dwellings developed within Area 1.

Input volumes for the SIDRA modelling and safety impact assessment (for this and subsequent assessments) were derived from:

- 2031/41 AM/PM peak period traffic volume forecasts from the WRTM[14]. The predicted AM/PM peak period traffic generated by the consented land use activities within the T1 and T2 growth cells were included/ incorporated as part of the baseline traffic demands;
- The adopted trip generation outlined in Table 2 and
- Trip distribution assumptions outlined in Table 3.

The estimated AM and PM peak hour turning movement network plots for each of the assessed scenarios are illustrated in **Attachment 1**, while the 2023 and projected 2031/41 ADT volumes on the adjoining road corridors are provided in **Attachment 2**. A summary of the intersection performance assessments is provided

[14] A comparison of the 2018, 2031 and 2041 WRTM ADT projections to 2022/23 traffic count data provided by Council as well as ADT volumes sourced from the Mobile Road website indicated that the WRTM baseline demands were underestimated by 25%-40% on average (compared to 2022/23 volumes). As a conservative estimate of the baseline demands, the projected 2031/41 WRTM peak hour demands were increased by 35%.

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in Table 4 below, while the SIDRA Intersection summaries and crash prediction model results are provided in **Attachment 3** and **Attachment 4** respectively.

As shown in Table 4 below, with the addition of the traffic associated with the proposed activities within Area 1 to the baseline traffic demands:

- The SIDRA modelling assessments indicate that all three existing intersections (in their present form) are expected to continue operating at acceptable levels of service (LOS A) with minimal queuing and delays on all approaches; and
- In terms of the potential safety impacts, the frequency of injury crashes at all three intersections is predicted to remain low (crash prediction models indicate a minimal increase in the frequency of injury crashes).

On the basis of the above assessments, no adverse capacity or safety effects are anticipated as a result of the additional traffic that is anticipated to be generated by the proposed activities within Area 1. It is concluded that Wallace Terrace and the adjoining intersections (in their present form) are able to accommodate the development of up to 70 dwellings within Area 1.

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Table 4: Existing adjoining intersections - Performance Summary without the proposed Rewi Street and Puniu Road intersections

Land Use Scenario	Wallace Terrace / Fairview Road Intersection		Downes Street / Teasdale Street Intersection		Rewi Street / College Street Intersection	
	SIDRA Modelling Assessment	Crash Injury Prediction	SIDRA Modelling Assessment	Crash Injury Prediction	SIDRA Modelling Assessment	Crash Injury Prediction
2031 Baseline	Intersection @ LOS A for both AM/PM periods. Worst movement @ LOS A. Minimal queueing and delays on all approaches.	Predicted crash injury frequency @ one injury crash approximately every 11.7 years	Intersection @ LOS A for both AM/PM periods. Worst movement @ LOS A. Minimal queueing and delays on all approaches.	Predicted crash injury frequency @ one injury crash approximately every 12.0 years	Intersection @ LOS A for both AM/PM periods. Worst movement @ LOS C. Minimal queueing and delays on all approaches.	Predicted crash injury frequency @ one injury crash approximately every 7.7 years
2031 Baseline + Area 1 (70 dwellings)	No change in LOS with additional Area 1 traffic. Minimal/ no change in 95th percentile queue lengths / average delays anticipated.	Only a minimal increase in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 10.2 years	No change in LOS with additional Area 1 traffic. Minimal/ no change in 95th percentile queue lengths / average delays anticipated.	Slight increase in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 10.3 years	No change in LOS with additional Area 1 traffic. Minimal/ no change in 95th percentile queue lengths / average delays anticipated.	Only a minimal increase in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 7.4 years
2041 Baseline	Intersection @ LOS A for both AM/PM periods. Worst movement @ LOS A. Minimal queueing and delays on all approaches.	Predicted crash injury frequency @ one injury crash approximately every 10.5 years	Intersection @ LOS A for both AM/PM periods. Worst movement @ LOS A. Minimal queueing and delays on all approaches.	Predicted crash injury frequency @ one injury crash approximately every 10.7 years	Intersection @ LOS A for both AM/PM periods. Worst movement @ LOS C. Minimal queueing and delays on all approaches.	Predicted crash injury frequency @ one injury crash approximately every 7.6 years
2041 Baseline + Area 1 (70 dwellings)	No change in LOS with additional Area 1 traffic. Minimal/ no change in 95th percentile queue lengths / average delays anticipated.	Only a minimal increase in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 9.3 years	No change in LOS with additional Area 1 traffic. Minimal/ no change in 95th percentile queue lengths / average delays anticipated.	Slight increase in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 9.3 years	No change in intersection LO & worst movement @ LOS D with additional Area 1 traffic. Minimal/ no change in 95th percentile queue lengths / average delays anticipated.	Only a minimal increase in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 7.3 years

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4.2 Interim Access for the Southern Development (Area 2)

Area 2 has frontage to Puniu Road. Accordingly, access is proposed to be provided via a new intersection on Puniu Road / Pokuru Road.

SIDRA modelling was undertaken to confirm the form of intersection that would be required on day one, and as development within Area 2 is progressed.

In addition to the SIDRA modelling, consideration has also been given to the warrants for turn treatments contained in the Austroads Guide to Road Design Part 4: Intersections and Crossings – General. For ease of reference, the turn warrants for roads with a design speed of less than 100 km/h is illustrated in Figure 1. The assessed intersection layout for each of the assessment scenarios has been based on the findings from the turn warrants assessment.

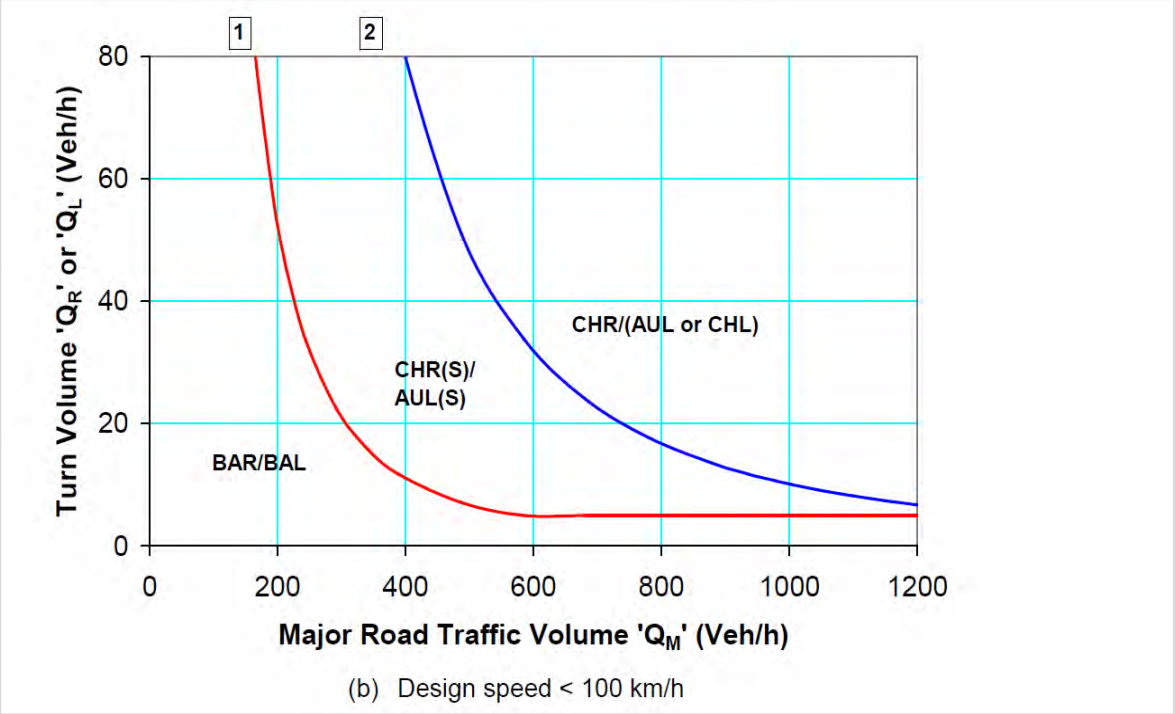


Figure 1: Warrants for turn treatments on the major road at unsignalized intersection (source: Austroads Part 4)

Table 5 to follow provides a summary of the intersection performance assessments. The estimated AM and PM peak hour turning movement network plots for each of the assessed scenarios are illustrated in **Attachment 1**, while the SIDRA Intersection summaries and turn warrants assessment are provided in **Attachment 3** and **Attachment 5** respectively.

As shown in Table 5 below:

- A channelised right-turn bay facility on Puniu Road would be required from the initial stages of development within Area 2.

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- The turn warrant assessment shows that a short auxiliary left-turn lane on Puniu Road would likely only be required for the 2041 horizon year with 216 dwellings developed within Area 2. This is largely due to the increased through traffic demands on Puniu Road.
- The SIDRA modelling assessments indicate that the proposed intersection form (T-intersection with a right-turn bay) has sufficient capacity to accommodate 100% of the traffic demands anticipated to be generated by the proposed activities within Area 2.

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Table 5: Proposed Collector Road / Puniu Road – Intersection Assessment Summary with the Area 2 Development only

Area 2 Development (No. of dwellings)	2031 Horizon Year		2041 Horizon Year	
	Austroads Turn Warrants Assessment	SIDRA Modelling Assessment	Austroads Turn Warrants Assessment	SIDRA Modelling Assessment
70	Min. required turn treatment on Puniu Road: • Right-turn: Full length channelised right turn bay. • Left-turn: Basic left-turn (i.e., shared through + left lane).	Intersection @ LOS A, and worst movement @ LOS C. No queueing / minimal delays on Puniu Road. 95th %-tile queues on Collector Road approach < 2.0 m.	Min. required turn treatment on Puniu Road: • Right-turn: Full length channelised right turn bay. • Left-turn: Basic left-turn (i.e., shared through + left lane)	Intersection @ LOS A, and worst movement @ LOS C. No queueing / minimal delays on Puniu Road. 95th %-tile queues on Collector Road approach < 2.0 m.
150	Min. required turn treatment on Puniu Road: • Right-turn: Full length channelised right turn bay. • Left-turn: Basic left-turn (i.e., shared through + left lane).	Intersection @ LOS A, and worst movement @ LOS C. No queueing / minimal delays on Puniu Road. 95th %-tile queues on Collector Road approach < 4.0 m.	Min. required turn treatment on Puniu Road: • Right-turn: Full length channelised right turn bay. • Left-turn: Basic left-turn (i.e., shared through + left lane).	Intersection @ LOS A, and worst movement @ LOS C. No queueing / minimal delays on Puniu Road. 95th %-tile queues on Collector Road approach <= 4.0 m.
216	Min. required turn treatment on Puniu Road: • Right-turn: Full length channelised right turn bay. • Left-turn: Basic left-turn (i.e., shared through + left lane).	Intersection @ LOS A, and worst movement @ LOS C. No queueing / minimal delays on Puniu Road. 95th %-tile queues on Collector Road approach <= 5.5 m.	Min. required turn treatment on Puniu Road: • Right-turn: Full length channelised right turn bay. • Left-turn: Auxiliary left turn bay with a shorter turning lane.	Intersection @ LOS A, and worst movement @ LOS C. No queueing / minimal delays on Puniu Road. 95th %-tile queues on Collector Road approach < 6.5 m.

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Impact of additional traffic on the performance of the adjacent Puniu Road / Fairview Road Intersection

Similar to the assessment in Section 4.1, the efficiency and safety performance of the adjacent Puniu Road / Fairview Road intersection was assessed to determine whether the trips that are anticipated to be generated within Area 2 would adversely impact the performance of the intersection.

Table 6 to follow provides a summary of the intersection performance assessments.

Table 6: Puniu Road / Fairview Road - Intersection Assessment Summary with the Area 2 Development only

Land Use Scenario	2031 Horizon Year		2041 Horizon Year	
	SIDRA Modelling Assessment	Crash Injury Prediction	SIDRA Modelling Assessment	Crash Injury Prediction
2031/41 Baseline	Intersection @ LOS A, and worst movement @ LOS A. No queueing / minimal delays on Puniu Road. 95th %-tile queues on Fairview Road approach < 5.0 m.	Predicted crash injury rate @ one injury crash approximately every 10.6 years	Intersection @ LOS A, and worst movement @ LOS A. No queueing / minimal delays on Puniu Road. 95th %-tile queues on Fairview Road approach < 5.0m.	Predicted crash injury rate @ one injury crash approximately every 9.8 years
2031/41 Baseline + Area 2 (70 dwellings)	No change in LOS with additional Area 2 traffic. Minimal/ no change in 95th percentile queue lengths / average delays anticipated.	Only a minimal increase in the predicted crash frequency compared to the baseline scenario @ one injury crash approximately every 9.2 years	No change in LOS with additional Area 2 traffic. Minimal/ no change in 95th percentile queue lengths / average delays anticipated.	Only a minimal increase in the predicted crash frequency compared to the baseline scenario @ one injury crash approximately every 8.6 years
2031/41 Baseline + Area 2 (150 dwellings)	No change in LOS with further development within Area 2. Minimal/ no change in 95th percentile queue lengths / average delays anticipated.	Predicted injury crash frequency increases to one injury crash approximately every 8 years	No change in LOS with further development within Area 2. Minimal/ no change in 95th percentile queue lengths / average delays anticipated.	Predicted injury crash frequency increases to one injury crash approximately every 7.5 years
2031/41 Baseline + Area 2 (216 dwellings)	No change in LOS with further development within Area 2. Minimal/ no change in 95th percentile queue lengths / average delays anticipated.	Predicted injury crash frequency increases to one injury crash approximately every 7.2 years	No change in LOS with further development within Area 2. Minimal/ no change in 95th percentile queue lengths / average delays anticipated.	Predicted injury crash frequency increases to one injury crash approximately every 6.9 years

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As shown in Table 6 above:

- No adverse capacity effects are anticipated at the Puniu Road / Fairview Road intersection with the addition of the traffic associated with the proposed activities within Area 2 to the 2031/41 baseline traffic demands. The intersection is expected to operate at acceptable levels of service (LOS A) through to the 2041 assessment year.
- In terms of the potential safety impacts:
  - During the initial stages of development, the frequency of injury crashes at the intersection is predicted to remain low and within similar levels as the baseline scenarios (i.e., one injury crash every 9-10 years).
  - With 150+ dwellings developed within Area 2, the predicted injury crash rate is expected to increase by approximately 25% compared to the 2031/41 baseline (to one crash every 7-8 years), and further by approximately 30-40% at full built-out of Area 2 (to one injury crash every 7 years).

To avoid unanticipated potential safety impacts at other intersections on the surrounding road network, it is assessed that the Collector Road connection northwards to either Rewi Street or Wallace Terrace is to be established upon completion of 150 dwellings within Area 2. Similarly, and to avoid unanticipated short-term effects on Wallace Terrace, development of more than 150 dwellings in Area 2 should be accompanied by pedestrian, cycle and traffic speed management measures on Wallace Terrace. The conditions that follow below have been developed to provide for this.

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5. Collector Road Intersections on Rewi Street and Puniu Road to support the T4 Structure Plan Development

5.1 Assessment Scenarios

The assessments contained in the subsections to follow identify the form of intersection that is required on Rewi Street and Puniu Road to support development within the proposed T4 Structure Plan area as development is progressed beyond the development threshold figures identified in Section 3.1 (70 dwellings within Area 1) and Section 3.2 (150 dwellings within Area 2).

It is desirable to allow flexibility for development within the whole of the structure plan area (in terms of access provision), while managing the potential consequential traffic effects on the immediate adjoining road network. On this basis, and giving due consideration to the aspects of the proposal identified in Section 1 of this memo, the following access scenarios have been assessed:

- **Scenario 1**: Development of the proposed structure plan area with just the Collector Road connection to Rewi Street and local road connection to Wallace Terrace in place (i.e., no connection to Puniu Road);
- **Scenario 2**: Development of the proposed structure plan area with just the Collector Road connection to Puniu Road and local road connection to Wallace Terrace in place (i.e., no connection to Rewi Street); and
- **Scenario 3**: Development of the proposed structure plan area with both Collector Road connections to Rewi Street and Puniu Road, as well as the local road connection to Wallace Terrace, in place.

The estimated AM and PM peak hour turning movement network plots for each of the scenarios above are illustrated in **Attachment 1**, while the 2023 and projected 2031/41 ADT volumes on the adjoining road corridors are provided in **Attachment 2**.

5.2 Proposed Collector Road Intersections

5.2.1 Proposed Collector Road / Rewi Street Intersection

Intersection Efficiency Assessment

Table 7 below provides a summary of the intersection performance assessments for each of the scenarios identified in Section 5.1 above. Similar to the assessment in Section 4.2, consideration has also been given to the turn warrants contained in the Austroads Guide to Road Design Part 4. Refer to Attachment 3 for the SIDRA Intersection summaries, and Attachment 5 for the turn warrants assessment.

The key findings from the assessments provided in Table 7 indicate the following:

- The proposed Collector Road / Rewi Street intersection, if established as a T-intersection with a channelised right-bay and short left-turn lane on Rewi Street, is assessed as being adequate (from a capacity and safety perspective) to accommodate the predicted traffic demands from the northern development.

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- Without the Puniu Road connection in place, the proposed T-intersection with the identified auxiliary turning facilities is assessed as having sufficient capacity up to the 2041 horizon year to accommodate the predicted traffic demands from both the northern and southern developments.
- The turn warrant assessments indicate that a full length left-turn lane would be required at the intersection once the Collector Road is extended southwards into Area 2 and the full collector road network is established. SIDRA modelling indicates that the proposed intersection configuration (a “Tee” intersection with auxiliary turning facilities on Rewi Street) would have sufficient capacity up to the 2041 horizon year to accommodate the full structure plan traffic demands.

The preferred outcome however would be to establish the Puniu Road intersection and avoid the need for an additional left turn auxiliary lane at Rewi Street at all. On this basis it is recommended that, aligned with the commencement of development within Area 2, either the Puniu Road / Collector Road intersection is formed as a Tee or an auxiliary left turn lane is established at the Rewi Street intersection. The left turn auxiliary lane will be a sunk infrastructure cost long term as the Tee intersection at Rewi Street is a temporary facility only. The result would be a higher overall structure plan cost outcome. A preferred and recommended approach is to link development of the southern Area 2 part to formation of the Puniu Road / Collector Road intersection from the outset.

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Table 7: Proposed Collector Road / Rewi Street - Intersection Performance Assessment Summary

Assessed Access Arrangement	Land Use Scenario	2031 Horizon Year		2041 Horizon Year	
		Austroads Turn Warrants Assessment	SIDRA Modelling Assessment	Austroads Turn Warrants Assessment	SIDRA Modelling Assessment
With just the Rewi Street & Wallace Terrace connections in place (i.e., without the Puniu Road connection)	70 dwellings within Area 1 (i.e., development threshold trigger requiring the collector road connection to either Rewi Street or Puniu Road)	Min. required turn treatment on Rewi Street: • Right-turn: Channelised right turn bay with a shorter turning lane. • Left-turn: Auxiliary left turn bay with a shorter turning lane.	Intersection @ LOS A for both AM/PM periods. Worst movement @ LOS C. No queueing / delay on Rewi Street. 95th %-tile queues on Collector Road approach < 2.0 m.	Min. required turn treatment on Rewi Street: • Right-turn: Channelised right turn bay with a shorter turning lane. • Left-turn: Auxiliary left turn bay with a shorter turning lane.	Intersection @ LOS A for both AM/PM periods. Worst movement @ LOS C. No queueing / delay on Rewi Street. 95th %-tile queues on Collector Road approach < 2.5 m.
	94 dwellings within Area 1 (i.e., Area 1 fully developed)	Min. required turn treatment on Rewi Street: • Right-turn: Channelised right turn bay with a shorter turning lane. • Left-turn: Auxiliary left turn bay with a shorter turning lane.	Intersection @ LOS A for both AM/PM periods. Worst movement @ LOS C. No queueing / delay on Rewi Street. 95th %-tile queues on Collector Road approach < 3.0 m.	Min. required turn treatment on Rewi Street: • Right-turn: Channelised right turn bay with a shorter turning lane. • Left-turn: Auxiliary left turn bay with a shorter turning lane.	Intersection @ LOS A for both AM/PM periods. Worst movement @ LOS D. No queueing / delay on Rewi Street. 95th %-tile queues on Collector Road approach < 3.0 m.
	220 dwellings within the structure plan area (i.e., 70 dwellings within Area 1 and 150 dwellings within Area 2)	Min. required turn treatment on Rewi Street: • Right-turn: Channelised right turn bay. • Left-turn: Full length auxiliary left turn bay.	Intersection @ LOS A for both AM/PM periods. Worst movement @ LOS D. No queueing / delay on Rewi Street. 95th %-tile queues on Collector Road approach < 7.5 m.	Min. required turn treatment on Rewi Street: • Right-turn: Channelised right turn bay. • Left-turn: Full length auxiliary left turn bay.	Intersection @ LOS A for both AM/PM periods. Worst movement @ LOS D. No queueing / delay on Rewi Street. 95th %-tile queues on Collector Road approach < 8.0 m.
	310 dwellings within the structure plan area (i.e., 94 dwellings within Area 1 and 216 dwellings within Area 2)	Min. required turn treatment on Rewi Street: • Right-turn: Channelised right turn bay. • Left-turn: Full length auxiliary left turn bay.	Intersection @ LOS A for both AM/PM periods. Worst movement @ LOS D. No queueing / delay on Rewi Street. 95th %-tile queues on Collector Road approach < 12.5 m.	Min. required turn treatment on Rewi Street: • Right-turn: Channelised right turn bay. • Left-turn: Full length auxiliary left turn bay.	Intersection @ LOS A for both AM/PM periods. Worst movement @ LOS D. No queueing / delay on Rewi Street. 95th %-tile queues on Collector Road approach < 13.5 m.

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Assessed Access Arrangement	Land Use Scenario	2031 Horizon Year		2041 Horizon Year	
		Austroads Turn Warrants Assessment	SIDRA Modelling Assessment	Austroads Turn Warrants Assessment	SIDRA Modelling Assessment
With both Collector Road connections to Rewi Street and Puniu Road in place	220 dwellings within the structure plan area (i.e., 70 dwellings within Area 1 and 150 dwellings within Area 2)	Min. required turn treatment on Rewi Street: • Right-turn: Channelised right turn bay. • Left-turn: Full length auxiliary left turn bay.	Intersection @ LOS A for both AM/PM periods. Worst movement @ LOS D. No queueing / delay on Rewi Street. 95th %-tile queues on Collector Road approach < 11.5 m.	Min. required turn treatment on Rewi Street: • Right-turn: Channelised right turn bay. • Left-turn: Full length auxiliary left turn bay.	Intersection @ LOS A for both AM/PM periods. Worst movement @ LOS D. No queueing / delay on Rewi Street. 95th %-tile queues on Collector Road approach < 11.5 m.
	310 dwellings within the structure plan area (i.e., 94 dwellings within Area 1 and 216 dwellings within Area 2)	Min. required turn treatment on Rewi Street: • Right-turn: Channelised right turn bay. • Left-turn: Full length auxiliary left turn bay.	Intersection @ LOS A, and worst movement @ LOS D. No queueing / minimal delays on Rewi Street. 95th %-tile queues on Collector Road approach < 20 m.	Min. required turn treatment on Rewi Street: • Right-turn: Channelised right turn bay. • Left-turn: Full length auxiliary left turn bay.	Intersection @ LOS A, and worst movement @ LOS D. No queueing / minimal delays on Rewi Street. 95th %-tile queues on Collector Road approach < 20.5 m.

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Intersection Crash Prediction Analysis

The potential safety impacts associated with establishing a T-intersection at this location in place of a Safe Systems aligned intersection (i.e., a roundabout incorporating the Station Road intersection) has been assessed based on the Waka Kotahi's *High-Risk Intersections* Guide and associated *Crash Estimation Compendium – New Zealand crash risk factors guideline*.

Comparative evaluations have been made based on the injury crash prediction models described in Section 6 of the *Crash Estimation Compendium – New Zealand crash risk factors guideline* for the 2023, 2031 and 2041 future year demands. A summary of the findings from the injury crash prediction models is provided in Table 8.

As shown in Table 8, the key findings from the crash prediction analysis indicate the following:

- At the assessed traffic demands, a standard T-intersection at this location is predicted to have a lower injury crash rate compared to a single-lane roundabout (i.e., the frequency of injury crashes at a T-intersection are predicted to be lower than a roundabout configuration). The lower injury crash rate for the T-intersection was attributed to the low volume of traffic on the minor approach (i.e., less than 25% of the ADT at the intersection), and corresponding low turning movements at the intersection.
- The predicted injury crash rate for a T-intersection at this location is expected to be significantly improved with the inclusion of a painted right turn bay on Rewi Street.

Notwithstanding the above, a roundabout is recognised as a safe system intersection form for all movements and is likely to produce enhanced safety outcomes for some modes, such as for pedestrian crossing movements.

Intersection Sight Distance Assessment

Provision of safe sight distances at the proposed intersection is one of the key indicators of safety performance. Section 3.2 of the Austroads G*uide to Road Design Part 4A: Unsignalised and Signalised Intersections* sets out the minimum sight distances as well as the method of measurement. Table 9 to follow provides a summary of the observed and required sight distances at the proposed intersection.

The sight distance assessments in Table 9 below confirm that the observed sight distances are anticipated to comply with (and exceed) minimum sight distance requirements. On this basis, no adverse safety effects are anticipated with establishing the T-intersection at the proposed location.

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Table 8: Collector Road / Rewi Street Intersection – Crash injury prediction comparative evaluations

Assessed Access Arrangement	Land Use Scenario	Predicted injury crash rate (years per injury crash)								
		2023 Assessment Year			2031 Assessment Year			2041 Assessment Year		
		Priority T-intersection	Priority T-intersection with RTB	Single-lane roundabout	Priority T-intersection	Priority T-intersection with RTB	Single-lane roundabout	Priority T-intersection	Priority T-intersection with RTB	Single-lane roundabout
With just the Rewi Street & Wallace Terrace connections in place (i.e., without the Puniu Road connection)	70 dwellings within Area 1	12.0	18.5	7.7	9.6	14.8	6.6	9.6	14.8	6.6
	94 dwellings within Area 1	11.2	17.2	7.5	9.0	13.8	6.5	9.0	13.8	6.5
	70 dwellings within Area 1 and 150 dwellings within Area 2	8.8	13.6	6.7	7.2	11.1	5.9	7.2	11.1	5.9
	94 dwellings within Area 1 and 216 dwellings within Area 2	7.9	12.1	6.4	6.5	10.0	5.6	6.5	10	5.6
With both collector road connections to Rewi Street and Puniu Road in place	70 dwellings within Area 1 and 150 dwellings within Area 2	6.6	10.1	5.7	6.6	10.1	5.7	6.5	10.1	5.7
	94 dwellings within Area 1 and 216 dwellings within Area 2	6.0	9.2	5.4	6.0	9.2	5.4	5.9	9.2	5.4

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Table 9: Observed vs Required sight distances at the proposed intersection on Rewi Street

Assessed Direction	Posted Speed Limit	Design Speed[15]	Austroads minimum sight distance requirements	Achievable Sight Distances	Compliance with min. sight distance requirements
Approach Sight Distances (ASD) [16]					
Northbound on the proposed Collector Road	50 km/h	60 km/h	73 m	> 200m	Compliance expected
Safe Intersection Sight Distances (SISD)Error! Bookmark not defined.					
To the left of the proposed intersection (i.e., looking westwards on Rewi Street)	50 km/h	60 km/h	123 m	175 m	Compliance expected
To the right of the proposed intersection (i.e., looking eastwards on Rewi Street)	50 km/h	60 km/h	123 m	240 m	Compliance expected
Minimum Gap Sight Distances (MGSD)					
Left-turn from Collector Road onto Rewi Street[17]	50 km/h	60 km/h	> 167 m	175 m	Compliance expected
Right-turn from Rewi Street onto Collector Road[18]	50 km/h	60 km/h	67 m	240 m	Compliance expected
Right-turn from Collector Road onto Rewi StreetError! Bookmark not defined.	50 km/h	60 km/h	> 167 m	>175 m (looking both directions)	Compliance expected

5.2.2 Proposed Collector Road / Puniu Road Intersection

Intersection Efficiency Assessment

Table 10 below provides the intersection performance assessment for each of the scenarios identified in Section 5.1 above. Refer to **Attachment 3** for the SIDRA Intersection summaries, and **Attachment 5** for the turn warrants assessment.

As shown in the intersection performance assessments in Table 10:

- Without the Rewi Street connection in place, the proposed T-intersection with the identified auxiliary turning facilities is assessed as having sufficient capacity up to the 2041 horizon year to accommodate the predicted traffic demands from both the northern and southern developments.
- With the full collector road network established (and both connections to Rewi Street and Puniu Road in place), SIDRA modelling indicates that the proposed intersection configuration (a T-intersection with

[15] Posted speed limit + 10 km/h
[16] Sight distances based on a 2.0 second reaction time
[17] Based on a critical gap acceptance time > 14 seconds
[18] Based on a 4 second critical gap acceptance time

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auxiliary turning facilities on Puniu Road would have sufficient capacity up to the 2041 horizon year to accommodate the full structure plan traffic demands.

Intersection Crash Prediction Analysis

Similar to the assessments in Section 5.2, comparative evaluations have been made based on the injury crash prediction models described in Section 6 of the *Crash Estimation Compendium – New Zealand crash risk factors guideline* for the 2023, 2031 and 2041 future year demands. A summary of the findings from the injury crash prediction models is provided in Table 11.

Similar to the Rewi Street intersection crash prediction analysis:

- A standard T-intersection at this location is predicted to have a slightly lower injury crash rate compared to a single-lane roundabout.
- The predicted injury crash rate for a T-intersection at this location is expected to be significantly improved with the inclusion of a painted right turn bay on Puniu Road.

Intersection Sight Distance Assessment

Table 12 to follow provides a summary of the observed and required sight distances at the proposed intersection. The sight distance assessments in Table 11 below confirm that the observed sight distances are anticipated to comply with minimum sight distance requirements. On this basis, no adverse safety effects are anticipated with establishing the T-intersection at the proposed location.

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Table 10: Proposed Collector Road / Puniu Road - Intersection Performance Assessment Summary

Proposed Access Arrangement	Land Use Scenario	2031 Horizon Year		2041 Horizon Year	
		Austroads Turn Warrants Assessment	SIDRA Modelling Assessment	Austroads Turn Warrants Assessment	SIDRA Modelling Assessment
With just the Puniu Road & Wallace Terrace connections in place (i.e., without the Rewi Street connection)	150 dwellings within Area 2 (i.e., development threshold trigger requiring the collector road connection northwards to either Rewi Street or the Wallace Terrace extension)	Min. required turn treatment on Puniu Road: • Right-turn: Channelised right turn bay with a shorter turning lane. • Left-turn: Basic left-turn (i.e., shared through + left lane).	Intersection @ LOS A for both AM/PM periods. Worst movement @ LOS C. No queueing / delay on Puniu Road. 95th %-tile queues on Collector Road approach < 1.5 m.	Min. required turn treatment on Puniu Road: • Right-turn: Channelised right turn bay with a shorter turning lane. • Left-turn: Basic left-turn (i.e., shared through + left lane).	Intersection @ LOS A for both AM/PM periods. Worst movement @ LOS C. No queueing / delay on Puniu Road. 95th %-tile queues on Collector Road approach < 1.5 m.
	220 dwellings within the structure plan area (i.e., 70 dwellings within Area 1 and 150 dwellings within Area 2)	Min. required turn treatment on Puniu Road: • Right-turn: Channelised right turn bay with a shorter turning lane. • Left-turn: Auxiliary left turn bay with a shorter turning lane.	Intersection @ LOS A for both AM/PM periods. Worst movement @ LOS C. No queueing / delay on Puniu Road. 95th %-tile queues on Collector Road approach < 2.0 m.	Min. required turn treatment on Puniu Road: • Right-turn: Channelised right turn bay with a shorter turning lane. • Left-turn: Auxiliary left turn bay with a shorter turning lane.	Intersection @ LOS A for both AM/PM periods. Worst movement @ LOS C. No queueing / delay on Puniu Road. 95th %-tile queues on Collector Road approach < 2.0 m.
	310 dwellings within the structure plan area (i.e., 94 dwellings within Area 1 and 216 dwellings within Area 2)	Min. required turn treatment on Puniu Road: • Right-turn: Channelised right turn bay with a shorter turning lane. • Left-turn: Auxiliary left turn bay with a shorter turning lane.	Intersection @ LOS A for both AM/PM periods. Worst movement @ LOS C. No queueing / delay on Puniu Road. 95th %-tile queues on Collector Road approach < 2.5 m.	Min. required turn treatment on Puniu Road: • Right-turn: Channelised right turn bay with a shorter turning lane. • Left-turn: Auxiliary left turn bay with a shorter turning lane.	Intersection @ LOS A for both AM/PM periods. Worst movement @ LOS C. No queueing / delay on Puniu Road. 95th %-tile queues on Collector Road approach < 2.5 m.
With both collector road connections to Rewi Street and	220 dwellings within the structure plan area (i.e., 70 dwellings within Area 1 and 150 dwellings within Area 2)	Min. required turn treatment on Puniu Road: • Right-turn: Channelised right turn bay with a shorter turning lane.	Intersection @ LOS A for both AM/PM periods. Worst movement @ LOS C. No queueing / delay on Puniu Road. 95th %-tile queues on	Min. required turn treatment on Puniu Road: • Right-turn: Channelised right turn bay with a shorter turning lane.	Intersection @ LOS A for both AM/PM periods. Worst movement @ LOS C. No queueing / delay on Puniu Road. 95th %-tile queues on

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Proposed Access Arrangement	Land Use Scenario	2031 Horizon Year		2041 Horizon Year	
		Austroads Turn Warrants Assessment	SIDRA Modelling Assessment	Austroads Turn Warrants Assessment	SIDRA Modelling Assessment
Puniu Road in place		• Left-turn: Basic left-turn (i.e., shared through + left lane).	Collector Road approach < 2.0 m.	• Left-turn: Auxiliary left turn bay with a shorter turning lane.	Collector Road approach < 2.0 m.
	310 dwellings within the structure plan area (i.e., 94 dwellings within Area 1 and 216 dwellings within Area 2)	Min. required turn treatment on Puniu Road: • Right-turn: Channelised right turn bay with a shorter turning lane. • Left-turn: Auxiliary left turn bay with a shorter turning lane.	Intersection @ LOS A for both AM/PM periods. Worst movement @ LOS C. No queueing / delay on Puniu Road. 95th %-tile queues on Collector Road approach < 2.5 m.	Min. required turn treatment on Puniu Road: • Right-turn: Channelised right turn bay with a shorter turning lane. • Left-turn: Auxiliary left turn bay with a shorter turning lane.	Intersection @ LOS A for both AM/PM periods. Worst movement @ LOS C. No queueing / delay on Puniu Road. 95th %-tile queues on Collector Road approach < 2.5 m.

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Table 11: Collector Road / Puniu Road Intersection – Crash injury prediction comparative evaluations

Assessed Access Arrangement	Land Use Scenario	Predicted injury crash rate (years per injury crash)								
		2023 Assessment Year			2031 Assessment Year			2041 Assessment Year		
		Priority T-intersection	Priority T-intersection with RTB	Single-lane roundabout	Priority T-intersection	Priority T-intersection with RTB	Single-lane roundabout	Priority T-intersection	Priority T-intersection with RTB	Single-lane roundabout
With just the Puniu Road & Wallace Terrace connections in place (i.e., without the Rewi Street connection)	150 dwellings within Area 2	13.7	21.1	8.4	13.4	20.5	8.3	12.8	19.6	8.3
	70 dwellings within Area 1 and 150 dwellings within Area 2	12.2	18.7	8.0	11.9	18.3	7.9	11.4	17.6	7.9
	94 dwellings within Area 1 and 216 dwellings within Area 2	11.3	17.4	7.8	11.1	17.0	7.6	10.7	16.5	7.7
With both collector road connections to Rewi Street and Puniu Road in place	70 dwellings within Area 1 and 150 dwellings within Area 2	12.2	18.7	8.0	11.9	18.3	7.9	11.4	17.6	7.9
	94 dwellings within Area 1 and 216 dwellings within Area 2	11.3	17.4	7.8	11.1	17.0	7.6	10.7	16.5	7.7

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Table 12: Observed vs Required sight distances at the proposed intersection on Puniu Road / Pokuru Road

Assessed Direction	Posted Speed Limit	Design Speed[19]	Austroads minimum sight distance requirements	Achievable Sight Distances	Compliance with min. sight distance requirements
Approach Sight Distances (ASD) [20]					
Southbound on the proposed Collector Road	50 km/h	60 km/h	73 m	> 150m	Compliance expected
Safe Intersection Sight Distances (SISD)Error! Bookmark not defined.					
To the left of the proposed intersection (i.e., looking westwards on Pokuru Road)	80 km/h	90 km/h	181 m	195 m	Compliance expected
To the right of the proposed intersection (i.e., looking eastwards on Puniu Road)	50 km/h	60 km/h	123 m	> 200 m	Compliance expected
Minimum Gap Sight Distances (MGSD)					
Left-turn from Collector Road onto Puniu Road[21]	50 km/h	60 km/h	> 167 m	195 m	Compliance expected
Right-turn from Puniu Road onto Collector Road[22]	50 km/h	60 km/h	67 m	> 200 m	Compliance expected
Right-turn from Collector Road onto Rewi StreetError! Bookmark not defined.	50 km/h	60 km/h	> 167 m	>195 m (looking both directions)	Compliance expected

5.2.3 Assessment Overview

On the basis of the above efficiency, safety, and sight distance assessments, it is concluded that the proposed access intersections on Rewi Street and Puniu Road (as T-intersections with auxiliary turning facilities) would be sufficient (from both a capacity and safety perspective) to accommodate the predicted structure plan traffic demands.

[19] Posted speed limit + 10 km/h
[20] Sight distances based on a 2.0 second reaction time
[21] Based on a critical gap acceptance time > 14 seconds
[22] Based on a 4 second critical gap acceptance time

While the assessed T-intersection configurations do not align as well with Safe Systems principles compared to a roundabout or traffic signals, crash prediction models predicted a much lower injury crash rate at both intersections with the intersections designed as a T-intersection with right-turn facilities.

However, to better align with Safe Systems principles, the following supporting treatments could be incorporated into the intersection design to improve the safety of all road users:

- Raising the intersection to reduce vehicle operating speeds through the intersection;
- Traffic management/ traffic calming measures on the approaches to or at the intersection;
- Street lighting to improve the intersection visibility during the night-time and inclement weather conditions; and
- Sufficient advanced warning of the intersection (though either signs, road markings or both).

In terms of the proposed intersection on Puniu Road, given that it will be located at the existing urban/ rural edge of Te Awamutu township (where the posted speed limit transitions from 80 km/h to 50 km/h), it is further recommended that the existing 80/50 km/h speed threshold treatment be moved an appropriate distance (about 200-240m) west of the future intersection and established together with an urban/rural threshold. This would be located on a straight section of the road at about the western boundary of 16 Pokuru Road.

If the rezoning request is approved, the appropriate speed reduction and traffic management measures should be investigated and confirmed as part of the subsequent resource consent applications.

5.3 Effects Assessment - Adjoining Intersections

With any potential off-set timing in the construction of the northern section of the Collector Road and connection to Rewi Street (due to the reserve status), it is likely that access to the proposed structure plan area may, for a period, only be able to be provided via the proposed intersection on Puniu Road and local road connection to Wallace Terrace. While the assessments in Section 5.2.2 above confirm that the proposed Puniu Road intersection would be able to accommodate both the northern and southern developments without the Rewi Street connection (from both a capacity and safety perspective), a greater proportion of the overall structure plan traffic demands are anticipated to be carried by Wallace Terrace and the adjoining intersections.

The assessments in this section of the memo identify what, if any, traffic management measures are required on the immediate adjoining road network and intersections to mitigate any safety and/or efficiency effects as a result of the (temporarily) increased traffic volumes. The intersections assessed included the:

- Wallace Terrace / Fairview Road intersection;
- Teasdale Street / Downes Street intersection;
- Rewi Street / College Street / Downes Street intersection; and
- Puniu Road / Fairview Road intersection.

The efficiency performance was modelled using SIDRA Intersection 9.0, while the safety performance was assessed based on crash prediction models contained in Waka Kotahi's *Crash Estimation Compendium* –

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New Zealand crash risk factors guideline (Section 6.0). A summary of the intersection performance assessments is provided in Table 13below, while the SIDRA Intersection summaries and crash prediction model results are provided in **Attachment 3** and **Attachment 4** respectively.

The intersection performance assessments outlined in Table 13 below indicate the following:

- Without the Rewi Street connection in place:
  - With the exception of the Rewi Street / College Street intersection, the adjoining intersections are expected to continue operating at similar performance levels as the baseline scenarios (LOS A/B) through to the 2041 assessment year.
  - While the Rewi Street / College Street intersection is anticipated to operate at acceptable levels of service for each of the assessed scenarios, vehicles on the Downes Street approach are anticipated to experience moderate delays, with the LOS deteriorating from LOS C to LOS E as development within the structure plan area is advanced.
  - The frequency of injury crashes at the Wallace Terrace / Fairview Road and Teasdale Street / Downes Street intersections is predicted to increase significantly (by approximately 30-40%) as development within both the northern and southern developments is advanced.
  - While a more moderate increase (by approximately 10-15%) in the frequency of injury crashes is predicted at the Rewi Street / College Street intersection, the predicted injury crash rate at the Puniu Road / Fairview Road is expected to remain within similar levels as the baseline scenarios.
- With the full Collector Road network in place (including both connections to Rewi Street and Puniu Road):
  - No adverse capacity effects are anticipated at all four adjoining intersections with the predicted structure plan traffic demands added to the 2031/41 baseline traffic demands.
  - With the exception of the Rewi Street / College Street intersection, the injury crash rate at the adjoining intersections is predicted to return to/ remain within similar levels as the baseline scenarios. A moderate to significant increase in the frequency of injury crashes at the Rewi Street / College Street intersection is anticipated (an approximately 15-20% increase).

On the basis of these assessments, it is assessed that:

- It is necessary to mitigate the potential for adverse pedestrian, cyclist or traffic speed effects on Wallace Terrace together with associated potential impacts further afield where use of this street has the potential to exceed the long-term full structure plan outcome. A traffic management response on Wallace Terrace will also minimise the potential traffic movements along this corridor, encouraging distribution via the Collector Road at Rewi Street and Puniu Road.
- Prior to development involving more than 70 dwellings in Area 1 pedestrian, cycle and traffic speed management safety improvement measures should be implemented on Wallace Terrace. The recommendations described below address this outcome.

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Table 13: Existing adjoining intersections - Performance Summary with progressive development of the proposed structure plan area

Intersection	Wallace Terrace / Fairview Road Intersection	Downes Street / Teasdale Street Intersection	Rewi Street / College Street Intersection	Puniu Road / Fairview Road Intersection
2031 Baseline				
SIDRA Modelling Assessment	Intersection @ LOS A for both AM/PM periods. Worst movement @ LOS A. Minimal queueing and delays on all approaches	Intersection @ LOS A for both AM/PM periods. Worst movement @ LOS A. Minimal queueing and delays on all approaches	Intersection @ LOS A for both AM/PM periods. Worst movement @ LOS C. Minimal queueing and delays on all approaches.	Intersection @ LOS A, and worst movement @ LOS A. Minimal queueing and delays on all approaches
Crash Injury Prediction	Predicted crash injury frequency @ one injury crash approximately every 11.7 years	Predicted crash injury frequency @ one injury crash approximately every 12.0 years	Predicted crash injury frequency @ one injury crash approximately every 7.7 years	Predicted crash injury rate @ one injury crash approximately every 10.6 years
2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings) with the proposed Puniu Road intersection & Wallace Terrace extension only				
SIDRA Modelling Assessment	No change in LOS with additional structure plan traffic demands. Minimal queueing and delays on all approaches	No change in LOS with additional structure plan traffic demands. Minimal queueing and delays on all approaches	No change in intersection LOS. Worst movement now @ LOS D. Minor increase in 95th %-tile queues and average delays. Worst 95th %-tile queue length < 30 m	No change in LOS with additional structure plan traffic demands. Minimal increase in 95th %-tile queues and average delays
Crash Injury Prediction	Significant increase (approx. 30%) in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 8.2 years	Significant increase (approx. 36%) in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 7.7 years	A notable increase (approx. 11%) in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 6.8 years	A minimal increase (approx. 4%) in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 10.1 years
2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings) with both Collector Road connections to Rewi Street and Puniu Road in place				
SIDRA Modelling Assessment	No change in LOS with additional structure plan traffic demands. Minimal queueing and delays on all approaches	No change in LOS with additional structure plan traffic demands. Minimal queueing and delays on all approaches	No change in intersection LOS. Worst movement now @ LOS D. Minimal increase in 95th %-tile queues and average delays. Worst 95th %-tile queue length < 25 m	No change in LOS with additional structure plan traffic demands. Minimal increase in 95th %-tile queues and average delays

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Intersection	Wallace Terrace / Fairview Road Intersection	Downes Street / Teasdale Street Intersection	Rewi Street / College Street Intersection	Puniu Road / Fairview Road Intersection
Crash Injury Prediction	A minor increase (approx. 5%) in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 11.2 years	A minor increase (approx. 5%) in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 11.4 years	A moderate increase (approx. 17%) in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 6.4 years	A minor increase (approx. 4%) in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 10.1 years
2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings) with the proposed Puniu Road intersection & Wallace Terrace extension only				
SIDRA Modelling Assessment	No change in intersection LOS. Worst movement now @ LOS B. Minimal increase in 95th %-tile queues and average delays	No change in LOS with additional structure plan traffic demands. Minimal increase in 95th %-tile queues and average delays	No change in intersection LOS. Worst movement now @ LOS D. More notable increase in 95th %-tile queues and average delays. Worst 95th %-tile queue length < 40 m	No change in intersection LOS. Worst movement @ LOS D. Minimal increase in 95th %-tile queues and average delays
Crash Injury Prediction	Significant increase (approx. 36%) in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 7.5 years	Significant increase (approx. 42%) in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 6.9 years	A notable increase (approx. 14%) in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 6.6 years	A minor increase (approx. 6%) in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 10.0 years
2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings) with both Collector Road connections to Rewi Street and Puniu Road in place				
SIDRA Modelling Assessment	No change in LOS with additional structure plan traffic demands. Minimal increase in 95th %-tile queues and average delays	No change in LOS with additional structure plan traffic demands. Minimal increase in 95th %-tile queues and average delays	No change in intersection LOS. Worst movement @ LOS D. Minimal increase in 95th %-tile queues and average delays. Worst 95th %-tile queue length < 25 m	No change in LOS with additional structure plan traffic demands. Minimal increase in 95th %-tile queues and average delays
Crash Injury Prediction	A minor increase (approx. 5%) in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 11.2 years	A minor increase (approx. 5%) in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 11.4 years	A significant increase (approx. 21%) in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 6.0 years	A minor increase (approx. 6%) in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 10 years
2041 Baseline				

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Intersection	Wallace Terrace / Fairview Road Intersection	Downes Street / Teasdale Street Intersection	Rewi Street / College Street Intersection	Puniu Road / Fairview Road Intersection
SIDRA Modelling Assessment	No change in LOS with additional structure plan traffic demands. Minimal queueing and delays on all approaches.	No change in LOS with additional structure plan traffic demands. Minimal queueing and delays on all approaches.	No change in intersection LOS. Worst movement @ LOS D. Minimal queueing and delays on all approaches. Worst 95th %-tile queue length < 25 m	No change in LOS with additional structure plan traffic demands. Minimal increase in 95th %-tile queues and average delays
Crash Injury Prediction	Predicted crash injury frequency @ one injury crash approximately every 10.5 years	Predicted crash injury frequency @ one injury crash approximately every 10.7 years	Predicted crash injury frequency @ one injury crash approximately every 7.6 years	Predicted crash injury rate @ one injury crash approximately every 9.8 years
2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings) with the proposed Puniu Road intersection & Wallace Terrace extension only				
SIDRA Modelling Assessment	No change in LOS with additional structure plan traffic demands. Minimal increase in 95th %-tile queues and average delays	No change in LOS with additional structure plan traffic demands. Minimal increase in 95th %-tile queues and average delays	No change in intersection LOS. Worst movement @ LOS D. Minor increase in 95th %-tile queues and average delays. Worst 95th %-tile queue length < 40 m	No change in LOS with additional structure plan traffic demands. Minimal increase in 95th %-tile queues and average delays
Crash Injury Prediction	Significant increase (approx. 28%) in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 7.6 years	Significant increase (approx. 33%) in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 7.1 years	A notable increase (approx. 11%) in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 6.7 years	A minor increase (approx. 4%) in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 9.4 years
2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings) with both Collector Road connections to Rewi Street and Puniu Road in place				
SIDRA Modelling Assessment	No change in LOS with additional structure plan traffic demands. Minimal increase in 95th %-tile queues and average delays	No change in LOS with additional structure plan traffic demands. Minimal increase in 95th %-tile queues and average delays	No change in intersection LOS. Worst movement @ LOS D. Minimal increase in 95th %-tile queues and average delays. Worst 95th %-tile queue length < 30 m	No change in LOS with additional structure plan traffic demands. Minimal increase in 95th %-tile queues and average delays
Crash Injury Prediction	A minor increase (approx. 4%) in the predicted crash frequency compared to baseline scenario @	A minor increase (approx. 4%) in the predicted crash frequency compared to baseline scenario @	A moderate increase (approx. 17%) in the predicted crash frequency compared to baseline scenario @	A minor increase (approx. 4%) in the predicted crash frequency compared to baseline scenario @

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Intersection	Wallace Terrace / Fairview Road Intersection	Downes Street / Teasdale Street Intersection	Rewi Street / College Street Intersection	Puniu Road / Fairview Road Intersection
	one injury crash approximately every 10.1 years	one injury crash approximately every 10.3 years	one injury crash approximately every 6.3 years	one injury crash approximately every 9.4 years
2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings) with the proposed Puniu Road intersection & Wallace Terrace extension only				
SIDRA Modelling Assessment	No change in intersection LOS. Worst movement now @ LOS B. Minimal increase in 95th %-tile queues and average delays	No change in LOS with additional structure plan traffic demands. Minimal increase in 95th %-tile queues and average delays	No change in intersection LOS. Worst movement now @ LOS E. More notable increase in 95th %-tile queues and average delays. Worst 95th %-tile queue length < 45 m	No change in LOS with additional structure plan traffic demands. Minimal increase in 95th %-tile queues and average delays
Crash Injury Prediction	Significant increase (approx. 33%) in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 7.0 years	Significant increase (approx. 39%) in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 6.5 years	A notable increase (approx. 13%) in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 6.6 years	A minor increase (approx. 5%) in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 9.3 years
2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings) with both Collector Road connections to Rewi Street and Puniu Road in place				
SIDRA Modelling Assessment	No change in LOS with additional structure plan traffic demands. Minimal increase in 95th %-tile queues and average delays	No change in LOS with additional structure plan traffic demands. Minimal increase in 95th %-tile queues and average delays	No change in intersection LOS. Worst movement @ LOS D. More notable increase in 95th %-tile queues and average delays. Worst 95th %-tile queue length < 30 m	No change in LOS with additional structure plan traffic demands. Minimal increase in 95th %-tile queues and average delays
Crash Injury Prediction	A minor increase (approx. 4%) in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 10.1 years	A minor increase (approx. 4%) in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 10.3 years	A significant increase (approx. 21%) in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 6.0 years	A minimal increase (approx. 5%) in the predicted crash frequency compared to baseline scenario @ one injury crash approximately every 9.3 years

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6. Conclusions

The key conclusions from this assessment are summarised as follows:

- It is desirable to allow flexibility for development within the whole of the structure plan area (in terms of access provision), while managing the potential consequential traffic effects on the immediate adjoining road network.
- For development within the northern site, it is assessed that access to the initial stages could be provided via a local road connection to Wallace Terrace. The Collector Road connection to either Rewi Street or Puniu Road is assessed as being required once approximately 70 residential dwellings are developed within the northern site (Area 1).
- For development within the southern site, access could either be provided via the proposed intersection on Puniu Road (the proposed Collector Road / Puniu Road intersection would need to be established as a T-intersection with a channelised right-turn bay on Puniu Road), or via the Collector Road connection from the northern development and Rewi Street (the proposed Collector Road / Rewi Street intersection would need to be established as a T-intersection with a right-bay and short left-turn lane on Rewi Street).
- If access to the southern development is provided via the proposed intersection on Puniu Road, the Collector Road connection northwards to either Rewi Street or the Wallace Terrace extension is assessed as being required once 150 residential dwellings are developed within the southern development. The collector road connection between Area 1 and Area 2 is required to meet local safety outcomes.
- Long term, the northern Rewi Street intersection is expected to carry a greater proportion of the overall traffic demand generated within the structure plan area. However, delivery of this key road connection will likely take some time. Prior to this linkage being in place and so as to not delay development, it is assessed that the Collector Road / Puniu Road intersection and local road connection to Wallace Terrace could accommodate up to 150 dwellings, subject to pedestrian, cycle and traffic speed management measures being implemented on Wallace Terrace to mitigate potential adverse safety effects resulting from the temporary increase in the daily traffic demands at these locations.
- Prior to development of more than 220 dwellings across the whole of the structure plan area it is concluded the full Collector Road inclusive of the intersections with Rewi Street and Puniu Road should be formed.
- The proposed intersections on Rewi Street and Puniu Road as T-intersections with the auxiliary right-turning facilities described above (and additional safety treatments such as raising the intersection or some approaches, street lighting, signage, and markings), are assessed as being able to accommodate the full T4 Structure Plan development up to the 2041 horizon year.
- Further key considerations in terms of staging intersection form should consider the potential additional cost impacts of construction together with the different road formation, drainage, utilities, and servicing requirements as well as future potential traffic disruption resulting from a change. The following recommendations address this.

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7. Recommended Staging Provisions

On the basis of these assessments, the following staging is recommended for the structure plan:

Where development within the structure plan area occurs, it shall be subject to the following staging provisions:

- *Development within Area 1:*
  - *Up to 70 dwellings may be established with vehicular access to Wallace Terrace only and including a pedestrian / cycle link through the General Reserve area linking the early development area with Rewi Street;*
  - *Development of more than 70 dwellings within Area 1 shall be preceded by either:*
    - i. *Formation of the Collector Road, including its intersection with Rewi Street, OR*
    - ii. *Formation of the Collector Road connection between Area 1 and Area 2, AND*
      - *a) the Collector Road to and including the intersection with Puniu Road together with;*
      - *b) completion of the pedestrian path network on the western side of Wallace Terrace; and*
      - *c) a safe speed traffic management implementation on Wallace Terrace between Area 1 and Fairview Road.*
- *Development within Area 2:*
  - *Up to 150 dwellings, the Collector Road intersection with Puniu Road shall be formed together with a speed threshold and shift of the urban speed environment west of the intersection, on Pokuru Road;*
  - *Prior to development of more than 150 dwellings within Area 2:*
    - iii. *The Collector Road connection between Area 1 and Area 2 and the local road connection between the Collector Road and Wallace Terrace shall be formed including:*
      - *a) the Collector Road to and including the intersection with Puniu Road together with;*
      - *b) completion of the pedestrian path network on the western side of Wallace Terrace; and*
      - *c) a safe speed traffic management implementation on Wallace Terrace between Area 1 and Fairview Road; OR*
    - iv. *The Collector Road connection between Area 1 and Area 2 inclusive of the Collector Road intersection with Rewi Street shall be formed;*
- *Prior to development of more than 220 dwellings across the whole of the structure plan area the Collector Road including its intersections with Rewi Street and Puniu Road shall be formed.*
- *The form of the Collector Road intersections with Rewi Street and Puniu Road shall be either a T-intersection with painted right turn bay, a single lane roundabout, or other intersection as determined to the satisfaction of the Roading Manager – Waipā District Council.*

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- *Where the Collector Road intersections with Rewi Street and/or Puniu Road are to be staged by formation of a T-intersection, the full cost provision including alteration works requirements needed to establish the long-term single lane roundabout shall be borne by the structure plan and provisioned for within the development contributions provisions of the District Plan.*

Yours sincerely

Stantec New Zealand

Rhulani Mothelesi BEng(Civil), BEngHons(Transportation), CMEngNZ

Senior Traffic Engineer
Phone: +64 7 839 9860
rhulani.mothelesi@stantec.com

Attachment 1:2031/41 AM and PM peak turning movement network plots

Attachment 2: 2023/31/41 ADT Summary Tables

Attachment 3: SIDRA Intersection Movement Summaries

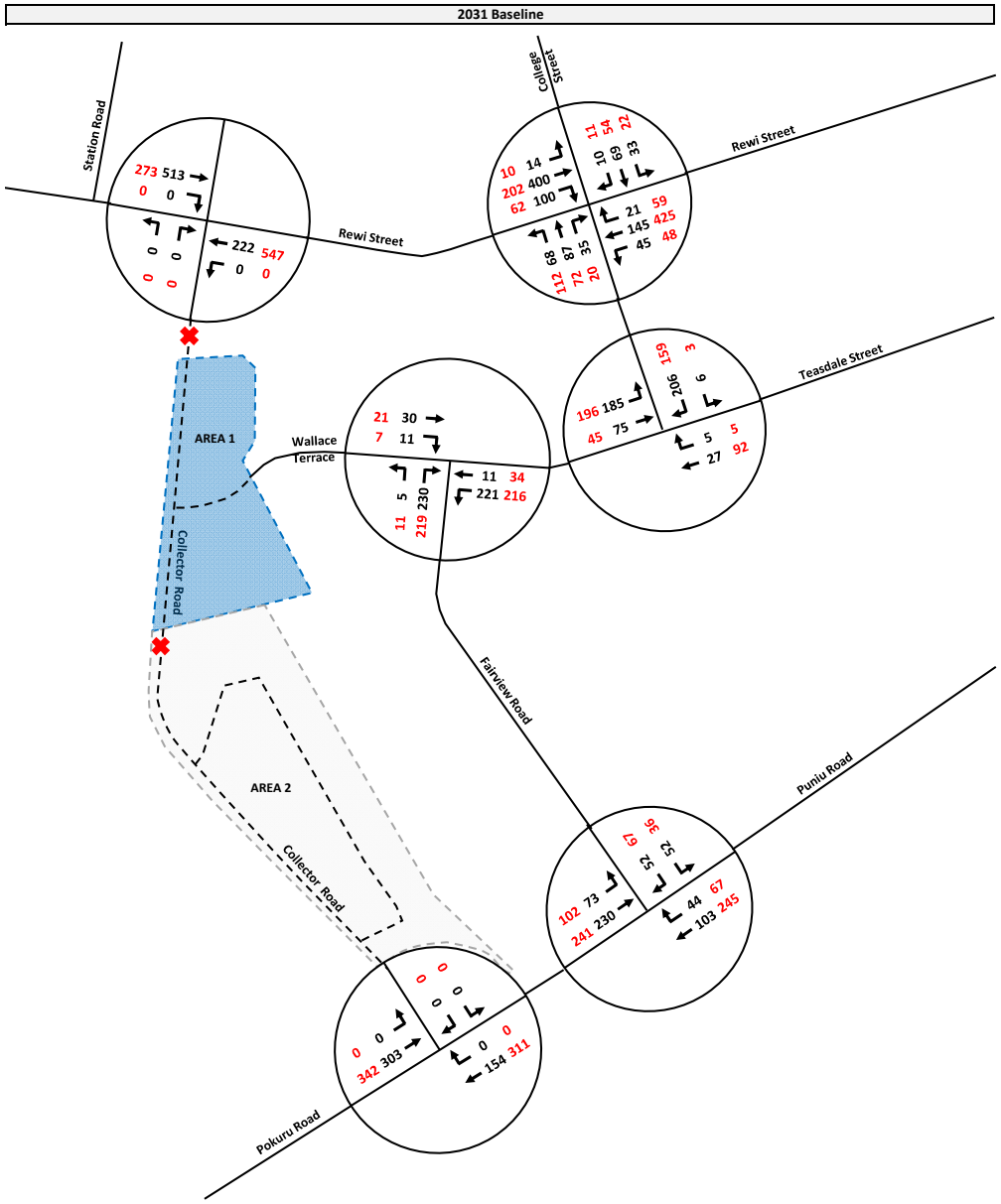
Attachment 4: Crash Estimation Compendium Safety Assessment Summaries

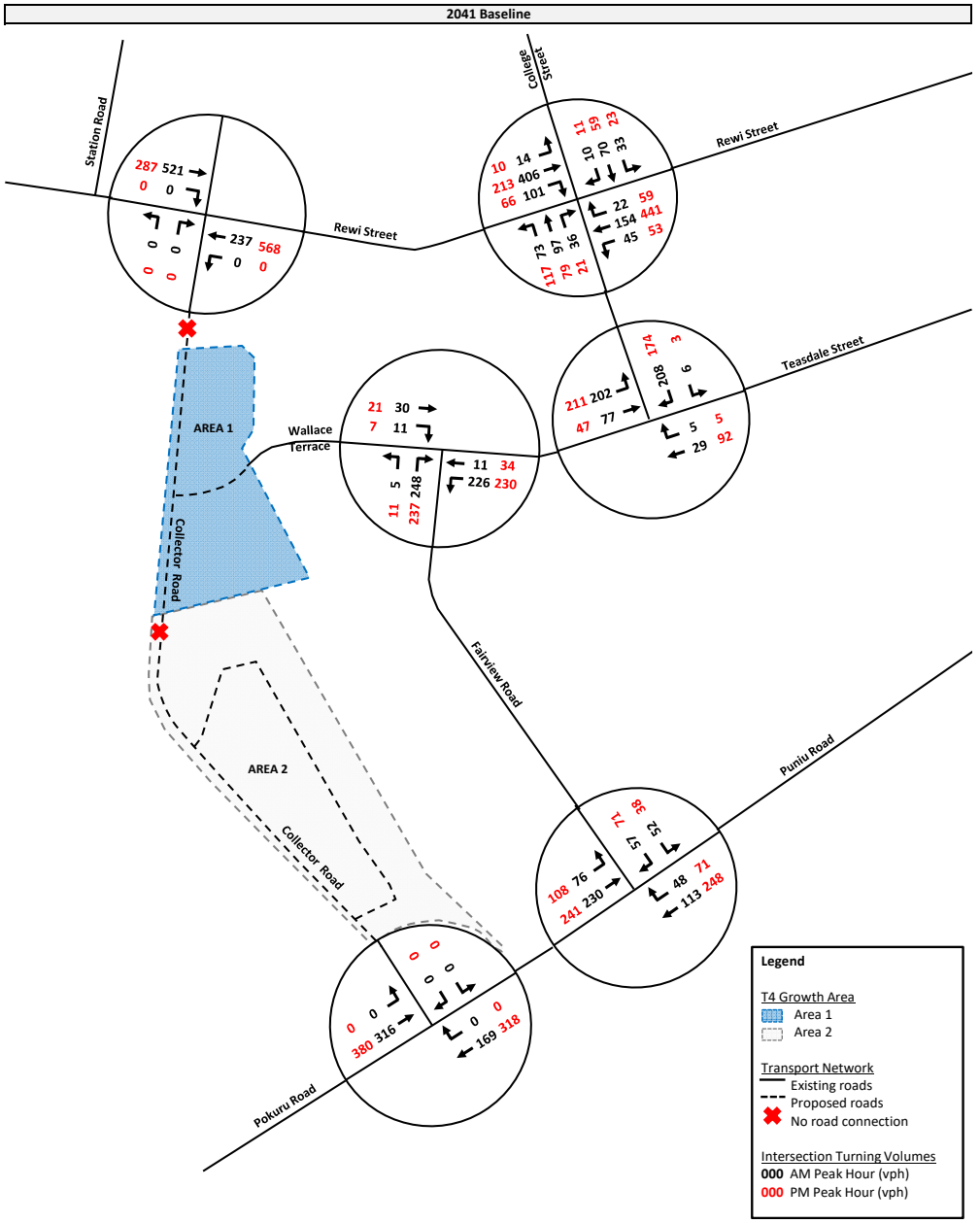
Attachment 5: Turn Warrant Assessment Summaries

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Attachment 1: 2031/41 AM and PM peak turning movement network plots

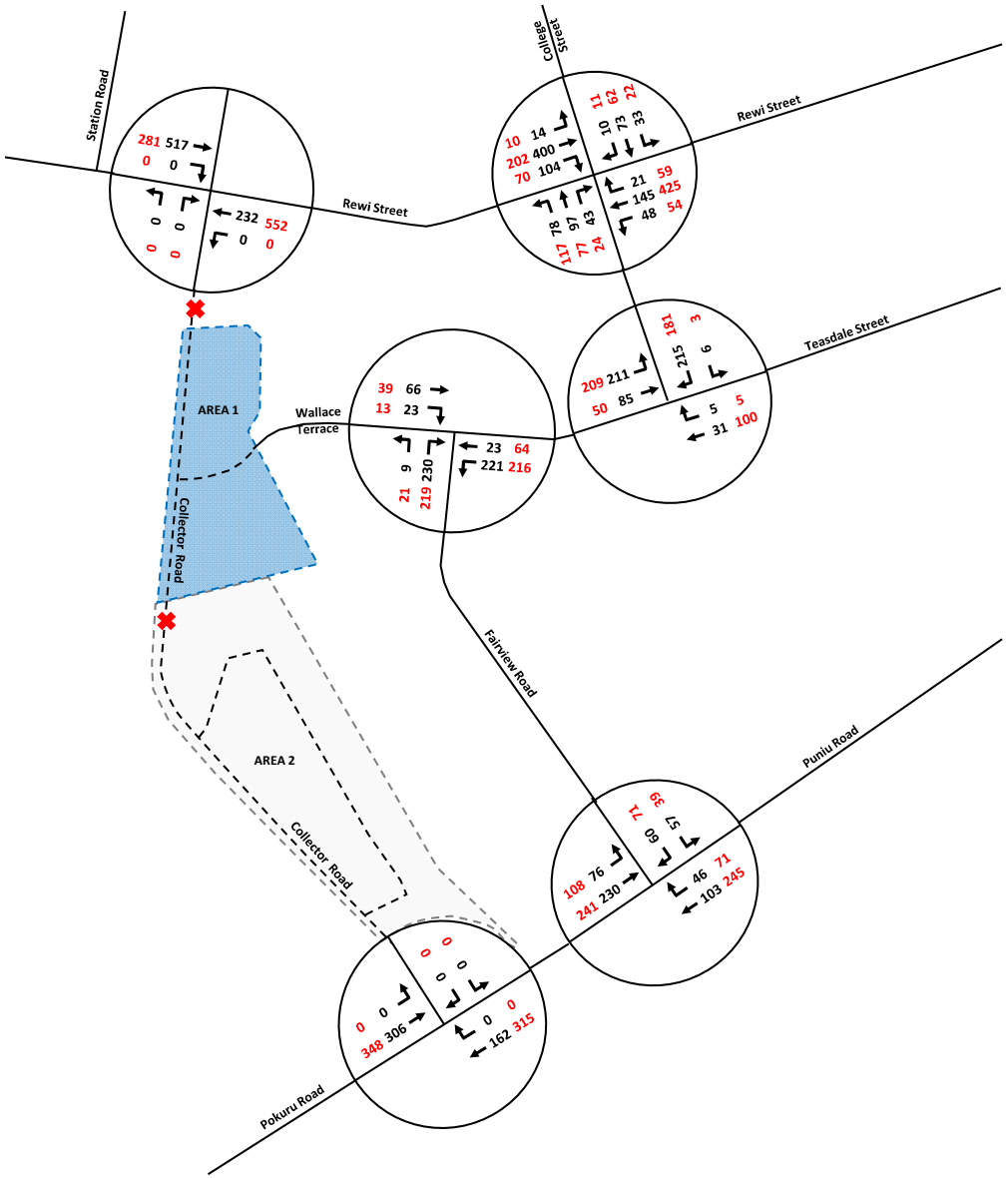
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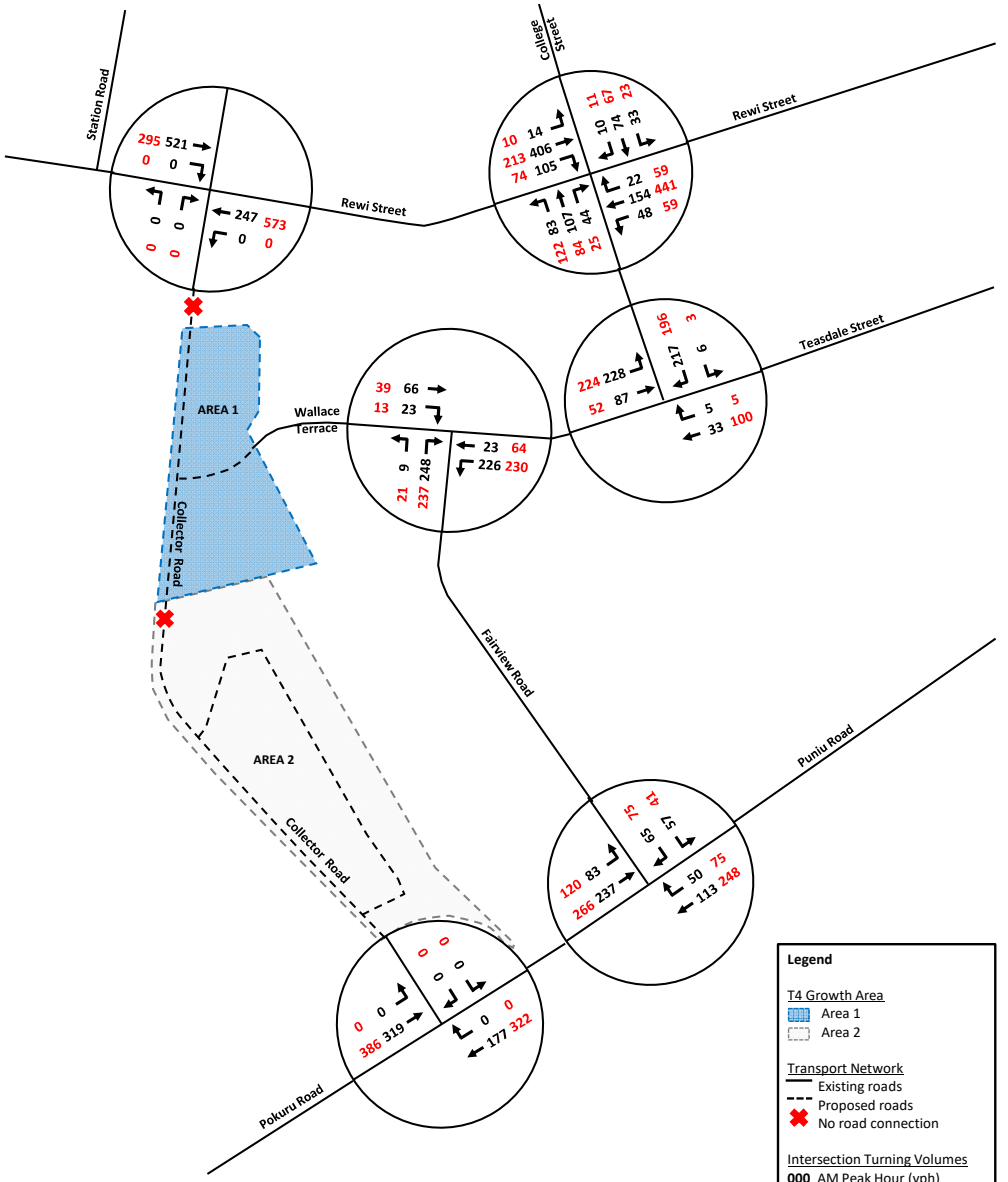


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2031 Baseline + Area 1 (70 dwelling units) with Wallace Terrace connection only

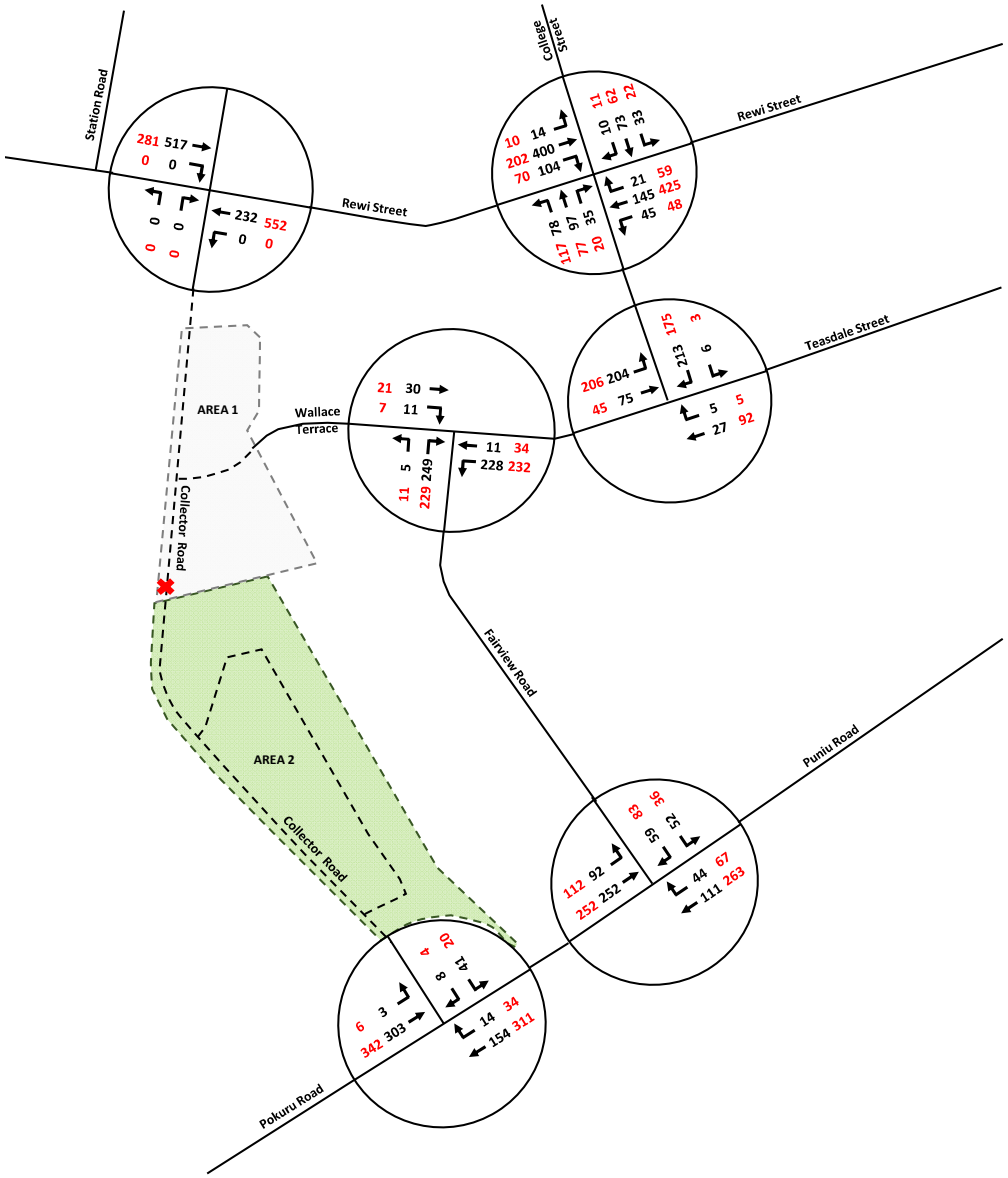


2041 Baseline + Area 1 (70 dwelling units) with Wallace Terrace connection only

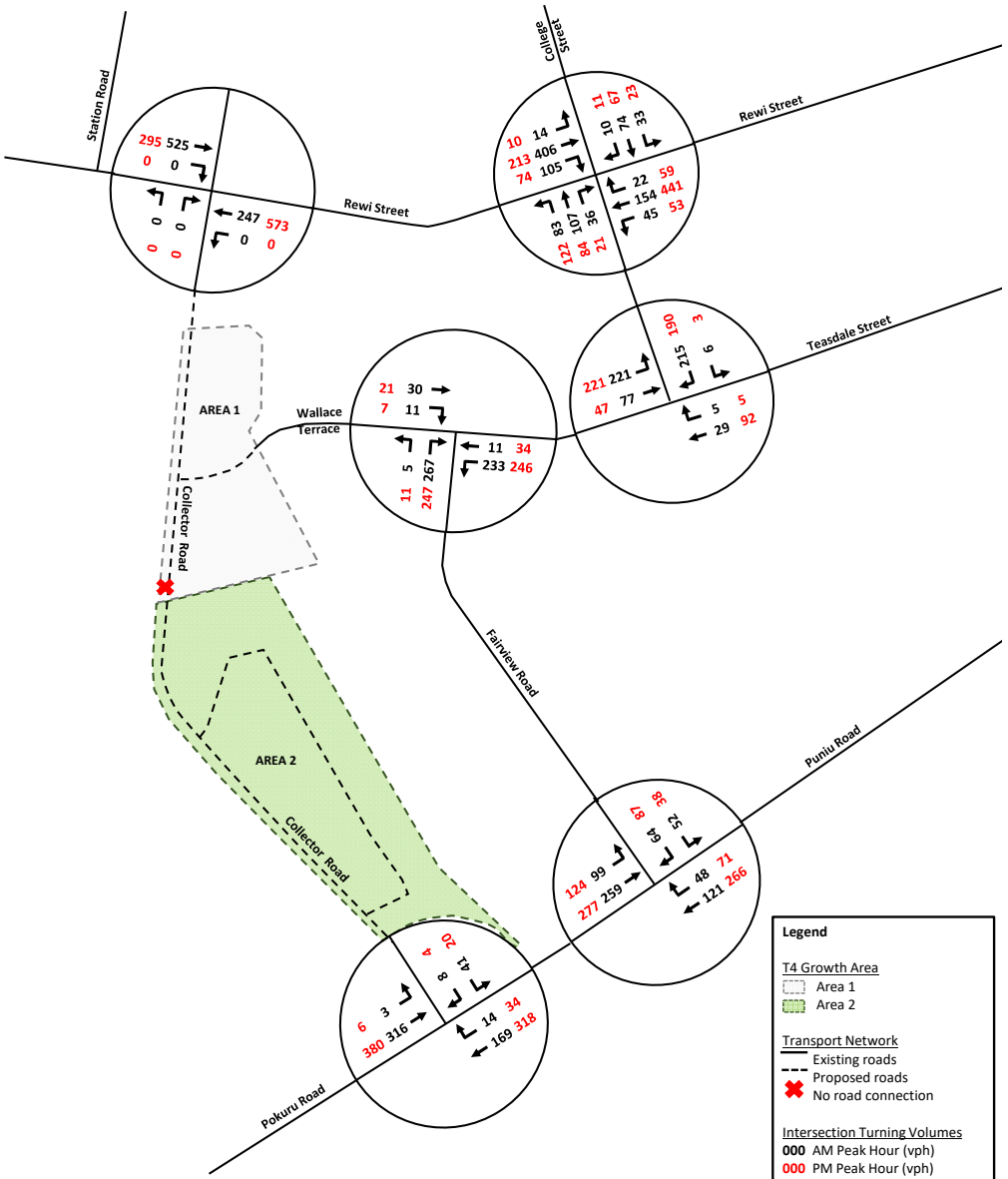


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2031 Baseline + Area 2 (70 dwellings) with Puniu Road connection only

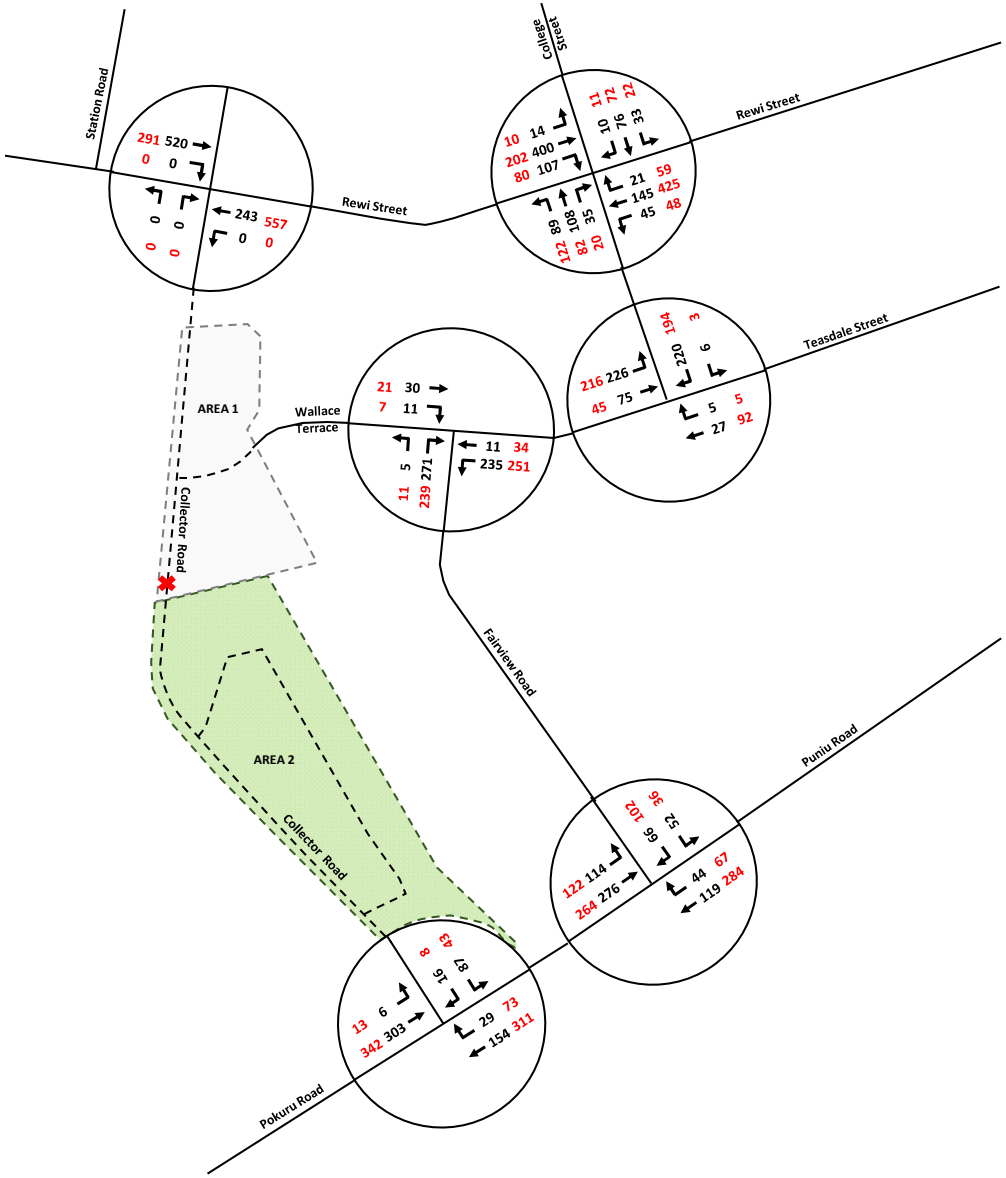


2041 Baseline + Area 2 (70 dwellings) with Puniu Road connection only

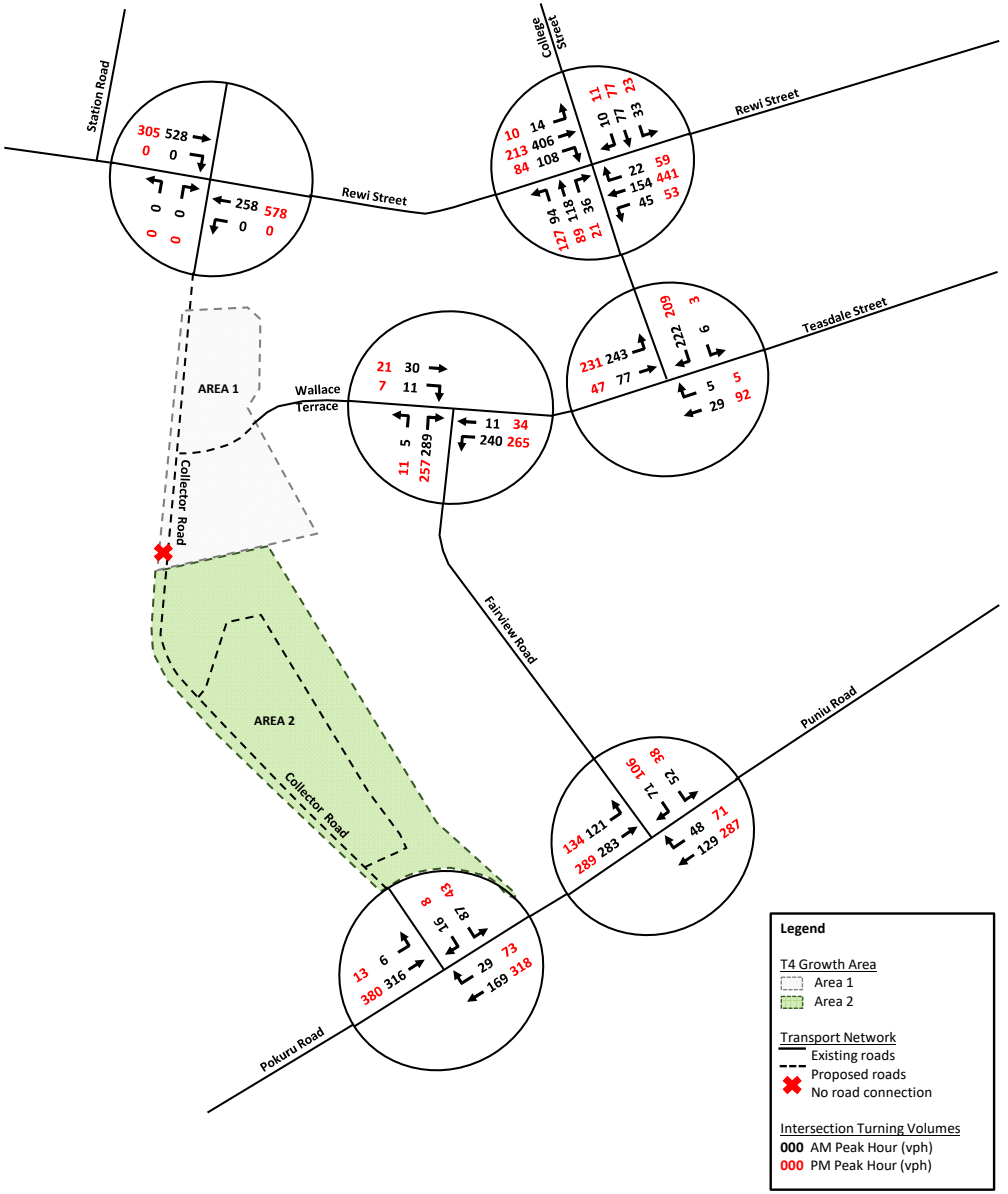


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2031 Baseline + Area 2 (150 dwellings) with Puniu Road connection only

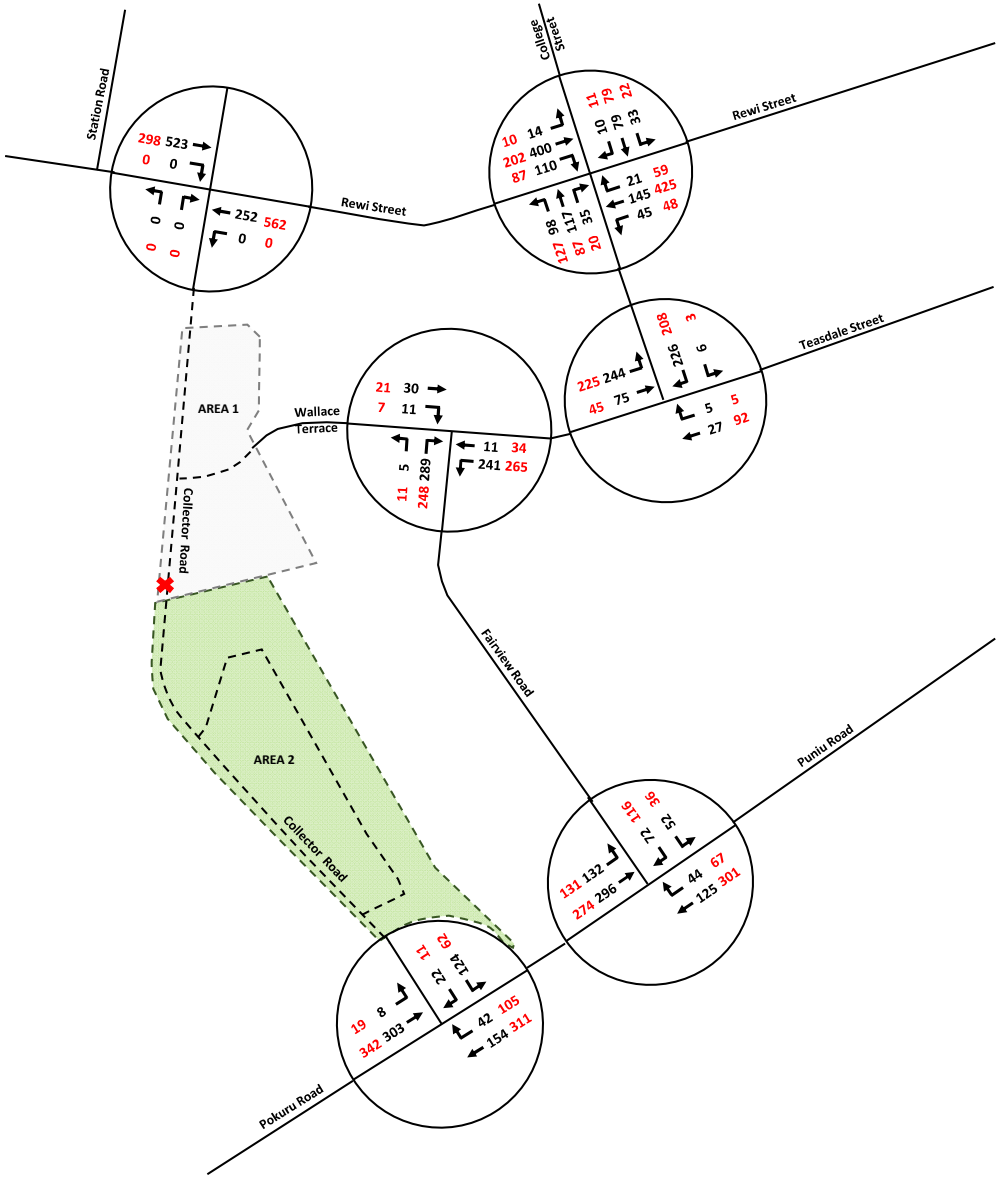


2041 Baseline + Area 2 (150 dwellings) with Puniu Road connection only

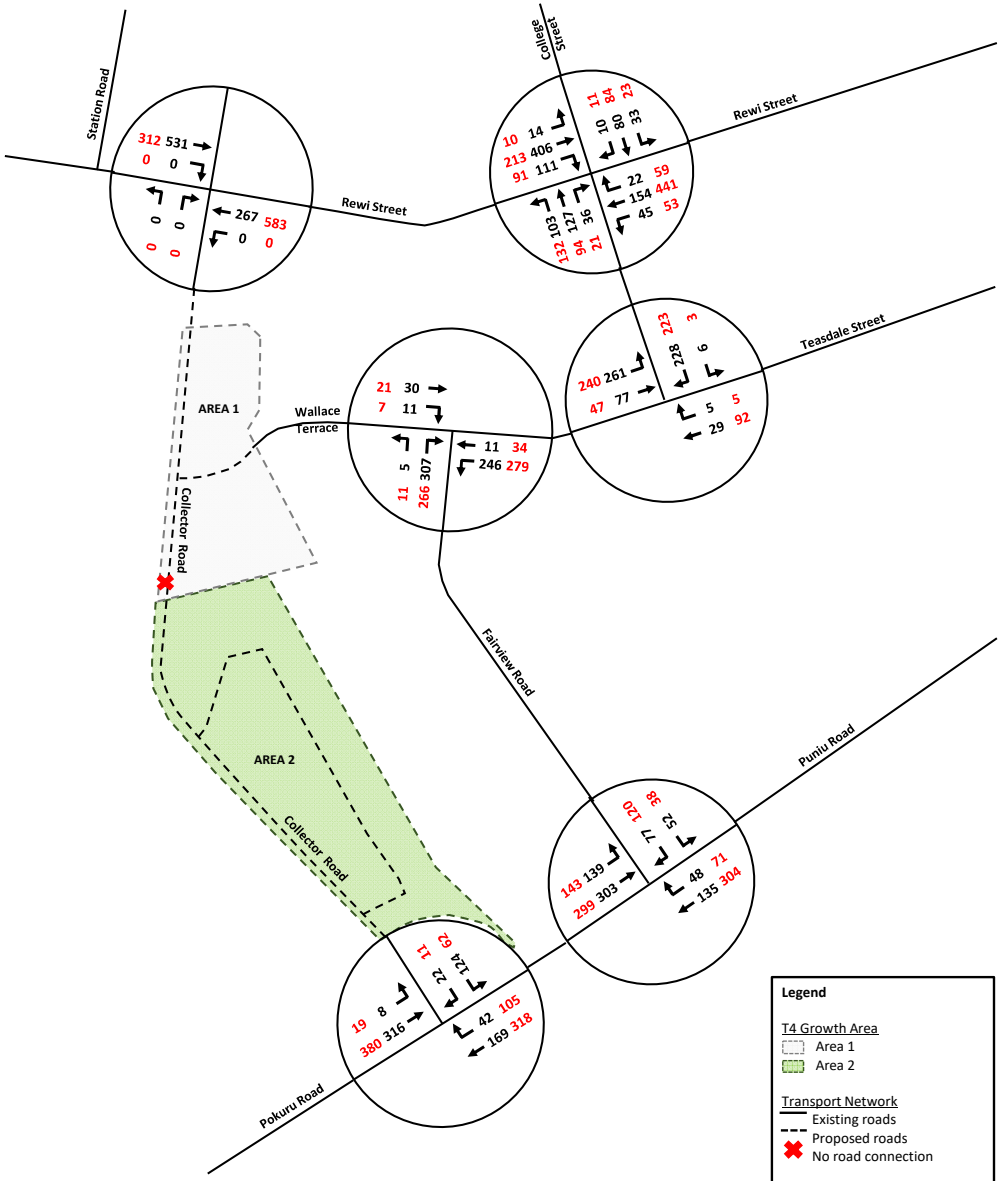


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2031 Baseline + Area 2 (216 dwellings) with Puniu Road connection only

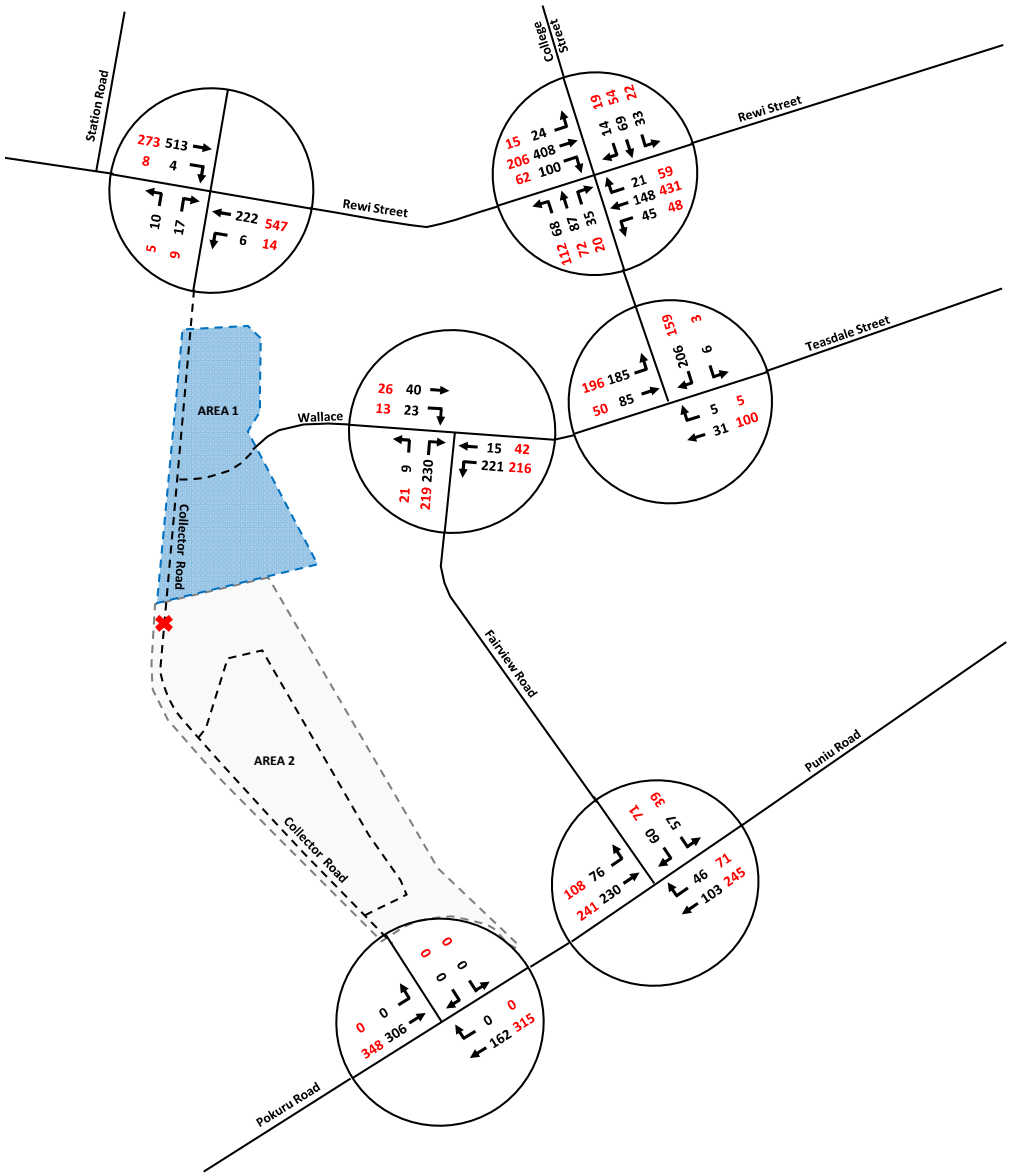


2041 Baseline + Area 2 (216 dwellings) with Puniu Road connection only

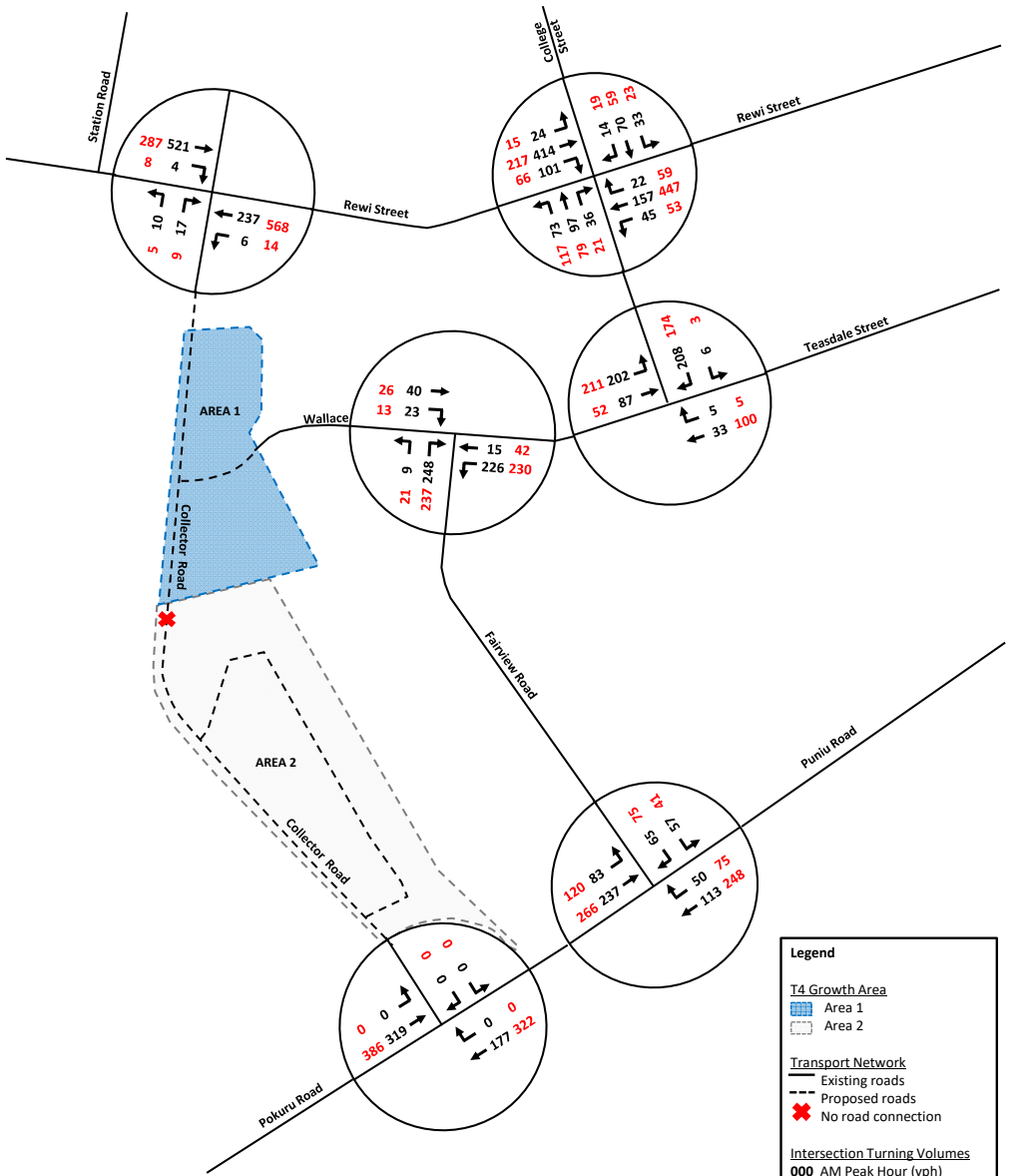


Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

2031 Baseline + Area 1 (70 dwelling units) with Wallace Terrace & Rewi Street connections



2041 Baseline + Area 1 (70 dwelling units) with Wallace Terrace & Rewi Street connections



Legend

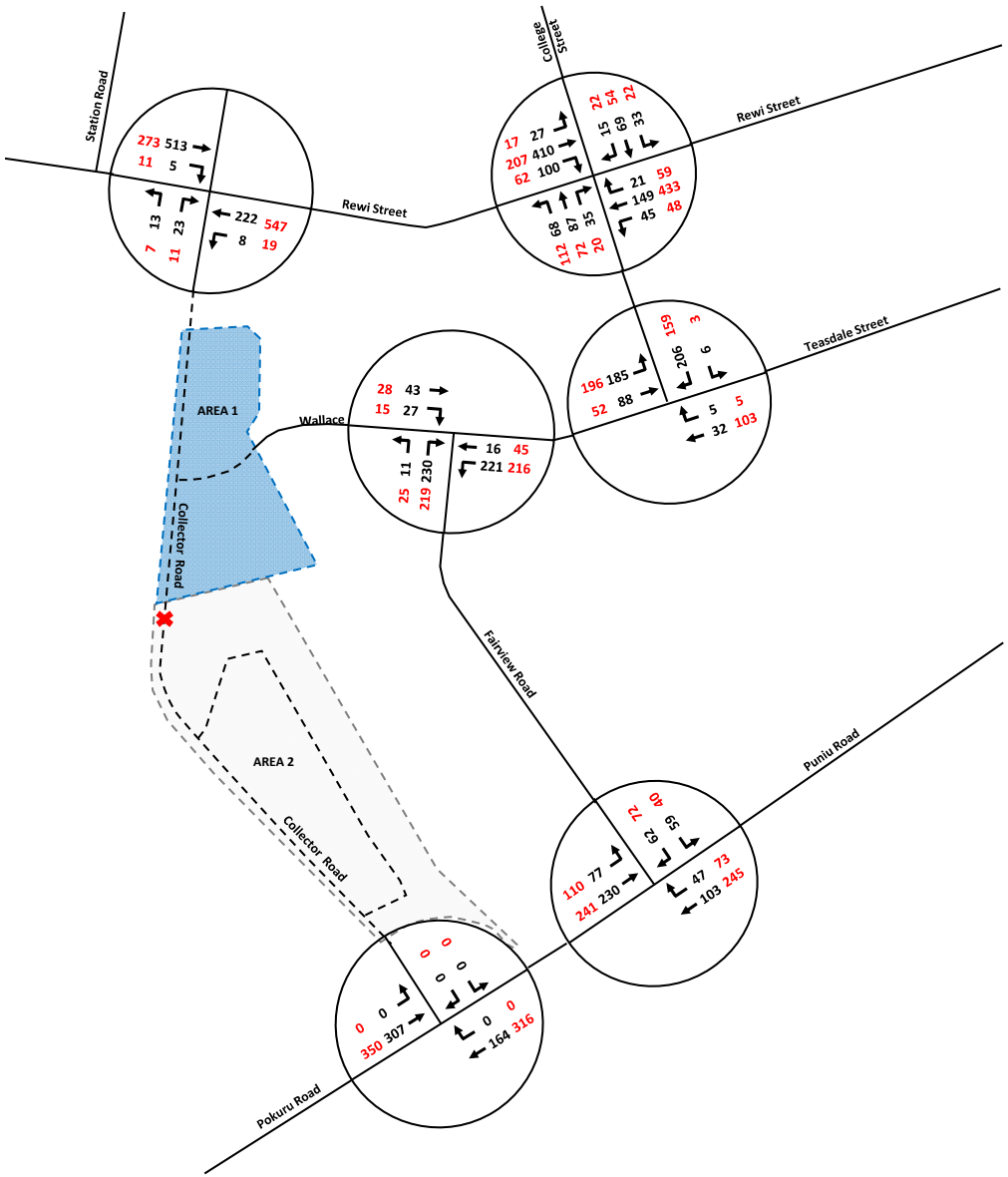
T4 Growth Area
- Area 1
- Area 2

Transport Network
- Existing roads
- Proposed roads
- No road connection

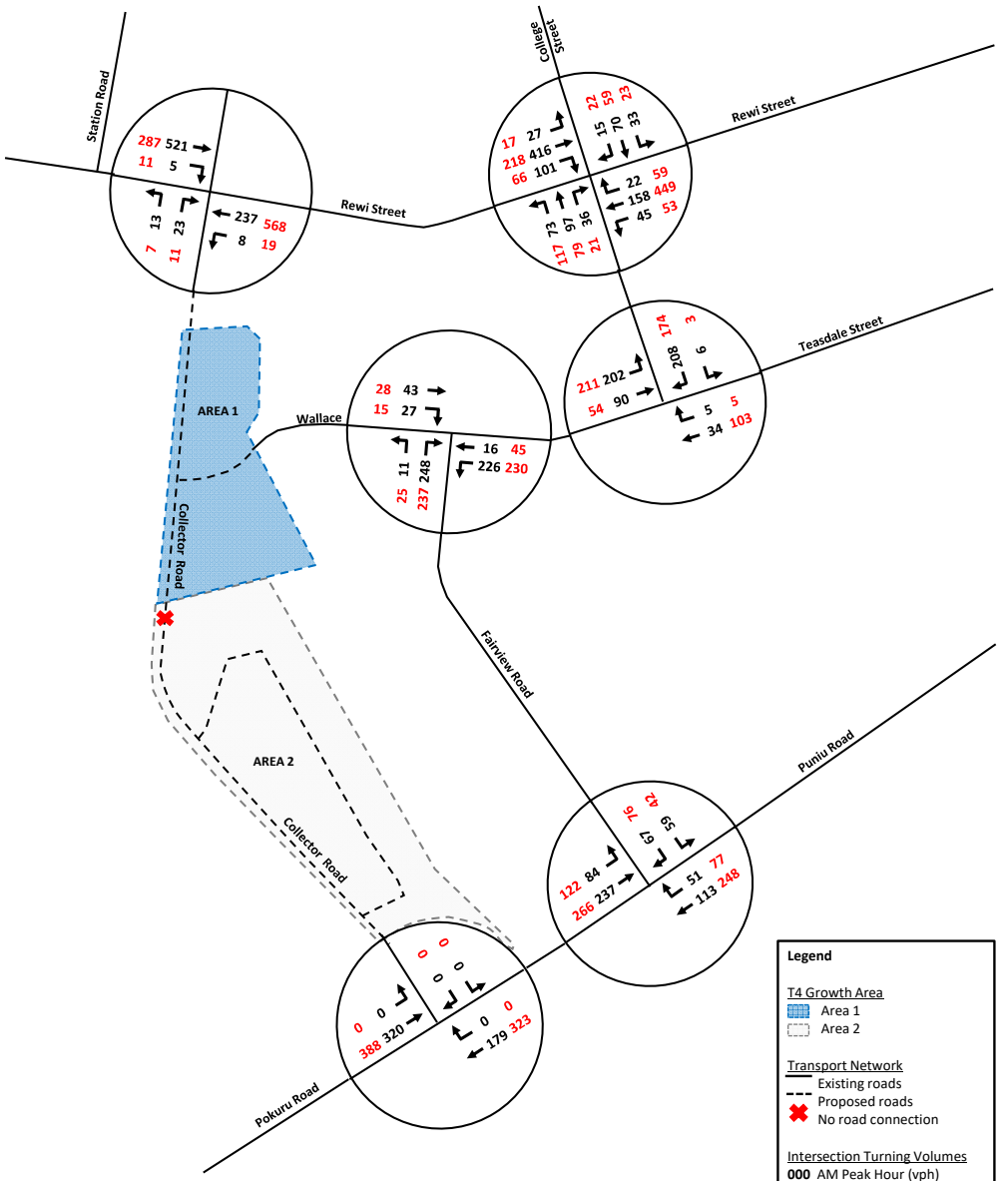
Intersection Turning Volumes
- 000 AM Peak Hour (vph)
- 000 PM Peak Hour (vph)

Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

2031 Baseline + Area 1 (94 dwelling units) with Wallace Terrace & Rewi Street connections

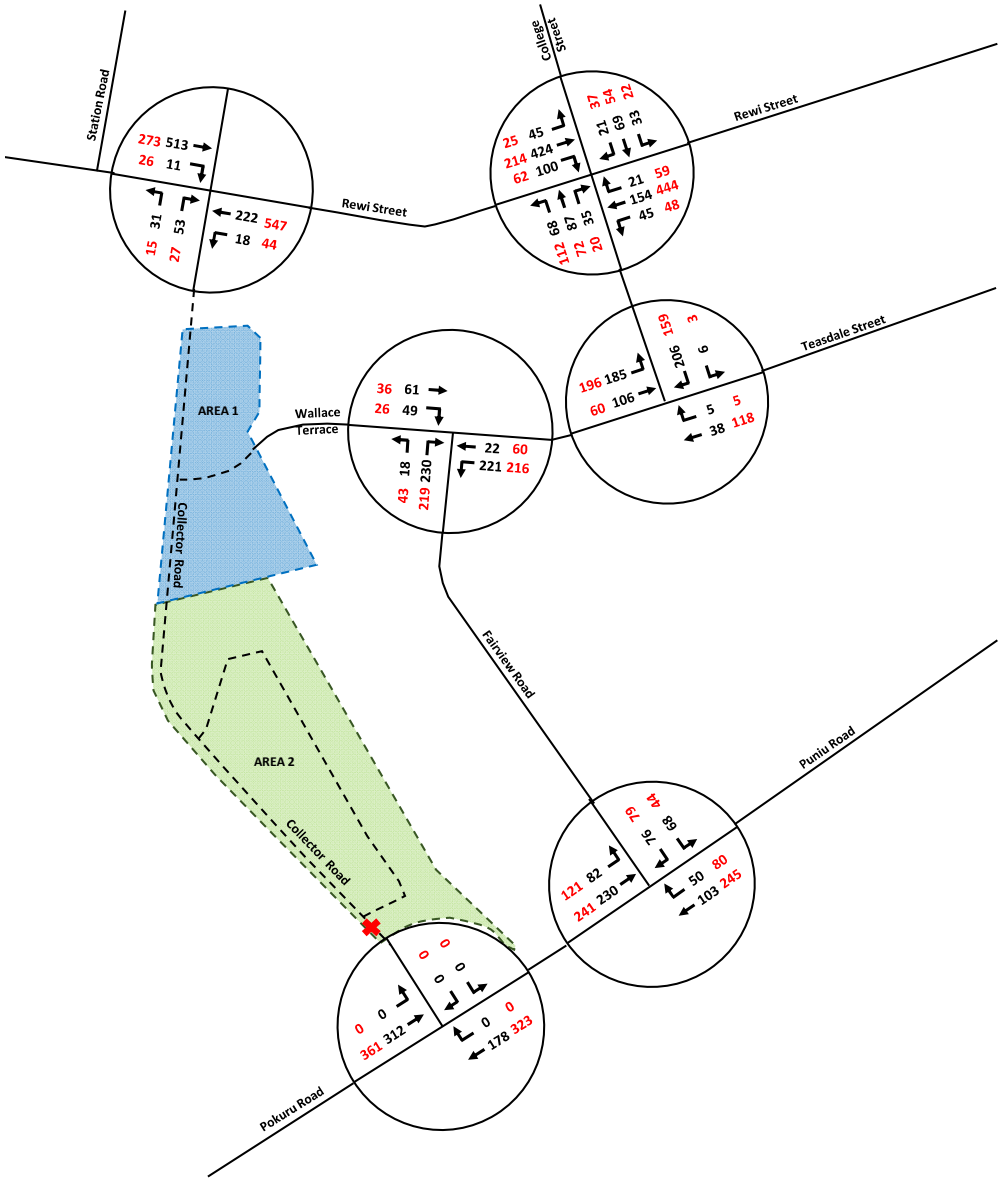


2041 Baseline + Area 1 (94 dwelling units) with Wallace Terrace & Rewi Street connections

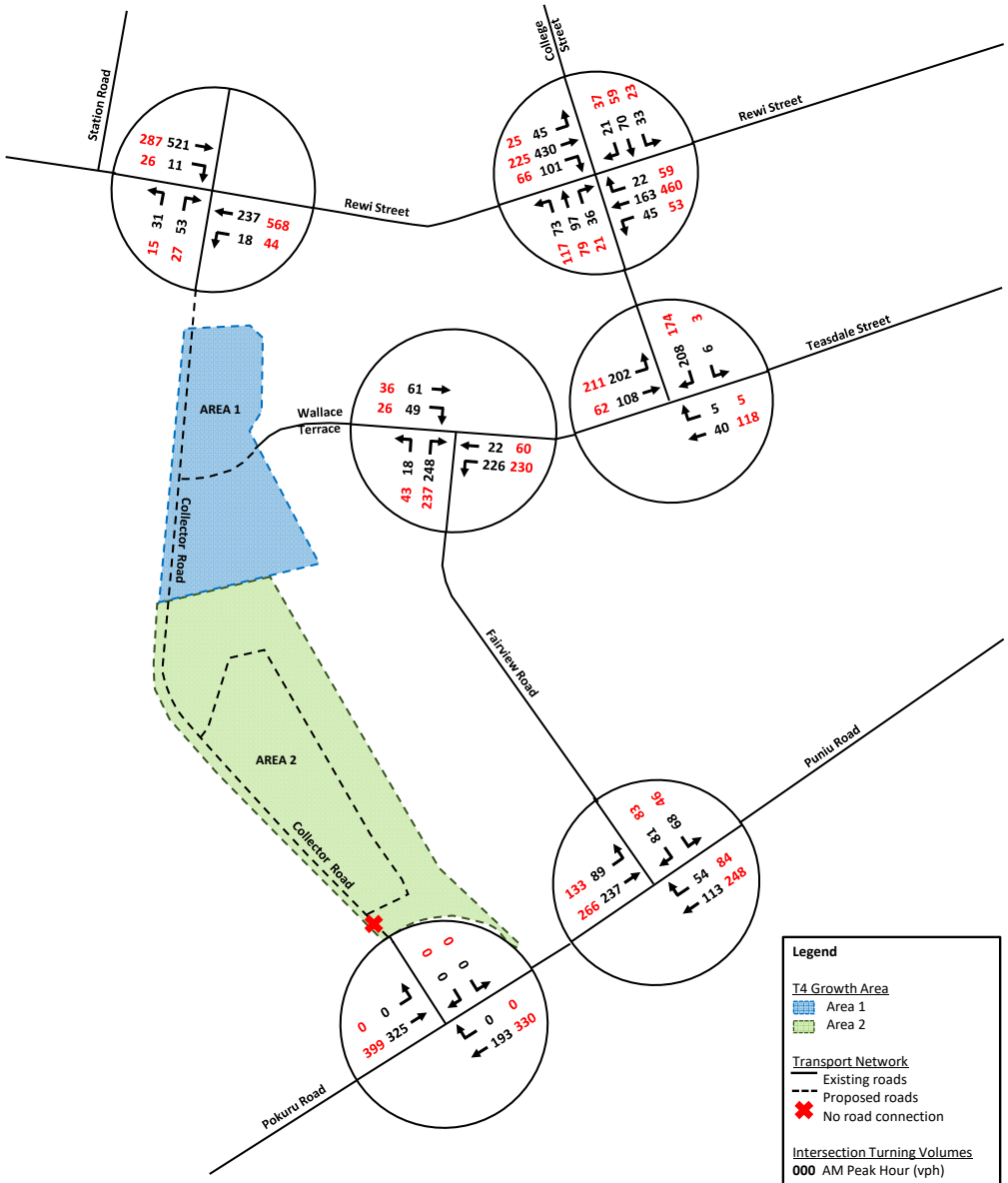


Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

2031 Baseline + Area 1 (70 dwellings) & Area 2 (150 dwellings) + Wallace Terrace & Rewi Street connections

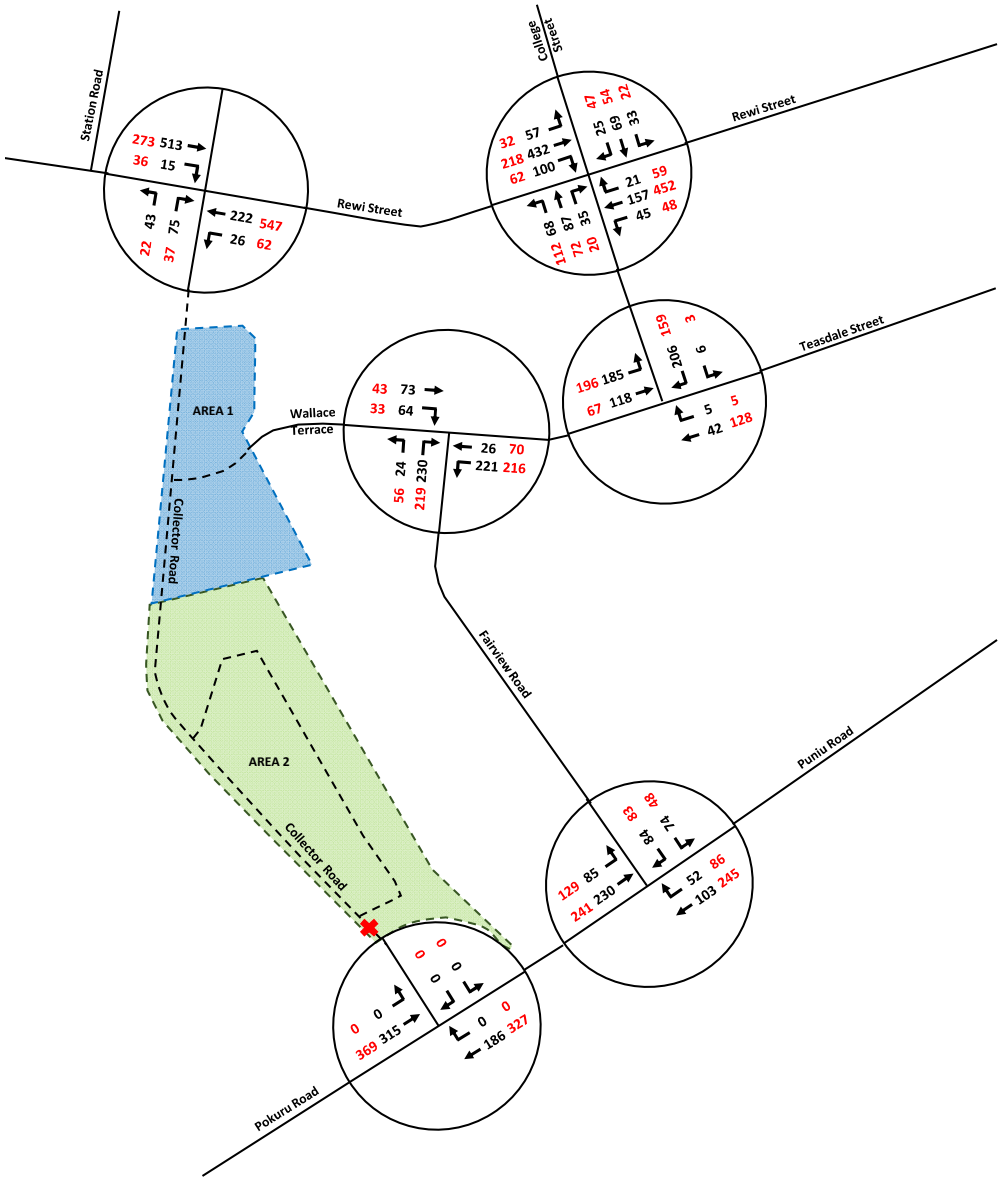


2041 Baseline + Area 1 (70 dwellings) & Area 2 (150 dwellings) + Wallace Terrace & Rewi Street connections

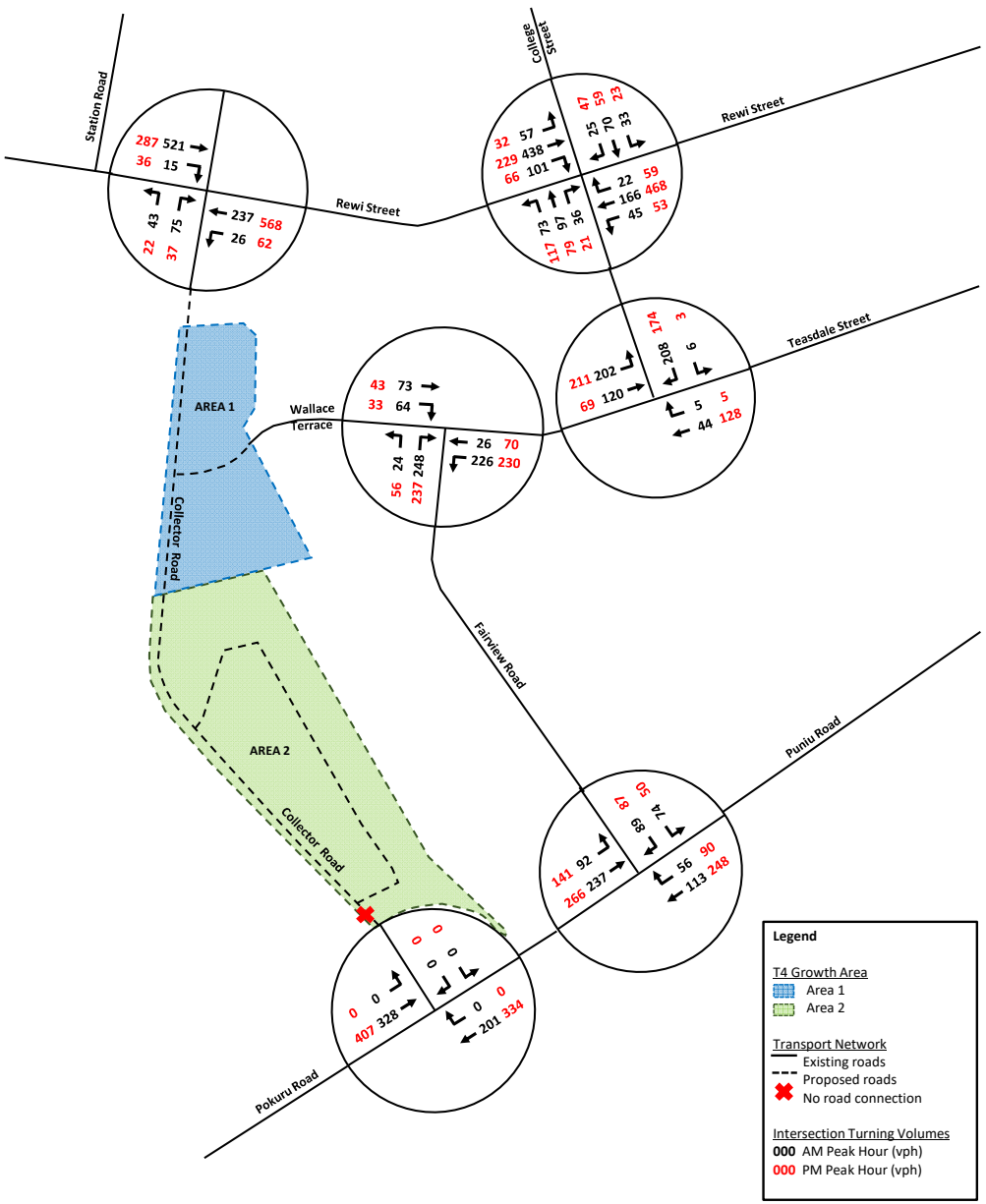


Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

2031 Baseline + Area 1 (94 dwellings) & Area 2 (216 dwellings) + Wallace Terrace & Rewi Street connections

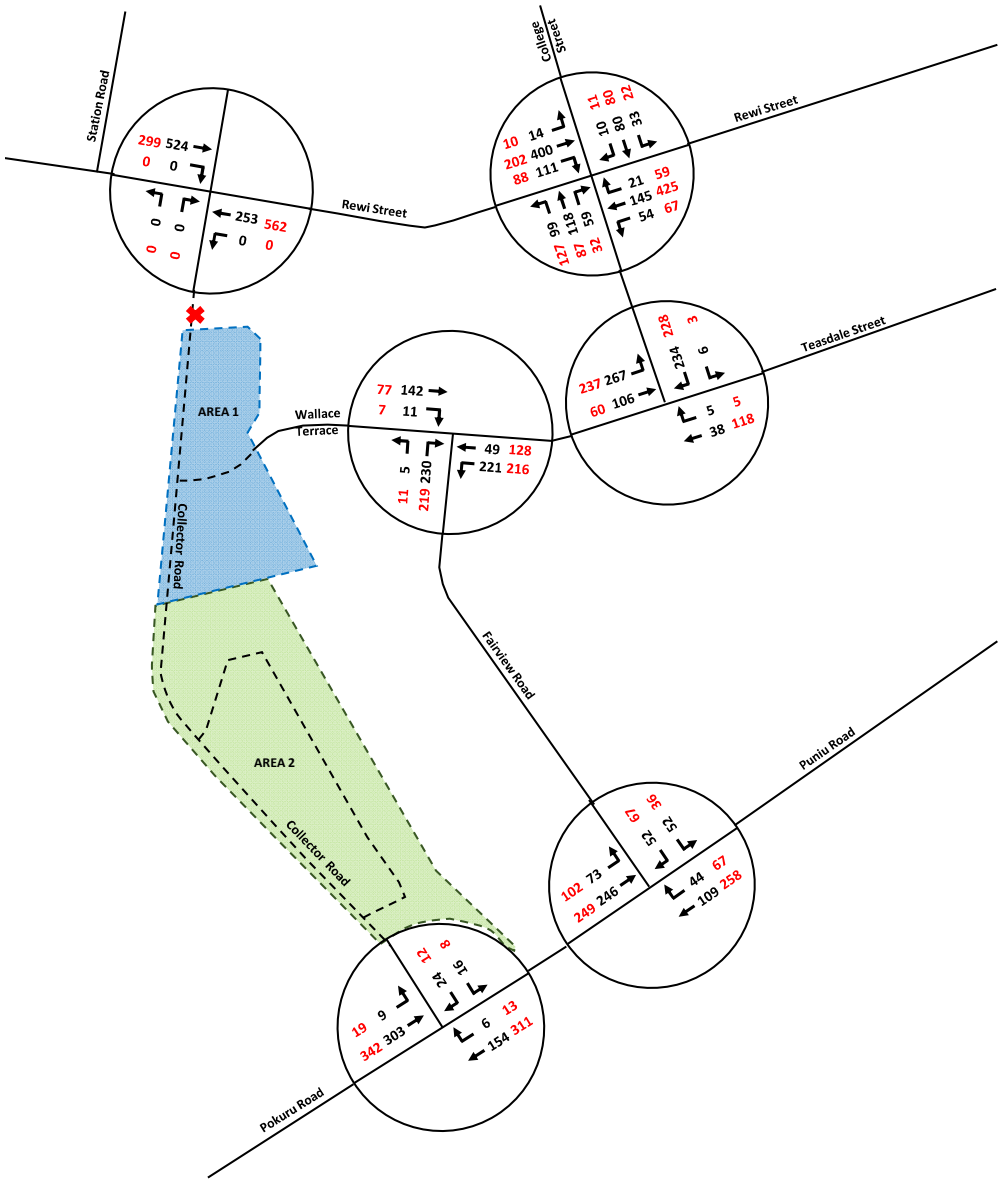


2041 Baseline + Area 1 (94 dwellings) & Area 2 (216 dwellings) + Wallace Terrace & Rewi Street connections

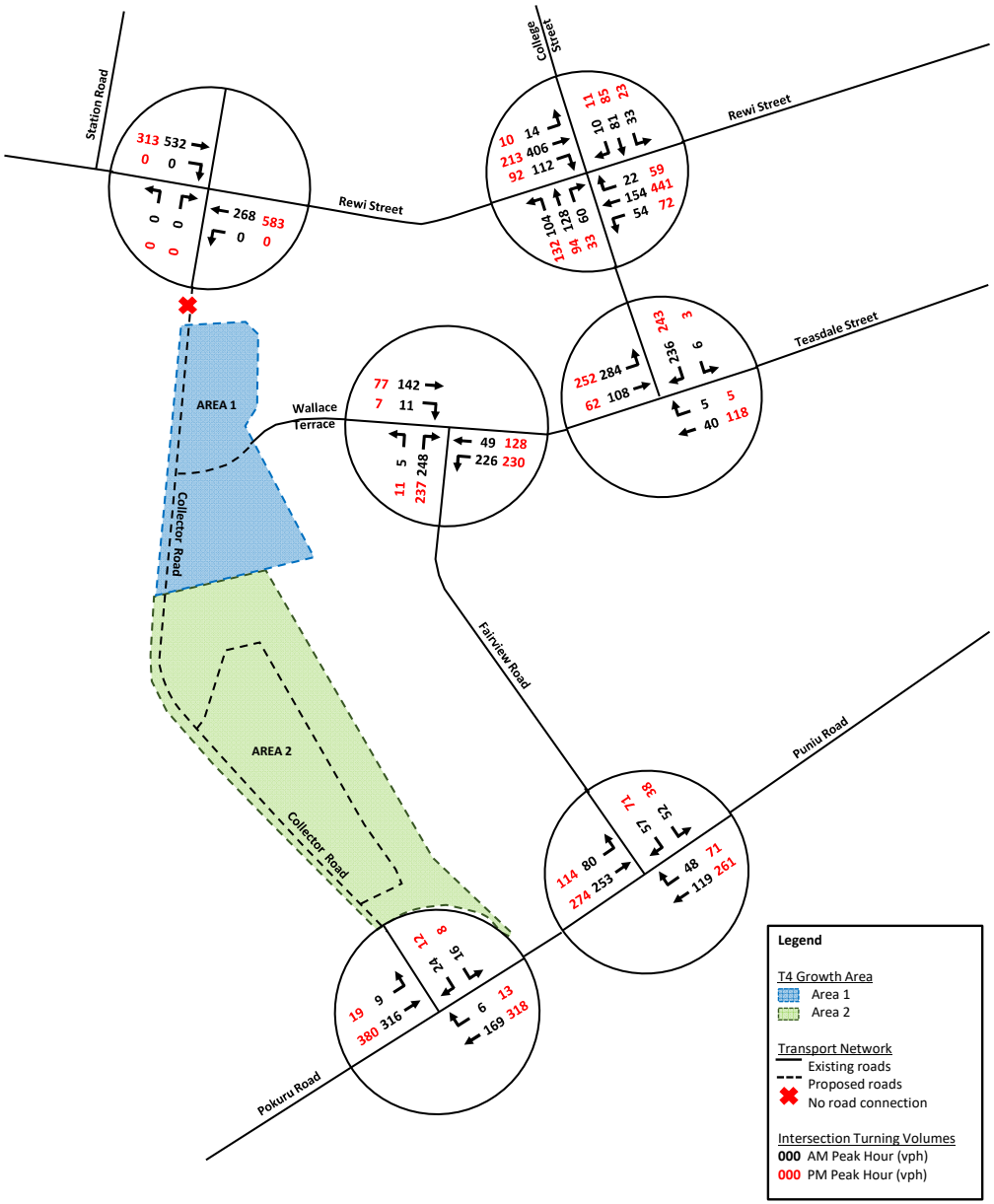


Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

2031 Baseline + Area 1 (70 dwellings) & Area 2 (150 dwellings)+ Wallace Terrace & Puniu Road connections

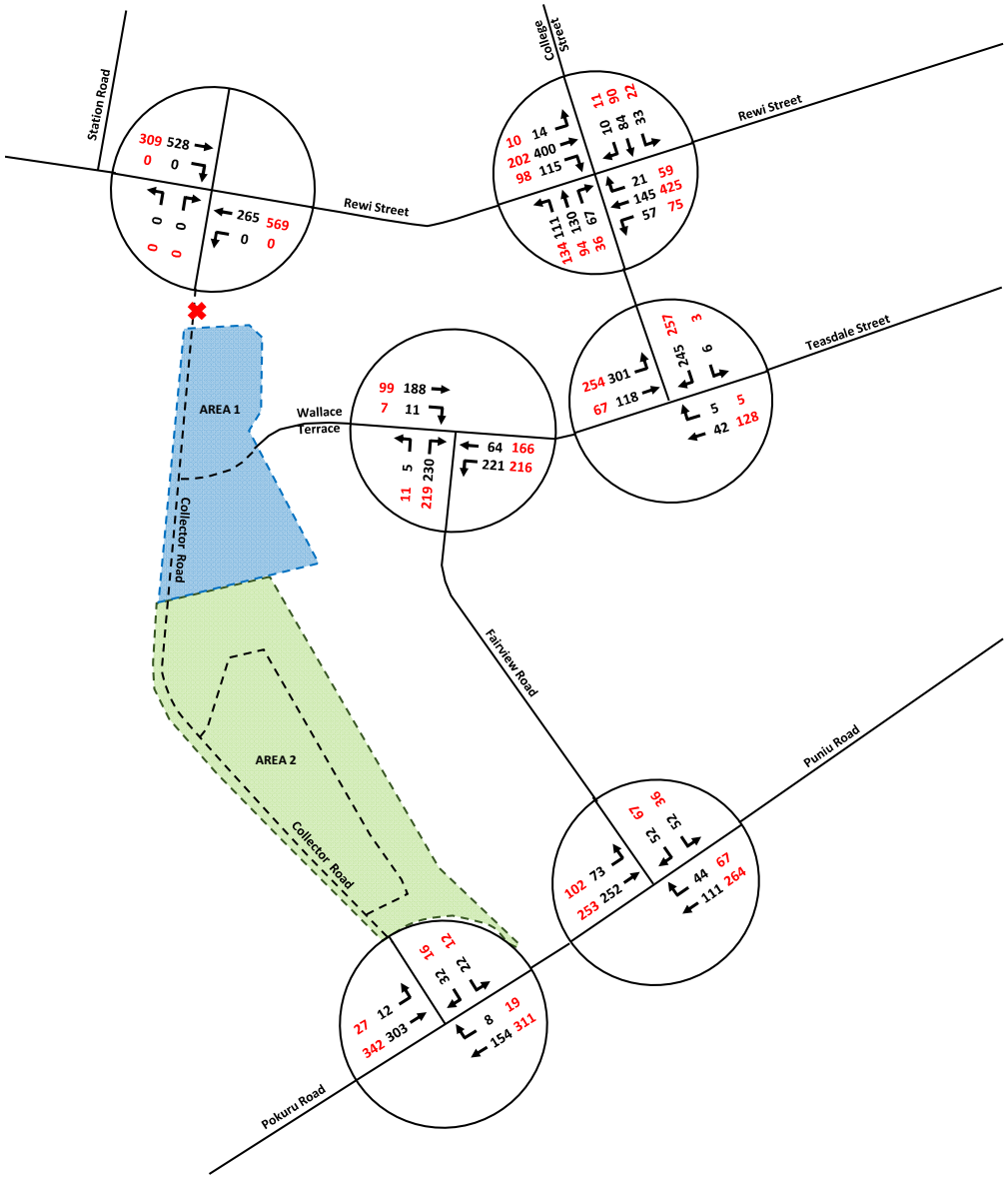


2041 Baseline + Area 1 (70 dwellings) & Area 2 (150 dwellings)+ Wallace Terrace & Puniu Road connections

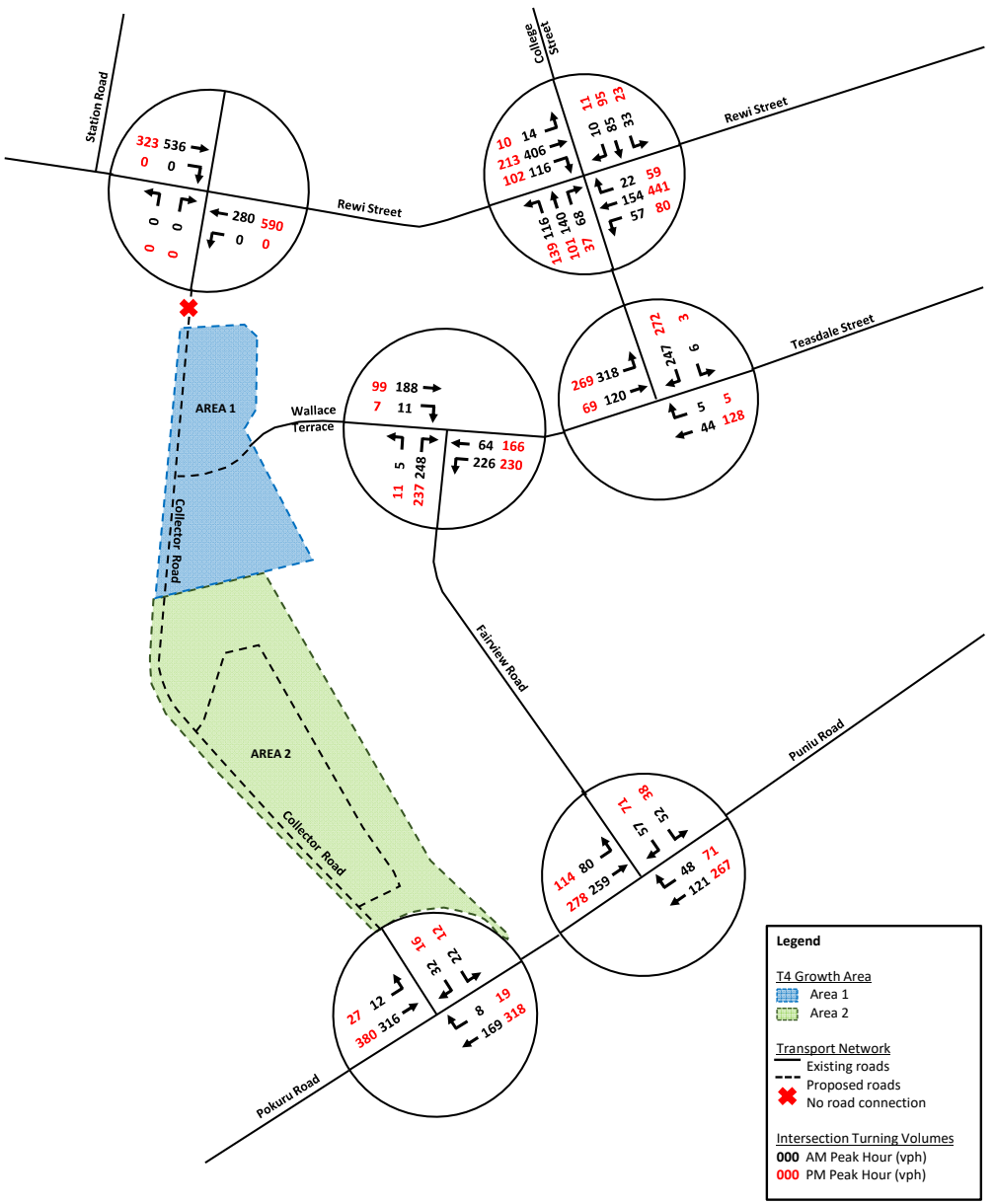


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Version: 2, Version Date: 26/02/2026

2031 Baseline + Area 1 (94 dwellings) & Area 2 (216 dwellings)+ Wallace Terrace & Puniu Road connections

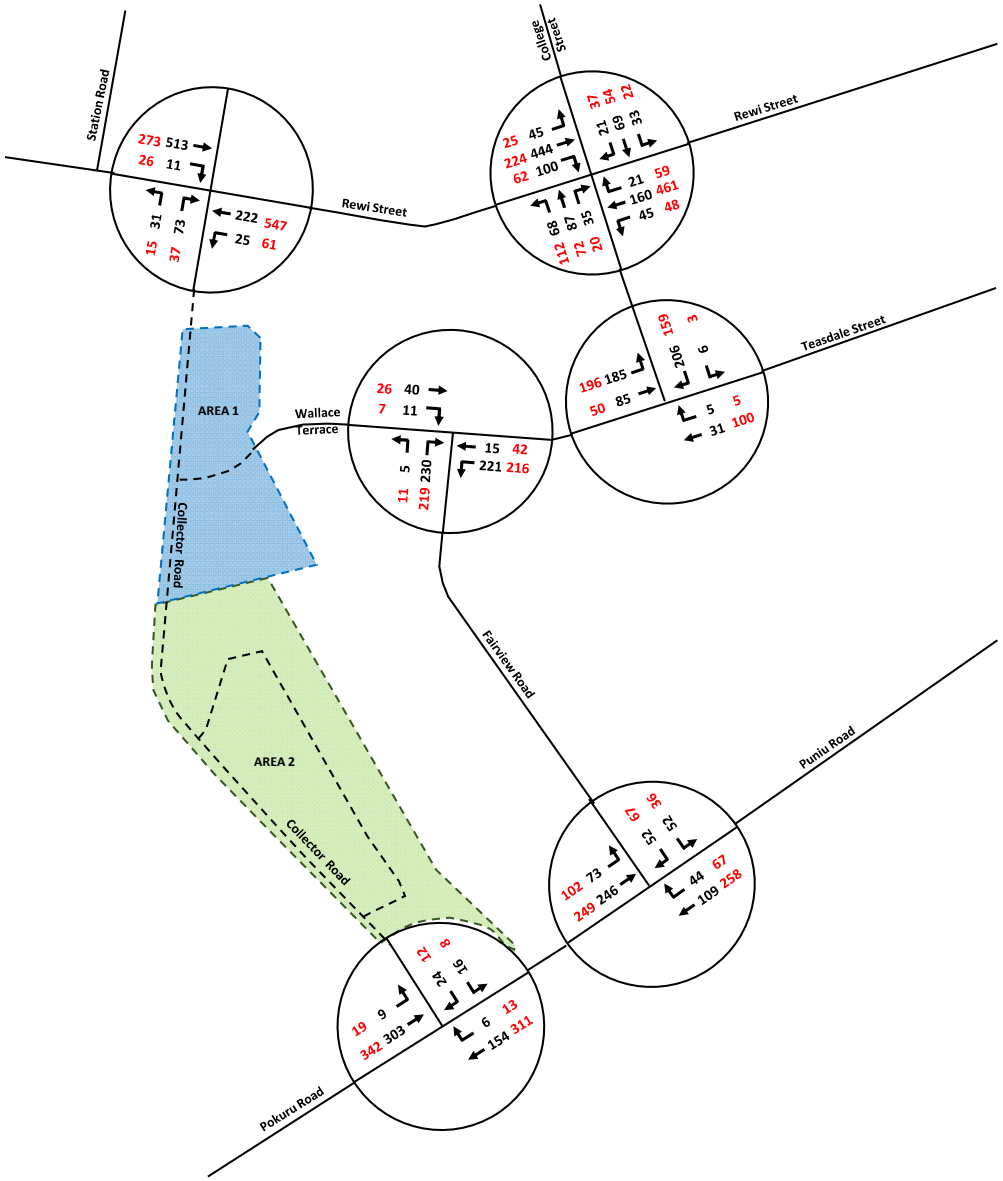


2041 Baseline + Area 1 (94 dwellings) & Area 2 (216 dwellings)+ Wallace Terrace & Puniu Road connections

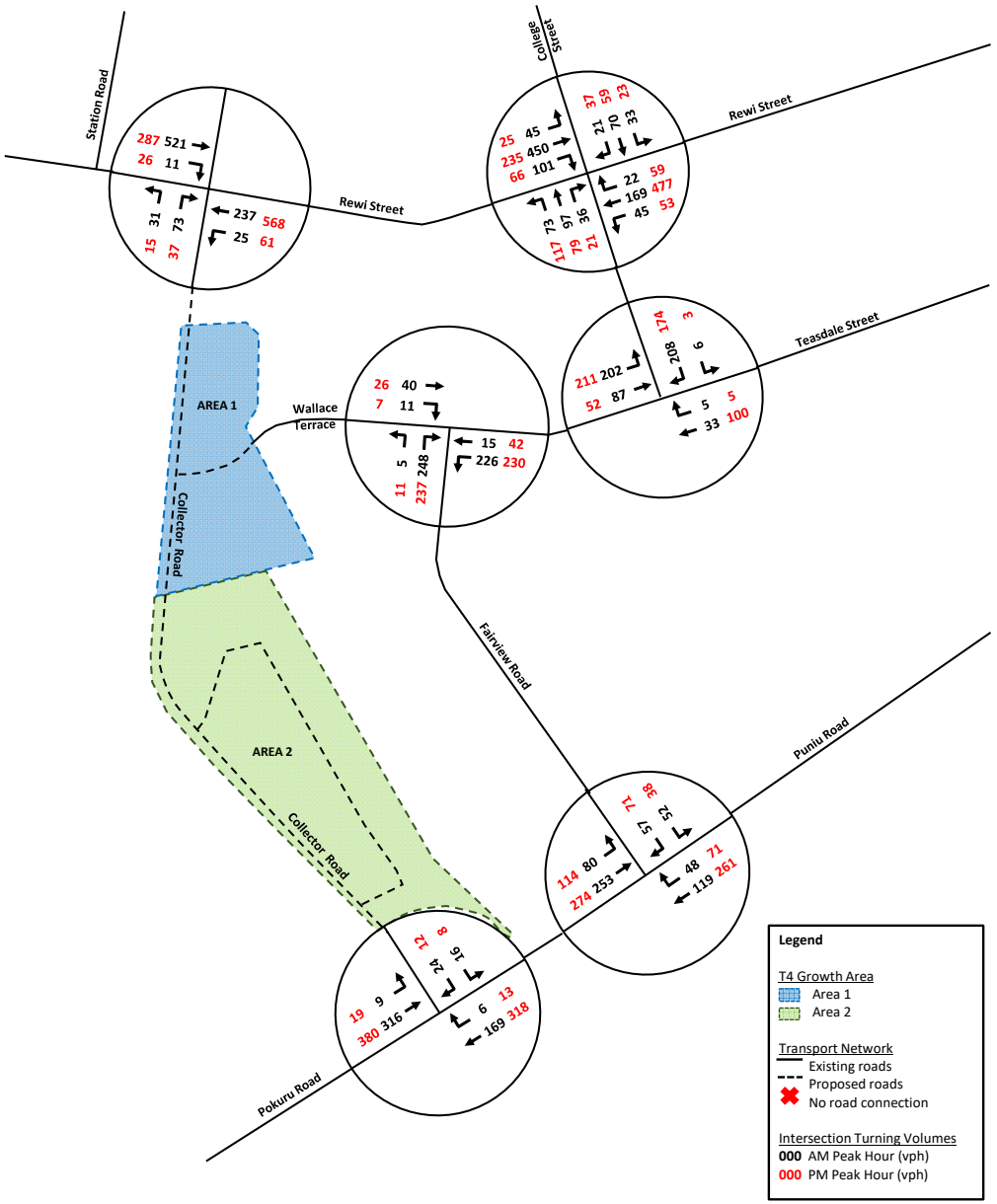


Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

2031 Baseline + Area 1 (70 dwellings) & Area 2 (150 dwellings) + Rewi Street & Puniu Road connections

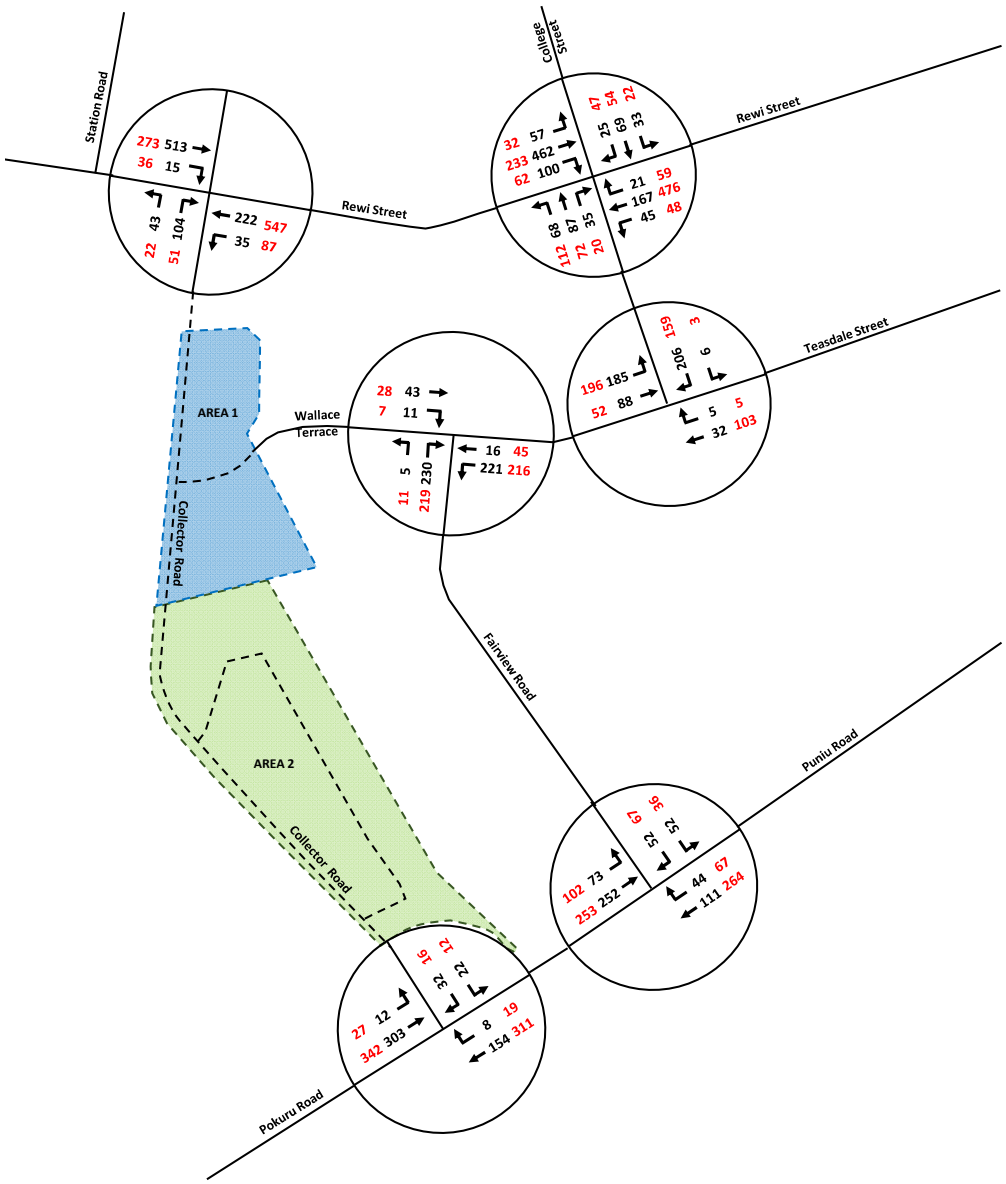


2041 Baseline + Area 1 (70 dwellings) & Area 2 (150 dwellings) + Rewi Street & Puniu Road connections

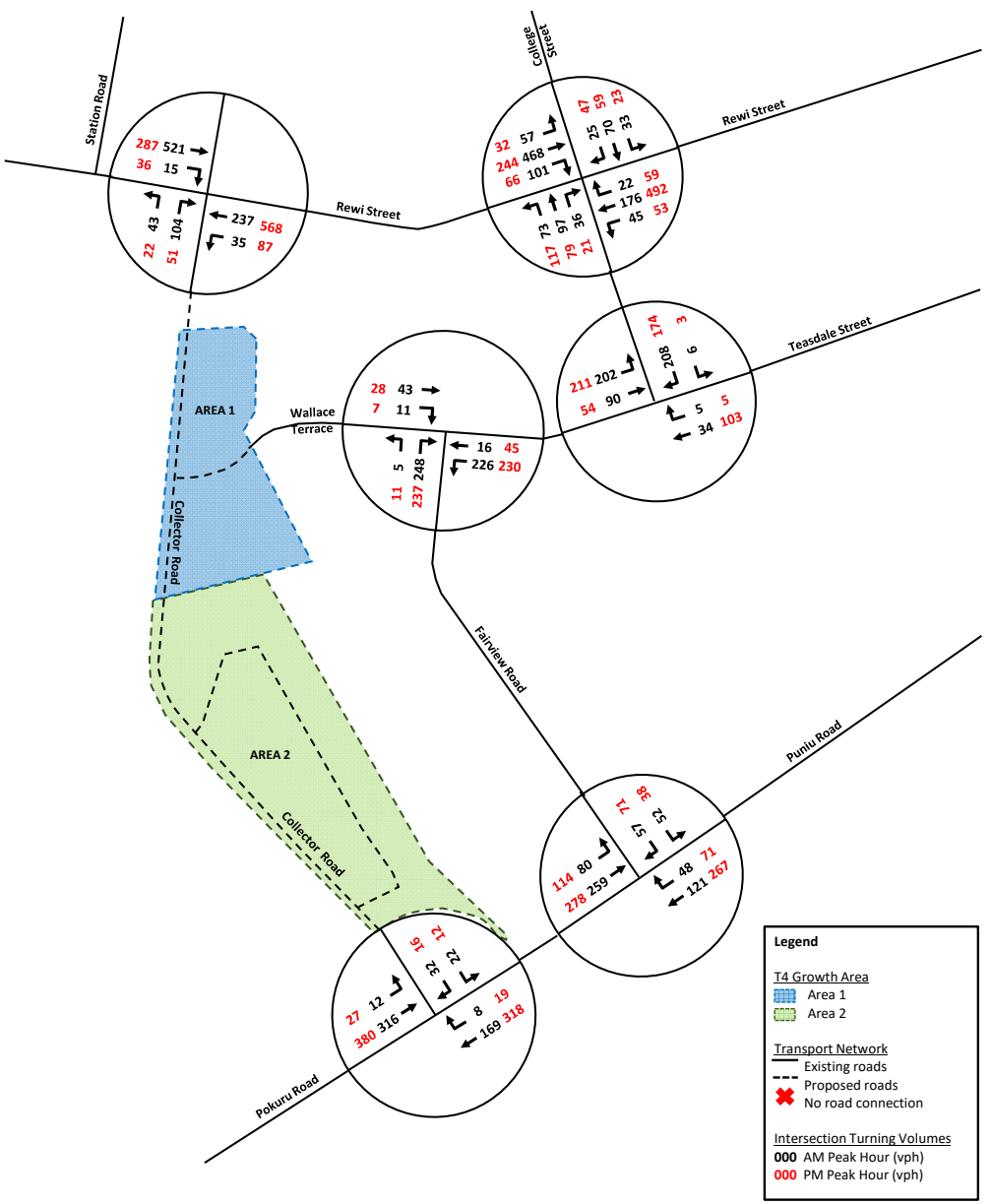


Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

2031 Baseline + Area 1 (94 dwellings) & Area 2 (216 dwellings) + Rewi Street & Puniu Road connections



2041 Baseline + Area 1 (94 dwellings) & Area 2 (216 dwellings) + Rewi Street & Puniu Road connections



Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

Attachment 2: 2023/31/41 ADT Summary Tables

Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

			Wallace Terrace connection only (vpd)		Wallace Terrace & Rewi Street connections (vpd)				Puniu Road connection only (vpd)			Wallace Terrace & Puniu Road connections (vpd)			ace Terrace, Rewi Street & Puniu Road connections	
Road corridor	Section	2023 Baseline (vpd)	2023 Baseline + Area 1 (70 dwellings) + Wallace Tce connection only	2023 Baseline + Area 1 (94 dwellings) + Wallace Tce connection only	2023 Baseline + Area 1 (70 dwellings) + Wallace Tce & Rewi Str connections	2023 Baseline + Area 1 (94 dwellings) + Wallace Tce & Rewi Str connections	2023 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings) + Wallace Tce & Rewi Str connections	2023 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings) + Wallace Tce & Rewi Str connections	2023 Baseline + Area 2 (70 dwellings) + Puniu Rd connection only	2023 Baseline + Area 2 (150 dwellings) + Puniu Rd connection only	2023 Baseline + Area 2 (216 dwellings) + Puniu Rd connection only	2023 Baseline + Area 1 (70 dwellings) + Wallace Tce & Puniu Rd connections	2023 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings) + Wallace Tce & Puniu Rd connections	2023 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings) + Wallace Tce & Puniu Rd connections	2023 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings) + Rewi Str & Puniu Rd connections	2023 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings) + Rewi Str & Puniu Rd connections
Collector Road	Northern connection to Rewi Street	-	-	-	316	424	992	1,398	-	-	-	-	-	-	1,238	1,752
	Southern connection to Puniu Road	-	-	-	-	-	-	-	574	1,230	1,771	144	451	636	451	636
Rewi Street	West of Collector Road	3,725	3,840	3,879	3,840	3,879	4,086	4,233	3,840	3,971	4,079	3,840	4,086	4,233	4,086	4,233
	Collector Road to College Street	3,725	3,840	3,879	3,926	3,995	4,356	4,615	3,840	3,971	4,079	3,840	4,086	4,233	4,602	4,969
	East of College Street	4,735	4,821	4,851	4,821	4,851	5,006	5,116	4,735	4,735	4,735	4,821	5,006	5,116	5,252	5,471
Wallace Terrace	T4 boundary to Fairview Road	426	1,000	1,197	685	773	1,238	1,570	426	426	426	857	1,779	2,333	541	581
Teasdale Street	Fairview Road to Downes Street	1,339	1,770	1,917	1,454	1,493	1,700	1,847	1,569	1,831	2,047	1,770	2,692	3,246	1,454	1,493
	Downes Street to Princess Street	1,339	1,454	1,493	1,454	1,493	1,700	1,847	1,339	1,339	1,339	1,454	1,700	1,847	1,454	1,493
	Princess Street to Bank Street	1,998	2,113	2,152	2,113	2,152	2,359	2,506	1,998	1,998	1,998	2,113	2,359	2,506	2,113	2,152
Downes Street	Rewi Street to Teasdale Street	5,204	5,520	5,628	5,204	5,204	5,204	5,204	5,434	5,696	5,912	5,520	6,196	6,602	5,204	5,204
College Street	Rewi Street to Collins Ave	3,568	3,683	3,722	3,683	3,722	3,929	4,076	3,683	3,814	3,922	3,683	3,929	4,076	3,929	4,076
	North of Collins Ave	799	914	953	914	953	1,160	1,307	914	1,045	1,153	914	1,160	1,307	1,160	1,307
Fairview Road	Wallace Terrace to Douglas Ave	914	1,058	1,107	1,058	1,107	1,365	1,550	1,144	1,406	1,622	914	914	914	914	914
	Douglas Ave to Te Tomo Street	1,641	1,785	1,834	1,785	1,834	2,092	2,277	1,871	2,133	2,349	1,641	1,641	1,641	1,641	1,641
	Te Tomo Street to Puniu Road	1,764	1,908	1,957	1,908	1,957	2,215	2,400	1,994	2,256	2,472	1,764	1,764	1,764	1,764	1,764
Pokuru Road	West of Collector Road	3,143	3,229	3,259	3,229	3,259	3,414	3,524	3,229	3,328	3,409	3,229	3,414	3,524	3,414	3,524
Puniu Road	Collector Road to Fairview Road	3,143	3,229	3,259	3,229	3,259	3,414	3,524	3,631	4,189	4,649	3,200	3,323	3,397	3,323	3,397
	Fairview Road to Bank Street	2,556	2,613	2,633	2,613	2,633	2,736	2,810	2,814	3,110	3,353	2,613	2,736	2,810	2,736	2,810

Road corridor	Section	2031 Baseline (vpd)	2031 Baseline + Area 1 (70 dwellings) + Wallace Tce connection only	2031 Baseline + Area 1 (94 dwellings) + Wallace Tce connection only	2031 Baseline + Area 1 (70 dwellings) + Wallace Tce & Rewi Str connections	2031 Baseline + Area 1 (94 dwellings) + Wallace Tce & Rewi Str connections	2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings) + Wallace Tce & Rewi Str connections	2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings) + Wallace Tce & Rewi Str connections	2031 Baseline + Area 2 (70 dwellings) + Puniu Rd connection only	2031 Baseline + Area 2 (150 dwellings) + Puniu Rd connection only	2031 Baseline + Area 2 (216 dwellings) + Puniu Rd connection only	2031 Baseline + Area 1 (70 dwellings) + Wallace Tce & Puniu Rd connections	2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings) + Wallace Tce & Puniu Rd connections	2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings) + Wallace Tce & Puniu Rd connections	2031 Baseline + Area 1 (94 dwellings) + Area 2 (146 dwellings) + Rewi Str & Puniu Rd connections	2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings) + Rewi Str & Puniu Rd connections
Collector Road	Northern connection to Rewi Street	-	-	-	316	424	992	1,398	-	-	-	-	-	-	1,238	1,752
	Southern connection to Puniu Road	-	-	-	-	-	-	-	574	1,230	1,771	144	451	636	451	636
Rewi Street	West of Collector Road	5,038	5,153	5,192	5,153	5,192	5,399	5,547	5,153	5,284	5,392	5,153	5,399	5,547	5,399	5,547
	Collector Road to College Street	5,038	5,153	5,192	5,239	5,308	5,670	5,928	5,153	5,284	5,392	5,153	5,399	5,547	5,916	6,282
	East of College Street	4,369	4,455	4,484	4,455	4,484	4,639	4,750	4,369	4,369	4,369	4,455	4,639	4,750	4,885	5,104
Wallace Terrace	T4 boundary to Fairview Road	426	1,000	1,197	685	773	1,238	1,570	426	426	426	857	1,779	2,333	541	581
Teasdale Street	Fairview Road to Downes Street	2,406	2,836	2,984	2,521	2,560	2,767	2,914	2,635	2,898	3,114	2,836	3,759	4,312	2,521	2,560
	Downes Street to Princess Street	489	604	643	604	643	850	997	489	489	489	604	850	997	604	643
	Princess Street to Bank Street	1,944	2,059	2,098	2,059	2,098	2,305	2,452	1,944	1,944	1,944	2,059	2,305	2,452	2,059	2,098
Downes Street	Rewi Street to Teasdale Street	2,048	2,364	2,472	2,048	2,048	2,048	2,048	2,278	2,540	2,756	2,364	3,040	3,446	2,048	2,048
College Street	Rewi Street to Collins Ave	1,145	1,260	1,299	1,260	1,299	1,506	1,653	1,260	1,391	1,499	1,260	1,506	1,653	1,506	1,653
	North of Collins Ave	751	865	905	865	905	1,111	1,259	865	997	1,105	865	1,111	1,259	1,111	1,259
Fairview Road	Wallace Terrace to Douglas Ave	2,271	2,414	2,463	2,414	2,463	2,722	2,906	2,500	2,763	2,979	2,271	2,271	2,271	2,271	2,271
	Douglas Ave to Te Tomo Street	1,395	1,538	1,587	1,538	1,587	1,846	2,030	1,624	1,887	2,103	1,395	1,395	1,395	1,395	1,395
	Te Tomo Street to Puniu Road	1,229	1,372	1,421	1,372	1,421	1,680	1,864	1,458	1,721	1,937	1,229	1,229	1,229	1,229	1,229
Pokuru Road	West of Collector Road	3,254	3,340	3,369	3,340	3,369	3,524	3,635	3,340	3,438	3,519	3,340	3,524	3,635	3,524	3,635
Puniu Road	Collector Road to Fairview Road	3,254	3,340	3,369	3,340	3,369	3,524	3,635	3,741	4,299	4,759	3,311	3,434	3,508	3,434	3,508
	Fairview Road to Bank Street	2,888	2,945	2,965	2,945	2,965	3,068	3,142	3,146	3,441	3,685	2,945	3,068	3,142	3,068	3,142

Road corridor	Section	2041 Baseline (vpd)	2041 Baseline + Area 1 (70 dwellings) + Wallace Tce connection only	2041 Baseline + Area 1 (94 dwellings) + Wallace Tce connection only	2041 Baseline + Area 1 (70 dwellings) + Wallace Tce & Rewi Str connections	2041 Baseline + Area 1 (94 dwellings) + Wallace Tce & Rewi Str connections	2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings) + Wallace Tce & Rewi Str connections	2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings) + Wallace Tce & Rewi Str connections	2041 Baseline + Area 2 (70 dwellings) + Puniu Rd connection only	2041 Baseline + Area 2 (150 dwellings) + Puniu Rd connection only	2041 Baseline + Area 2 (216 dwellings) + Puniu Rd connection only	2041 Baseline + Area 1 (70 dwellings) + Wallace Tce & Puniu Rd connections	2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings) + Wallace Tce & Puniu Rd connections	2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings) + Wallace Tce & Puniu Rd connections	2041 Baseline + Area 1 (94 dwellings) + Area 2 (146 dwellings) + Rewi Str & Puniu Rd connections	2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings) + Rewi Str & Puniu Rd connections
Collector Road	Northern connection to Rewi Street	-	-	-	316	424	992	1,398	-	-	-	-	-	-	1,238	1,752
	Southern connection to Puniu Road	-	-	-	-	-	-	-	574	1,230	1,771	144	451	636	451	636
Rewi Street	West of Collector Road	5,057	5,172	5,211	5,172	5,211	5,418	5,565	5,172	5,303	5,411	5,172	5,418	5,565	5,418	5,565
	Collector Road to College Street	5,057	5,172	5,211	5,258	5,327	5,688	5,947	5,172	5,303	5,411	5,172	5,418	5,565	5,934	6,301
	East of College Street	4,520	4,606	4,635	4,606	4,635	4,790	4,901	4,520	4,520	4,520	4,606	4,790	4,901	5,036	5,255
Wallace Terrace	T4 boundary to Fairview Road	426	1,000	1,197	685	773	1,238	1,570	426	426	426	857	1,779	2,333	541	581
Teasdale Street	Fairview Road to Downes Street	2,743	3,174	3,321	2,858	2,897	3,104	3,252	2,973	3,235	3,452	3,174	4,096	4,650	2,858	2,897
	Downes Street to Princess Street	514	629	669	629	669	875	1,023	514	514	514	629	875	1,023	629	669
	Princess Street to Bank Street	2,059	2,174	2,213	2,174	2,213	2,420	2,567	2,059	2,059	2,059	2,174	2,420	2,567	2,174	2,213
Downes Street	Rewi Street to Teasdale Street	2,176	2,492	2,600	2,176	2,176	2,176	2,176	2,406	2,668	2,885	2,492	3,168	3,574	2,176	2,176
College Street	Rewi Street to Collins Ave	1,226	1,341	1,380	1,341	1,380	1,587	1,734	1,341	1,472	1,580	1,341	1,587	1,734	1,587	1,734
	North of Collins Ave	799	914	953	914	953	1,160	1,308	914	1,045	1,153	914	1,160	1,308	1,160	1,308
Fairview Road	Wallace Terrace to Douglas Ave	2,433	2,576	2,625	2,576	2,625	2,884	3,068	2,662	2,925	3,141	2,433	2,433	2,433	2,433	2,433
	Douglas Ave to Te Tomo Street	1,507	1,650	1,699	1,650	1,699	1,958	2,142	1,736	1,999	2,215	1,507	1,507	1,507	1,507	1,507
	Te Tomo Street to Puniu Road	1,319	1,462	1,512	1,462	1,512	1,770	1,954	1,549	1,811	2,027	1,319	1,319	1,319	1,319	1,319
Pokuru Road	West of Collector Road	2,936	3,022	3,052	3,022	3,052	3,207	3,318	3,022	3,121	3,202	3,022	3,207	3,318	3,207	3,318
Puniu Road	Collector Road to Fairview Road	3,526	3,612	3,642	3,612	3,642	3,797	3,908	4,014	4,572	5,032	3,584	3,707	3,780	3,707	3,780
	Fairview Road to Bank Street	3,112	3,169	3,189	3,169	3,189	3,292	3,366	3,370	3,665	3,909	3,169	3,292	3,366	3,292	3,366

Document Set ID: 11324600
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Attachment 3: SIDRA Intersection Movement Summaries

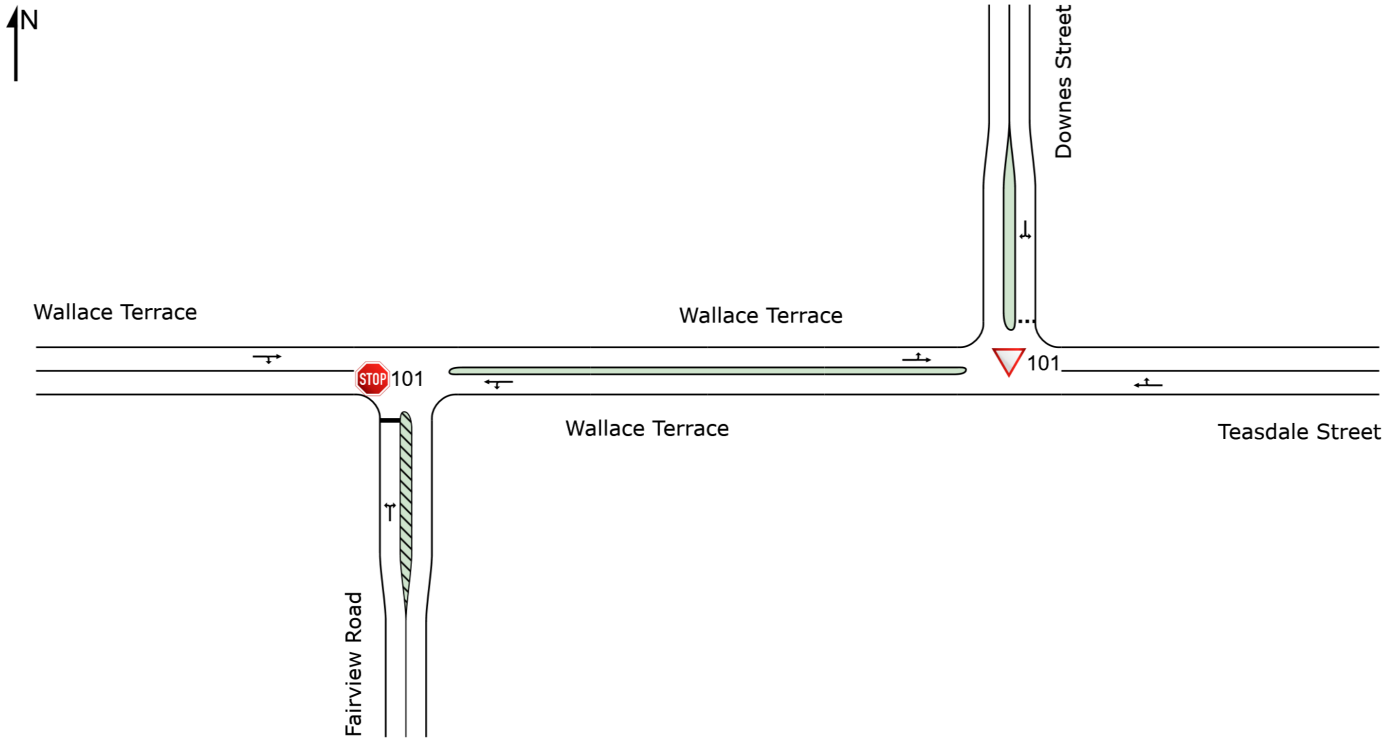
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

NETWORK LAYOUT

Network: N101 [Fairview Rd / Wallace Tce / Teasdale Str_2031 Baseline_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection Baseline Volumes)]

New Network
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
STOP 101	NA	Fairview Rd / Wallace Tce_2031 Baseline_AM Peak
▽101	NA	Wallace Tce / Teasdale Str_2031 Baseline_AM Peak

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Organisation: STANTEC NEW ZEALAND | Licence: NETWORK / Enterprise | Created: Thursday, 1 June 2023 2:16:31 pm
Project: Z:\310205677\7_technical\SIDRA\3. wallace terrace & fairview road_20230530.sip9

MOVEMENT SUMMARY

Site: 101 [Fairview Rd / Wallace Tce_2031 Baseline_AM Peak (Site Folder: Wallace Terrace / Fairview Road / Teasdale Street Intersection Baseline Volumes)]

Network: N101 [Fairview Rd / Wallace Tce / Teasdale Str_2031 Baseline_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection Baseline Volumes)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fairview Road														
1	L2	5	5.0	5	5.0	0.258	7.7	LOS A	1.0	7.4	0.26	0.92	0.26	44.8
3	R2	242	5.0	242	5.0	0.258	8.2	LOS A	1.0	7.4	0.26	0.92	0.26	41.5
Approach		247	5.0	247	5.0	0.258	8.2	LOS A	1.0	7.4	0.26	0.92	0.26	41.6
East: Wallace Terrace														
4	L2	233	5.0	233	5.0	0.134	3.9	LOS A	0.0	0.0	0.00	0.49	0.00	45.0
5	T1	12	5.0	12	5.0	0.134	0.0	LOS A	0.0	0.0	0.00	0.49	0.00	45.8
Approach		244	5.0	244	5.0	0.134	3.7	NA	0.0	0.0	0.00	0.49	0.00	45.0
West: Wallace Terrace														
11	T1	32	5.0	32	5.0	0.025	0.3	LOS A	0.1	0.6	0.20	0.15	0.20	47.4
12	R2	12	5.0	12	5.0	0.025	5.4	LOS A	0.1	0.6	0.20	0.15	0.20	47.8
Approach		43	5.0	43	5.0	0.025	1.7	NA	0.1	0.6	0.20	0.15	0.20	47.5
All Vehicles		535	5.0	535	5.0	0.258	5.6	NA	1.0	7.4	0.13	0.66	0.13	43.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Project: Z:\310205677\7_technical\SIDRA\3. wallace terrace & fairview road_20230530.sip9

Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Wallace Tce / Teasdale Str_2031 Baseline_AM Peak (Site Folder: Wallace Terrace / Fairview Road / Teasdale Street Intersection Baseline Volumes)]

Network: N101 [Fairview Rd / Wallace Tce / Teasdale Str_2031 Baseline_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection Baseline Volumes)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Teasdale Street														
5	T1	28	5.0	28	5.0	0.018	0.2	LOS A	0.0	0.3	0.13	0.09	0.13	48.3
6	R2	5	5.0	5	5.0	0.018	5.5	LOS A	0.0	0.3	0.13	0.09	0.13	47.5
Approach		34	5.0	34	5.0	0.018	1.1	NA	0.0	0.3	0.13	0.09	0.13	48.2
North: Downes Street														
7	L2	6	5.0	6	5.0	0.214	4.9	LOS A	0.8	5.8	0.31	0.59	0.31	44.2
9	R2	217	5.0	217	5.0	0.214	5.6	LOS A	0.8	5.8	0.31	0.59	0.31	35.4
Approach		223	5.0	223	5.0	0.214	5.6	LOS A	0.8	5.8	0.31	0.59	0.31	36.1
West: Wallace Terrace														
10	L2	195	5.0	195	5.0	0.149	3.9	LOS A	0.0	0.0	0.00	0.37	0.00	41.5
11	T1	79	5.0	79	5.0	0.149	0.0	LOS A	0.0	0.0	0.00	0.37	0.00	46.8
Approach		274	5.0	274	5.0	0.149	2.7	NA	0.0	0.0	0.00	0.37	0.00	43.9
All Vehicles		531	5.0	531	5.0	0.214	3.8	NA	0.8	5.8	0.14	0.45	0.14	41.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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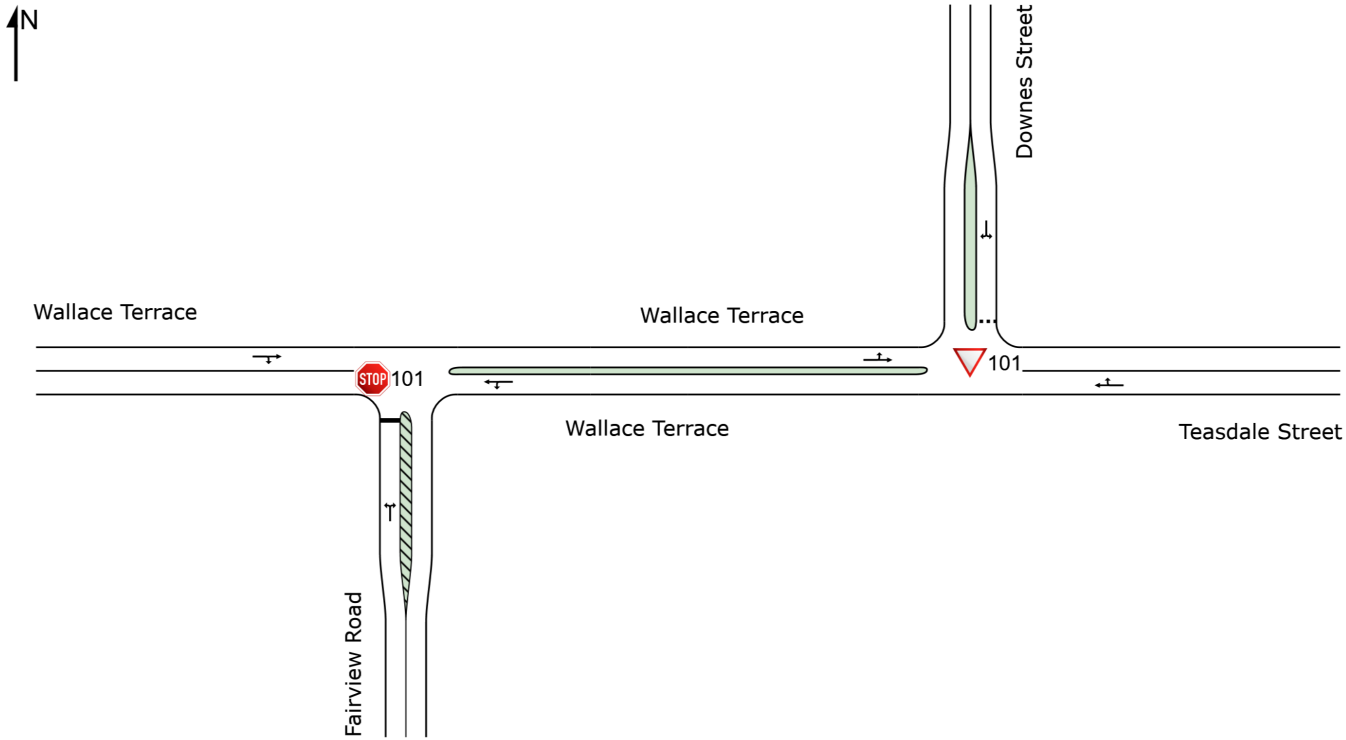
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Version: 2, Version Date: 26/02/2026

NETWORK LAYOUT

Network: N101 [Fairview Rd / Wallace Tce / Teasdale Str_2031 Baseline_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection Baseline Volumes)]

New Network
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
STOP 101	NA	Fairview Rd / Wallace Tce_2031 Baseline_PM Peak
▽ 101	NA	Wallace Tce / Teasdale Str_2031 Baseline_PM Peak

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MOVEMENT SUMMARY

Site: 101 [Fairview Rd / Wallace Tce_2031 Baseline_PM Peak (Site Folder: Wallace Terrace / Fairview Road / Teasdale Street Intersection Baseline Volumes)]

Network: N101 [Fairview Rd / Wallace Tce / Teasdale Str_2031 Baseline_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection Baseline Volumes)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fairview Road														
1	L2	12	5.0	12	5.0	0.252	7.8	LOS A	1.0	7.2	0.28	0.91	0.28	44.8
3	R2	231	5.0	231	5.0	0.252	8.3	LOS A	1.0	7.2	0.28	0.91	0.28	41.5
Approach		242	5.0	242	5.0	0.252	8.3	LOS A	1.0	7.2	0.28	0.91	0.28	41.8
East: Wallace Terrace														
4	L2	227	5.0	227	5.0	0.144	3.9	LOS A	0.0	0.0	0.00	0.45	0.00	45.3
5	T1	36	5.0	36	5.0	0.144	0.0	LOS A	0.0	0.0	0.00	0.45	0.00	46.2
Approach		263	5.0	263	5.0	0.144	3.3	NA	0.0	0.0	0.00	0.45	0.00	45.4
West: Wallace Terrace														
11	T1	22	5.0	22	5.0	0.017	0.4	LOS A	0.1	0.4	0.20	0.14	0.20	47.5
12	R2	7	5.0	7	5.0	0.017	5.5	LOS A	0.1	0.4	0.20	0.14	0.20	47.8
Approach		29	5.0	29	5.0	0.017	1.6	NA	0.1	0.4	0.20	0.14	0.20	47.6
All Vehicles		535	5.0	535	5.0	0.252	5.5	NA	1.0	7.2	0.14	0.64	0.14	43.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 101 [Wallace Tce / Teasdale Str_2031 Baseline_PM Peak (Site Folder: Wallace Terrace / Fairview Road / Teasdale Street Intersection Baseline Volumes)]

Network: N101 [Fairview Rd / Wallace Tce / Teasdale Str_2031 Baseline_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection Baseline Volumes)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Teasdale Street														
5	T1	97	5.0	97	5.0	0.053	0.1	LOS A	0.0	0.3	0.05	0.03	0.05	49.4
6	R2	5	5.0	5	5.0	0.053	5.5	LOS A	0.0	0.3	0.05	0.03	0.05	48.3
Approach		102	5.0	102	5.0	0.053	0.4	NA	0.0	0.3	0.05	0.03	0.05	49.3
North: Downes Street														
7	L2	3	5.0	3	5.0	0.170	4.8	LOS A	0.6	4.4	0.32	0.61	0.32	44.2
9	R2	167	5.0	167	5.0	0.170	5.8	LOS A	0.6	4.4	0.32	0.61	0.32	35.3
Approach		171	5.0	171	5.0	0.170	5.7	LOS A	0.6	4.4	0.32	0.61	0.32	35.8
West: Wallace Terrace														
10	L2	206	5.0	206	5.0	0.139	3.9	LOS A	0.0	0.0	0.00	0.42	0.00	40.8
11	T1	47	5.0	47	5.0	0.139	0.0	LOS A	0.0	0.0	0.00	0.42	0.00	46.4
Approach		254	5.0	254	5.0	0.139	3.1	NA	0.0	0.0	0.00	0.42	0.00	42.5
All Vehicles		526	5.0	526	5.0	0.170	3.4	NA	0.6	4.4	0.11	0.41	0.11	42.8

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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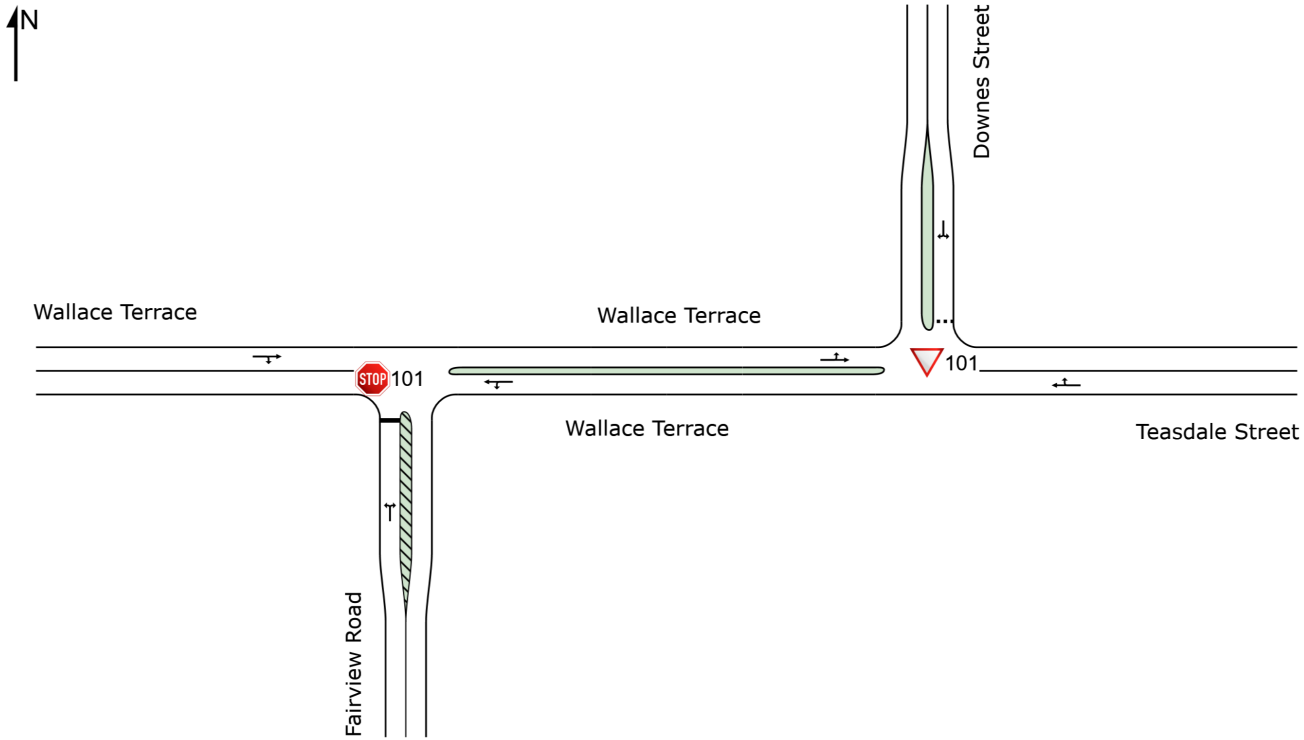
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NETWORK LAYOUT

Network: N101 [Fairview Rd / Wallace Tce / Teasdale Str_2041 Baseline_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection Baseline Volumes)]

New Network
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
STOP 101	NA	Fairview Rd / Wallace Tce_2041 Baseline_AM Peak
▽ 101	NA	Wallace Tce / Teasdale Str_2041 Baseline_AM Peak

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MOVEMENT SUMMARY

Site: 101 [Fairview Rd / Wallace Tce_2041 Baseline_AM Peak (Site Folder: Wallace Terrace / Fairview Road / Teasdale Street Intersection Baseline Volumes)]

Network: N101 [Fairview Rd / Wallace Tce / Teasdale Str_2041 Baseline_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection Baseline Volumes)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fairview Road														
1	L2	5	5.0	5	5.0	0.278	7.7	LOS A	1.1	8.2	0.27	0.92	0.27	44.8
3	R2	261	5.0	261	5.0	0.278	8.3	LOS A	1.1	8.2	0.27	0.92	0.27	41.5
Approach		266	5.0	266	5.0	0.278	8.3	LOS A	1.1	8.2	0.27	0.92	0.27	41.6
East: Wallace Terrace														
4	L2	238	5.0	238	5.0	0.137	3.9	LOS A	0.0	0.0	0.00	0.49	0.00	45.0
5	T1	12	5.0	12	5.0	0.137	0.0	LOS A	0.0	0.0	0.00	0.49	0.00	45.8
Approach		249	5.0	249	5.0	0.137	3.7	NA	0.0	0.0	0.00	0.49	0.00	45.0
West: Wallace Terrace														
11	T1	32	5.0	32	5.0	0.025	0.4	LOS A	0.1	0.6	0.20	0.15	0.20	47.4
12	R2	12	5.0	12	5.0	0.025	5.4	LOS A	0.1	0.6	0.20	0.15	0.20	47.8
Approach		43	5.0	43	5.0	0.025	1.7	NA	0.1	0.6	0.20	0.15	0.20	47.5
All Vehicles		559	5.0	559	5.0	0.278	5.7	NA	1.1	8.2	0.14	0.67	0.14	43.6

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Wallace Tce / Teasdale Str_2041 Baseline_AM Peak (Site Folder: Wallace Terrace / Fairview Road / Teasdale Street Intersection Baseline Volumes)]

Network: N101 [Fairview Rd / Wallace Tce / Teasdale Str_2041 Baseline_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection Baseline Volumes)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Teasdale Street														
5	T1	31	5.0	31	5.0	0.020	0.2	LOS A	0.0	0.3	0.13	0.08	0.13	48.4
6	R2	5	5.0	5	5.0	0.020	5.6	LOS A	0.0	0.3	0.13	0.08	0.13	47.5
Approach		36	5.0	36	5.0	0.020	1.0	NA	0.0	0.3	0.13	0.08	0.13	48.2
North: Downes Street														
7	L2	6	5.0	6	5.0	0.218	4.9	LOS A	0.8	5.9	0.32	0.60	0.32	44.2
9	R2	219	5.0	219	5.0	0.218	5.7	LOS A	0.8	5.9	0.32	0.60	0.32	35.3
Approach		225	5.0	225	5.0	0.218	5.7	LOS A	0.8	5.9	0.32	0.60	0.32	36.0
West: Wallace Terrace														
10	L2	213	5.0	213	5.0	0.160	3.9	LOS A	0.0	0.0	0.00	0.38	0.00	41.4
11	T1	81	5.0	81	5.0	0.160	0.0	LOS A	0.0	0.0	0.00	0.38	0.00	46.7
Approach		294	5.0	294	5.0	0.160	2.8	NA	0.0	0.0	0.00	0.38	0.00	43.7
All Vehicles		555	5.0	555	5.0	0.218	3.8	NA	0.8	5.9	0.14	0.45	0.14	41.6

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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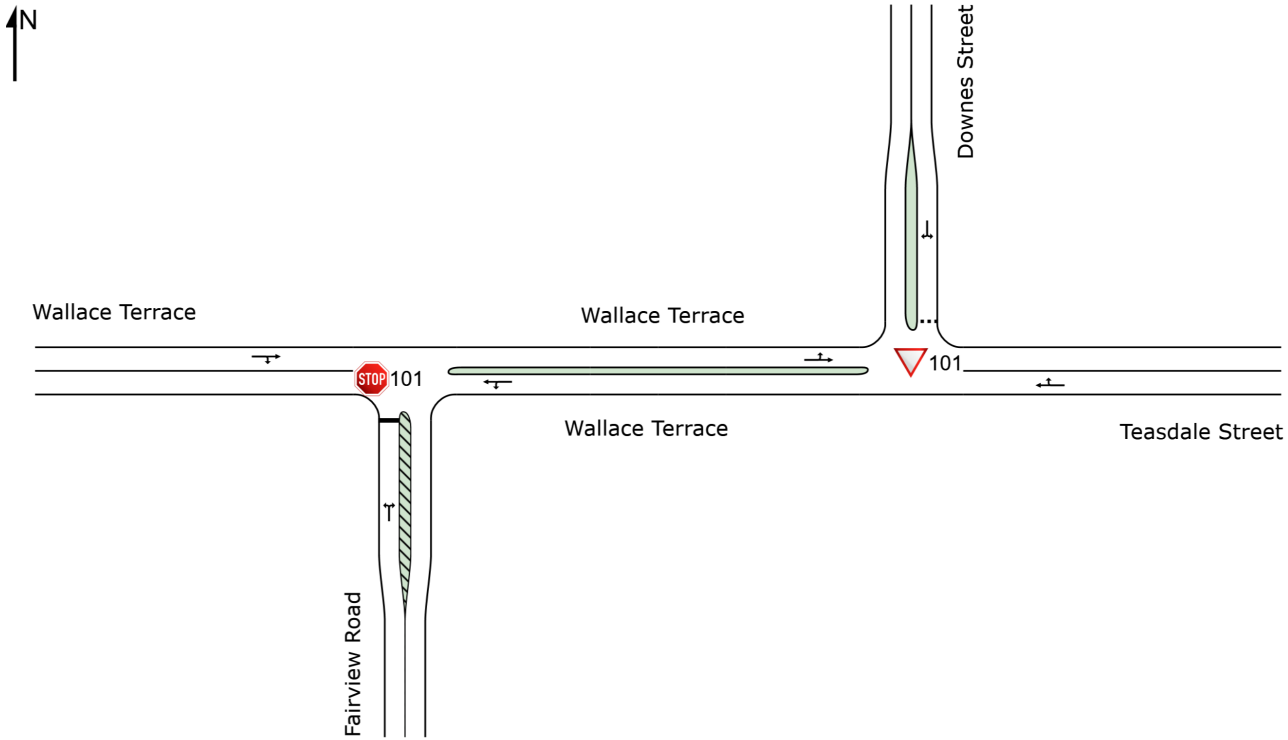
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NETWORK LAYOUT

Network: N101 [Fairview Rd / Wallace Tce / Teasdale Str_2041 Baseline_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection Baseline Volumes)]

New Network
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
STOP 101	NA	Fairview Rd / Wallace Tce_2041 Baseline_PM Peak
▽ 101	NA	Wallace Tce / Teasdale Str_2041 Baseline_PM Peak

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MOVEMENT SUMMARY

Site: 101 [Fairview Rd / Wallace Tce_2041 Baseline_PM Peak (Site Folder: Wallace Terrace / Fairview Road / Teasdale Street Intersection Baseline Volumes)]

Network: N101 [Fairview Rd / Wallace Tce / Teasdale Str_2041 Baseline_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection Baseline Volumes)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fairview Road														
1	L2	12	5.0	12	5.0	0.275	7.8	LOS A	1.1	8.0	0.29	0.92	0.29	44.8
3	R2	249	5.0	249	5.0	0.275	8.4	LOS A	1.1	8.0	0.29	0.92	0.29	41.4
Approach		261	5.0	261	5.0	0.275	8.3	LOS A	1.1	8.0	0.29	0.92	0.29	41.7
East: Wallace Terrace														
4	L2	242	5.0	242	5.0	0.152	3.9	LOS A	0.0	0.0	0.00	0.45	0.00	45.3
5	T1	36	5.0	36	5.0	0.152	0.0	LOS A	0.0	0.0	0.00	0.45	0.00	46.1
Approach		278	5.0	278	5.0	0.152	3.4	NA	0.0	0.0	0.00	0.45	0.00	45.4
West: Wallace Terrace														
11	T1	22	5.0	22	5.0	0.017	0.4	LOS A	0.1	0.4	0.20	0.14	0.20	47.5
12	R2	7	5.0	7	5.0	0.017	5.5	LOS A	0.1	0.4	0.20	0.14	0.20	47.8
Approach		29	5.0	29	5.0	0.017	1.7	NA	0.1	0.4	0.20	0.14	0.20	47.6
All Vehicles		568	5.0	568	5.0	0.275	5.6	NA	1.1	8.0	0.15	0.65	0.15	43.8

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Wallace Tce / Teasdale Str_2041 Baseline_PM Peak (Site Folder: Wallace Terrace / Fairview Road / Teasdale Street Intersection Baseline Volumes)]

Network: N101 [Fairview Rd / Wallace Tce / Teasdale Str_2041 Baseline_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection Baseline Volumes)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Teasdale Street														
5	T1	97	5.0	97	5.0	0.053	0.1	LOS A	0.0	0.3	0.05	0.03	0.05	49.4
6	R2	5	5.0	5	5.0	0.053	5.6	LOS A	0.0	0.3	0.05	0.03	0.05	48.3
Approach		102	5.0	102	5.0	0.053	0.4	NA	0.0	0.3	0.05	0.03	0.05	49.3
North: Downes Street														
7	L2	3	5.0	3	5.0	0.188	4.8	LOS A	0.7	4.9	0.33	0.61	0.33	44.1
9	R2	183	5.0	183	5.0	0.188	5.8	LOS A	0.7	4.9	0.33	0.61	0.33	35.2
Approach		186	5.0	186	5.0	0.188	5.8	LOS A	0.7	4.9	0.33	0.61	0.33	35.6
West: Wallace Terrace														
10	L2	222	5.0	222	5.0	0.149	3.9	LOS A	0.0	0.0	0.00	0.43	0.00	40.7
11	T1	49	5.0	49	5.0	0.149	0.0	LOS A	0.0	0.0	0.00	0.43	0.00	46.3
Approach		272	5.0	272	5.0	0.149	3.2	NA	0.0	0.0	0.00	0.43	0.00	42.5
All Vehicles		560	5.0	560	5.0	0.188	3.5	NA	0.7	4.9	0.12	0.42	0.12	42.5

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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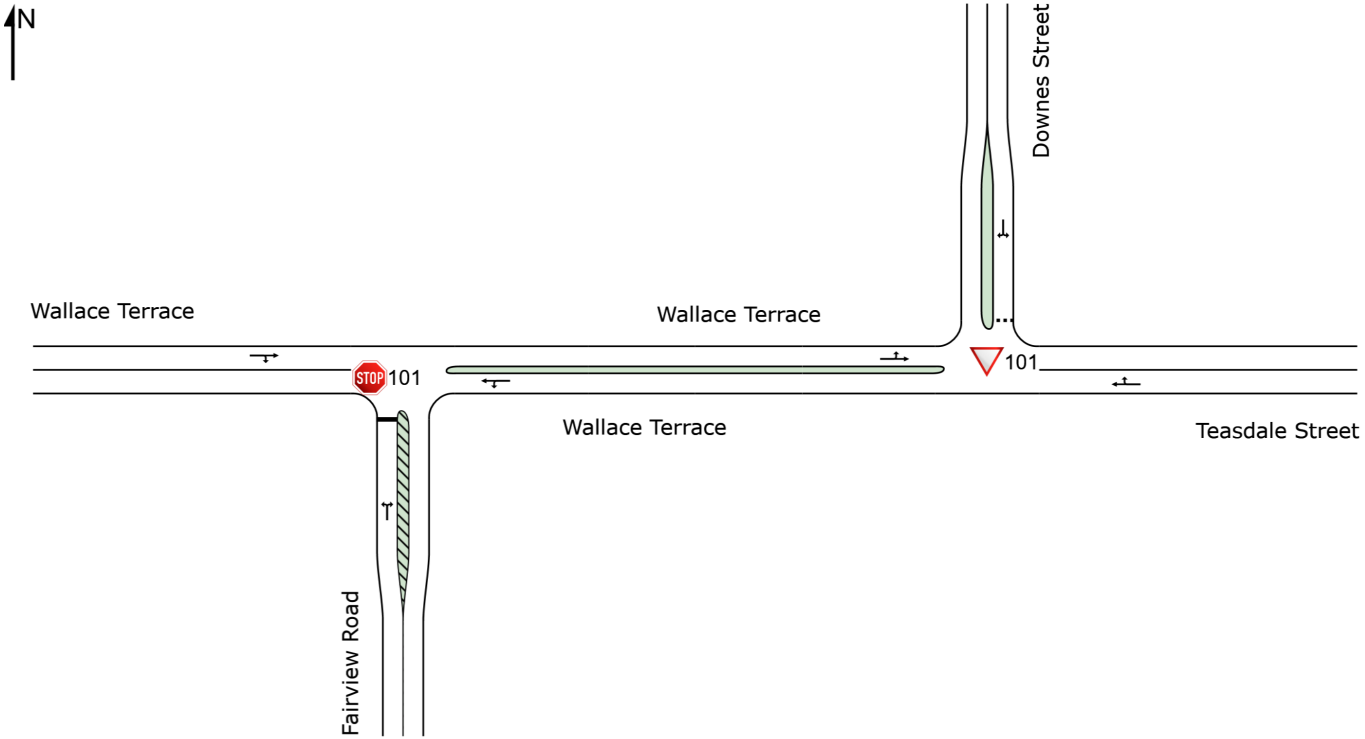
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NETWORK LAYOUT

Network: N101 [Fairview Rd / Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (70 dwellings) _AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Wallace Tce connnection)]

New Network
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
STOP 101	NA	Fairview Rd / Wallace Tce_2031 Baseline + Area 1 (70 dwellings)_AM Peak
▽ 101	NA	Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (70 dwellings)_AM Peak

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MOVEMENT SUMMARY

Site: 101 [Fairview Rd / Wallace Tce_2031 Baseline + Area 1 (70 dwellings)_AM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Wallace Tce connnection)]

Network: N101 [Fairview Rd / Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (70 dwellings)_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Wallace Tce connnection)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fairview Road														
1	L2	9	5.0	9	5.0	0.278	7.7	LOS A	1.1	8.1	0.31	0.93	0.31	44.6
3	R2	242	5.0	242	5.0	0.278	8.7	LOS A	1.1	8.1	0.31	0.93	0.31	41.2
Approach		252	5.0	252	5.0	0.278	8.6	LOS A	1.1	8.1	0.31	0.93	0.31	41.4
East: Wallace Terrace														
4	L2	233	5.0	233	5.0	0.141	3.9	LOS A	0.0	0.0	0.00	0.47	0.00	45.1
5	T1	24	5.0	24	5.0	0.141	0.0	LOS A	0.0	0.0	0.00	0.47	0.00	46.0
Approach		257	5.0	257	5.0	0.141	3.5	NA	0.0	0.0	0.00	0.47	0.00	45.2
West: Wallace Terrace														
11	T1	69	5.0	69	5.0	0.053	0.4	LOS A	0.2	1.3	0.21	0.15	0.21	47.4
12	R2	24	5.0	24	5.0	0.053	5.5	LOS A	0.2	1.3	0.21	0.15	0.21	47.8
Approach		94	5.0	94	5.0	0.053	1.7	NA	0.2	1.3	0.21	0.15	0.21	47.6
All Vehicles		602	5.0	602	5.0	0.278	5.4	NA	1.1	8.1	0.16	0.61	0.16	44.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (70 dwellings)_AM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Wallace Tce connnection)]

Network: N101 [Fairview Rd / Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (70 dwellings)_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Wallace Tce connnection)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Teasdale Street														
5	T1	33	5.0	33	5.0	0.021	0.2	LOS A	0.0	0.3	0.13	0.08	0.13	48.4
6	R2	5	5.0	5	5.0	0.021	5.7	LOS A	0.0	0.3	0.13	0.08	0.13	47.6
Approach		38	5.0	38	5.0	0.021	1.0	NA	0.0	0.3	0.13	0.08	0.13	48.3
North: Downes Street														
7	L2	6	5.0	6	5.0	0.229	4.9	LOS A	0.9	6.3	0.33	0.61	0.33	44.1
9	R2	226	5.0	226	5.0	0.229	5.8	LOS A	0.9	6.3	0.33	0.61	0.33	35.2
Approach		233	5.0	233	5.0	0.229	5.7	LOS A	0.9	6.3	0.33	0.61	0.33	35.9
West: Wallace Terrace														
10	L2	222	5.0	222	5.0	0.169	3.9	LOS A	0.0	0.0	0.00	0.37	0.00	41.5
11	T1	89	5.0	89	5.0	0.169	0.0	LOS A	0.0	0.0	0.00	0.37	0.00	46.8
Approach		312	5.0	312	5.0	0.169	2.8	NA	0.0	0.0	0.00	0.37	0.00	43.9
All Vehicles		582	5.0	582	5.0	0.229	3.8	NA	0.9	6.3	0.14	0.45	0.14	41.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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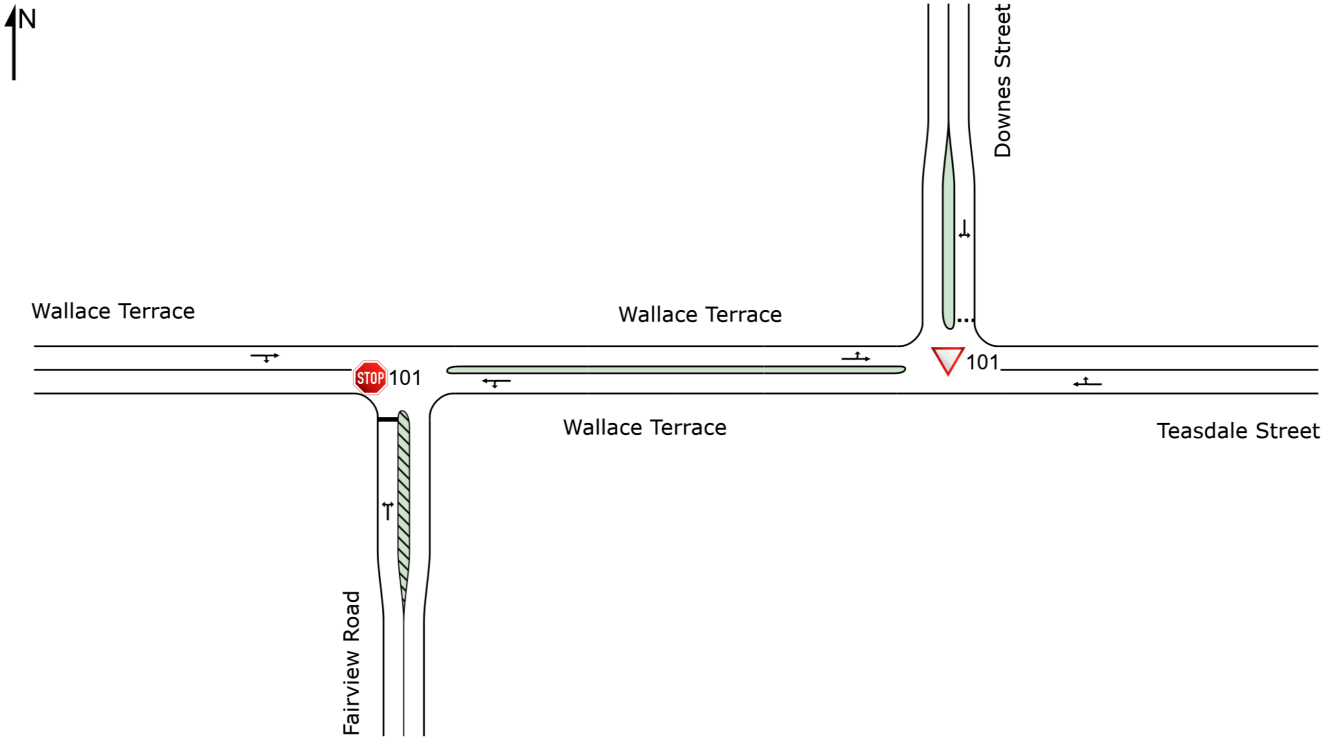
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NETWORK LAYOUT

Network: N101 [Fairview Rd / Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (70 dwellings) _PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Wallace Tce connnection)]

New Network
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
STOP 101	NA	Fairview Rd / Wallace Tce_2031 Baseline + Area 1 (70 dwellings)_PM Peak
▽101	NA	Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (70 dwellings)_PM Peak

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MOVEMENT SUMMARY

Site: 101 [Fairview Rd / Wallace Tce_2031 Baseline + Area 1 (70 dwellings)_PM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Wallace Tce connnection)]

Network: N101 [Fairview Rd / Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (70 dwellings)_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Wallace Tce connnection)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fairview Road														
1	L2	22	5.0	22	5.0	0.276	8.0	LOS A	1.1	8.0	0.33	0.92	0.33	44.7
3	R2	231	5.0	231	5.0	0.276	8.7	LOS A	1.1	8.0	0.33	0.92	0.33	41.2
Approach		253	5.0	253	5.0	0.276	8.6	LOS A	1.1	8.0	0.33	0.92	0.33	41.7
East: Wallace Terrace														
4	L2	227	5.0	227	5.0	0.161	3.9	LOS A	0.0	0.0	0.00	0.40	0.00	45.7
5	T1	67	5.0	67	5.0	0.161	0.0	LOS A	0.0	0.0	0.00	0.40	0.00	46.5
Approach		295	5.0	295	5.0	0.161	3.0	NA	0.0	0.0	0.00	0.40	0.00	45.9
West: Wallace Terrace														
11	T1	41	5.0	41	5.0	0.032	0.4	LOS A	0.1	0.7	0.21	0.14	0.21	47.4
12	R2	14	5.0	14	5.0	0.032	5.6	LOS A	0.1	0.7	0.21	0.14	0.21	47.8
Approach		55	5.0	55	5.0	0.032	1.7	NA	0.1	0.7	0.21	0.14	0.21	47.6
All Vehicles		602	5.0	602	5.0	0.276	5.2	NA	1.1	8.0	0.16	0.60	0.16	44.2

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (70 dwellings)_PM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Wallace Tce connnection)]

Network: N101 [Fairview Rd / Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (70 dwellings)_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Wallace Tce connnection)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Teasdale Street														
5	T1	105	5.0	105	5.0	0.058	0.1	LOS A	0.0	0.3	0.04	0.03	0.04	49.5
6	R2	5	5.0	5	5.0	0.058	5.6	LOS A	0.0	0.3	0.04	0.03	0.04	48.3
Approach		111	5.0	111	5.0	0.058	0.3	NA	0.0	0.3	0.04	0.03	0.04	49.4
North: Downes Street														
7	L2	3	5.0	3	5.0	0.197	4.8	LOS A	0.7	5.2	0.34	0.62	0.34	44.1
9	R2	191	5.0	191	5.0	0.197	5.9	LOS A	0.7	5.2	0.34	0.62	0.34	35.1
Approach		194	5.0	194	5.0	0.197	5.9	LOS A	0.7	5.2	0.34	0.62	0.34	35.5
West: Wallace Terrace														
10	L2	220	5.0	220	5.0	0.149	3.9	LOS A	0.0	0.0	0.00	0.42	0.00	40.8
11	T1	53	5.0	53	5.0	0.149	0.0	LOS A	0.0	0.0	0.00	0.42	0.00	46.4
Approach		273	5.0	273	5.0	0.149	3.1	NA	0.0	0.0	0.00	0.42	0.00	42.6
All Vehicles		577	5.0	577	5.0	0.197	3.5	NA	0.7	5.2	0.12	0.41	0.12	42.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

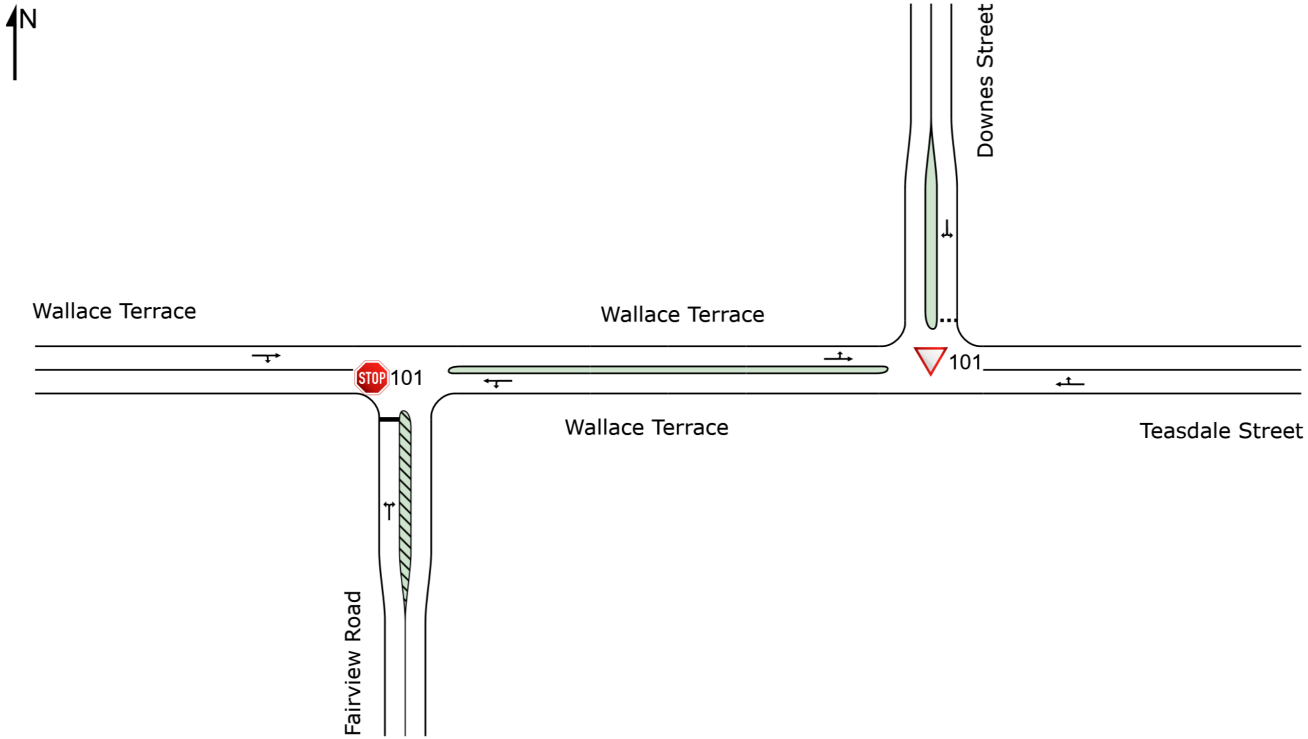
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NETWORK LAYOUT

Network: N101 [Fairview Rd / Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (70 dwellings) _AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Wallace Tce connnection)]

New Network
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
STOP 101	NA	Fairview Rd / Wallace Tce_2041 Baseline + Area 1 (70 dwellings)_AM Peak
▽101	NA	Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (70 dwellings)_AM Peak

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MOVEMENT SUMMARY

Site: 101 [Fairview Rd / Wallace Tce_2041 Baseline + Area 1 (70 dwellings)_AM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Wallace Tce connnection)]

Network: N101 [Fairview Rd / Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (70 dwellings)_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Wallace Tce connnection)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fairview Road														
1	L2	9	5.0	9	5.0	0.301	7.7	LOS A	1.2	8.9	0.32	0.93	0.32	44.6
3	R2	261	5.0	261	5.0	0.301	8.7	LOS A	1.2	8.9	0.32	0.93	0.32	41.1
Approach		271	5.0	271	5.0	0.301	8.7	LOS A	1.2	8.9	0.32	0.93	0.32	41.4
East: Wallace Terrace														
4	L2	238	5.0	238	5.0	0.144	3.9	LOS A	0.0	0.0	0.00	0.47	0.00	45.1
5	T1	24	5.0	24	5.0	0.144	0.0	LOS A	0.0	0.0	0.00	0.47	0.00	46.0
Approach		262	5.0	262	5.0	0.144	3.5	NA	0.0	0.0	0.00	0.47	0.00	45.2
West: Wallace Terrace														
11	T1	69	5.0	69	5.0	0.054	0.4	LOS A	0.2	1.3	0.21	0.15	0.21	47.4
12	R2	24	5.0	24	5.0	0.054	5.5	LOS A	0.2	1.3	0.21	0.15	0.21	47.8
Approach		94	5.0	94	5.0	0.054	1.7	NA	0.2	1.3	0.21	0.15	0.21	47.5
All Vehicles		626	5.0	626	5.0	0.301	5.5	NA	1.2	8.9	0.17	0.62	0.17	43.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (70 dwellings)_AM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Wallace Tce connnection)]

Network: N101 [Fairview Rd / Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (70 dwellings)_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Wallace Tce connnection)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Teasdale Street														
5	T1	35	5.0	35	5.0	0.022	0.3	LOS A	0.0	0.3	0.13	0.07	0.13	48.5
6	R2	5	5.0	5	5.0	0.022	5.8	LOS A	0.0	0.3	0.13	0.07	0.13	47.6
Approach		40	5.0	40	5.0	0.022	1.0	NA	0.0	0.3	0.13	0.07	0.13	48.3
North: Downes Street														
7	L2	6	5.0	6	5.0	0.234	5.0	LOS A	0.9	6.4	0.34	0.62	0.34	44.1
9	R2	228	5.0	228	5.0	0.234	5.8	LOS A	0.9	6.4	0.34	0.62	0.34	35.1
Approach		235	5.0	235	5.0	0.234	5.8	LOS A	0.9	6.4	0.34	0.62	0.34	35.8
West: Wallace Terrace														
10	L2	240	5.0	240	5.0	0.180	3.9	LOS A	0.0	0.0	0.00	0.38	0.00	41.4
11	T1	92	5.0	92	5.0	0.180	0.0	LOS A	0.0	0.0	0.00	0.38	0.00	46.7
Approach		332	5.0	332	5.0	0.180	2.8	NA	0.0	0.0	0.00	0.38	0.00	43.7
All Vehicles		606	5.0	606	5.0	0.234	3.9	NA	0.9	6.4	0.14	0.45	0.14	41.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

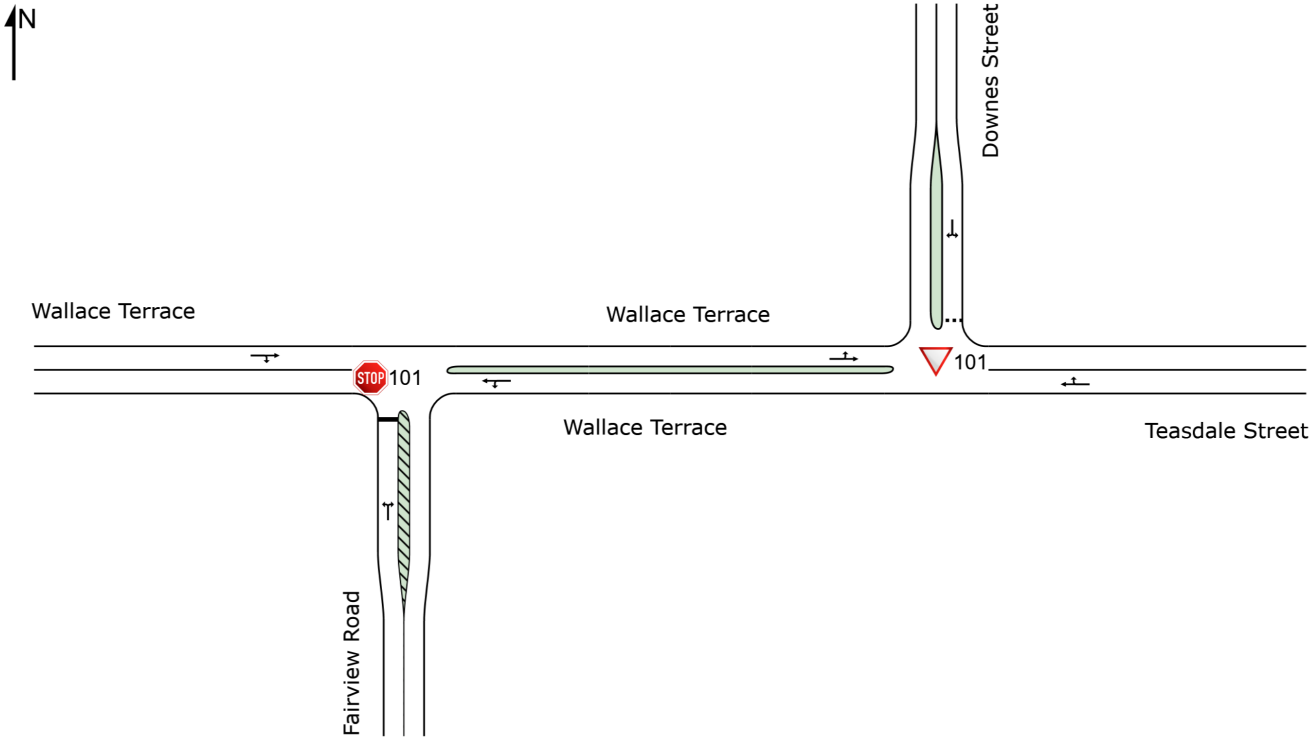
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NETWORK LAYOUT

Network: N101 [Fairview Rd / Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (70 dwellings) _PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Wallace Tce connnection)]

New Network
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
STOP 101	NA	Fairview Rd / Wallace Tce_2041 Baseline + Area 1 (70 dwellings)_PM Peak
▽ 101	NA	Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (70 dwellings)_PM Peak

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MOVEMENT SUMMARY

Site: 101 [Fairview Rd / Wallace Tce_2041 Baseline + Area 1 (70 dwellings)_PM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Wallace Tce connnection)]

Network: N101 [Fairview Rd / Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (70 dwellings)_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Wallace Tce connnection)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fairview Road														
1	L2	22	5.0	22	5.0	0.300	8.0	LOS A	1.2	8.9	0.35	0.92	0.35	44.6
3	R2	249	5.0	249	5.0	0.300	8.8	LOS A	1.2	8.9	0.35	0.92	0.35	41.2
Approach		272	5.0	272	5.0	0.300	8.7	LOS A	1.2	8.9	0.35	0.92	0.35	41.7
East: Wallace Terrace														
4	L2	242	5.0	242	5.0	0.169	3.9	LOS A	0.0	0.0	0.00	0.41	0.00	45.6
5	T1	67	5.0	67	5.0	0.169	0.0	LOS A	0.0	0.0	0.00	0.41	0.00	46.5
Approach		309	5.0	309	5.0	0.169	3.0	NA	0.0	0.0	0.00	0.41	0.00	45.8
West: Wallace Terrace														
11	T1	41	5.0	41	5.0	0.032	0.5	LOS A	0.1	0.7	0.22	0.14	0.22	47.4
12	R2	14	5.0	14	5.0	0.032	5.7	LOS A	0.1	0.7	0.22	0.14	0.22	47.8
Approach		55	5.0	55	5.0	0.032	1.8	NA	0.1	0.7	0.22	0.14	0.22	47.5
All Vehicles		636	5.0	636	5.0	0.300	5.4	NA	1.2	8.9	0.17	0.61	0.17	44.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (70 dwellings)_PM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Wallace Tce connnection)]

Network: N101 [Fairview Rd / Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (70 dwellings)_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Wallace Tce connnection)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Teasdale Street														
5	T1	105	5.0	105	5.0	0.058	0.1	LOS A	0.0	0.3	0.05	0.03	0.05	49.4
6	R2	5	5.0	5	5.0	0.058	5.7	LOS A	0.0	0.3	0.05	0.03	0.05	48.3
Approach		111	5.0	111	5.0	0.058	0.3	NA	0.0	0.3	0.05	0.03	0.05	49.4
North: Downes Street														
7	L2	3	5.0	3	5.0	0.216	4.8	LOS A	0.8	5.8	0.36	0.63	0.36	44.0
9	R2	206	5.0	206	5.0	0.216	6.0	LOS A	0.8	5.8	0.36	0.63	0.36	35.0
Approach		209	5.0	209	5.0	0.216	6.0	LOS A	0.8	5.8	0.36	0.63	0.36	35.3
West: Wallace Terrace														
10	L2	236	5.0	236	5.0	0.159	3.9	LOS A	0.0	0.0	0.00	0.42	0.00	40.8
11	T1	55	5.0	55	5.0	0.159	0.0	LOS A	0.0	0.0	0.00	0.42	0.00	46.4
Approach		291	5.0	291	5.0	0.159	3.1	NA	0.0	0.0	0.00	0.42	0.00	42.6
All Vehicles		611	5.0	611	5.0	0.216	3.6	NA	0.8	5.8	0.13	0.42	0.13	42.4

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

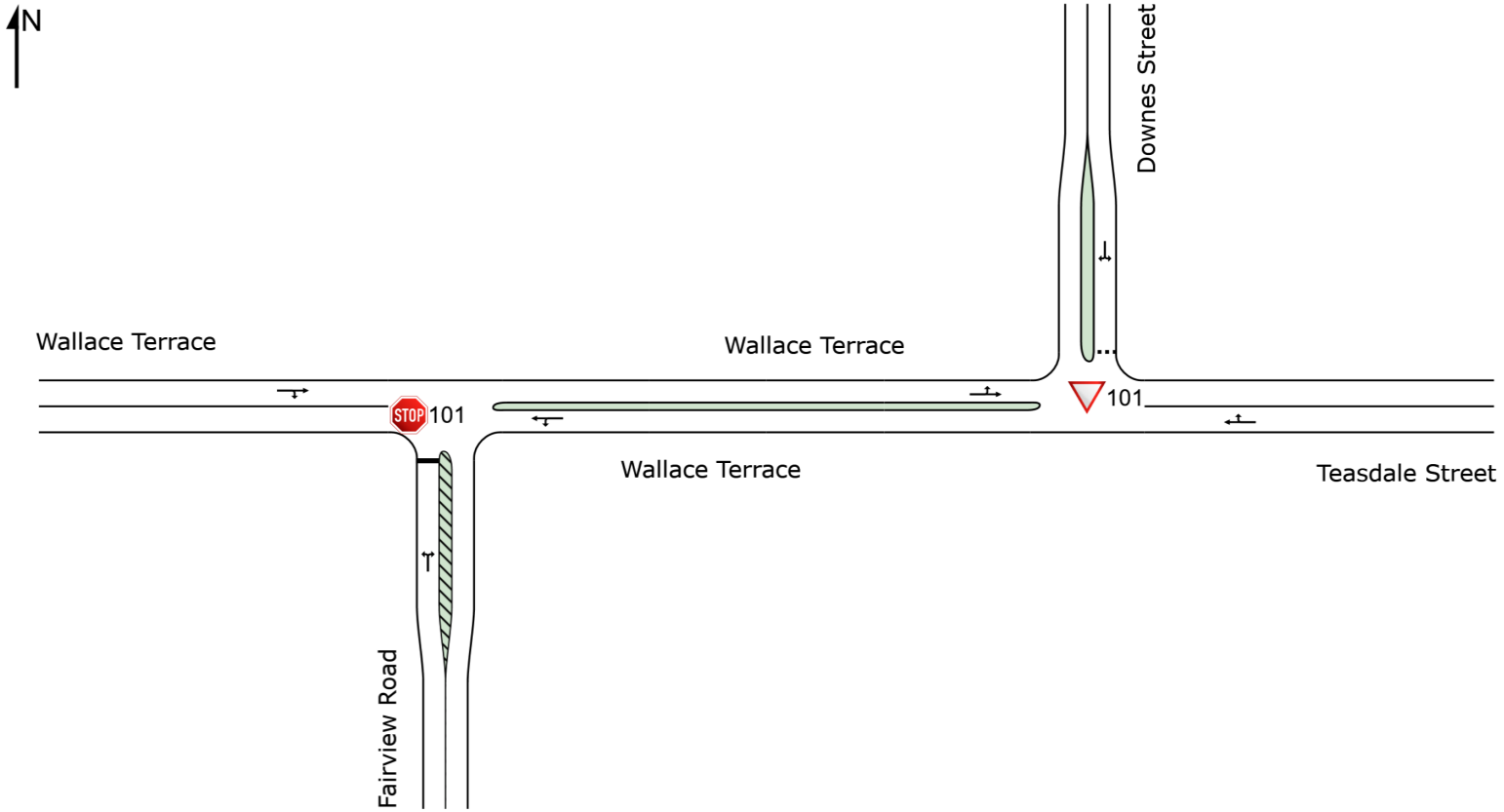
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

NETWORK LAYOUT

Network: N101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

New Network
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	Fairview Rd / Wallace Tce_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak

▽101	NA	Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak

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Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Fairview Rd / Wallace Tce_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fairview Road														
1	L2	5	5.0	5	5.0	0.305	7.9	LOS A	1.3	9.1	0.42	0.95	0.44	44.3
3	R2	242	5.0	242	5.0	0.305	9.5	LOS A	1.3	9.1	0.42	0.95	0.44	40.6
Approach		247	5.0	247	5.0	0.305	9.5	LOS A	1.3	9.1	0.42	0.95	0.44	40.8
East: Wallace Terrace														
4	L2	233	5.0	233	5.0	0.155	3.9	LOS A	0.0	0.0	0.00	0.43	0.00	45.5
5	T1	52	5.0	52	5.0	0.155	0.0	LOS A	0.0	0.0	0.00	0.43	0.00	46.3
Approach		284	5.0	284	5.0	0.155	3.2	NA	0.0	0.0	0.00	0.43	0.00	45.6
West: Wallace Terrace														
11	T1	149	5.0	149	5.0	0.085	0.1	LOS A	0.1	0.7	0.07	0.04	0.07	49.2
12	R2	12	5.0	12	5.0	0.085	5.7	LOS A	0.1	0.7	0.07	0.04	0.07	48.7
Approach		161	5.0	161	5.0	0.085	0.5	NA	0.1	0.7	0.07	0.04	0.07	49.1
All Vehicles		693	5.0	693	5.0	0.305	4.8	NA	1.3	9.1	0.17	0.53	0.17	44.6

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Teasdale Street														
5	T1	40	5.0	40	5.0	0.025	0.3	LOS A	0.0	0.3	0.13	0.07	0.13	48.6
6	R2	5	5.0	5	5.0	0.025	6.1	LOS A	0.0	0.3	0.13	0.07	0.13	47.7
Approach		45	5.0	45	5.0	0.025	1.0	NA	0.0	0.3	0.13	0.07	0.13	48.4
North: Downes Street														
7	L2	6	5.0	6	5.0	0.264	5.0	LOS A	1.0	7.3	0.39	0.65	0.39	43.9
9	R2	246	5.0	246	5.0	0.264	6.2	LOS A	1.0	7.3	0.39	0.65	0.39	34.7
Approach		253	5.0	253	5.0	0.264	6.1	LOS A	1.0	7.3	0.39	0.65	0.39	35.3
West: Wallace Terrace														
10	L2	281	5.0	281	5.0	0.214	3.9	LOS A	0.0	0.0	0.00	0.38	0.00	41.5
11	T1	112	5.0	112	5.0	0.214	0.0	LOS A	0.0	0.0	0.00	0.38	0.00	46.7
Approach		393	5.0	393	5.0	0.214	2.8	NA	0.0	0.0	0.00	0.38	0.00	43.8
All Vehicles		691	5.0	691	5.0	0.264	3.9	NA	1.0	7.3	0.15	0.46	0.15	41.8

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

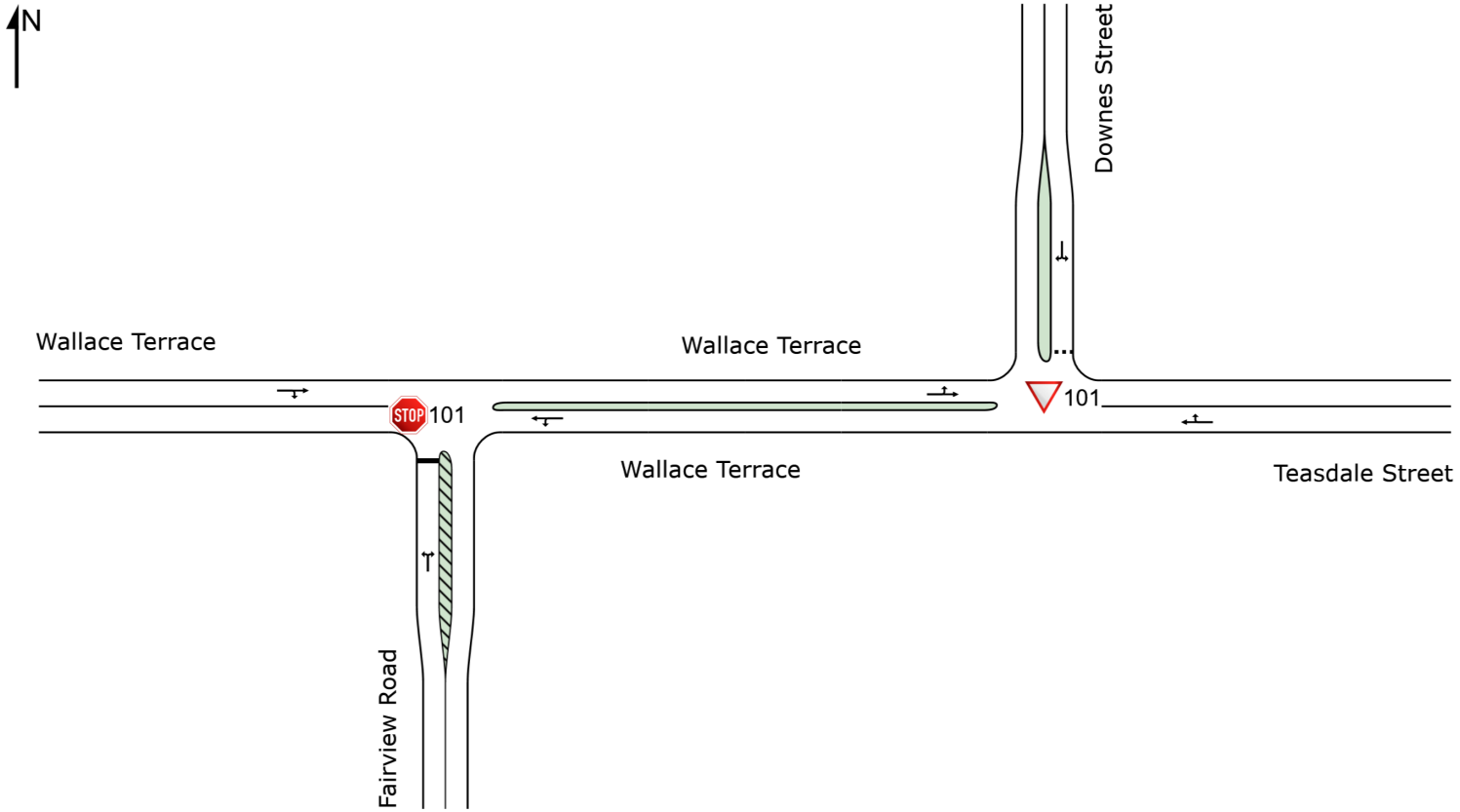
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NETWORK LAYOUT

Network: N101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

New Network
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	Fairview Rd / Wallace Tce_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak

▽101	NA	Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak

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Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Fairview Rd / Wallace Tce_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fairview Road														
1	L2	12	5.0	12	5.0	0.301	8.4	LOS A	1.2	8.9	0.44	0.96	0.46	44.3
3	R2	231	5.0	231	5.0	0.301	9.6	LOS A	1.2	8.9	0.44	0.96	0.46	40.6
Approach		242	5.0	242	5.0	0.301	9.5	LOS A	1.2	8.9	0.44	0.96	0.46	40.9
East: Wallace Terrace														
4	L2	227	5.0	227	5.0	0.196	3.9	LOS A	0.0	0.0	0.00	0.33	0.00	46.2
5	T1	135	5.0	135	5.0	0.196	0.0	LOS A	0.0	0.0	0.00	0.33	0.00	47.1
Approach		362	5.0	362	5.0	0.196	2.4	NA	0.0	0.0	0.00	0.33	0.00	46.5
West: Wallace Terrace														
11	T1	81	5.0	81	5.0	0.047	0.2	LOS A	0.1	0.5	0.09	0.05	0.09	49.0
12	R2	7	5.0	7	5.0	0.047	6.0	LOS A	0.1	0.5	0.09	0.05	0.09	48.6
Approach		88	5.0	88	5.0	0.047	0.7	NA	0.1	0.5	0.09	0.05	0.09	48.9
All Vehicles		693	5.0	693	5.0	0.301	4.7	NA	1.2	8.9	0.17	0.51	0.17	44.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Teasdale Street														
5	T1	124	5.0	124	5.0	0.067	0.1	LOS A	0.0	0.3	0.04	0.02	0.04	49.5
6	R2	5	5.0	5	5.0	0.067	5.8	LOS A	0.0	0.3	0.04	0.02	0.04	48.3
Approach		129	5.0	129	5.0	0.067	0.3	NA	0.0	0.3	0.04	0.02	0.04	49.4
North: Downes Street														
7	L2	3	5.0	3	5.0	0.259	4.8	LOS A	1.0	7.2	0.39	0.66	0.39	43.8
9	R2	240	5.0	240	5.0	0.259	6.2	LOS A	1.0	7.2	0.39	0.66	0.39	34.5
Approach		243	5.0	243	5.0	0.259	6.2	LOS A	1.0	7.2	0.39	0.66	0.39	34.8
West: Wallace Terrace														
10	L2	249	5.0	249	5.0	0.171	3.9	LOS A	0.0	0.0	0.00	0.42	0.00	40.9
11	T1	63	5.0	63	5.0	0.171	0.0	LOS A	0.0	0.0	0.00	0.42	0.00	46.4
Approach		313	5.0	313	5.0	0.171	3.1	NA	0.0	0.0	0.00	0.42	0.00	42.8
All Vehicles		685	5.0	685	5.0	0.259	3.7	NA	1.0	7.2	0.15	0.43	0.15	42.4

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

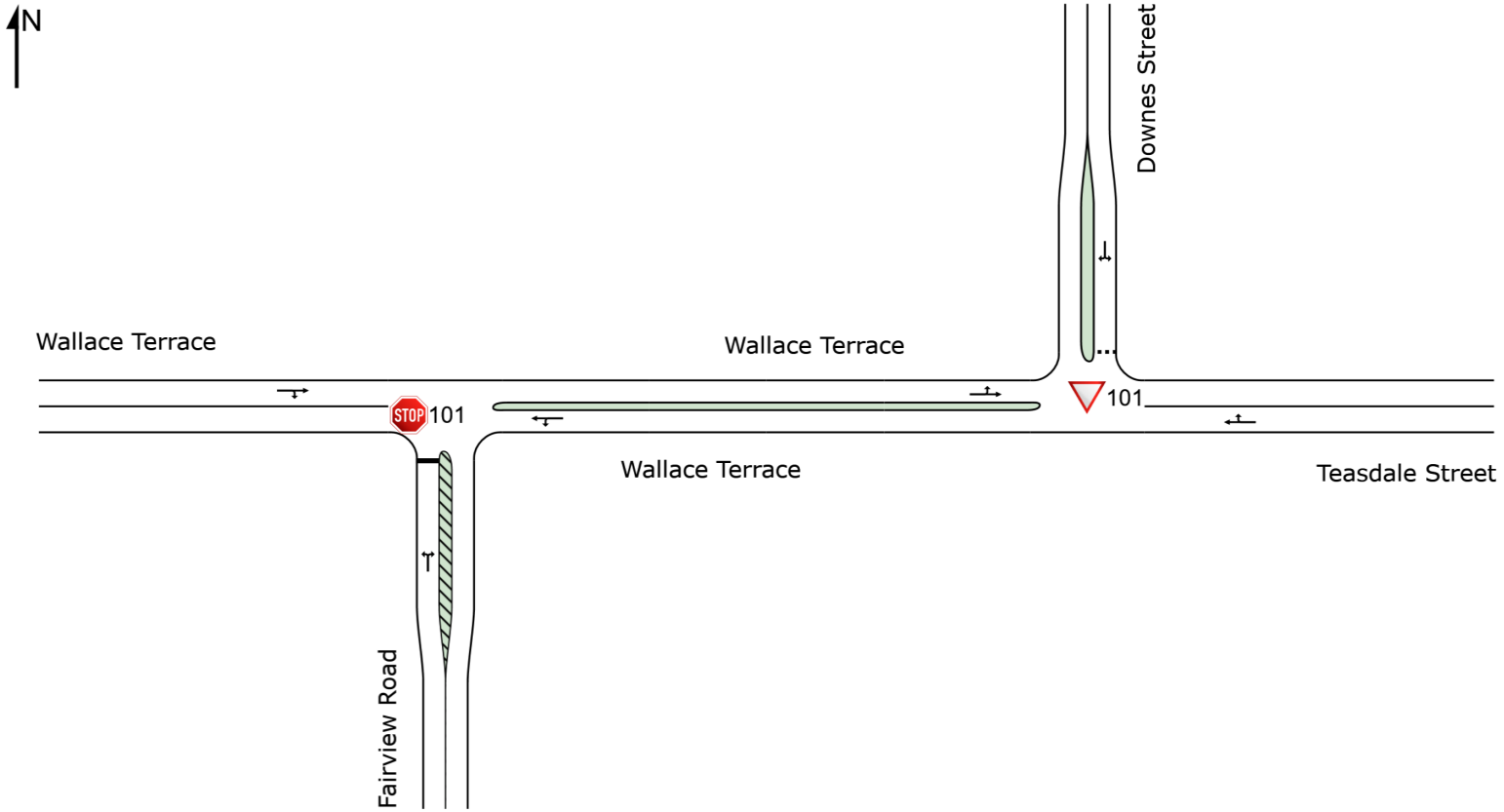
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

NETWORK LAYOUT

Network: N101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

New Network
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	Fairview Rd / Wallace Tce_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak

▽101	NA	Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak

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Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Fairview Rd / Wallace Tce_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fairview Road														
1	L2	5	5.0	5	5.0	0.329	8.2	LOS A	1.4	10.6	0.47	1.00	0.53	44.0
3	R2	242	5.0	242	5.0	0.329	10.3	LOS B	1.4	10.6	0.47	1.00	0.53	40.0
Approach		247	5.0	247	5.0	0.329	10.2	LOS B	1.4	10.6	0.47	1.00	0.53	40.2
East: Wallace Terrace														
4	L2	233	5.0	233	5.0	0.164	3.9	LOS A	0.0	0.0	0.00	0.41	0.00	45.6
5	T1	67	5.0	67	5.0	0.164	0.0	LOS A	0.0	0.0	0.00	0.41	0.00	46.5
Approach		300	5.0	300	5.0	0.164	3.0	NA	0.0	0.0	0.00	0.41	0.00	45.8
West: Wallace Terrace														
11	T1	198	5.0	198	5.0	0.110	0.1	LOS A	0.1	0.7	0.06	0.03	0.06	49.3
12	R2	12	5.0	12	5.0	0.110	5.8	LOS A	0.1	0.7	0.06	0.03	0.06	48.8
Approach		209	5.0	209	5.0	0.110	0.4	NA	0.1	0.7	0.06	0.03	0.06	49.3
All Vehicles		757	5.0	757	5.0	0.329	4.6	NA	1.4	10.6	0.17	0.50	0.19	44.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Teasdale Street														
5	T1	44	5.0	44	5.0	0.027	0.3	LOS A	0.1	0.4	0.13	0.06	0.13	48.6
6	R2	5	5.0	5	5.0	0.027	6.4	LOS A	0.1	0.4	0.13	0.06	0.13	47.7
Approach		49	5.0	49	5.0	0.027	1.0	NA	0.1	0.4	0.13	0.06	0.13	48.5
North: Downes Street														
7	L2	6	5.0	6	5.0	0.287	5.1	LOS A	1.1	8.0	0.42	0.68	0.42	43.7
9	R2	258	5.0	258	5.0	0.287	6.4	LOS A	1.1	8.0	0.42	0.68	0.42	34.2
Approach		264	5.0	264	5.0	0.287	6.4	LOS A	1.1	8.0	0.42	0.68	0.42	34.9
West: Wallace Terrace														
10	L2	317	5.0	317	5.0	0.240	3.9	LOS A	0.0	0.0	0.00	0.38	0.00	41.4
11	T1	124	5.0	124	5.0	0.240	0.0	LOS A	0.0	0.0	0.00	0.38	0.00	46.7
Approach		441	5.0	441	5.0	0.240	2.8	NA	0.0	0.0	0.00	0.38	0.00	43.8
All Vehicles		755	5.0	755	5.0	0.287	3.9	NA	1.1	8.0	0.15	0.46	0.15	41.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

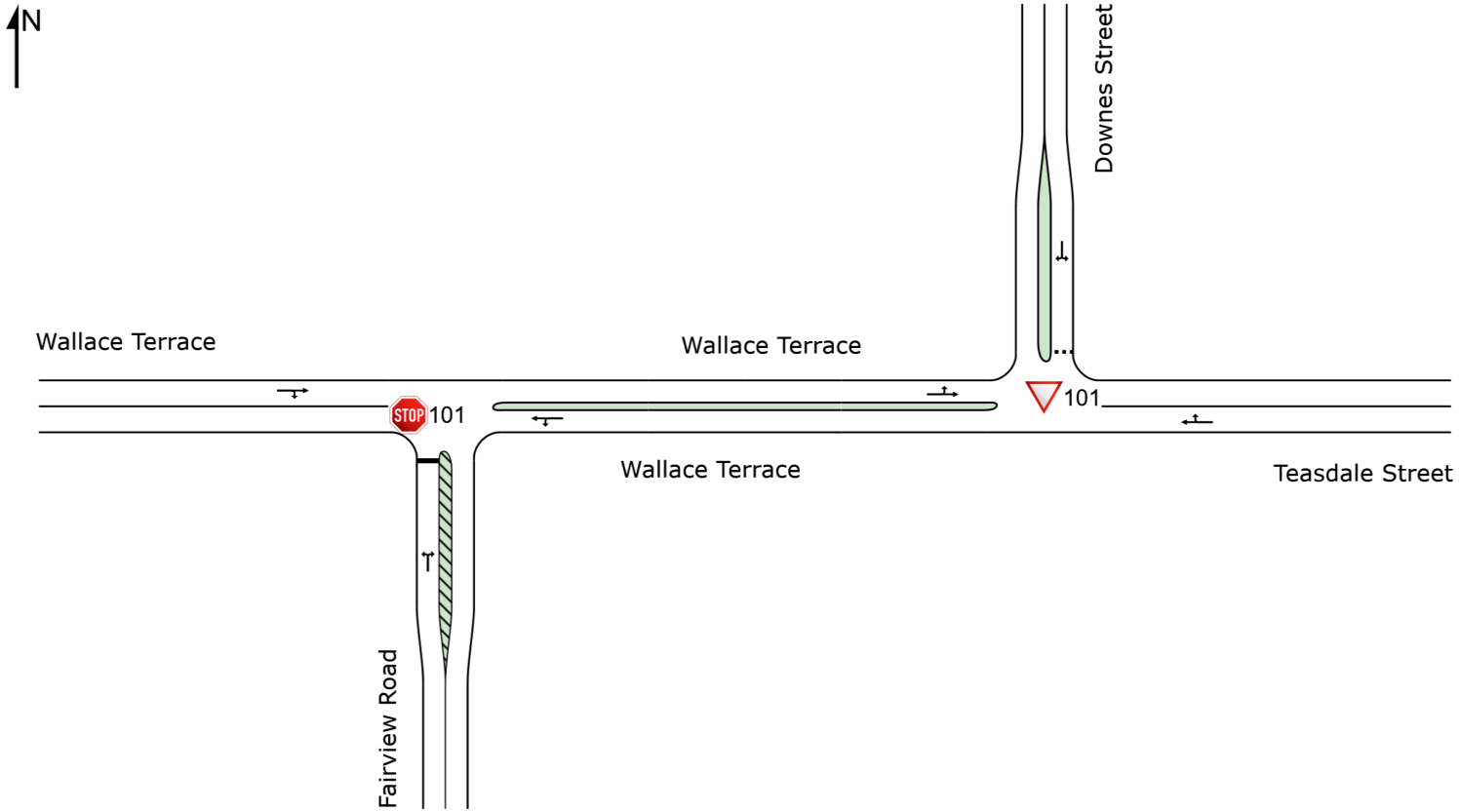
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

NETWORK LAYOUT

Network: N101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

New Network
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	Fairview Rd / Wallace Tce_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak

▽101	NA	Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak

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Organisation: STANTEC NEW ZEALAND | Licence: NETWORK / Enterprise | Created: Thursday, 1 June 2023 2:21:12 pm
Project: Z:\310205677\7_technical\SIDRA\3. wallace terrace & fairview road_20230530.sip9

Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Fairview Rd / Wallace Tce_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fairview Road														
1	L2	12	5.0	12	5.0	0.325	8.8	LOS A	1.4	10.3	0.49	1.00	0.55	43.9
3	R2	231	5.0	231	5.0	0.325	10.4	LOS B	1.4	10.3	0.49	1.00	0.55	40.0
Approach		242	5.0	242	5.0	0.325	10.3	LOS B	1.4	10.3	0.49	1.00	0.55	40.3
East: Wallace Terrace														
4	L2	227	5.0	227	5.0	0.217	3.9	LOS A	0.0	0.0	0.00	0.30	0.00	46.5
5	T1	175	5.0	175	5.0	0.217	0.0	LOS A	0.0	0.0	0.00	0.30	0.00	47.4
Approach		402	5.0	402	5.0	0.217	2.2	NA	0.0	0.0	0.00	0.30	0.00	46.8
West: Wallace Terrace														
11	T1	104	5.0	104	5.0	0.060	0.2	LOS A	0.1	0.5	0.08	0.04	0.08	49.1
12	R2	7	5.0	7	5.0	0.060	6.2	LOS A	0.1	0.5	0.08	0.04	0.08	48.7
Approach		112	5.0	112	5.0	0.060	0.6	NA	0.1	0.5	0.08	0.04	0.08	49.1
All Vehicles		756	5.0	756	5.0	0.325	4.5	NA	1.4	10.3	0.17	0.49	0.19	44.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Teasdale Street														
5	T1	135	5.0	135	5.0	0.073	0.1	LOS A	0.0	0.3	0.04	0.02	0.04	49.5
6	R2	5	5.0	5	5.0	0.073	5.9	LOS A	0.0	0.3	0.04	0.02	0.04	48.3
Approach		140	5.0	140	5.0	0.073	0.3	NA	0.0	0.3	0.04	0.02	0.04	49.5
North: Downes Street														
7	L2	3	5.0	3	5.0	0.300	4.9	LOS A	1.2	8.7	0.43	0.69	0.43	43.6
9	R2	271	5.0	271	5.0	0.300	6.5	LOS A	1.2	8.7	0.43	0.69	0.43	34.0
Approach		274	5.0	274	5.0	0.300	6.5	LOS A	1.2	8.7	0.43	0.69	0.43	34.4
West: Wallace Terrace														
10	L2	267	5.0	267	5.0	0.185	3.9	LOS A	0.0	0.0	0.00	0.41	0.00	40.9
11	T1	71	5.0	71	5.0	0.185	0.0	LOS A	0.0	0.0	0.00	0.41	0.00	46.4
Approach		338	5.0	338	5.0	0.185	3.1	NA	0.0	0.0	0.00	0.41	0.00	42.8
All Vehicles		752	5.0	752	5.0	0.300	3.8	NA	1.2	8.7	0.16	0.44	0.17	42.2

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

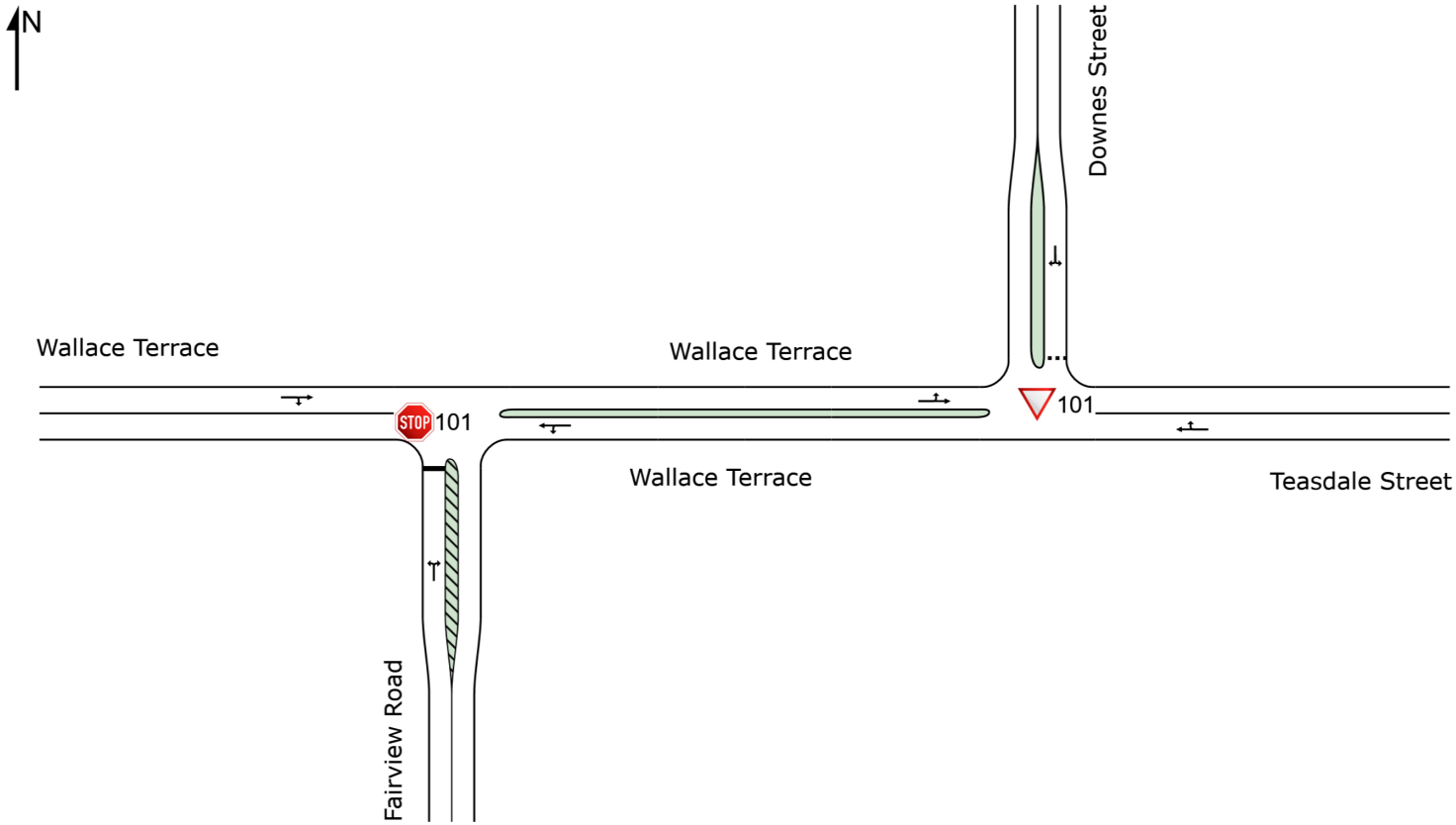
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NETWORK LAYOUT

Network: N101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

New Network
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	Fairview Rd / Wallace Tce_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak

▽101	NA	Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak

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Project: Z:\310205677\7_technical\SIDRA\3. wallace terrace & fairview road_20230530.sip9

Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Fairview Rd / Wallace Tce_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fairview Road														
1	L2	5	5.0	5	5.0	0.330	8.1	LOS A	1.4	10.5	0.44	0.97	0.47	44.2
3	R2	261	5.0	261	5.0	0.330	9.7	LOS A	1.4	10.5	0.44	0.97	0.47	40.5
Approach		266	5.0	266	5.0	0.330	9.6	LOS A	1.4	10.5	0.44	0.97	0.47	40.6
East: Wallace Terrace														
4	L2	238	5.0	238	5.0	0.158	3.9	LOS A	0.0	0.0	0.00	0.43	0.00	45.5
5	T1	52	5.0	52	5.0	0.158	0.0	LOS A	0.0	0.0	0.00	0.43	0.00	46.3
Approach		289	5.0	289	5.0	0.158	3.2	NA	0.0	0.0	0.00	0.43	0.00	45.6
West: Wallace Terrace														
11	T1	149	5.0	149	5.0	0.085	0.1	LOS A	0.1	0.7	0.07	0.04	0.07	49.2
12	R2	12	5.0	12	5.0	0.085	5.7	LOS A	0.1	0.7	0.07	0.04	0.07	48.7
Approach		161	5.0	161	5.0	0.085	0.5	NA	0.1	0.7	0.07	0.04	0.07	49.1
All Vehicles		717	5.0	717	5.0	0.330	5.0	NA	1.4	10.5	0.18	0.54	0.19	44.4

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
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NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Teasdale Street														
5	T1	42	5.0	42	5.0	0.026	0.3	LOS A	0.0	0.4	0.13	0.06	0.13	48.6
6	R2	5	5.0	5	5.0	0.026	6.2	LOS A	0.0	0.4	0.13	0.06	0.13	47.7
Approach		47	5.0	47	5.0	0.026	1.0	NA	0.0	0.4	0.13	0.06	0.13	48.5
North: Downes Street														
7	L2	6	5.0	6	5.0	0.270	5.1	LOS A	1.0	7.5	0.40	0.66	0.40	43.8
9	R2	248	5.0	248	5.0	0.270	6.2	LOS A	1.0	7.5	0.40	0.66	0.40	34.5
Approach		255	5.0	255	5.0	0.270	6.2	LOS A	1.0	7.5	0.40	0.66	0.40	35.1
West: Wallace Terrace														
10	L2	299	5.0	299	5.0	0.225	3.9	LOS A	0.0	0.0	0.00	0.38	0.00	41.4
11	T1	114	5.0	114	5.0	0.225	0.0	LOS A	0.0	0.0	0.00	0.38	0.00	46.7
Approach		413	5.0	413	5.0	0.225	2.8	NA	0.0	0.0	0.00	0.38	0.00	43.7
All Vehicles		715	5.0	715	5.0	0.270	3.9	NA	1.0	7.5	0.15	0.46	0.15	41.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
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HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

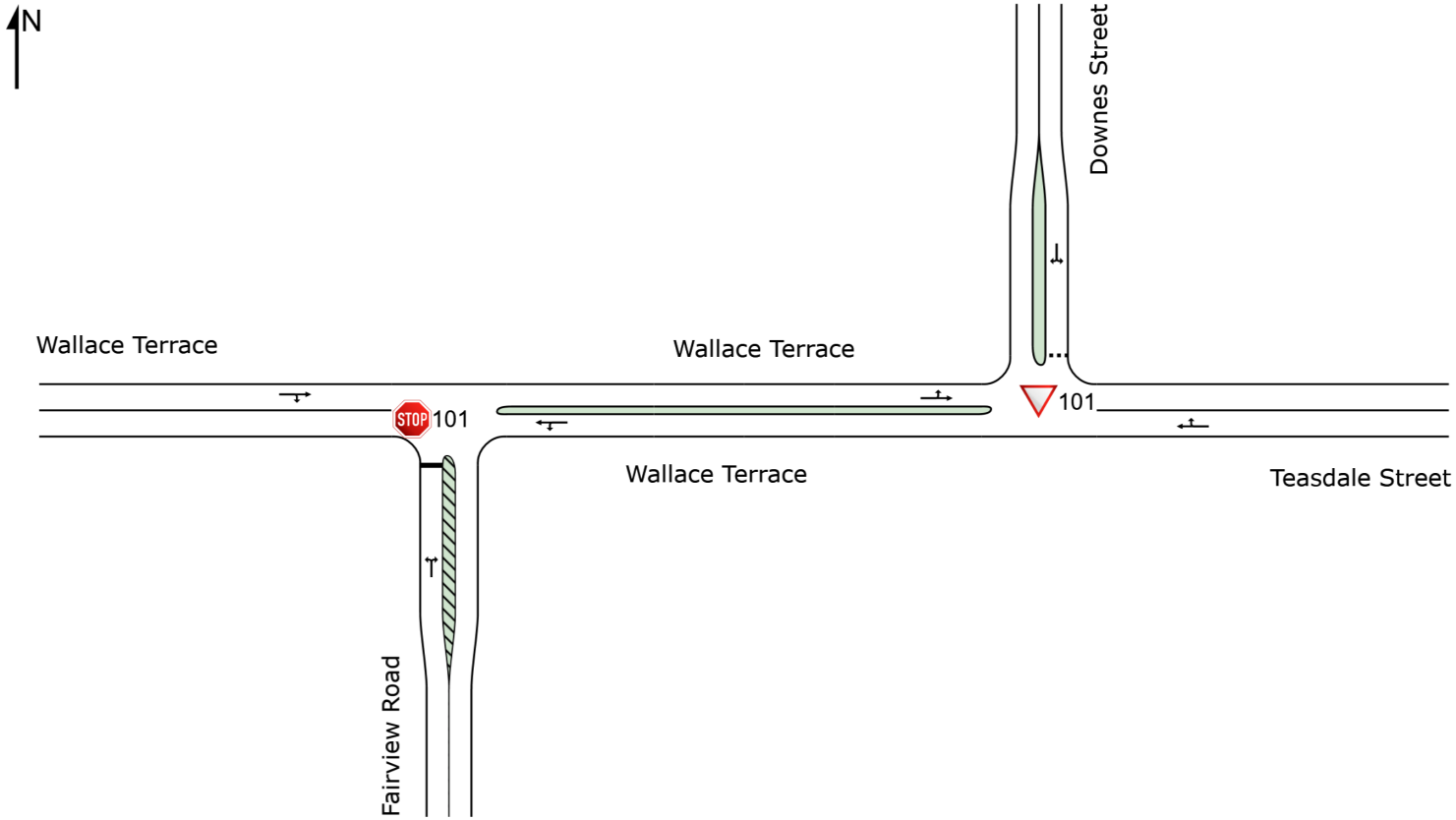
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NETWORK LAYOUT

Network: N101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

New Network
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	Fairview Rd / Wallace Tce_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak

▽101	NA	Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak

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Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Fairview Rd / Wallace Tce_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fairview Road														
1	L2	12	5.0	12	5.0	0.328	8.5	LOS A	1.4	10.5	0.46	0.97	0.50	44.2
3	R2	249	5.0	249	5.0	0.328	9.8	LOS A	1.4	10.5	0.46	0.97	0.50	40.4
Approach		261	5.0	261	5.0	0.328	9.8	LOS A	1.4	10.5	0.46	0.97	0.50	40.7
East: Wallace Terrace														
4	L2	242	5.0	242	5.0	0.204	3.9	LOS A	0.0	0.0	0.00	0.34	0.00	46.2
5	T1	135	5.0	135	5.0	0.204	0.0	LOS A	0.0	0.0	0.00	0.34	0.00	47.0
Approach		377	5.0	377	5.0	0.204	2.5	NA	0.0	0.0	0.00	0.34	0.00	46.5
West: Wallace Terrace														
11	T1	81	5.0	81	5.0	0.048	0.2	LOS A	0.1	0.5	0.09	0.05	0.09	49.0
12	R2	7	5.0	7	5.0	0.048	6.1	LOS A	0.1	0.5	0.09	0.05	0.09	48.6
Approach		88	5.0	88	5.0	0.048	0.7	NA	0.1	0.5	0.09	0.05	0.09	48.9
All Vehicles		726	5.0	726	5.0	0.328	4.9	NA	1.4	10.5	0.18	0.53	0.19	44.6

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Teasdale Street														
5	T1	124	5.0	124	5.0	0.067	0.1	LOS A	0.0	0.3	0.04	0.02	0.04	49.5
6	R2	5	5.0	5	5.0	0.067	5.9	LOS A	0.0	0.3	0.04	0.02	0.04	48.3
Approach		129	5.0	129	5.0	0.067	0.3	NA	0.0	0.3	0.04	0.02	0.04	49.4
North: Downes Street														
7	L2	3	5.0	3	5.0	0.279	4.9	LOS A	1.1	7.8	0.41	0.67	0.41	43.7
9	R2	256	5.0	256	5.0	0.279	6.3	LOS A	1.1	7.8	0.41	0.67	0.41	34.3
Approach		259	5.0	259	5.0	0.279	6.3	LOS A	1.1	7.8	0.41	0.67	0.41	34.7
West: Wallace Terrace														
10	L2	265	5.0	265	5.0	0.181	3.9	LOS A	0.0	0.0	0.00	0.42	0.00	40.8
11	T1	65	5.0	65	5.0	0.181	0.0	LOS A	0.0	0.0	0.00	0.42	0.00	46.4
Approach		331	5.0	331	5.0	0.181	3.1	NA	0.0	0.0	0.00	0.42	0.00	42.7
All Vehicles		719	5.0	719	5.0	0.279	3.8	NA	1.1	7.8	0.15	0.44	0.15	42.2

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

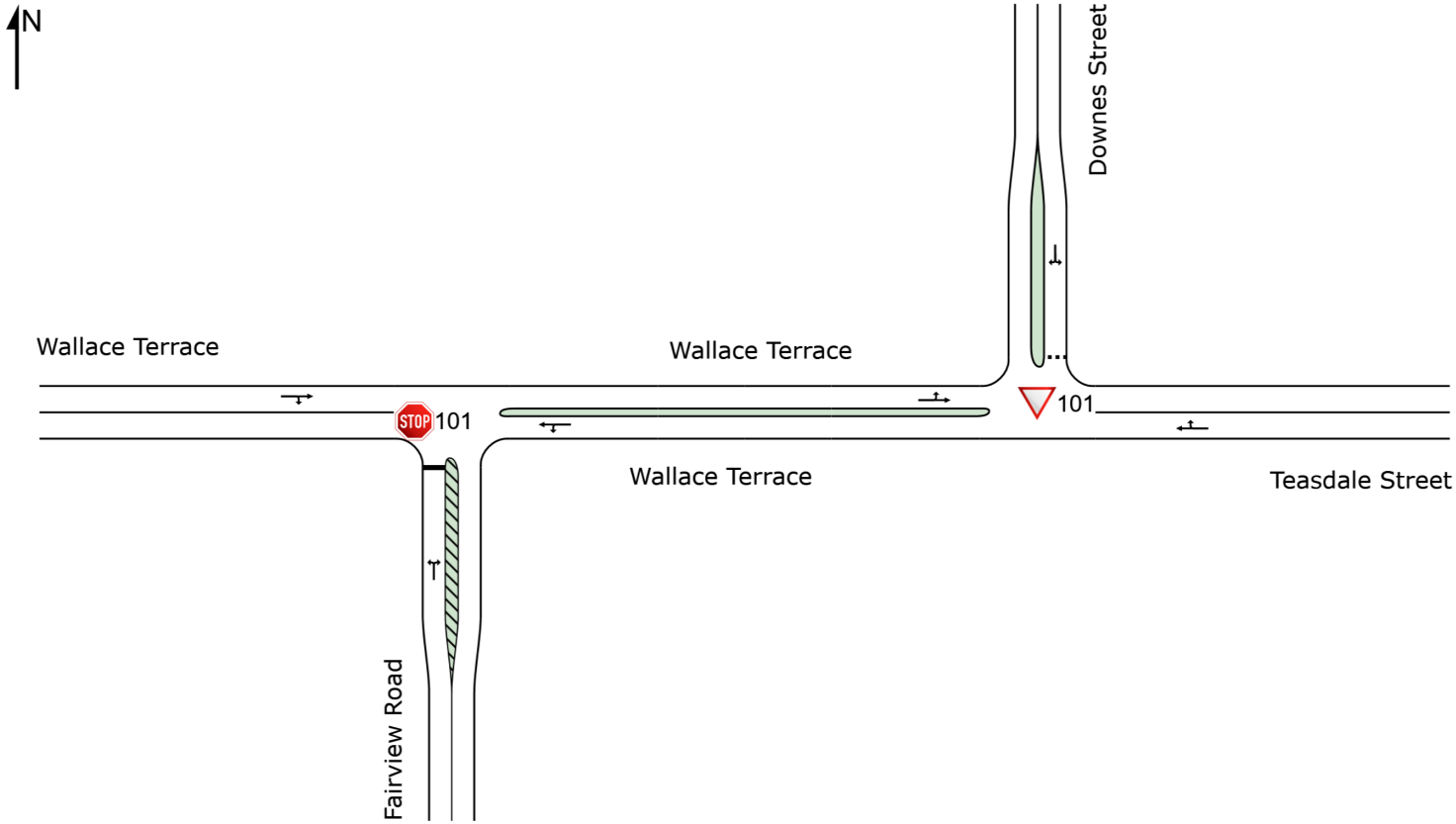
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

NETWORK LAYOUT

Network: N101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

New Network
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	Fairview Rd / Wallace Tce_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak

▽101	NA	Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak

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Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Fairview Rd / Wallace Tce_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fairview Road														
1	L2	5	5.0	5	5.0	0.356	8.3	LOS A	1.7	12.1	0.49	1.01	0.57	43.9
3	R2	261	5.0	261	5.0	0.356	10.5	LOS B	1.7	12.1	0.49	1.01	0.57	39.9
Approach		266	5.0	266	5.0	0.356	10.4	LOS B	1.7	12.1	0.49	1.01	0.57	40.0
East: Wallace Terrace														
4	L2	238	5.0	238	5.0	0.167	3.9	LOS A	0.0	0.0	0.00	0.41	0.00	45.6
5	T1	67	5.0	67	5.0	0.167	0.0	LOS A	0.0	0.0	0.00	0.41	0.00	46.5
Approach		305	5.0	305	5.0	0.167	3.0	NA	0.0	0.0	0.00	0.41	0.00	45.8
West: Wallace Terrace														
11	T1	198	5.0	198	5.0	0.110	0.1	LOS A	0.1	0.8	0.06	0.03	0.06	49.3
12	R2	12	5.0	12	5.0	0.110	5.8	LOS A	0.1	0.8	0.06	0.03	0.06	48.8
Approach		209	5.0	209	5.0	0.110	0.4	NA	0.1	0.8	0.06	0.03	0.06	49.3
All Vehicles		781	5.0	781	5.0	0.356	4.8	NA	1.7	12.1	0.18	0.51	0.21	44.5

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Teasdale Street														
5	T1	46	5.0	46	5.0	0.029	0.3	LOS A	0.1	0.4	0.13	0.06	0.13	48.7
6	R2	5	5.0	5	5.0	0.029	6.5	LOS A	0.1	0.4	0.13	0.06	0.13	47.7
Approach		52	5.0	52	5.0	0.029	1.0	NA	0.1	0.4	0.13	0.06	0.13	48.5
North: Downes Street														
7	L2	6	5.0	6	5.0	0.293	5.1	LOS A	1.1	8.3	0.43	0.69	0.43	43.6
9	R2	260	5.0	260	5.0	0.293	6.5	LOS A	1.1	8.3	0.43	0.69	0.43	34.1
Approach		266	5.0	266	5.0	0.293	6.5	LOS A	1.1	8.3	0.43	0.69	0.43	34.7
West: Wallace Terrace														
10	L2	335	5.0	335	5.0	0.251	3.9	LOS A	0.0	0.0	0.00	0.38	0.00	41.4
11	T1	126	5.0	126	5.0	0.251	0.0	LOS A	0.0	0.0	0.00	0.38	0.00	46.7
Approach		461	5.0	461	5.0	0.251	2.8	NA	0.0	0.0	0.00	0.38	0.00	43.7
All Vehicles		779	5.0	779	5.0	0.293	3.9	NA	1.1	8.3	0.15	0.46	0.16	41.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

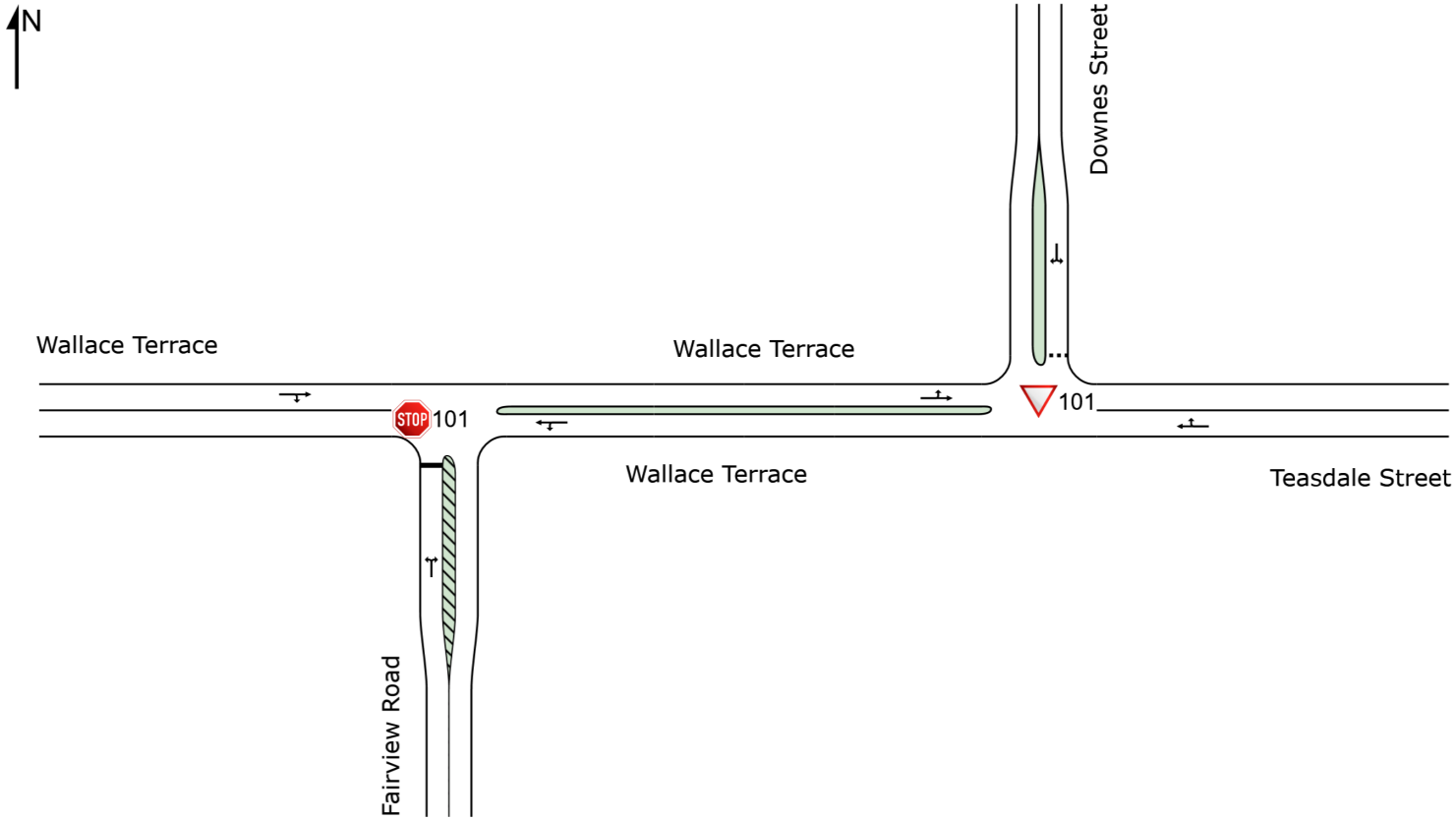
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

NETWORK LAYOUT

Network: N101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

New Network
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
STOP 101	NA	Fairview Rd / Wallace Tce_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak

▽101	NA	Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak

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Project: Z:\310205677\7_technical\SIDRA\3. wallace terrace & fairview road_20230530.sip9

Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Fairview Rd / Wallace Tce_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fairview Road														
1	L2	12	5.0	12	5.0	0.354	9.0	LOS A	1.6	11.9	0.51	1.02	0.60	43.8
3	R2	249	5.0	249	5.0	0.354	10.6	LOS B	1.6	11.9	0.51	1.02	0.60	39.8
Approach		261	5.0	261	5.0	0.354	10.6	LOS B	1.6	11.9	0.51	1.02	0.60	40.1
East: Wallace Terrace														
4	L2	242	5.0	242	5.0	0.225	3.9	LOS A	0.0	0.0	0.00	0.31	0.00	46.4
5	T1	174	5.0	174	5.0	0.225	0.0	LOS A	0.0	0.0	0.00	0.31	0.00	47.3
Approach		416	5.0	416	5.0	0.225	2.3	NA	0.0	0.0	0.00	0.31	0.00	46.8
West: Wallace Terrace														
11	T1	104	5.0	104	5.0	0.060	0.2	LOS A	0.1	0.5	0.08	0.04	0.08	49.1
12	R2	7	5.0	7	5.0	0.060	6.3	LOS A	0.1	0.5	0.08	0.04	0.08	48.7
Approach		112	5.0	112	5.0	0.060	0.6	NA	0.1	0.5	0.08	0.04	0.08	49.1
All Vehicles		788	5.0	788	5.0	0.354	4.8	NA	1.6	11.9	0.18	0.51	0.21	44.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Teasdale Street														
5	T1	135	5.0	135	5.0	0.073	0.1	LOS A	0.0	0.4	0.04	0.02	0.04	49.5
6	R2	5	5.0	5	5.0	0.073	6.0	LOS A	0.0	0.4	0.04	0.02	0.04	48.3
Approach		140	5.0	140	5.0	0.073	0.3	NA	0.0	0.4	0.04	0.02	0.04	49.5
North: Downes Street														
7	L2	3	5.0	3	5.0	0.321	5.0	LOS A	1.4	9.9	0.44	0.70	0.47	43.5
9	R2	286	5.0	286	5.0	0.321	6.7	LOS A	1.4	9.9	0.44	0.70	0.47	33.7
Approach		289	5.0	289	5.0	0.321	6.7	LOS A	1.4	9.9	0.44	0.70	0.47	34.0
West: Wallace Terrace														
10	L2	283	5.0	283	5.0	0.194	3.9	LOS A	0.0	0.0	0.00	0.42	0.00	40.9
11	T1	73	5.0	73	5.0	0.194	0.0	LOS A	0.0	0.0	0.00	0.42	0.00	46.4
Approach		356	5.0	356	5.0	0.194	3.1	NA	0.0	0.0	0.00	0.42	0.00	42.8
All Vehicles		785	5.0	785	5.0	0.321	3.9	NA	1.4	9.9	0.17	0.45	0.18	41.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

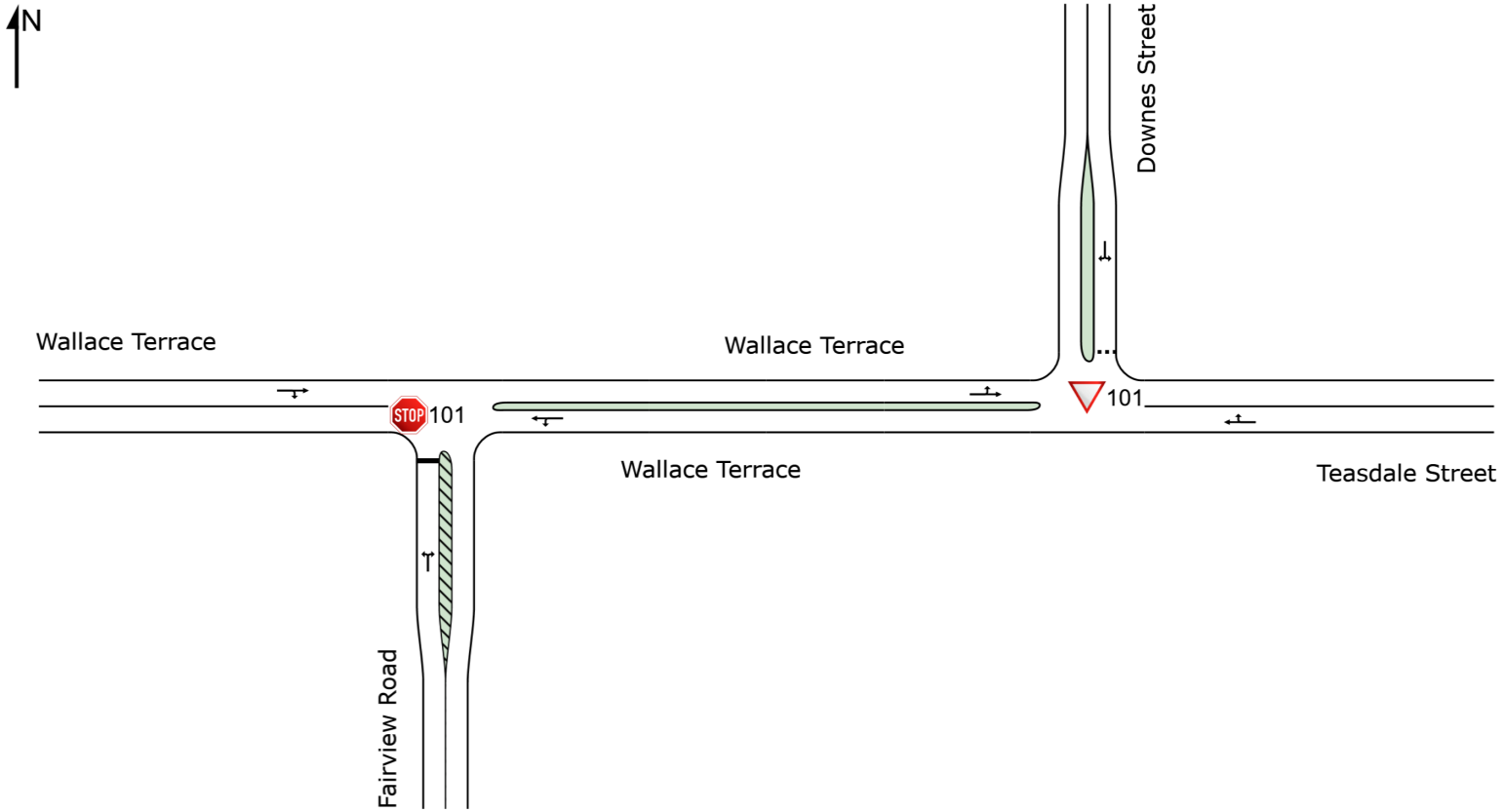
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NETWORK LAYOUT

Network: N101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

New Network
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	Fairview Rd / Wallace Tce_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak

▽101	NA	Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak

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Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Fairview Rd / Wallace Tce_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fairview Road														
1	L2	5	5.0	5	5.0	0.262	7.7	LOS A	1.0	7.5	0.28	0.92	0.28	44.8
3	R2	242	5.0	242	5.0	0.262	8.3	LOS A	1.0	7.5	0.28	0.92	0.28	41.4
Approach		247	5.0	247	5.0	0.262	8.3	LOS A	1.0	7.5	0.28	0.92	0.28	41.6
East: Wallace Terrace														
4	L2	233	5.0	233	5.0	0.137	3.9	LOS A	0.0	0.0	0.00	0.48	0.00	45.0
5	T1	16	5.0	16	5.0	0.137	0.0	LOS A	0.0	0.0	0.00	0.48	0.00	45.9
Approach		248	5.0	248	5.0	0.137	3.6	NA	0.0	0.0	0.00	0.48	0.00	45.1
West: Wallace Terrace														
11	T1	42	5.0	42	5.0	0.030	0.3	LOS A	0.1	0.6	0.17	0.12	0.17	47.8
12	R2	12	5.0	12	5.0	0.030	5.5	LOS A	0.1	0.6	0.17	0.12	0.17	48.0
Approach		54	5.0	54	5.0	0.030	1.4	NA	0.1	0.6	0.17	0.12	0.17	47.9
All Vehicles		549	5.0	549	5.0	0.262	5.5	NA	1.0	7.5	0.14	0.65	0.14	43.8

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Teasdale Street														
5	T1	33	5.0	33	5.0	0.021	0.2	LOS A	0.0	0.3	0.12	0.08	0.12	48.5
6	R2	5	5.0	5	5.0	0.021	5.6	LOS A	0.0	0.3	0.12	0.08	0.12	47.6
Approach		38	5.0	38	5.0	0.021	1.0	NA	0.0	0.3	0.12	0.08	0.12	48.3
North: Downes Street														
7	L2	6	5.0	6	5.0	0.217	4.9	LOS A	0.8	5.9	0.32	0.60	0.32	44.2
9	R2	217	5.0	217	5.0	0.217	5.7	LOS A	0.8	5.9	0.32	0.60	0.32	35.3
Approach		223	5.0	223	5.0	0.217	5.7	LOS A	0.8	5.9	0.32	0.60	0.32	36.0
West: Wallace Terrace														
10	L2	195	5.0	195	5.0	0.154	3.9	LOS A	0.0	0.0	0.00	0.36	0.00	41.7
11	T1	89	5.0	89	5.0	0.154	0.0	LOS A	0.0	0.0	0.00	0.36	0.00	46.9
Approach		284	5.0	284	5.0	0.154	2.6	NA	0.0	0.0	0.00	0.36	0.00	44.2
All Vehicles		545	5.0	545	5.0	0.217	3.8	NA	0.8	5.9	0.14	0.44	0.14	42.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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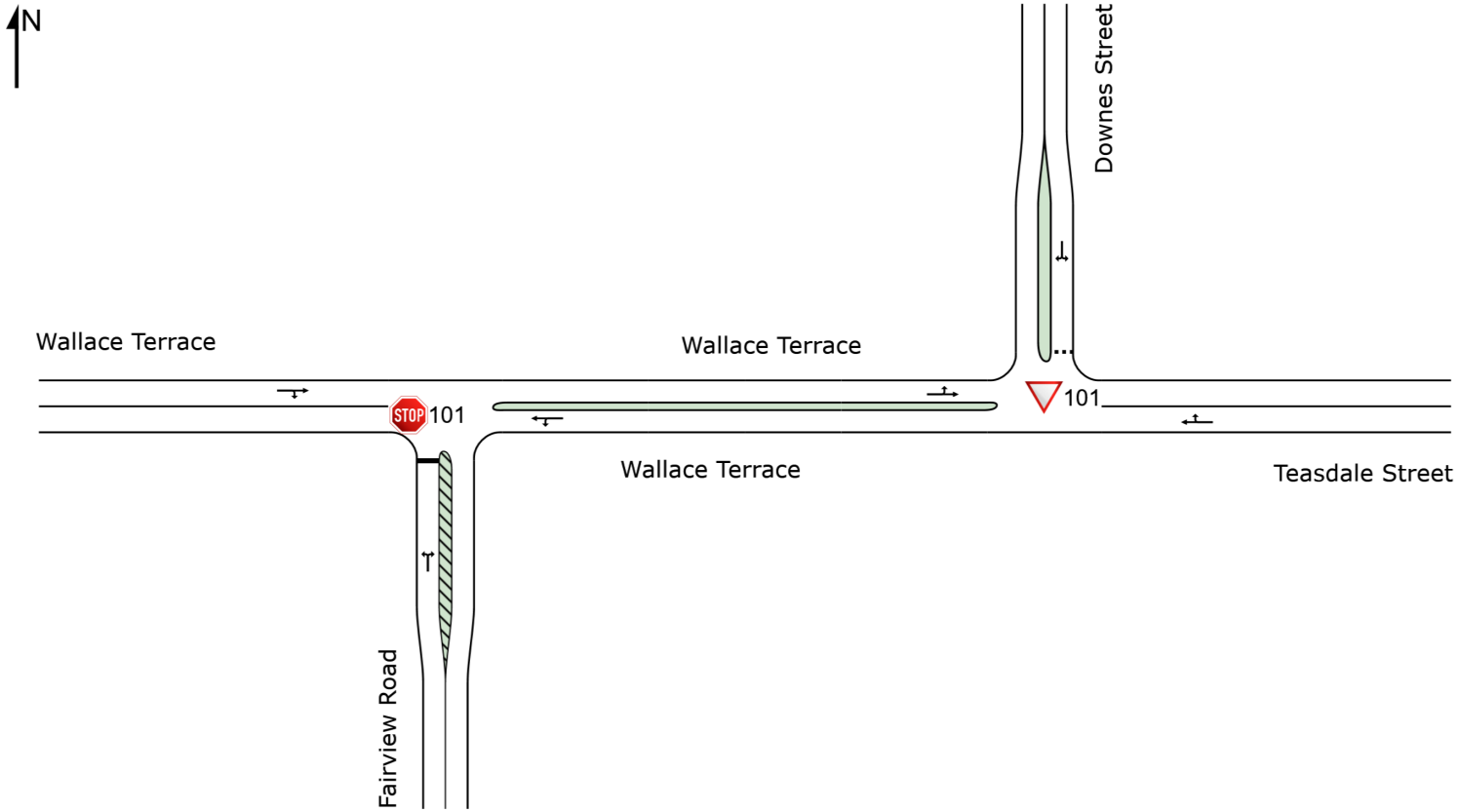
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

NETWORK LAYOUT

Network: N101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

New Network
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	Fairview Rd / Wallace Tce_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak

▽101	NA	Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak

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Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Fairview Rd / Wallace Tce_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fairview Road														
1	L2	12	5.0	12	5.0	0.256	7.8	LOS A	1.0	7.3	0.30	0.91	0.30	44.8
3	R2	231	5.0	231	5.0	0.256	8.4	LOS A	1.0	7.3	0.30	0.91	0.30	41.4
Approach		242	5.0	242	5.0	0.256	8.3	LOS A	1.0	7.3	0.30	0.91	0.30	41.7
East: Wallace Terrace														
4	L2	227	5.0	227	5.0	0.149	3.9	LOS A	0.0	0.0	0.00	0.44	0.00	45.4
5	T1	44	5.0	44	5.0	0.149	0.0	LOS A	0.0	0.0	0.00	0.44	0.00	46.3
Approach		272	5.0	272	5.0	0.149	3.2	NA	0.0	0.0	0.00	0.44	0.00	45.5
West: Wallace Terrace														
11	T1	27	5.0	27	5.0	0.020	0.3	LOS A	0.1	0.4	0.18	0.12	0.18	47.8
12	R2	7	5.0	7	5.0	0.020	5.5	LOS A	0.1	0.4	0.18	0.12	0.18	48.0
Approach		35	5.0	35	5.0	0.020	1.4	NA	0.1	0.4	0.18	0.12	0.18	47.9
All Vehicles		548	5.0	548	5.0	0.256	5.4	NA	1.0	7.3	0.14	0.63	0.14	44.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Teasdale Street														
5	T1	105	5.0	105	5.0	0.057	0.1	LOS A	0.0	0.3	0.04	0.03	0.04	49.5
6	R2	5	5.0	5	5.0	0.057	5.5	LOS A	0.0	0.3	0.04	0.03	0.04	48.3
Approach		111	5.0	111	5.0	0.057	0.3	NA	0.0	0.3	0.04	0.03	0.04	49.4
North: Downes Street														
7	L2	3	5.0	3	5.0	0.172	4.8	LOS A	0.6	4.5	0.33	0.61	0.33	44.1
9	R2	167	5.0	167	5.0	0.172	5.8	LOS A	0.6	4.5	0.33	0.61	0.33	35.2
Approach		171	5.0	171	5.0	0.172	5.8	LOS A	0.6	4.5	0.33	0.61	0.33	35.7
West: Wallace Terrace														
10	L2	206	5.0	206	5.0	0.141	3.9	LOS A	0.0	0.0	0.00	0.42	0.00	40.9
11	T1	53	5.0	53	5.0	0.141	0.0	LOS A	0.0	0.0	0.00	0.42	0.00	46.4
Approach		259	5.0	259	5.0	0.141	3.1	NA	0.0	0.0	0.00	0.42	0.00	42.8
All Vehicles		540	5.0	540	5.0	0.172	3.4	NA	0.6	4.5	0.11	0.40	0.11	43.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

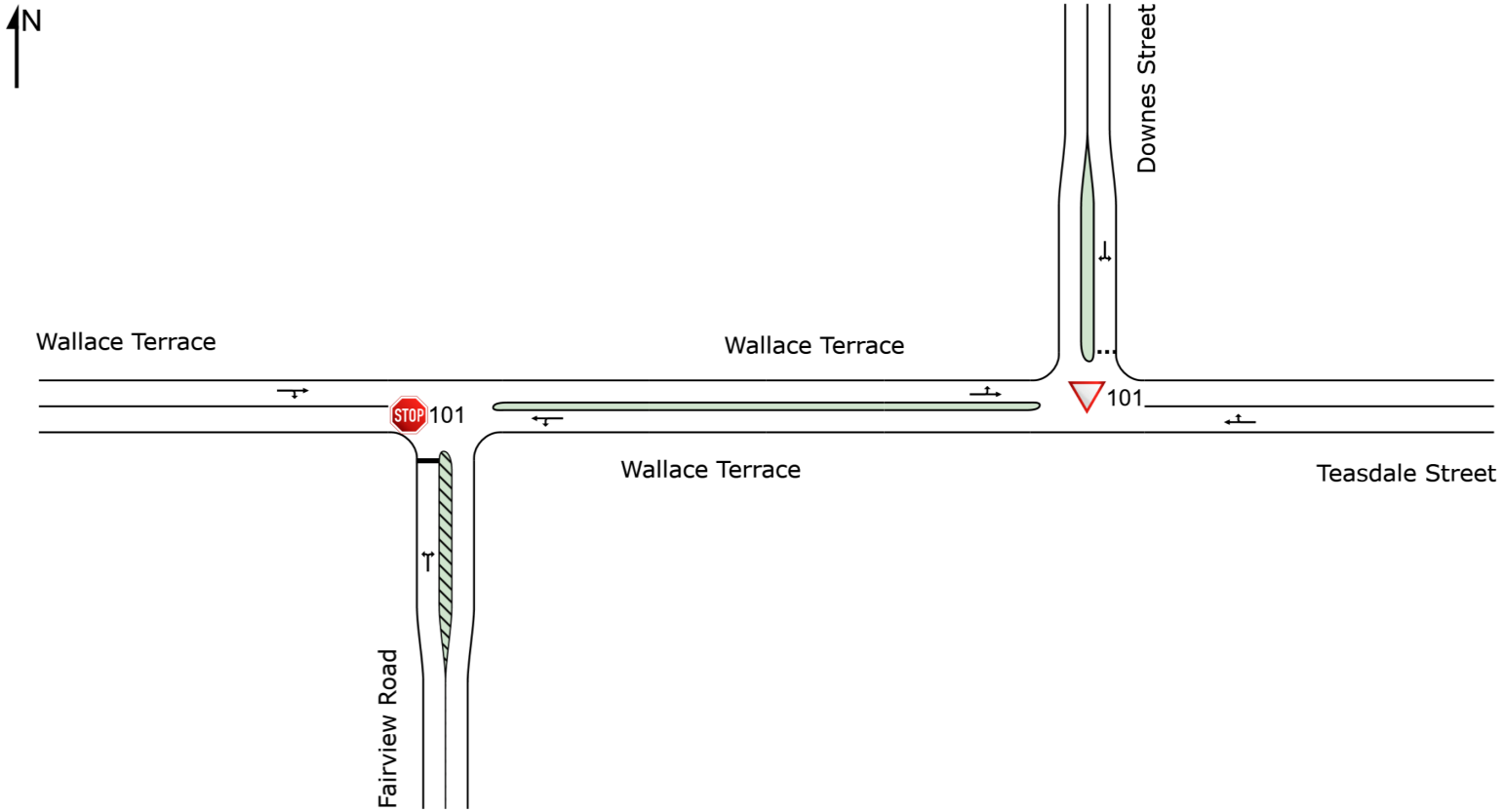
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NETWORK LAYOUT

Network: N101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

New Network
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	Fairview Rd / Wallace Tce_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak

▽101	NA	Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak

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Project: Z:\310205677\7_technical\SIDRA\3. wallace terrace & fairview road_20230530.sip9

Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Fairview Rd / Wallace Tce_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fairview Road														
1	L2	5	5.0	5	5.0	0.263	7.7	LOS A	1.0	7.6	0.29	0.92	0.29	44.8
3	R2	242	5.0	242	5.0	0.263	8.4	LOS A	1.0	7.6	0.29	0.92	0.29	41.4
Approach		247	5.0	247	5.0	0.263	8.3	LOS A	1.0	7.6	0.29	0.92	0.29	41.5
East: Wallace Terrace														
4	L2	233	5.0	233	5.0	0.137	3.9	LOS A	0.0	0.0	0.00	0.48	0.00	45.0
5	T1	17	5.0	17	5.0	0.137	0.0	LOS A	0.0	0.0	0.00	0.48	0.00	45.9
Approach		249	5.0	249	5.0	0.137	3.6	NA	0.0	0.0	0.00	0.48	0.00	45.1
West: Wallace Terrace														
11	T1	45	5.0	45	5.0	0.032	0.3	LOS A	0.1	0.6	0.16	0.11	0.16	47.9
12	R2	12	5.0	12	5.0	0.032	5.5	LOS A	0.1	0.6	0.16	0.11	0.16	48.1
Approach		57	5.0	57	5.0	0.032	1.3	NA	0.1	0.6	0.16	0.11	0.16	48.0
All Vehicles		554	5.0	554	5.0	0.263	5.5	NA	1.0	7.6	0.14	0.64	0.14	43.8

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Teasdale Street														
5	T1	34	5.0	34	5.0	0.021	0.2	LOS A	0.0	0.3	0.12	0.08	0.12	48.5
6	R2	5	5.0	5	5.0	0.021	5.6	LOS A	0.0	0.3	0.12	0.08	0.12	47.6
Approach		39	5.0	39	5.0	0.021	0.9	NA	0.0	0.3	0.12	0.08	0.12	48.4
North: Downes Street														
7	L2	6	5.0	6	5.0	0.218	5.0	LOS A	0.8	5.9	0.32	0.60	0.32	44.1
9	R2	217	5.0	217	5.0	0.218	5.7	LOS A	0.8	5.9	0.32	0.60	0.32	35.3
Approach		223	5.0	223	5.0	0.218	5.7	LOS A	0.8	5.9	0.32	0.60	0.32	35.9
West: Wallace Terrace														
10	L2	195	5.0	195	5.0	0.156	3.9	LOS A	0.0	0.0	0.00	0.36	0.00	41.8
11	T1	93	5.0	93	5.0	0.156	0.0	LOS A	0.0	0.0	0.00	0.36	0.00	46.9
Approach		287	5.0	287	5.0	0.156	2.6	NA	0.0	0.0	0.00	0.36	0.00	44.3
All Vehicles		549	5.0	549	5.0	0.218	3.7	NA	0.8	5.9	0.14	0.44	0.14	42.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

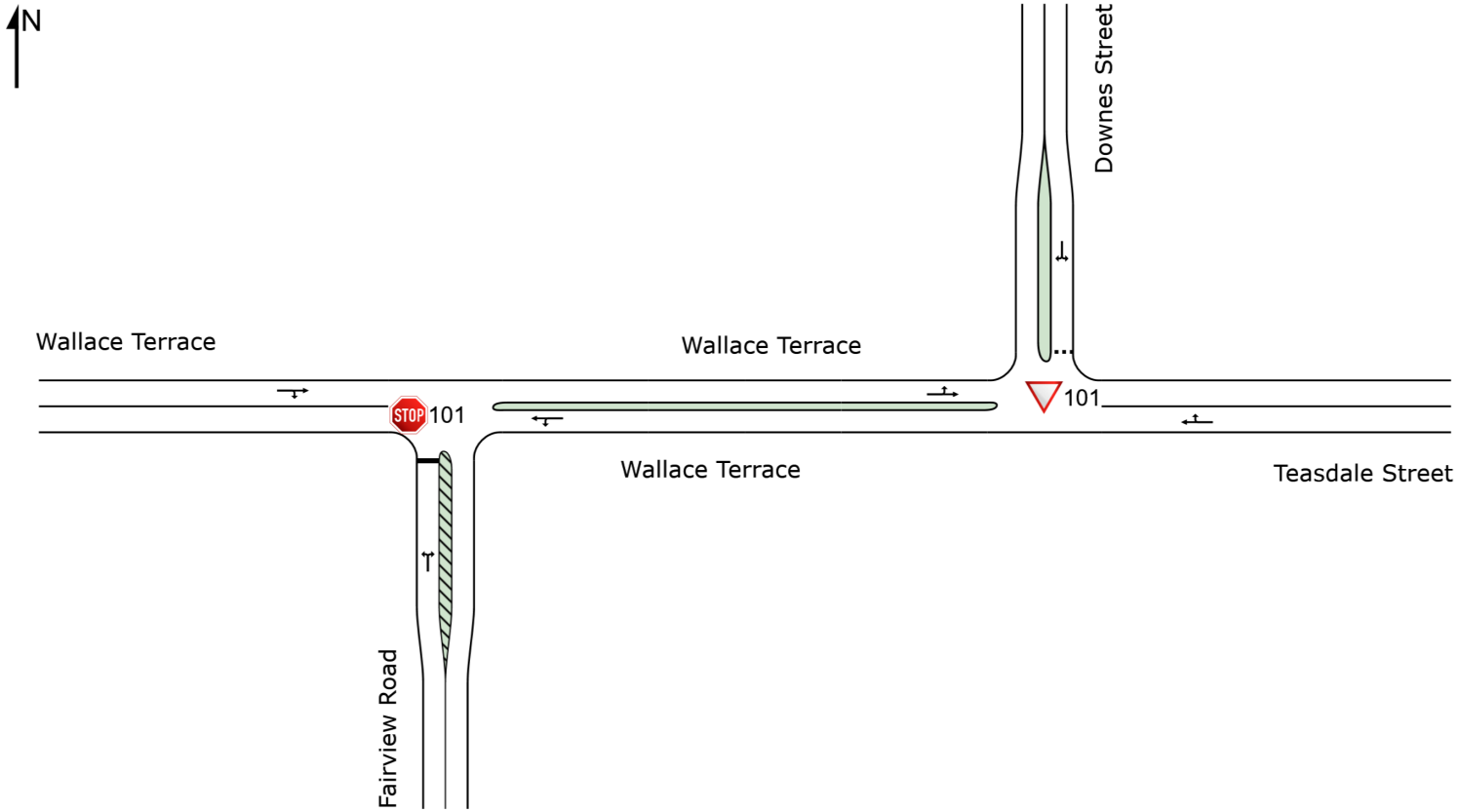
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

NETWORK LAYOUT

Network: N101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

New Network
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	Fairview Rd / Wallace Tce_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak

▽101	NA	Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak

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Document Set ID: 11324600
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MOVEMENT SUMMARY

Site: 101 [Fairview Rd / Wallace Tce_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fairview Road														
1	L2	12	5.0	12	5.0	0.258	7.9	LOS A	1.0	7.4	0.31	0.91	0.31	44.8
3	R2	231	5.0	231	5.0	0.258	8.4	LOS A	1.0	7.4	0.31	0.91	0.31	41.4
Approach		242	5.0	242	5.0	0.258	8.4	LOS A	1.0	7.4	0.31	0.91	0.31	41.7
East: Wallace Terrace														
4	L2	227	5.0	227	5.0	0.150	3.9	LOS A	0.0	0.0	0.00	0.43	0.00	45.4
5	T1	47	5.0	47	5.0	0.150	0.0	LOS A	0.0	0.0	0.00	0.43	0.00	46.3
Approach		275	5.0	275	5.0	0.150	3.2	NA	0.0	0.0	0.00	0.43	0.00	45.6
West: Wallace Terrace														
11	T1	29	5.0	29	5.0	0.021	0.3	LOS A	0.1	0.4	0.17	0.11	0.17	47.9
12	R2	7	5.0	7	5.0	0.021	5.5	LOS A	0.1	0.4	0.17	0.11	0.17	48.0
Approach		37	5.0	37	5.0	0.021	1.3	NA	0.1	0.4	0.17	0.11	0.17	48.0
All Vehicles		554	5.0	554	5.0	0.258	5.3	NA	1.0	7.4	0.15	0.62	0.15	44.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
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Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Teasdale Street														
5	T1	108	5.0	108	5.0	0.059	0.1	LOS A	0.0	0.3	0.04	0.03	0.04	49.5
6	R2	5	5.0	5	5.0	0.059	5.5	LOS A	0.0	0.3	0.04	0.03	0.04	48.3
Approach		114	5.0	114	5.0	0.059	0.3	NA	0.0	0.3	0.04	0.03	0.04	49.4
North: Downes Street														
7	L2	3	5.0	3	5.0	0.173	4.8	LOS A	0.6	4.5	0.33	0.62	0.33	44.1
9	R2	167	5.0	167	5.0	0.173	5.9	LOS A	0.6	4.5	0.33	0.62	0.33	35.2
Approach		171	5.0	171	5.0	0.173	5.8	LOS A	0.6	4.5	0.33	0.62	0.33	35.6
West: Wallace Terrace														
10	L2	206	5.0	206	5.0	0.143	3.9	LOS A	0.0	0.0	0.00	0.41	0.00	40.9
11	T1	55	5.0	55	5.0	0.143	0.0	LOS A	0.0	0.0	0.00	0.41	0.00	46.5
Approach		261	5.0	261	5.0	0.143	3.1	NA	0.0	0.0	0.00	0.41	0.00	42.9
All Vehicles		545	5.0	545	5.0	0.173	3.4	NA	0.6	4.5	0.11	0.40	0.11	43.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

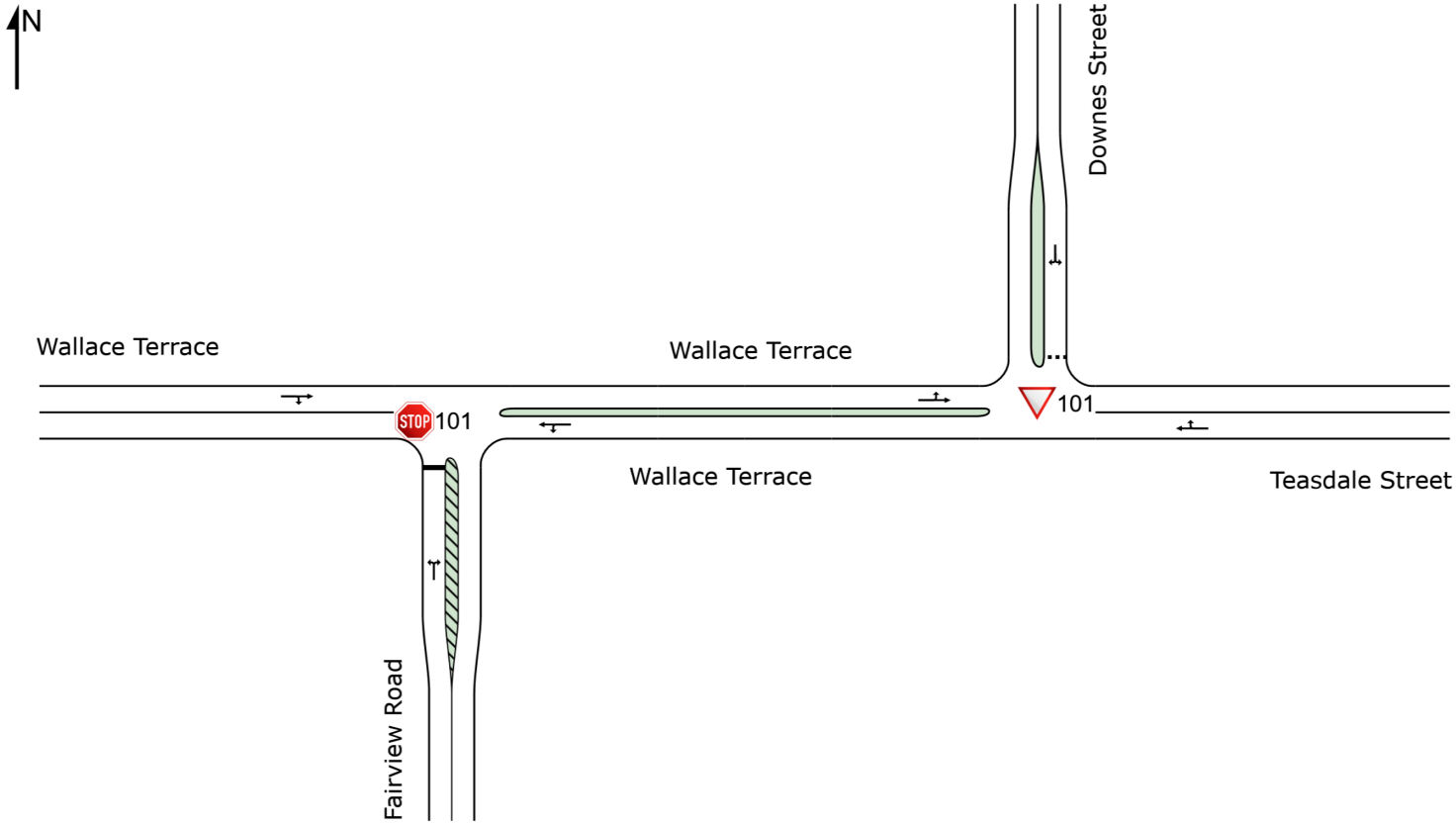
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Version: 2, Version Date: 26/02/2026

NETWORK LAYOUT

Network: N101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

New Network
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	Fairview Rd / Wallace Tce_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak

▽101	NA	Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak

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Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Fairview Rd / Wallace Tce_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fairview Road														
1	L2	5	5.0	5	5.0	0.283	7.7	LOS A	1.1	8.3	0.29	0.92	0.29	44.8
3	R2	261	5.0	261	5.0	0.283	8.4	LOS A	1.1	8.3	0.29	0.92	0.29	41.4
Approach		266	5.0	266	5.0	0.283	8.4	LOS A	1.1	8.3	0.29	0.92	0.29	41.5
East: Wallace Terrace														
4	L2	238	5.0	238	5.0	0.140	3.9	LOS A	0.0	0.0	0.00	0.49	0.00	45.0
5	T1	16	5.0	16	5.0	0.140	0.0	LOS A	0.0	0.0	0.00	0.49	0.00	45.9
Approach		254	5.0	254	5.0	0.140	3.6	NA	0.0	0.0	0.00	0.49	0.00	45.1
West: Wallace Terrace														
11	T1	42	5.0	42	5.0	0.030	0.3	LOS A	0.1	0.6	0.17	0.12	0.17	47.8
12	R2	12	5.0	12	5.0	0.030	5.5	LOS A	0.1	0.6	0.17	0.12	0.17	48.0
Approach		54	5.0	54	5.0	0.030	1.4	NA	0.1	0.6	0.17	0.12	0.17	47.9
All Vehicles		574	5.0	574	5.0	0.283	5.6	NA	1.1	8.3	0.15	0.65	0.15	43.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Teasdale Street														
5	T1	35	5.0	35	5.0	0.022	0.2	LOS A	0.0	0.3	0.12	0.07	0.12	48.5
6	R2	5	5.0	5	5.0	0.022	5.7	LOS A	0.0	0.3	0.12	0.07	0.12	47.6
Approach		40	5.0	40	5.0	0.022	0.9	NA	0.0	0.3	0.12	0.07	0.12	48.4
North: Downes Street														
7	L2	6	5.0	6	5.0	0.222	5.0	LOS A	0.8	6.0	0.33	0.61	0.33	44.1
9	R2	219	5.0	219	5.0	0.222	5.8	LOS A	0.8	6.0	0.33	0.61	0.33	35.2
Approach		225	5.0	225	5.0	0.222	5.7	LOS A	0.8	6.0	0.33	0.61	0.33	35.9
West: Wallace Terrace														
10	L2	213	5.0	213	5.0	0.165	3.9	LOS A	0.0	0.0	0.00	0.37	0.00	41.6
11	T1	92	5.0	92	5.0	0.165	0.0	LOS A	0.0	0.0	0.00	0.37	0.00	46.8
Approach		304	5.0	304	5.0	0.165	2.7	NA	0.0	0.0	0.00	0.37	0.00	44.0
All Vehicles		569	5.0	569	5.0	0.222	3.8	NA	0.8	6.0	0.14	0.44	0.14	41.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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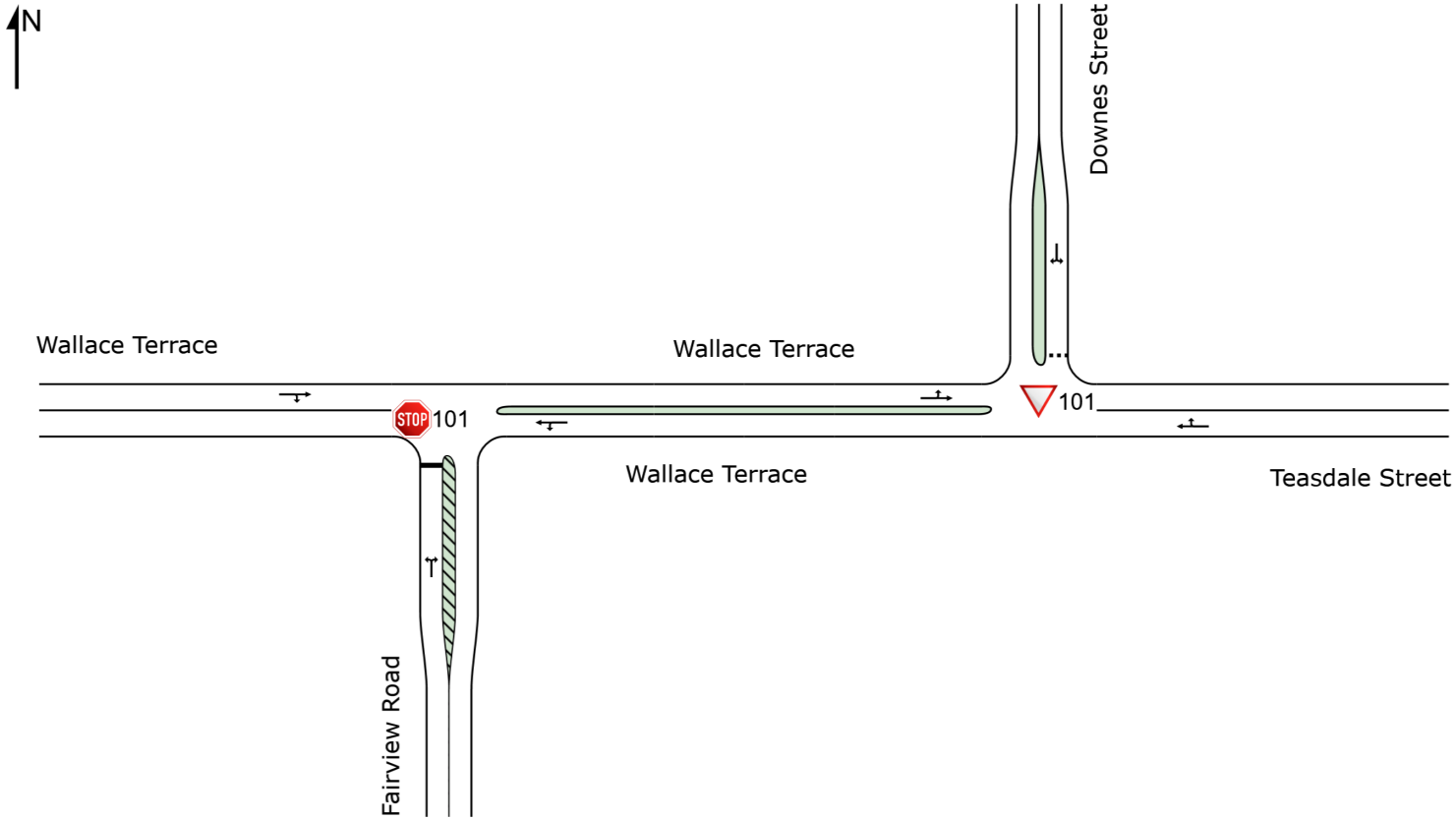
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

NETWORK LAYOUT

Network: N101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

New Network
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
STOP 101	NA	Fairview Rd / Wallace Tce_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak

▽101	NA	Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak

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Organisation: STANTEC NEW ZEALAND | Licence: NETWORK / Enterprise | Created: Thursday, 1 June 2023 2:48:14 pm
Project: Z:\310205677\7_technical\SIDRA\3. wallace terrace & fairview road_20230530.sip9

Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Fairview Rd / Wallace Tce_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fairview Road														
1	L2	12	5.0	12	5.0	0.279	7.8	LOS A	1.1	8.1	0.31	0.92	0.31	44.8
3	R2	249	5.0	249	5.0	0.279	8.5	LOS A	1.1	8.1	0.31	0.92	0.31	41.4
Approach		261	5.0	261	5.0	0.279	8.4	LOS A	1.1	8.1	0.31	0.92	0.31	41.7
East: Wallace Terrace														
4	L2	242	5.0	242	5.0	0.157	3.9	LOS A	0.0	0.0	0.00	0.44	0.00	45.4
5	T1	44	5.0	44	5.0	0.157	0.0	LOS A	0.0	0.0	0.00	0.44	0.00	46.2
Approach		286	5.0	286	5.0	0.157	3.3	NA	0.0	0.0	0.00	0.44	0.00	45.5
West: Wallace Terrace														
11	T1	27	5.0	27	5.0	0.020	0.3	LOS A	0.1	0.4	0.18	0.12	0.18	47.8
12	R2	7	5.0	7	5.0	0.020	5.6	LOS A	0.1	0.4	0.18	0.12	0.18	48.0
Approach		35	5.0	35	5.0	0.020	1.5	NA	0.1	0.4	0.18	0.12	0.18	47.8
All Vehicles		582	5.0	582	5.0	0.279	5.5	NA	1.1	8.1	0.15	0.63	0.15	43.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Teasdale Street														
5	T1	105	5.0	105	5.0	0.058	0.1	LOS A	0.0	0.3	0.05	0.03	0.05	49.5
6	R2	5	5.0	5	5.0	0.058	5.6	LOS A	0.0	0.3	0.05	0.03	0.05	48.3
Approach		111	5.0	111	5.0	0.058	0.3	NA	0.0	0.3	0.05	0.03	0.05	49.4
North: Downes Street														
7	L2	3	5.0	3	5.0	0.190	4.8	LOS A	0.7	5.0	0.34	0.62	0.34	44.1
9	R2	183	5.0	183	5.0	0.190	5.9	LOS A	0.7	5.0	0.34	0.62	0.34	35.1
Approach		186	5.0	186	5.0	0.190	5.9	LOS A	0.7	5.0	0.34	0.62	0.34	35.5
West: Wallace Terrace														
10	L2	222	5.0	222	5.0	0.151	3.9	LOS A	0.0	0.0	0.00	0.42	0.00	40.8
11	T1	55	5.0	55	5.0	0.151	0.0	LOS A	0.0	0.0	0.00	0.42	0.00	46.4
Approach		277	5.0	277	5.0	0.151	3.1	NA	0.0	0.0	0.00	0.42	0.00	42.7
All Vehicles		574	5.0	574	5.0	0.190	3.5	NA	0.7	5.0	0.12	0.41	0.12	42.8

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

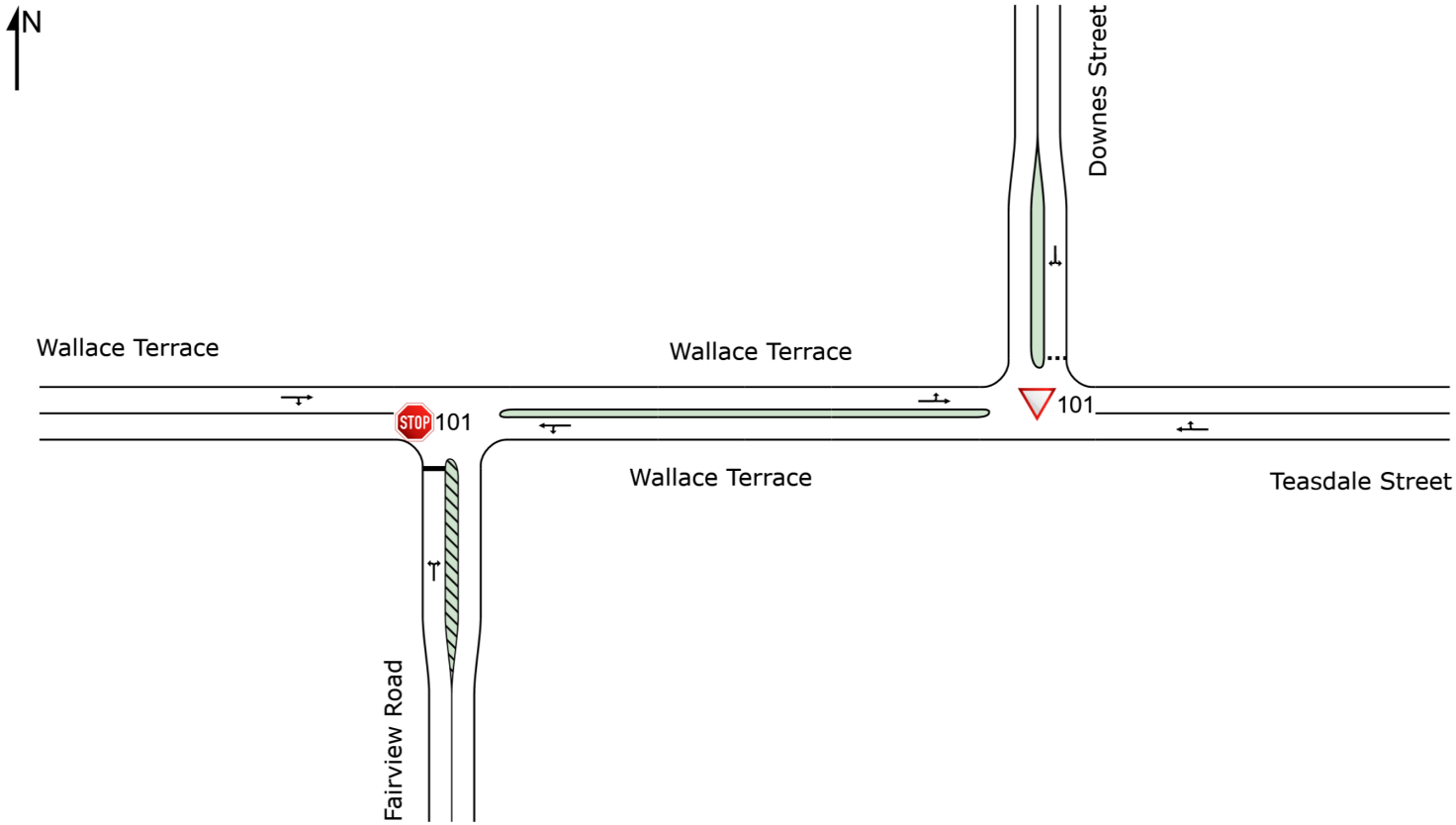
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NETWORK LAYOUT

Network: N101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

New Network
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	Fairview Rd / Wallace Tce_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak

▽101	NA	Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak

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MOVEMENT SUMMARY

Site: 101 [Fairview Rd / Wallace Tce_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fairview Road														
1	L2	5	5.0	5	5.0	0.284	7.7	LOS A	1.1	8.3	0.30	0.92	0.30	44.8
3	R2	261	5.0	261	5.0	0.284	8.4	LOS A	1.1	8.3	0.30	0.92	0.30	41.4
Approach		266	5.0	266	5.0	0.284	8.4	LOS A	1.1	8.3	0.30	0.92	0.30	41.5
East: Wallace Terrace														
4	L2	238	5.0	238	5.0	0.140	3.9	LOS A	0.0	0.0	0.00	0.48	0.00	45.0
5	T1	17	5.0	17	5.0	0.140	0.0	LOS A	0.0	0.0	0.00	0.48	0.00	45.9
Approach		255	5.0	255	5.0	0.140	3.6	NA	0.0	0.0	0.00	0.48	0.00	45.1
West: Wallace Terrace														
11	T1	45	5.0	45	5.0	0.032	0.3	LOS A	0.1	0.6	0.16	0.11	0.16	47.9
12	R2	12	5.0	12	5.0	0.032	5.5	LOS A	0.1	0.6	0.16	0.11	0.16	48.0
Approach		57	5.0	57	5.0	0.032	1.3	NA	0.1	0.6	0.16	0.11	0.16	48.0
All Vehicles		578	5.0	578	5.0	0.284	5.6	NA	1.1	8.3	0.15	0.65	0.15	43.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Teasdale Street														
5	T1	36	5.0	36	5.0	0.022	0.2	LOS A	0.0	0.3	0.12	0.07	0.12	48.6
6	R2	5	5.0	5	5.0	0.022	5.7	LOS A	0.0	0.3	0.12	0.07	0.12	47.7
Approach		41	5.0	41	5.0	0.022	0.9	NA	0.0	0.3	0.12	0.07	0.12	48.4
North: Downes Street														
7	L2	6	5.0	6	5.0	0.223	5.0	LOS A	0.8	6.0	0.34	0.61	0.34	44.1
9	R2	219	5.0	219	5.0	0.223	5.8	LOS A	0.8	6.0	0.34	0.61	0.34	35.2
Approach		225	5.0	225	5.0	0.223	5.8	LOS A	0.8	6.0	0.34	0.61	0.34	35.9
West: Wallace Terrace														
10	L2	213	5.0	213	5.0	0.167	3.9	LOS A	0.0	0.0	0.00	0.36	0.00	41.6
11	T1	95	5.0	95	5.0	0.167	0.0	LOS A	0.0	0.0	0.00	0.36	0.00	46.9
Approach		307	5.0	307	5.0	0.167	2.7	NA	0.0	0.0	0.00	0.36	0.00	44.1
All Vehicles		574	5.0	574	5.0	0.223	3.8	NA	0.8	6.0	0.14	0.44	0.14	42.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

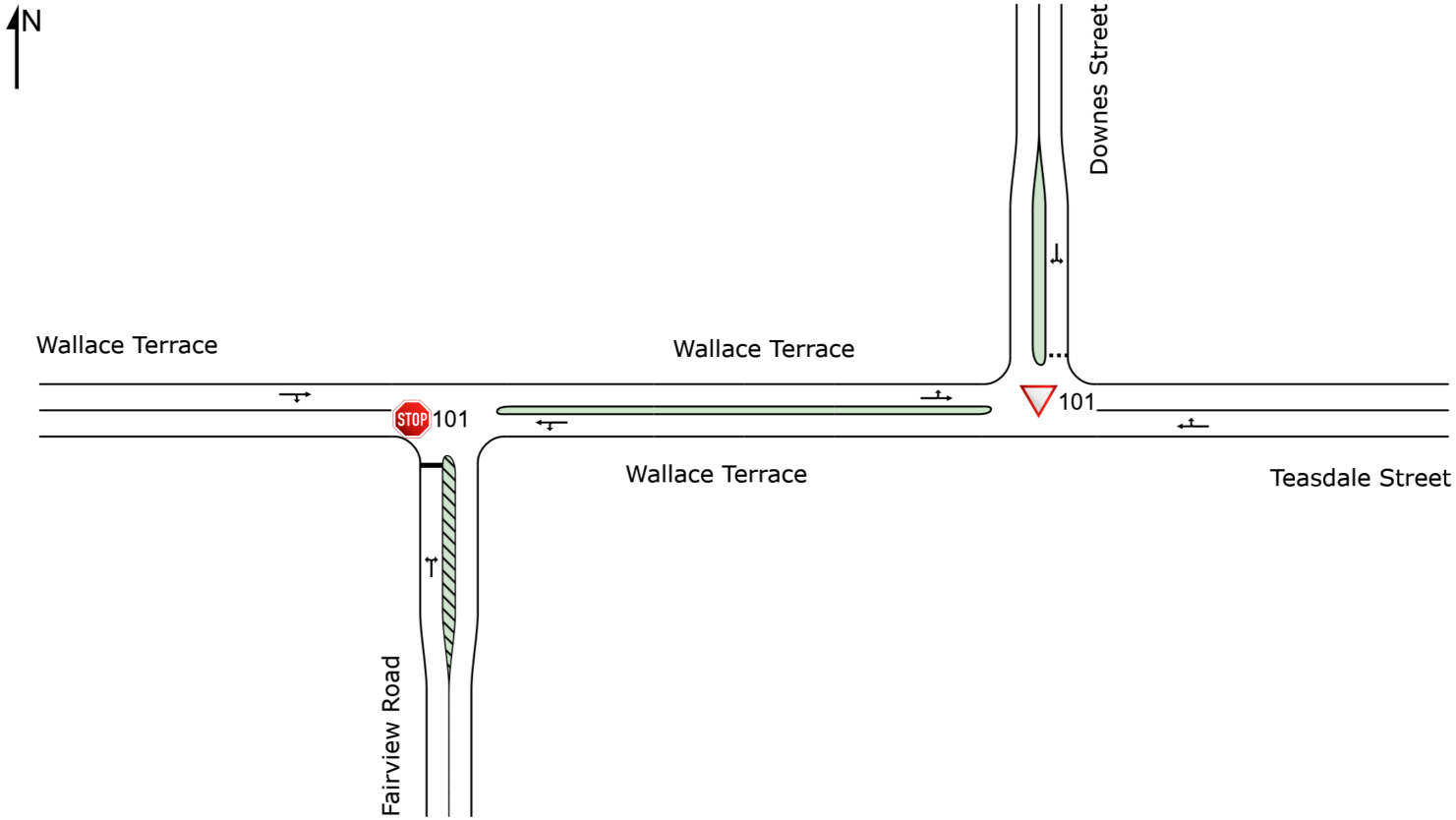
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NETWORK LAYOUT

Network: N101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

New Network
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	Fairview Rd / Wallace Tce_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak

▽101	NA	Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak

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Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Fairview Rd / Wallace Tce_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fairview Road														
1	L2	12	5.0	12	5.0	0.280	7.9	LOS A	1.1	8.2	0.32	0.92	0.32	44.8
3	R2	249	5.0	249	5.0	0.280	8.5	LOS A	1.1	8.2	0.32	0.92	0.32	41.4
Approach		261	5.0	261	5.0	0.280	8.5	LOS A	1.1	8.2	0.32	0.92	0.32	41.6
East: Wallace Terrace														
4	L2	242	5.0	242	5.0	0.158	3.9	LOS A	0.0	0.0	0.00	0.44	0.00	45.4
5	T1	47	5.0	47	5.0	0.158	0.0	LOS A	0.0	0.0	0.00	0.44	0.00	46.3
Approach		289	5.0	289	5.0	0.158	3.2	NA	0.0	0.0	0.00	0.44	0.00	45.5
West: Wallace Terrace														
11	T1	29	5.0	29	5.0	0.021	0.3	LOS A	0.1	0.4	0.17	0.11	0.17	47.9
12	R2	7	5.0	7	5.0	0.021	5.6	LOS A	0.1	0.4	0.17	0.11	0.17	48.0
Approach		37	5.0	37	5.0	0.021	1.4	NA	0.1	0.4	0.17	0.11	0.17	47.9
All Vehicles		587	5.0	587	5.0	0.280	5.4	NA	1.1	8.2	0.15	0.63	0.15	43.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

Network: N101 [Wallace Tce / Teasdale Str_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Network Folder: Wallace Tce / Fairview Rd / Teasdale Str Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Teasdale Street														
5	T1	108	5.0	108	5.0	0.059	0.1	LOS A	0.0	0.3	0.04	0.03	0.04	49.5
6	R2	5	5.0	5	5.0	0.059	5.6	LOS A	0.0	0.3	0.04	0.03	0.04	48.3
Approach		114	5.0	114	5.0	0.059	0.3	NA	0.0	0.3	0.04	0.03	0.04	49.4
North: Downes Street														
7	L2	3	5.0	3	5.0	0.191	4.8	LOS A	0.7	5.0	0.35	0.62	0.35	44.1
9	R2	183	5.0	183	5.0	0.191	5.9	LOS A	0.7	5.0	0.35	0.62	0.35	35.0
Approach		186	5.0	186	5.0	0.191	5.9	LOS A	0.7	5.0	0.35	0.62	0.35	35.5
West: Wallace Terrace														
10	L2	222	5.0	222	5.0	0.152	3.9	LOS A	0.0	0.0	0.00	0.42	0.00	40.9
11	T1	57	5.0	57	5.0	0.152	0.0	LOS A	0.0	0.0	0.00	0.42	0.00	46.4
Approach		279	5.0	279	5.0	0.152	3.1	NA	0.0	0.0	0.00	0.42	0.00	42.8
All Vehicles		579	5.0	579	5.0	0.191	3.5	NA	0.7	5.0	0.12	0.41	0.12	42.8

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

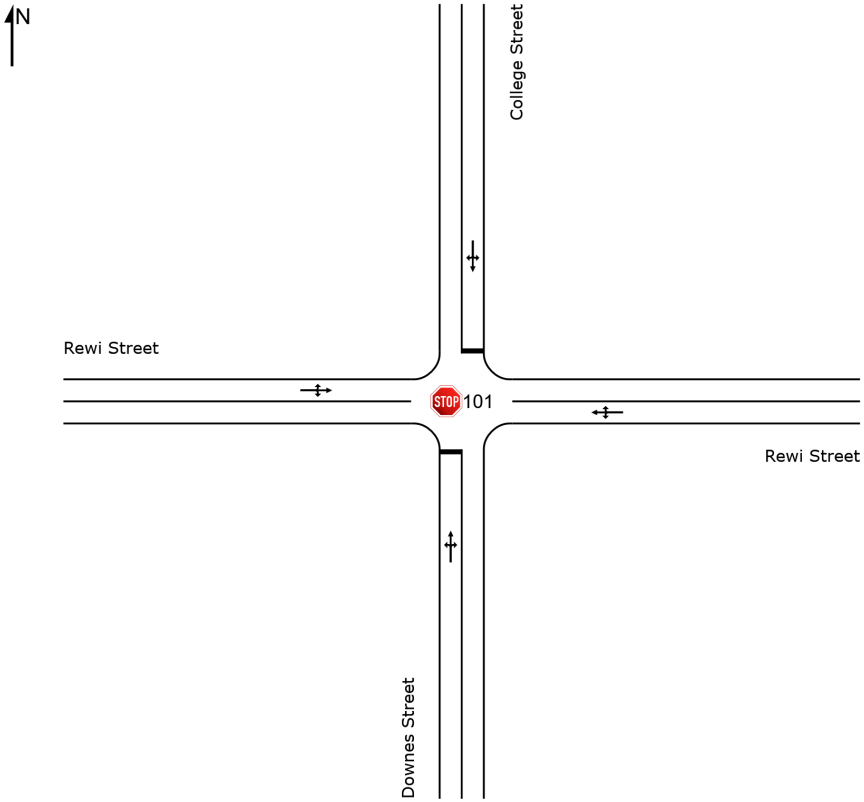
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SITE LAYOUT

Site: 101 [Rewi Street / College Street_2031 Baseline_AM Peak (Site Folder: Rewi Street / College Street Intersection Baseline Volumes)]

New Site
Site Category: (None)
Stop (Two-Way)

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



Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Rewi Street / College Street_2031 Baseline_AM Peak (Site Folder: Rewi Street / College Street Intersection Baseline Volumes)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Downes Street														
1	L2	68	5.0	72	5.0	0.399	9.8	LOS A	1.9	14.0	0.50	1.03	0.68	41.6
2	T1	87	5.0	92	5.0	0.399	17.0	LOS C	1.9	14.0	0.50	1.03	0.68	41.4
3	R2	35	5.0	37	5.0	0.399	20.9	LOS C	1.9	14.0	0.50	1.03	0.68	41.3
Approach		190	5.0	200	5.0	0.399	15.2	LOS C	1.9	14.0	0.50	1.03	0.68	41.5
East: Rewi Street														
4	L2	45	10.0	47	10.0	0.131	5.6	LOS A	0.3	2.4	0.18	0.16	0.18	47.9
5	T1	145	10.0	153	10.0	0.131	0.4	LOS A	0.3	2.4	0.18	0.16	0.18	48.6
6	R2	21	10.0	22	10.0	0.131	6.8	LOS A	0.3	2.4	0.18	0.16	0.18	47.5
Approach		211	10.0	222	10.0	0.131	2.2	NA	0.3	2.4	0.18	0.16	0.18	48.3
North: College Street														
7	L2	33	5.0	35	5.0	0.253	10.5	LOS B	1.0	7.1	0.65	1.03	0.72	42.1
8	T1	69	5.0	73	5.0	0.253	15.5	LOS C	1.0	7.1	0.65	1.03	0.72	41.9
9	R2	10	5.0	11	5.0	0.253	19.6	LOS C	1.0	7.1	0.65	1.03	0.72	41.8
Approach		112	5.0	118	5.0	0.253	14.4	LOS B	1.0	7.1	0.65	1.03	0.72	42.0
West: Rewi Street														
10	L2	14	10.0	15	10.0	0.313	5.6	LOS A	1.0	7.7	0.19	0.12	0.19	48.2
11	T1	400	10.0	421	10.0	0.313	0.3	LOS A	1.0	7.7	0.19	0.12	0.19	48.8
12	R2	100	10.0	105	10.0	0.313	5.7	LOS A	1.0	7.7	0.19	0.12	0.19	47.8
Approach		514	10.0	541	10.0	0.313	1.5	NA	1.0	7.7	0.19	0.12	0.19	48.6
All Vehicles		1027	8.5	1081	8.5	0.399	5.6	NA	1.9	14.0	0.29	0.40	0.34	46.3

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Minor Road Approach LOS values are based on average delay for all movements (v/c not used).

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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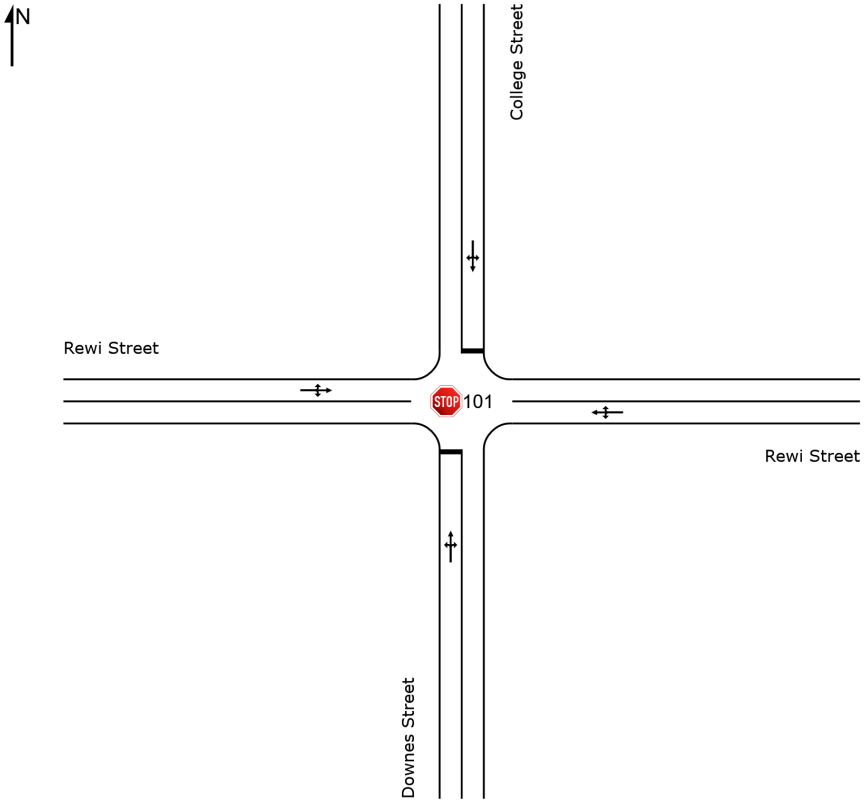
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Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101 [Rewi Street / College Street_2031 Baseline_PM Peak (Site Folder: Rewi Street / College Street Intersection Baseline Volumes)]

New Site
Site Category: (None)
Stop (Two-Way)

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



Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Rewi Street / College Street_2031 Baseline_PM Peak (Site Folder: Rewi Street / College Street Intersection Baseline Volumes)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Downes Street														
1	L2	112	33.0	118	33.0	0.458	14.8	LOS B	2.3	19.3	0.70	1.14	1.02	40.8
2	T1	72	5.0	76	5.0	0.458	19.5	LOS C	2.3	19.3	0.70	1.14	1.02	40.9
3	R2	20	5.0	21	5.0	0.458	23.6	LOS C	2.3	19.3	0.70	1.14	1.02	40.8
Approach		204	20.4	215	20.4	0.458	17.3	LOS C	2.3	19.3	0.70	1.14	1.02	40.8
East: Rewi Street														
4	L2	48	10.0	51	10.0	0.318	5.4	LOS A	0.7	5.6	0.14	0.11	0.14	48.4
5	T1	425	10.0	447	10.0	0.318	0.2	LOS A	0.7	5.6	0.14	0.11	0.14	49.0
6	R2	59	10.0	62	10.0	0.318	5.9	LOS A	0.7	5.6	0.14	0.11	0.14	47.9
Approach		532	10.0	560	10.0	0.318	1.3	NA	0.7	5.6	0.14	0.11	0.14	48.8
North: College Street														
7	L2	22	5.0	23	5.0	0.230	8.9	LOS A	0.8	6.0	0.61	0.99	0.65	41.5
8	T1	54	5.0	57	5.0	0.230	16.9	LOS C	0.8	6.0	0.61	0.99	0.65	41.3
9	R2	11	5.0	12	5.0	0.230	22.6	LOS C	0.8	6.0	0.61	0.99	0.65	41.2
Approach		87	5.0	92	5.0	0.230	15.6	LOS C	0.8	6.0	0.61	0.99	0.65	41.3
West: Rewi Street														
10	L2	10	10.0	11	10.0	0.190	7.3	LOS A	0.8	5.9	0.33	0.17	0.33	47.5
11	T1	202	10.0	213	10.0	0.190	1.2	LOS A	0.8	5.9	0.33	0.17	0.33	48.1
12	R2	62	10.0	65	10.0	0.190	7.5	LOS A	0.8	5.9	0.33	0.17	0.33	47.1
Approach		274	10.0	288	10.0	0.190	2.8	NA	0.8	5.9	0.33	0.17	0.33	47.9
All Vehicles		1097	11.5	1155	11.5	0.458	5.8	NA	2.3	19.3	0.33	0.38	0.39	46.2

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Minor Road Approach LOS values are based on average delay for all movements (v/c not used).

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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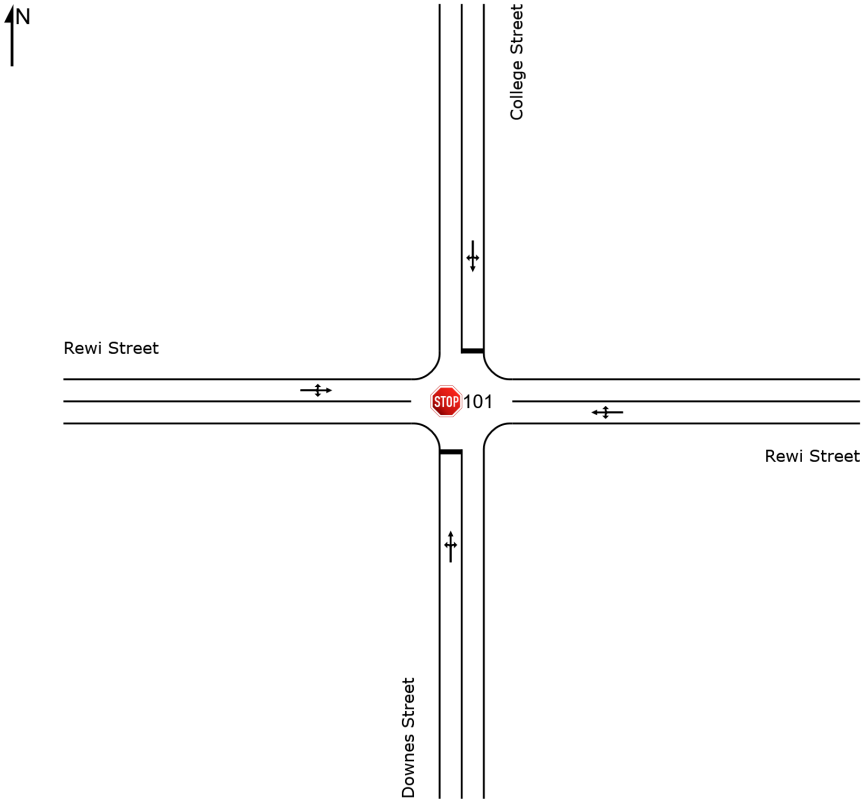
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SITE LAYOUT

Site: 101 [Rewi Street / College Street_2041 Baseline_AM Peak (Site Folder: Rewi Street / College Street Intersection Baseline Volumes)]

New Site
Site Category: (None)
Stop (Two-Way)

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



Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Rewi Street / College Street_2041 Baseline_AM Peak (Site Folder: Rewi Street / College Street Intersection Baseline Volumes)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Downes Street														
1	L2	73	5.0	77	5.0	0.444	10.3	LOS B	2.3	16.5	0.53	1.05	0.77	41.2
2	T1	97	5.0	102	5.0	0.444	18.1	LOS C	2.3	16.5	0.53	1.05	0.77	41.0
3	R2	36	5.0	38	5.0	0.444	22.1	LOS C	2.3	16.5	0.53	1.05	0.77	40.9
Approach		206	5.0	217	5.0	0.444	16.0	LOS C	2.3	16.5	0.53	1.05	0.77	41.1
East: Rewi Street														
4	L2	45	10.0	47	10.0	0.137	5.6	LOS A	0.3	2.5	0.18	0.15	0.18	48.0
5	T1	154	10.0	162	10.0	0.137	0.5	LOS A	0.3	2.5	0.18	0.15	0.18	48.6
6	R2	22	10.0	23	10.0	0.137	6.9	LOS A	0.3	2.5	0.18	0.15	0.18	47.5
Approach		221	10.0	233	10.0	0.137	2.2	NA	0.3	2.5	0.18	0.15	0.18	48.3
North: College Street														
7	L2	33	5.0	35	5.0	0.264	10.7	LOS B	1.0	7.4	0.66	1.04	0.75	41.9
8	T1	70	5.0	74	5.0	0.264	16.0	LOS C	1.0	7.4	0.66	1.04	0.75	41.7
9	R2	10	5.0	11	5.0	0.264	20.6	LOS C	1.0	7.4	0.66	1.04	0.75	41.6
Approach		113	5.0	119	5.0	0.264	14.8	LOS B	1.0	7.4	0.66	1.04	0.75	41.8
West: Rewi Street														
10	L2	14	10.0	15	10.0	0.318	5.7	LOS A	1.0	7.9	0.19	0.12	0.19	48.2
11	T1	406	10.0	427	10.0	0.318	0.3	LOS A	1.0	7.9	0.19	0.12	0.19	48.8
12	R2	101	10.0	106	10.0	0.318	5.8	LOS A	1.0	7.9	0.19	0.12	0.19	47.7
Approach		521	10.0	548	10.0	0.318	1.5	NA	1.0	7.9	0.19	0.12	0.19	48.6
All Vehicles		1061	8.5	1117	8.5	0.444	5.9	NA	2.3	16.5	0.31	0.41	0.36	46.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Minor Road Approach LOS values are based on average delay for all movements (v/c not used).

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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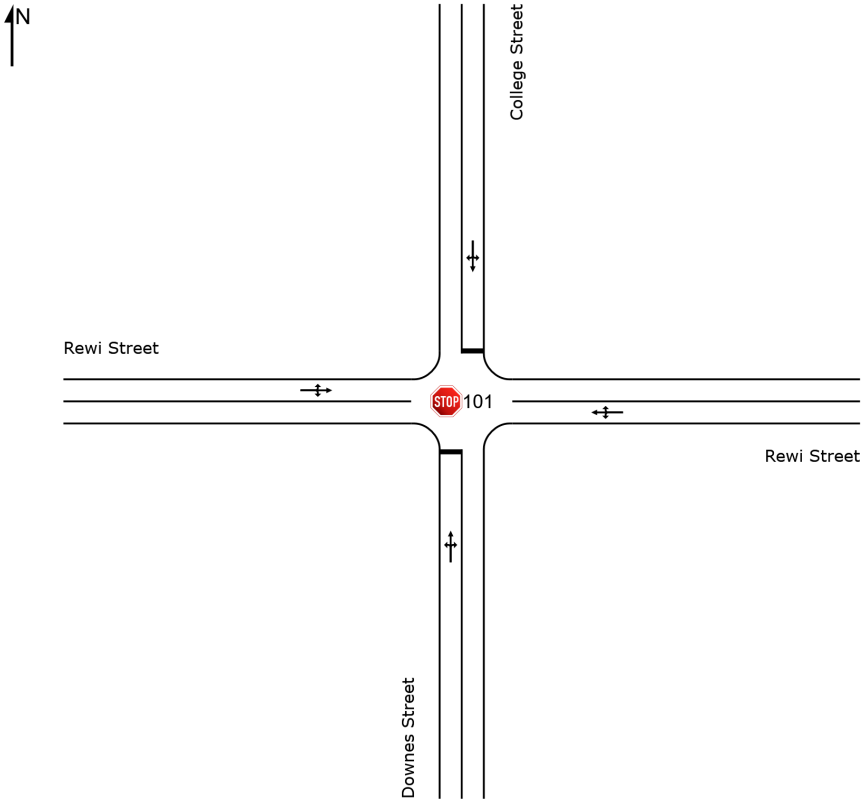
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SITE LAYOUT

Site: 101 [Rewi Street / College Street_2041 Baseline_PM Peak (Site Folder: Rewi Street / College Street Intersection Baseline Volumes)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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Project: Z:\310205677\7_technical\SIDRA\4. rewi street & college street_20230530.sip9

MOVEMENT SUMMARY

Site: 101 [Rewi Street / College Street_2041 Baseline_PM Peak (Site Folder: Rewi Street / College Street Intersection Baseline Volumes)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Downes Street														
1	L2	117	33.0	123	33.0	0.516	15.9	LOS C	2.8	22.9	0.73	1.18	1.16	40.1
2	T1	79	5.0	83	5.0	0.516	21.4	LOS C	2.8	22.9	0.73	1.18	1.16	40.2
3	R2	21	5.0	22	5.0	0.516	26.1	LOS D	2.8	22.9	0.73	1.18	1.16	40.1
Approach		217	20.1	228	20.1	0.516	18.9	LOS C	2.8	22.9	0.73	1.18	1.16	40.1
East: Rewi Street														
4	L2	53	10.0	56	10.0	0.330	5.5	LOS A	0.8	5.9	0.14	0.11	0.14	48.4
5	T1	441	10.0	464	10.0	0.330	0.2	LOS A	0.8	5.9	0.14	0.11	0.14	49.0
6	R2	59	10.0	62	10.0	0.330	6.0	LOS A	0.8	5.9	0.14	0.11	0.14	47.9
Approach		553	10.0	582	10.0	0.330	1.3	NA	0.8	5.9	0.14	0.11	0.14	48.8
North: College Street														
7	L2	23	5.0	24	5.0	0.264	9.4	LOS A	1.0	7.1	0.64	1.01	0.73	41.0
8	T1	59	5.0	62	5.0	0.264	18.3	LOS C	1.0	7.1	0.64	1.01	0.73	40.8
9	R2	11	5.0	12	5.0	0.264	24.7	LOS C	1.0	7.1	0.64	1.01	0.73	40.7
Approach		93	5.0	98	5.0	0.264	16.8	LOS C	1.0	7.1	0.64	1.01	0.73	40.8
West: Rewi Street														
10	L2	10	10.0	11	10.0	0.203	7.5	LOS A	0.9	6.6	0.35	0.17	0.35	47.4
11	T1	213	10.0	224	10.0	0.203	1.3	LOS A	0.9	6.6	0.35	0.17	0.35	48.1
12	R2	66	10.0	69	10.0	0.203	7.7	LOS A	0.9	6.6	0.35	0.17	0.35	47.0
Approach		289	10.0	304	10.0	0.203	3.0	NA	0.9	6.6	0.35	0.17	0.35	47.8
All Vehicles		1152	11.5	1213	11.5	0.516	6.3	NA	2.8	22.9	0.35	0.40	0.43	46.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Minor Road Approach LOS values are based on average delay for all movements (v/c not used).

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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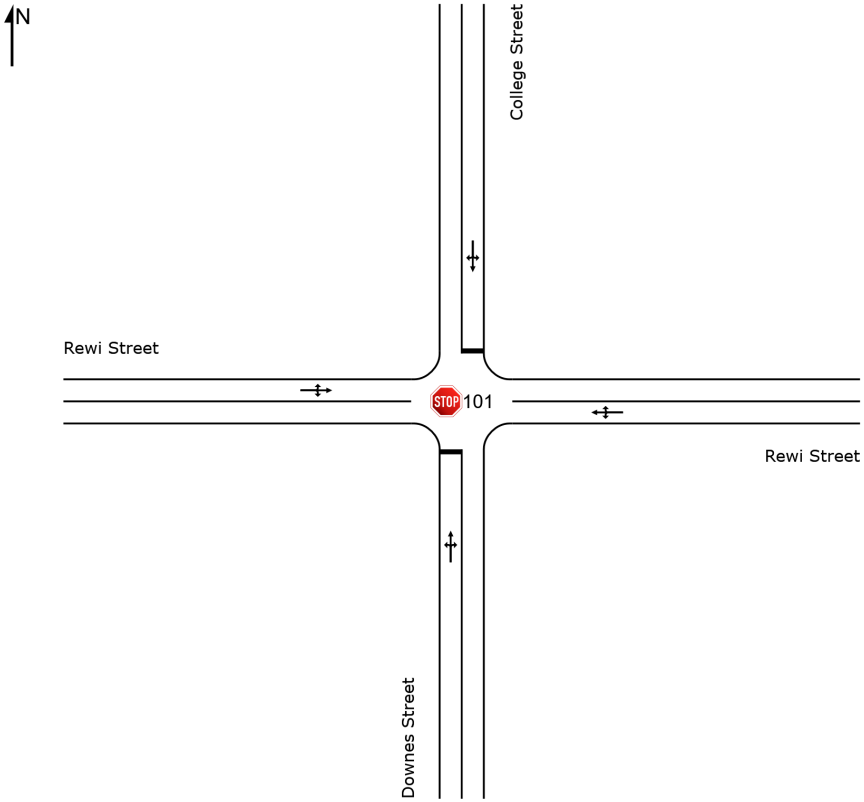
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SITE LAYOUT

Site: 101 [Rewi Street / College Street_2031 Baseline + Area 1 (70 dwellings)_AM Peak (Site Folder: Rewi Street / College Street Intersection with Wallace Tce connnection)]

New Site
Site Category: (None)
Stop (Two-Way)

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



Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Rewi Street / College Street_2031 Baseline + Area 1 (70 dwellings)_AM Peak (Site Folder: Rewi Street / College Street Intersection with Wallace Tce connnection)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Downes Street														
1	L2	78	5.0	82	5.0	0.466	10.5	LOS B	2.5	18.0	0.52	1.06	0.78	41.1
2	T1	97	5.0	102	5.0	0.466	18.1	LOS C	2.5	18.0	0.52	1.06	0.78	40.9
3	R2	43	5.0	45	5.0	0.466	22.3	LOS C	2.5	18.0	0.52	1.06	0.78	40.8
Approach		218	5.0	229	5.0	0.466	16.2	LOS C	2.5	18.0	0.52	1.06	0.78	41.0
East: Rewi Street														
4	L2	48	10.0	51	10.0	0.133	5.5	LOS A	0.3	2.4	0.17	0.16	0.17	47.9
5	T1	145	10.0	153	10.0	0.133	0.4	LOS A	0.3	2.4	0.17	0.16	0.17	48.5
6	R2	21	10.0	22	10.0	0.133	6.9	LOS A	0.3	2.4	0.17	0.16	0.17	47.5
Approach		214	10.0	225	10.0	0.133	2.2	NA	0.3	2.4	0.17	0.16	0.17	48.3
North: College Street														
7	L2	33	5.0	35	5.0	0.268	10.6	LOS B	1.0	7.6	0.66	1.04	0.75	42.0
8	T1	73	5.0	77	5.0	0.268	15.8	LOS C	1.0	7.6	0.66	1.04	0.75	41.8
9	R2	10	5.0	11	5.0	0.268	20.4	LOS C	1.0	7.6	0.66	1.04	0.75	41.7
Approach		116	5.0	122	5.0	0.268	14.7	LOS B	1.0	7.6	0.66	1.04	0.75	41.8
West: Rewi Street														
10	L2	14	10.0	15	10.0	0.317	5.7	LOS A	1.1	8.1	0.20	0.13	0.20	48.1
11	T1	400	10.0	421	10.0	0.317	0.3	LOS A	1.1	8.1	0.20	0.13	0.20	48.8
12	R2	104	10.0	109	10.0	0.317	5.7	LOS A	1.1	8.1	0.20	0.13	0.20	47.7
Approach		518	10.0	545	10.0	0.317	1.6	NA	1.1	8.1	0.20	0.13	0.20	48.5
All Vehicles		1066	8.4	1122	8.4	0.466	6.1	NA	2.5	18.0	0.31	0.42	0.37	46.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Minor Road Approach LOS values are based on average delay for all movements (v/c not used).

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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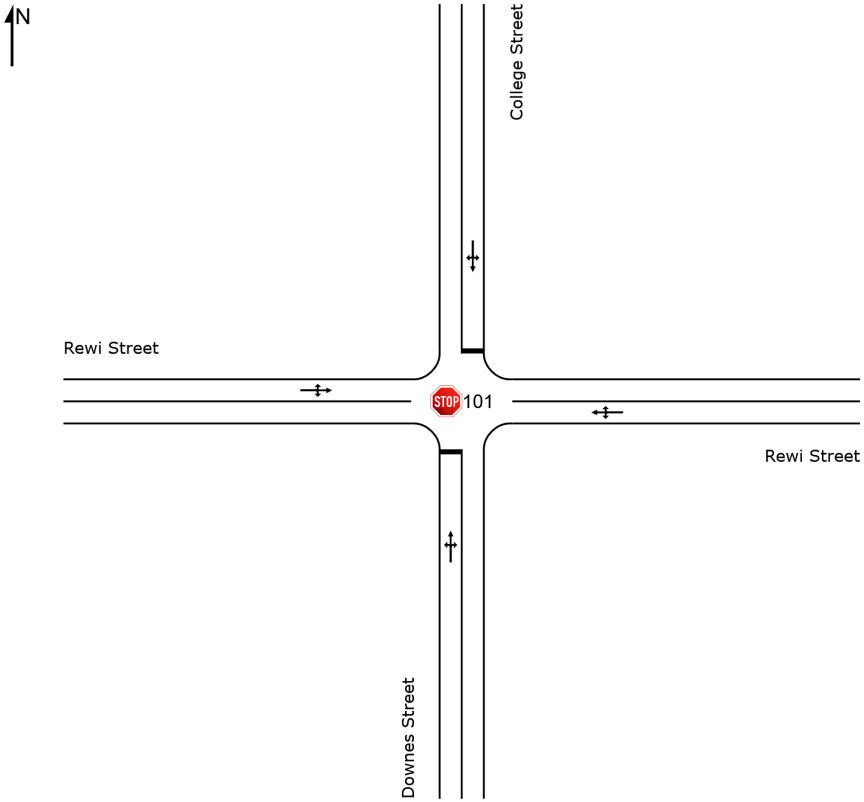
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SITE LAYOUT

Site: 101 [Rewi Street / College Street_2031 Baseline + Area 1 (70 dwellings)_PM Peak (Site Folder: Rewi Street / College Street Intersection with Wallace Tce connnection)]

New Site
Site Category: (None)
Stop (Two-Way)

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



Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Rewi Street / College Street_2031 Baseline + Area 1 (70 dwellings)_PM Peak (Site Folder: Rewi Street / College Street Intersection with Wallace Tce connnection)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Downes Street														
1	L2	117	33.0	123	33.0	0.503	15.4	LOS C	2.7	22.2	0.72	1.17	1.12	40.3
2	T1	77	5.0	81	5.0	0.503	20.5	LOS C	2.7	22.2	0.72	1.17	1.12	40.5
3	R2	24	5.0	25	5.0	0.503	25.0	LOS D	2.7	22.2	0.72	1.17	1.12	40.4
Approach		218	20.0	229	20.0	0.503	18.3	LOS C	2.7	22.2	0.72	1.17	1.12	40.4
East: Rewi Street														
4	L2	54	10.0	57	10.0	0.321	5.4	LOS A	0.8	5.7	0.14	0.11	0.14	48.3
5	T1	425	10.0	447	10.0	0.321	0.2	LOS A	0.8	5.7	0.14	0.11	0.14	49.0
6	R2	59	10.0	62	10.0	0.321	5.9	LOS A	0.8	5.7	0.14	0.11	0.14	47.9
Approach		538	10.0	566	10.0	0.321	1.4	NA	0.8	5.7	0.14	0.11	0.14	48.8
North: College Street														
7	L2	22	5.0	23	5.0	0.260	9.2	LOS A	1.0	7.0	0.63	1.01	0.71	41.2
8	T1	62	5.0	65	5.0	0.260	17.7	LOS C	1.0	7.0	0.63	1.01	0.71	41.0
9	R2	11	5.0	12	5.0	0.260	23.6	LOS C	1.0	7.0	0.63	1.01	0.71	40.9
Approach		95	5.0	100	5.0	0.260	16.4	LOS C	1.0	7.0	0.63	1.01	0.71	41.0
West: Rewi Street														
10	L2	10	10.0	11	10.0	0.199	7.4	LOS A	0.9	6.7	0.36	0.18	0.36	47.4
11	T1	202	10.0	213	10.0	0.199	1.3	LOS A	0.9	6.7	0.36	0.18	0.36	48.0
12	R2	70	10.0	74	10.0	0.199	7.5	LOS A	0.9	6.7	0.36	0.18	0.36	47.0
Approach		282	10.0	297	10.0	0.199	3.1	NA	0.9	6.7	0.36	0.18	0.36	47.7
All Vehicles		1133	11.5	1193	11.5	0.503	6.3	NA	2.7	22.2	0.35	0.41	0.43	46.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Minor Road Approach LOS values are based on average delay for all movements (v/c not used).

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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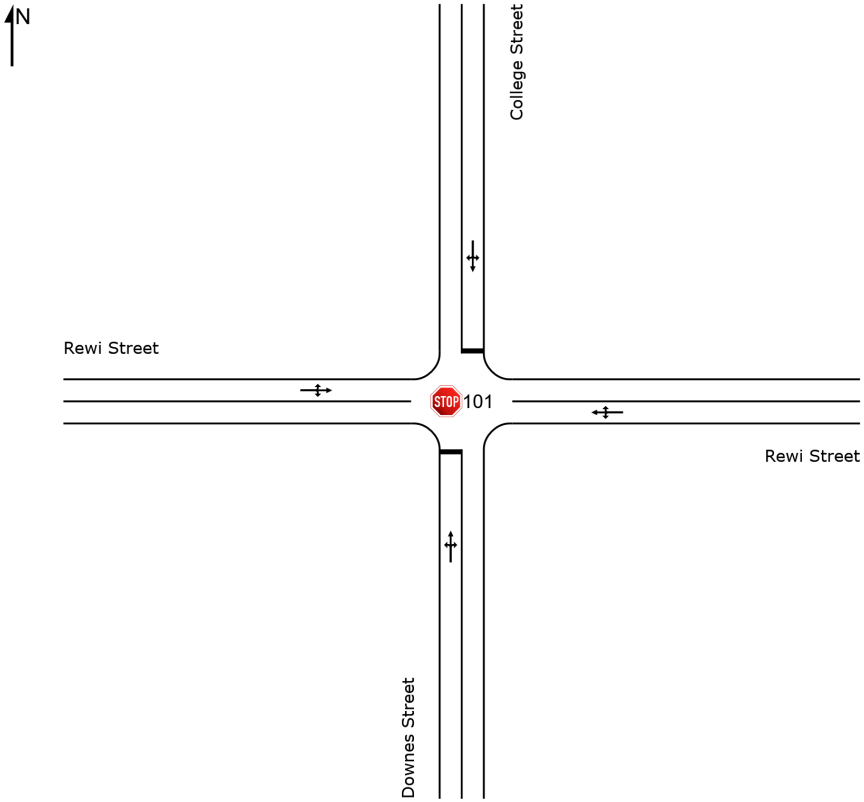
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SITE LAYOUT

Site: 101 [Rewi Street / College Street_2041 Baseline + Area 1 (70 dwellings)_AM Peak (Site Folder: Rewi Street / College Street Intersection with Wallace Tce connnection)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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Project: Z:\310205677\7_technical\SIDRA\4. rewi street & college street_20230530.sip9

MOVEMENT SUMMARY

Site: 101 [Rewi Street / College Street_2041 Baseline + Area 1 (70 dwellings)_AM Peak (Site Folder: Rewi Street / College Street Intersection with Wallace Tce connnection)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Downes Street														
1	L2	83	5.0	87	5.0	0.513	11.2	LOS B	2.9	21.1	0.54	1.09	0.88	40.7
2	T1	107	5.0	113	5.0	0.513	19.3	LOS C	2.9	21.1	0.54	1.09	0.88	40.5
3	R2	44	5.0	46	5.0	0.513	23.7	LOS C	2.9	21.1	0.54	1.09	0.88	40.4
Approach		234	5.0	246	5.0	0.513	17.3	LOS C	2.9	21.1	0.54	1.09	0.88	40.5
East: Rewi Street														
4	L2	48	10.0	51	10.0	0.139	5.6	LOS A	0.3	2.6	0.18	0.16	0.18	47.9
5	T1	154	10.0	162	10.0	0.139	0.5	LOS A	0.3	2.6	0.18	0.16	0.18	48.6
6	R2	22	10.0	23	10.0	0.139	6.9	LOS A	0.3	2.6	0.18	0.16	0.18	47.5
Approach		224	10.0	236	10.0	0.139	2.2	NA	0.3	2.6	0.18	0.16	0.18	48.3
North: College Street														
7	L2	33	5.0	35	5.0	0.279	10.8	LOS B	1.1	8.0	0.67	1.05	0.78	41.8
8	T1	74	5.0	78	5.0	0.279	16.3	LOS C	1.1	8.0	0.67	1.05	0.78	41.6
9	R2	10	5.0	11	5.0	0.279	21.5	LOS C	1.1	8.0	0.67	1.05	0.78	41.5
Approach		117	5.0	123	5.0	0.279	15.2	LOS C	1.1	8.0	0.67	1.05	0.78	41.6
West: Rewi Street														
10	L2	14	10.0	15	10.0	0.322	5.7	LOS A	1.1	8.3	0.20	0.13	0.20	48.1
11	T1	406	10.0	427	10.0	0.322	0.4	LOS A	1.1	8.3	0.20	0.13	0.20	48.8
12	R2	105	10.0	111	10.0	0.322	5.8	LOS A	1.1	8.3	0.20	0.13	0.20	47.7
Approach		525	10.0	553	10.0	0.322	1.6	NA	1.1	8.3	0.20	0.13	0.20	48.5
All Vehicles		1100	8.4	1158	8.4	0.513	6.5	NA	2.9	21.1	0.32	0.43	0.40	45.8

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Minor Road Approach LOS values are based on average delay for all movements (v/c not used).

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Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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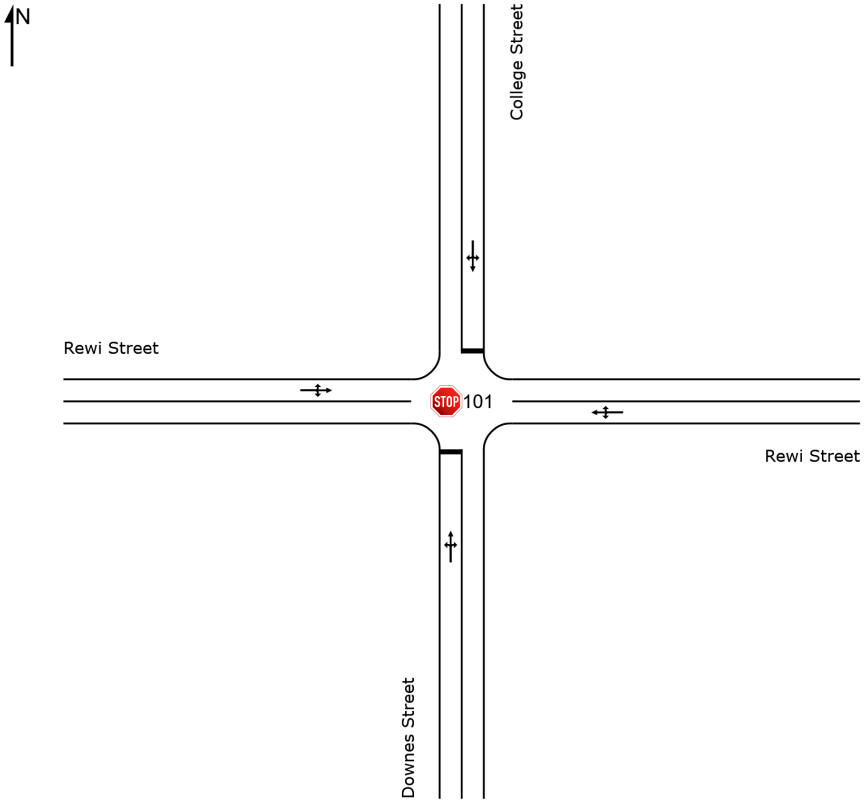
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SITE LAYOUT

Site: 101 [Rewi Street / College Street_2041 Baseline + Area 1 (70 dwellings)_PM Peak (Site Folder: Rewi Street / College Street Intersection with Wallace Tce connnection)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101 [Rewi Street / College Street_2041 Baseline + Area 1 (70 dwellings)_PM Peak (Site Folder: Rewi Street / College Street Intersection with Wallace Tce connnection)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Downes Street														
1	L2	122	33.0	128	33.0	0.565	16.8	LOS C	3.2	26.4	0.76	1.21	1.28	39.6
2	T1	84	5.0	88	5.0	0.565	22.6	LOS C	3.2	26.4	0.76	1.21	1.28	39.7
3	R2	25	5.0	26	5.0	0.565	27.8	LOS D	3.2	26.4	0.76	1.21	1.28	39.6
Approach		231	19.8	243	19.8	0.565	20.1	LOS C	3.2	26.4	0.76	1.21	1.28	39.6
East: Rewi Street														
4	L2	59	10.0	62	10.0	0.334	5.4	LOS A	0.8	6.0	0.14	0.11	0.14	48.3
5	T1	441	10.0	464	10.0	0.334	0.2	LOS A	0.8	6.0	0.14	0.11	0.14	49.0
6	R2	59	10.0	62	10.0	0.334	6.0	LOS A	0.8	6.0	0.14	0.11	0.14	47.9
Approach		559	10.0	588	10.0	0.334	1.4	NA	0.8	6.0	0.14	0.11	0.14	48.8
North: College Street														
7	L2	23	5.0	24	5.0	0.296	9.7	LOS A	1.1	8.3	0.67	1.02	0.79	40.6
8	T1	67	5.0	71	5.0	0.296	19.1	LOS C	1.1	8.3	0.67	1.02	0.79	40.4
9	R2	11	5.0	12	5.0	0.296	25.8	LOS D	1.1	8.3	0.67	1.02	0.79	40.3
Approach		101	5.0	106	5.0	0.296	17.7	LOS C	1.1	8.3	0.67	1.02	0.79	40.4
West: Rewi Street														
10	L2	10	10.0	11	10.0	0.212	7.6	LOS A	1.0	7.3	0.38	0.19	0.38	47.3
11	T1	213	10.0	224	10.0	0.212	1.5	LOS A	1.0	7.3	0.38	0.19	0.38	47.9
12	R2	74	10.0	78	10.0	0.212	7.8	LOS A	1.0	7.3	0.38	0.19	0.38	46.9
Approach		297	10.0	313	10.0	0.212	3.2	NA	1.0	7.3	0.38	0.19	0.38	47.6
All Vehicles		1188	11.5	1251	11.5	0.565	6.9	NA	3.2	26.4	0.36	0.42	0.48	45.6

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Minor Road Approach LOS values are based on average delay for all movements (v/c not used).

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Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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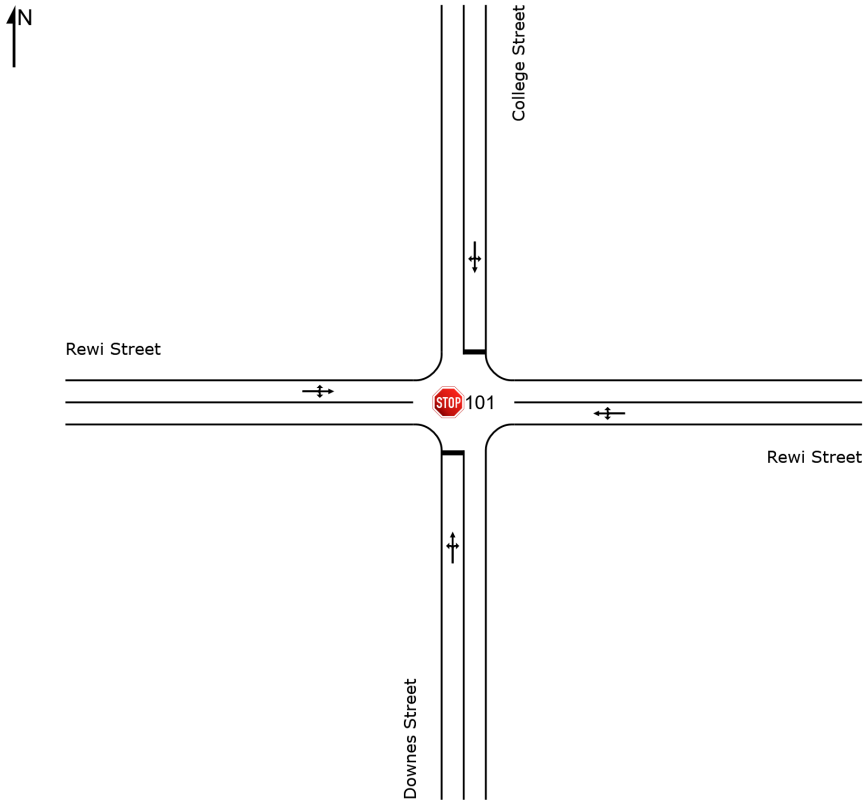
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SITE LAYOUT

Site: 101 [Rewi Street / College Street_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101 [Rewi Street / College Street_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Downes Street														
1	L2	99	5.0	104	5.0	0.606	12.5	LOS B	4.0	29.0	0.55	1.14	1.04	39.9
2	T1	118	5.0	124	5.0	0.606	21.1	LOS C	4.0	29.0	0.55	1.14	1.04	39.7
3	R2	59	5.0	62	5.0	0.606	25.8	LOS D	4.0	29.0	0.55	1.14	1.04	39.6
Approach		276	5.0	291	5.0	0.606	19.0	LOS C	4.0	29.0	0.55	1.14	1.04	39.8
East: Rewi Street														
4	L2	54	10.0	57	10.0	0.136	5.5	LOS A	0.3	2.4	0.17	0.17	0.17	47.9
5	T1	145	10.0	153	10.0	0.136	0.4	LOS A	0.3	2.4	0.17	0.17	0.17	48.5
6	R2	21	10.0	22	10.0	0.136	6.9	LOS A	0.3	2.4	0.17	0.17	0.17	47.5
Approach		220	10.0	232	10.0	0.136	2.3	NA	0.3	2.4	0.17	0.17	0.17	48.2
North: College Street														
7	L2	33	5.0	35	5.0	0.294	10.9	LOS B	1.2	8.6	0.68	1.05	0.80	41.7
8	T1	80	5.0	84	5.0	0.294	16.4	LOS C	1.2	8.6	0.68	1.05	0.80	41.5
9	R2	10	5.0	11	5.0	0.294	22.3	LOS C	1.2	8.6	0.68	1.05	0.80	41.4
Approach		123	5.0	129	5.0	0.294	15.4	LOS C	1.2	8.6	0.68	1.05	0.80	41.5
West: Rewi Street														
10	L2	14	10.0	15	10.0	0.323	5.7	LOS A	1.1	8.6	0.21	0.13	0.21	48.1
11	T1	400	10.0	421	10.0	0.323	0.4	LOS A	1.1	8.6	0.21	0.13	0.21	48.7
12	R2	111	10.0	117	10.0	0.323	5.8	LOS A	1.1	8.6	0.21	0.13	0.21	47.7
Approach		525	10.0	553	10.0	0.323	1.7	NA	1.1	8.6	0.21	0.13	0.21	48.5
All Vehicles		1144	8.3	1204	8.3	0.606	7.4	NA	4.0	29.0	0.34	0.48	0.47	45.2

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Minor Road Approach LOS values are based on average delay for all movements (v/c not used).

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

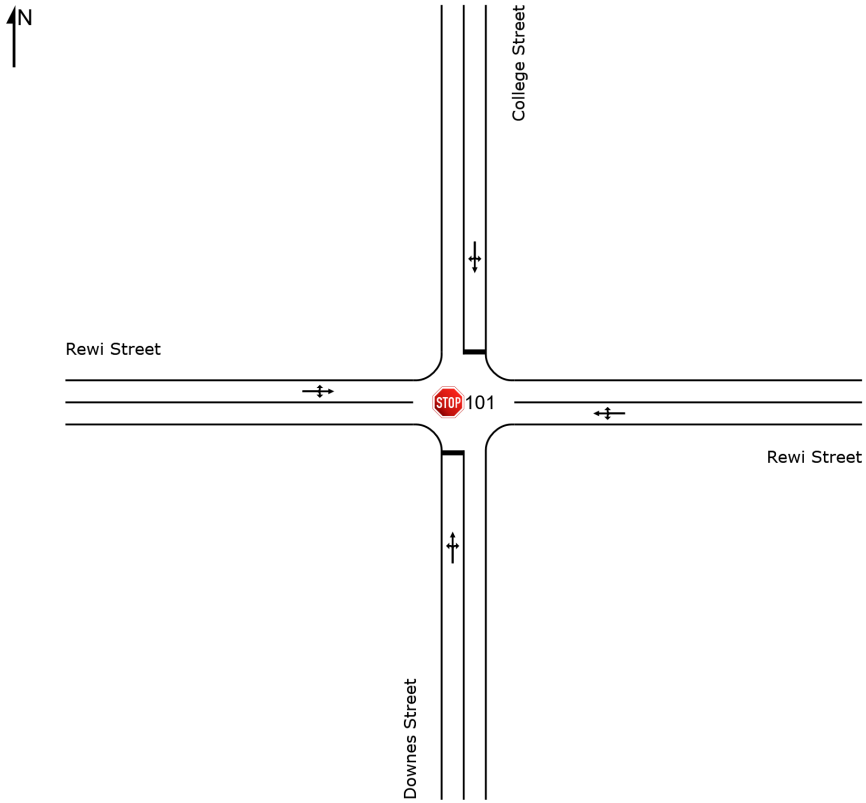
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SITE LAYOUT

Site: 101 [Rewi Street / College Street_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101 [Rewi Street / College Street_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Downes Street														
1	L2	127	33.0	134	33.0	0.601	17.2	LOS C	3.6	29.6	0.76	1.24	1.37	39.3
2	T1	87	5.0	92	5.0	0.601	23.2	LOS C	3.6	29.6	0.76	1.24	1.37	39.4
3	R2	32	5.0	34	5.0	0.601	28.8	LOS D	3.6	29.6	0.76	1.24	1.37	39.3
Approach		246	19.5	259	19.5	0.601	20.8	LOS C	3.6	29.6	0.76	1.24	1.37	39.3
East: Rewi Street														
4	L2	67	10.0	71	10.0	0.329	5.3	LOS A	0.8	5.9	0.14	0.12	0.14	48.3
5	T1	425	10.0	447	10.0	0.329	0.2	LOS A	0.8	5.9	0.14	0.12	0.14	48.9
6	R2	59	10.0	62	10.0	0.329	5.9	LOS A	0.8	5.9	0.14	0.12	0.14	47.9
Approach		551	10.0	580	10.0	0.329	1.4	NA	0.8	5.9	0.14	0.12	0.14	48.7
North: College Street														
7	L2	22	5.0	23	5.0	0.333	10.0	LOS B	1.3	9.7	0.68	1.04	0.85	40.4
8	T1	80	5.0	84	5.0	0.333	19.5	LOS C	1.3	9.7	0.68	1.04	0.85	40.2
9	R2	11	5.0	12	5.0	0.333	26.1	LOS D	1.3	9.7	0.68	1.04	0.85	40.1
Approach		113	5.0	119	5.0	0.333	18.3	LOS C	1.3	9.7	0.68	1.04	0.85	40.2
West: Rewi Street														
10	L2	10	10.0	11	10.0	0.221	7.6	LOS A	1.1	8.2	0.42	0.22	0.42	47.1
11	T1	202	10.0	213	10.0	0.221	1.6	LOS A	1.1	8.2	0.42	0.22	0.42	47.6
12	R2	88	10.0	93	10.0	0.221	7.7	LOS A	1.1	8.2	0.42	0.22	0.42	46.6
Approach		300	10.0	316	10.0	0.221	3.6	NA	1.1	8.2	0.42	0.22	0.42	47.3
All Vehicles		1210	11.5	1274	11.5	0.601	7.5	NA	3.6	29.6	0.39	0.46	0.52	45.3

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Minor Road Approach LOS values are based on average delay for all movements (v/c not used).

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

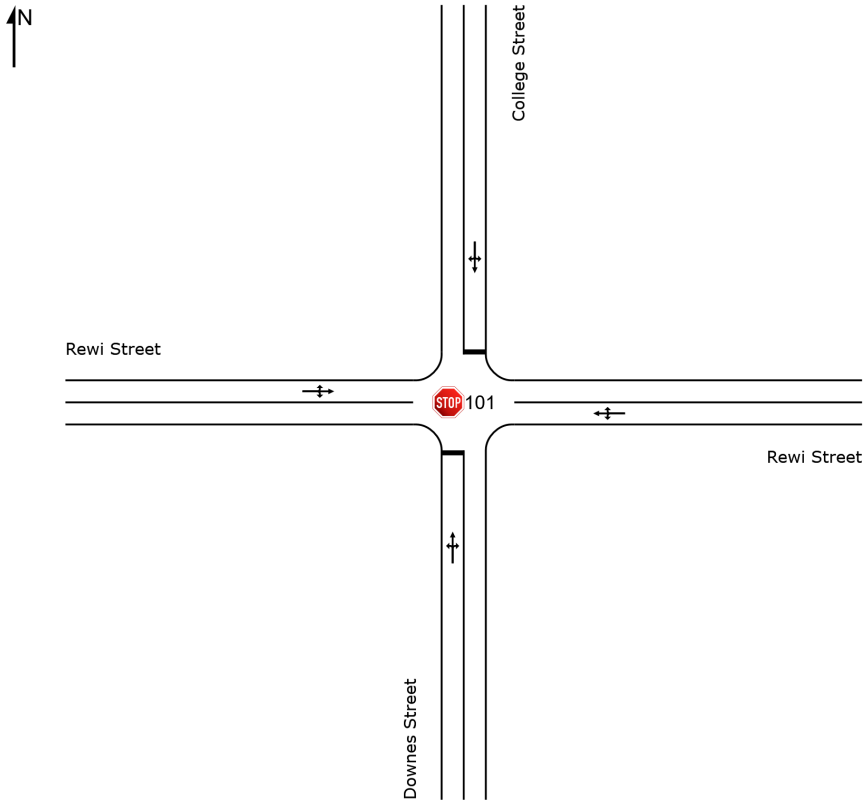
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SITE LAYOUT

Site: 101 [Rewi Street / College Street_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101 [Rewi Street / College Street_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Downes Street														
1	L2	111	5.0	117	5.0	0.659	13.7	LOS B	4.8	34.8	0.56	1.18	1.17	39.3
2	T1	120	5.0	126	5.0	0.659	22.6	LOS C	4.8	34.8	0.56	1.18	1.17	39.1
3	R2	67	5.0	71	5.0	0.659	27.7	LOS D	4.8	34.8	0.56	1.18	1.17	39.0
Approach		298	5.0	314	5.0	0.659	20.5	LOS C	4.8	34.8	0.56	1.18	1.17	39.2
East: Rewi Street														
4	L2	57	10.0	60	10.0	0.138	5.5	LOS A	0.3	2.5	0.17	0.17	0.17	47.8
5	T1	145	10.0	153	10.0	0.138	0.4	LOS A	0.3	2.5	0.17	0.17	0.17	48.5
6	R2	21	10.0	22	10.0	0.138	6.9	LOS A	0.3	2.5	0.17	0.17	0.17	47.4
Approach		223	10.0	235	10.0	0.138	2.3	NA	0.3	2.5	0.17	0.17	0.17	48.2
North: College Street														
7	L2	33	5.0	35	5.0	0.309	11.0	LOS B	1.3	9.1	0.69	1.06	0.83	41.5
8	T1	84	5.0	88	5.0	0.309	16.7	LOS C	1.3	9.1	0.69	1.06	0.83	41.3
9	R2	10	5.0	11	5.0	0.309	23.1	LOS C	1.3	9.1	0.69	1.06	0.83	41.2
Approach		127	5.0	134	5.0	0.309	15.8	LOS C	1.3	9.1	0.69	1.06	0.83	41.4
West: Rewi Street														
10	L2	14	10.0	15	10.0	0.326	5.7	LOS A	1.2	9.0	0.22	0.14	0.22	48.0
11	T1	400	10.0	421	10.0	0.326	0.4	LOS A	1.2	9.0	0.22	0.14	0.22	48.7
12	R2	115	10.0	121	10.0	0.326	5.8	LOS A	1.2	9.0	0.22	0.14	0.22	47.6
Approach		529	10.0	557	10.0	0.326	1.7	NA	1.2	9.0	0.22	0.14	0.22	48.4
All Vehicles		1177	8.2	1239	8.2	0.659	8.1	NA	4.8	34.8	0.35	0.51	0.51	44.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Minor Road Approach LOS values are based on average delay for all movements (v/c not used).

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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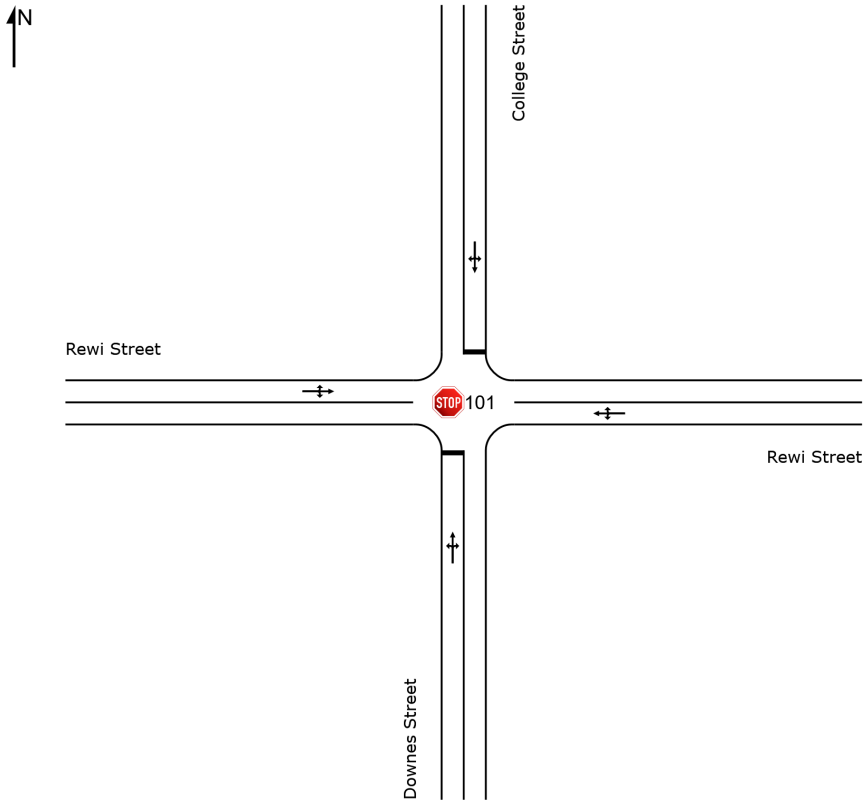
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Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101 [Rewi Street / College Street_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101 [Rewi Street / College Street_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Downes Street														
1	L2	134	33.0	141	33.0	0.665	18.8	LOS C	4.4	35.7	0.79	1.30	1.57	38.4
2	T1	94	5.0	99	5.0	0.665	25.3	LOS D	4.4	35.7	0.79	1.30	1.57	38.6
3	R2	36	5.0	38	5.0	0.665	31.6	LOS D	4.4	35.7	0.79	1.30	1.57	38.5
Approach		264	19.2	278	19.2	0.665	22.9	LOS C	4.4	35.7	0.79	1.30	1.57	38.5
East: Rewi Street														
4	L2	75	10.0	79	10.0	0.334	5.3	LOS A	0.8	6.0	0.14	0.12	0.14	48.3
5	T1	425	10.0	447	10.0	0.334	0.2	LOS A	0.8	6.0	0.14	0.12	0.14	48.9
6	R2	59	10.0	62	10.0	0.334	5.9	LOS A	0.8	6.0	0.14	0.12	0.14	47.8
Approach		559	10.0	588	10.0	0.334	1.5	NA	0.8	6.0	0.14	0.12	0.14	48.7
North: College Street														
7	L2	22	5.0	23	5.0	0.378	10.6	LOS B	1.6	11.4	0.71	1.06	0.93	39.9
8	T1	90	5.0	95	5.0	0.378	20.6	LOS C	1.6	11.4	0.71	1.06	0.93	39.7
9	R2	11	5.0	12	5.0	0.378	27.8	LOS D	1.6	11.4	0.71	1.06	0.93	39.6
Approach		123	5.0	129	5.0	0.378	19.5	LOS C	1.6	11.4	0.71	1.06	0.93	39.7
West: Rewi Street														
10	L2	10	10.0	11	10.0	0.234	7.7	LOS A	1.2	9.1	0.45	0.24	0.45	46.9
11	T1	202	10.0	213	10.0	0.234	1.8	LOS A	1.2	9.1	0.45	0.24	0.45	47.5
12	R2	98	10.0	103	10.0	0.234	7.8	LOS A	1.2	9.1	0.45	0.24	0.45	46.5
Approach		310	10.0	326	10.0	0.234	3.9	NA	1.2	9.1	0.45	0.24	0.45	47.1
All Vehicles		1256	11.4	1322	11.4	0.665	8.3	NA	4.4	35.7	0.41	0.49	0.59	44.8

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Minor Road Approach LOS values are based on average delay for all movements (v/c not used).

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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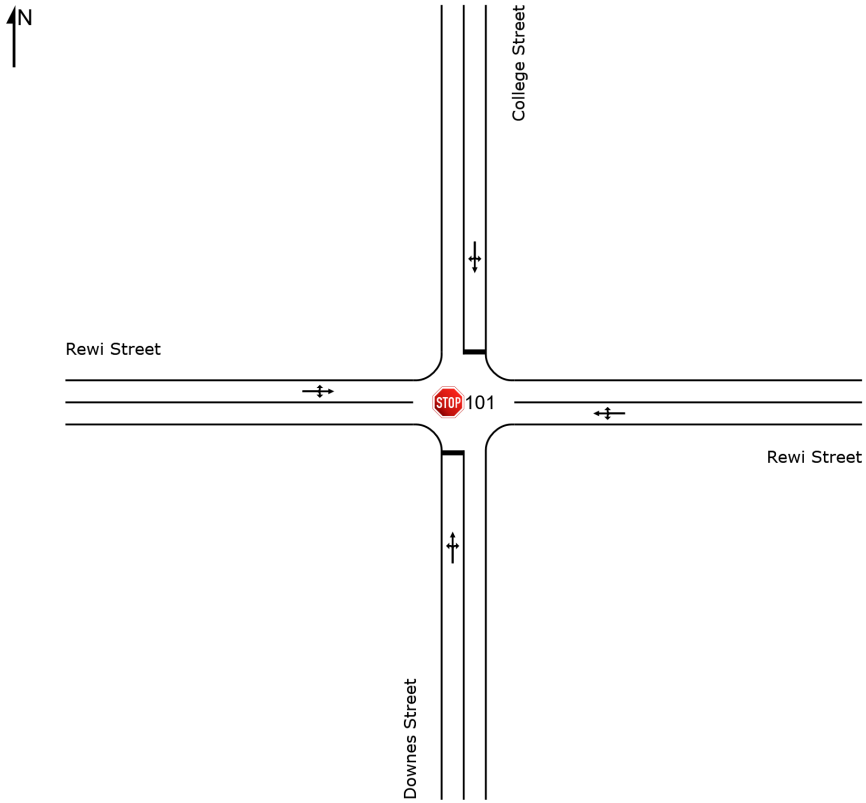
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Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101 [Rewi Street / College Street_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

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MOVEMENT SUMMARY

Site: 101 [Rewi Street / College Street_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Downes Street														
1	L2	104	5.0	109	5.0	0.659	13.8	LOS B	4.7	34.1	0.59	1.19	1.21	39.2
2	T1	128	5.0	135	5.0	0.659	22.9	LOS C	4.7	34.1	0.59	1.19	1.21	39.0
3	R2	60	5.0	63	5.0	0.659	28.0	LOS D	4.7	34.1	0.59	1.19	1.21	38.9
Approach		292	5.0	307	5.0	0.659	20.7	LOS C	4.7	34.1	0.59	1.19	1.21	39.1
East: Rewi Street														
4	L2	54	10.0	57	10.0	0.143	5.5	LOS A	0.3	2.6	0.17	0.16	0.17	47.9
5	T1	154	10.0	162	10.0	0.143	0.5	LOS A	0.3	2.6	0.17	0.16	0.17	48.5
6	R2	22	10.0	23	10.0	0.143	6.9	LOS A	0.3	2.6	0.17	0.16	0.17	47.5
Approach		230	10.0	242	10.0	0.143	2.3	NA	0.3	2.6	0.17	0.16	0.17	48.3
North: College Street														
7	L2	33	5.0	35	5.0	0.306	11.1	LOS B	1.2	9.0	0.69	1.06	0.83	41.5
8	T1	81	5.0	85	5.0	0.306	16.9	LOS C	1.2	9.0	0.69	1.06	0.83	41.3
9	R2	10	5.0	11	5.0	0.306	23.5	LOS C	1.2	9.0	0.69	1.06	0.83	41.2
Approach		124	5.0	131	5.0	0.306	15.9	LOS C	1.2	9.0	0.69	1.06	0.83	41.3
West: Rewi Street														
10	L2	14	10.0	15	10.0	0.328	5.8	LOS A	1.2	8.8	0.22	0.13	0.22	48.1
11	T1	406	10.0	427	10.0	0.328	0.4	LOS A	1.2	8.8	0.22	0.13	0.22	48.7
12	R2	112	10.0	118	10.0	0.328	5.8	LOS A	1.2	8.8	0.22	0.13	0.22	47.6
Approach		532	10.0	560	10.0	0.328	1.7	NA	1.2	8.8	0.22	0.13	0.22	48.4
All Vehicles		1178	8.2	1240	8.2	0.659	8.0	NA	4.7	34.1	0.35	0.50	0.52	44.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Minor Road Approach LOS values are based on average delay for all movements (v/c not used).

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

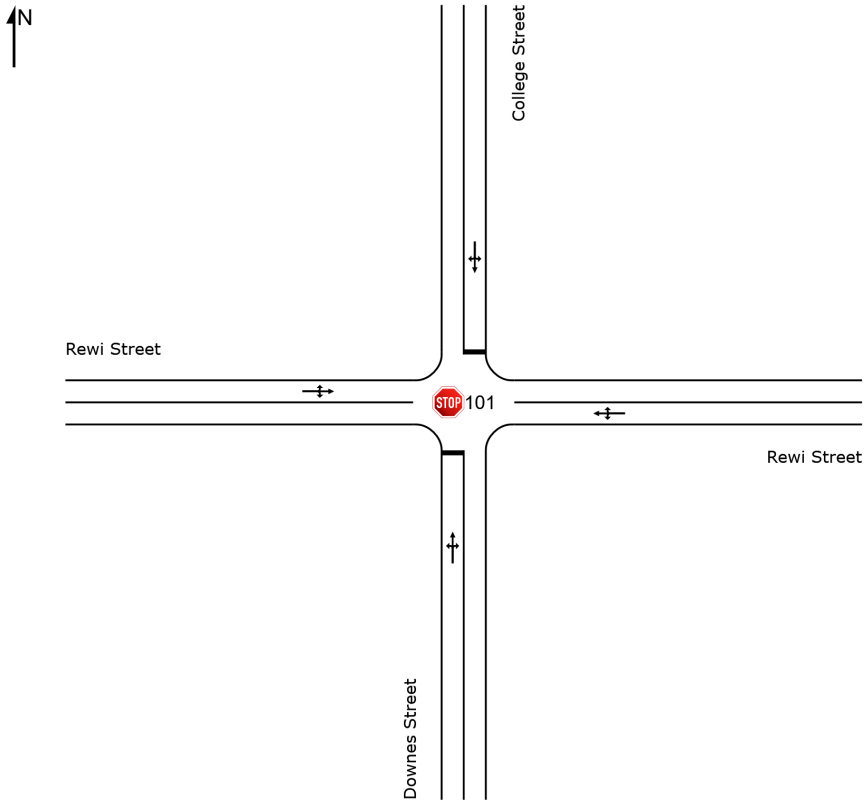
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SITE LAYOUT

Site: 101 [Rewi Street / College Street_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

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MOVEMENT SUMMARY

Site: 101 [Rewi Street / College Street_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Downes Street														
1	L2	132	33.0	139	33.0	0.672	19.3	LOS C	4.4	35.8	0.80	1.31	1.61	38.2
2	T1	94	5.0	99	5.0	0.672	26.2	LOS D	4.4	35.8	0.80	1.31	1.61	38.3
3	R2	33	5.0	35	5.0	0.672	32.6	LOS D	4.4	35.8	0.80	1.31	1.61	38.2
Approach		259	19.3	273	19.3	0.672	23.5	LOS C	4.4	35.8	0.80	1.31	1.61	38.2
East: Rewi Street														
4	L2	72	10.0	76	10.0	0.342	5.4	LOS A	0.8	6.1	0.14	0.12	0.14	48.3
5	T1	441	10.0	464	10.0	0.342	0.2	LOS A	0.8	6.1	0.14	0.12	0.14	48.9
6	R2	59	10.0	62	10.0	0.342	6.0	LOS A	0.8	6.1	0.14	0.12	0.14	47.9
Approach		572	10.0	602	10.0	0.342	1.5	NA	0.8	6.1	0.14	0.12	0.14	48.7
North: College Street														
7	L2	23	5.0	24	5.0	0.376	10.7	LOS B	1.5	11.2	0.71	1.06	0.93	39.7
8	T1	85	5.0	89	5.0	0.376	21.2	LOS C	1.5	11.2	0.71	1.06	0.93	39.5
9	R2	11	5.0	12	5.0	0.376	28.7	LOS D	1.5	11.2	0.71	1.06	0.93	39.4
Approach		119	5.0	125	5.0	0.376	19.9	LOS C	1.5	11.2	0.71	1.06	0.93	39.5
West: Rewi Street														
10	L2	10	10.0	11	10.0	0.235	7.9	LOS A	1.2	8.9	0.43	0.22	0.43	47.0
11	T1	213	10.0	224	10.0	0.235	1.8	LOS A	1.2	8.9	0.43	0.22	0.43	47.5
12	R2	92	10.0	97	10.0	0.235	8.0	LOS A	1.2	8.9	0.43	0.22	0.43	46.6
Approach		315	10.0	332	10.0	0.235	3.8	NA	1.2	8.9	0.43	0.22	0.43	47.2
All Vehicles		1265	11.4	1332	11.4	0.672	8.3	NA	4.4	35.8	0.40	0.48	0.59	44.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Minor Road Approach LOS values are based on average delay for all movements (v/c not used).

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

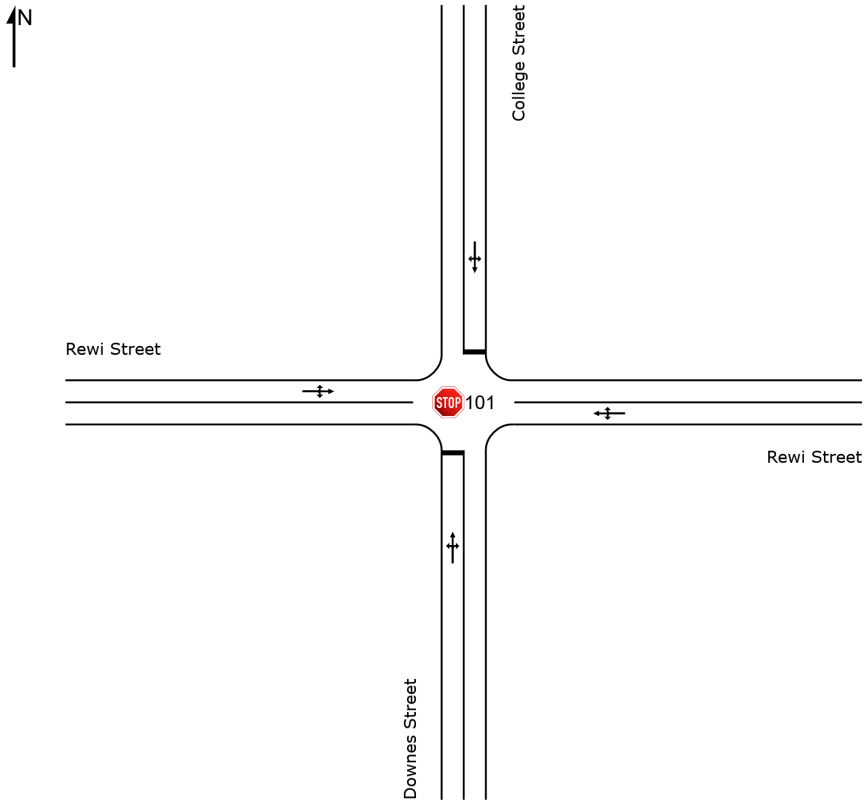
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SITE LAYOUT

Site: 101 [Rewi Street / College Street_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101 [Rewi Street / College Street_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Downes Street														
1	L2	116	5.0	122	5.0	0.740	16.4	LOS C	6.2	45.4	0.62	1.28	1.50	38.0
2	T1	140	5.0	147	5.0	0.740	26.0	LOS D	6.2	45.4	0.62	1.28	1.50	37.8
3	R2	68	5.0	72	5.0	0.740	31.5	LOS D	6.2	45.4	0.62	1.28	1.50	37.7
Approach		324	5.0	341	5.0	0.740	23.7	LOS C	6.2	45.4	0.62	1.28	1.50	37.9
East: Rewi Street														
4	L2	57	10.0	60	10.0	0.144	5.5	LOS A	0.3	2.6	0.17	0.17	0.17	47.9
5	T1	154	10.0	162	10.0	0.144	0.5	LOS A	0.3	2.6	0.17	0.17	0.17	48.5
6	R2	22	10.0	23	10.0	0.144	6.9	LOS A	0.3	2.6	0.17	0.17	0.17	47.5
Approach		233	10.0	245	10.0	0.144	2.3	NA	0.3	2.6	0.17	0.17	0.17	48.2
North: College Street														
7	L2	33	5.0	35	5.0	0.323	11.2	LOS B	1.3	9.6	0.70	1.07	0.86	41.3
8	T1	85	5.0	89	5.0	0.323	17.3	LOS C	1.3	9.6	0.70	1.07	0.86	41.1
9	R2	10	5.0	11	5.0	0.323	24.7	LOS C	1.3	9.6	0.70	1.07	0.86	41.0
Approach		128	5.0	135	5.0	0.323	16.3	LOS C	1.3	9.6	0.70	1.07	0.86	41.1
West: Rewi Street														
10	L2	14	10.0	15	10.0	0.331	5.8	LOS A	1.2	9.2	0.22	0.14	0.22	48.0
11	T1	406	10.0	427	10.0	0.331	0.4	LOS A	1.2	9.2	0.22	0.14	0.22	48.7
12	R2	116	10.0	122	10.0	0.331	5.9	LOS A	1.2	9.2	0.22	0.14	0.22	47.6
Approach		536	10.0	564	10.0	0.331	1.7	NA	1.2	9.2	0.22	0.14	0.22	48.4
All Vehicles		1221	8.1	1285	8.1	0.740	9.2	NA	6.2	45.4	0.37	0.54	0.62	44.3

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

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Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

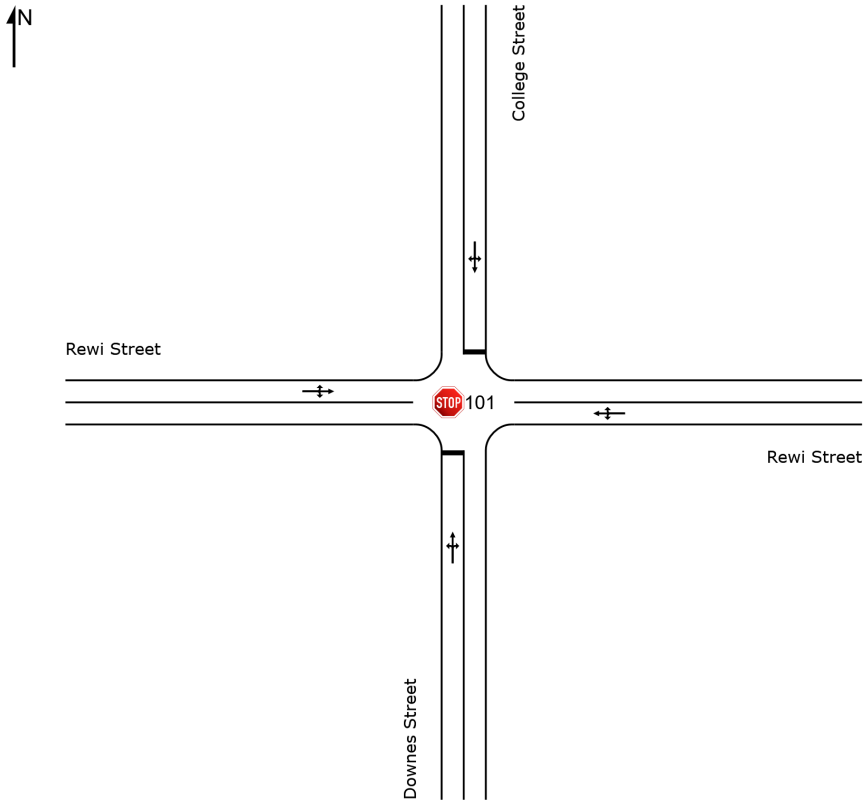
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SITE LAYOUT

Site: 101 [Rewi Street / College Street_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101 [Rewi Street / College Street_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Downes Street														
1	L2	139	33.0	146	33.0	0.741	21.9	LOS C	5.5	44.4	0.83	1.41	1.92	37.0
2	T1	101	5.0	106	5.0	0.741	29.5	LOS D	5.5	44.4	0.83	1.41	1.92	37.1
3	R2	37	5.0	39	5.0	0.741	36.7	LOS E	5.5	44.4	0.83	1.41	1.92	37.0
Approach		277	19.1	292	19.1	0.741	26.7	LOS D	5.5	44.4	0.83	1.41	1.92	37.0
East: Rewi Street														
4	L2	80	10.0	84	10.0	0.346	5.3	LOS A	0.8	6.2	0.14	0.12	0.14	48.2
5	T1	441	10.0	464	10.0	0.346	0.2	LOS A	0.8	6.2	0.14	0.12	0.14	48.9
6	R2	59	10.0	62	10.0	0.346	6.0	LOS A	0.8	6.2	0.14	0.12	0.14	47.8
Approach		580	10.0	611	10.0	0.346	1.5	NA	0.8	6.2	0.14	0.12	0.14	48.7
North: College Street														
7	L2	23	5.0	24	5.0	0.426	11.4	LOS B	1.8	13.1	0.74	1.08	1.02	39.1
8	T1	95	5.0	100	5.0	0.426	22.6	LOS C	1.8	13.1	0.74	1.08	1.02	38.9
9	R2	11	5.0	12	5.0	0.426	30.6	LOS D	1.8	13.1	0.74	1.08	1.02	38.8
Approach		129	5.0	136	5.0	0.426	21.3	LOS C	1.8	13.1	0.74	1.08	1.02	39.0
West: Rewi Street														
10	L2	10	10.0	11	10.0	0.248	8.0	LOS A	1.3	9.9	0.46	0.24	0.46	46.8
11	T1	213	10.0	224	10.0	0.248	2.0	LOS A	1.3	9.9	0.46	0.24	0.46	47.4
12	R2	102	10.0	107	10.0	0.248	8.1	LOS A	1.3	9.9	0.46	0.24	0.46	46.4
Approach		325	10.0	342	10.0	0.248	4.1	NA	1.3	9.9	0.46	0.24	0.46	47.0
All Vehicles		1311	11.4	1380	11.4	0.741	9.4	NA	5.5	44.4	0.43	0.52	0.68	44.3

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Minor Road Approach LOS values are based on average delay for all movements (v/c not used).

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

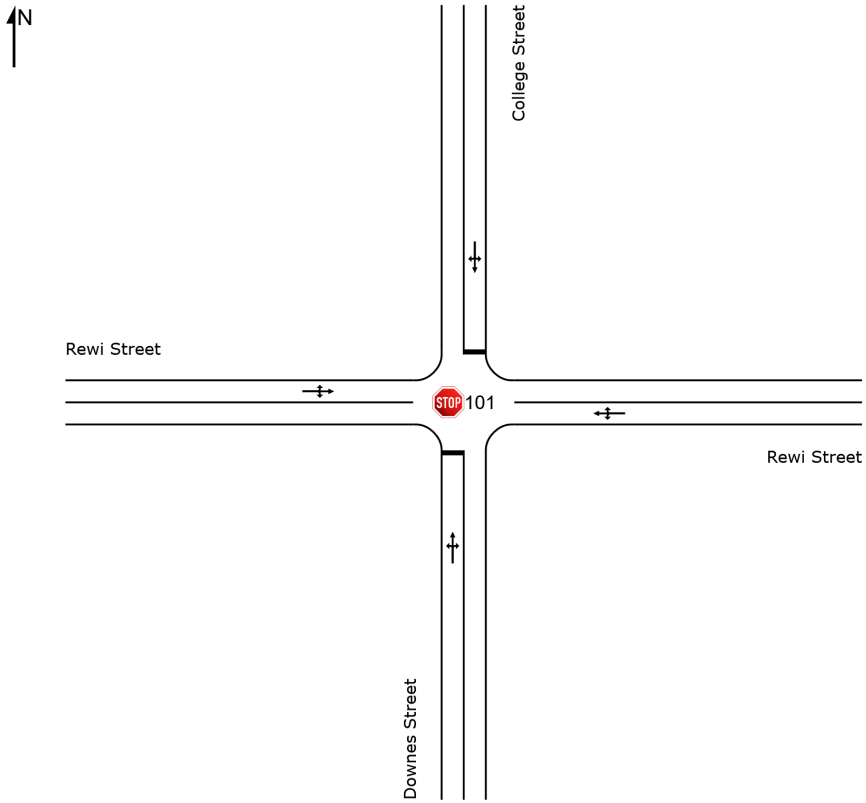
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SITE LAYOUT

Site: 101 [Rewi Street / College Street_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101 [Rewi Street / College Street_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Downes Street														
1	L2	68	5.0	72	5.0	0.458	10.8	LOS B	2.3	16.7	0.55	1.06	0.83	40.5
2	T1	87	5.0	92	5.0	0.458	20.3	LOS C	2.3	16.7	0.55	1.06	0.83	40.4
3	R2	35	5.0	37	5.0	0.458	23.9	LOS C	2.3	16.7	0.55	1.06	0.83	40.2
Approach		190	5.0	200	5.0	0.458	17.6	LOS C	2.3	16.7	0.55	1.06	0.83	40.4
East: Rewi Street														
4	L2	45	10.0	47	10.0	0.142	5.9	LOS A	0.4	2.8	0.19	0.15	0.19	47.9
5	T1	160	10.0	168	10.0	0.142	0.6	LOS A	0.4	2.8	0.19	0.15	0.19	48.5
6	R2	21	10.0	22	10.0	0.142	7.5	LOS A	0.4	2.8	0.19	0.15	0.19	47.5
Approach		226	10.0	238	10.0	0.142	2.3	NA	0.4	2.8	0.19	0.15	0.19	48.3
North: College Street														
7	L2	33	5.0	35	5.0	0.338	11.9	LOS B	1.4	10.0	0.73	1.08	0.91	40.8
8	T1	69	5.0	73	5.0	0.338	18.3	LOS C	1.4	10.0	0.73	1.08	0.91	40.6
9	R2	21	5.0	22	5.0	0.338	23.4	LOS C	1.4	10.0	0.73	1.08	0.91	40.5
Approach		123	5.0	129	5.0	0.338	17.4	LOS C	1.4	10.0	0.73	1.08	0.91	40.6
West: Rewi Street														
10	L2	45	10.0	47	10.0	0.358	5.6	LOS A	1.2	9.1	0.20	0.13	0.20	48.1
11	T1	444	10.0	467	10.0	0.358	0.3	LOS A	1.2	9.1	0.20	0.13	0.20	48.7
12	R2	100	10.0	105	10.0	0.358	5.9	LOS A	1.2	9.1	0.20	0.13	0.20	47.7
Approach		589	10.0	620	10.0	0.358	1.7	NA	1.2	9.1	0.20	0.13	0.20	48.5
All Vehicles		1128	8.6	1187	8.6	0.458	6.2	NA	2.3	16.7	0.31	0.39	0.38	45.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Minor Road Approach LOS values are based on average delay for all movements (v/c not used).

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

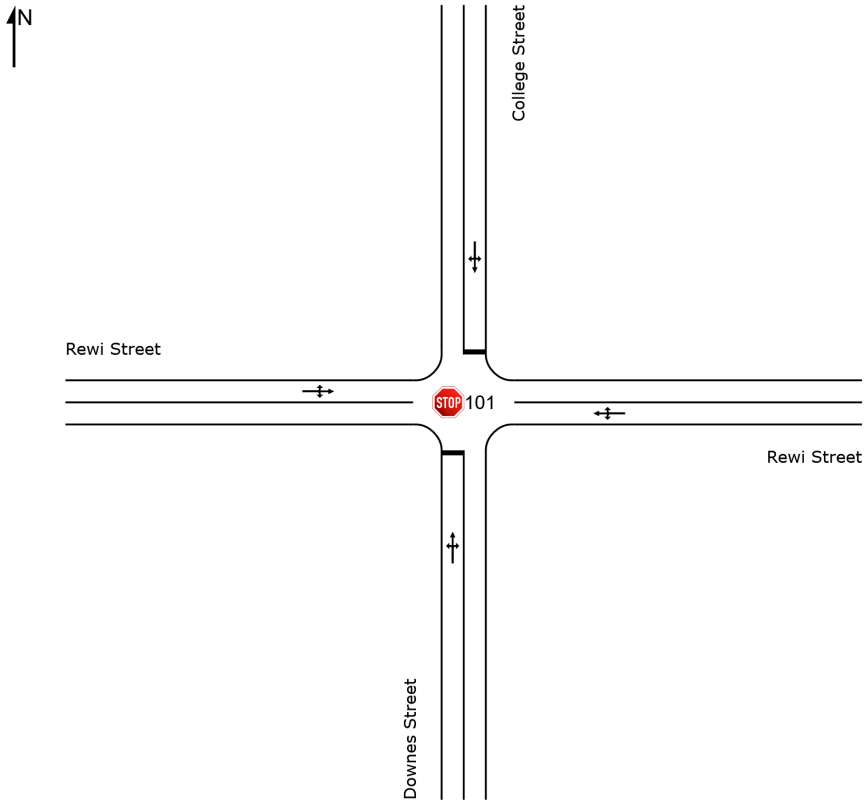
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SITE LAYOUT

Site: 101 [Rewi Street / College Street_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

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MOVEMENT SUMMARY

Site: 101 [Rewi Street / College Street_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Downes Street														
1	L2	112	33.0	118	33.0	0.510	16.3	LOS C	2.7	22.0	0.75	1.17	1.17	39.9
2	T1	72	5.0	76	5.0	0.510	22.4	LOS C	2.7	22.0	0.75	1.17	1.17	40.0
3	R2	20	5.0	21	5.0	0.510	26.7	LOS D	2.7	22.0	0.75	1.17	1.17	39.9
Approach		204	20.4	215	20.4	0.510	19.5	LOS C	2.7	22.0	0.75	1.17	1.17	39.9
East: Rewi Street														
4	L2	48	10.0	51	10.0	0.340	5.6	LOS A	0.8	6.1	0.15	0.10	0.15	48.4
5	T1	461	10.0	485	10.0	0.340	0.3	LOS A	0.8	6.1	0.15	0.10	0.15	49.0
6	R2	59	10.0	62	10.0	0.340	6.2	LOS A	0.8	6.1	0.15	0.10	0.15	48.0
Approach		568	10.0	598	10.0	0.340	1.3	NA	0.8	6.1	0.15	0.10	0.15	48.8
North: College Street														
7	L2	22	5.0	23	5.0	0.396	11.3	LOS B	1.6	11.7	0.74	1.06	0.98	39.0
8	T1	54	5.0	57	5.0	0.396	21.2	LOS C	1.6	11.7	0.74	1.06	0.98	38.8
9	R2	37	5.0	39	5.0	0.396	28.1	LOS D	1.6	11.7	0.74	1.06	0.98	38.7
Approach		113	5.0	119	5.0	0.396	21.5	LOS C	1.6	11.7	0.74	1.06	0.98	38.8
West: Rewi Street														
10	L2	25	10.0	26	10.0	0.215	7.5	LOS A	0.9	7.0	0.34	0.17	0.34	47.4
11	T1	224	10.0	236	10.0	0.215	1.3	LOS A	0.9	7.0	0.34	0.17	0.34	48.0
12	R2	62	10.0	65	10.0	0.215	7.9	LOS A	0.9	7.0	0.34	0.17	0.34	47.0
Approach		311	10.0	327	10.0	0.215	3.1	NA	0.9	7.0	0.34	0.17	0.34	47.7
All Vehicles		1196	11.3	1259	11.3	0.510	6.8	NA	2.7	22.0	0.36	0.39	0.45	45.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

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HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

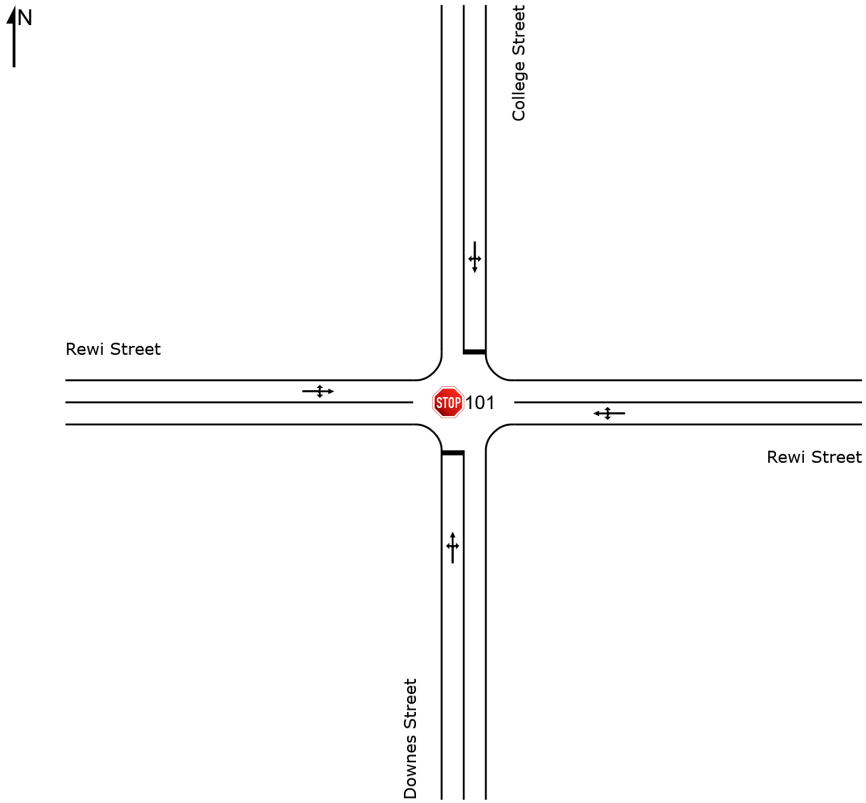
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SITE LAYOUT

Site: 101 [Rewi Street / College Street_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

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MOVEMENT SUMMARY

Site: 101 [Rewi Street / College Street_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Downes Street														
1	L2	68	5.0	72	5.0	0.487	11.4	LOS B	2.5	18.0	0.58	1.07	0.91	40.0
2	T1	87	5.0	92	5.0	0.487	22.0	LOS C	2.5	18.0	0.58	1.07	0.91	39.8
3	R2	35	5.0	37	5.0	0.487	25.4	LOS D	2.5	18.0	0.58	1.07	0.91	39.7
Approach		190	5.0	200	5.0	0.487	18.8	LOS C	2.5	18.0	0.58	1.07	0.91	39.9
East: Rewi Street														
4	L2	45	10.0	47	10.0	0.147	6.1	LOS A	0.4	2.9	0.19	0.14	0.19	47.9
5	T1	167	10.0	176	10.0	0.147	0.6	LOS A	0.4	2.9	0.19	0.14	0.19	48.5
6	R2	21	10.0	22	10.0	0.147	7.8	LOS A	0.4	2.9	0.19	0.14	0.19	47.4
Approach		233	10.0	245	10.0	0.147	2.3	NA	0.4	2.9	0.19	0.14	0.19	48.3
North: College Street														
7	L2	33	5.0	35	5.0	0.378	12.6	LOS B	1.6	11.4	0.76	1.09	1.00	40.1
8	T1	69	5.0	73	5.0	0.378	19.8	LOS C	1.6	11.4	0.76	1.09	1.00	39.9
9	R2	25	5.0	26	5.0	0.378	25.2	LOS D	1.6	11.4	0.76	1.09	1.00	39.8
Approach		127	5.0	134	5.0	0.378	19.0	LOS C	1.6	11.4	0.76	1.09	1.00	40.0
West: Rewi Street														
10	L2	57	10.0	60	10.0	0.376	5.6	LOS A	1.3	9.6	0.20	0.13	0.20	48.1
11	T1	462	10.0	486	10.0	0.376	0.4	LOS A	1.3	9.6	0.20	0.13	0.20	48.7
12	R2	100	10.0	105	10.0	0.376	6.0	LOS A	1.3	9.6	0.20	0.13	0.20	47.6
Approach		619	10.0	652	10.0	0.376	1.7	NA	1.3	9.6	0.20	0.13	0.20	48.4
All Vehicles		1169	8.6	1231	8.6	0.487	6.5	NA	2.5	18.0	0.32	0.39	0.40	45.8

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Minor Road Approach LOS values are based on average delay for all movements (v/c not used).

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

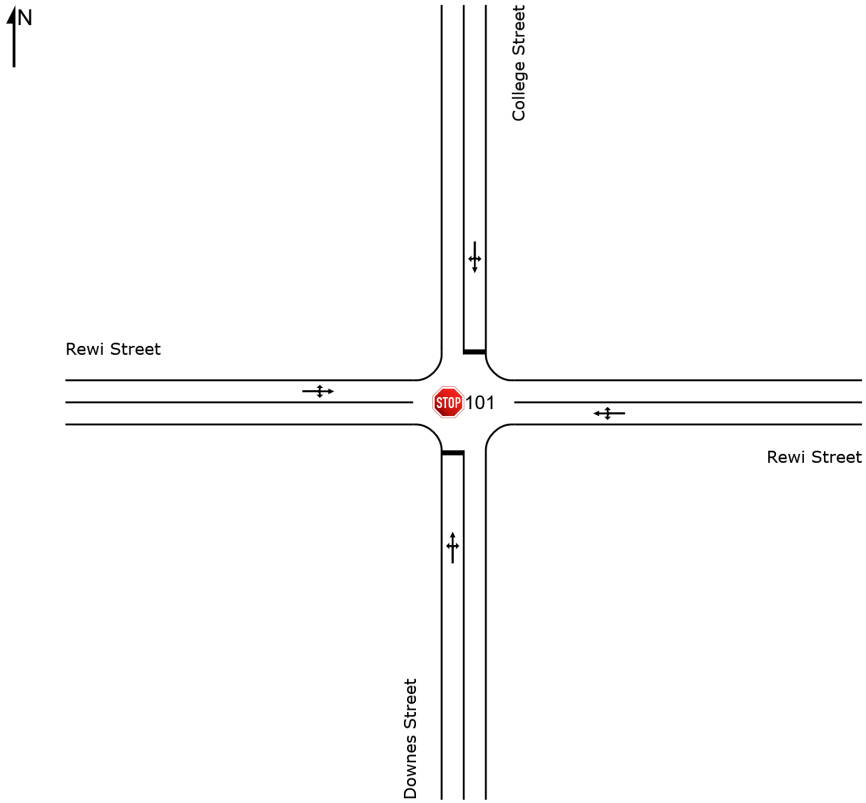
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SITE LAYOUT

Site: 101 [Rewi Street / College Street_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101 [Rewi Street / College Street_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Downes Street														
1	L2	112	33.0	118	33.0	0.535	17.0	LOS C	2.8	23.3	0.77	1.19	1.24	39.4
2	T1	72	5.0	76	5.0	0.535	23.9	LOS C	2.8	23.3	0.77	1.19	1.24	39.5
3	R2	20	5.0	21	5.0	0.535	28.3	LOS D	2.8	23.3	0.77	1.19	1.24	39.4
Approach		204	20.4	215	20.4	0.535	20.5	LOS C	2.8	23.3	0.77	1.19	1.24	39.5
East: Rewi Street														
4	L2	48	10.0	51	10.0	0.350	5.7	LOS A	0.8	6.3	0.15	0.10	0.15	48.4
5	T1	476	10.0	501	10.0	0.350	0.3	LOS A	0.8	6.3	0.15	0.10	0.15	49.0
6	R2	59	10.0	62	10.0	0.350	6.3	LOS A	0.8	6.3	0.15	0.10	0.15	48.0
Approach		583	10.0	614	10.0	0.350	1.3	NA	0.8	6.3	0.15	0.10	0.15	48.9
North: College Street														
7	L2	22	5.0	23	5.0	0.474	12.8	LOS B	2.0	14.6	0.78	1.09	1.13	37.8
8	T1	54	5.0	57	5.0	0.474	23.7	LOS C	2.0	14.6	0.78	1.09	1.13	37.6
9	R2	47	5.0	49	5.0	0.474	31.1	LOS D	2.0	14.6	0.78	1.09	1.13	37.5
Approach		123	5.0	129	5.0	0.474	24.6	LOS C	2.0	14.6	0.78	1.09	1.13	37.6
West: Rewi Street														
10	L2	32	10.0	34	10.0	0.226	7.5	LOS A	1.0	7.5	0.35	0.17	0.35	47.3
11	T1	233	10.0	245	10.0	0.226	1.3	LOS A	1.0	7.5	0.35	0.17	0.35	47.9
12	R2	62	10.0	65	10.0	0.226	8.1	LOS A	1.0	7.5	0.35	0.17	0.35	46.9
Approach		327	10.0	344	10.0	0.226	3.2	NA	1.0	7.5	0.35	0.17	0.35	47.7
All Vehicles		1237	11.2	1302	11.2	0.535	7.3	NA	2.8	23.3	0.37	0.39	0.48	45.4

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Minor Road Approach LOS values are based on average delay for all movements (v/c not used).

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

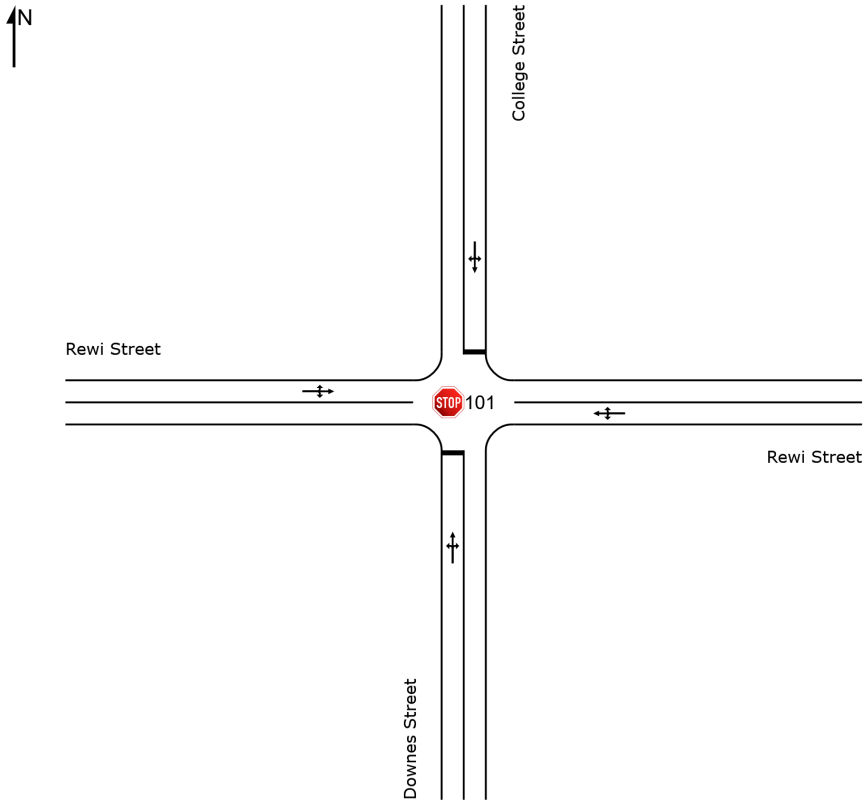
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SITE LAYOUT

Site: 101 [Rewi Street / College Street_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101 [Rewi Street / College Street_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Downes Street														
1	L2	73	5.0	77	5.0	0.512	11.7	LOS B	2.7	19.8	0.59	1.09	0.95	40.0
2	T1	97	5.0	102	5.0	0.512	21.8	LOS C	2.7	19.8	0.59	1.09	0.95	39.8
3	R2	36	5.0	38	5.0	0.512	25.6	LOS D	2.7	19.8	0.59	1.09	0.95	39.7
Approach		206	5.0	217	5.0	0.512	18.9	LOS C	2.7	19.8	0.59	1.09	0.95	39.9
East: Rewi Street														
4	L2	45	10.0	47	10.0	0.148	6.0	LOS A	0.4	2.9	0.19	0.14	0.19	47.9
5	T1	169	10.0	178	10.0	0.148	0.6	LOS A	0.4	2.9	0.19	0.14	0.19	48.5
6	R2	22	10.0	23	10.0	0.148	7.6	LOS A	0.4	2.9	0.19	0.14	0.19	47.5
Approach		236	10.0	248	10.0	0.148	2.3	NA	0.4	2.9	0.19	0.14	0.19	48.3
North: College Street														
7	L2	33	5.0	35	5.0	0.354	12.1	LOS B	1.4	10.5	0.74	1.08	0.95	40.5
8	T1	70	5.0	74	5.0	0.354	19.0	LOS C	1.4	10.5	0.74	1.08	0.95	40.3
9	R2	21	5.0	22	5.0	0.354	24.7	LOS C	1.4	10.5	0.74	1.08	0.95	40.2
Approach		124	5.0	131	5.0	0.354	18.1	LOS C	1.4	10.5	0.74	1.08	0.95	40.3
West: Rewi Street														
10	L2	45	10.0	47	10.0	0.363	5.7	LOS A	1.2	9.3	0.20	0.13	0.20	48.1
11	T1	450	10.0	474	10.0	0.363	0.4	LOS A	1.2	9.3	0.20	0.13	0.20	48.7
12	R2	101	10.0	106	10.0	0.363	6.0	LOS A	1.2	9.3	0.20	0.13	0.20	47.7
Approach		596	10.0	627	10.0	0.363	1.7	NA	1.2	9.3	0.20	0.13	0.20	48.5
All Vehicles		1162	8.6	1223	8.6	0.512	6.6	NA	2.7	19.8	0.33	0.41	0.41	45.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Minor Road Approach LOS values are based on average delay for all movements (v/c not used).

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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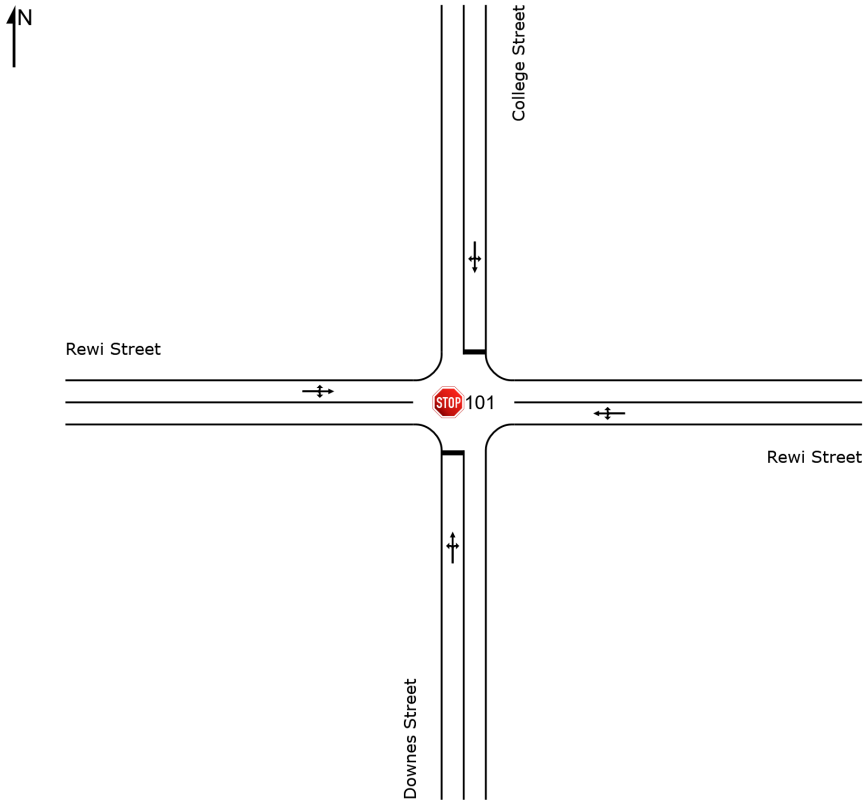
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SITE LAYOUT

Site: 101 [Rewi Street / College Street_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101 [Rewi Street / College Street_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Downes Street														
1	L2	117	33.0	123	33.0	0.577	17.8	LOS C	3.2	26.3	0.79	1.22	1.34	39.0
2	T1	79	5.0	83	5.0	0.577	24.9	LOS C	3.2	26.3	0.79	1.22	1.34	39.1
3	R2	21	5.0	22	5.0	0.577	29.9	LOS D	3.2	26.3	0.79	1.22	1.34	39.0
Approach		217	20.1	228	20.1	0.577	21.6	LOS C	3.2	26.3	0.79	1.22	1.34	39.0
East: Rewi Street														
4	L2	53	10.0	56	10.0	0.353	5.7	LOS A	0.8	6.3	0.15	0.10	0.15	48.4
5	T1	477	10.0	502	10.0	0.353	0.3	LOS A	0.8	6.3	0.15	0.10	0.15	49.0
6	R2	59	10.0	62	10.0	0.353	6.3	LOS A	0.8	6.3	0.15	0.10	0.15	47.9
Approach		589	10.0	620	10.0	0.353	1.4	NA	0.8	6.3	0.15	0.10	0.15	48.8
North: College Street														
7	L2	23	5.0	24	5.0	0.447	12.3	LOS B	1.9	13.5	0.77	1.08	1.08	38.1
8	T1	59	5.0	62	5.0	0.447	23.4	LOS C	1.9	13.5	0.77	1.08	1.08	38.0
9	R2	37	5.0	39	5.0	0.447	31.1	LOS D	1.9	13.5	0.77	1.08	1.08	37.9
Approach		119	5.0	125	5.0	0.447	23.6	LOS C	1.9	13.5	0.77	1.08	1.08	38.0
West: Rewi Street														
10	L2	25	10.0	26	10.0	0.228	7.7	LOS A	1.0	7.7	0.36	0.17	0.36	47.3
11	T1	235	10.0	247	10.0	0.228	1.4	LOS A	1.0	7.7	0.36	0.17	0.36	47.9
12	R2	66	10.0	69	10.0	0.228	8.2	LOS A	1.0	7.7	0.36	0.17	0.36	46.9
Approach		326	10.0	343	10.0	0.228	3.3	NA	1.0	7.7	0.36	0.17	0.36	47.6
All Vehicles		1251	11.3	1317	11.3	0.577	7.5	NA	3.2	26.3	0.37	0.41	0.50	45.3

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Minor Road Approach LOS values are based on average delay for all movements (v/c not used).

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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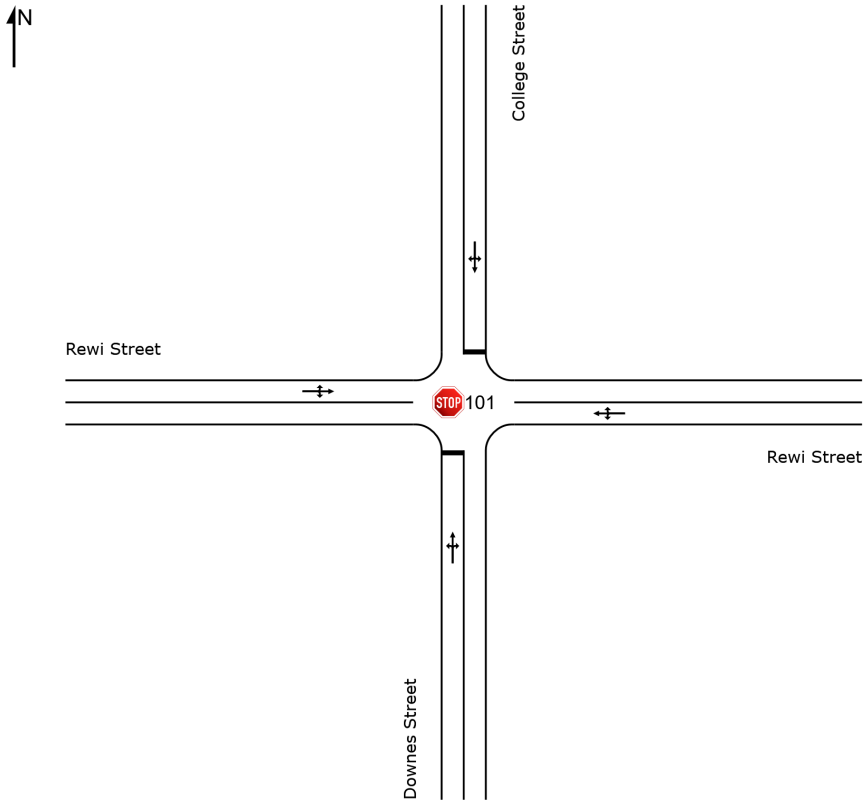
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SITE LAYOUT

Site: 101 [Rewi Street / College Street_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

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MOVEMENT SUMMARY

Site: 101 [Rewi Street / College Street_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Downes Street														
1	L2	73	5.0	77	5.0	0.545	12.5	LOS B	2.9	21.5	0.62	1.11	1.04	39.4
2	T1	97	5.0	102	5.0	0.545	23.7	LOS C	2.9	21.5	0.62	1.11	1.04	39.2
3	R2	36	5.0	38	5.0	0.545	27.3	LOS D	2.9	21.5	0.62	1.11	1.04	39.1
Approach		206	5.0	217	5.0	0.545	20.4	LOS C	2.9	21.5	0.62	1.11	1.04	39.2
East: Rewi Street														
4	L2	45	10.0	47	10.0	0.153	6.2	LOS A	0.4	3.1	0.20	0.14	0.20	47.9
5	T1	176	10.0	185	10.0	0.153	0.6	LOS A	0.4	3.1	0.20	0.14	0.20	48.5
6	R2	22	10.0	23	10.0	0.153	7.9	LOS A	0.4	3.1	0.20	0.14	0.20	47.4
Approach		243	10.0	256	10.0	0.153	2.3	NA	0.4	3.1	0.20	0.14	0.20	48.3
North: College Street														
7	L2	33	5.0	35	5.0	0.396	12.9	LOS B	1.6	12.0	0.77	1.10	1.03	39.8
8	T1	70	5.0	74	5.0	0.396	20.5	LOS C	1.6	12.0	0.77	1.10	1.03	39.6
9	R2	25	5.0	26	5.0	0.396	26.7	LOS D	1.6	12.0	0.77	1.10	1.03	39.5
Approach		128	5.0	135	5.0	0.396	19.8	LOS C	1.6	12.0	0.77	1.10	1.03	39.6
West: Rewi Street														
10	L2	57	10.0	60	10.0	0.381	5.7	LOS A	1.3	9.9	0.21	0.13	0.21	48.0
11	T1	468	10.0	493	10.0	0.381	0.4	LOS A	1.3	9.9	0.21	0.13	0.21	48.7
12	R2	101	10.0	106	10.0	0.381	6.1	LOS A	1.3	9.9	0.21	0.13	0.21	47.6
Approach		626	10.0	659	10.0	0.381	1.8	NA	1.3	9.9	0.21	0.13	0.21	48.4
All Vehicles		1203	8.6	1266	8.6	0.545	7.0	NA	2.9	21.5	0.34	0.40	0.44	45.5

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Minor Road Approach LOS values are based on average delay for all movements (v/c not used).

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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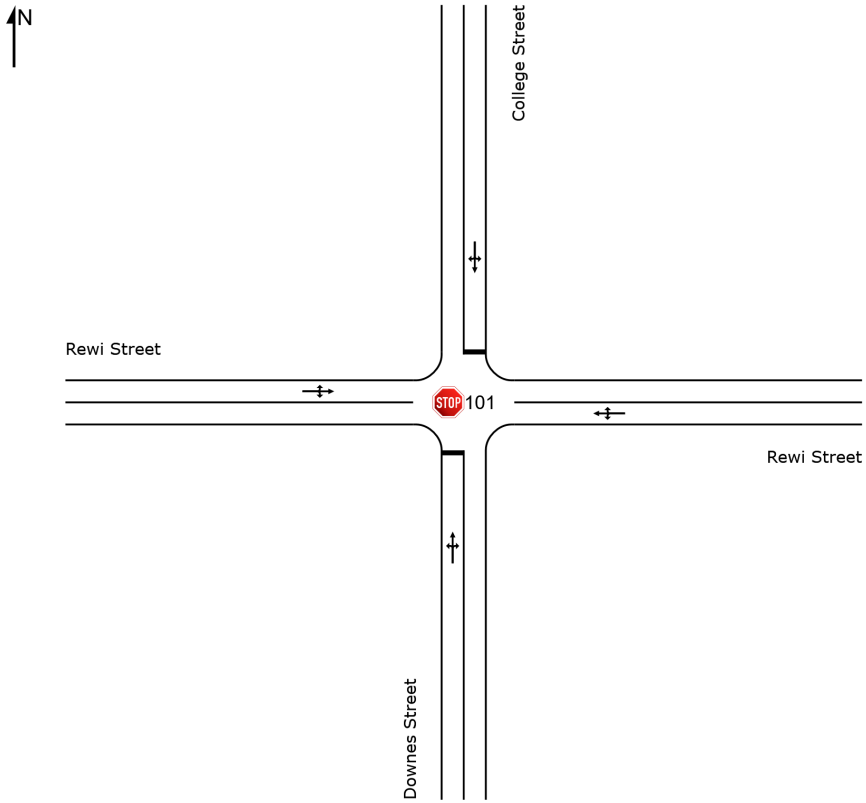
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Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101 [Rewi Street / College Street_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

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MOVEMENT SUMMARY

Site: 101 [Rewi Street / College Street_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Rewi Street / College Street Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Downes Street														
1	L2	117	33.0	123	33.0	0.606	18.9	LOS C	3.4	28.1	0.81	1.24	1.43	38.4
2	T1	79	5.0	83	5.0	0.606	26.8	LOS D	3.4	28.1	0.81	1.24	1.43	38.5
3	R2	21	5.0	22	5.0	0.606	31.9	LOS D	3.4	28.1	0.81	1.24	1.43	38.4
Approach		217	20.1	228	20.1	0.606	23.0	LOS C	3.4	28.1	0.81	1.24	1.43	38.5
East: Rewi Street														
4	L2	53	10.0	56	10.0	0.362	5.8	LOS A	0.9	6.7	0.15	0.10	0.16	48.4
5	T1	492	10.0	518	10.0	0.362	0.3	LOS A	0.9	6.7	0.15	0.10	0.16	49.0
6	R2	59	10.0	62	10.0	0.362	6.5	LOS A	0.9	6.7	0.15	0.10	0.16	47.9
Approach		604	10.0	636	10.0	0.362	1.4	NA	0.9	6.7	0.15	0.10	0.16	48.8
North: College Street														
7	L2	23	5.0	24	5.0	0.534	14.5	LOS B	2.3	17.0	0.81	1.12	1.25	36.7
8	T1	59	5.0	62	5.0	0.534	26.5	LOS D	2.3	17.0	0.81	1.12	1.25	36.6
9	R2	47	5.0	49	5.0	0.534	34.9	LOS D	2.3	17.0	0.81	1.12	1.25	36.5
Approach		129	5.0	136	5.0	0.534	27.4	LOS D	2.3	17.0	0.81	1.12	1.25	36.6
West: Rewi Street														
10	L2	32	10.0	34	10.0	0.239	7.8	LOS A	1.1	8.2	0.36	0.17	0.36	47.2
11	T1	244	10.0	257	10.0	0.239	1.5	LOS A	1.1	8.2	0.36	0.17	0.36	47.8
12	R2	66	10.0	69	10.0	0.239	8.4	LOS A	1.1	8.2	0.36	0.17	0.36	46.8
Approach		342	10.0	360	10.0	0.239	3.4	NA	1.1	8.2	0.36	0.17	0.36	47.5
All Vehicles		1292	11.2	1360	11.2	0.606	8.1	NA	3.4	28.1	0.38	0.41	0.53	45.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Minor Road Approach LOS values are based on average delay for all movements (v/c not used).

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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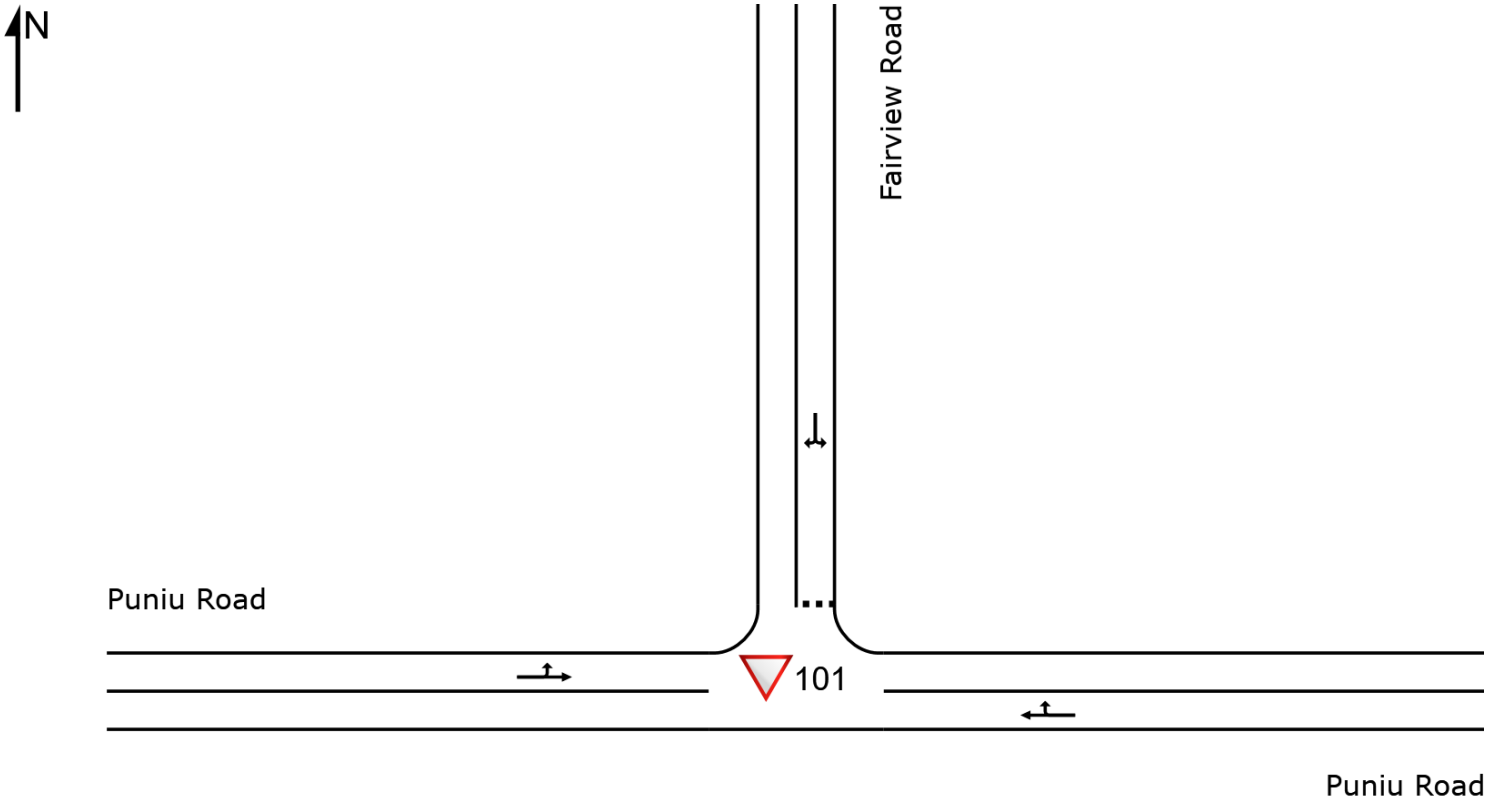
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Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2031 Baseline_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection Baseline Volumes)]

New Site
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: Z:\310205677\7_technical\SIDRA\5. puniu road & fairview road_20230530.sip9

Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2031 Baseline_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection Baseline Volumes)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	103	10.0	108	10.0	0.095	0.6	LOS A	0.4	2.6	0.27	0.18	0.27	48.3
6	R2	44	5.0	46	5.0	0.095	5.9	LOS A	0.4	2.6	0.27	0.18	0.27	47.4
Approach		147	8.5	155	8.5	0.095	2.2	NA	0.4	2.6	0.27	0.18	0.27	48.0
North: Fairview Road														
7	L2	52	5.0	55	5.0	0.111	5.5	LOS A	0.4	2.9	0.38	0.62	0.38	45.7
9	R2	52	5.0	55	5.0	0.111	6.8	LOS A	0.4	2.9	0.38	0.62	0.38	45.3
Approach		104	5.0	109	5.0	0.111	6.1	LOS A	0.4	2.9	0.38	0.62	0.38	45.5
West: Puniu Road														
10	L2	73	5.0	77	5.0	0.173	4.7	LOS A	0.0	0.0	0.00	0.13	0.00	48.6
11	T1	230	10.0	242	10.0	0.173	0.1	LOS A	0.0	0.0	0.00	0.13	0.00	49.2
Approach		303	8.8	319	8.8	0.173	1.2	NA	0.0	0.0	0.00	0.13	0.00	49.0
All Vehicles		554	8.0	583	8.0	0.173	2.4	NA	0.4	2.9	0.14	0.24	0.14	48.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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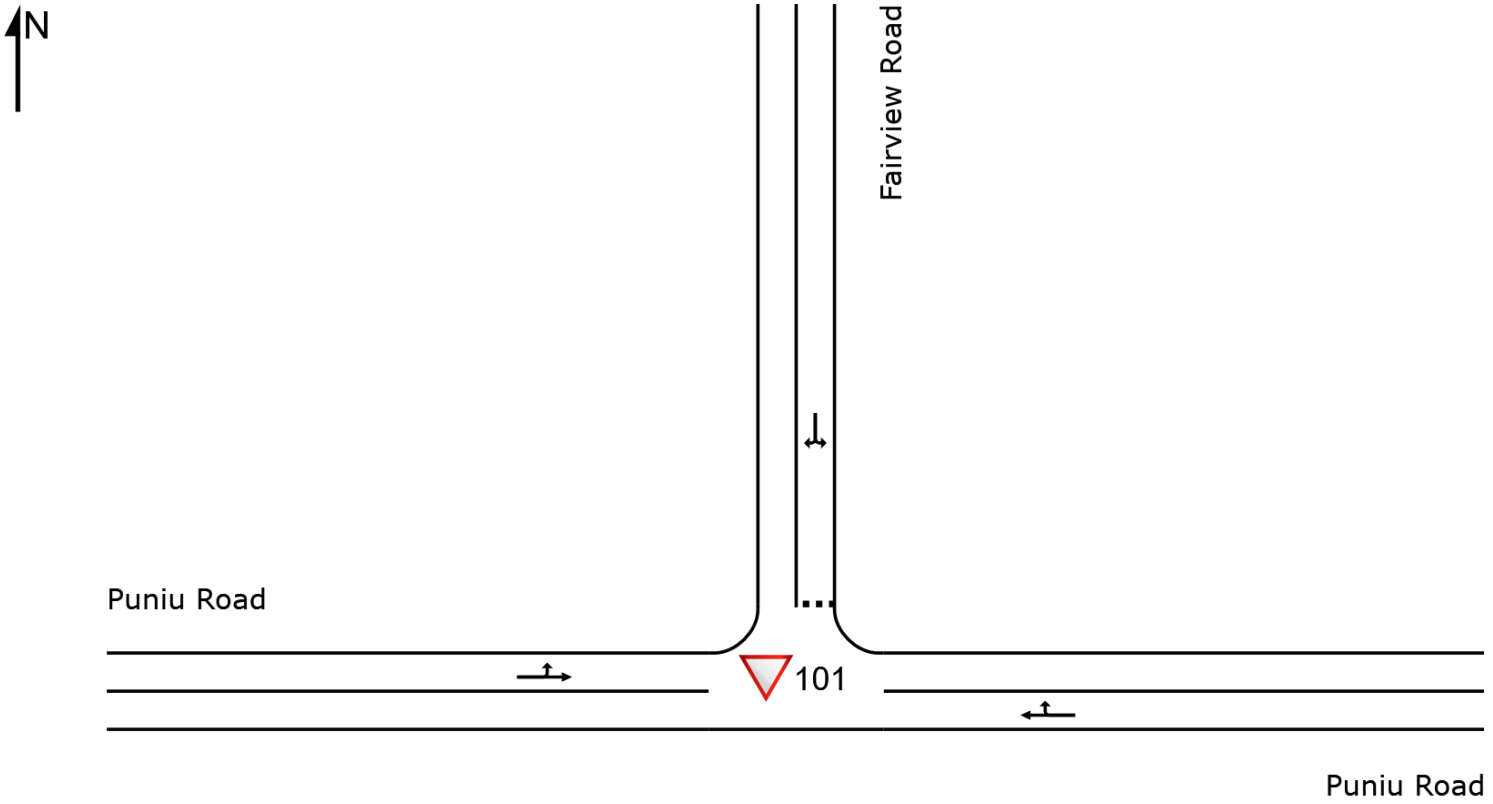
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Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2031 Baseline_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection Baseline Volumes)]

New Site
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: Z:\310205677\7_technical\SIDRA\5. puniu road & fairview road_20230530.sip9

MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2031 Baseline_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection Baseline Volumes)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	245	10.0	258	10.0	0.198	0.6	LOS A	0.7	4.9	0.24	0.13	0.24	48.7
6	R2	67	5.0	71	5.0	0.198	6.3	LOS A	0.7	4.9	0.24	0.13	0.24	47.7
Approach		312	8.9	328	8.9	0.198	1.8	NA	0.7	4.9	0.24	0.13	0.24	48.4
North: Fairview Road														
7	L2	36	5.0	38	5.0	0.140	5.6	LOS A	0.5	3.5	0.45	0.70	0.45	45.0
9	R2	67	5.0	71	5.0	0.140	8.3	LOS A	0.5	3.5	0.45	0.70	0.45	44.6
Approach		103	5.0	108	5.0	0.140	7.3	LOS A	0.5	3.5	0.45	0.70	0.45	44.8
West: Puniu Road														
10	L2	102	5.0	107	5.0	0.196	4.7	LOS A	0.0	0.0	0.00	0.16	0.00	48.4
11	T1	241	10.0	254	10.0	0.196	0.1	LOS A	0.0	0.0	0.00	0.16	0.00	49.0
Approach		343	8.5	361	8.5	0.196	1.4	NA	0.0	0.0	0.00	0.16	0.00	48.8
All Vehicles		758	8.2	798	8.2	0.198	2.4	NA	0.7	4.9	0.16	0.22	0.16	48.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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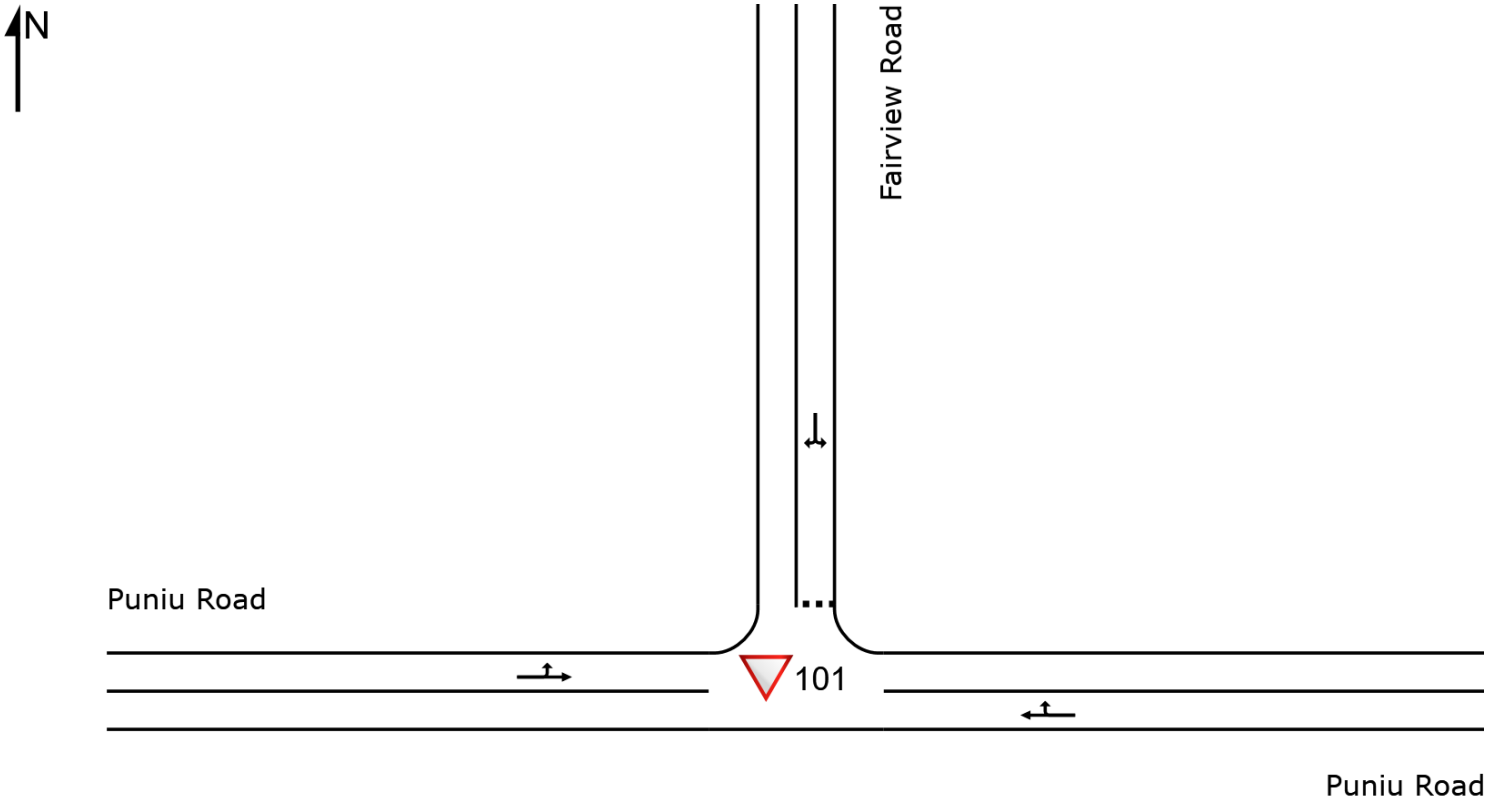
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SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2041 Baseline_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection Baseline Volumes)]

New Site
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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Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2041 Baseline_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection Baseline Volumes)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	113	10.0	119	10.0	0.105	0.6	LOS A	0.4	2.9	0.27	0.18	0.27	48.3
6	R2	48	5.0	51	5.0	0.105	5.9	LOS A	0.4	2.9	0.27	0.18	0.27	47.4
Approach		161	8.5	169	8.5	0.105	2.2	NA	0.4	2.9	0.27	0.18	0.27	48.0
North: Fairview Road														
7	L2	52	5.0	55	5.0	0.118	5.5	LOS A	0.4	3.1	0.38	0.63	0.38	45.6
9	R2	57	5.0	60	5.0	0.118	6.9	LOS A	0.4	3.1	0.38	0.63	0.38	45.2
Approach		109	5.0	115	5.0	0.118	6.2	LOS A	0.4	3.1	0.38	0.63	0.38	45.4
West: Puniu Road														
10	L2	76	5.0	80	5.0	0.175	4.7	LOS A	0.0	0.0	0.00	0.13	0.00	48.6
11	T1	230	10.0	242	10.0	0.175	0.1	LOS A	0.0	0.0	0.00	0.13	0.00	49.1
Approach		306	8.8	322	8.8	0.175	1.2	NA	0.0	0.0	0.00	0.13	0.00	49.0
All Vehicles		576	8.0	606	8.0	0.175	2.4	NA	0.4	3.1	0.15	0.24	0.15	48.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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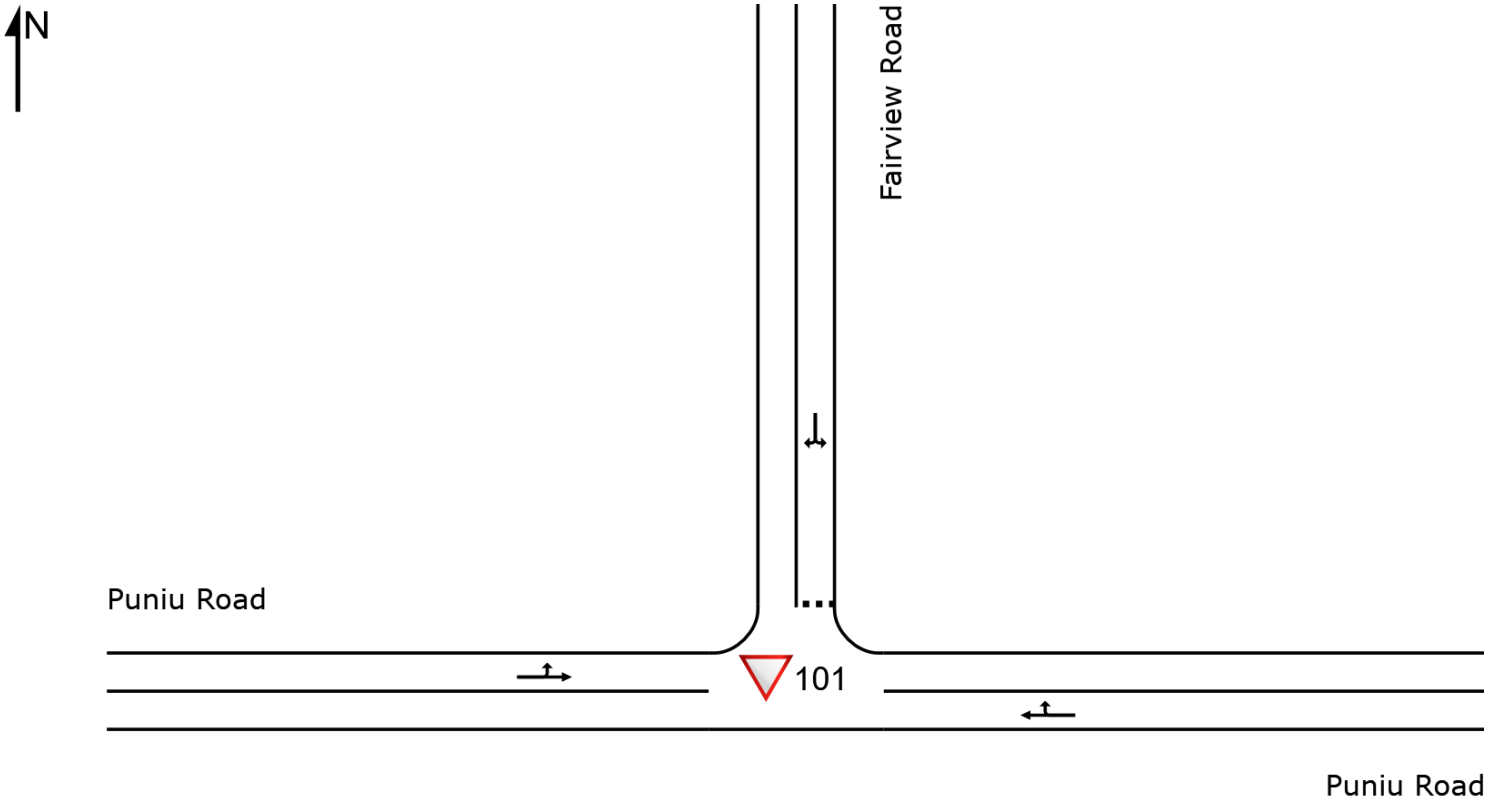
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SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2041 Baseline_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection Baseline Volumes)]

New Site
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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MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2041 Baseline_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection Baseline Volumes)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	248	10.0	261	10.0	0.204	0.6	LOS A	0.7	5.2	0.26	0.14	0.26	48.6
6	R2	71	5.0	75	5.0	0.204	6.4	LOS A	0.7	5.2	0.26	0.14	0.26	47.6
Approach		319	8.9	336	8.9	0.204	1.9	NA	0.7	5.2	0.26	0.14	0.26	48.4
North: Fairview Road														
7	L2	38	5.0	40	5.0	0.149	5.6	LOS A	0.5	3.8	0.45	0.70	0.45	44.9
9	R2	71	5.0	75	5.0	0.149	8.4	LOS A	0.5	3.8	0.45	0.70	0.45	44.6
Approach		109	5.0	115	5.0	0.149	7.4	LOS A	0.5	3.8	0.45	0.70	0.45	44.7
West: Puniu Road														
10	L2	108	5.0	114	5.0	0.200	4.7	LOS A	0.0	0.0	0.00	0.17	0.00	48.4
11	T1	241	10.0	254	10.0	0.200	0.1	LOS A	0.0	0.0	0.00	0.17	0.00	48.9
Approach		349	8.5	367	8.5	0.200	1.5	NA	0.0	0.0	0.00	0.17	0.00	48.8
All Vehicles		777	8.1	818	8.1	0.204	2.5	NA	0.7	5.2	0.17	0.23	0.17	48.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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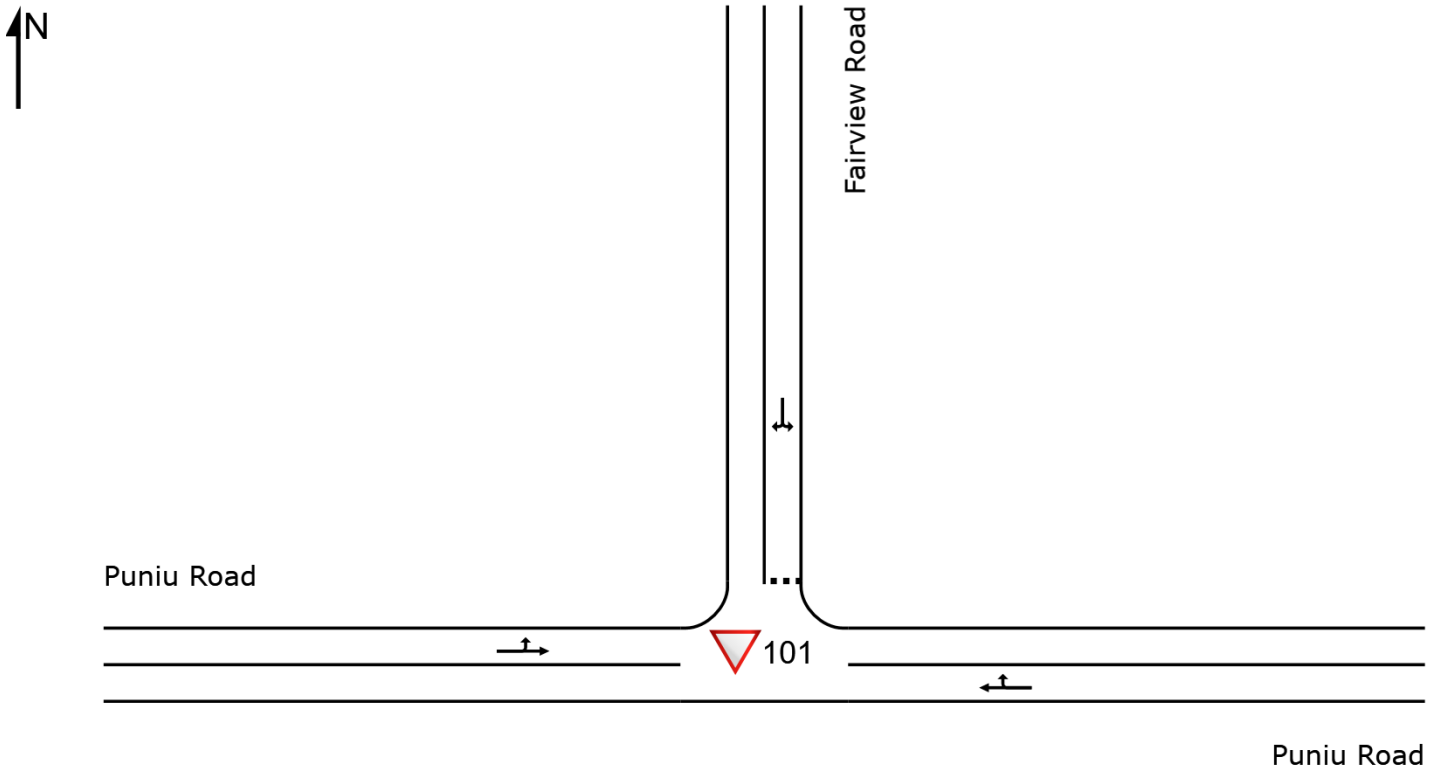
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2031 Baseline + Area 2 (70 dwellings)_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Road connnection)]

New Site
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: Z:\310205677\7_technical\SIDRA\5. puniu road & fairview road_20230530.sip9

MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2031 Baseline + Area 2 (70 dwellings)_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Road connnection)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	111	10.0	117	10.0	0.102	0.7	LOS A	0.4	2.8	0.28	0.18	0.28	48.3
6	R2	44	5.0	46	5.0	0.102	6.1	LOS A	0.4	2.8	0.28	0.18	0.28	47.4
Approach		155	8.6	163	8.6	0.102	2.2	NA	0.4	2.8	0.28	0.18	0.28	48.1
North: Fairview Road														
7	L2	52	5.0	55	5.0	0.125	5.6	LOS A	0.4	3.3	0.40	0.64	0.40	45.5
9	R2	59	5.0	62	5.0	0.125	7.1	LOS A	0.4	3.3	0.40	0.64	0.40	45.1
Approach		111	5.0	117	5.0	0.125	6.4	LOS A	0.4	3.3	0.40	0.64	0.40	45.3
West: Puniu Road														
10	L2	92	5.0	97	5.0	0.197	4.7	LOS A	0.0	0.0	0.00	0.14	0.00	48.5
11	T1	252	10.0	265	10.0	0.197	0.1	LOS A	0.0	0.0	0.00	0.14	0.00	49.1
Approach		344	8.7	362	8.7	0.197	1.3	NA	0.0	0.0	0.00	0.14	0.00	48.9
All Vehicles		610	8.0	642	8.0	0.197	2.5	NA	0.4	3.3	0.15	0.24	0.15	48.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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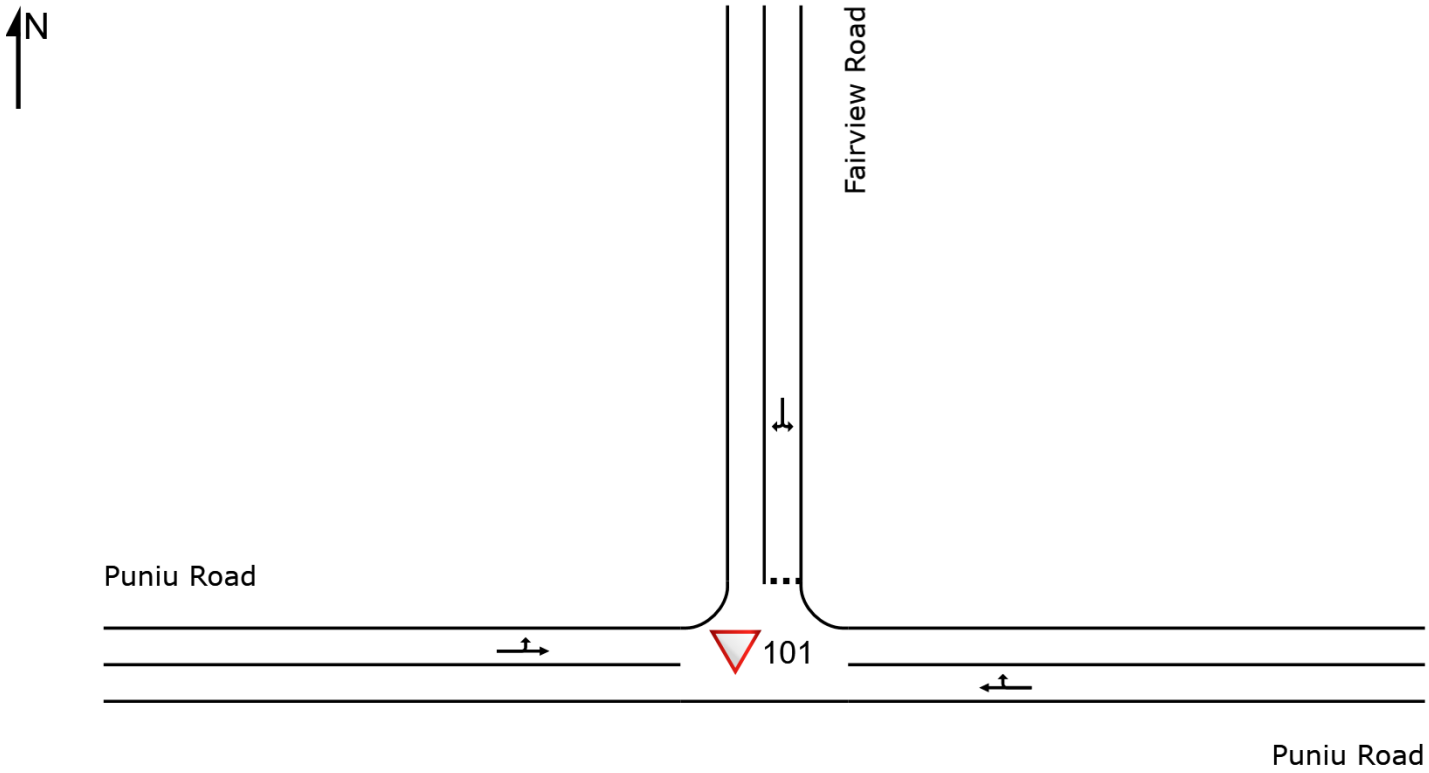
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2031 Baseline + Area 2 (70 dwellings)_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Road connnection)]

New Site
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: Z:\310205677\7_technical\SIDRA\5. puniu road & fairview road_20230530.sip9

MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2031 Baseline + Area 2 (70 dwellings)_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Road connnection)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	263	10.0	277	10.0	0.210	0.6	LOS A	0.7	5.2	0.24	0.13	0.24	48.7
6	R2	67	5.0	71	5.0	0.210	6.5	LOS A	0.7	5.2	0.24	0.13	0.24	47.7
Approach		330	9.0	347	9.0	0.210	1.8	NA	0.7	5.2	0.24	0.13	0.24	48.5
North: Fairview Road														
7	L2	36	5.0	38	5.0	0.172	5.6	LOS A	0.6	4.4	0.48	0.72	0.48	44.8
9	R2	83	5.0	87	5.0	0.172	8.7	LOS A	0.6	4.4	0.48	0.72	0.48	44.4
Approach		119	5.0	125	5.0	0.172	7.7	LOS A	0.6	4.4	0.48	0.72	0.48	44.5
West: Puniu Road														
10	L2	112	5.0	118	5.0	0.208	4.7	LOS A	0.0	0.0	0.00	0.17	0.00	48.4
11	T1	252	10.0	265	10.0	0.208	0.1	LOS A	0.0	0.0	0.00	0.17	0.00	48.9
Approach		364	8.5	383	8.5	0.208	1.5	NA	0.0	0.0	0.00	0.17	0.00	48.8
All Vehicles		813	8.2	856	8.2	0.210	2.5	NA	0.7	5.2	0.17	0.23	0.17	48.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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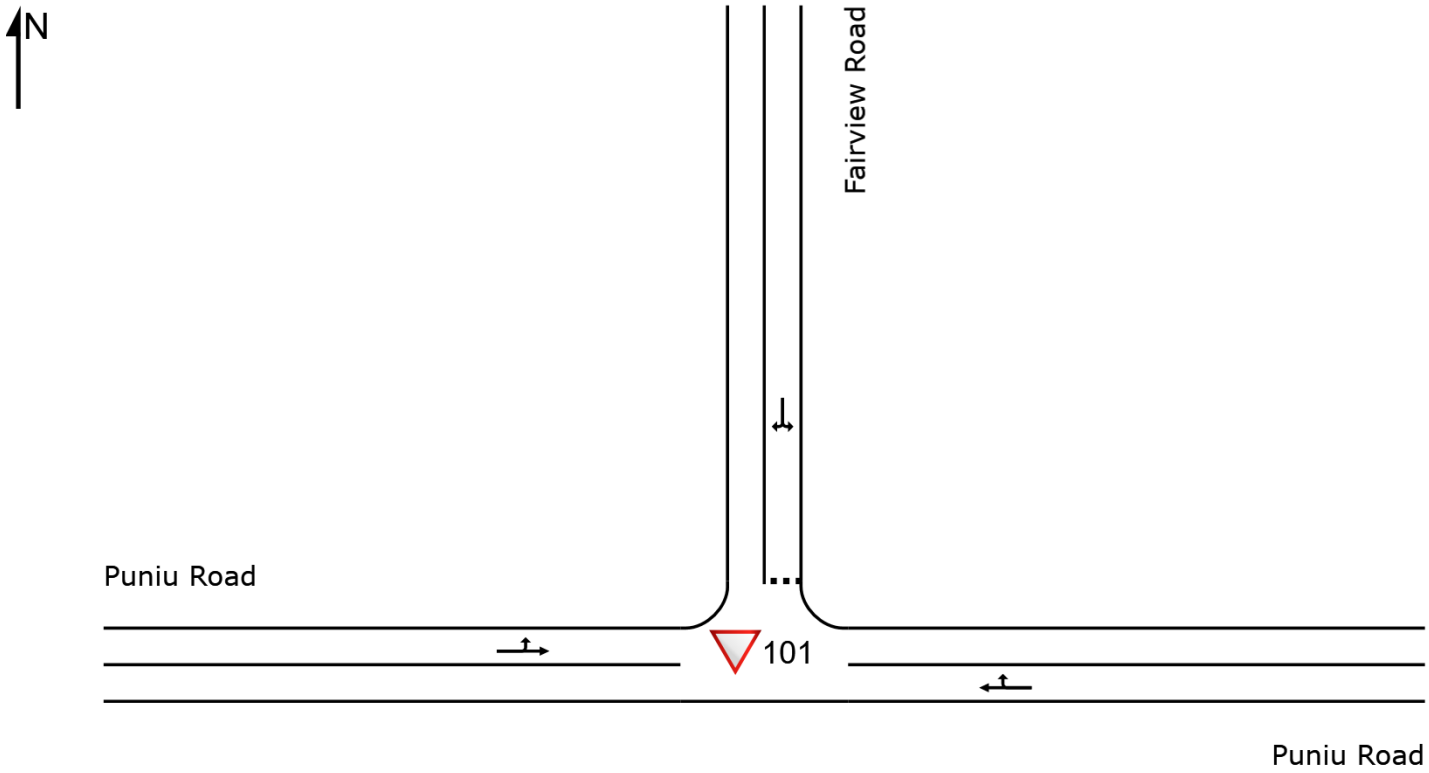
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2031 Baseline + Area 2 (150 dwellings)_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Road connnection)]

New Site
Site Category: (None)
Give-Way (Two-Way)

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Project: Z:\310205677\7_technical\SIDRA\5. puniu road & fairview road_20230530.sip9

MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2031 Baseline + Area 2 (150 dwellings)_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Road connnection)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	119	10.0	125	10.0	0.109	0.8	LOS A	0.4	3.0	0.30	0.17	0.30	48.3
6	R2	44	5.0	46	5.0	0.109	6.4	LOS A	0.4	3.0	0.30	0.17	0.30	47.4
Approach		163	8.7	172	8.7	0.109	2.3	NA	0.4	3.0	0.30	0.17	0.30	48.1
North: Fairview Road														
7	L2	52	5.0	55	5.0	0.140	5.8	LOS A	0.5	3.7	0.43	0.67	0.43	45.3
9	R2	66	5.0	69	5.0	0.140	7.4	LOS A	0.5	3.7	0.43	0.67	0.43	45.0
Approach		118	5.0	124	5.0	0.140	6.7	LOS A	0.5	3.7	0.43	0.67	0.43	45.1
West: Puniu Road														
10	L2	114	5.0	120	5.0	0.223	4.7	LOS A	0.0	0.0	0.00	0.16	0.00	48.4
11	T1	276	10.0	291	10.0	0.223	0.1	LOS A	0.0	0.0	0.00	0.16	0.00	49.0
Approach		390	8.5	411	8.5	0.223	1.4	NA	0.0	0.0	0.00	0.16	0.00	48.8
All Vehicles		671	7.9	706	7.9	0.223	2.6	NA	0.5	3.7	0.15	0.25	0.15	48.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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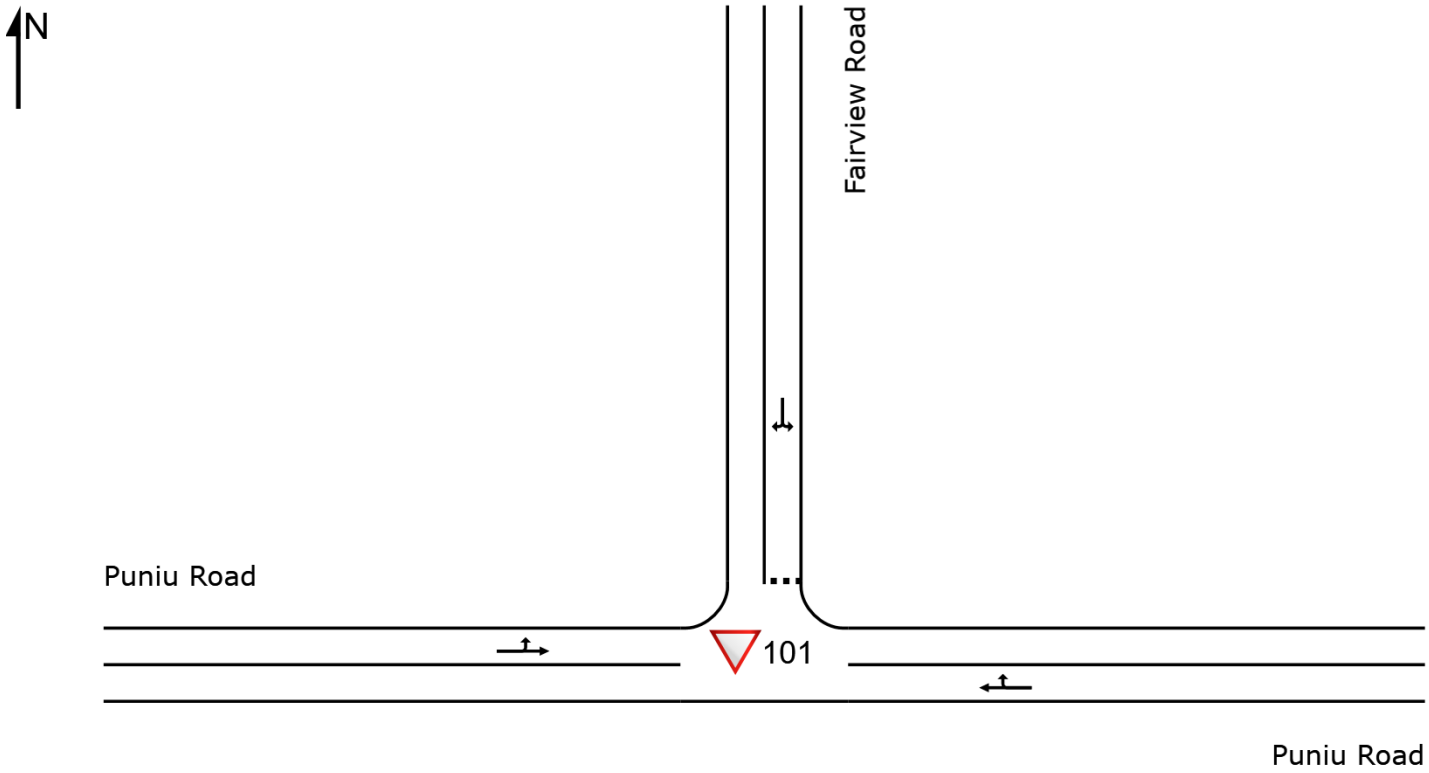
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2031 Baseline + Area 2 (150 dwellings)_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Road connnection)]

New Site
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: Z:\310205677\7_technical\SIDRA\5. puniu road & fairview road_20230530.sip9

MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2031 Baseline + Area 2 (150 dwellings)_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Road connnection)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	284	10.0	299	10.0	0.224	0.7	LOS A	0.7	5.4	0.24	0.12	0.24	48.7
6	R2	67	5.0	71	5.0	0.224	6.7	LOS A	0.7	5.4	0.24	0.12	0.24	47.8
Approach		351	9.0	369	9.0	0.224	1.8	NA	0.7	5.4	0.24	0.12	0.24	48.5
North: Fairview Road														
7	L2	36	5.0	38	5.0	0.214	5.7	LOS A	0.8	5.5	0.51	0.74	0.51	44.5
9	R2	102	5.0	107	5.0	0.214	9.2	LOS A	0.8	5.5	0.51	0.74	0.51	44.1
Approach		138	5.0	145	5.0	0.214	8.3	LOS A	0.8	5.5	0.51	0.74	0.51	44.2
West: Puniu Road														
10	L2	122	5.0	128	5.0	0.221	4.7	LOS A	0.0	0.0	0.00	0.17	0.00	48.4
11	T1	264	10.0	278	10.0	0.221	0.1	LOS A	0.0	0.0	0.00	0.17	0.00	48.9
Approach		386	8.4	406	8.4	0.221	1.5	NA	0.0	0.0	0.00	0.17	0.00	48.7
All Vehicles		875	8.1	921	8.1	0.224	2.7	NA	0.8	5.5	0.18	0.24	0.18	47.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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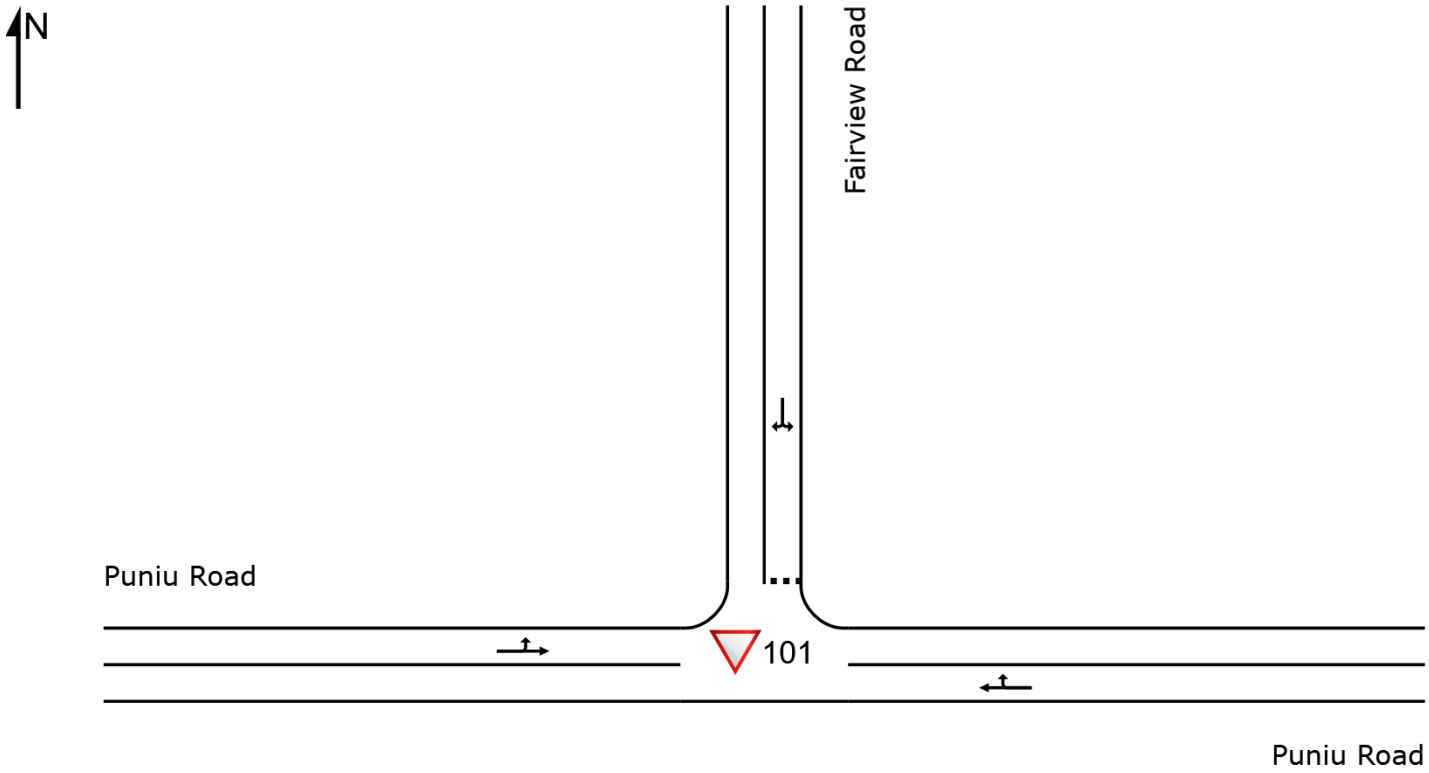
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2031 Baseline + Area 2 (216 dwellings)_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Road connnection)]

New Site
Site Category: (None)
Give-Way (Two-Way)

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Project: Z:\310205677\7_technical\SIDRA\5. puniu road & fairview road_20230530.sip9

MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2031 Baseline + Area 2 (216 dwellings)_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Road connnection)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	125	10.0	132	10.0	0.114	0.9	LOS A	0.4	3.2	0.31	0.17	0.31	48.3
6	R2	44	5.0	46	5.0	0.114	6.7	LOS A	0.4	3.2	0.31	0.17	0.31	47.4
Approach		169	8.7	178	8.7	0.114	2.4	NA	0.4	3.2	0.31	0.17	0.31	48.1
North: Fairview Road														
7	L2	52	5.0	55	5.0	0.155	5.9	LOS A	0.6	4.1	0.45	0.69	0.45	45.2
9	R2	72	5.0	76	5.0	0.155	7.8	LOS A	0.6	4.1	0.45	0.69	0.45	44.8
Approach		124	5.0	131	5.0	0.155	7.0	LOS A	0.6	4.1	0.45	0.69	0.45	45.0
West: Puniu Road														
10	L2	132	5.0	139	5.0	0.245	4.7	LOS A	0.0	0.0	0.00	0.17	0.00	48.4
11	T1	296	10.0	312	10.0	0.245	0.1	LOS A	0.0	0.0	0.00	0.17	0.00	48.9
Approach		428	8.5	451	8.5	0.245	1.5	NA	0.0	0.0	0.00	0.17	0.00	48.7
All Vehicles		721	7.9	759	7.9	0.245	2.7	NA	0.6	4.1	0.15	0.26	0.15	47.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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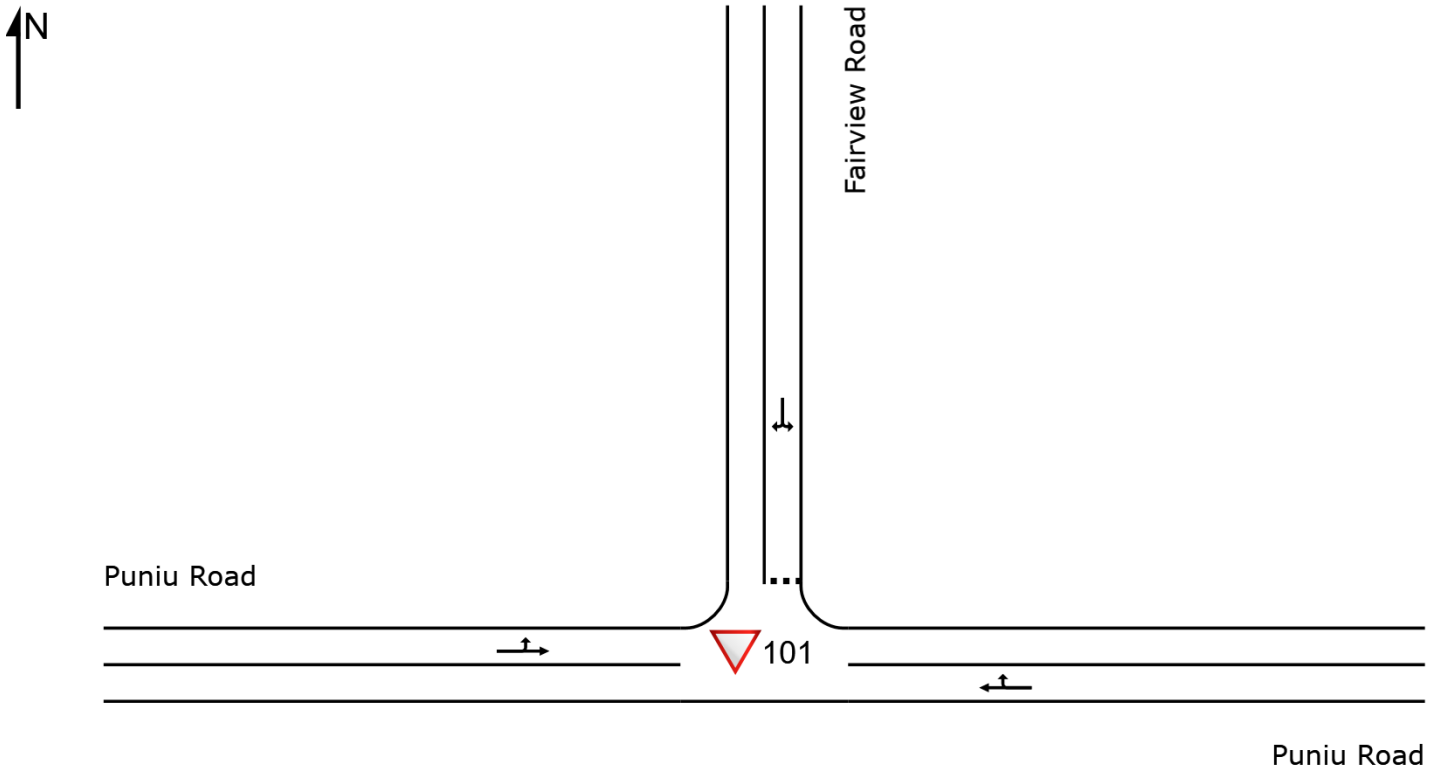
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2031 Baseline + Area 2 (216 dwellings)_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Road connnection)]

New Site
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: Z:\310205677\7_technical\SIDRA\5. puniu road & fairview road_20230530.sip9

MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2031 Baseline + Area 2 (216 dwellings)_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Road connnection)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	301	10.0	317	10.0	0.235	0.7	LOS A	0.8	5.7	0.24	0.12	0.24	48.7
6	R2	67	5.0	71	5.0	0.235	6.9	LOS A	0.8	5.7	0.24	0.12	0.24	47.8
Approach		368	9.1	387	9.1	0.235	1.8	NA	0.8	5.7	0.24	0.12	0.24	48.6
North: Fairview Road														
7	L2	36	5.0	38	5.0	0.249	6.0	LOS A	0.9	6.7	0.53	0.77	0.57	44.1
9	R2	116	5.0	122	5.0	0.249	9.8	LOS A	0.9	6.7	0.53	0.77	0.57	43.8
Approach		152	5.0	160	5.0	0.249	8.9	LOS A	0.9	6.7	0.53	0.77	0.57	43.9
West: Puniu Road														
10	L2	131	5.0	138	5.0	0.232	4.7	LOS A	0.0	0.0	0.00	0.17	0.00	48.3
11	T1	274	10.0	288	10.0	0.232	0.1	LOS A	0.0	0.0	0.00	0.17	0.00	48.9
Approach		405	8.4	426	8.4	0.232	1.6	NA	0.0	0.0	0.00	0.17	0.00	48.7
All Vehicles		925	8.1	974	8.1	0.249	2.9	NA	0.9	6.7	0.18	0.25	0.19	47.8

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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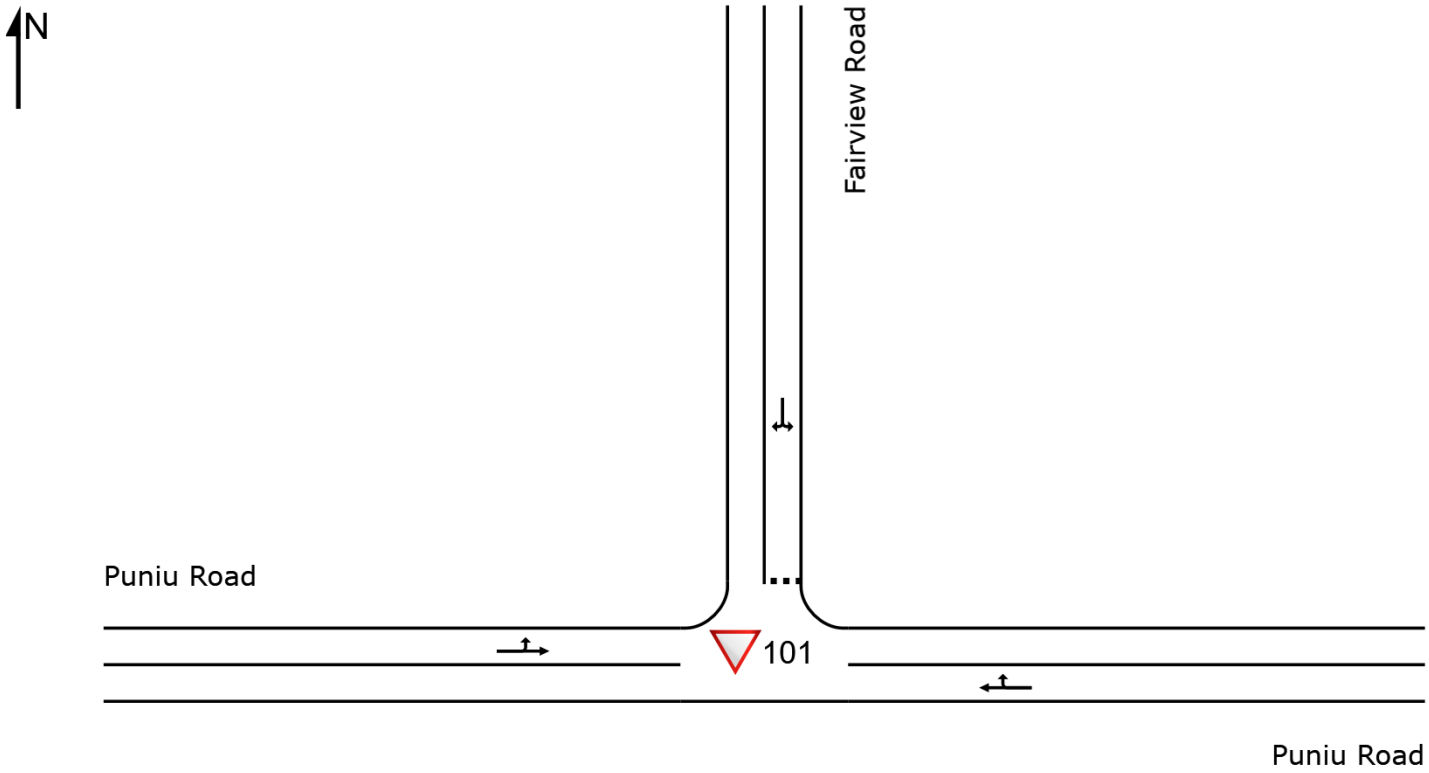
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SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2041 Baseline + Area 2 (70 dwellings)_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Road connnection)]

New Site
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: Z:\310205677\7_technical\SIDRA\5. puniu road & fairview road_20230530.sip9

MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2041 Baseline + Area 2 (70 dwellings)_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Road connnection)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	121	10.0	127	10.0	0.112	0.8	LOS A	0.4	3.1	0.29	0.18	0.29	48.3
6	R2	48	5.0	51	5.0	0.112	6.2	LOS A	0.4	3.1	0.29	0.18	0.29	47.4
Approach		169	8.6	178	8.6	0.112	2.3	NA	0.4	3.1	0.29	0.18	0.29	48.1
North: Fairview Road														
7	L2	52	5.0	55	5.0	0.134	5.7	LOS A	0.5	3.5	0.42	0.66	0.42	45.4
9	R2	64	5.0	67	5.0	0.134	7.3	LOS A	0.5	3.5	0.42	0.66	0.42	45.1
Approach		116	5.0	122	5.0	0.134	6.6	LOS A	0.5	3.5	0.42	0.66	0.42	45.2
West: Puniu Road														
10	L2	99	5.0	104	5.0	0.205	4.7	LOS A	0.0	0.0	0.00	0.15	0.00	48.5
11	T1	259	10.0	273	10.0	0.205	0.1	LOS A	0.0	0.0	0.00	0.15	0.00	49.0
Approach		358	8.6	377	8.6	0.205	1.3	NA	0.0	0.0	0.00	0.15	0.00	48.9
All Vehicles		643	8.0	677	8.0	0.205	2.5	NA	0.5	3.5	0.15	0.25	0.15	48.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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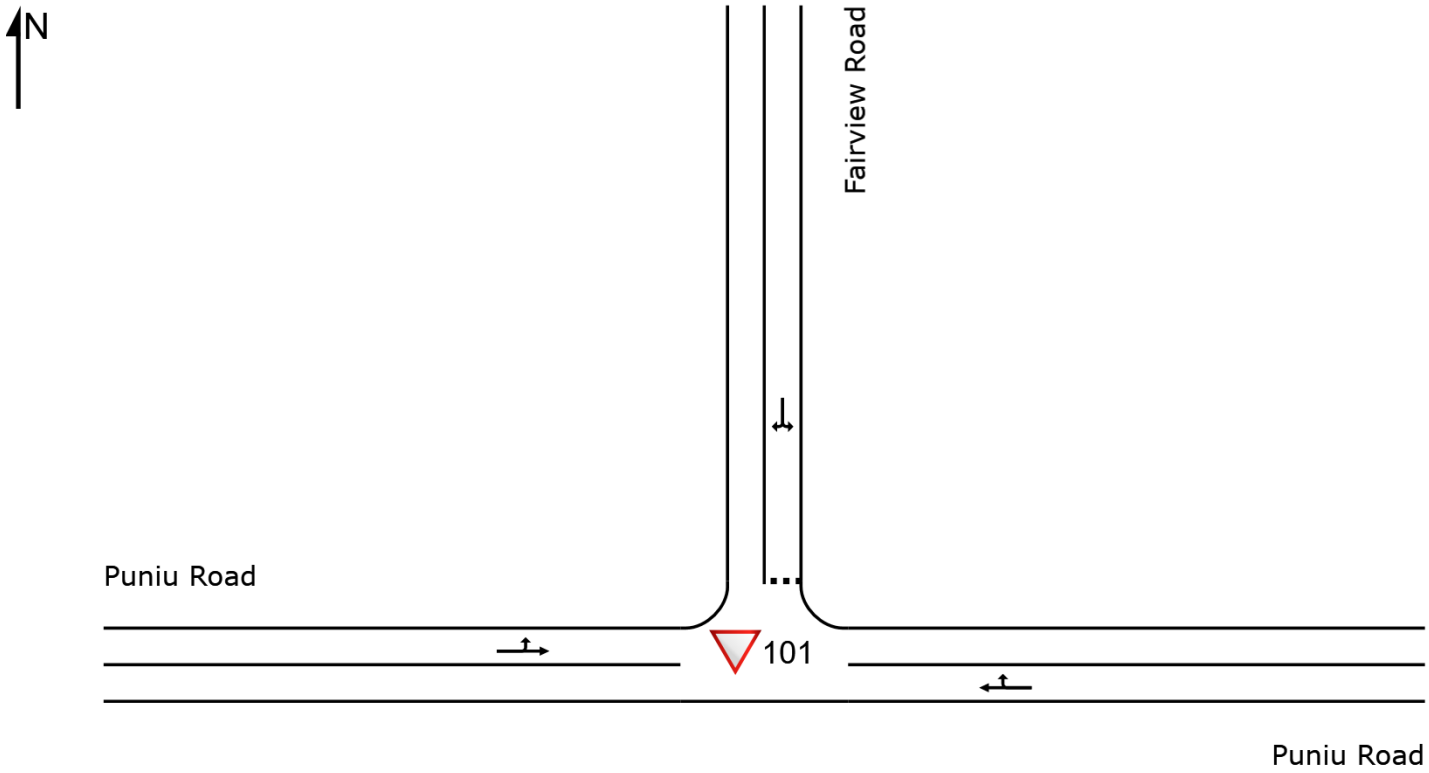
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Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2041 Baseline + Area 2 (70 dwellings)_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Road connnection)]

New Site
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: Z:\310205677\7_technical\SIDRA\5. puniu road & fairview road_20230530.sip9

MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2041 Baseline + Area 2 (70 dwellings)_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Road connnection)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	266	10.0	280	10.0	0.219	0.8	LOS A	0.8	5.7	0.27	0.14	0.27	48.6
6	R2	71	5.0	75	5.0	0.219	6.8	LOS A	0.8	5.7	0.27	0.14	0.27	47.6
Approach		337	8.9	355	8.9	0.219	2.0	NA	0.8	5.7	0.27	0.14	0.27	48.4
North: Fairview Road														
7	L2	38	5.0	40	5.0	0.189	5.8	LOS A	0.7	4.8	0.50	0.73	0.50	44.6
9	R2	87	5.0	92	5.0	0.189	9.1	LOS A	0.7	4.8	0.50	0.73	0.50	44.2
Approach		125	5.0	132	5.0	0.189	8.1	LOS A	0.7	4.8	0.50	0.73	0.50	44.3
West: Puniu Road														
10	L2	124	5.0	131	5.0	0.230	4.7	LOS A	0.0	0.0	0.00	0.17	0.00	48.4
11	T1	277	10.0	292	10.0	0.230	0.1	LOS A	0.0	0.0	0.00	0.17	0.00	48.9
Approach		401	8.5	422	8.5	0.230	1.5	NA	0.0	0.0	0.00	0.17	0.00	48.8
All Vehicles		863	8.1	908	8.1	0.230	2.7	NA	0.8	5.7	0.18	0.24	0.18	47.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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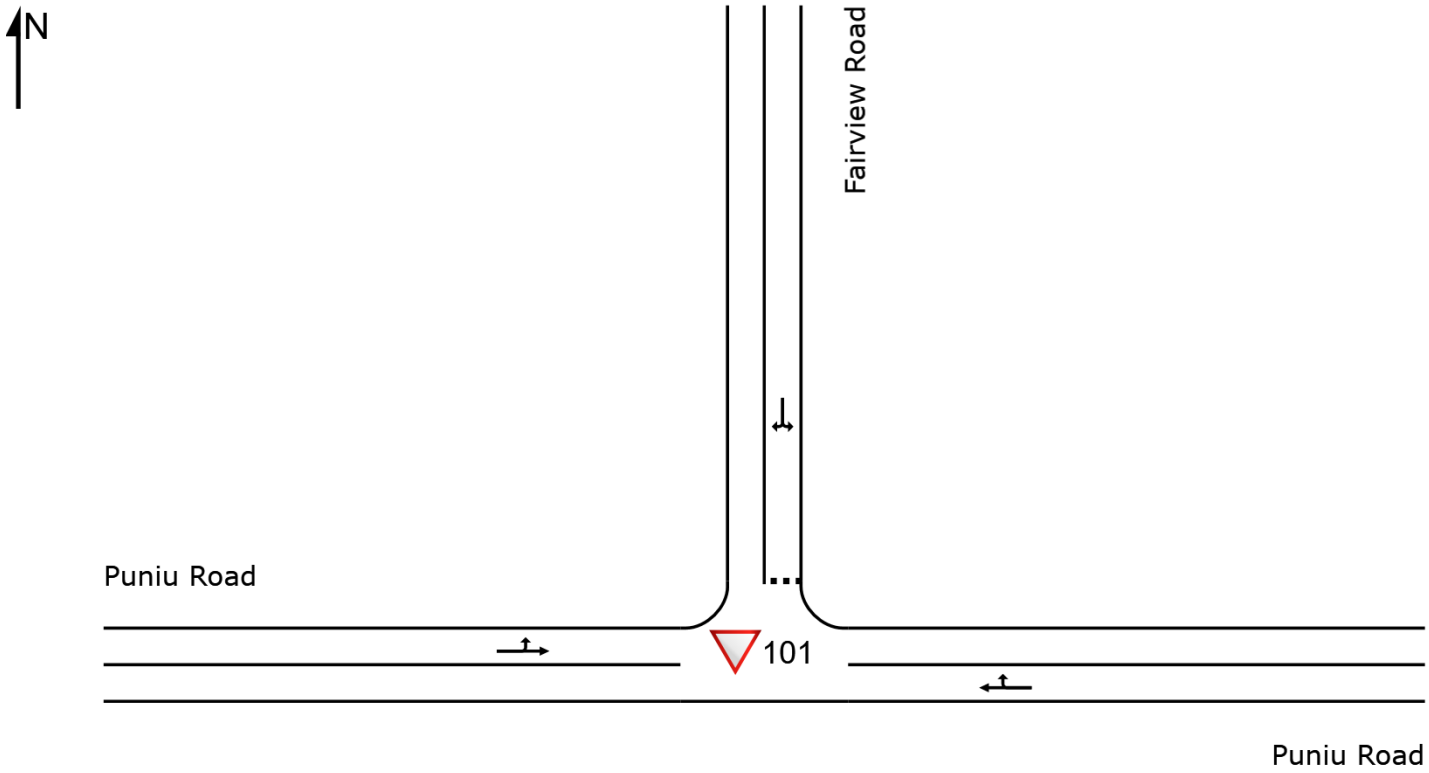
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2041 Baseline + Area 2 (150 dwellings)_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Road connnection)]

New Site
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: Z:\310205677\7_technical\SIDRA\5. puniu road & fairview road_20230530.sip9

MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2041 Baseline + Area 2 (150 dwellings)_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Road connnection)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	129	10.0	136	10.0	0.119	0.9	LOS A	0.5	3.4	0.31	0.17	0.31	48.3
6	R2	48	5.0	51	5.0	0.119	6.5	LOS A	0.5	3.4	0.31	0.17	0.31	47.4
Approach		177	8.6	186	8.6	0.119	2.4	NA	0.5	3.4	0.31	0.17	0.31	48.0
North: Fairview Road														
7	L2	52	5.0	55	5.0	0.151	5.8	LOS A	0.5	4.0	0.44	0.68	0.44	45.2
9	R2	71	5.0	75	5.0	0.151	7.7	LOS A	0.5	4.0	0.44	0.68	0.44	44.9
Approach		123	5.0	129	5.0	0.151	6.9	LOS A	0.5	4.0	0.44	0.68	0.44	45.0
West: Puniu Road														
10	L2	121	5.0	127	5.0	0.231	4.7	LOS A	0.0	0.0	0.00	0.16	0.00	48.4
11	T1	283	10.0	298	10.0	0.231	0.1	LOS A	0.0	0.0	0.00	0.16	0.00	48.9
Approach		404	8.5	425	8.5	0.231	1.5	NA	0.0	0.0	0.00	0.16	0.00	48.8
All Vehicles		704	7.9	741	7.9	0.231	2.6	NA	0.5	4.0	0.15	0.26	0.15	47.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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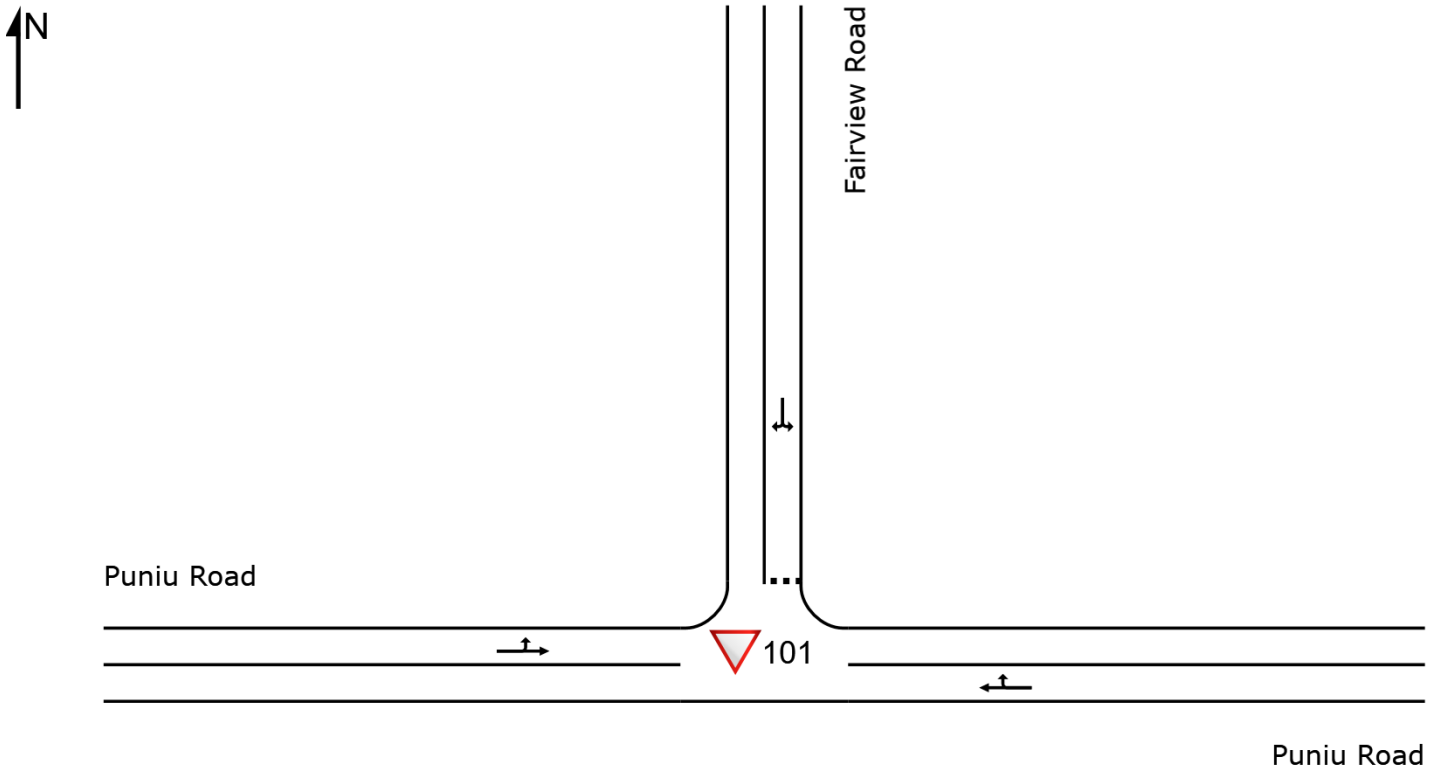
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SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2041 Baseline + Area 2 (150 dwellings)_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Road connnection)]

New Site
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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MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2041 Baseline + Area 2 (150 dwellings)_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Road connnection)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	287	10.0	302	10.0	0.233	0.8	LOS A	0.8	6.0	0.27	0.13	0.27	48.6
6	R2	71	5.0	75	5.0	0.233	7.0	LOS A	0.8	6.0	0.27	0.13	0.27	47.7
Approach		358	9.0	377	9.0	0.233	2.0	NA	0.8	6.0	0.27	0.13	0.27	48.4
North: Fairview Road														
7	L2	38	5.0	40	5.0	0.234	6.0	LOS A	0.8	6.2	0.53	0.76	0.55	44.2
9	R2	106	5.0	112	5.0	0.234	9.7	LOS A	0.8	6.2	0.53	0.76	0.55	43.9
Approach		144	5.0	152	5.0	0.234	8.7	LOS A	0.8	6.2	0.53	0.76	0.55	44.0
West: Puniu Road														
10	L2	134	5.0	141	5.0	0.242	4.7	LOS A	0.0	0.0	0.00	0.17	0.00	48.3
11	T1	289	10.0	304	10.0	0.242	0.1	LOS A	0.0	0.0	0.00	0.17	0.00	48.9
Approach		423	8.4	445	8.4	0.242	1.5	NA	0.0	0.0	0.00	0.17	0.00	48.7
All Vehicles		925	8.1	974	8.1	0.242	2.8	NA	0.8	6.2	0.19	0.25	0.19	47.8

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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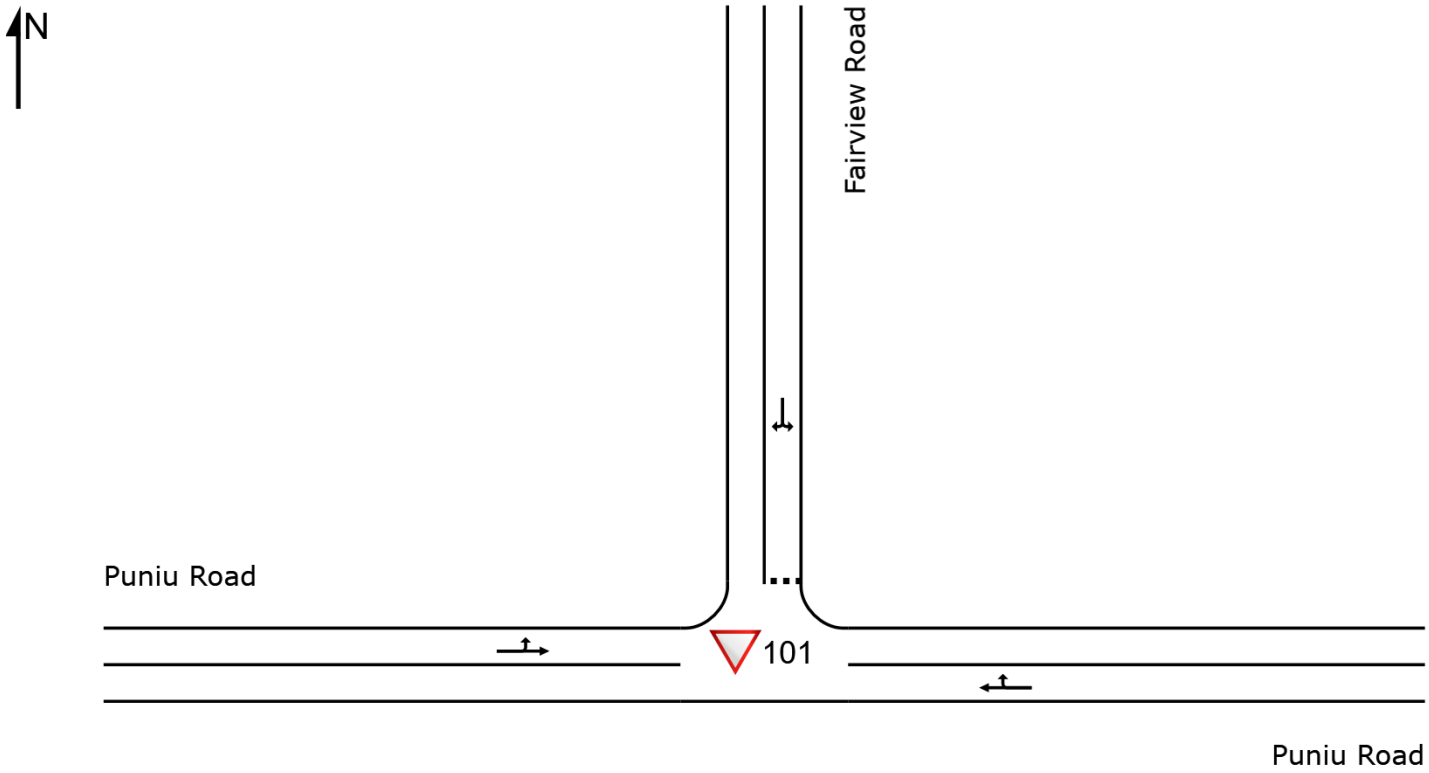
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2041 Baseline + Area 2 (216 dwellings)_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Road connnection)]

New Site
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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MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2041 Baseline + Area 2 (216 dwellings)_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Road connnection)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	135	10.0	142	10.0	0.125	1.0	LOS A	0.5	3.6	0.32	0.17	0.32	48.3
6	R2	48	5.0	51	5.0	0.125	6.8	LOS A	0.5	3.6	0.32	0.17	0.32	47.3
Approach		183	8.7	193	8.7	0.125	2.5	NA	0.5	3.6	0.32	0.17	0.32	48.0
North: Fairview Road														
7	L2	52	5.0	55	5.0	0.167	5.9	LOS A	0.6	4.4	0.47	0.71	0.47	45.1
9	R2	77	5.0	81	5.0	0.167	8.0	LOS A	0.6	4.4	0.47	0.71	0.47	44.7
Approach		129	5.0	136	5.0	0.167	7.2	LOS A	0.6	4.4	0.47	0.71	0.47	44.9
West: Puniu Road														
10	L2	139	5.0	146	5.0	0.253	4.7	LOS A	0.0	0.0	0.00	0.17	0.00	48.4
11	T1	303	10.0	319	10.0	0.253	0.1	LOS A	0.0	0.0	0.00	0.17	0.00	48.9
Approach		442	8.4	465	8.4	0.253	1.5	NA	0.0	0.0	0.00	0.17	0.00	48.7
All Vehicles		754	7.9	794	7.9	0.253	2.7	NA	0.6	4.4	0.16	0.26	0.16	47.8

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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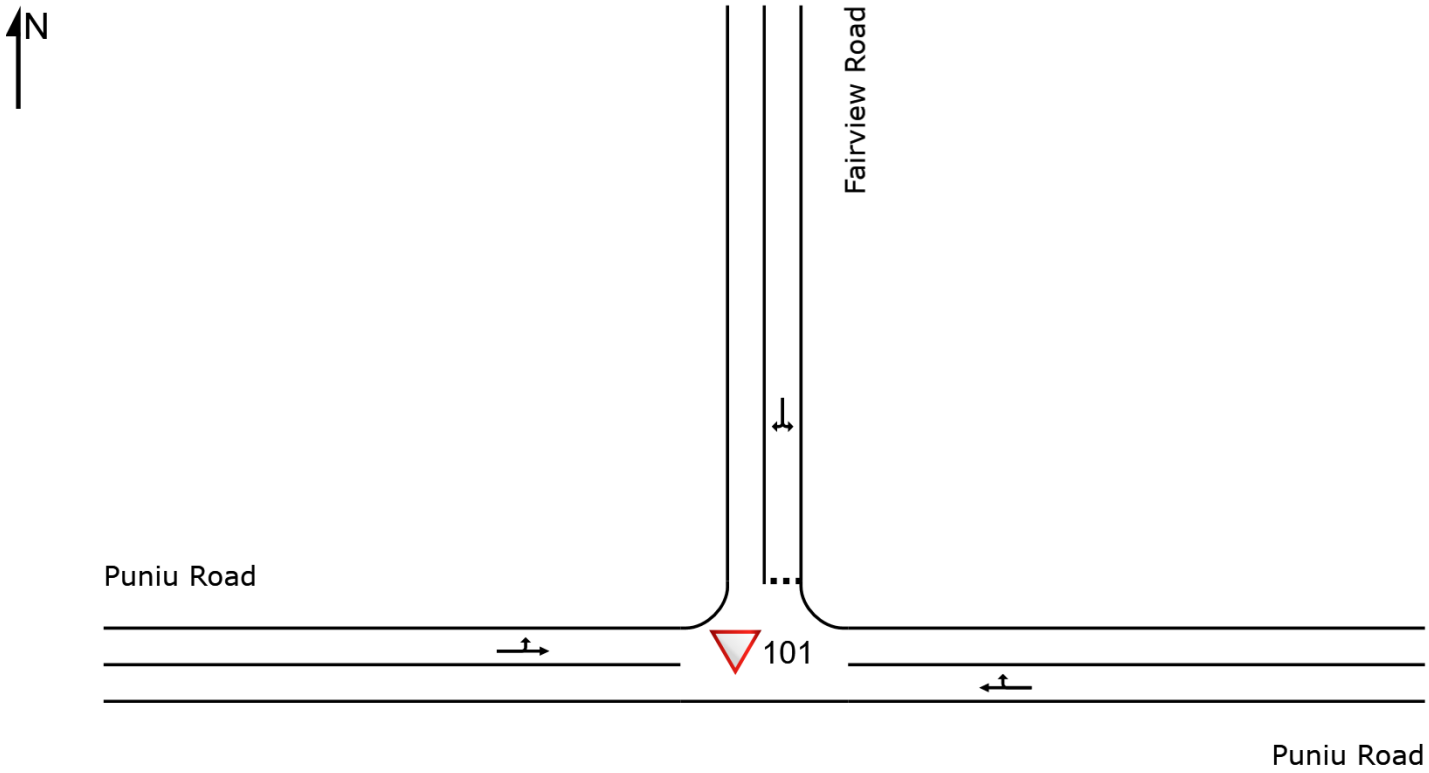
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Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2041 Baseline + Area 2 (216 dwellings)_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Road connnection)]

New Site
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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MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2041 Baseline + Area 2 (216 dwellings)_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Road connnection)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	304	10.0	320	10.0	0.244	0.8	LOS A	0.8	6.3	0.27	0.12	0.27	48.6
6	R2	71	5.0	75	5.0	0.244	7.2	LOS A	0.8	6.3	0.27	0.12	0.27	47.7
Approach		375	9.1	395	9.1	0.244	2.0	NA	0.8	6.3	0.27	0.12	0.27	48.4
North: Fairview Road														
7	L2	38	5.0	40	5.0	0.271	6.2	LOS A	1.0	7.6	0.56	0.80	0.63	43.9
9	R2	120	5.0	126	5.0	0.271	10.4	LOS B	1.0	7.6	0.56	0.80	0.63	43.5
Approach		158	5.0	166	5.0	0.271	9.4	LOS A	1.0	7.6	0.56	0.80	0.63	43.6
West: Puniu Road														
10	L2	143	5.0	151	5.0	0.253	4.7	LOS A	0.0	0.0	0.00	0.17	0.00	48.3
11	T1	299	10.0	315	10.0	0.253	0.1	LOS A	0.0	0.0	0.00	0.17	0.00	48.9
Approach		442	8.4	465	8.4	0.253	1.6	NA	0.0	0.0	0.00	0.17	0.00	48.7
All Vehicles		975	8.1	1026	8.1	0.271	3.0	NA	1.0	7.6	0.19	0.26	0.21	47.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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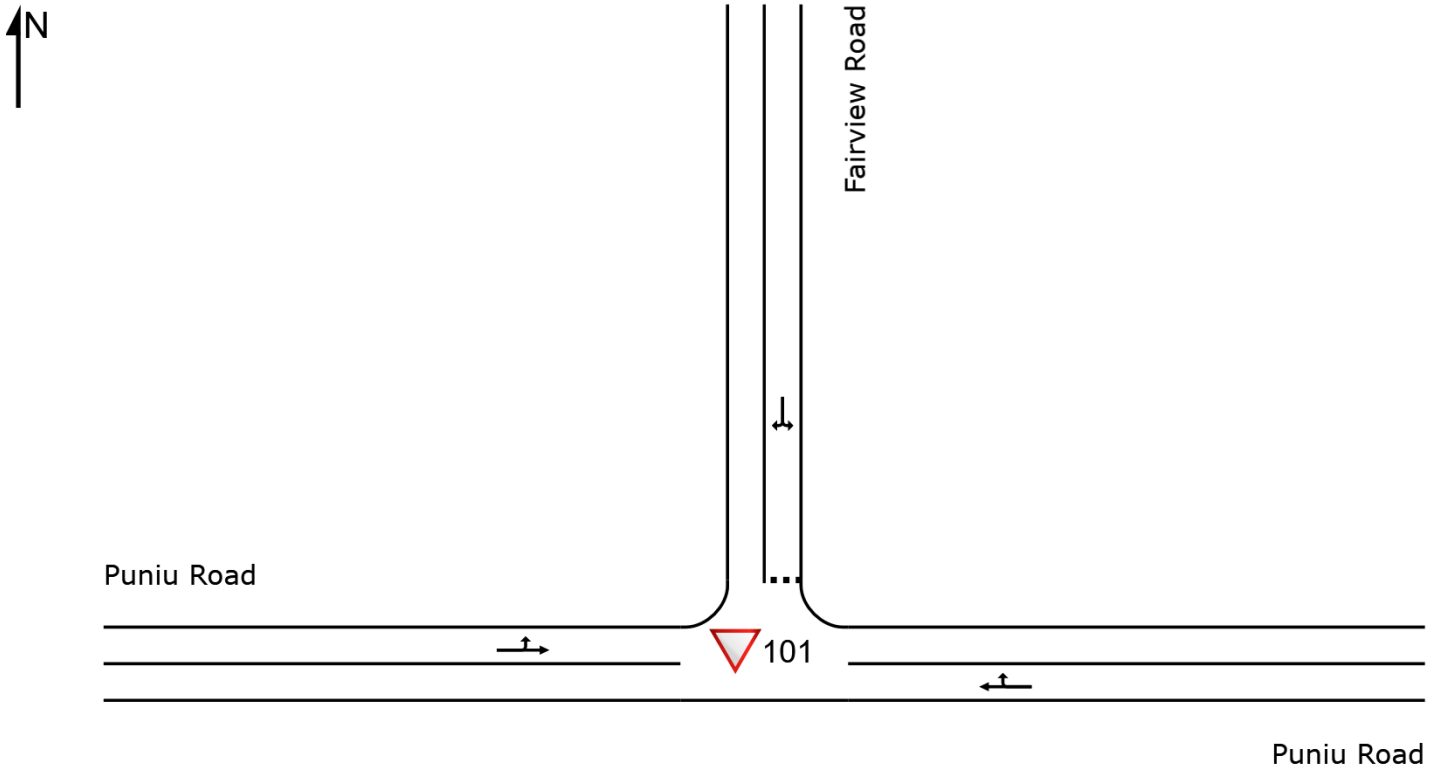
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SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

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



Document Set ID: 11324600
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MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	109	10.0	115	10.0	0.100	0.6	LOS A	0.4	2.7	0.27	0.18	0.27	48.4
6	R2	44	5.0	46	5.0	0.100	6.0	LOS A	0.4	2.7	0.27	0.18	0.27	47.4
Approach		153	8.6	161	8.6	0.100	2.2	NA	0.4	2.7	0.27	0.18	0.27	48.1
North: Fairview Road														
7	L2	52	5.0	55	5.0	0.113	5.6	LOS A	0.4	3.0	0.39	0.63	0.39	45.6
9	R2	52	5.0	55	5.0	0.113	6.9	LOS A	0.4	3.0	0.39	0.63	0.39	45.2
Approach		104	5.0	109	5.0	0.113	6.3	LOS A	0.4	3.0	0.39	0.63	0.39	45.4
West: Puniu Road														
10	L2	73	5.0	77	5.0	0.182	4.7	LOS A	0.0	0.0	0.00	0.12	0.00	48.6
11	T1	246	10.0	259	10.0	0.182	0.1	LOS A	0.0	0.0	0.00	0.12	0.00	49.2
Approach		319	8.9	336	8.9	0.182	1.1	NA	0.0	0.0	0.00	0.12	0.00	49.1
All Vehicles		576	8.1	606	8.1	0.182	2.3	NA	0.4	3.0	0.14	0.23	0.14	48.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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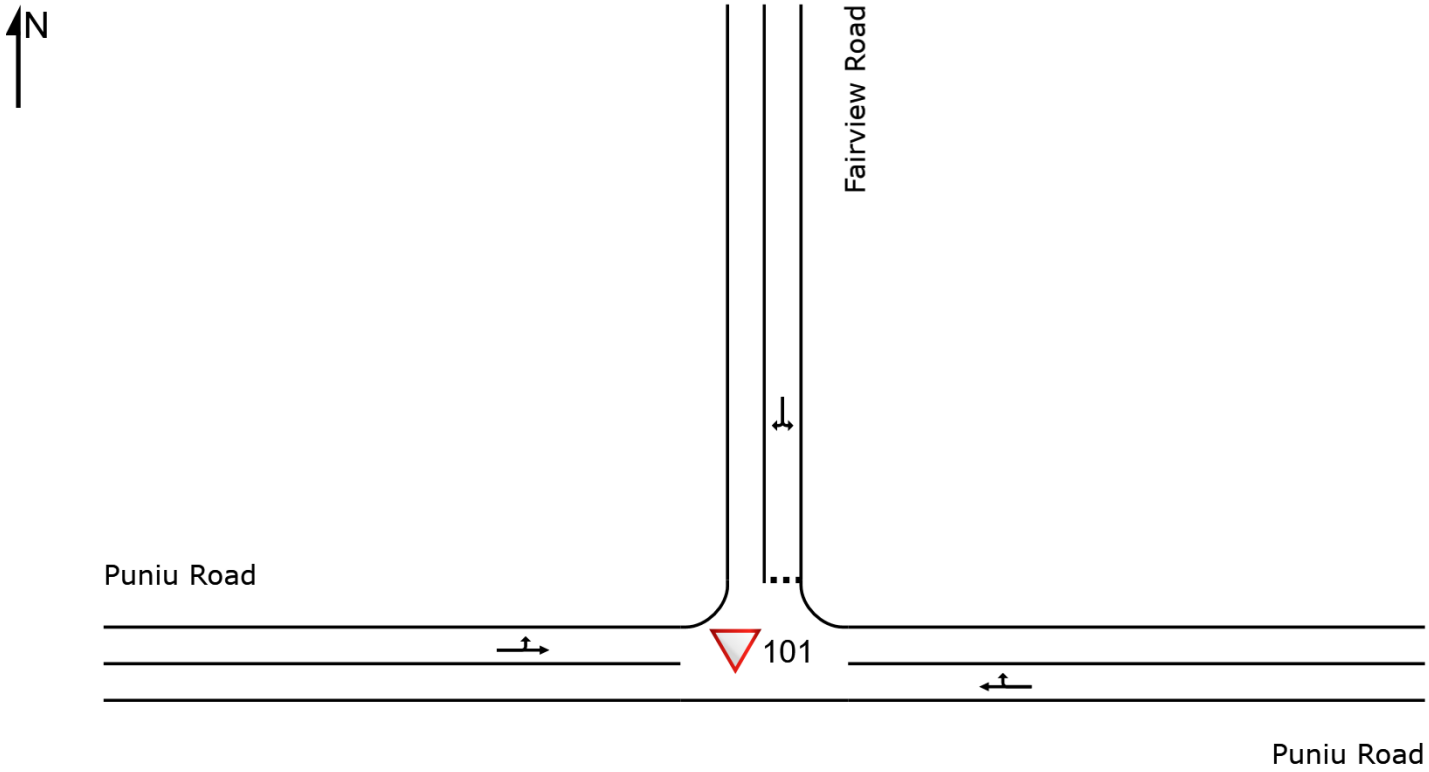
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

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



Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	258	10.0	272	10.0	0.206	0.6	LOS A	0.7	5.0	0.24	0.13	0.24	48.7
6	R2	67	5.0	71	5.0	0.206	6.4	LOS A	0.7	5.0	0.24	0.13	0.24	47.7
Approach		325	9.0	342	9.0	0.206	1.8	NA	0.7	5.0	0.24	0.13	0.24	48.5
North: Fairview Road														
7	L2	36	5.0	38	5.0	0.143	5.6	LOS A	0.5	3.6	0.45	0.70	0.45	44.9
9	R2	67	5.0	71	5.0	0.143	8.5	LOS A	0.5	3.6	0.45	0.70	0.45	44.6
Approach		103	5.0	108	5.0	0.143	7.5	LOS A	0.5	3.6	0.45	0.70	0.45	44.7
West: Puniu Road														
10	L2	102	5.0	107	5.0	0.201	4.7	LOS A	0.0	0.0	0.00	0.16	0.00	48.4
11	T1	249	10.0	262	10.0	0.201	0.1	LOS A	0.0	0.0	0.00	0.16	0.00	49.0
Approach		351	8.5	369	8.5	0.201	1.4	NA	0.0	0.0	0.00	0.16	0.00	48.8
All Vehicles		779	8.3	820	8.3	0.206	2.4	NA	0.7	5.0	0.16	0.22	0.16	48.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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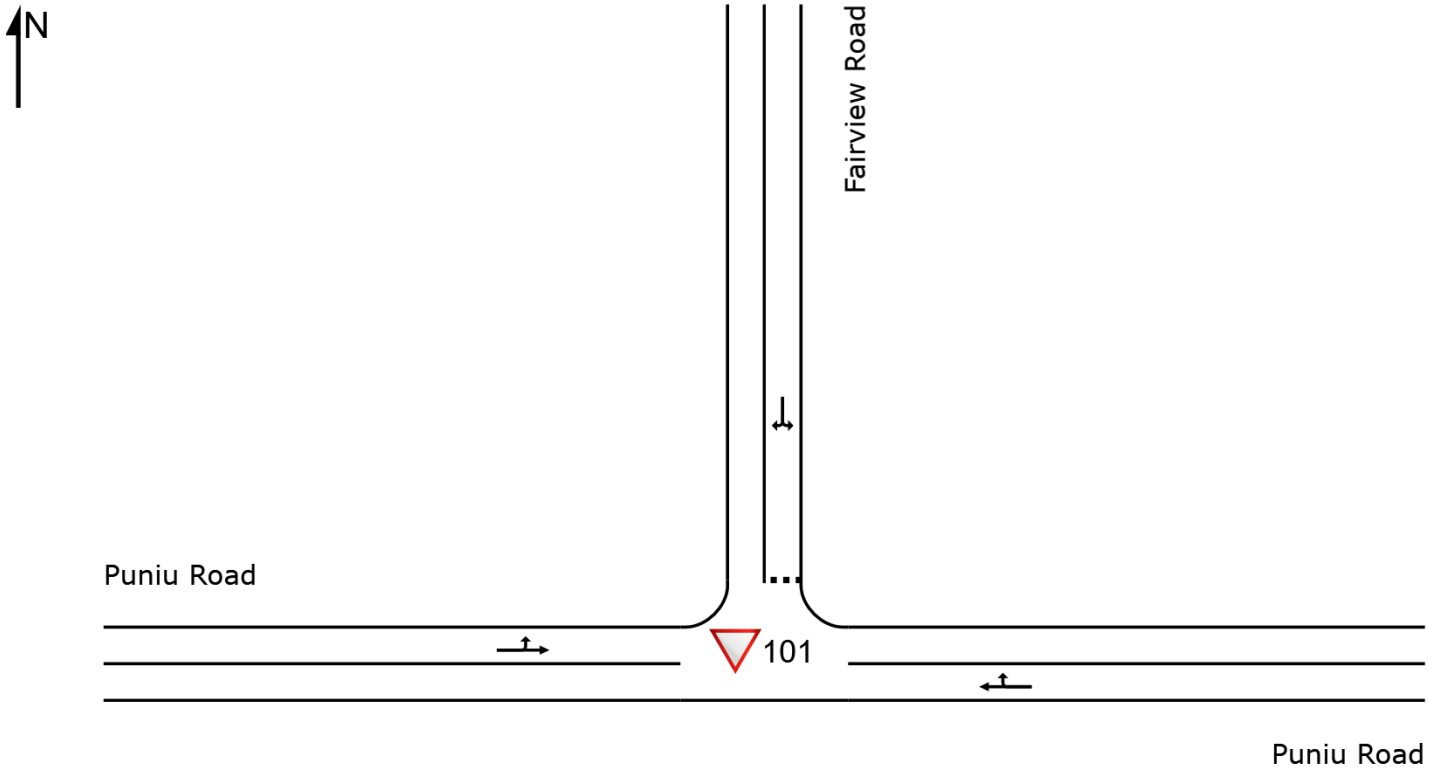
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
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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MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	111	10.0	117	10.0	0.101	0.7	LOS A	0.4	2.7	0.27	0.17	0.27	48.4
6	R2	44	5.0	46	5.0	0.101	6.0	LOS A	0.4	2.7	0.27	0.17	0.27	47.4
Approach		155	8.6	163	8.6	0.101	2.2	NA	0.4	2.7	0.27	0.17	0.27	48.1
North: Fairview Road														
7	L2	52	5.0	55	5.0	0.114	5.6	LOS A	0.4	3.0	0.40	0.63	0.40	45.6
9	R2	52	5.0	55	5.0	0.114	7.0	LOS A	0.4	3.0	0.40	0.63	0.40	45.2
Approach		104	5.0	109	5.0	0.114	6.3	LOS A	0.4	3.0	0.40	0.63	0.40	45.4
West: Puniu Road														
10	L2	73	5.0	77	5.0	0.186	4.7	LOS A	0.0	0.0	0.00	0.12	0.00	48.7
11	T1	252	10.0	265	10.0	0.186	0.1	LOS A	0.0	0.0	0.00	0.12	0.00	49.2
Approach		325	8.9	342	8.9	0.186	1.1	NA	0.0	0.0	0.00	0.12	0.00	49.1
All Vehicles		584	8.1	615	8.1	0.186	2.3	NA	0.4	3.0	0.14	0.23	0.14	48.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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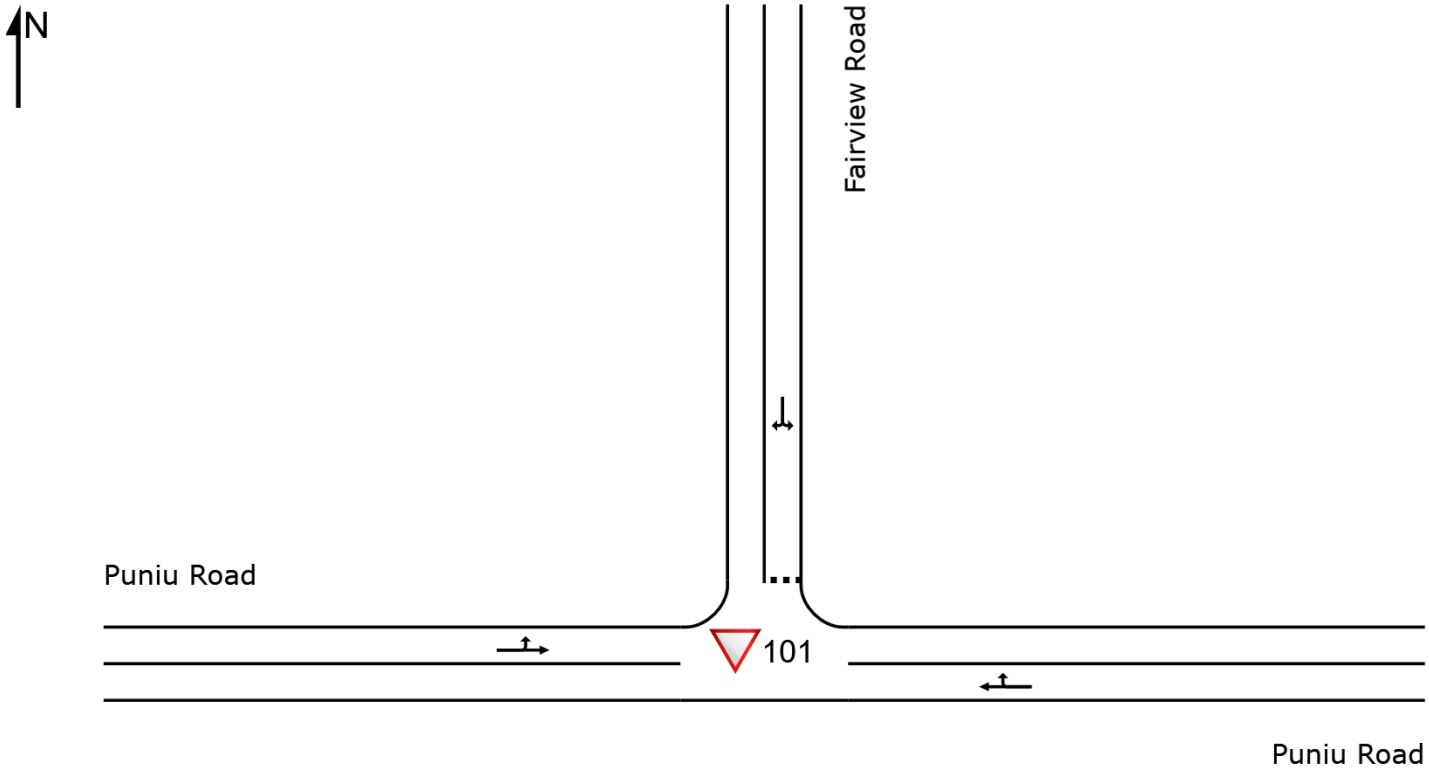
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Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

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



Document Set ID: 11324600
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MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	264	10.0	278	10.0	0.210	0.6	LOS A	0.7	5.1	0.24	0.13	0.24	48.7
6	R2	67	5.0	71	5.0	0.210	6.4	LOS A	0.7	5.1	0.24	0.13	0.24	47.7
Approach		331	9.0	348	9.0	0.210	1.8	NA	0.7	5.1	0.24	0.13	0.24	48.5
North: Fairview Road														
7	L2	36	5.0	38	5.0	0.145	5.6	LOS A	0.5	3.7	0.46	0.70	0.46	44.9
9	R2	67	5.0	71	5.0	0.145	8.6	LOS A	0.5	3.7	0.46	0.70	0.46	44.5
Approach		103	5.0	108	5.0	0.145	7.5	LOS A	0.5	3.7	0.46	0.70	0.46	44.6
West: Puniu Road														
10	L2	102	5.0	107	5.0	0.203	4.7	LOS A	0.0	0.0	0.00	0.16	0.00	48.5
11	T1	253	10.0	266	10.0	0.203	0.1	LOS A	0.0	0.0	0.00	0.16	0.00	49.0
Approach		355	8.6	374	8.6	0.203	1.4	NA	0.0	0.0	0.00	0.16	0.00	48.8
All Vehicles		789	8.3	831	8.3	0.210	2.4	NA	0.7	5.1	0.16	0.21	0.16	48.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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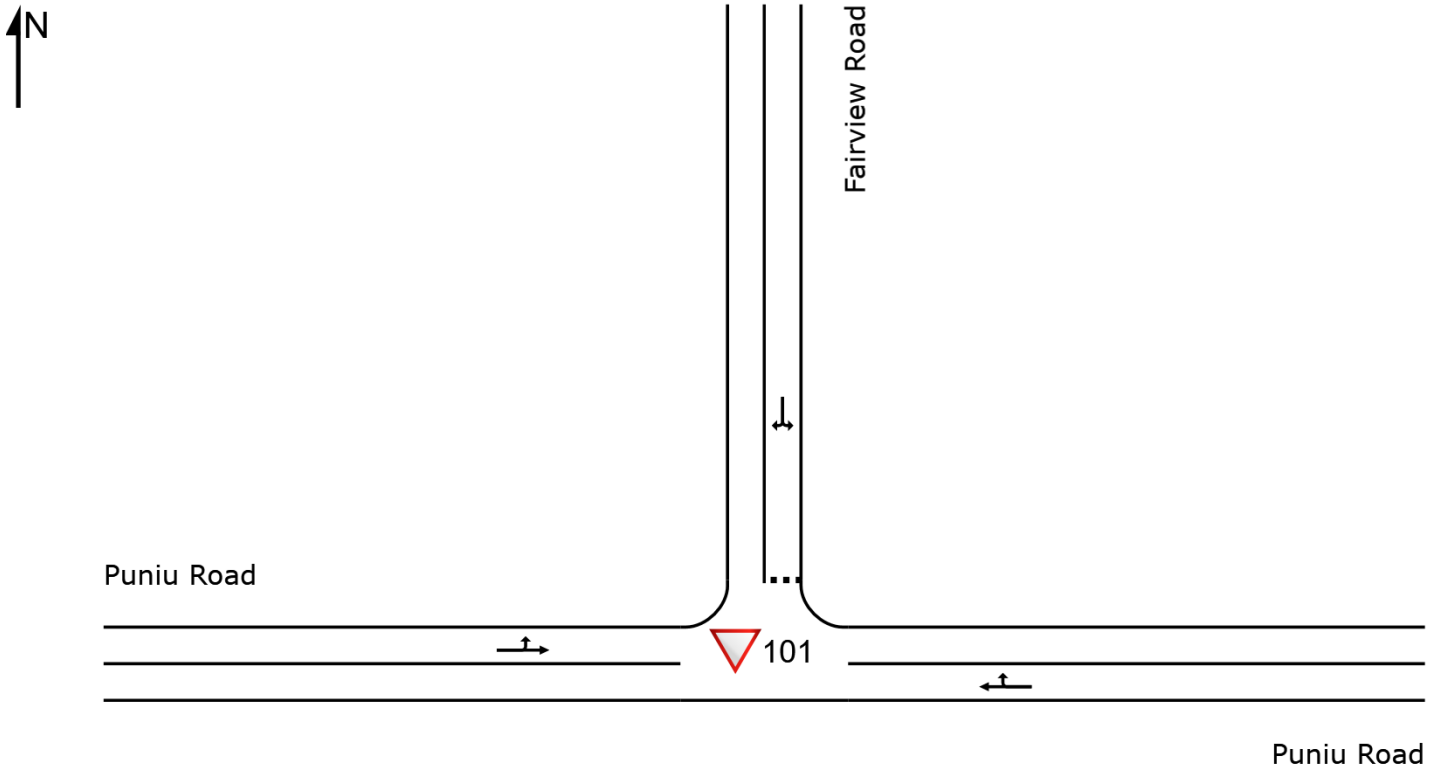
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SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
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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MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	119	10.0	125	10.0	0.109	0.7	LOS A	0.4	3.0	0.28	0.18	0.28	48.3
6	R2	48	5.0	51	5.0	0.109	6.1	LOS A	0.4	3.0	0.28	0.18	0.28	47.4
Approach		167	8.6	176	8.6	0.109	2.2	NA	0.4	3.0	0.28	0.18	0.28	48.1
North: Fairview Road														
7	L2	52	5.0	55	5.0	0.122	5.6	LOS A	0.4	3.2	0.40	0.64	0.40	45.5
9	R2	57	5.0	60	5.0	0.122	7.1	LOS A	0.4	3.2	0.40	0.64	0.40	45.1
Approach		109	5.0	115	5.0	0.122	6.4	LOS A	0.4	3.2	0.40	0.64	0.40	45.3
West: Puniu Road														
10	L2	80	5.0	84	5.0	0.190	4.7	LOS A	0.0	0.0	0.00	0.13	0.00	48.6
11	T1	253	10.0	266	10.0	0.190	0.1	LOS A	0.0	0.0	0.00	0.13	0.00	49.2
Approach		333	8.8	351	8.8	0.190	1.2	NA	0.0	0.0	0.00	0.13	0.00	49.0
All Vehicles		609	8.1	641	8.1	0.190	2.4	NA	0.4	3.2	0.15	0.23	0.15	48.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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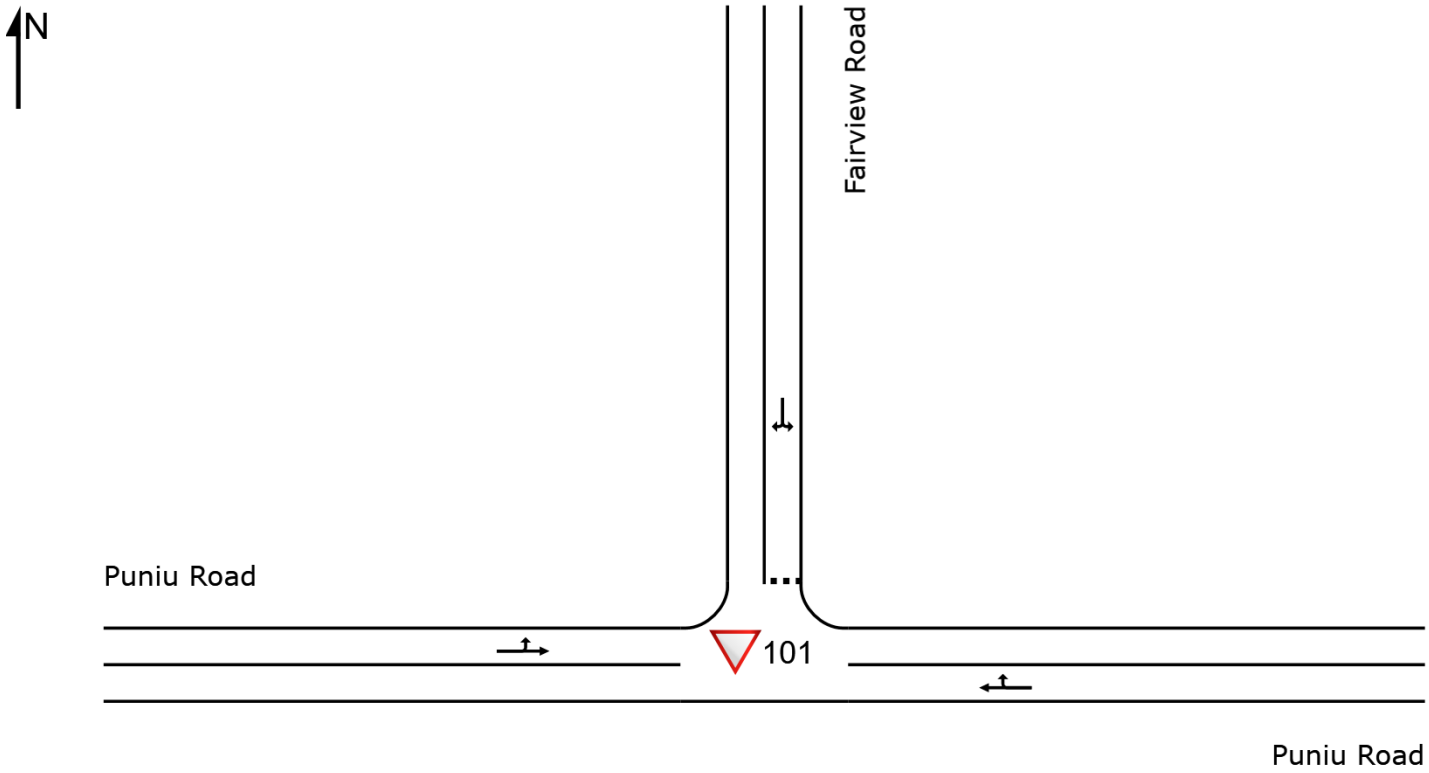
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SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

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



Document Set ID: 11324600
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MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	261	10.0	275	10.0	0.215	0.7	LOS A	0.7	5.6	0.27	0.14	0.27	48.6
6	R2	71	5.0	75	5.0	0.215	6.7	LOS A	0.7	5.6	0.27	0.14	0.27	47.6
Approach		332	8.9	349	8.9	0.215	2.0	NA	0.7	5.6	0.27	0.14	0.27	48.4
North: Fairview Road														
7	L2	28	5.0	29	5.0	0.149	5.7	LOS A	0.5	3.7	0.49	0.73	0.49	44.7
9	R2	71	5.0	75	5.0	0.149	8.8	LOS A	0.5	3.7	0.49	0.73	0.49	44.3
Approach		99	5.0	104	5.0	0.149	7.9	LOS A	0.5	3.7	0.49	0.73	0.49	44.4
West: Puniu Road														
10	L2	114	5.0	120	5.0	0.222	4.7	LOS A	0.0	0.0	0.00	0.16	0.00	48.4
11	T1	274	10.0	288	10.0	0.222	0.1	LOS A	0.0	0.0	0.00	0.16	0.00	49.0
Approach		388	8.5	408	8.5	0.222	1.4	NA	0.0	0.0	0.00	0.16	0.00	48.8
All Vehicles		819	8.3	862	8.3	0.222	2.4	NA	0.7	5.6	0.17	0.22	0.17	48.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
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Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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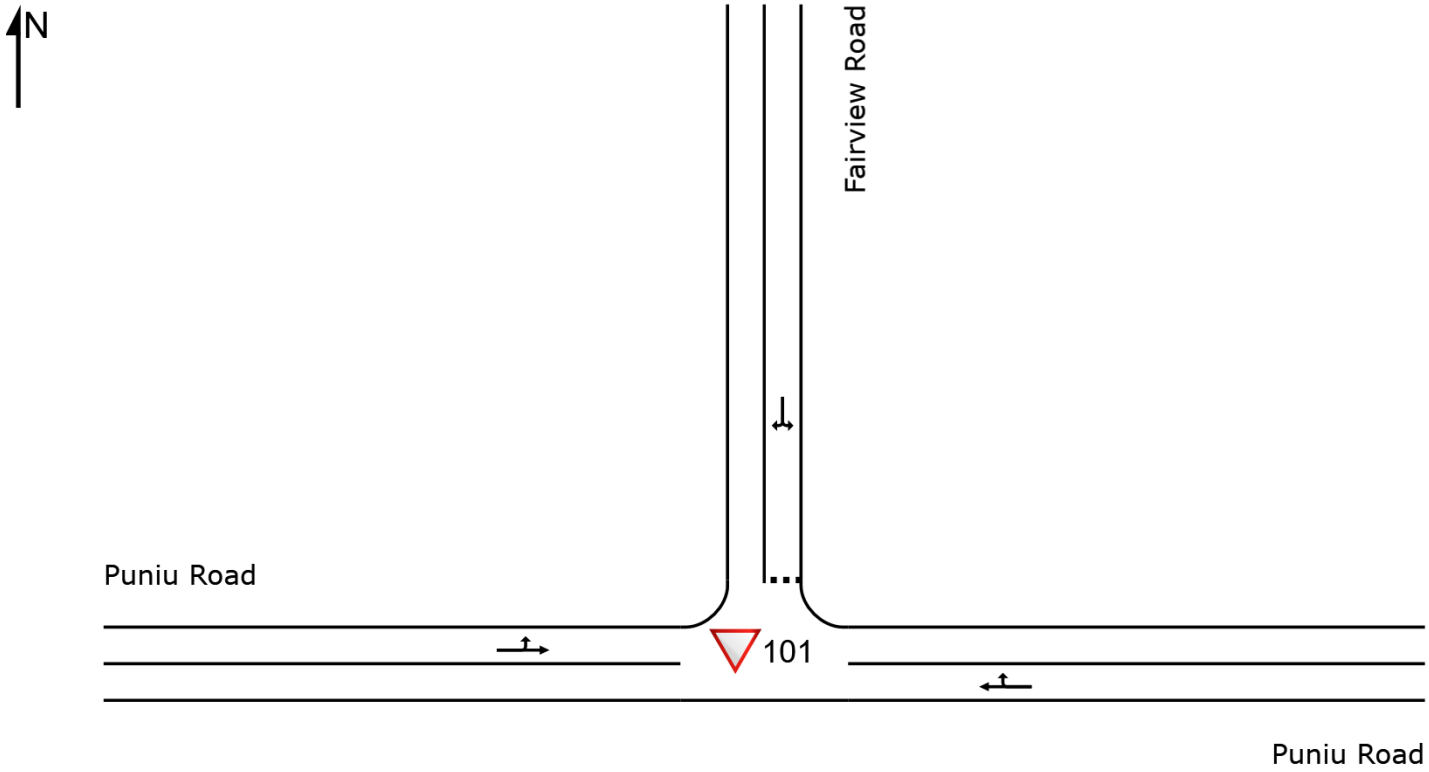
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SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

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



Document Set ID: 11324600
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MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	121	10.0	127	10.0	0.111	0.7	LOS A	0.4	3.1	0.28	0.18	0.28	48.3
6	R2	48	5.0	51	5.0	0.111	6.1	LOS A	0.4	3.1	0.28	0.18	0.28	47.4
Approach		169	8.6	178	8.6	0.111	2.2	NA	0.4	3.1	0.28	0.18	0.28	48.1
North: Fairview Road														
7	L2	52	5.0	55	5.0	0.124	5.7	LOS A	0.4	3.2	0.41	0.65	0.41	45.5
9	R2	57	5.0	60	5.0	0.124	7.2	LOS A	0.4	3.2	0.41	0.65	0.41	45.1
Approach		109	5.0	115	5.0	0.124	6.5	LOS A	0.4	3.2	0.41	0.65	0.41	45.3
West: Puniu Road														
10	L2	80	5.0	84	5.0	0.194	4.7	LOS A	0.0	0.0	0.00	0.13	0.00	48.6
11	T1	259	10.0	273	10.0	0.194	0.1	LOS A	0.0	0.0	0.00	0.13	0.00	49.2
Approach		339	8.8	357	8.8	0.194	1.1	NA	0.0	0.0	0.00	0.13	0.00	49.0
All Vehicles		617	8.1	649	8.1	0.194	2.4	NA	0.4	3.2	0.15	0.23	0.15	48.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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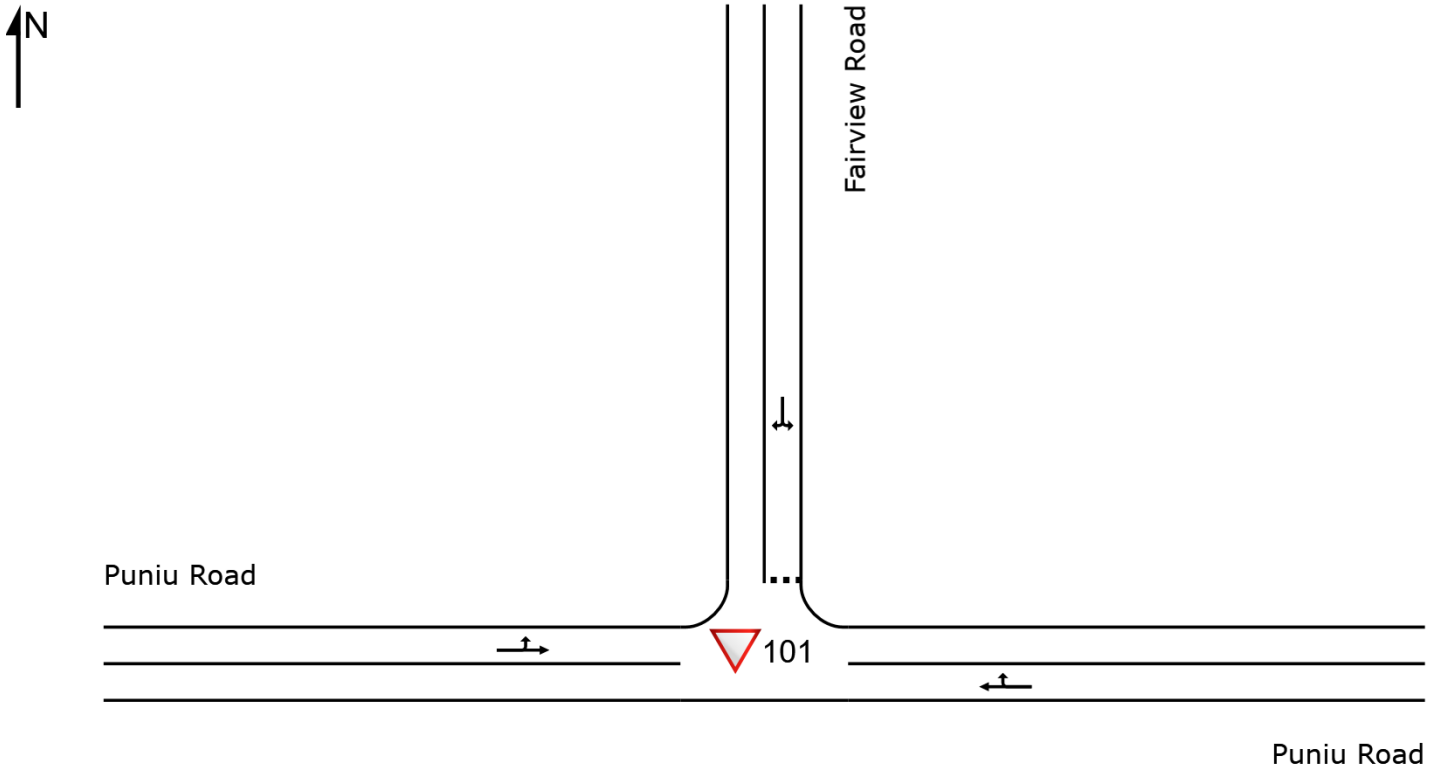
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SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
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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MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Wallace Tce connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	267	10.0	281	10.0	0.218	0.7	LOS A	0.8	5.7	0.27	0.14	0.27	48.6
6	R2	71	5.0	75	5.0	0.218	6.7	LOS A	0.8	5.7	0.27	0.14	0.27	47.6
Approach		338	8.9	356	8.9	0.218	2.0	NA	0.8	5.7	0.27	0.14	0.27	48.4
North: Fairview Road														
7	L2	38	5.0	40	5.0	0.160	5.8	LOS A	0.6	4.1	0.48	0.72	0.48	44.7
9	R2	71	5.0	75	5.0	0.160	8.9	LOS A	0.6	4.1	0.48	0.72	0.48	44.4
Approach		109	5.0	115	5.0	0.160	7.8	LOS A	0.6	4.1	0.48	0.72	0.48	44.5
West: Puniu Road														
10	L2	114	5.0	120	5.0	0.224	4.7	LOS A	0.0	0.0	0.00	0.16	0.00	48.4
11	T1	278	10.0	293	10.0	0.224	0.1	LOS A	0.0	0.0	0.00	0.16	0.00	49.0
Approach		392	8.5	413	8.5	0.224	1.4	NA	0.0	0.0	0.00	0.16	0.00	48.8
All Vehicles		839	8.2	883	8.2	0.224	2.5	NA	0.8	5.7	0.17	0.22	0.17	48.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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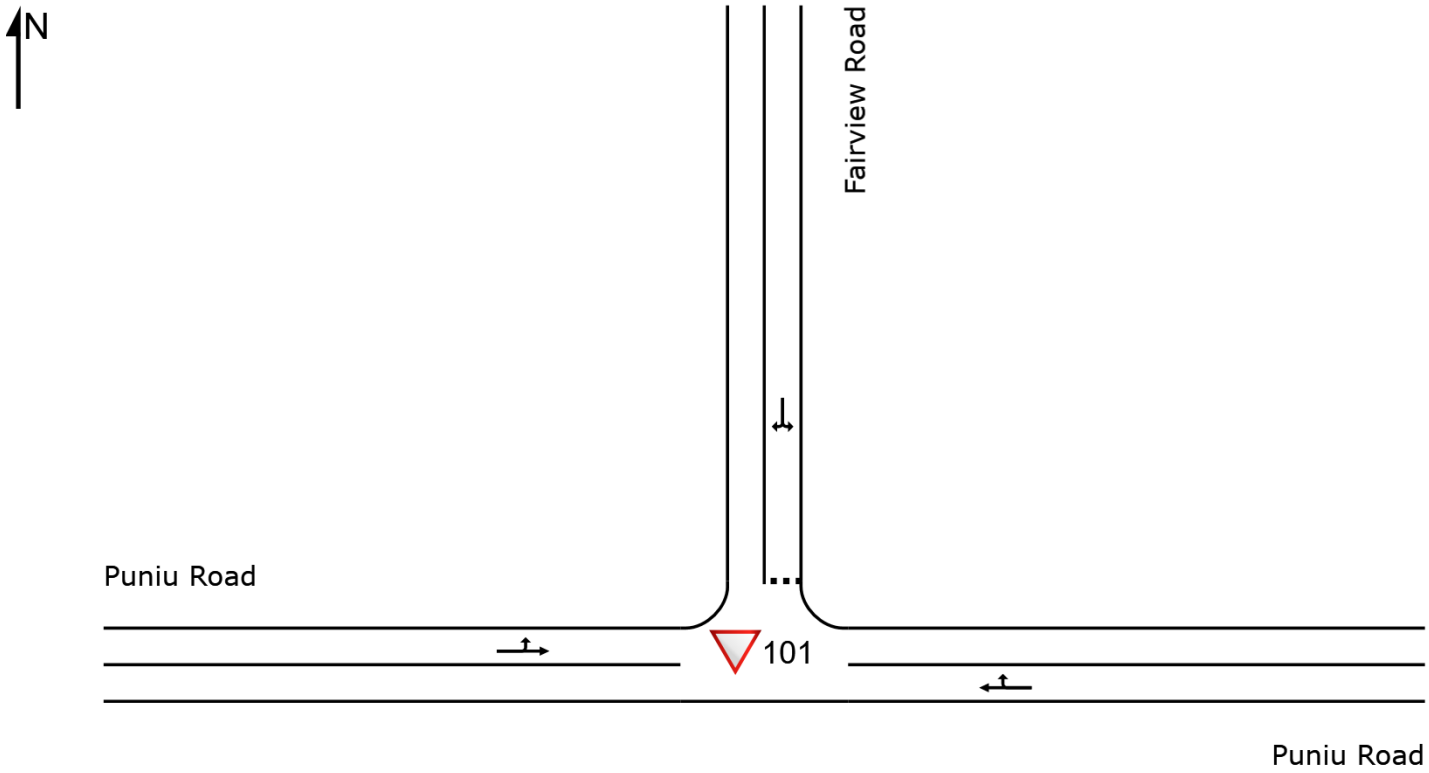
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Rewi Str connnections)]

New Site
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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MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	109	10.0	115	10.0	0.100	0.6	LOS A	0.4	2.7	0.27	0.18	0.27	48.4
6	R2	44	5.0	46	5.0	0.100	6.0	LOS A	0.4	2.7	0.27	0.18	0.27	47.4
Approach		153	8.6	161	8.6	0.100	2.2	NA	0.4	2.7	0.27	0.18	0.27	48.1
North: Fairview Road														
7	L2	52	5.0	55	5.0	0.113	5.6	LOS A	0.4	3.0	0.39	0.63	0.39	45.6
9	R2	52	5.0	55	5.0	0.113	6.9	LOS A	0.4	3.0	0.39	0.63	0.39	45.2
Approach		104	5.0	109	5.0	0.113	6.3	LOS A	0.4	3.0	0.39	0.63	0.39	45.4
West: Puniu Road														
10	L2	73	5.0	77	5.0	0.182	4.7	LOS A	0.0	0.0	0.00	0.12	0.00	48.6
11	T1	246	10.0	259	10.0	0.182	0.1	LOS A	0.0	0.0	0.00	0.12	0.00	49.2
Approach		319	8.9	336	8.9	0.182	1.1	NA	0.0	0.0	0.00	0.12	0.00	49.1
All Vehicles		576	8.1	606	8.1	0.182	2.3	NA	0.4	3.0	0.14	0.23	0.14	48.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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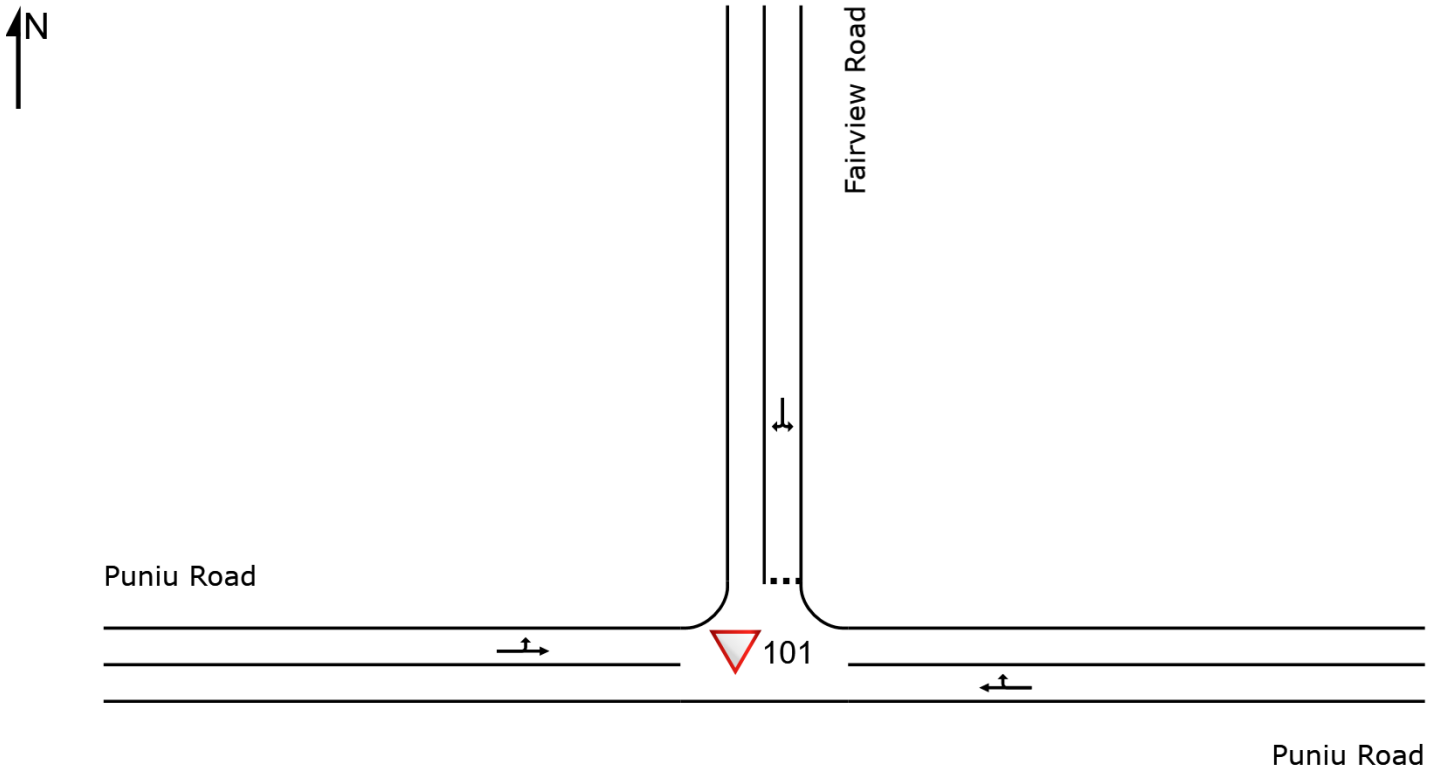
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SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

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



Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	258	10.0	272	10.0	0.206	0.6	LOS A	0.7	5.0	0.24	0.13	0.24	48.7
6	R2	67	5.0	71	5.0	0.206	6.4	LOS A	0.7	5.0	0.24	0.13	0.24	47.7
Approach		325	9.0	342	9.0	0.206	1.8	NA	0.7	5.0	0.24	0.13	0.24	48.5
North: Fairview Road														
7	L2	36	5.0	38	5.0	0.143	5.6	LOS A	0.5	3.6	0.45	0.70	0.45	44.9
9	R2	67	5.0	71	5.0	0.143	8.5	LOS A	0.5	3.6	0.45	0.70	0.45	44.6
Approach		103	5.0	108	5.0	0.143	7.5	LOS A	0.5	3.6	0.45	0.70	0.45	44.7
West: Puniu Road														
10	L2	102	5.0	107	5.0	0.201	4.7	LOS A	0.0	0.0	0.00	0.16	0.00	48.4
11	T1	249	10.0	262	10.0	0.201	0.1	LOS A	0.0	0.0	0.00	0.16	0.00	49.0
Approach		351	8.5	369	8.5	0.201	1.4	NA	0.0	0.0	0.00	0.16	0.00	48.8
All Vehicles		779	8.3	820	8.3	0.206	2.4	NA	0.7	5.0	0.16	0.22	0.16	48.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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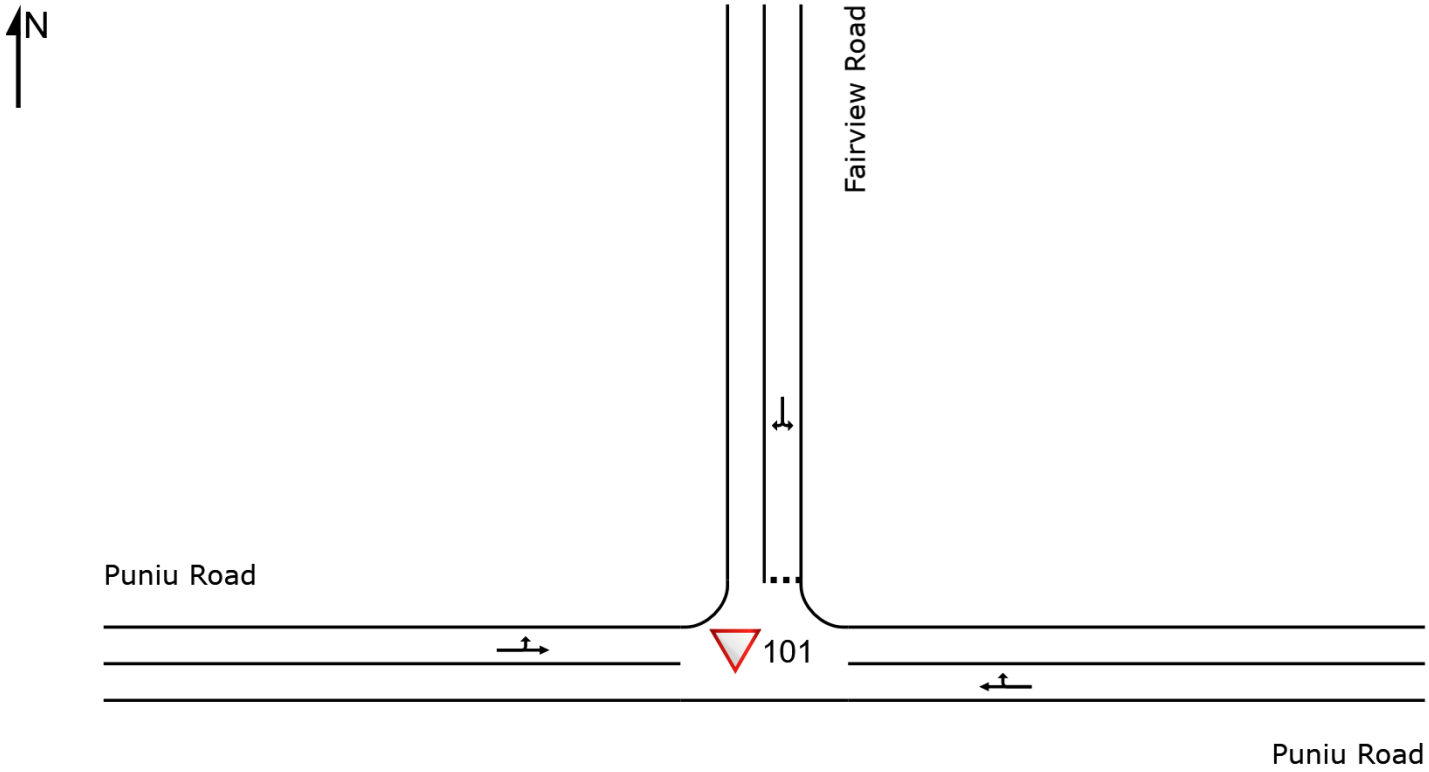
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

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



Document Set ID: 11324600
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MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	111	10.0	117	10.0	0.101	0.7	LOS A	0.4	2.7	0.27	0.17	0.27	48.4
6	R2	44	5.0	46	5.0	0.101	6.0	LOS A	0.4	2.7	0.27	0.17	0.27	47.4
Approach		155	8.6	163	8.6	0.101	2.2	NA	0.4	2.7	0.27	0.17	0.27	48.1
North: Fairview Road														
7	L2	52	5.0	55	5.0	0.114	5.6	LOS A	0.4	3.0	0.40	0.63	0.40	45.6
9	R2	52	5.0	55	5.0	0.114	7.0	LOS A	0.4	3.0	0.40	0.63	0.40	45.2
Approach		104	5.0	109	5.0	0.114	6.3	LOS A	0.4	3.0	0.40	0.63	0.40	45.4
West: Puniu Road														
10	L2	73	5.0	77	5.0	0.186	4.7	LOS A	0.0	0.0	0.00	0.12	0.00	48.7
11	T1	252	10.0	265	10.0	0.186	0.1	LOS A	0.0	0.0	0.00	0.12	0.00	49.2
Approach		325	8.9	342	8.9	0.186	1.1	NA	0.0	0.0	0.00	0.12	0.00	49.1
All Vehicles		584	8.1	615	8.1	0.186	2.3	NA	0.4	3.0	0.14	0.23	0.14	48.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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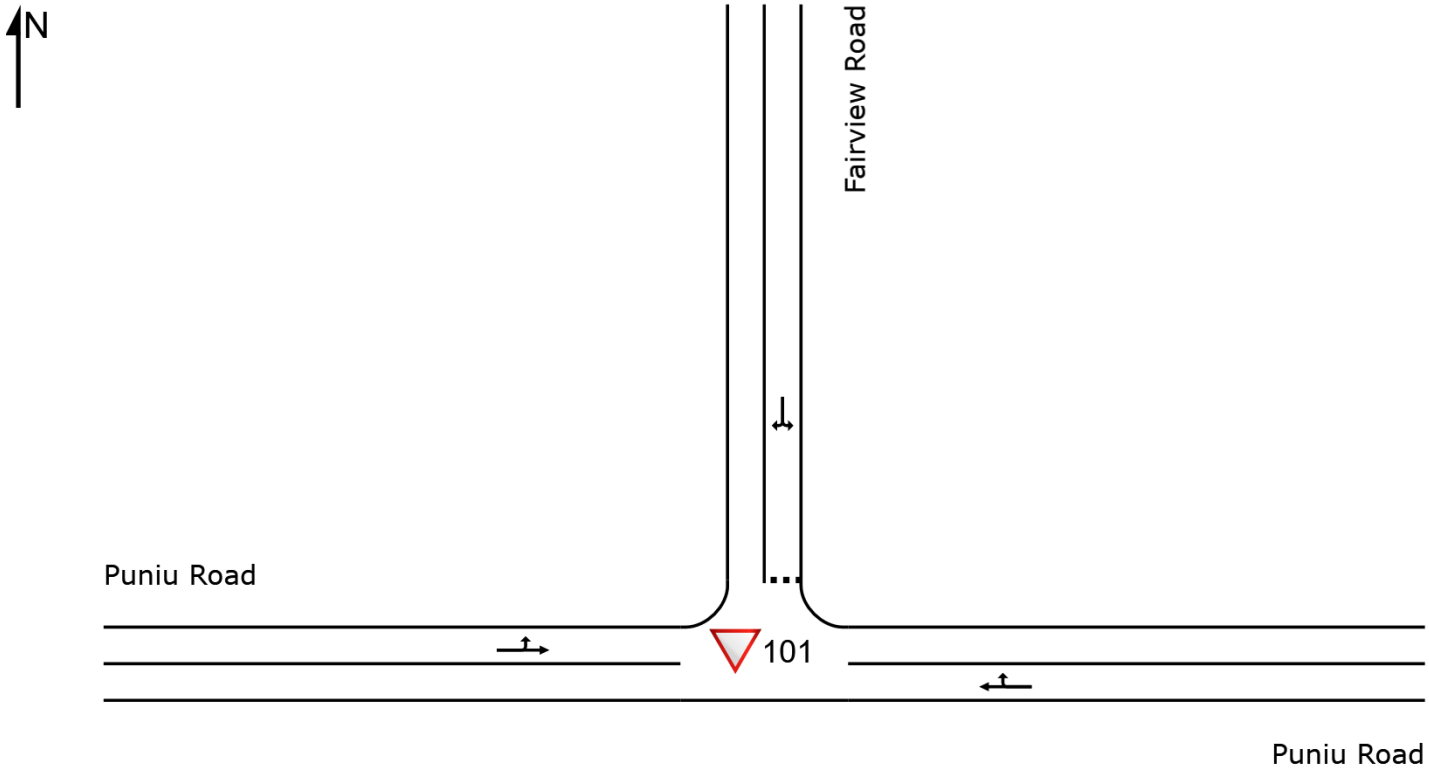
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SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

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



Document Set ID: 11324600
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MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	264	10.0	278	10.0	0.210	0.6	LOS A	0.7	5.1	0.24	0.13	0.24	48.7
6	R2	67	5.0	71	5.0	0.210	6.4	LOS A	0.7	5.1	0.24	0.13	0.24	47.7
Approach		331	9.0	348	9.0	0.210	1.8	NA	0.7	5.1	0.24	0.13	0.24	48.5
North: Fairview Road														
7	L2	36	5.0	38	5.0	0.145	5.6	LOS A	0.5	3.7	0.46	0.70	0.46	44.9
9	R2	67	5.0	71	5.0	0.145	8.6	LOS A	0.5	3.7	0.46	0.70	0.46	44.5
Approach		103	5.0	108	5.0	0.145	7.5	LOS A	0.5	3.7	0.46	0.70	0.46	44.6
West: Puniu Road														
10	L2	102	5.0	107	5.0	0.203	4.7	LOS A	0.0	0.0	0.00	0.16	0.00	48.5
11	T1	253	10.0	266	10.0	0.203	0.1	LOS A	0.0	0.0	0.00	0.16	0.00	49.0
Approach		355	8.6	374	8.6	0.203	1.4	NA	0.0	0.0	0.00	0.16	0.00	48.8
All Vehicles		789	8.3	831	8.3	0.210	2.4	NA	0.7	5.1	0.16	0.21	0.16	48.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
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Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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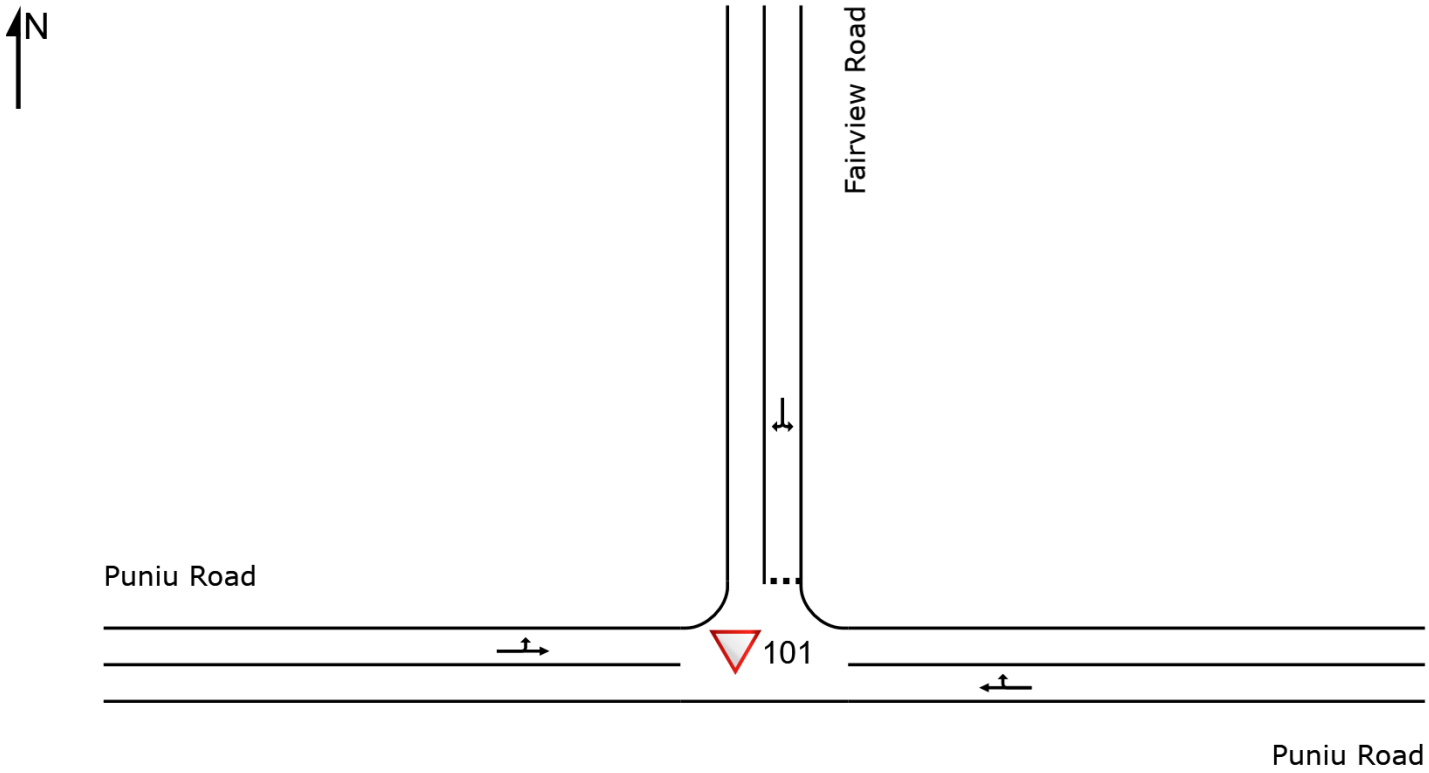
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SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Rewi Str connnections)]

New Site
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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MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	119	10.0	125	10.0	0.109	0.7	LOS A	0.4	3.0	0.28	0.18	0.28	48.3
6	R2	48	5.0	51	5.0	0.109	6.1	LOS A	0.4	3.0	0.28	0.18	0.28	47.4
Approach		167	8.6	176	8.6	0.109	2.2	NA	0.4	3.0	0.28	0.18	0.28	48.1
North: Fairview Road														
7	L2	52	5.0	55	5.0	0.122	5.6	LOS A	0.4	3.2	0.40	0.64	0.40	45.5
9	R2	57	5.0	60	5.0	0.122	7.1	LOS A	0.4	3.2	0.40	0.64	0.40	45.1
Approach		109	5.0	115	5.0	0.122	6.4	LOS A	0.4	3.2	0.40	0.64	0.40	45.3
West: Puniu Road														
10	L2	80	5.0	84	5.0	0.190	4.7	LOS A	0.0	0.0	0.00	0.13	0.00	48.6
11	T1	253	10.0	266	10.0	0.190	0.1	LOS A	0.0	0.0	0.00	0.13	0.00	49.2
Approach		333	8.8	351	8.8	0.190	1.2	NA	0.0	0.0	0.00	0.13	0.00	49.0
All Vehicles		609	8.1	641	8.1	0.190	2.4	NA	0.4	3.2	0.15	0.23	0.15	48.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
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Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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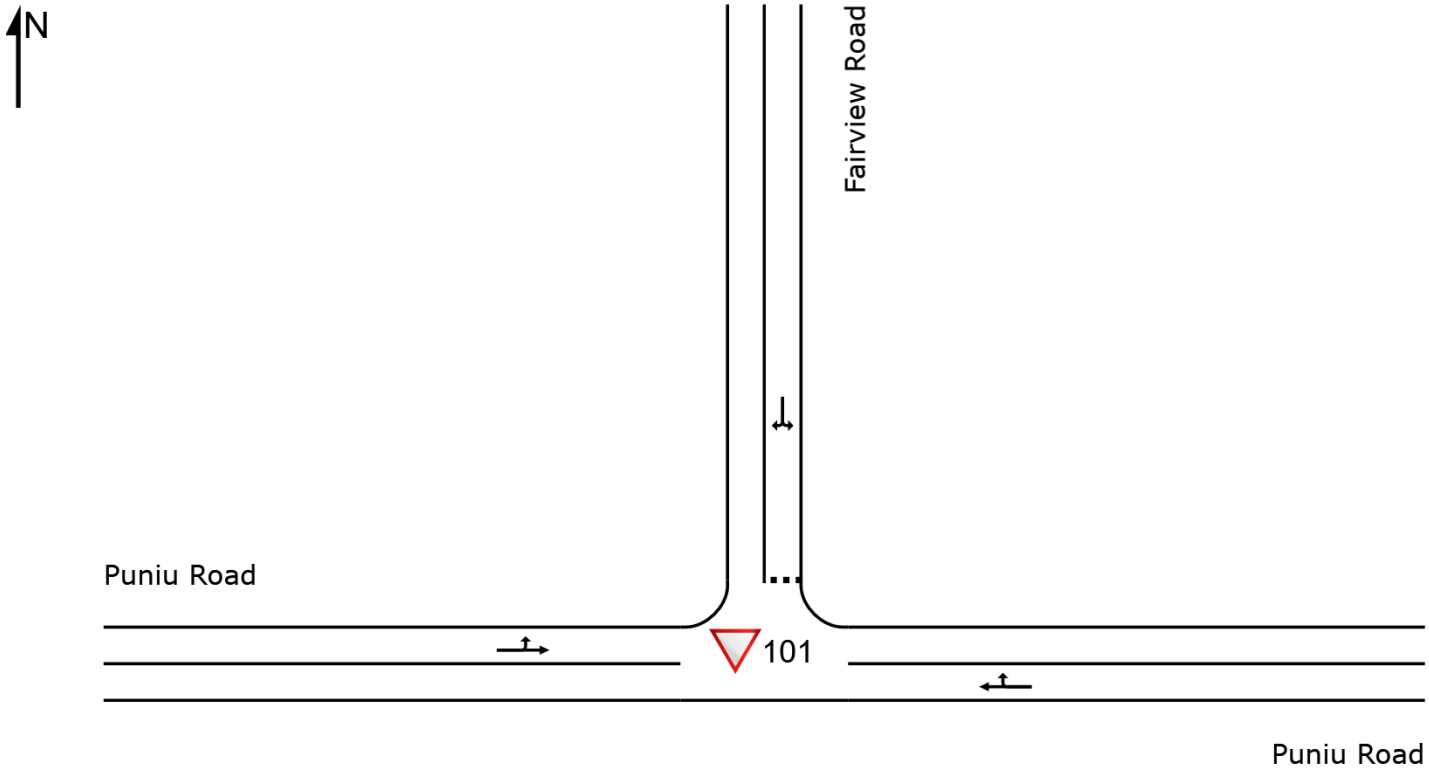
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Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Rewi Str connnections)]

New Site
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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MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	261	10.0	275	10.0	0.215	0.7	LOS A	0.7	5.6	0.27	0.14	0.27	48.6
6	R2	71	5.0	75	5.0	0.215	6.7	LOS A	0.7	5.6	0.27	0.14	0.27	47.6
Approach		332	8.9	349	8.9	0.215	2.0	NA	0.7	5.6	0.27	0.14	0.27	48.4
North: Fairview Road														
7	L2	38	5.0	40	5.0	0.158	5.7	LOS A	0.6	4.0	0.48	0.71	0.48	44.7
9	R2	71	5.0	75	5.0	0.158	8.8	LOS A	0.6	4.0	0.48	0.71	0.48	44.4
Approach		109	5.0	115	5.0	0.158	7.8	LOS A	0.6	4.0	0.48	0.71	0.48	44.5
West: Puniu Road														
10	L2	114	5.0	120	5.0	0.222	4.7	LOS A	0.0	0.0	0.00	0.16	0.00	48.4
11	T1	274	10.0	288	10.0	0.222	0.1	LOS A	0.0	0.0	0.00	0.16	0.00	49.0
Approach		388	8.5	408	8.5	0.222	1.4	NA	0.0	0.0	0.00	0.16	0.00	48.8
All Vehicles		829	8.2	873	8.2	0.222	2.5	NA	0.7	5.6	0.17	0.22	0.17	48.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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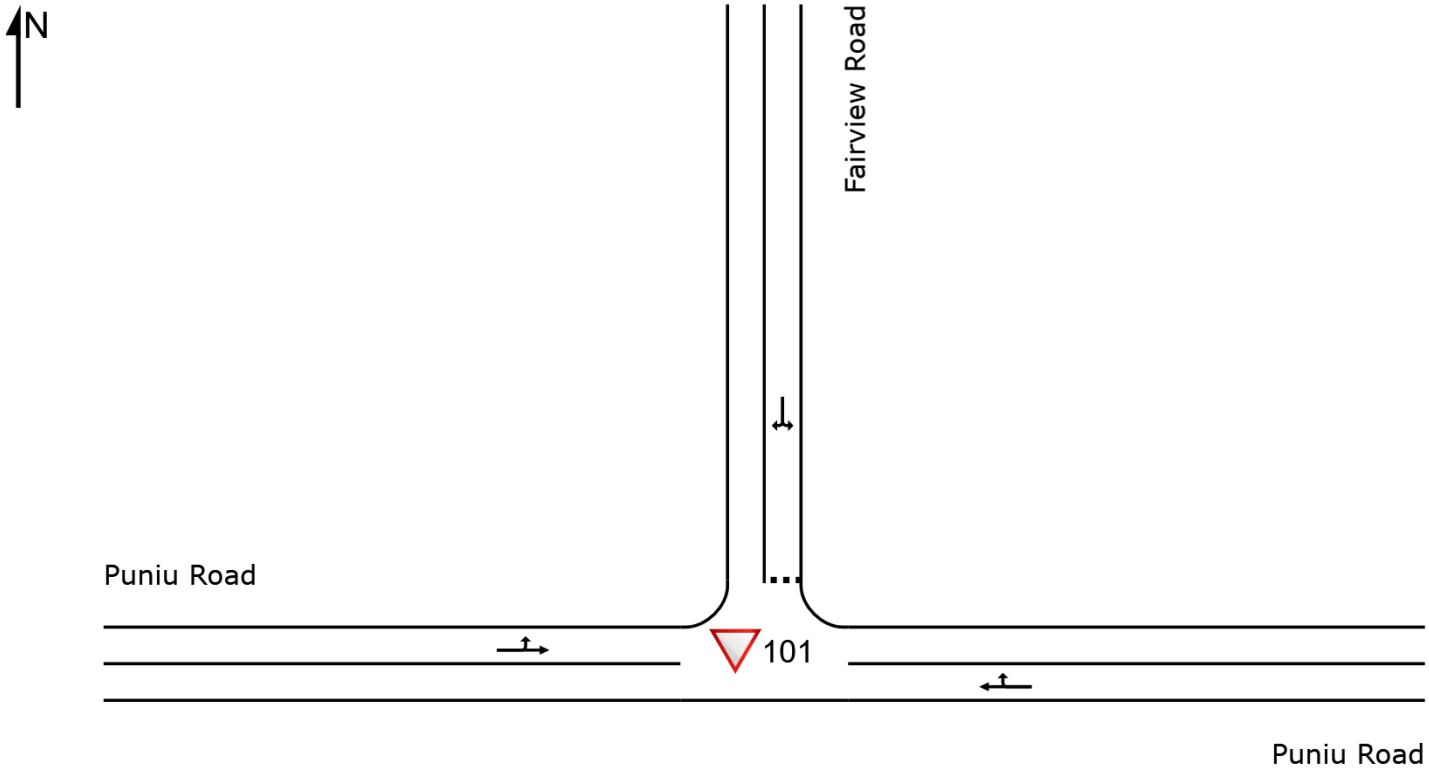
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

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



Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	121	10.0	127	10.0	0.111	0.7	LOS A	0.4	3.1	0.28	0.18	0.28	48.3
6	R2	48	5.0	51	5.0	0.111	6.1	LOS A	0.4	3.1	0.28	0.18	0.28	47.4
Approach		169	8.6	178	8.6	0.111	2.2	NA	0.4	3.1	0.28	0.18	0.28	48.1
North: Fairview Road														
7	L2	52	5.0	55	5.0	0.124	5.7	LOS A	0.4	3.2	0.41	0.65	0.41	45.5
9	R2	57	5.0	60	5.0	0.124	7.2	LOS A	0.4	3.2	0.41	0.65	0.41	45.1
Approach		109	5.0	115	5.0	0.124	6.5	LOS A	0.4	3.2	0.41	0.65	0.41	45.3
West: Puniu Road														
10	L2	80	5.0	84	5.0	0.194	4.7	LOS A	0.0	0.0	0.00	0.13	0.00	48.6
11	T1	259	10.0	273	10.0	0.194	0.1	LOS A	0.0	0.0	0.00	0.13	0.00	49.2
Approach		339	8.8	357	8.8	0.194	1.1	NA	0.0	0.0	0.00	0.13	0.00	49.0
All Vehicles		617	8.1	649	8.1	0.194	2.4	NA	0.4	3.2	0.15	0.23	0.15	48.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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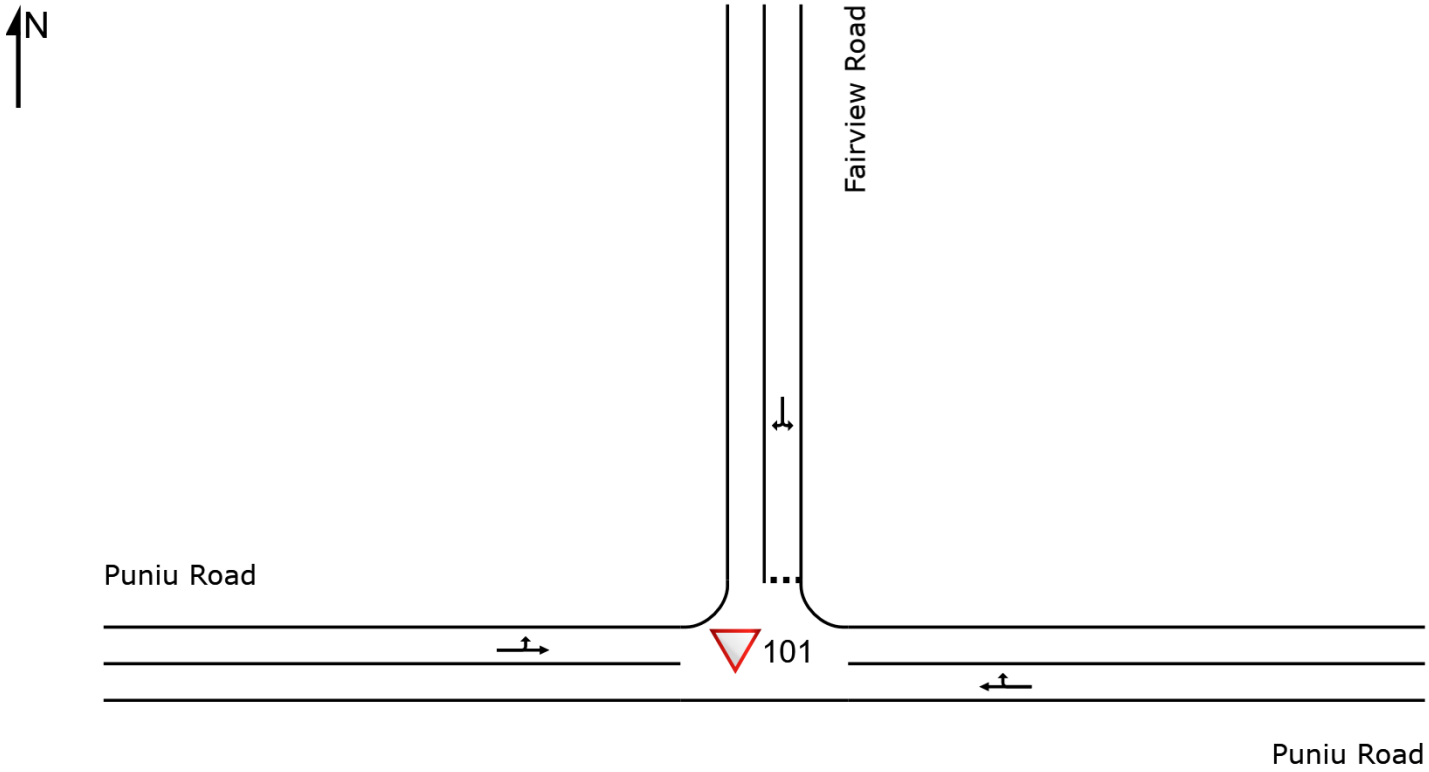
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101 [Puniu Road / Fairview Road_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

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



Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101 [Puniu Road / Fairview Road_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Puniu Road / Fairview Road Intersection with Puniu Rd & Rewi Str connnections)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	267	10.0	281	10.0	0.218	0.7	LOS A	0.8	5.7	0.27	0.14	0.27	48.6
6	R2	71	5.0	75	5.0	0.218	6.7	LOS A	0.8	5.7	0.27	0.14	0.27	47.6
Approach		338	8.9	356	8.9	0.218	2.0	NA	0.8	5.7	0.27	0.14	0.27	48.4
North: Fairview Road														
7	L2	38	5.0	40	5.0	0.160	5.8	LOS A	0.6	4.1	0.48	0.72	0.48	44.7
9	R2	71	5.0	75	5.0	0.160	8.9	LOS A	0.6	4.1	0.48	0.72	0.48	44.4
Approach		109	5.0	115	5.0	0.160	7.8	LOS A	0.6	4.1	0.48	0.72	0.48	44.5
West: Puniu Road														
10	L2	114	5.0	120	5.0	0.224	4.7	LOS A	0.0	0.0	0.00	0.16	0.00	48.4
11	T1	278	10.0	293	10.0	0.224	0.1	LOS A	0.0	0.0	0.00	0.16	0.00	49.0
Approach		392	8.5	413	8.5	0.224	1.4	NA	0.0	0.0	0.00	0.16	0.00	48.8
All Vehicles		839	8.2	883	8.2	0.224	2.5	NA	0.8	5.7	0.17	0.22	0.17	48.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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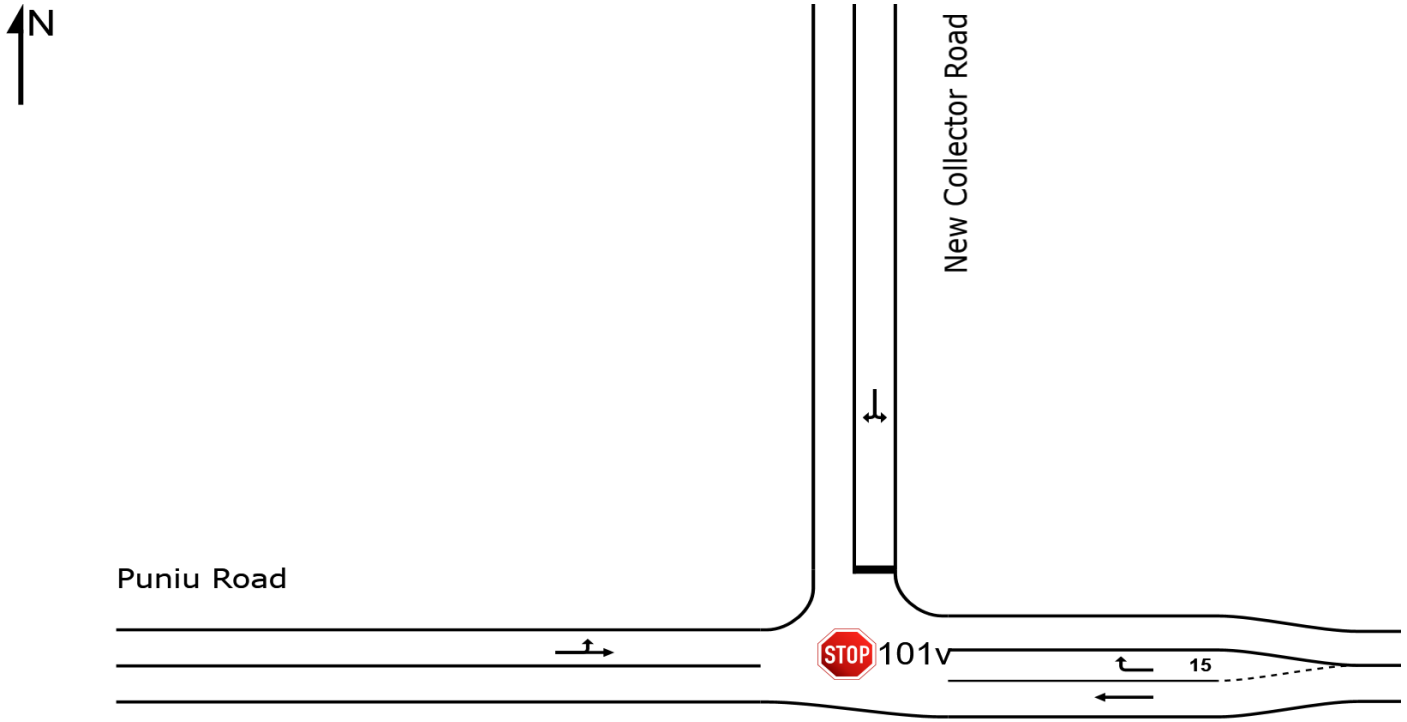
Document Set ID: 11324600
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SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 2 (70 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road connection only)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 2 (70 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road connection only)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	154	10.0	162	10.0	0.088	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
6	R2	14	5.0	15	5.0	0.012	5.7	LOS A	0.0	0.4	0.40	0.56	0.40	45.3
Approach		168	9.6	177	9.6	0.088	0.5	NA	0.0	0.4	0.03	0.05	0.03	49.5
North: New Collector Road														
7	L2	41	5.0	43	5.0	0.060	9.2	LOS A	0.2	1.7	0.44	0.89	0.44	44.3
9	R2	8	5.0	8	5.0	0.060	12.0	LOS B	0.2	1.7	0.44	0.89	0.44	44.0
Approach		49	5.0	52	5.0	0.060	9.6	LOS A	0.2	1.7	0.44	0.89	0.44	44.2
West: Puniu Road														
10	L2	3	5.0	3	5.0	0.174	4.7	LOS A	0.0	0.0	0.00	0.01	0.00	49.3
11	T1	303	10.0	319	10.0	0.174	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	49.9
Approach		306	10.0	322	10.0	0.174	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.9
All Vehicles		523	9.4	551	9.4	0.174	1.1	NA	0.2	1.7	0.05	0.10	0.05	49.2

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

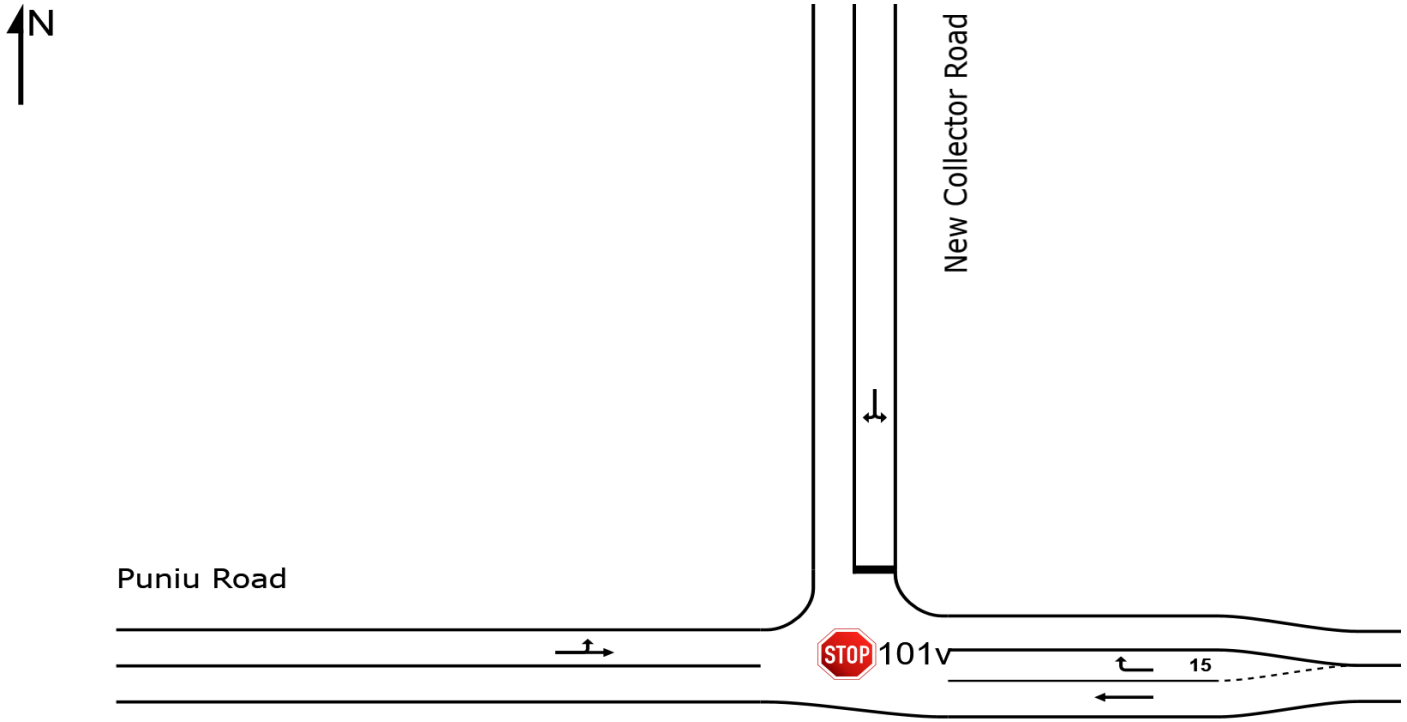
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SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 2 (70 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road connection only)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 2 (70 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road connection only)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	311	10.0	327	10.0	0.178	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
6	R2	34	5.0	36	5.0	0.030	6.0	LOS A	0.1	0.9	0.44	0.59	0.44	45.2
Approach		345	9.5	363	9.5	0.178	0.6	NA	0.1	0.9	0.04	0.06	0.04	49.4
North: New Collector Road														
7	L2	20	5.0	21	5.0	0.034	9.4	LOS A	0.1	0.9	0.48	0.88	0.48	43.9
9	R2	4	5.0	4	5.0	0.034	15.6	LOS C	0.1	0.9	0.48	0.88	0.48	43.6
Approach		24	5.0	25	5.0	0.034	10.4	LOS B	0.1	0.9	0.48	0.88	0.48	43.9
West: Puniu Road														
10	L2	6	5.0	6	5.0	0.198	4.7	LOS A	0.0	0.0	0.00	0.01	0.00	49.3
11	T1	342	10.0	360	10.0	0.198	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	49.9
Approach		348	9.9	366	9.9	0.198	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.8
All Vehicles		717	9.6	755	9.6	0.198	0.7	NA	0.1	0.9	0.04	0.06	0.04	49.4

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
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Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

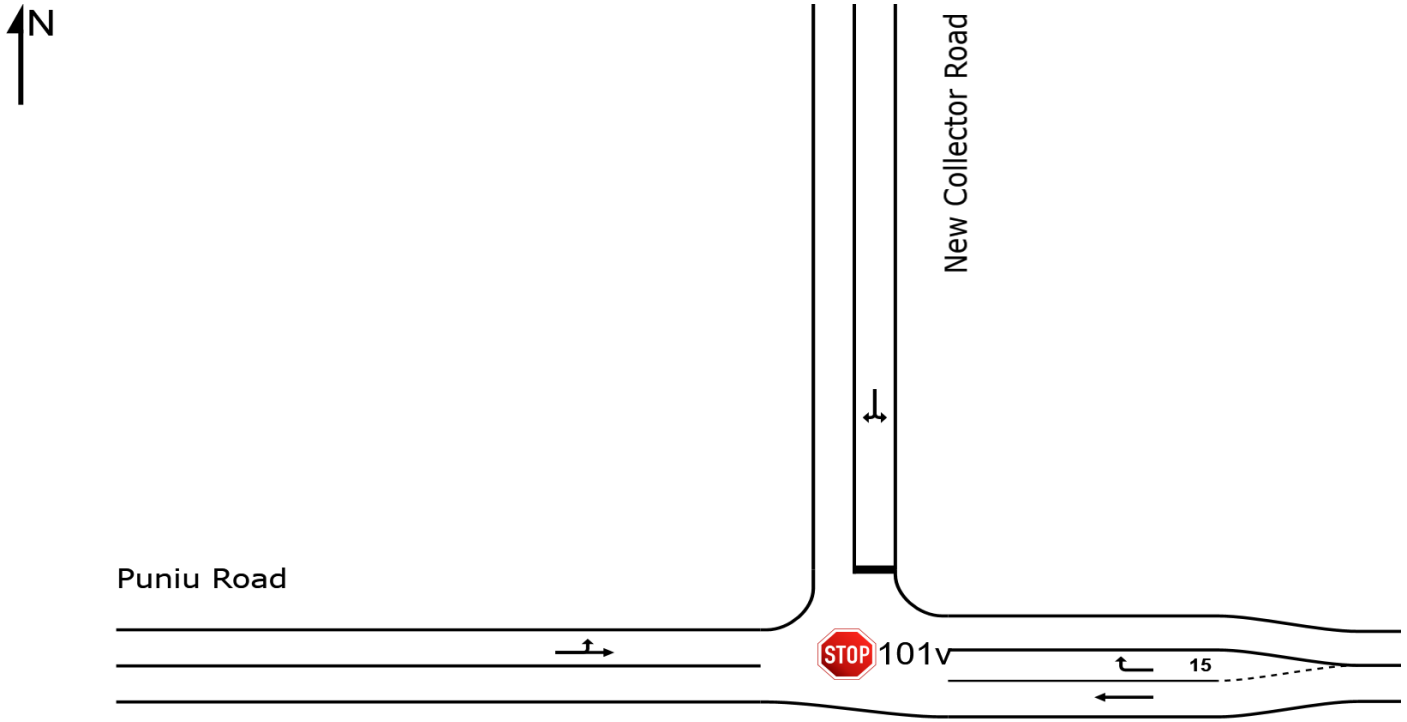
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SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 2 (150 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road connection only)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 2 (150 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road connection only)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	154	10.0	162	10.0	0.088	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
6	R2	29	5.0	31	5.0	0.024	5.8	LOS A	0.1	0.8	0.41	0.57	0.41	45.3
Approach		183	9.2	193	9.2	0.088	0.9	NA	0.1	0.8	0.06	0.09	0.06	49.2
North: New Collector Road														
7	L2	87	5.0	92	5.0	0.126	9.3	LOS A	0.5	3.6	0.46	0.91	0.46	44.2
9	R2	16	5.0	17	5.0	0.126	12.6	LOS B	0.5	3.6	0.46	0.91	0.46	43.9
Approach		103	5.0	108	5.0	0.126	9.8	LOS A	0.5	3.6	0.46	0.91	0.46	44.2
West: Puniu Road														
10	L2	6	5.0	6	5.0	0.176	4.7	LOS A	0.0	0.0	0.00	0.01	0.00	49.3
11	T1	303	10.0	319	10.0	0.176	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	49.9
Approach		309	9.9	325	9.9	0.176	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.9
All Vehicles		595	8.8	626	8.8	0.176	2.1	NA	0.5	3.6	0.10	0.19	0.10	48.6

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

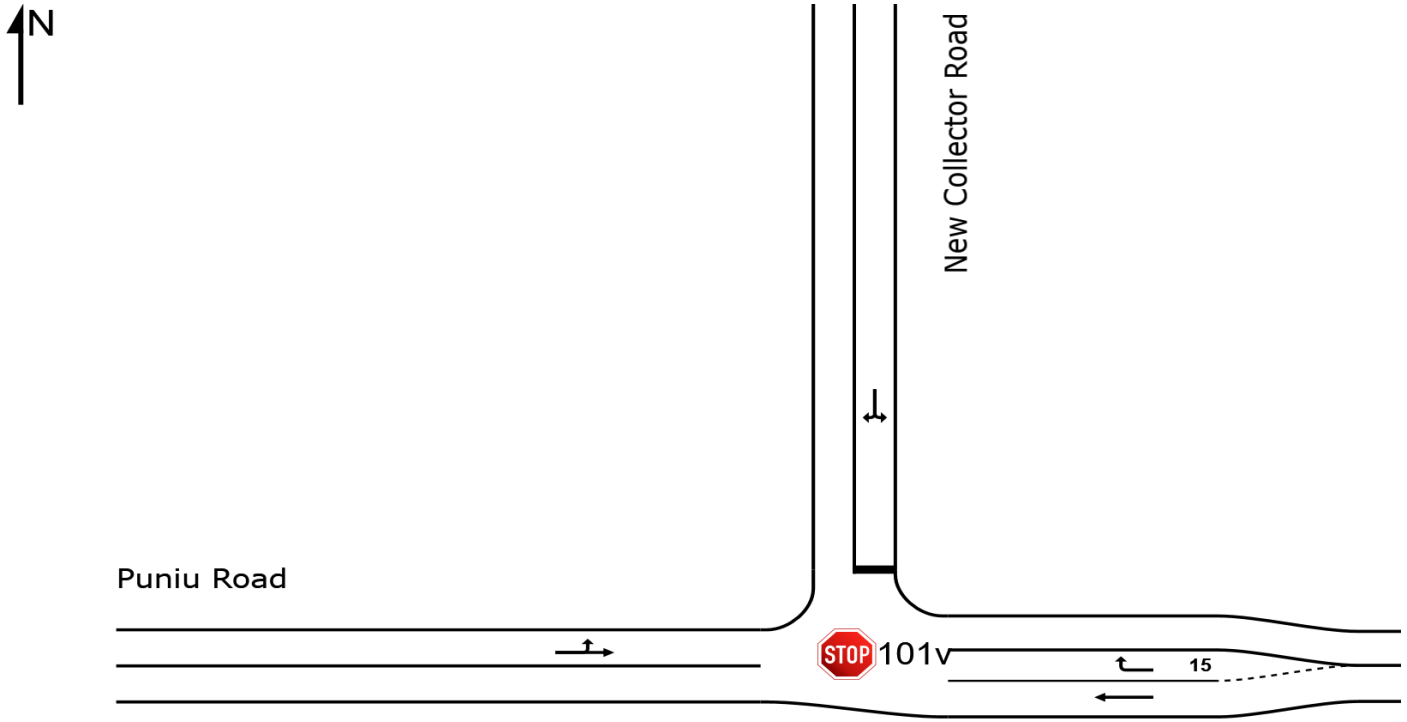
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SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 2 (150 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road connection only)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 2 (150 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road connection only)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	311	10.0	327	10.0	0.178	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
6	R2	73	5.0	77	5.0	0.065	6.1	LOS A	0.3	2.0	0.45	0.62	0.45	45.2
Approach		384	9.0	404	9.0	0.178	1.2	NA	0.3	2.0	0.09	0.12	0.09	49.0
North: New Collector Road														
7	L2	43	5.0	45	5.0	0.074	9.5	LOS A	0.3	2.0	0.49	0.90	0.49	43.8
9	R2	8	5.0	8	5.0	0.074	16.9	LOS C	0.3	2.0	0.49	0.90	0.49	43.5
Approach		51	5.0	54	5.0	0.074	10.6	LOS B	0.3	2.0	0.49	0.90	0.49	43.8
West: Puniu Road														
10	L2	13	5.0	14	5.0	0.202	4.7	LOS A	0.0	0.0	0.00	0.02	0.00	49.2
11	T1	342	10.0	360	10.0	0.202	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	49.8
Approach		355	9.8	374	9.8	0.202	0.2	NA	0.0	0.0	0.00	0.02	0.00	49.8
All Vehicles		790	9.1	832	9.1	0.202	1.4	NA	0.3	2.0	0.07	0.12	0.07	48.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

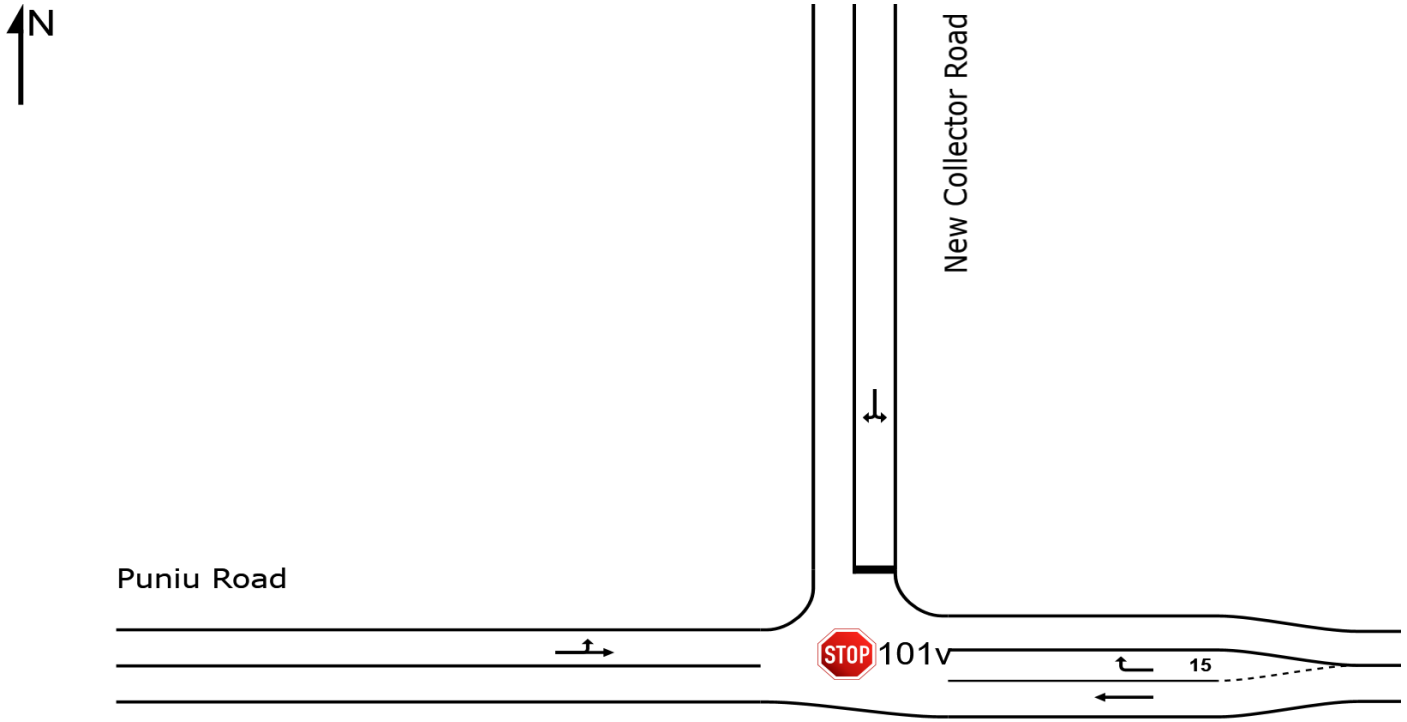
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SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 2 (216 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road connection only)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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Project: Z:\310205677\7_technical\SIDRA\2. collector road & puniu road_20230530.sip9

MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 2 (216 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road connection only)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	154	10.0	162	10.0	0.088	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
6	R2	42	5.0	44	5.0	0.035	5.8	LOS A	0.2	1.1	0.41	0.58	0.41	45.3
Approach		196	8.9	206	8.9	0.088	1.3	NA	0.2	1.1	0.09	0.13	0.09	48.9
North: New Collector Road														
7	L2	124	5.0	131	5.0	0.179	9.4	LOS A	0.7	5.3	0.47	0.92	0.47	44.2
9	R2	22	5.0	23	5.0	0.179	13.1	LOS B	0.7	5.3	0.47	0.92	0.47	43.8
Approach		146	5.0	154	5.0	0.179	9.9	LOS A	0.7	5.3	0.47	0.92	0.47	44.1
West: Puniu Road														
10	L2	8	5.0	8	5.0	0.177	4.7	LOS A	0.0	0.0	0.00	0.01	0.00	49.3
11	T1	303	10.0	319	10.0	0.177	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	49.8
Approach		311	9.9	327	9.9	0.177	0.2	NA	0.0	0.0	0.00	0.01	0.00	49.8
All Vehicles		653	8.5	687	8.5	0.179	2.7	NA	0.7	5.3	0.13	0.25	0.13	48.2

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

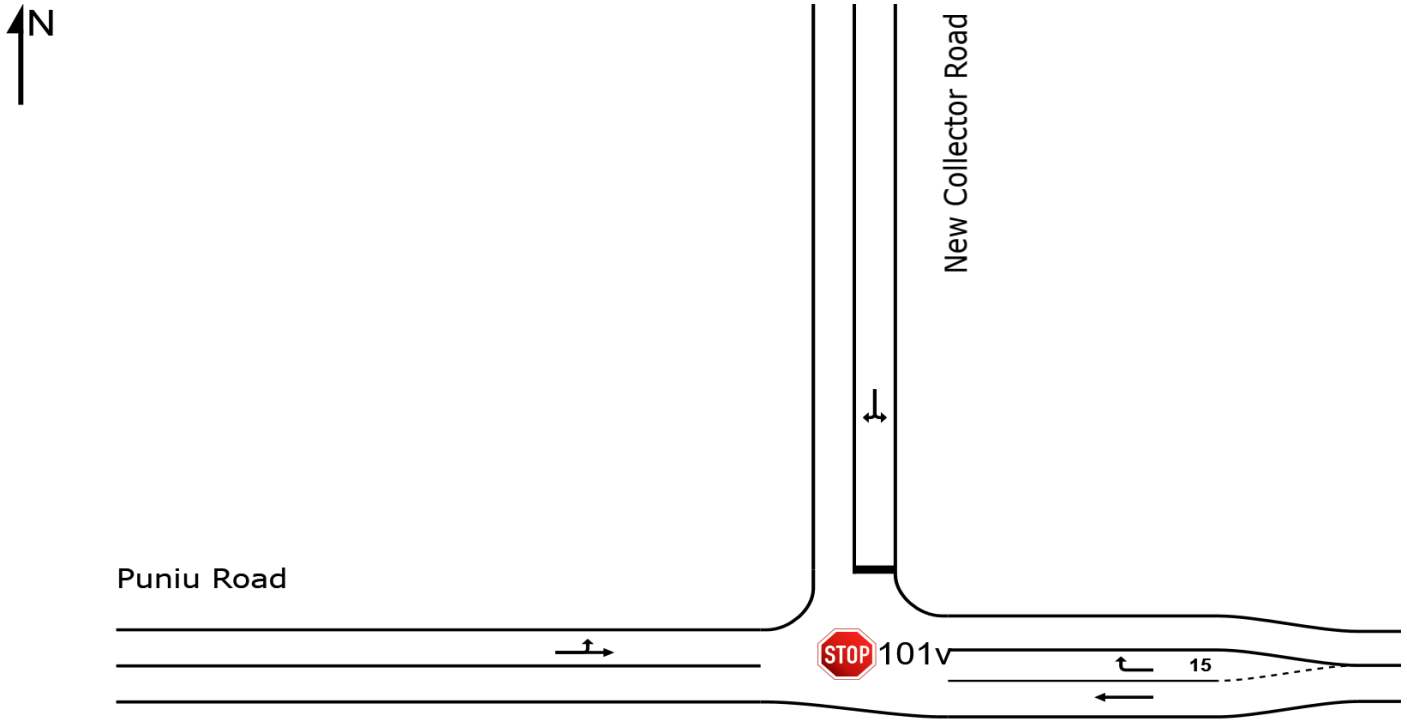
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SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 2 (216 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road connection only)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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Organisation: STANTEC NEW ZEALAND | Licence: NETWORK / Enterprise | Created: Wednesday, 31 May 2023 8:40:30 pm
Project: Z:\310205677\7_technical\SIDRA\2. collector road & puniu road_20230530.sip9

MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 2 (216 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road connection only)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	311	10.0	327	10.0	0.178	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
6	R2	105	5.0	111	5.0	0.094	6.2	LOS A	0.4	3.0	0.46	0.64	0.46	45.2
Approach		416	8.7	438	8.7	0.178	1.6	NA	0.4	3.0	0.12	0.16	0.12	48.6
North: New Collector Road														
7	L2	62	5.0	65	5.0	0.107	9.5	LOS A	0.4	2.9	0.50	0.91	0.50	43.8
9	R2	11	5.0	12	5.0	0.107	18.0	LOS C	0.4	2.9	0.50	0.91	0.50	43.4
Approach		73	5.0	77	5.0	0.107	10.8	LOS B	0.4	2.9	0.50	0.91	0.50	43.7
West: Puniu Road														
10	L2	19	5.0	20	5.0	0.206	4.7	LOS A	0.0	0.0	0.00	0.03	0.00	49.2
11	T1	342	10.0	360	10.0	0.206	0.1	LOS A	0.0	0.0	0.00	0.03	0.00	49.7
Approach		361	9.7	380	9.7	0.206	0.3	NA	0.0	0.0	0.00	0.03	0.00	49.7
All Vehicles		850	8.8	895	8.8	0.206	1.8	NA	0.4	3.0	0.10	0.17	0.10	48.6

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

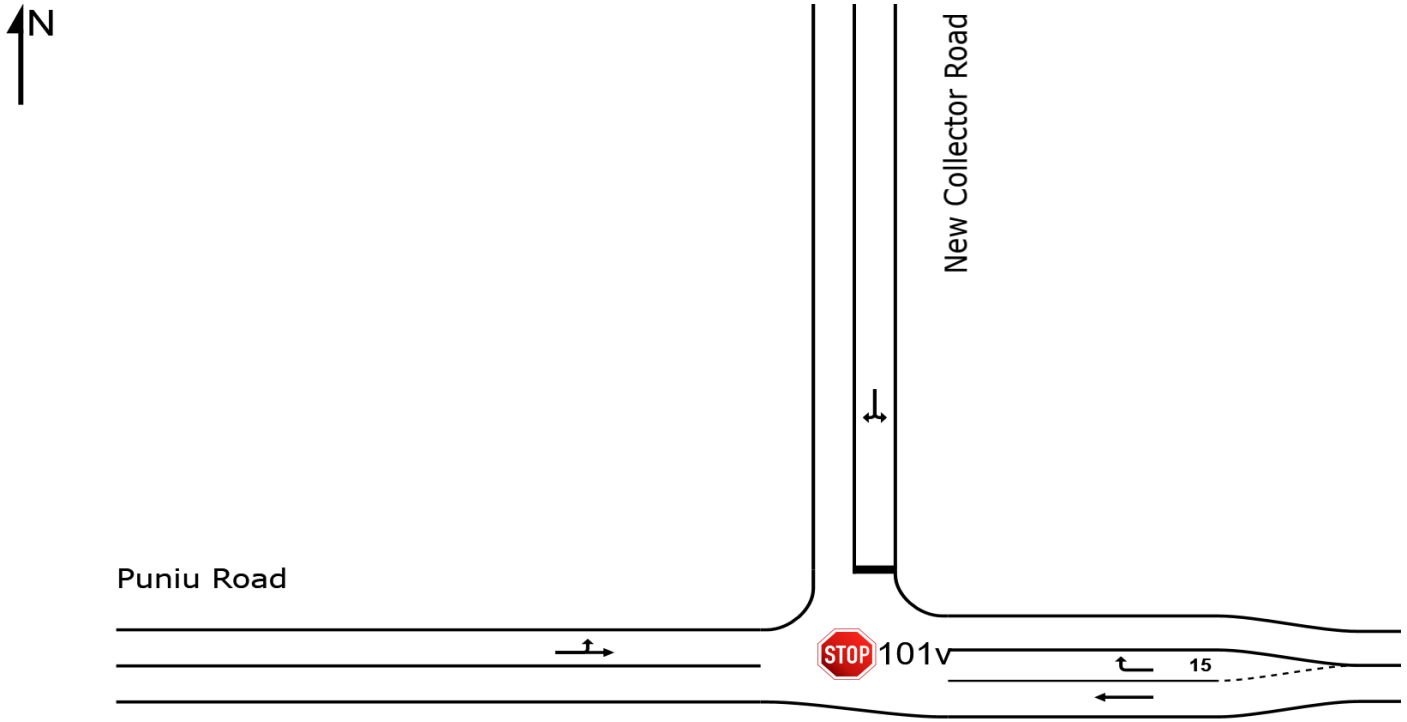
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SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 2 (70 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road connection only)]

New Site
Site Category: (None)
Stop (Two-Way)

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Project: Z:\310205677\7_technical\SIDRA\2. collector road & puniu road_20230530.sip9

MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 2 (70 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road connection only)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	169	10.0	178	10.0	0.097	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
6	R2	14	5.0	15	5.0	0.012	5.8	LOS A	0.0	0.4	0.41	0.56	0.41	45.3
Approach		183	9.6	193	9.6	0.097	0.5	NA	0.0	0.4	0.03	0.04	0.03	49.6
North: New Collector Road														
7	L2	41	5.0	43	5.0	0.062	9.3	LOS A	0.2	1.7	0.45	0.89	0.45	44.2
9	R2	8	5.0	8	5.0	0.062	12.5	LOS B	0.2	1.7	0.45	0.89	0.45	43.9
Approach		49	5.0	52	5.0	0.062	9.8	LOS A	0.2	1.7	0.45	0.89	0.45	44.2
West: Puniu Road														
10	L2	3	5.0	3	5.0	0.182	4.7	LOS A	0.0	0.0	0.00	0.01	0.00	49.3
11	T1	316	10.0	333	10.0	0.182	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	49.9
Approach		319	10.0	336	10.0	0.182	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.9
All Vehicles		551	9.4	580	9.4	0.182	1.1	NA	0.2	1.7	0.05	0.10	0.05	49.2

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

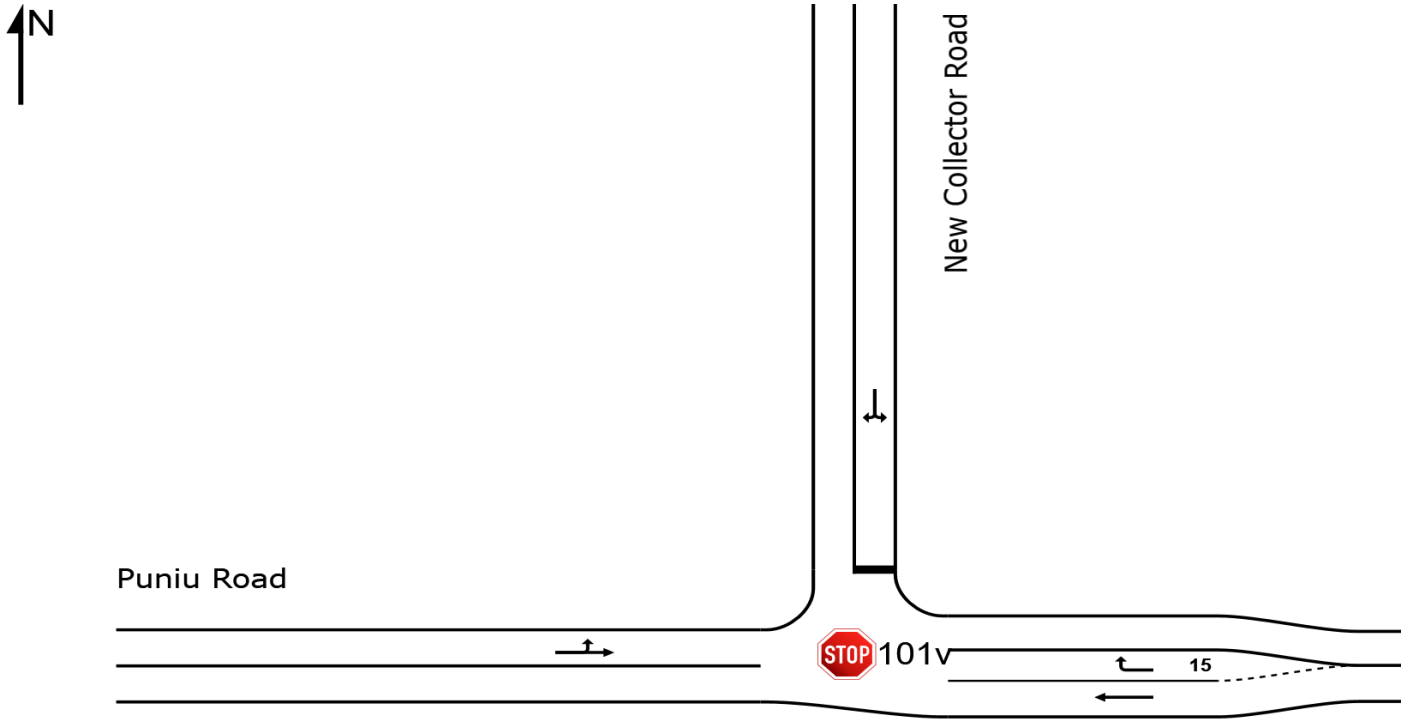
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SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 2 (70 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road connection only)]

New Site
Site Category: (None)
Stop (Two-Way)

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Project: Z:\310205677\7_technical\SIDRA\2. collector road & puniu road_20230530.sip9

MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 2 (70 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road connection only)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	318	10.0	335	10.0	0.182	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
6	R2	34	5.0	36	5.0	0.031	6.2	LOS A	0.1	1.0	0.46	0.61	0.46	45.2
Approach		352	9.5	371	9.5	0.182	0.7	NA	0.1	1.0	0.04	0.06	0.04	49.4
North: New Collector Road														
7	L2	20	5.0	21	5.0	0.037	9.7	LOS A	0.1	1.0	0.51	0.89	0.51	43.7
9	R2	4	5.0	4	5.0	0.037	16.7	LOS C	0.1	1.0	0.51	0.89	0.51	43.4
Approach		24	5.0	25	5.0	0.037	10.8	LOS B	0.1	1.0	0.51	0.89	0.51	43.7
West: Puniu Road														
10	L2	6	5.0	6	5.0	0.220	4.7	LOS A	0.0	0.0	0.00	0.01	0.00	49.3
11	T1	380	10.0	400	10.0	0.220	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	49.9
Approach		386	9.9	406	9.9	0.220	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.8
All Vehicles		762	9.6	802	9.6	0.220	0.7	NA	0.1	1.0	0.04	0.06	0.04	49.4

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

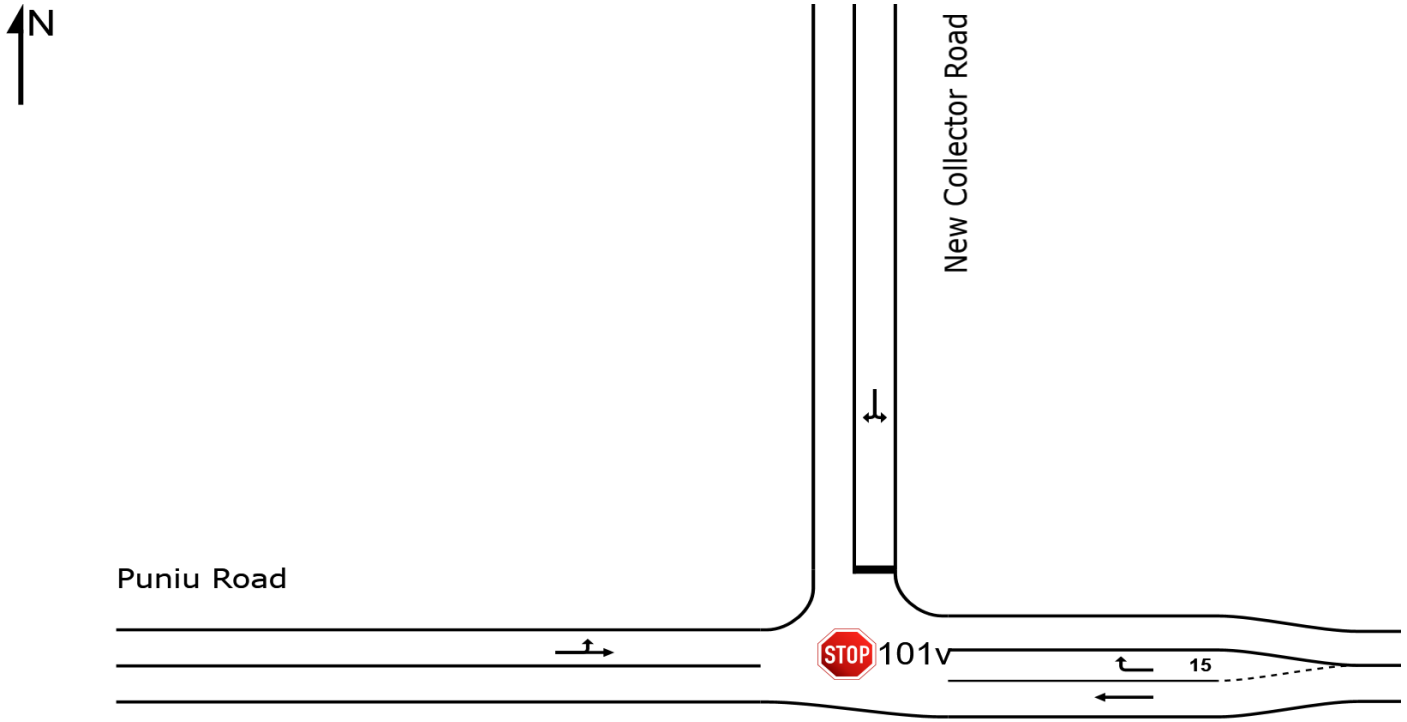
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SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 2 (150 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road connection only)]

New Site
Site Category: (None)
Stop (Two-Way)

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Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 2 (150 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road connection only)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	169	10.0	178	10.0	0.097	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
6	R2	29	5.0	31	5.0	0.025	5.9	LOS A	0.1	0.8	0.42	0.58	0.42	45.3
Approach		198	9.3	208	9.3	0.097	0.9	NA	0.1	0.8	0.06	0.08	0.06	49.2
North: New Collector Road														
7	L2	87	5.0	92	5.0	0.130	9.4	LOS A	0.5	3.7	0.47	0.92	0.47	44.2
9	R2	16	5.0	17	5.0	0.130	13.1	LOS B	0.5	3.7	0.47	0.92	0.47	43.8
Approach		103	5.0	108	5.0	0.130	10.0	LOS A	0.5	3.7	0.47	0.92	0.47	44.1
West: Puniu Road														
10	L2	6	5.0	6	5.0	0.183	4.7	LOS A	0.0	0.0	0.00	0.01	0.00	49.3
11	T1	316	10.0	333	10.0	0.183	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	49.9
Approach		322	9.9	339	9.9	0.183	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.9
All Vehicles		623	8.9	656	8.9	0.183	2.0	NA	0.5	3.7	0.10	0.18	0.10	48.6

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

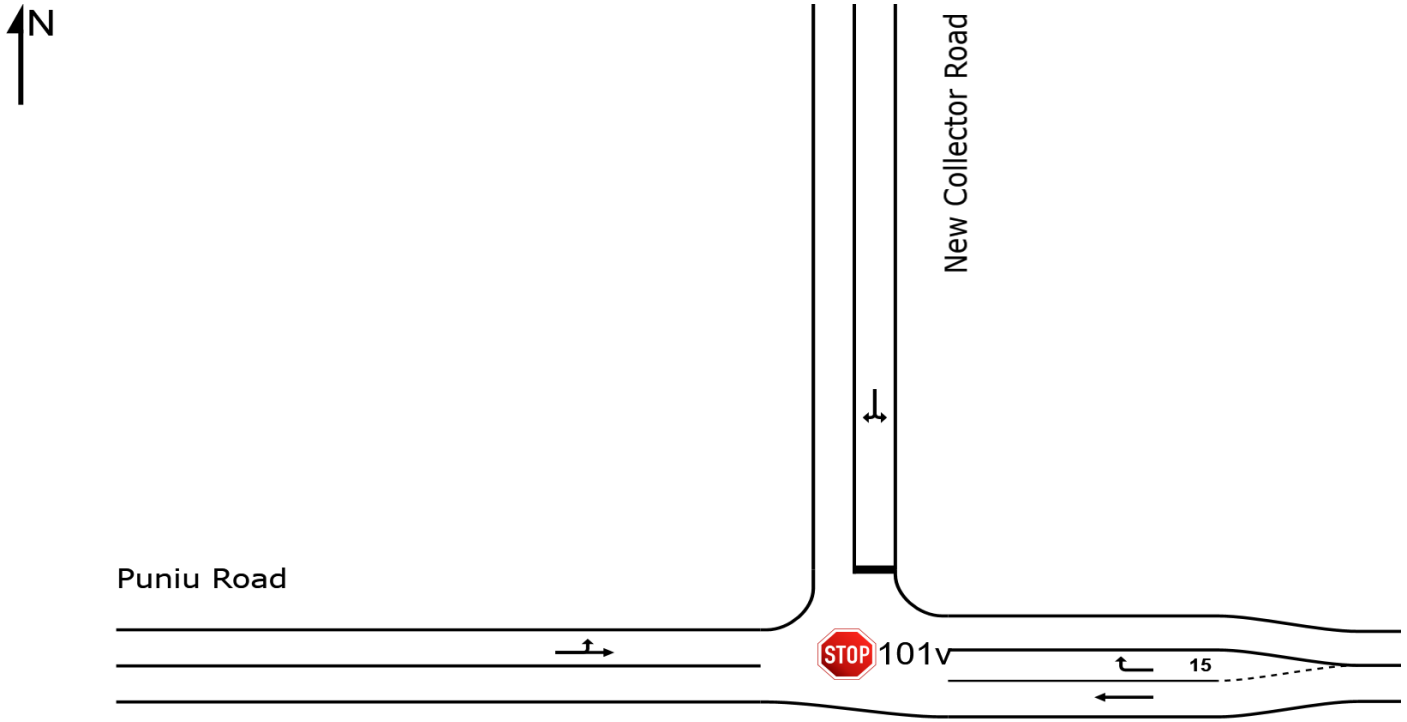
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SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 2 (150 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road connection only)]

New Site
Site Category: (None)
Stop (Two-Way)

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



Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 2 (150 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road connection only)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	318	10.0	335	10.0	0.182	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
6	R2	73	5.0	77	5.0	0.068	6.3	LOS A	0.3	2.1	0.48	0.64	0.48	45.1
Approach		391	9.1	412	9.1	0.182	1.2	NA	0.3	2.1	0.09	0.12	0.09	49.0
North: New Collector Road														
7	L2	43	5.0	45	5.0	0.079	9.7	LOS A	0.3	2.1	0.52	0.91	0.52	43.6
9	R2	8	5.0	8	5.0	0.079	18.1	LOS C	0.3	2.1	0.52	0.91	0.52	43.3
Approach		51	5.0	54	5.0	0.079	11.1	LOS B	0.3	2.1	0.52	0.91	0.52	43.6
West: Puniu Road														
10	L2	13	5.0	14	5.0	0.224	4.7	LOS A	0.0	0.0	0.00	0.02	0.00	49.2
11	T1	380	10.0	400	10.0	0.224	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	49.8
Approach		393	9.8	414	9.8	0.224	0.2	NA	0.0	0.0	0.00	0.02	0.00	49.8
All Vehicles		835	9.2	879	9.2	0.224	1.4	NA	0.3	2.1	0.07	0.12	0.07	49.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

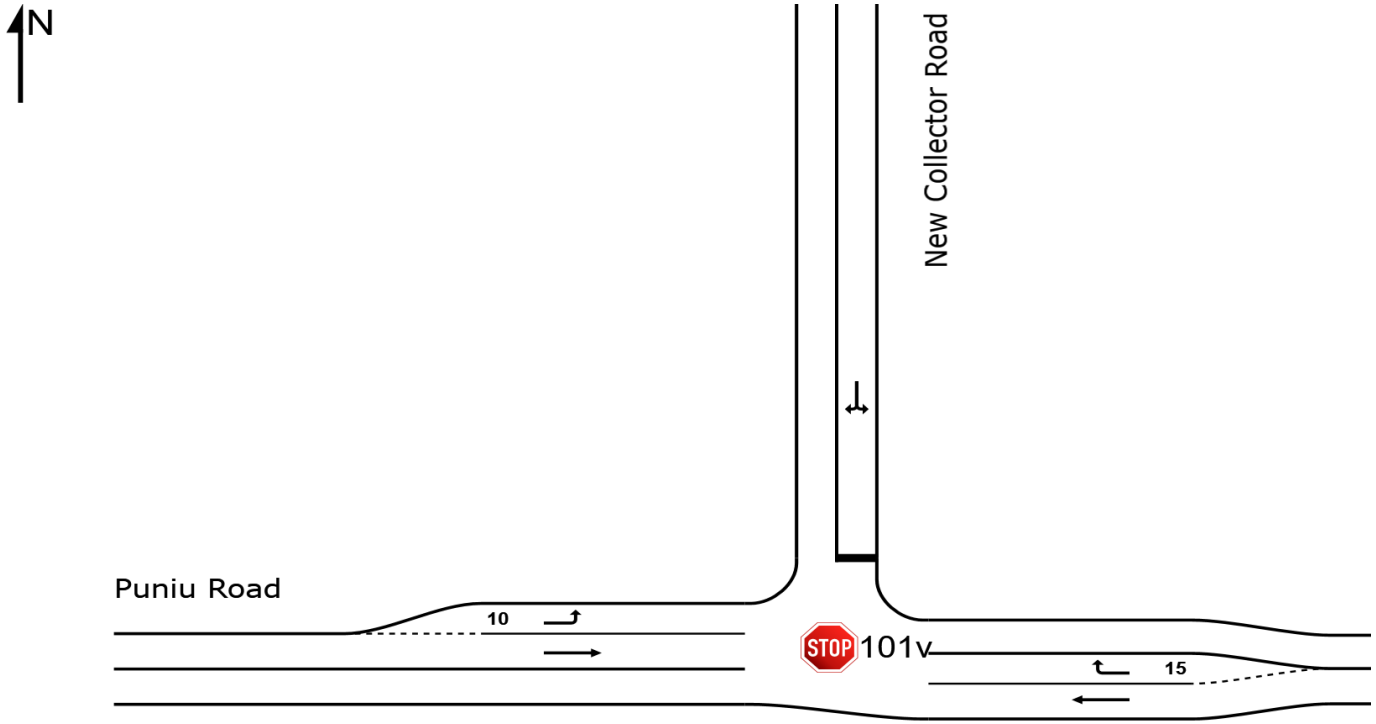
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SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 2 (216 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road connection only)]

New Site
Site Category: (None)
Stop (Two-Way)

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



Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 2 (216 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road connection only)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	169	10.0	178	10.0	0.097	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
6	R2	42	5.0	44	5.0	0.046	6.3	LOS A	0.2	1.3	0.42	0.62	0.42	45.2
Approach		211	9.0	222	9.0	0.097	1.3	NA	0.2	1.3	0.08	0.12	0.08	48.9
North: New Collector Road														
7	L2	124	5.0	131	5.0	0.225	10.0	LOS B	0.9	6.4	0.50	0.95	0.50	43.7
9	R2	22	5.0	23	5.0	0.225	15.5	LOS C	0.9	6.4	0.50	0.95	0.50	43.6
Approach		146	5.0	154	5.0	0.225	10.9	LOS B	0.9	6.4	0.50	0.95	0.50	43.7
West: Puniu Road														
10	L2	8	5.0	8	5.0	0.005	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
11	T1	316	10.0	333	10.0	0.180	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		324	9.9	341	9.9	0.180	0.2	NA	0.0	0.0	0.00	0.01	0.00	49.8
All Vehicles		681	8.6	717	8.6	0.225	2.8	NA	0.9	6.4	0.13	0.25	0.13	48.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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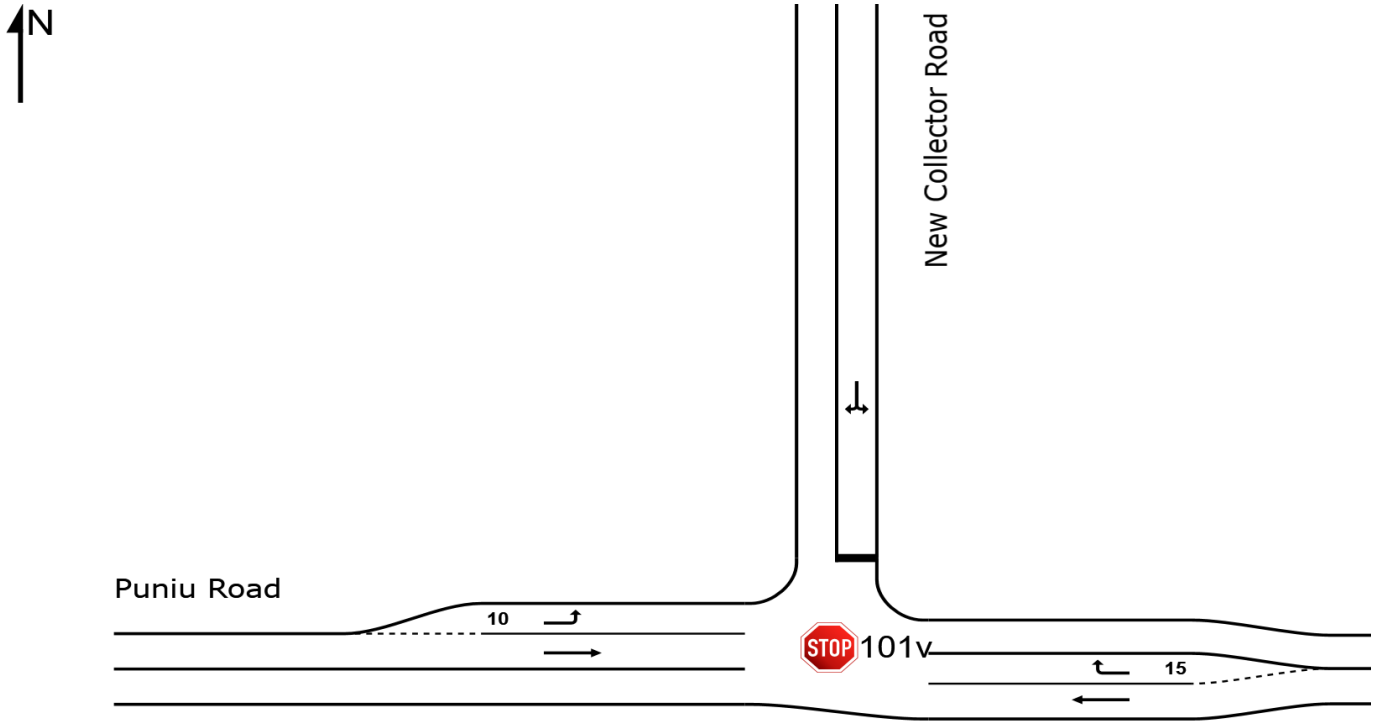
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 2 (216 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road connection only)]

New Site
Site Category: (None)
Stop (Two-Way)

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



Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 2 (216 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road connection only)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	318	10.0	335	10.0	0.183	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
6	R2	105	5.0	111	5.0	0.127	7.0	LOS A	0.5	3.7	0.49	0.70	0.49	44.8
Approach		423	8.8	445	8.8	0.183	1.8	NA	0.5	3.7	0.12	0.17	0.12	48.5
North: New Collector Road														
7	L2	62	5.0	65	5.0	0.142	10.5	LOS B	0.5	3.7	0.54	0.96	0.54	43.0
9	R2	11	5.0	12	5.0	0.142	23.0	LOS C	0.5	3.7	0.54	0.96	0.54	42.9
Approach		73	5.0	77	5.0	0.142	12.3	LOS B	0.5	3.7	0.54	0.96	0.54	43.0
West: Puniu Road														
10	L2	19	5.0	20	5.0	0.011	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
11	T1	380	10.0	400	10.0	0.216	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		399	9.8	420	9.8	0.216	0.3	NA	0.0	0.0	0.00	0.03	0.00	49.7
All Vehicles		895	8.9	942	8.9	0.216	2.0	NA	0.5	3.7	0.10	0.17	0.10	48.5

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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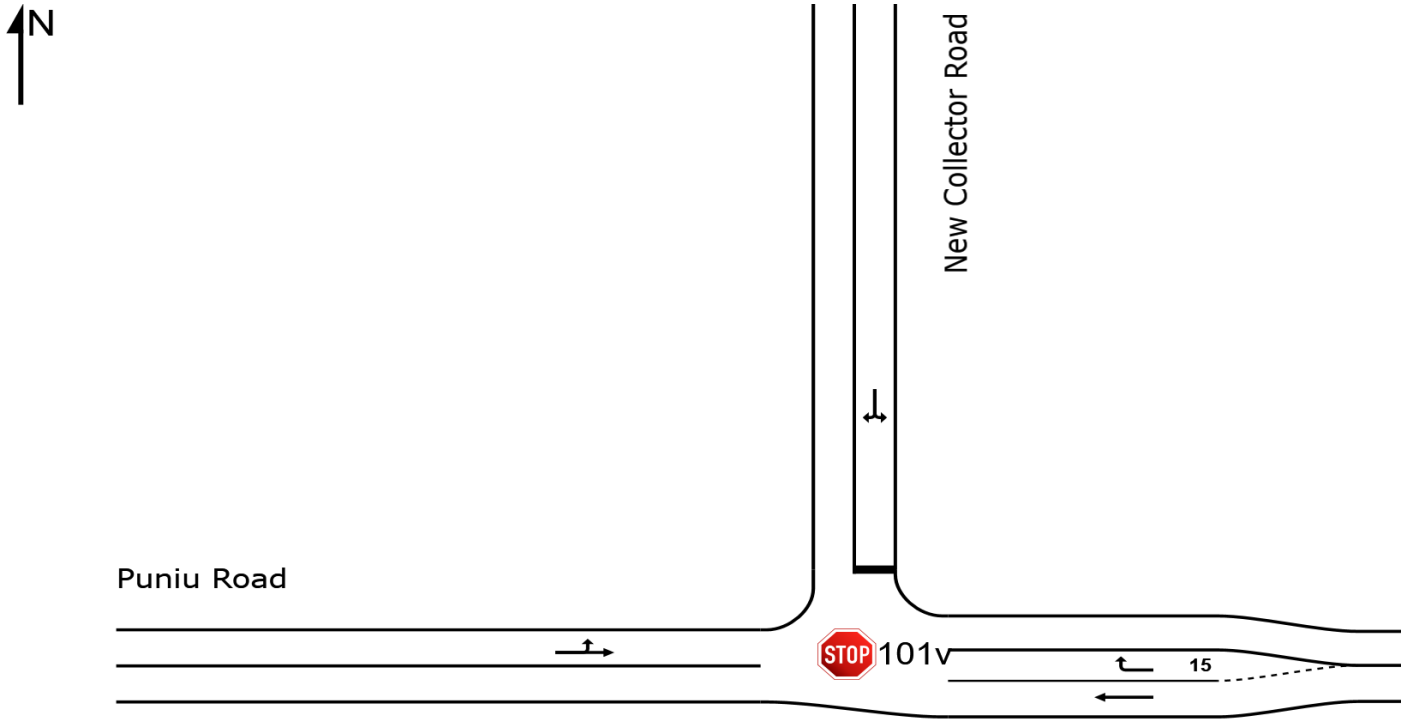
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SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 2 (150 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road and Wallace Terrace connections)]

New Site
Site Category: (None)
Stop (Two-Way)

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



Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 2 (150 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road and Wallace Terrace connections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	154	10.0	162	10.0	0.088	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
6	R2	4	5.0	4	5.0	0.003	5.7	LOS A	0.0	0.1	0.40	0.53	0.40	45.3
Approach		158	9.9	166	9.9	0.088	0.2	NA	0.0	0.1	0.01	0.01	0.01	49.8
North: New Collector Road														
7	L2	11	5.0	12	5.0	0.044	9.1	LOS A	0.2	1.2	0.50	0.90	0.50	43.8
9	R2	16	5.0	17	5.0	0.044	11.8	LOS B	0.2	1.2	0.50	0.90	0.50	43.4
Approach		27	5.0	28	5.0	0.044	10.7	LOS B	0.2	1.2	0.50	0.90	0.50	43.6
West: Puniu Road														
10	L2	6	5.0	6	5.0	0.176	4.7	LOS A	0.0	0.0	0.00	0.01	0.00	49.3
11	T1	303	10.0	319	10.0	0.176	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	49.9
Approach		309	9.9	325	9.9	0.176	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.9
All Vehicles		494	9.6	520	9.6	0.176	0.7	NA	0.2	1.2	0.03	0.06	0.03	49.5

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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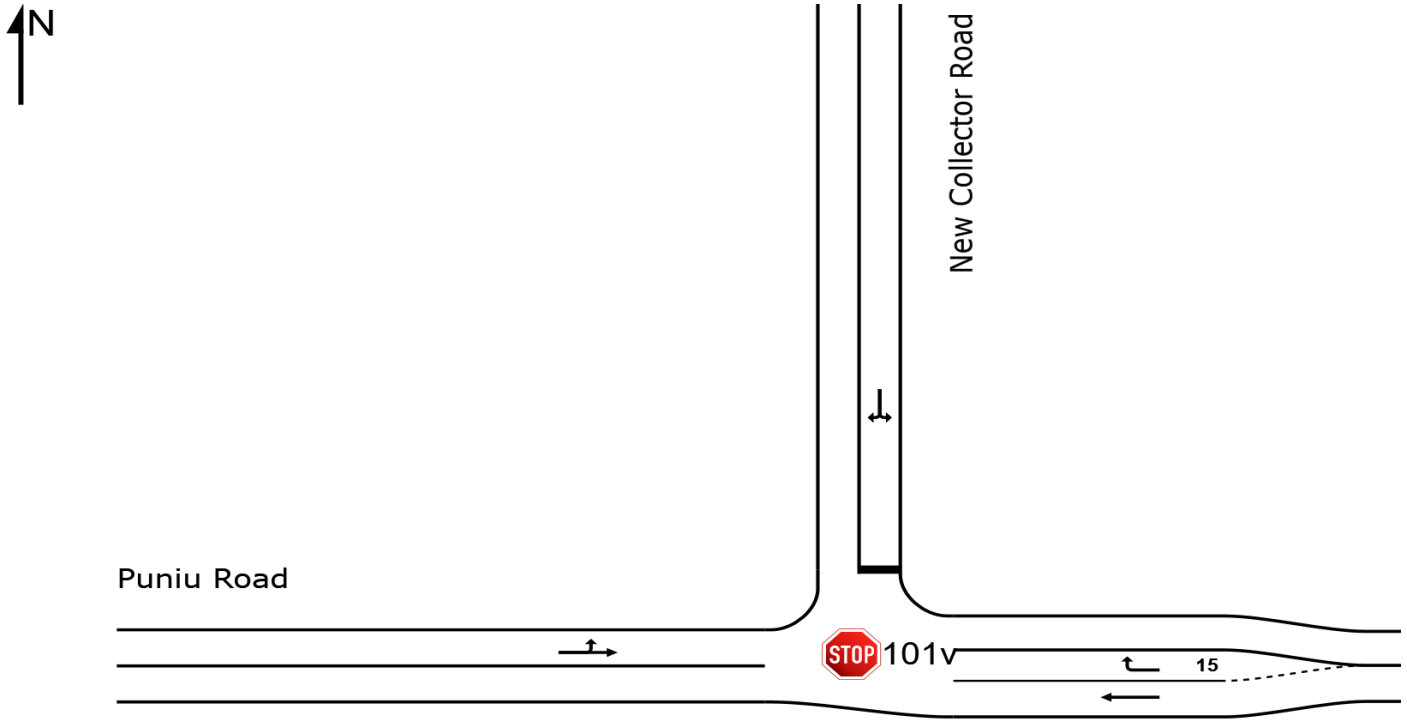
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SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 2 (150 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road and Wallace Terrace connections)]

New Site
Site Category: (None)
Stop (Two-Way)

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



Document Set ID: 11324600
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MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 2 (150 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road and Wallace Terrace connections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	311	10.0	327	10.0	0.178	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
6	R2	9	5.0	9	5.0	0.008	6.0	LOS A	0.0	0.2	0.44	0.56	0.44	45.2
Approach		320	9.9	337	9.9	0.178	0.2	NA	0.0	0.2	0.01	0.02	0.01	49.8
North: New Collector Road														
7	L2	5	5.0	5	5.0	0.028	9.4	LOS A	0.1	0.7	0.57	0.91	0.57	42.7
9	R2	8	5.0	8	5.0	0.028	15.1	LOS C	0.1	0.7	0.57	0.91	0.57	42.4
Approach		13	5.0	14	5.0	0.028	12.9	LOS B	0.1	0.7	0.57	0.91	0.57	42.5
West: Puniu Road														
10	L2	13	5.0	14	5.0	0.202	4.7	LOS A	0.0	0.0	0.00	0.02	0.00	49.2
11	T1	342	10.0	360	10.0	0.202	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	49.8
Approach		355	9.8	374	9.8	0.202	0.2	NA	0.0	0.0	0.00	0.02	0.00	49.8
All Vehicles		688	9.7	724	9.7	0.202	0.5	NA	0.1	0.7	0.02	0.03	0.02	49.6

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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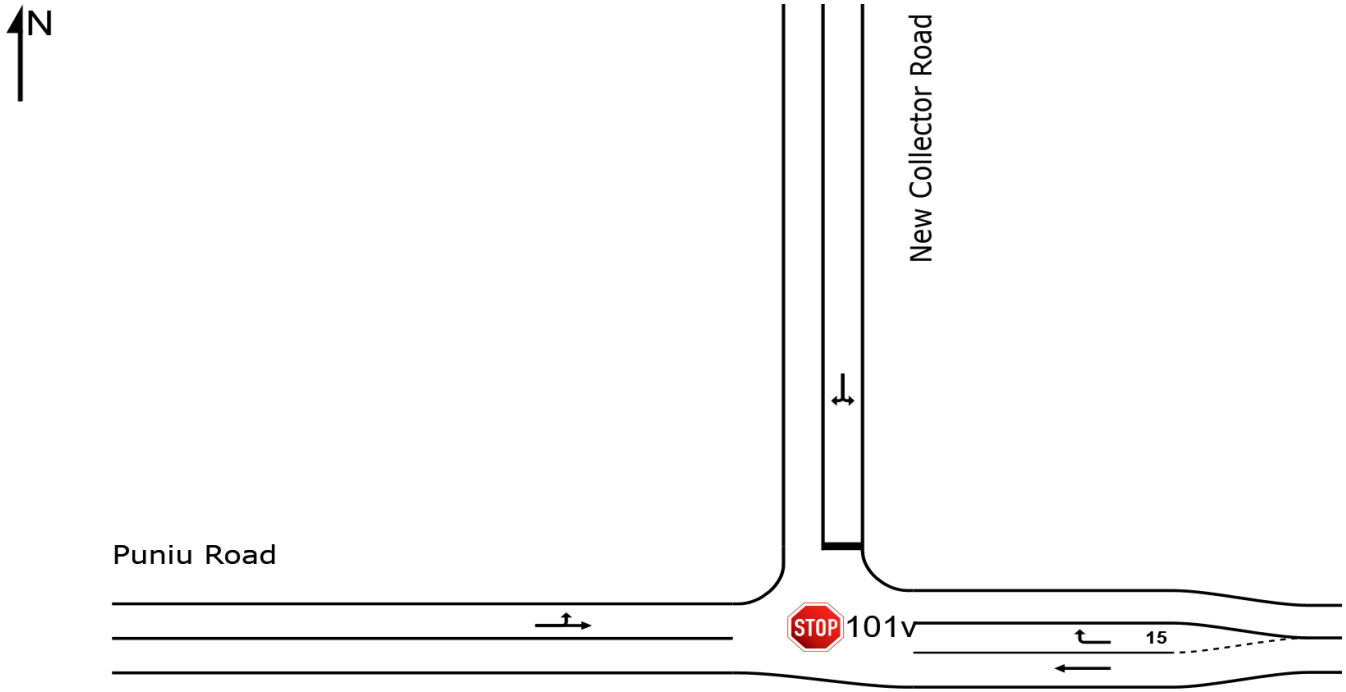
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SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road and Wallace Terrace connections)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road and Wallace Terrace connections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	154	10.0	162	10.0	0.088	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
6	R2	6	5.0	6	5.0	0.005	5.7	LOS A	0.0	0.2	0.41	0.54	0.41	45.3
Approach		160	9.8	168	9.8	0.088	0.2	NA	0.0	0.2	0.02	0.02	0.02	49.8
North: New Collector Road														
7	L2	16	5.0	17	5.0	0.065	9.2	LOS A	0.2	1.8	0.50	0.91	0.50	43.7
9	R2	24	5.0	25	5.0	0.065	11.9	LOS B	0.2	1.8	0.50	0.91	0.50	43.4
Approach		40	5.0	42	5.0	0.065	10.8	LOS B	0.2	1.8	0.50	0.91	0.50	43.5
West: Puniu Road														
10	L2	9	5.0	9	5.0	0.178	4.7	LOS A	0.0	0.0	0.00	0.02	0.00	49.3
11	T1	303	10.0	319	10.0	0.178	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	49.8
Approach		312	9.9	328	9.9	0.178	0.2	NA	0.0	0.0	0.00	0.02	0.00	49.8
All Vehicles		512	9.5	539	9.5	0.178	1.0	NA	0.2	1.8	0.04	0.09	0.04	49.2

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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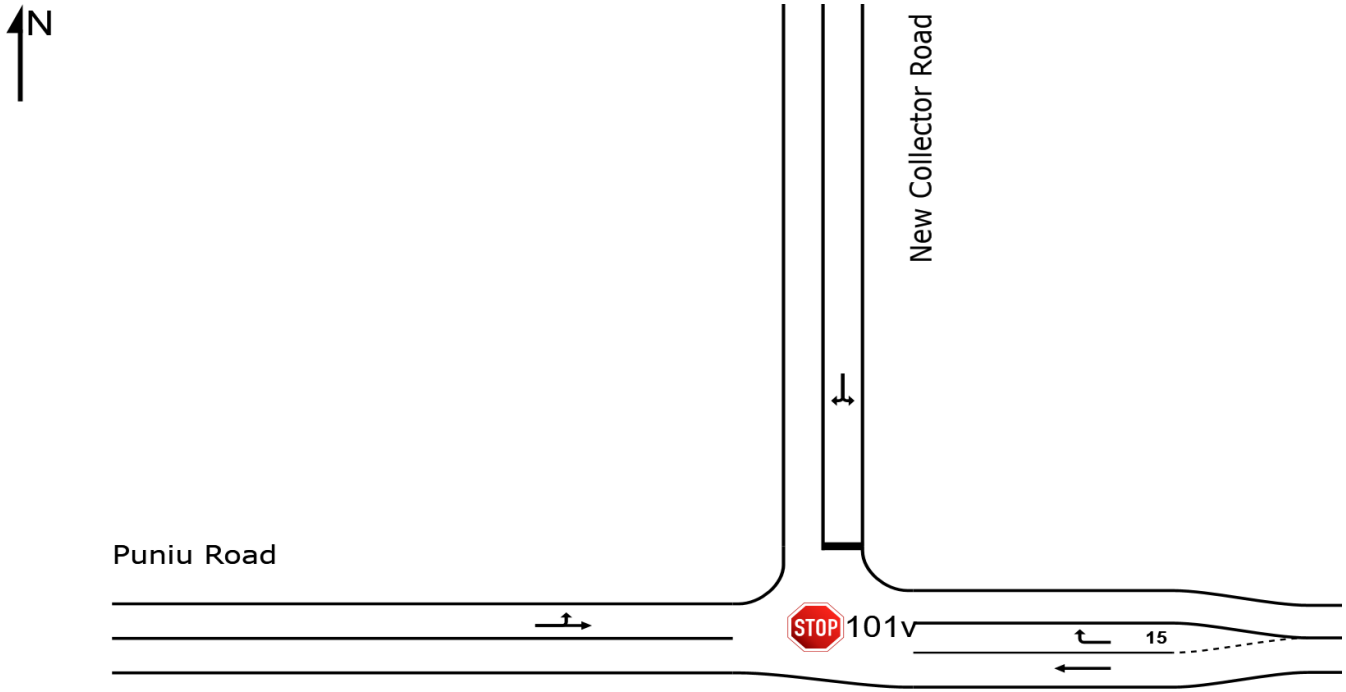
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SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road and Wallace Terrace connections)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road and Wallace Terrace connections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	311	10.0	327	10.0	0.178	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
6	R2	13	5.0	14	5.0	0.012	6.0	LOS A	0.0	0.4	0.44	0.57	0.44	45.2
Approach		324	9.8	341	9.8	0.178	0.3	NA	0.0	0.4	0.02	0.02	0.02	49.7
North: New Collector Road														
7	L2	8	5.0	8	5.0	0.044	9.4	LOS A	0.2	1.1	0.57	0.93	0.57	42.7
9	R2	12	5.0	13	5.0	0.044	15.4	LOS C	0.2	1.1	0.57	0.93	0.57	42.4
Approach		20	5.0	21	5.0	0.044	13.0	LOS B	0.2	1.1	0.57	0.93	0.57	42.5
West: Puniu Road														
10	L2	19	5.0	20	5.0	0.206	4.7	LOS A	0.0	0.0	0.00	0.03	0.00	49.2
11	T1	342	10.0	360	10.0	0.206	0.1	LOS A	0.0	0.0	0.00	0.03	0.00	49.7
Approach		361	9.7	380	9.7	0.206	0.3	NA	0.0	0.0	0.00	0.03	0.00	49.7
All Vehicles		705	9.6	742	9.6	0.206	0.7	NA	0.2	1.1	0.02	0.05	0.02	49.5

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
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Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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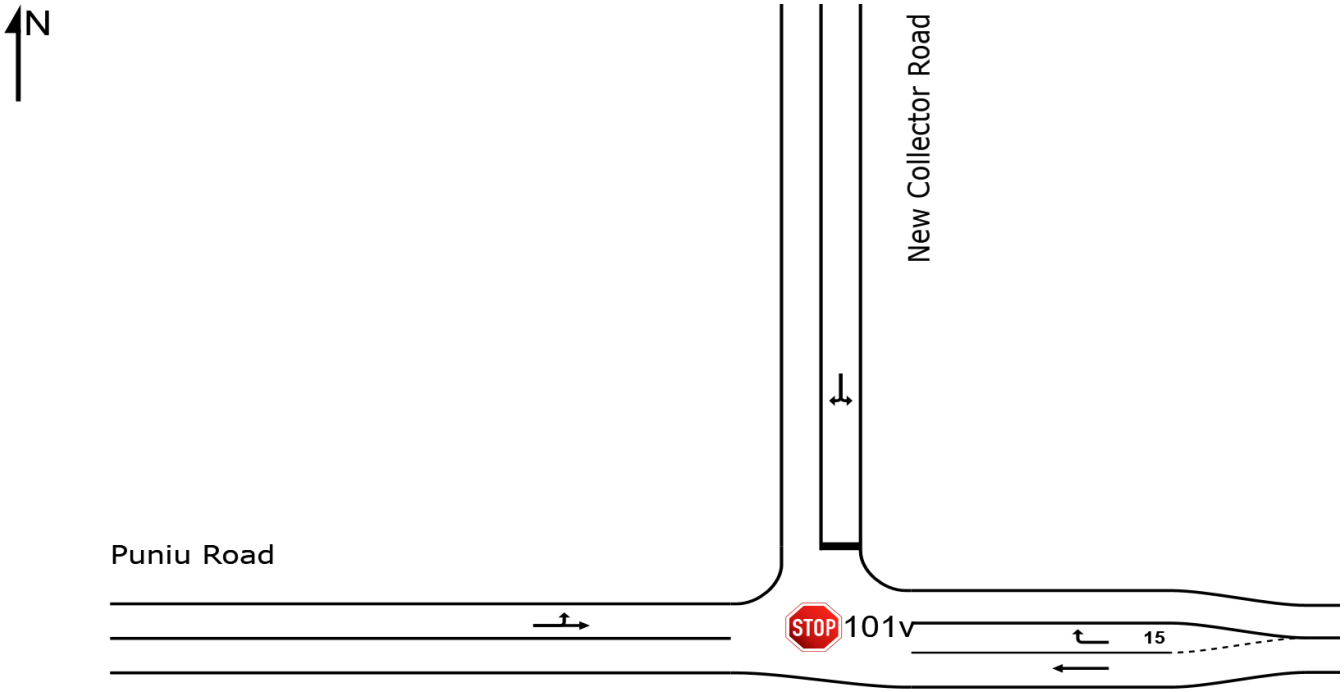
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Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road and Wallace Terrace connections)]

New Site
Site Category: (None)
Stop (Two-Way)

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MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road and Wallace Terrace connections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	154	10.0	162	10.0	0.088	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
6	R2	8	5.0	8	5.0	0.007	5.8	LOS A	0.0	0.2	0.41	0.55	0.41	45.3
Approach		162	9.8	171	9.8	0.088	0.3	NA	0.0	0.2	0.02	0.03	0.02	49.7
North: New Collector Road														
7	L2	22	5.0	23	5.0	0.088	9.2	LOS A	0.3	2.4	0.51	0.93	0.51	43.7
9	R2	32	5.0	34	5.0	0.088	12.1	LOS B	0.3	2.4	0.51	0.93	0.51	43.3
Approach		54	5.0	57	5.0	0.088	10.9	LOS B	0.3	2.4	0.51	0.93	0.51	43.5
West: Puniu Road														
10	L2	12	5.0	13	5.0	0.179	4.7	LOS A	0.0	0.0	0.00	0.02	0.00	49.2
11	T1	303	10.0	319	10.0	0.179	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	49.8
Approach		315	9.8	332	9.8	0.179	0.2	NA	0.0	0.0	0.00	0.02	0.00	49.8
All Vehicles		531	9.3	559	9.3	0.179	1.3	NA	0.3	2.4	0.06	0.11	0.06	49.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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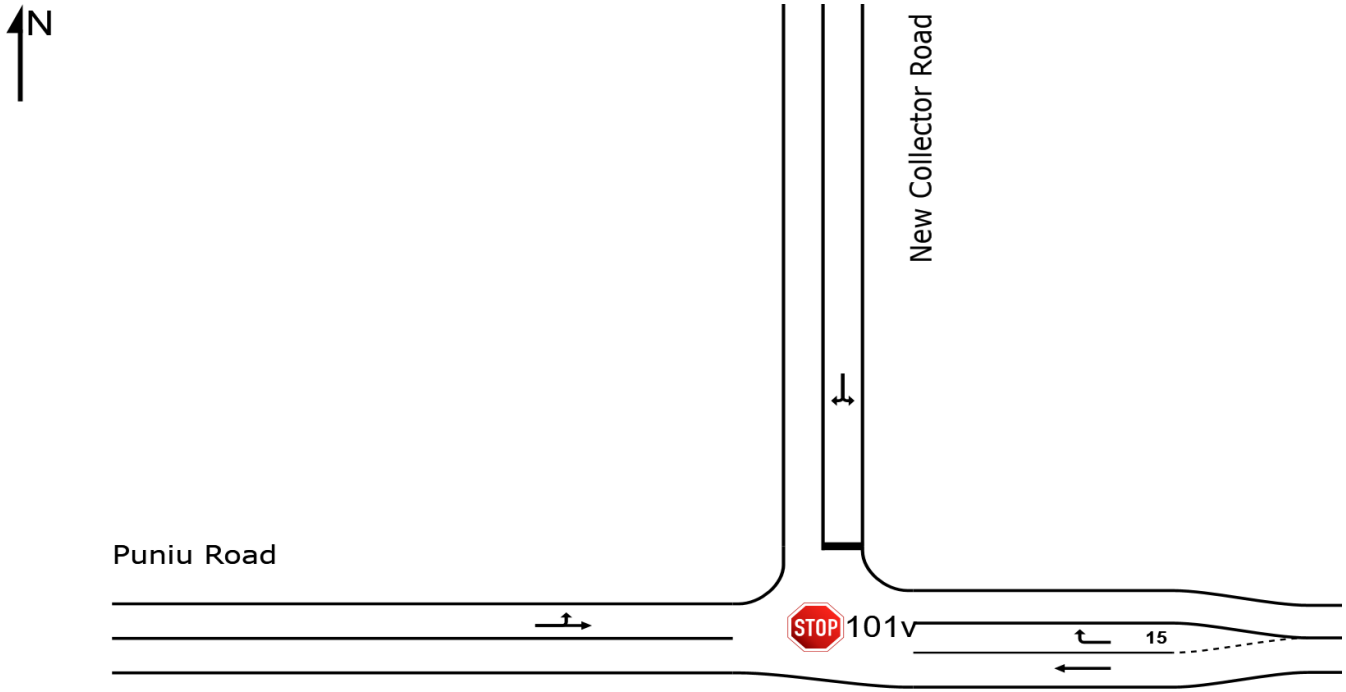
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road and Wallace Terrace connections)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road and Wallace Terrace connections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	311	10.0	327	10.0	0.178	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
6	R2	19	5.0	20	5.0	0.017	6.1	LOS A	0.1	0.5	0.45	0.59	0.45	45.2
Approach		330	9.7	347	9.7	0.178	0.4	NA	0.1	0.5	0.03	0.03	0.03	49.6
North: New Collector Road														
7	L2	12	5.0	13	5.0	0.061	9.4	LOS A	0.2	1.6	0.57	0.94	0.57	42.7
9	R2	16	5.0	17	5.0	0.061	15.7	LOS C	0.2	1.6	0.57	0.94	0.57	42.3
Approach		28	5.0	29	5.0	0.061	13.0	LOS B	0.2	1.6	0.57	0.94	0.57	42.5
West: Puniu Road														
10	L2	27	5.0	28	5.0	0.210	4.7	LOS A	0.0	0.0	0.00	0.04	0.00	49.1
11	T1	342	10.0	360	10.0	0.210	0.1	LOS A	0.0	0.0	0.00	0.04	0.00	49.7
Approach		369	9.6	388	9.6	0.210	0.4	NA	0.0	0.0	0.00	0.04	0.00	49.6
All Vehicles		727	9.5	765	9.5	0.210	0.9	NA	0.2	1.6	0.03	0.07	0.03	49.3

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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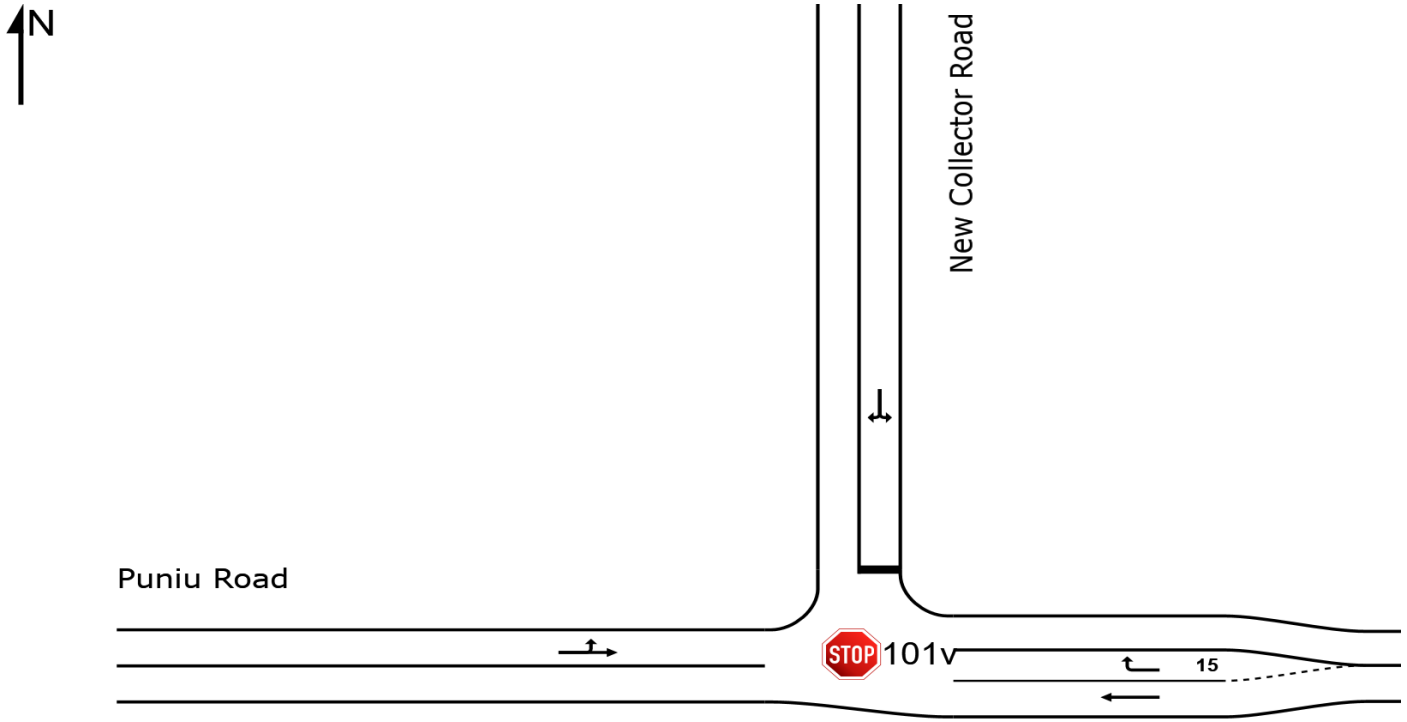
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Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 2 (150 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road and Wallace Terrace connections)]

New Site
Site Category: (None)
Stop (Two-Way)

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



Document Set ID: 11324600
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MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 2 (150 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road and Wallace Terrace connections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	169	10.0	178	10.0	0.097	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
6	R2	4	5.0	4	5.0	0.003	5.8	LOS A	0.0	0.1	0.41	0.53	0.41	45.3
Approach		173	9.9	182	9.9	0.097	0.2	NA	0.0	0.1	0.01	0.01	0.01	49.8
North: New Collector Road														
7	L2	11	5.0	12	5.0	0.046	9.2	LOS A	0.2	1.2	0.51	0.91	0.51	43.6
9	R2	16	5.0	17	5.0	0.046	12.2	LOS B	0.2	1.2	0.51	0.91	0.51	43.3
Approach		27	5.0	28	5.0	0.046	11.0	LOS B	0.2	1.2	0.51	0.91	0.51	43.4
West: Puniu Road														
10	L2	6	5.0	6	5.0	0.183	4.7	LOS A	0.0	0.0	0.00	0.01	0.00	49.3
11	T1	316	10.0	333	10.0	0.183	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	49.9
Approach		322	9.9	339	9.9	0.183	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.9
All Vehicles		522	9.6	549	9.6	0.183	0.7	NA	0.2	1.2	0.03	0.06	0.03	49.5

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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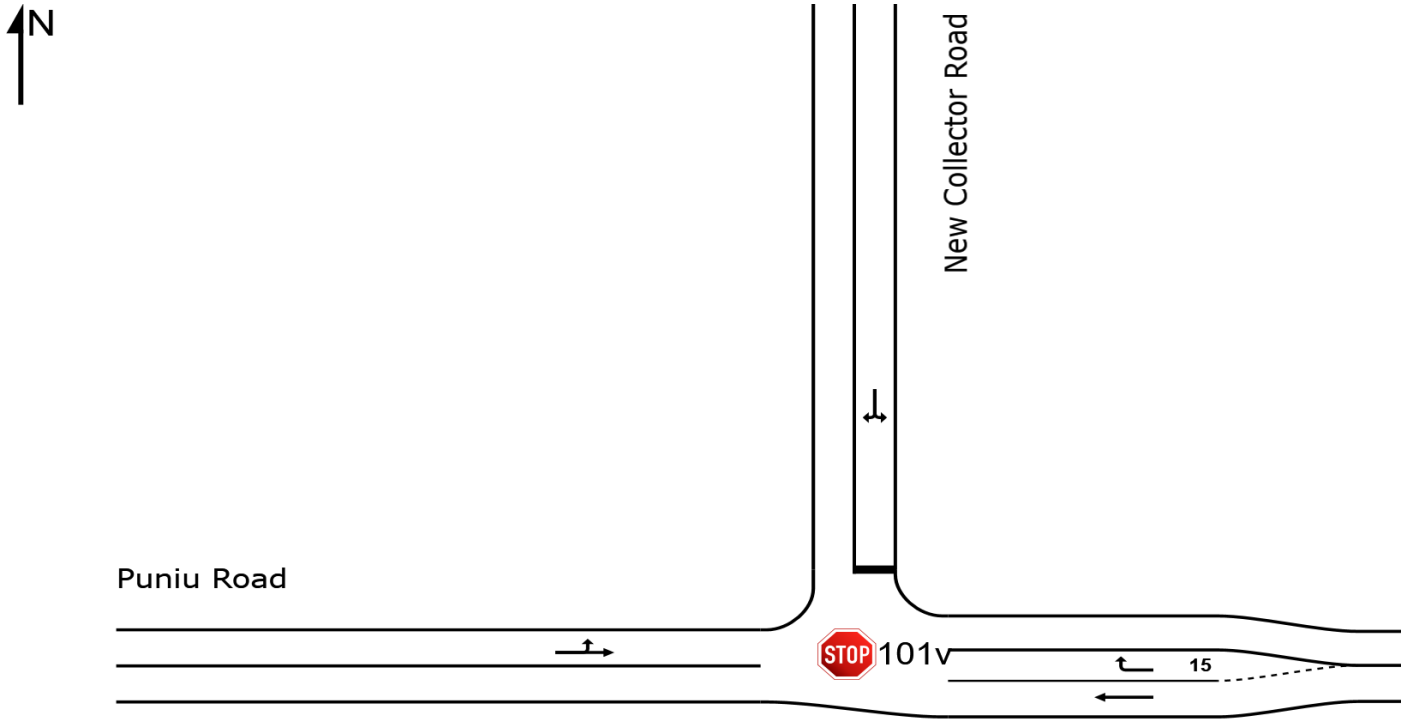
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SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 2 (150 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road and Wallace Terrace connections)]

New Site
Site Category: (None)
Stop (Two-Way)

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MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 2 (150 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road and Wallace Terrace connections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	318	10.0	335	10.0	0.182	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
6	R2	9	5.0	9	5.0	0.008	6.2	LOS A	0.0	0.3	0.46	0.58	0.46	45.2
Approach		327	9.9	344	9.9	0.182	0.2	NA	0.0	0.3	0.01	0.02	0.01	49.8
North: New Collector Road														
7	L2	5	5.0	5	5.0	0.031	9.6	LOS A	0.1	0.8	0.59	0.92	0.59	42.4
9	R2	8	5.0	8	5.0	0.031	16.2	LOS C	0.1	0.8	0.59	0.92	0.59	42.0
Approach		13	5.0	14	5.0	0.031	13.6	LOS B	0.1	0.8	0.59	0.92	0.59	42.2
West: Puniu Road														
10	L2	13	5.0	14	5.0	0.224	4.7	LOS A	0.0	0.0	0.00	0.02	0.00	49.2
11	T1	380	10.0	400	10.0	0.224	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	49.8
Approach		393	9.8	414	9.8	0.224	0.2	NA	0.0	0.0	0.00	0.02	0.00	49.8
All Vehicles		733	9.8	772	9.8	0.224	0.5	NA	0.1	0.8	0.02	0.03	0.02	49.6

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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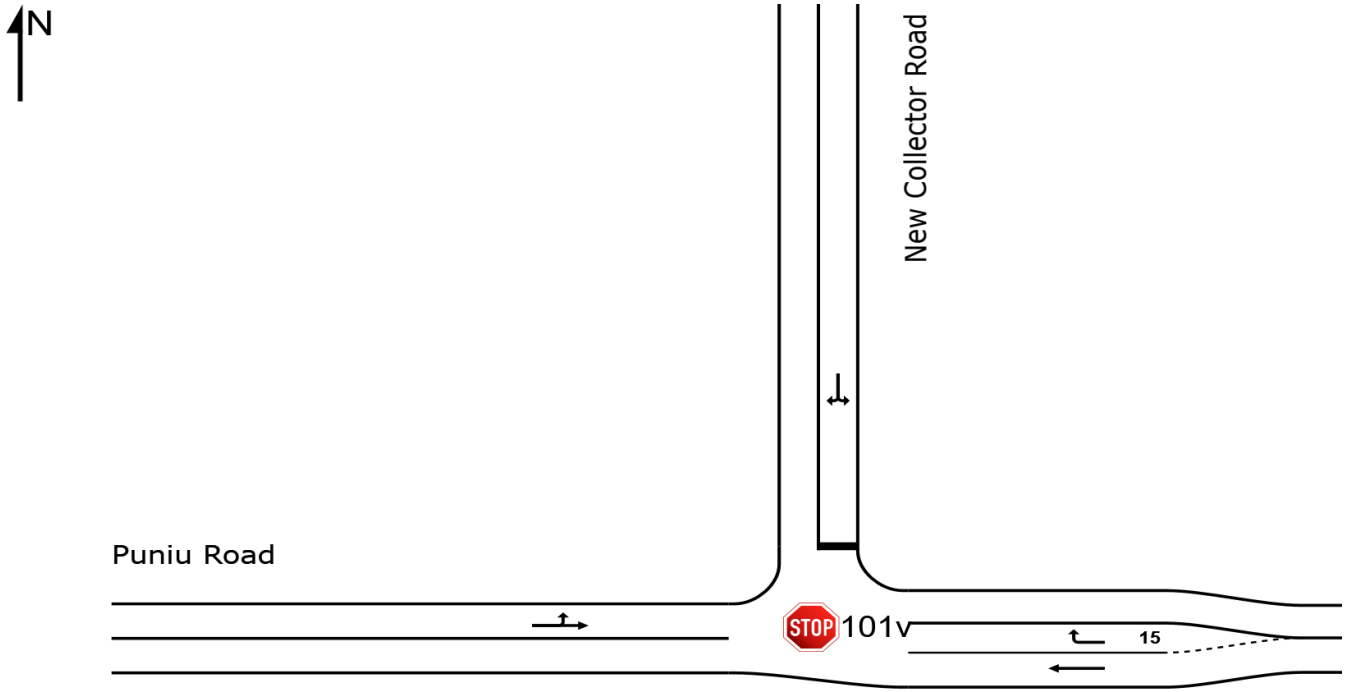
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SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road and Wallace Terrace connections)]

New Site
Site Category: (None)
Stop (Two-Way)

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MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road and Wallace Terrace connections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	169	10.0	178	10.0	0.097	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
6	R2	6	5.0	6	5.0	0.005	5.8	LOS A	0.0	0.2	0.42	0.54	0.42	45.3
Approach		175	9.8	184	9.8	0.097	0.2	NA	0.0	0.2	0.01	0.02	0.01	49.8
North: New Collector Road														
7	L2	16	5.0	17	5.0	0.068	9.3	LOS A	0.3	1.8	0.52	0.92	0.52	43.6
9	R2	24	5.0	25	5.0	0.068	12.4	LOS B	0.3	1.8	0.52	0.92	0.52	43.2
Approach		40	5.0	42	5.0	0.068	11.1	LOS B	0.3	1.8	0.52	0.92	0.52	43.4
West: Puniu Road														
10	L2	9	5.0	9	5.0	0.185	4.7	LOS A	0.0	0.0	0.00	0.02	0.00	49.3
11	T1	316	10.0	333	10.0	0.185	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	49.8
Approach		325	9.9	342	9.9	0.185	0.2	NA	0.0	0.0	0.00	0.02	0.00	49.8
All Vehicles		540	9.5	568	9.5	0.185	1.0	NA	0.3	1.8	0.04	0.08	0.04	49.3

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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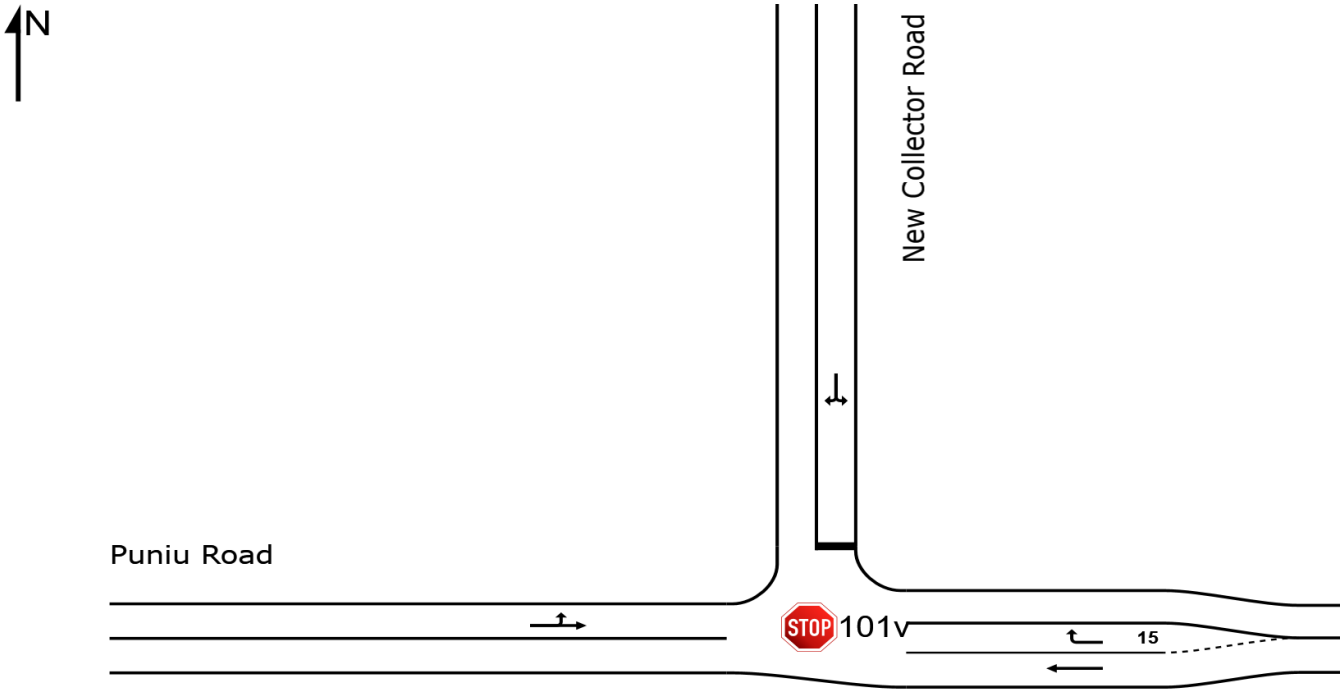
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SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road and Wallace Terrace connections)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road and Wallace Terrace connections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	318	10.0	335	10.0	0.182	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
6	R2	13	5.0	14	5.0	0.012	6.2	LOS A	0.1	0.4	0.46	0.59	0.46	45.2
Approach		331	9.8	348	9.8	0.182	0.3	NA	0.1	0.4	0.02	0.02	0.02	49.7
North: New Collector Road														
7	L2	8	5.0	8	5.0	0.048	9.7	LOS A	0.2	1.2	0.59	0.95	0.59	42.3
9	R2	12	5.0	13	5.0	0.048	16.5	LOS C	0.2	1.2	0.59	0.95	0.59	42.0
Approach		20	5.0	21	5.0	0.048	13.7	LOS B	0.2	1.2	0.59	0.95	0.59	42.1
West: Puniu Road														
10	L2	19	5.0	20	5.0	0.227	4.7	LOS A	0.0	0.0	0.00	0.03	0.00	49.2
11	T1	380	10.0	400	10.0	0.227	0.1	LOS A	0.0	0.0	0.00	0.03	0.00	49.7
Approach		399	9.8	420	9.8	0.227	0.3	NA	0.0	0.0	0.00	0.03	0.00	49.7
All Vehicles		750	9.7	789	9.7	0.227	0.7	NA	0.2	1.2	0.02	0.05	0.02	49.5

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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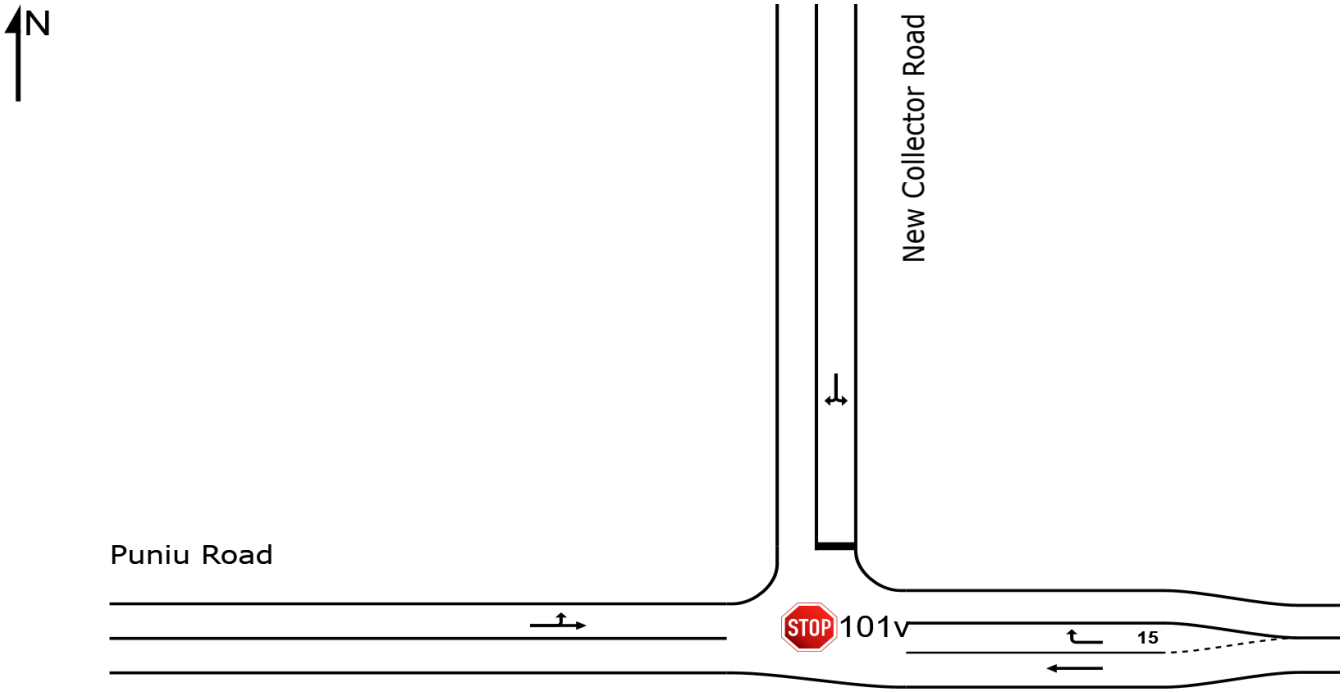
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Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road and Wallace Terrace connections)]

New Site
Site Category: (None)
Stop (Two-Way)

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Project: Z:\310205677\7_technical\SIDRA\2. collector road & puniu road_20230530.sip9

Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road and Wallace Terrace connections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	169	10.0	178	10.0	0.097	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
6	R2	8	5.0	8	5.0	0.007	5.8	LOS A	0.0	0.2	0.42	0.55	0.42	45.3
Approach		177	9.8	186	9.8	0.097	0.3	NA	0.0	0.2	0.02	0.02	0.02	49.7
North: New Collector Road														
7	L2	22	5.0	23	5.0	0.092	9.3	LOS A	0.3	2.5	0.52	0.93	0.52	43.5
9	R2	32	5.0	34	5.0	0.092	12.5	LOS B	0.3	2.5	0.52	0.93	0.52	43.2
Approach		54	5.0	57	5.0	0.092	11.2	LOS B	0.3	2.5	0.52	0.93	0.52	43.3
West: Puniu Road														
10	L2	12	5.0	13	5.0	0.187	4.7	LOS A	0.0	0.0	0.00	0.02	0.00	49.2
11	T1	316	10.0	333	10.0	0.187	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	49.8
Approach		328	9.8	345	9.8	0.187	0.2	NA	0.0	0.0	0.00	0.02	0.00	49.8
All Vehicles		559	9.3	588	9.3	0.187	1.3	NA	0.3	2.5	0.06	0.11	0.06	49.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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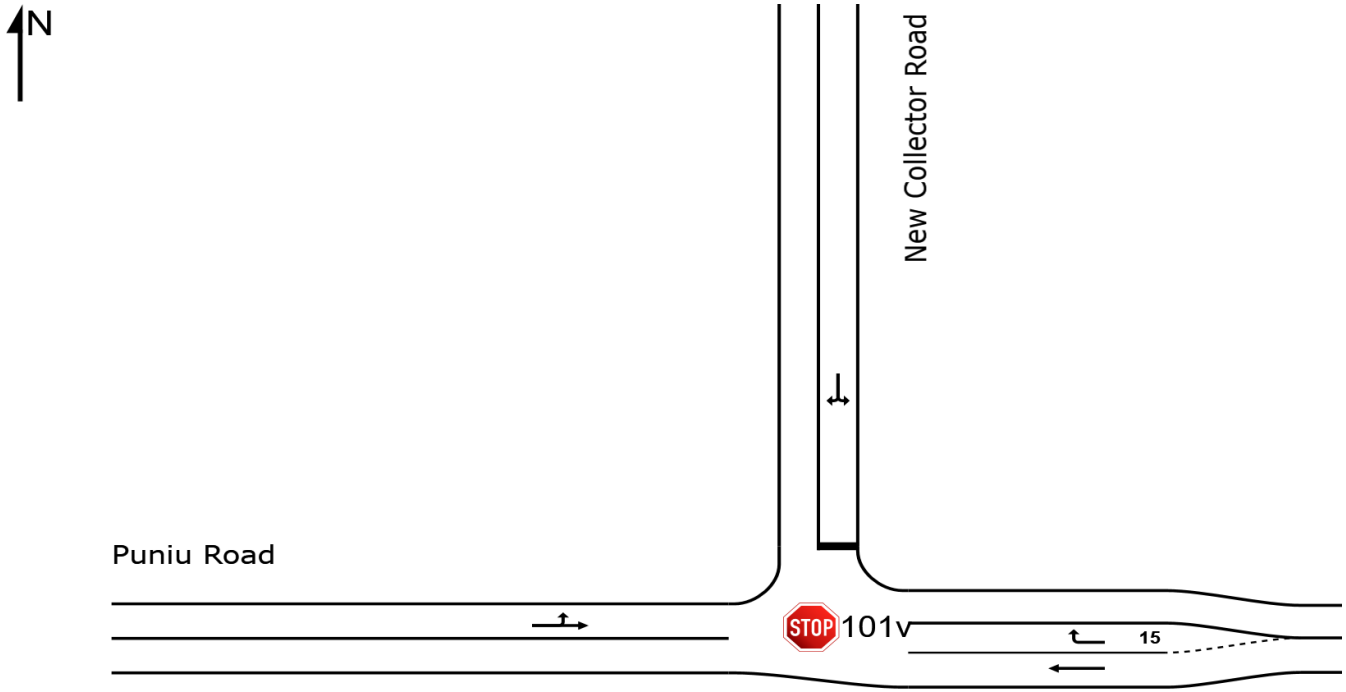
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road and Wallace Terrace connections)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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Project: Z:\310205677\7_technical\SIDRA\2. collector road & puniu road_20230530.sip9

MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road and Wallace Terrace connections)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	318	10.0	335	10.0	0.182	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
6	R2	19	5.0	20	5.0	0.018	6.3	LOS A	0.1	0.5	0.47	0.60	0.47	45.2
Approach		337	9.7	355	9.7	0.182	0.4	NA	0.1	0.5	0.03	0.03	0.03	49.6
North: New Collector Road														
7	L2	12	5.0	13	5.0	0.066	9.7	LOS A	0.2	1.7	0.59	0.95	0.59	42.3
9	R2	16	5.0	17	5.0	0.066	16.8	LOS C	0.2	1.7	0.59	0.95	0.59	42.0
Approach		28	5.0	29	5.0	0.066	13.8	LOS B	0.2	1.7	0.59	0.95	0.59	42.1
West: Puniu Road														
10	L2	27	5.0	28	5.0	0.232	4.7	LOS A	0.0	0.0	0.00	0.04	0.00	49.1
11	T1	380	10.0	400	10.0	0.232	0.1	LOS A	0.0	0.0	0.00	0.04	0.00	49.7
Approach		407	9.7	428	9.7	0.232	0.4	NA	0.0	0.0	0.00	0.04	0.00	49.6
All Vehicles		772	9.5	813	9.5	0.232	0.9	NA	0.2	1.7	0.03	0.07	0.03	49.3

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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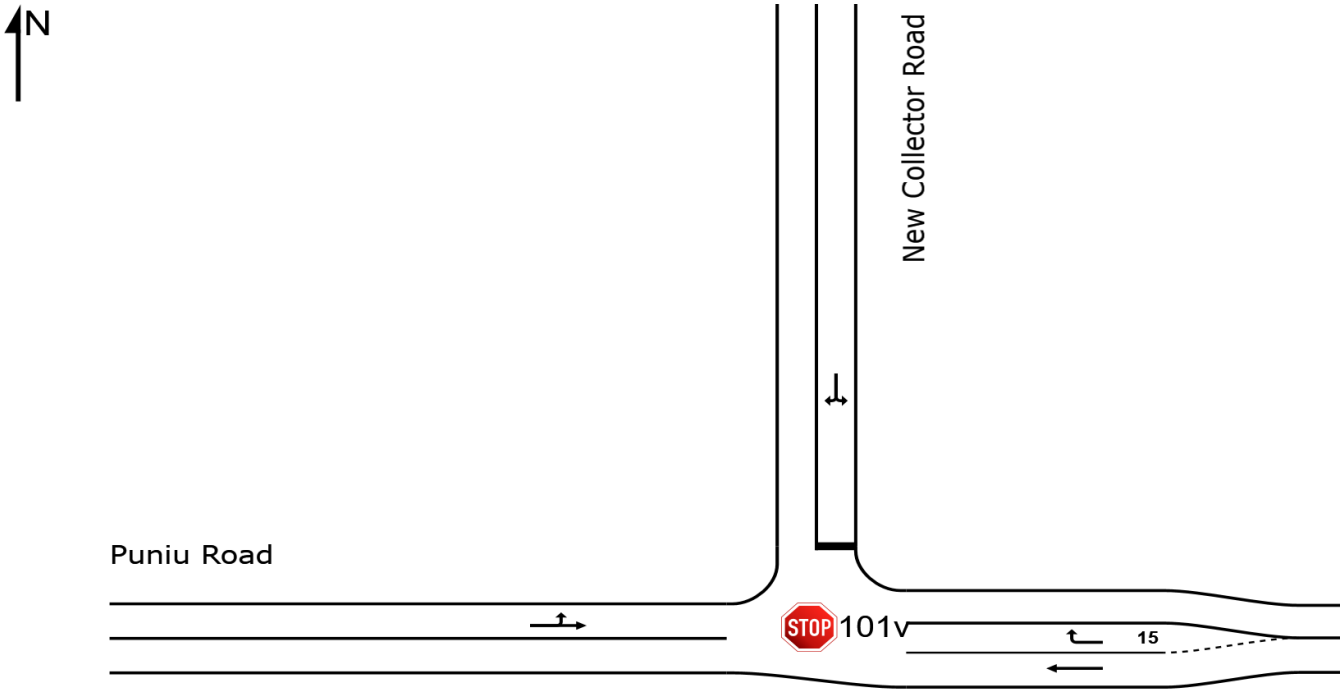
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road, Rewi Street and Wallace Terrace connection)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road, Rewi Street and Wallace Terrace connection)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	154	10.0	162	10.0	0.088	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
6	R2	6	5.0	6	5.0	0.005	5.7	LOS A	0.0	0.2	0.41	0.54	0.41	45.3
Approach		160	9.8	168	9.8	0.088	0.2	NA	0.0	0.2	0.02	0.02	0.02	49.8
North: New Collector Road														
7	L2	16	5.0	17	5.0	0.065	9.2	LOS A	0.2	1.8	0.50	0.91	0.50	43.7
9	R2	24	5.0	25	5.0	0.065	11.9	LOS B	0.2	1.8	0.50	0.91	0.50	43.4
Approach		40	5.0	42	5.0	0.065	10.8	LOS B	0.2	1.8	0.50	0.91	0.50	43.5
West: Puniu Road														
10	L2	9	5.0	9	5.0	0.178	4.7	LOS A	0.0	0.0	0.00	0.02	0.00	49.3
11	T1	303	10.0	319	10.0	0.178	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	49.8
Approach		312	9.9	328	9.9	0.178	0.2	NA	0.0	0.0	0.00	0.02	0.00	49.8
All Vehicles		512	9.5	539	9.5	0.178	1.0	NA	0.2	1.8	0.04	0.09	0.04	49.2

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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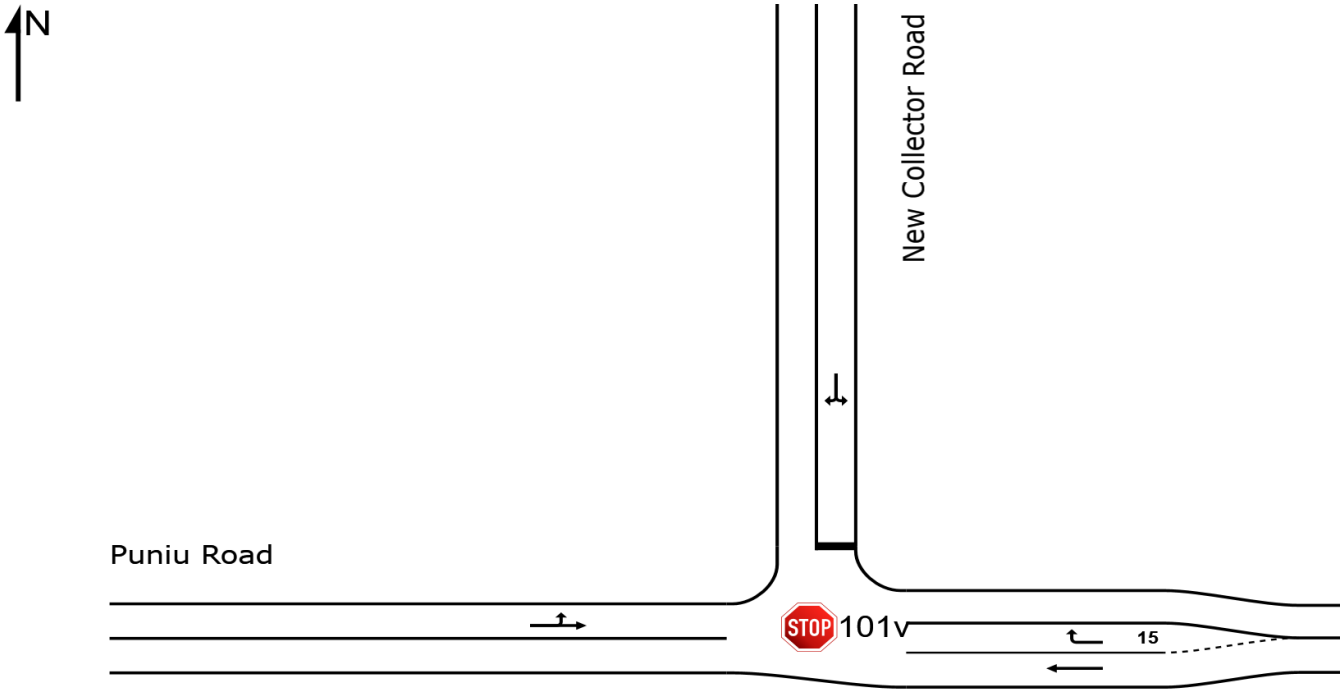
Document Set ID: 11324600
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SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road, Rewi Street and Wallace Terrace connection)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road, Rewi Street and Wallace Terrace connection)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	311	10.0	327	10.0	0.178	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
6	R2	13	5.0	14	5.0	0.012	6.0	LOS A	0.0	0.4	0.44	0.57	0.44	45.2
Approach		324	9.8	341	9.8	0.178	0.3	NA	0.0	0.4	0.02	0.02	0.02	49.7
North: New Collector Road														
7	L2	8	5.0	8	5.0	0.044	9.4	LOS A	0.2	1.1	0.57	0.93	0.57	42.7
9	R2	12	5.0	13	5.0	0.044	15.4	LOS C	0.2	1.1	0.57	0.93	0.57	42.4
Approach		20	5.0	21	5.0	0.044	13.0	LOS B	0.2	1.1	0.57	0.93	0.57	42.5
West: Puniu Road														
10	L2	19	5.0	20	5.0	0.206	4.7	LOS A	0.0	0.0	0.00	0.03	0.00	49.2
11	T1	342	10.0	360	10.0	0.206	0.1	LOS A	0.0	0.0	0.00	0.03	0.00	49.7
Approach		361	9.7	380	9.7	0.206	0.3	NA	0.0	0.0	0.00	0.03	0.00	49.7
All Vehicles		705	9.6	742	9.6	0.206	0.7	NA	0.2	1.1	0.02	0.05	0.02	49.5

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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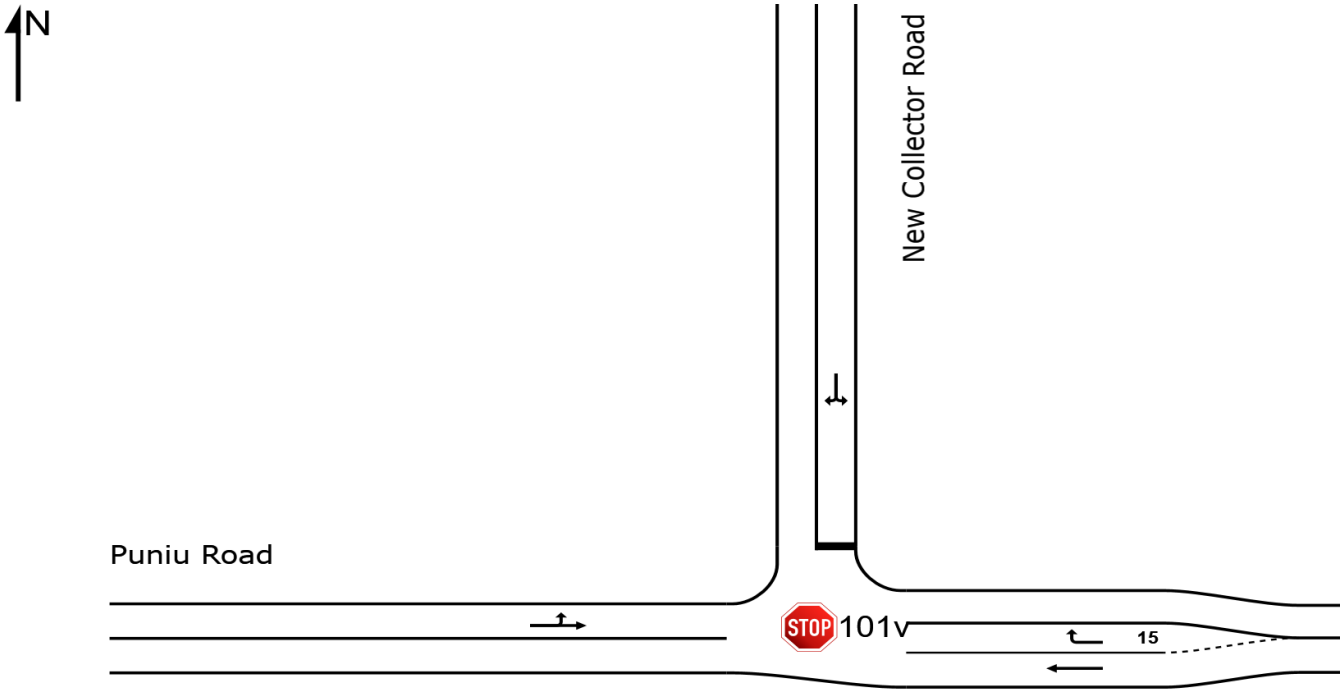
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road, Rewi Street and Wallace Terrace connection)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road, Rewi Street and Wallace Terrace connection)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	154	10.0	162	10.0	0.088	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
6	R2	8	5.0	8	5.0	0.007	5.8	LOS A	0.0	0.2	0.41	0.55	0.41	45.3
Approach		162	9.8	171	9.8	0.088	0.3	NA	0.0	0.2	0.02	0.03	0.02	49.7
North: New Collector Road														
7	L2	22	5.0	23	5.0	0.088	9.2	LOS A	0.3	2.4	0.51	0.93	0.51	43.7
9	R2	32	5.0	34	5.0	0.088	12.1	LOS B	0.3	2.4	0.51	0.93	0.51	43.3
Approach		54	5.0	57	5.0	0.088	10.9	LOS B	0.3	2.4	0.51	0.93	0.51	43.5
West: Puniu Road														
10	L2	12	5.0	13	5.0	0.179	4.7	LOS A	0.0	0.0	0.00	0.02	0.00	49.2
11	T1	303	10.0	319	10.0	0.179	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	49.8
Approach		315	9.8	332	9.8	0.179	0.2	NA	0.0	0.0	0.00	0.02	0.00	49.8
All Vehicles		531	9.3	559	9.3	0.179	1.3	NA	0.3	2.4	0.06	0.11	0.06	49.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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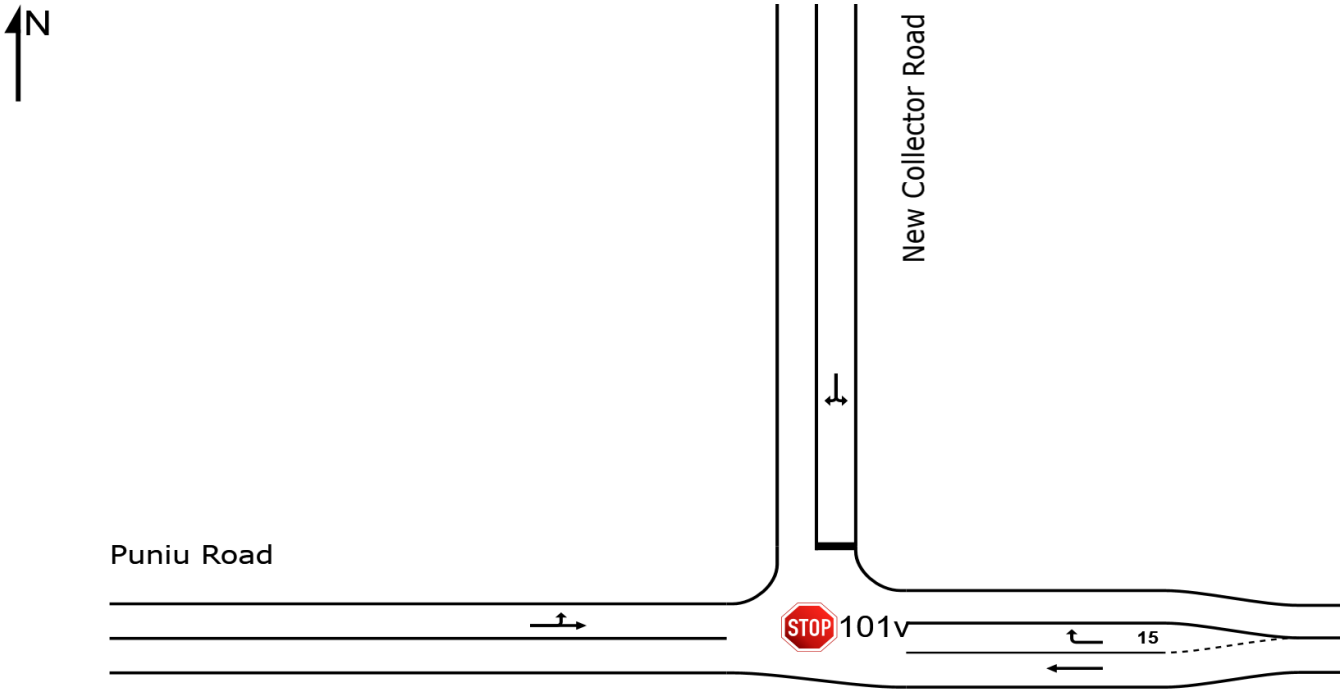
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road, Rewi Street and Wallace Terrace connection)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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Project: Z:\310205677\7_technical\SIDRA\2. collector road & puniu road_20230530.sip9

MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road, Rewi Street and Wallace Terrace connection)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	311	10.0	327	10.0	0.178	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
6	R2	19	5.0	20	5.0	0.017	6.1	LOS A	0.1	0.5	0.45	0.59	0.45	45.2
Approach		330	9.7	347	9.7	0.178	0.4	NA	0.1	0.5	0.03	0.03	0.03	49.6
North: New Collector Road														
7	L2	12	5.0	13	5.0	0.061	9.4	LOS A	0.2	1.6	0.57	0.94	0.57	42.7
9	R2	16	5.0	17	5.0	0.061	15.7	LOS C	0.2	1.6	0.57	0.94	0.57	42.3
Approach		28	5.0	29	5.0	0.061	13.0	LOS B	0.2	1.6	0.57	0.94	0.57	42.5
West: Puniu Road														
10	L2	27	5.0	28	5.0	0.210	4.7	LOS A	0.0	0.0	0.00	0.04	0.00	49.1
11	T1	342	10.0	360	10.0	0.210	0.1	LOS A	0.0	0.0	0.00	0.04	0.00	49.7
Approach		369	9.6	388	9.6	0.210	0.4	NA	0.0	0.0	0.00	0.04	0.00	49.6
All Vehicles		727	9.5	765	9.5	0.210	0.9	NA	0.2	1.6	0.03	0.07	0.03	49.3

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Project: Z:\310205677\7_technical\SIDRA\2. collector road & puniu road_20230530.sip9

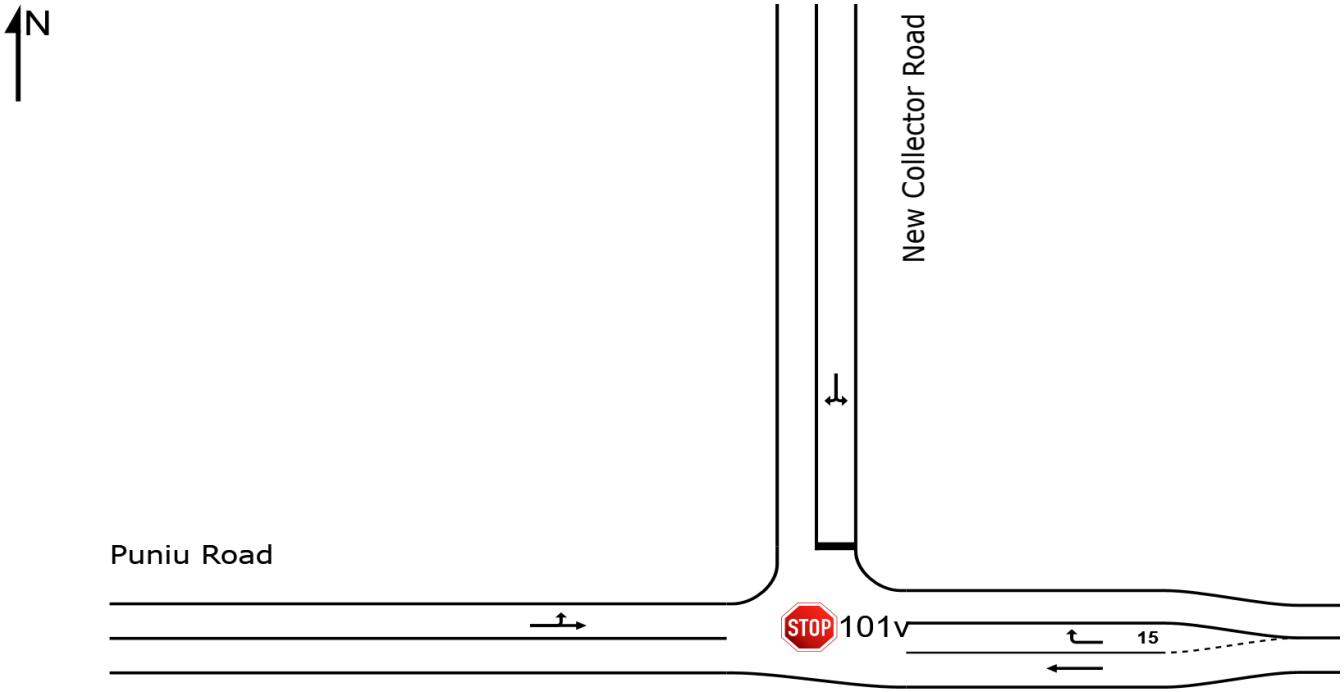
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road, Rewi Street and Wallace Terrace connection)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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Project: Z:\310205677\7_technical\SIDRA\2. collector road & puniu road_20230530.sip9

Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road, Rewi Street and Wallace Terrace connection)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	169	10.0	178	10.0	0.097	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
6	R2	6	5.0	6	5.0	0.005	5.8	LOS A	0.0	0.2	0.42	0.54	0.42	45.3
Approach		175	9.8	184	9.8	0.097	0.2	NA	0.0	0.2	0.01	0.02	0.01	49.8
North: New Collector Road														
7	L2	16	5.0	17	5.0	0.068	9.3	LOS A	0.3	1.8	0.52	0.92	0.52	43.6
9	R2	24	5.0	25	5.0	0.068	12.4	LOS B	0.3	1.8	0.52	0.92	0.52	43.2
Approach		40	5.0	42	5.0	0.068	11.1	LOS B	0.3	1.8	0.52	0.92	0.52	43.4
West: Puniu Road														
10	L2	9	5.0	9	5.0	0.185	4.7	LOS A	0.0	0.0	0.00	0.02	0.00	49.3
11	T1	316	10.0	333	10.0	0.185	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	49.8
Approach		325	9.9	342	9.9	0.185	0.2	NA	0.0	0.0	0.00	0.02	0.00	49.8
All Vehicles		540	9.5	568	9.5	0.185	1.0	NA	0.3	1.8	0.04	0.08	0.04	49.3

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Project: Z:\310205677\7_technical\SIDRA\2. collector road & puniu road_20230530.sip9

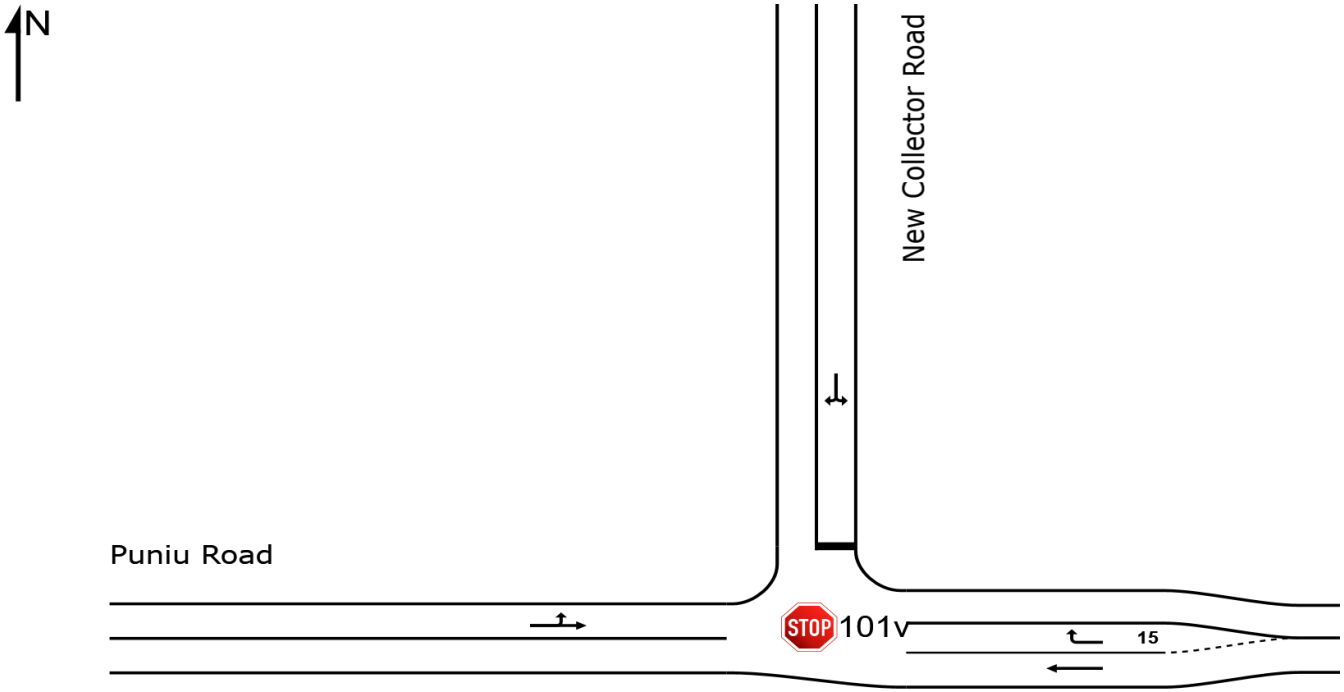
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road, Rewi Street and Wallace Terrace connection)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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Project: Z:\310205677\7_technical\SIDRA\2. collector road & puniu road_20230530.sip9

MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road, Rewi Street and Wallace Terrace connection)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	318	10.0	335	10.0	0.182	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
6	R2	13	5.0	14	5.0	0.012	6.2	LOS A	0.1	0.4	0.46	0.59	0.46	45.2
Approach		331	9.8	348	9.8	0.182	0.3	NA	0.1	0.4	0.02	0.02	0.02	49.7
North: New Collector Road														
7	L2	8	5.0	8	5.0	0.048	9.7	LOS A	0.2	1.2	0.59	0.95	0.59	42.3
9	R2	12	5.0	13	5.0	0.048	16.5	LOS C	0.2	1.2	0.59	0.95	0.59	42.0
Approach		20	5.0	21	5.0	0.048	13.7	LOS B	0.2	1.2	0.59	0.95	0.59	42.1
West: Puniu Road														
10	L2	19	5.0	20	5.0	0.227	4.7	LOS A	0.0	0.0	0.00	0.03	0.00	49.2
11	T1	380	10.0	400	10.0	0.227	0.1	LOS A	0.0	0.0	0.00	0.03	0.00	49.7
Approach		399	9.8	420	9.8	0.227	0.3	NA	0.0	0.0	0.00	0.03	0.00	49.7
All Vehicles		750	9.7	789	9.7	0.227	0.7	NA	0.2	1.2	0.02	0.05	0.02	49.5

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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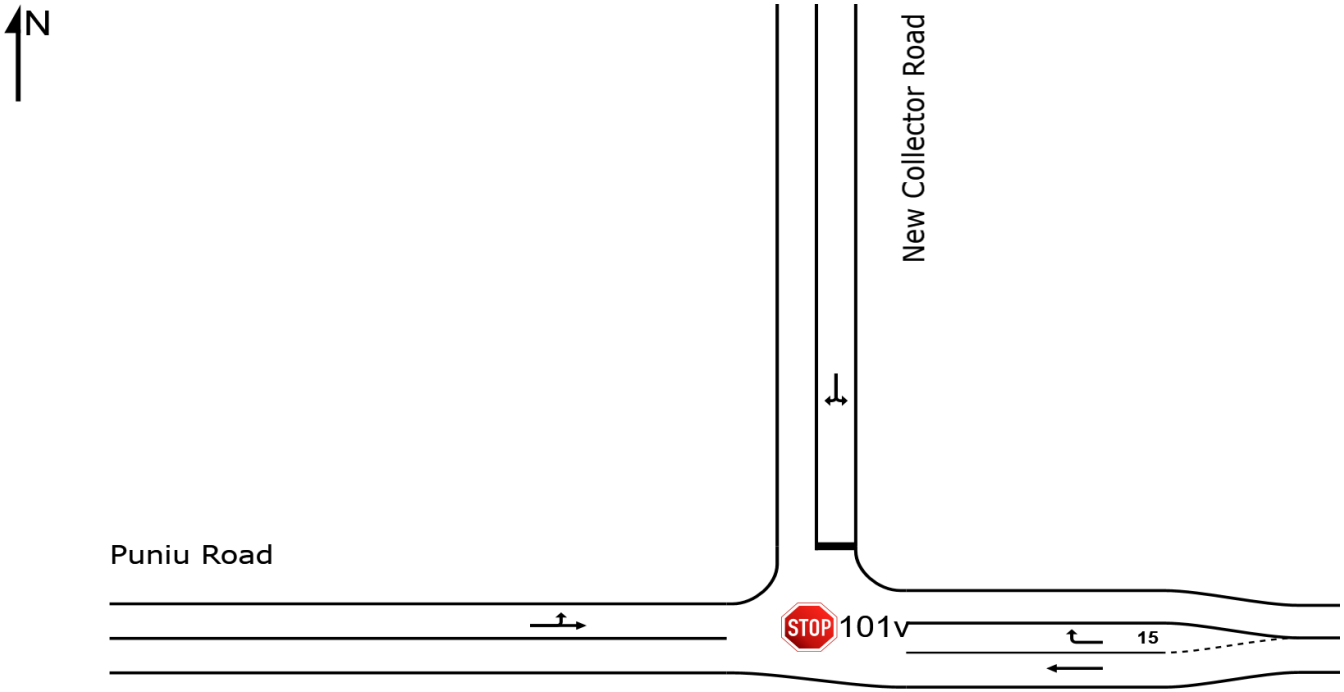
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road, Rewi Street and Wallace Terrace connection)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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Project: Z:\310205677\7_technical\SIDRA\2. collector road & puniu road_20230530.sip9

MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road, Rewi Street and Wallace Terrace connection)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	169	10.0	178	10.0	0.097	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
6	R2	8	5.0	8	5.0	0.007	5.8	LOS A	0.0	0.2	0.42	0.55	0.42	45.3
Approach		177	9.8	186	9.8	0.097	0.3	NA	0.0	0.2	0.02	0.02	0.02	49.7
North: New Collector Road														
7	L2	22	5.0	23	5.0	0.092	9.3	LOS A	0.3	2.5	0.52	0.93	0.52	43.5
9	R2	32	5.0	34	5.0	0.092	12.5	LOS B	0.3	2.5	0.52	0.93	0.52	43.2
Approach		54	5.0	57	5.0	0.092	11.2	LOS B	0.3	2.5	0.52	0.93	0.52	43.3
West: Puniu Road														
10	L2	12	5.0	13	5.0	0.187	4.7	LOS A	0.0	0.0	0.00	0.02	0.00	49.2
11	T1	316	10.0	333	10.0	0.187	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	49.8
Approach		328	9.8	345	9.8	0.187	0.2	NA	0.0	0.0	0.00	0.02	0.00	49.8
All Vehicles		559	9.3	588	9.3	0.187	1.3	NA	0.3	2.5	0.06	0.11	0.06	49.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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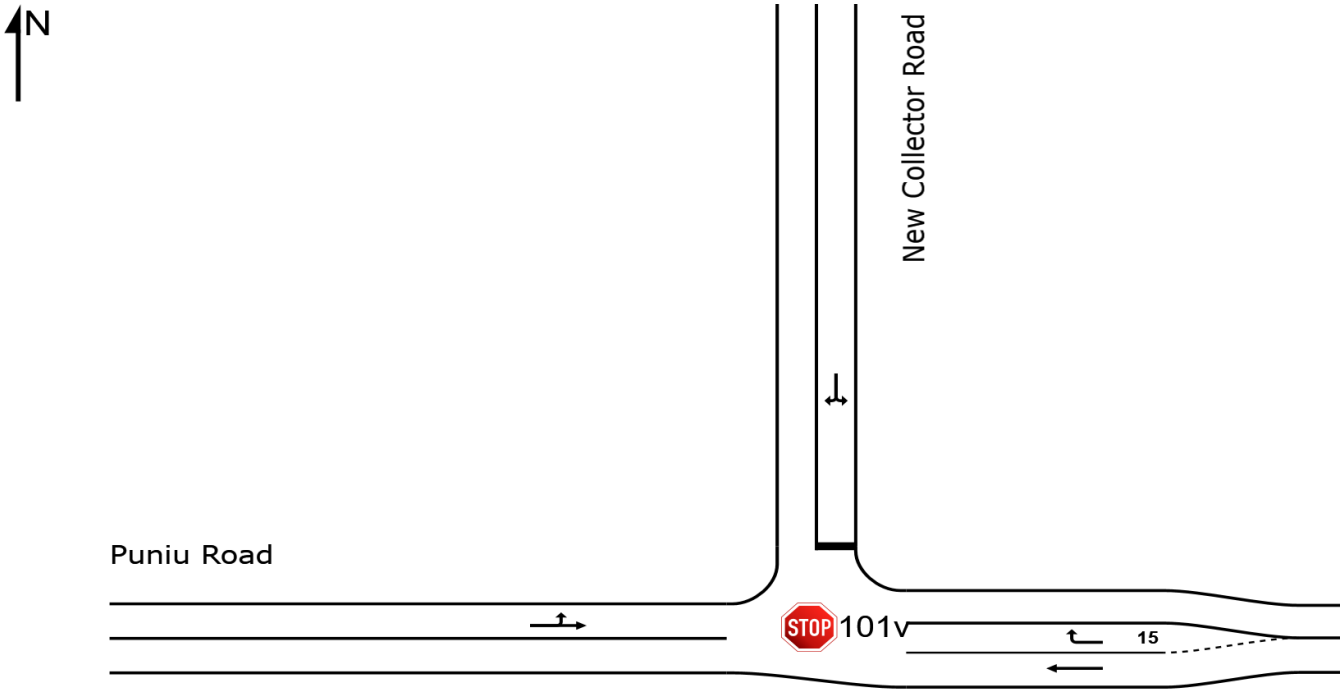
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road, Rewi Street and Wallace Terrace connection)]

New Site
Site Category: (None)
Stop (Two-Way)

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



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Project: Z:\310205677\7_technical\SIDRA\2. collector road & puniu road_20230530.sip9

MOVEMENT SUMMARY

Site: 101v [Collector Road / Puniu Road_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Collector Road / Puniu Road Intersection with Puniu Road, Rewi Street and Wallace Terrace connection)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Puniu Road														
5	T1	318	10.0	335	10.0	0.182	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
6	R2	19	5.0	20	5.0	0.018	6.3	LOS A	0.1	0.5	0.47	0.60	0.47	45.2
Approach		337	9.7	355	9.7	0.182	0.4	NA	0.1	0.5	0.03	0.03	0.03	49.6
North: New Collector Road														
7	L2	12	5.0	13	5.0	0.066	9.7	LOS A	0.2	1.7	0.59	0.95	0.59	42.3
9	R2	16	5.0	17	5.0	0.066	16.8	LOS C	0.2	1.7	0.59	0.95	0.59	42.0
Approach		28	5.0	29	5.0	0.066	13.8	LOS B	0.2	1.7	0.59	0.95	0.59	42.1
West: Puniu Road														
10	L2	27	5.0	28	5.0	0.232	4.7	LOS A	0.0	0.0	0.00	0.04	0.00	49.1
11	T1	380	10.0	400	10.0	0.232	0.1	LOS A	0.0	0.0	0.00	0.04	0.00	49.7
Approach		407	9.7	428	9.7	0.232	0.4	NA	0.0	0.0	0.00	0.04	0.00	49.6
All Vehicles		772	9.5	813	9.5	0.232	0.9	NA	0.2	1.7	0.03	0.07	0.03	49.3

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Project: Z:\310205677\7_technical\SIDRA\2. collector road & puniu road_20230530.sip9

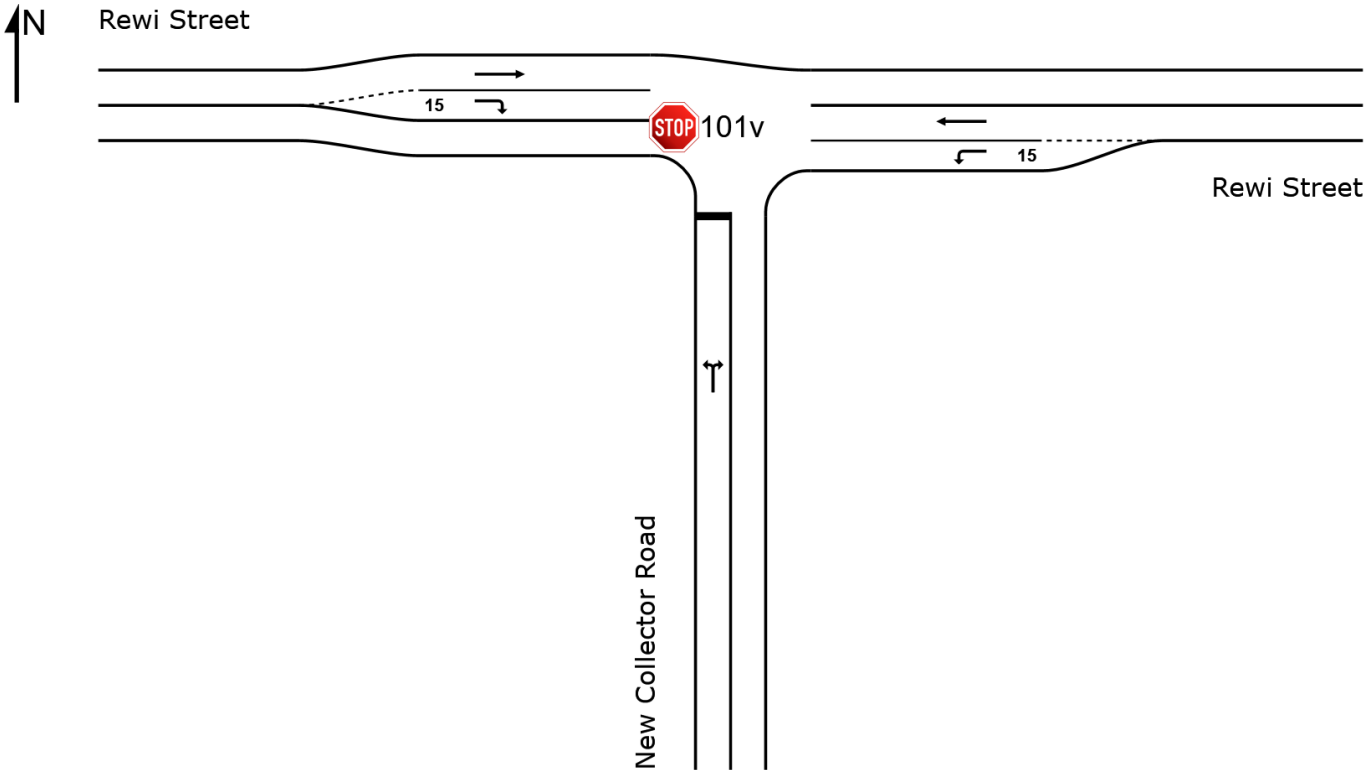
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101v [Collector Road / Rewi Street_2031 Baseline + Area 1 (70 dwellings)_AM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

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



Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101v [Collector Road / Rewi Street_2031 Baseline + Area 1 (70 dwellings)_AM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Collector Road														
1	L2	10	5.0	11	5.0	0.084	8.9	LOS A	0.3	2.1	0.58	0.94	0.58	41.1
3	R2	17	5.0	18	5.0	0.084	20.8	LOS C	0.3	2.1	0.58	0.94	0.58	40.9
Approach		27	5.0	28	5.0	0.084	16.4	LOS C	0.3	2.1	0.58	0.94	0.58	41.0
East: Rewi Street														
4	L2	6	5.0	6	5.0	0.004	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
5	T1	222	10.0	234	10.0	0.126	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
Approach		228	9.9	240	9.9	0.126	0.2	NA	0.0	0.0	0.00	0.01	0.00	49.9
West: Rewi Street														
11	T1	513	10.0	540	10.0	0.292	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
12	R2	4	5.0	4	5.0	0.004	5.6	LOS A	0.0	0.1	0.34	0.53	0.34	45.4
Approach		517	10.0	544	10.0	0.292	0.1	NA	0.0	0.1	0.00	0.00	0.00	49.8
All Vehicles		772	9.8	813	9.8	0.292	0.7	NA	0.3	2.1	0.02	0.04	0.02	49.5

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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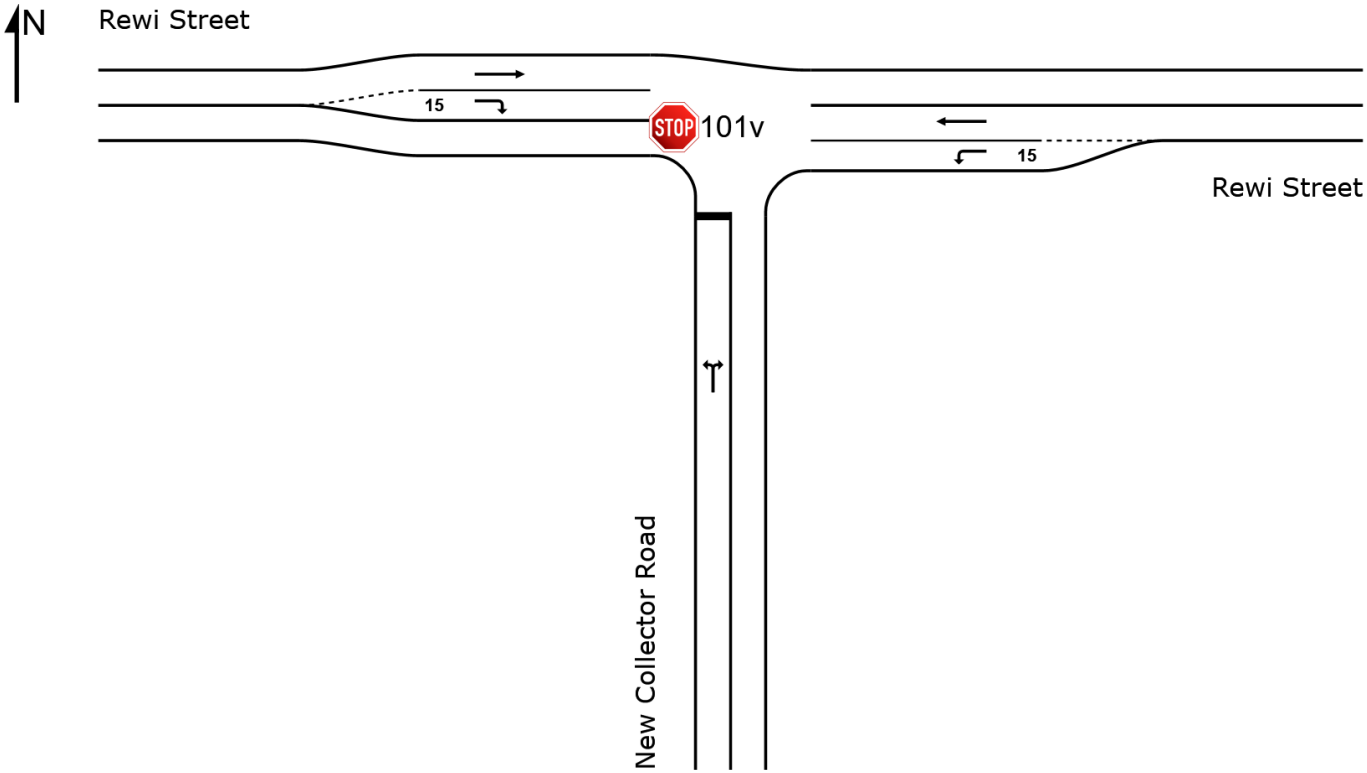
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101v [Collector Road / Rewi Street_2031 Baseline + Area 1 (70 dwellings)_PM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

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



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Organisation: STANTEC NEW ZEALAND | Licence: NETWORK / Enterprise | Created: Tuesday, 30 May 2023 8:20:55 pm
Project: Z:\310205677\7_technical\SIDRA\t4-growth-area_collector road & rewi street_20230530.sip9

MOVEMENT SUMMARY

Site: 101v [Collector Road / Rewi Street_2031 Baseline + Area 1 (70 dwellings)_PM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Collector Road														
1	L2	5	5.0	5	5.0	0.057	12.2	LOS B	0.2	1.3	0.75	0.99	0.75	39.7
3	R2	9	5.0	9	5.0	0.057	24.1	LOS C	0.2	1.3	0.75	0.99	0.75	39.6
Approach		14	5.0	15	5.0	0.057	19.9	LOS C	0.2	1.3	0.75	0.99	0.75	39.6
East: Rewi Street														
4	L2	14	5.0	15	5.0	0.008	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
5	T1	547	10.0	576	10.0	0.311	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
Approach		561	9.9	591	9.9	0.311	0.2	NA	0.0	0.0	0.00	0.01	0.00	49.8
West: Rewi Street														
11	T1	273	10.0	287	10.0	0.157	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
12	R2	8	5.0	8	5.0	0.013	8.1	LOS A	0.0	0.3	0.55	0.67	0.55	44.2
Approach		281	9.9	296	9.9	0.157	0.3	NA	0.0	0.3	0.02	0.02	0.02	49.8
All Vehicles		856	9.8	901	9.8	0.311	0.6	NA	0.2	1.3	0.02	0.03	0.02	49.5

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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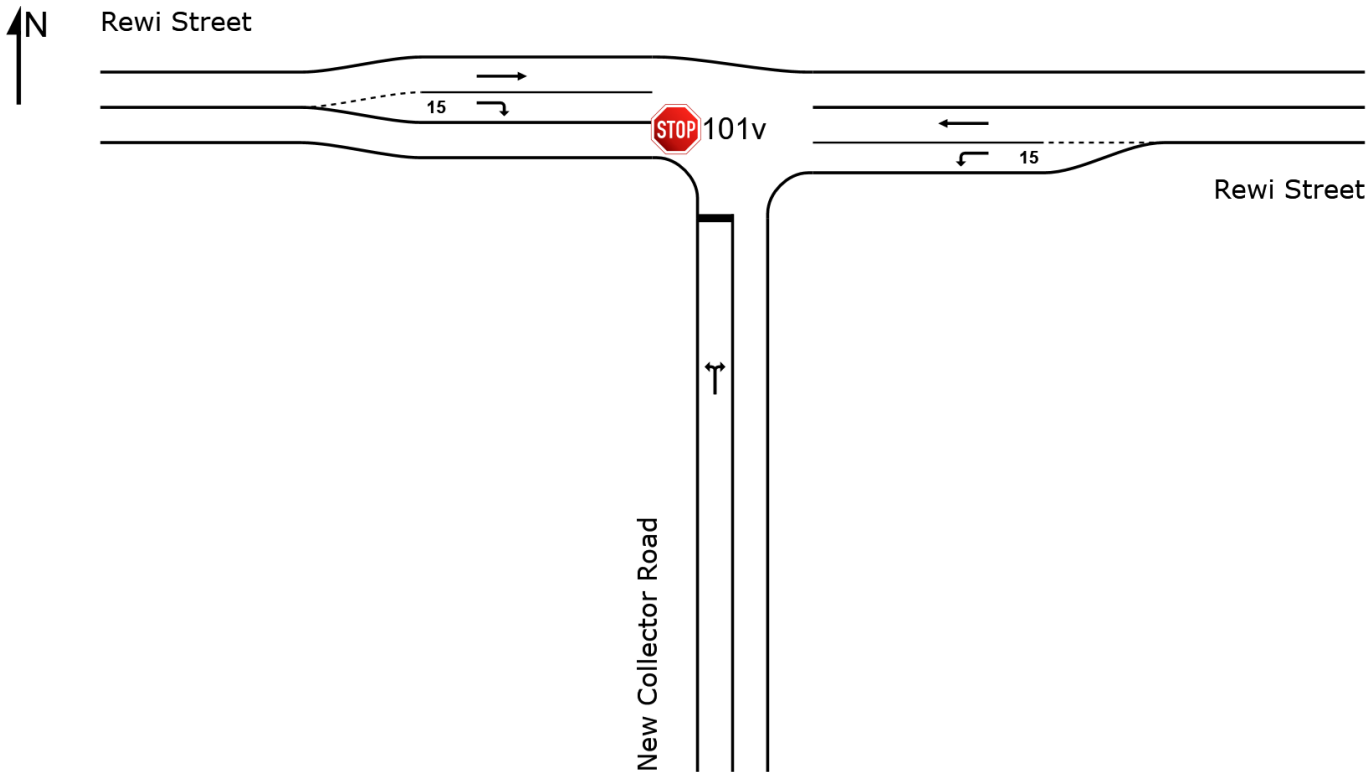
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101v [Collector Road / Rewi Street_2031 Baseline + Area 1 (94 dwellings)_AM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

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



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Project: Z:\310205677\7_technical\SIDRA\t4-growth-area_collector road & rewi street_20230530.sip9

MOVEMENT SUMMARY

Site: 101v [Collector Road / Rewi Street_2031 Baseline + Area 1 (94 dwellings)_AM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Collector Road														
1	L2	13	5.0	14	5.0	0.113	8.9	LOS A	0.4	2.8	0.60	0.94	0.60	40.9
3	R2	23	5.0	24	5.0	0.113	21.1	LOS C	0.4	2.8	0.60	0.94	0.60	40.8
Approach		36	5.0	38	5.0	0.113	16.7	LOS C	0.4	2.8	0.60	0.94	0.60	40.9
East: Rewi Street														
4	L2	8	5.0	8	5.0	0.005	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
5	T1	222	10.0	234	10.0	0.126	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
Approach		230	9.8	242	9.8	0.126	0.2	NA	0.0	0.0	0.00	0.02	0.00	49.8
West: Rewi Street														
11	T1	513	10.0	540	10.0	0.292	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
12	R2	5	5.0	5	5.0	0.005	5.6	LOS A	0.0	0.1	0.34	0.53	0.34	45.4
Approach		518	10.0	545	10.0	0.292	0.2	NA	0.0	0.1	0.00	0.01	0.00	49.8
All Vehicles		784	9.7	825	9.7	0.292	0.9	NA	0.4	2.8	0.03	0.05	0.03	49.3

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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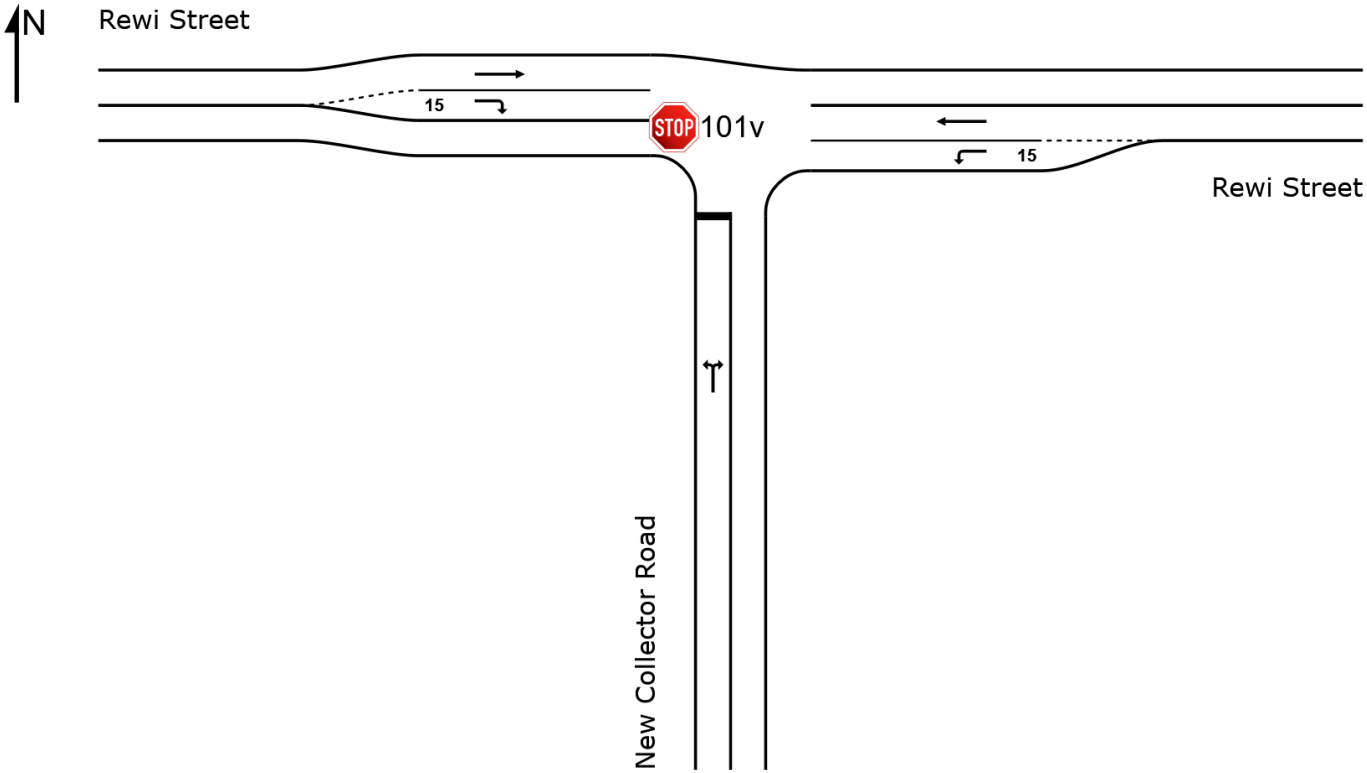
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101v [Collector Road / Rewi Street_2031 Baseline + Area 1 (94 dwellings)_PM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101v [Collector Road / Rewi Street_2031 Baseline + Area 1 (94 dwellings)_PM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Collector Road														
1	L2	7	5.0	7	5.0	0.072	12.3	LOS B	0.2	1.7	0.75	0.99	0.75	39.7
3	R2	11	5.0	12	5.0	0.072	24.5	LOS C	0.2	1.7	0.75	0.99	0.75	39.6
Approach		18	5.0	19	5.0	0.072	19.7	LOS C	0.2	1.7	0.75	0.99	0.75	39.7
East: Rewi Street														
4	L2	19	5.0	20	5.0	0.011	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
5	T1	547	10.0	576	10.0	0.311	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
Approach		566	9.8	596	9.8	0.311	0.3	NA	0.0	0.0	0.00	0.02	0.00	49.7
West: Rewi Street														
11	T1	273	10.0	287	10.0	0.156	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
12	R2	11	5.0	12	5.0	0.017	8.2	LOS A	0.1	0.5	0.55	0.69	0.55	44.2
Approach		284	9.8	299	9.8	0.156	0.4	NA	0.1	0.5	0.02	0.03	0.02	49.7
All Vehicles		868	9.7	914	9.7	0.311	0.7	NA	0.2	1.7	0.02	0.04	0.02	49.5

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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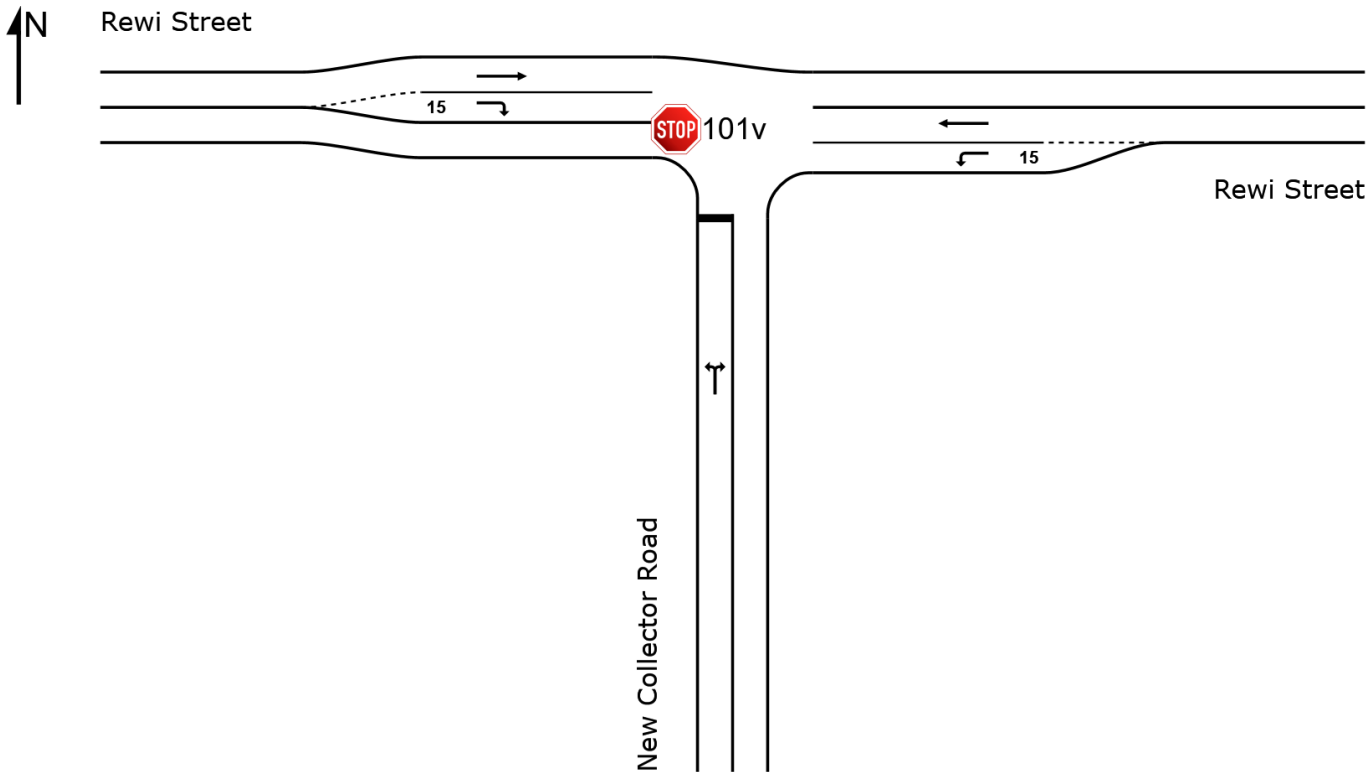
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SITE LAYOUT

Site: 101v [Collector Road / Rewi Street_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

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



Document Set ID: 11324600
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MOVEMENT SUMMARY

Site: 101v [Collector Road / Rewi Street_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Collector Road														
1	L2	31	5.0	33	5.0	0.266	9.8	LOS A	1.0	7.5	0.63	0.98	0.71	40.2
3	R2	53	5.0	56	5.0	0.266	23.3	LOS C	1.0	7.5	0.63	0.98	0.71	40.1
Approach		84	5.0	88	5.0	0.266	18.3	LOS C	1.0	7.5	0.63	0.98	0.71	40.2
East: Rewi Street														
4	L2	18	5.0	19	5.0	0.011	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
5	T1	222	10.0	234	10.0	0.126	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
Approach		240	9.6	253	9.6	0.126	0.4	NA	0.0	0.0	0.00	0.04	0.00	49.7
West: Rewi Street														
11	T1	513	10.0	540	10.0	0.293	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
12	R2	11	5.0	12	5.0	0.011	5.7	LOS A	0.0	0.3	0.35	0.55	0.35	45.4
Approach		524	9.9	552	9.9	0.293	0.2	NA	0.0	0.3	0.01	0.01	0.01	49.8
All Vehicles		848	9.3	893	9.3	0.293	2.1	NA	1.0	7.5	0.07	0.12	0.07	48.6

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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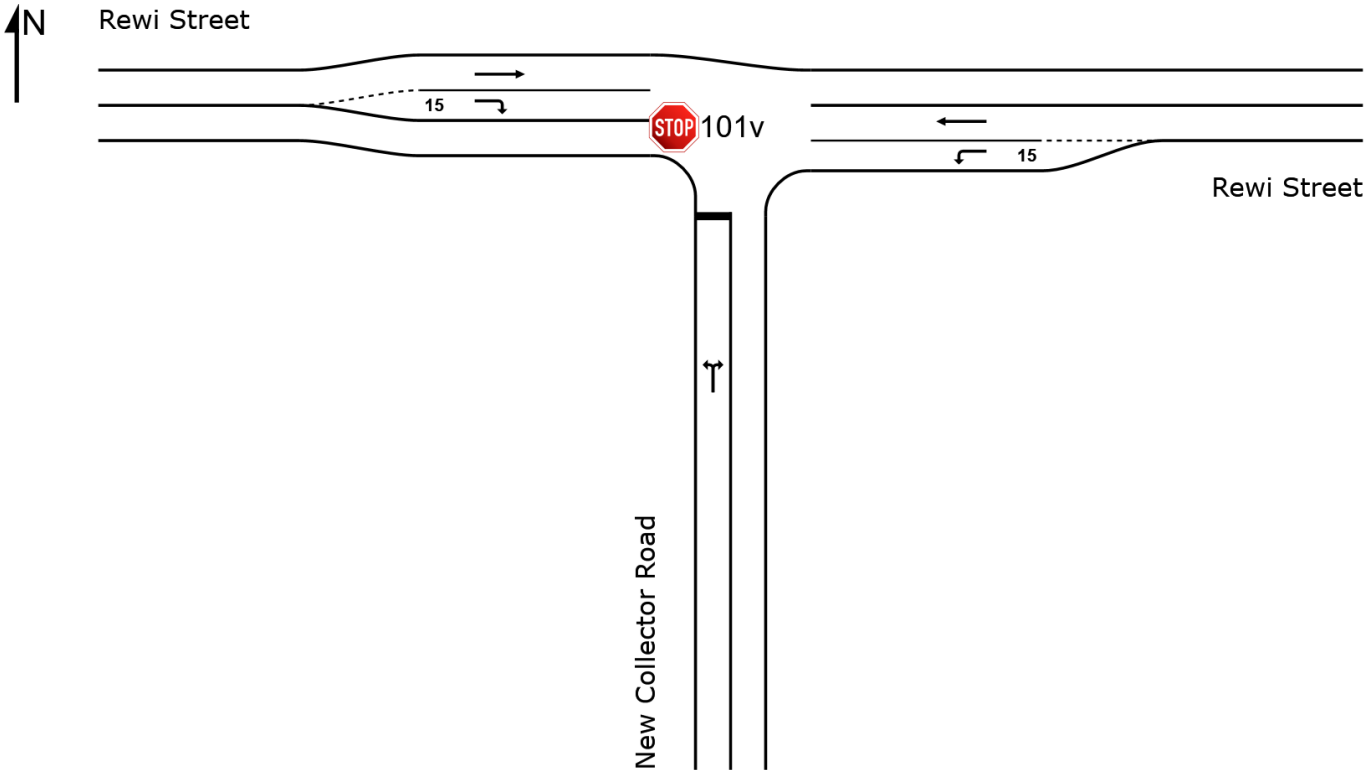
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SITE LAYOUT

Site: 101v [Collector Road / Rewi Street_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101v [Collector Road / Rewi Street_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Collector Road														
1	L2	15	5.0	16	5.0	0.181	12.6	LOS B	0.6	4.4	0.78	1.00	0.79	39.0
3	R2	27	5.0	28	5.0	0.181	26.6	LOS D	0.6	4.4	0.78	1.00	0.79	38.9
Approach		42	5.0	44	5.0	0.181	21.6	LOS C	0.6	4.4	0.78	1.00	0.79	38.9
East: Rewi Street														
4	L2	44	5.0	46	5.0	0.026	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
5	T1	547	10.0	576	10.0	0.311	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
Approach		591	9.6	622	9.6	0.311	0.4	NA	0.0	0.0	0.00	0.04	0.00	49.6
West: Rewi Street														
11	T1	273	10.0	287	10.0	0.156	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
12	R2	26	5.0	27	5.0	0.042	8.5	LOS A	0.2	1.1	0.56	0.74	0.56	44.0
Approach		299	9.6	315	9.6	0.156	0.8	NA	0.2	1.1	0.05	0.06	0.05	49.4
All Vehicles		932	9.4	981	9.4	0.311	1.5	NA	0.6	4.4	0.05	0.09	0.05	48.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
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Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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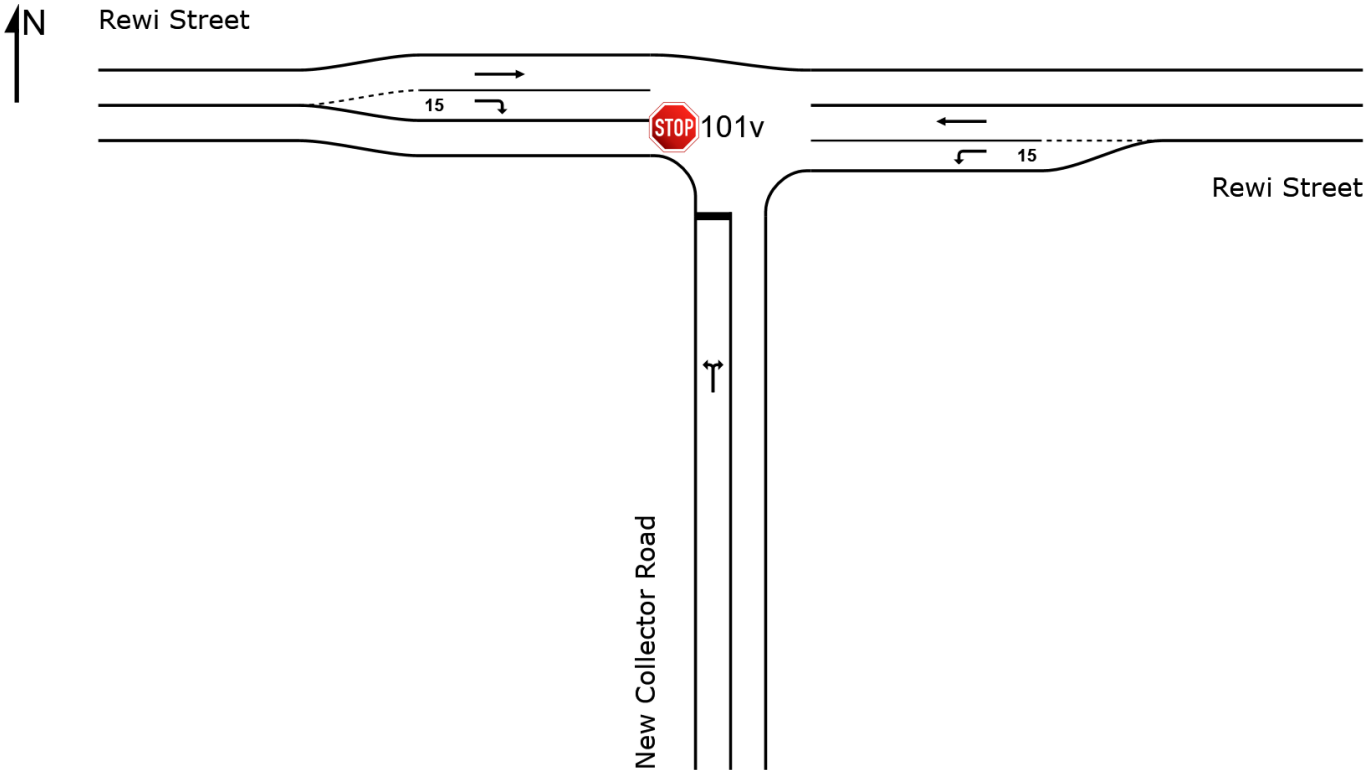
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SITE LAYOUT

Site: 101v [Collector Road / Rewi Street_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101v [Collector Road / Rewi Street_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Collector Road														
1	L2	43	5.0	45	5.0	0.381	11.4	LOS B	1.7	12.5	0.66	1.04	0.88	39.3
3	R2	75	5.0	79	5.0	0.381	25.9	LOS D	1.7	12.5	0.66	1.04	0.88	39.2
Approach		118	5.0	124	5.0	0.381	20.6	LOS C	1.7	12.5	0.66	1.04	0.88	39.2
East: Rewi Street														
4	L2	26	5.0	27	5.0	0.016	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
5	T1	222	10.0	234	10.0	0.126	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
Approach		248	9.5	261	9.5	0.126	0.5	NA	0.0	0.0	0.00	0.06	0.00	49.6
West: Rewi Street														
11	T1	513	10.0	540	10.0	0.293	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
12	R2	15	5.0	16	5.0	0.015	5.7	LOS A	0.1	0.4	0.36	0.56	0.36	45.4
Approach		528	9.9	556	9.9	0.293	0.3	NA	0.1	0.4	0.01	0.02	0.01	49.7
All Vehicles		894	9.1	941	9.1	0.381	3.0	NA	1.7	12.5	0.09	0.16	0.12	48.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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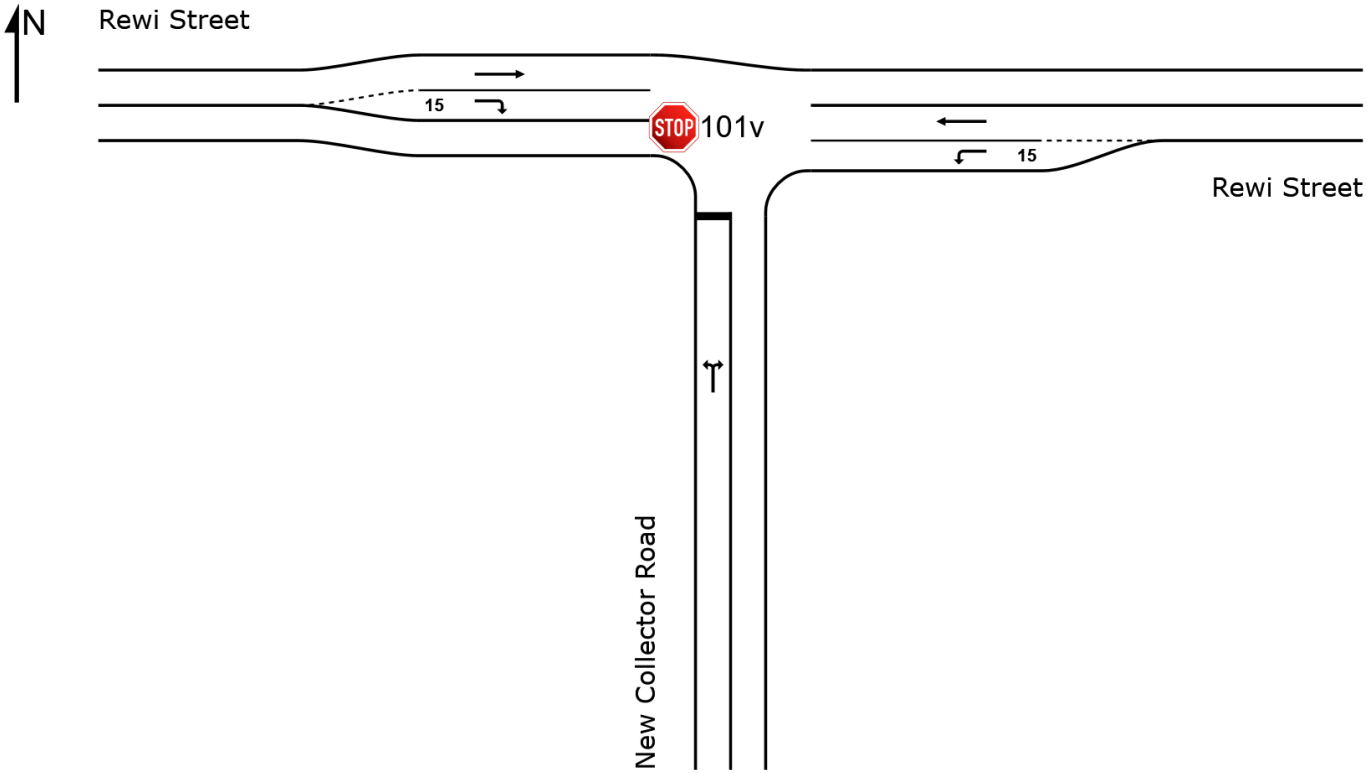
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SITE LAYOUT

Site: 101v [Collector Road / Rewi Street_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

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MOVEMENT SUMMARY

Site: 101v [Collector Road / Rewi Street_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Collector Road														
1	L2	22	5.0	23	5.0	0.259	13.9	LOS B	0.9	6.8	0.80	1.03	0.90	38.2
3	R2	37	5.0	39	5.0	0.259	29.2	LOS D	0.9	6.8	0.80	1.03	0.90	38.1
Approach		59	5.0	62	5.0	0.259	23.5	LOS C	0.9	6.8	0.80	1.03	0.90	38.1
East: Rewi Street														
4	L2	62	5.0	65	5.0	0.037	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.5
5	T1	547	10.0	576	10.0	0.311	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
Approach		609	9.5	641	9.5	0.311	0.6	NA	0.0	0.0	0.00	0.05	0.00	49.5
West: Rewi Street														
11	T1	273	10.0	287	10.0	0.157	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
12	R2	36	5.0	38	5.0	0.060	8.7	LOS A	0.2	1.6	0.57	0.76	0.57	43.9
Approach		309	9.4	325	9.4	0.157	1.1	NA	0.2	1.6	0.07	0.09	0.07	49.1
All Vehicles		977	9.2	1028	9.2	0.311	2.1	NA	0.9	6.8	0.07	0.12	0.08	48.5

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
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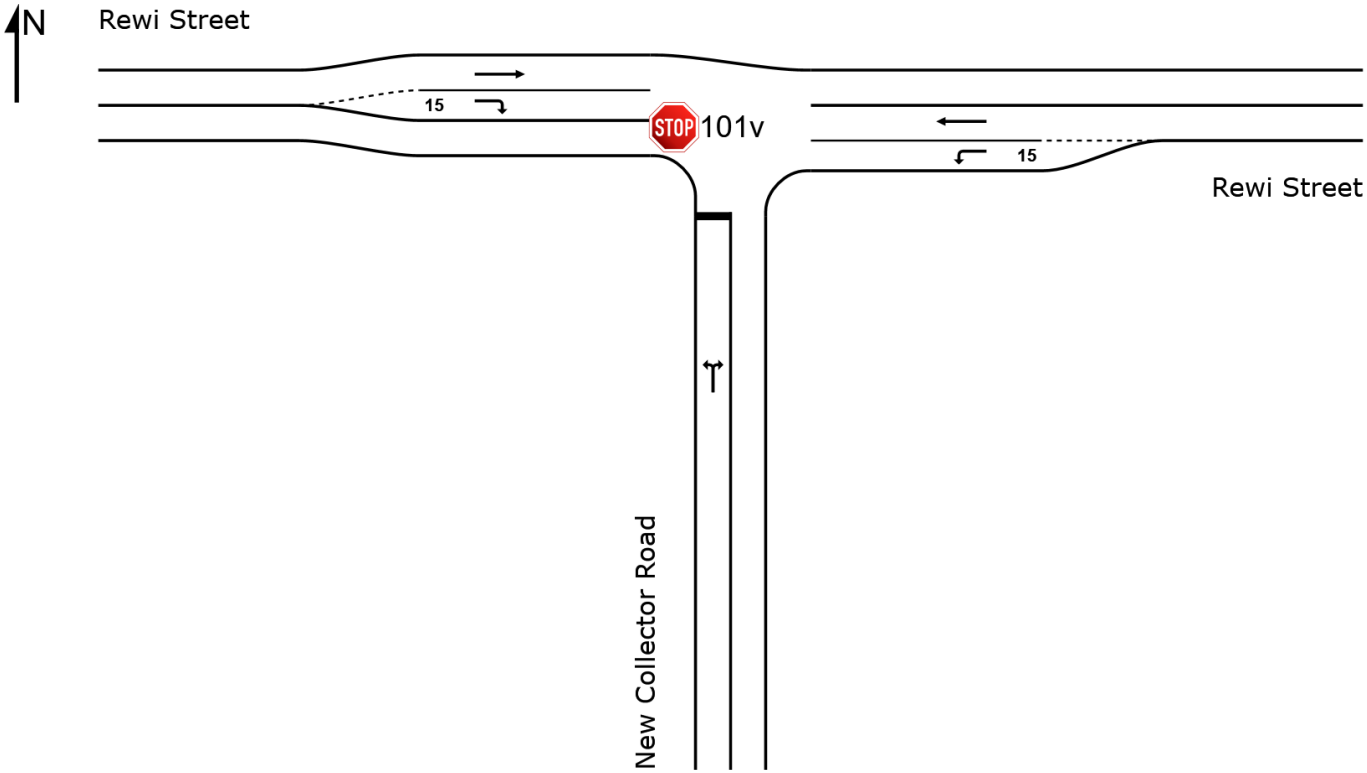
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SITE LAYOUT

Site: 101v [Collector Road / Rewi Street_2041 Baseline + Area 1 (70 dwellings)_AM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

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Document Set ID: 11324600
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MOVEMENT SUMMARY

Site: 101v [Collector Road / Rewi Street_2041 Baseline + Area 1 (70 dwellings)_AM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Collector Road														
1	L2	10	5.0	11	5.0	0.084	9.0	LOS A	0.3	2.1	0.59	0.94	0.59	41.0
3	R2	17	5.0	18	5.0	0.084	20.9	LOS C	0.3	2.1	0.59	0.94	0.59	40.9
Approach		27	5.0	28	5.0	0.084	16.5	LOS C	0.3	2.1	0.59	0.94	0.59	41.0
East: Rewi Street														
4	L2	6	5.0	6	5.0	0.004	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
5	T1	237	5.0	249	5.0	0.131	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		243	5.0	256	5.0	0.131	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.9
West: Rewi Street														
11	T1	521	5.0	548	5.0	0.288	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
12	R2	4	5.0	4	5.0	0.004	5.6	LOS A	0.0	0.1	0.35	0.53	0.35	45.4
Approach		525	5.0	553	5.0	0.288	0.1	NA	0.0	0.1	0.00	0.00	0.00	49.8
All Vehicles		795	5.0	837	5.0	0.288	0.7	NA	0.3	2.1	0.02	0.04	0.02	49.5

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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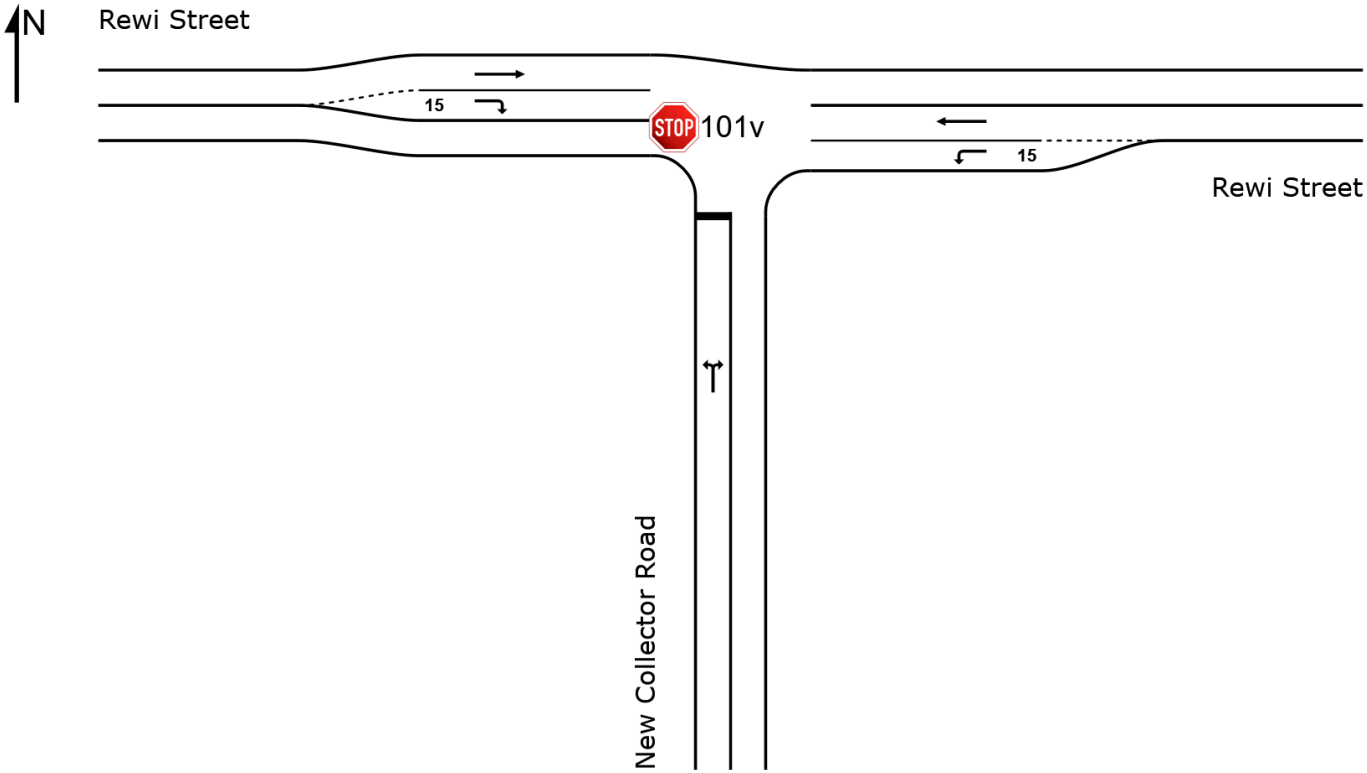
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SITE LAYOUT

Site: 101v [Collector Road / Rewi Street_2041 Baseline + Area 1 (70 dwellings)_PM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

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



Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101v [Collector Road / Rewi Street_2041 Baseline + Area 1 (70 dwellings)_PM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Collector Road														
1	L2	5	5.0	5	5.0	0.059	12.4	LOS B	0.2	1.4	0.75	0.99	0.75	39.5
3	R2	9	5.0	9	5.0	0.059	24.8	LOS C	0.2	1.4	0.75	0.99	0.75	39.4
Approach		14	5.0	15	5.0	0.059	20.3	LOS C	0.2	1.4	0.75	0.99	0.75	39.4
East: Rewi Street														
4	L2	14	5.0	15	5.0	0.008	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
5	T1	568	5.0	598	5.0	0.313	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
Approach		582	5.0	613	5.0	0.313	0.2	NA	0.0	0.0	0.00	0.01	0.00	49.8
West: Rewi Street														
11	T1	287	5.0	302	5.0	0.160	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
12	R2	8	5.0	8	5.0	0.013	8.2	LOS A	0.0	0.3	0.55	0.67	0.55	44.2
Approach		295	5.0	311	5.0	0.160	0.3	NA	0.0	0.3	0.01	0.02	0.01	49.8
All Vehicles		891	5.0	938	5.0	0.313	0.6	NA	0.2	1.4	0.02	0.03	0.02	49.6

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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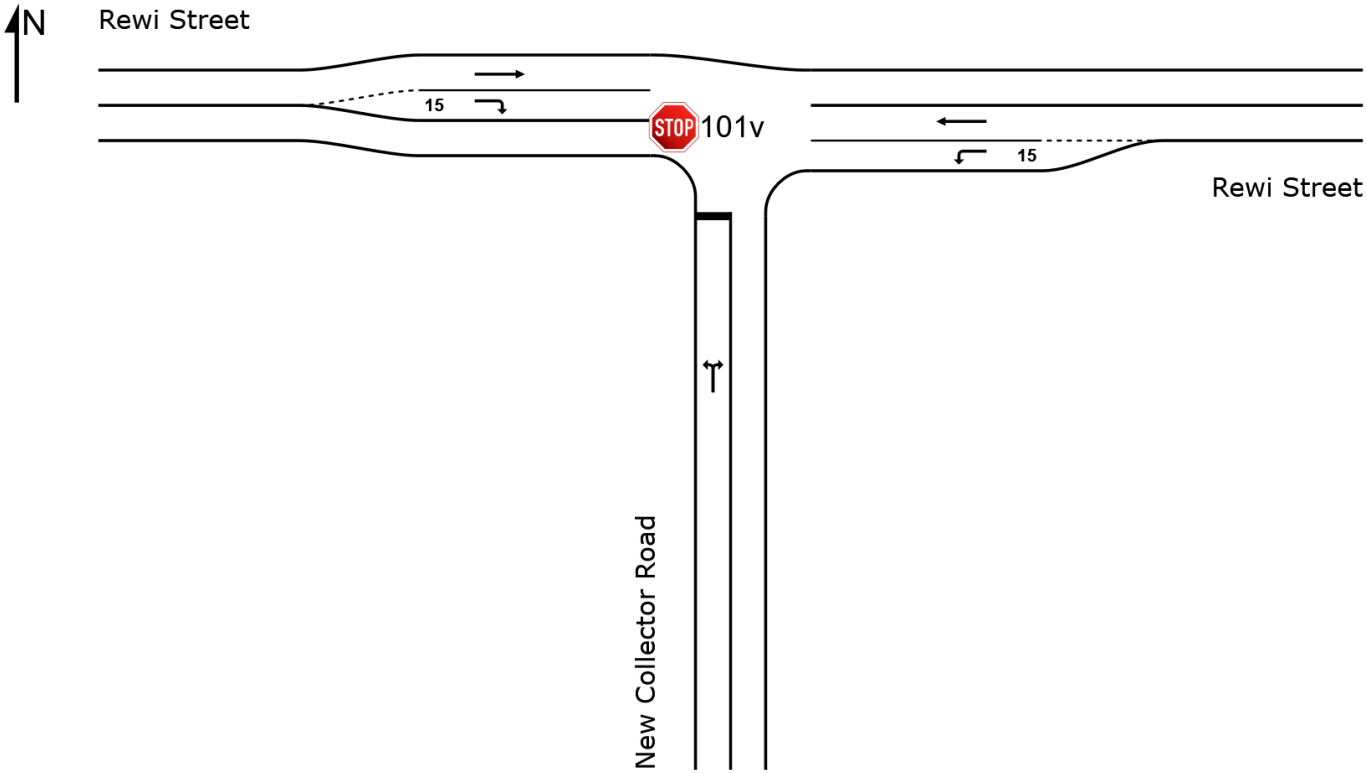
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SITE LAYOUT

Site: 101v [Collector Road / Rewi Street_2041 Baseline + Area 1 (94 dwellings)_AM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

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



Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101v [Collector Road / Rewi Street_2041 Baseline + Area 1 (94 dwellings)_AM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Collector Road														
1	L2	13	5.0	14	5.0	0.114	9.0	LOS A	0.4	2.8	0.60	0.94	0.60	40.9
3	R2	23	5.0	24	5.0	0.114	21.2	LOS C	0.4	2.8	0.60	0.94	0.60	40.8
Approach		36	5.0	38	5.0	0.114	16.8	LOS C	0.4	2.8	0.60	0.94	0.60	40.8
East: Rewi Street														
4	L2	8	5.0	8	5.0	0.005	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
5	T1	237	5.0	249	5.0	0.131	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		245	5.0	258	5.0	0.131	0.2	NA	0.0	0.0	0.00	0.02	0.00	49.8
West: Rewi Street														
11	T1	521	5.0	548	5.0	0.288	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
12	R2	5	5.0	5	5.0	0.005	5.7	LOS A	0.0	0.1	0.35	0.53	0.35	45.4
Approach		526	5.0	554	5.0	0.288	0.2	NA	0.0	0.1	0.00	0.01	0.00	49.8
All Vehicles		807	5.0	849	5.0	0.288	0.9	NA	0.4	2.8	0.03	0.05	0.03	49.3

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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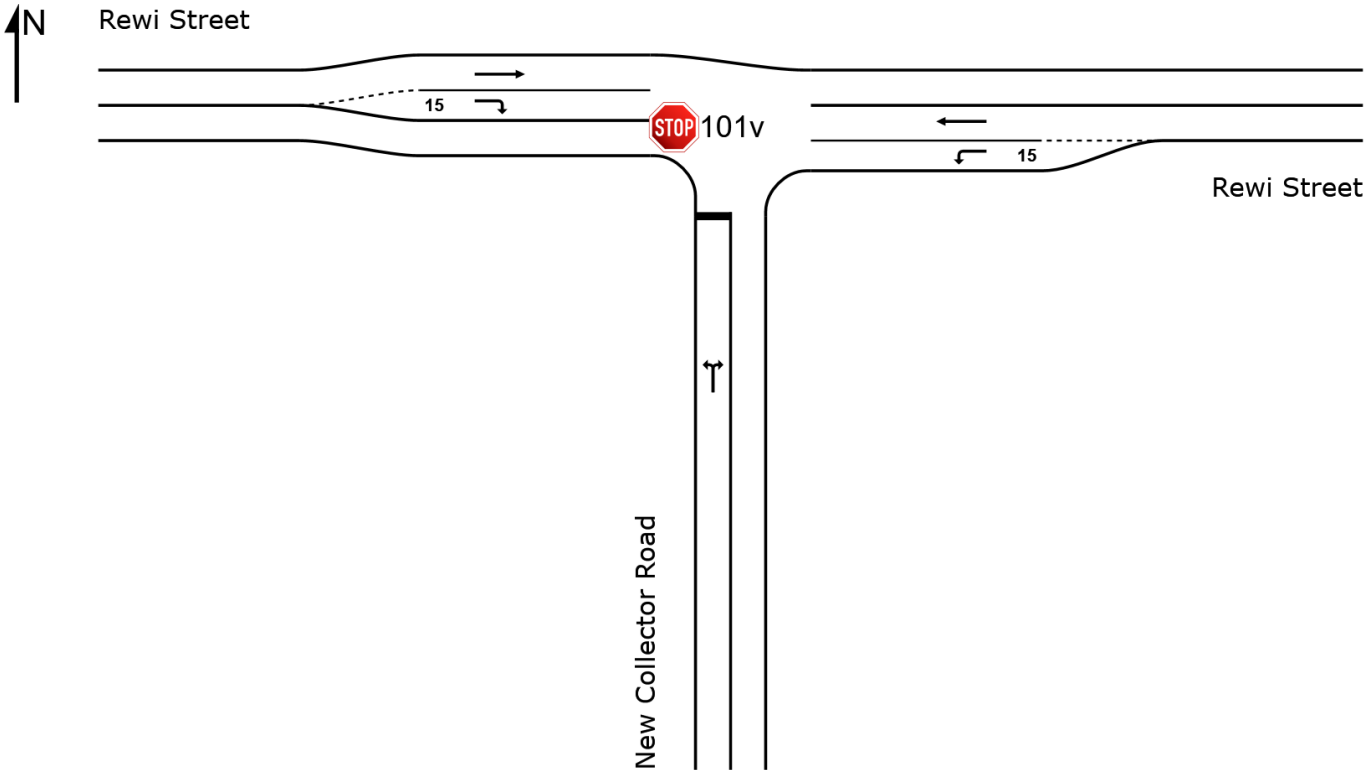
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SITE LAYOUT

Site: 101v [Collector Road / Rewi Street_2041 Baseline + Area 1 (94 dwellings)_PM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101v [Collector Road / Rewi Street_2041 Baseline + Area 1 (94 dwellings)_PM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Collector Road														
1	L2	7	5.0	7	5.0	0.074	12.4	LOS B	0.2	1.8	0.75	1.00	0.75	39.5
3	R2	11	5.0	12	5.0	0.074	25.2	LOS D	0.2	1.8	0.75	1.00	0.75	39.4
Approach		18	5.0	19	5.0	0.074	20.2	LOS C	0.2	1.8	0.75	1.00	0.75	39.5
East: Rewi Street														
4	L2	19	5.0	20	5.0	0.011	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
5	T1	568	5.0	598	5.0	0.313	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
Approach		587	5.0	618	5.0	0.313	0.3	NA	0.0	0.0	0.00	0.02	0.00	49.7
West: Rewi Street														
11	T1	287	5.0	302	5.0	0.159	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
12	R2	11	5.0	12	5.0	0.018	8.3	LOS A	0.1	0.5	0.55	0.69	0.55	44.1
Approach		298	5.0	314	5.0	0.159	0.4	NA	0.1	0.5	0.02	0.03	0.02	49.7
All Vehicles		903	5.0	951	5.0	0.313	0.7	NA	0.2	1.8	0.02	0.04	0.02	49.5

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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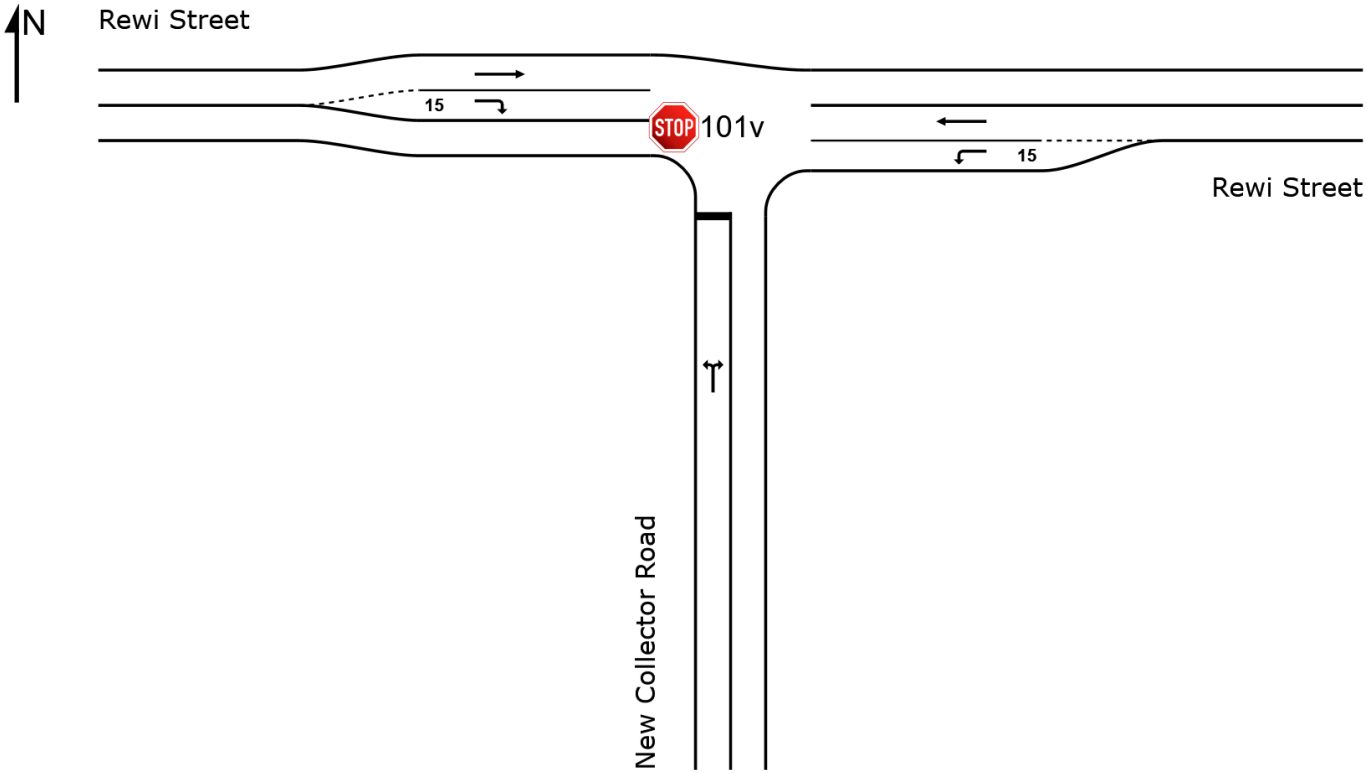
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SITE LAYOUT

Site: 101v [Collector Road / Rewi Street_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101v [Collector Road / Rewi Street_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Collector Road														
1	L2	31	5.0	33	5.0	0.279	10.2	LOS B	1.1	8.0	0.65	0.99	0.75	39.9
3	R2	53	5.0	56	5.0	0.279	24.5	LOS C	1.1	8.0	0.65	0.99	0.75	39.7
Approach		84	5.0	88	5.0	0.279	19.2	LOS C	1.1	8.0	0.65	0.99	0.75	39.8
East: Rewi Street														
4	L2	18	5.0	19	5.0	0.011	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
5	T1	237	10.0	249	10.0	0.135	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		255	9.6	268	9.6	0.135	0.4	NA	0.0	0.0	0.00	0.04	0.00	49.7
West: Rewi Street														
11	T1	521	10.0	548	10.0	0.298	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
12	R2	11	5.0	12	5.0	0.011	5.8	LOS A	0.0	0.3	0.36	0.55	0.36	45.4
Approach		532	9.9	560	9.9	0.298	0.2	NA	0.0	0.3	0.01	0.01	0.01	49.8
All Vehicles		871	9.4	917	9.4	0.298	2.1	NA	1.1	8.0	0.07	0.11	0.08	48.6

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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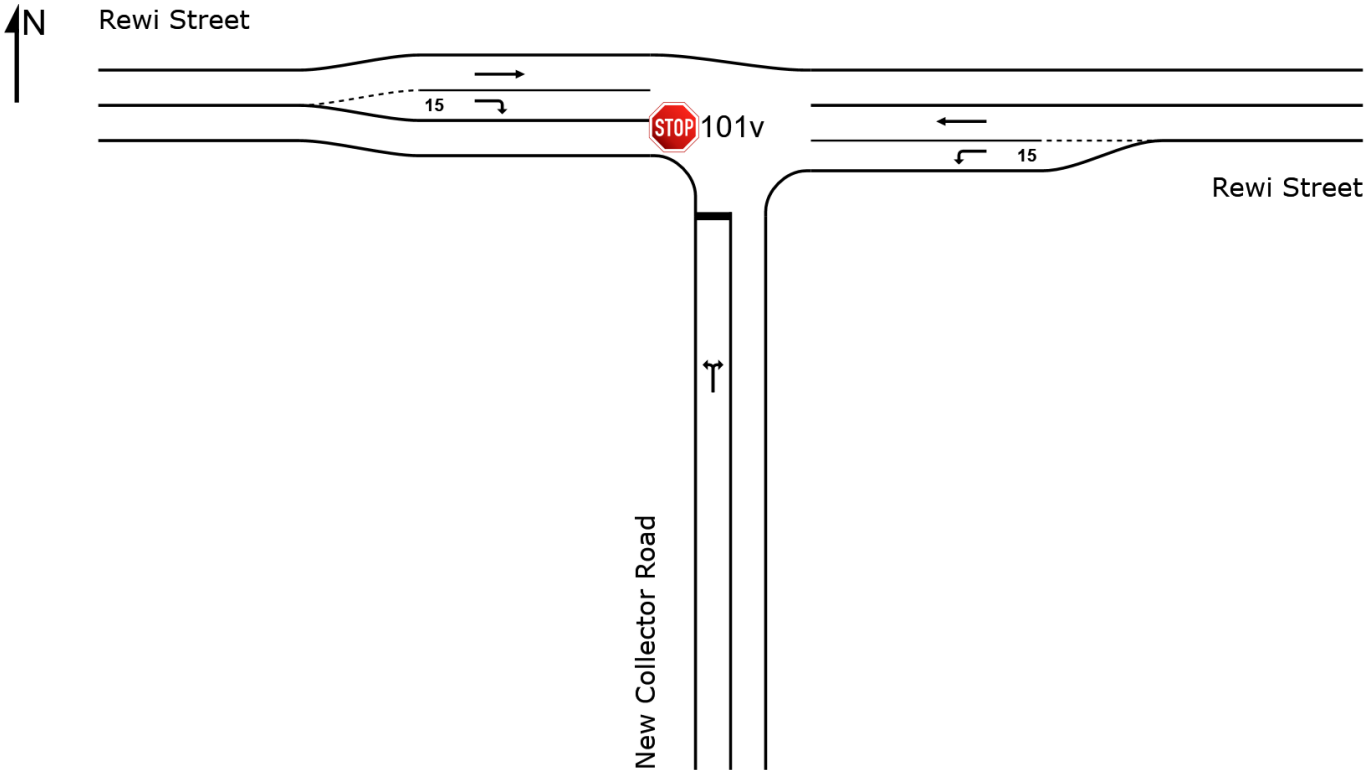
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SITE LAYOUT

Site: 101v [Collector Road / Rewi Street_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

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MOVEMENT SUMMARY

Site: 101v [Collector Road / Rewi Street_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Collector Road														
1	L2	15	5.0	16	5.0	0.196	13.2	LOS B	0.7	4.8	0.80	1.01	0.83	38.3
3	R2	27	5.0	28	5.0	0.196	28.8	LOS D	0.7	4.8	0.80	1.01	0.83	38.2
Approach		42	5.0	44	5.0	0.196	23.3	LOS C	0.7	4.8	0.80	1.01	0.83	38.2
East: Rewi Street														
4	L2	44	5.0	46	5.0	0.026	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
5	T1	568	10.0	598	10.0	0.323	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
Approach		612	9.6	644	9.6	0.323	0.4	NA	0.0	0.0	0.00	0.04	0.00	49.6
West: Rewi Street														
11	T1	287	10.0	302	10.0	0.164	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
12	R2	26	5.0	27	5.0	0.044	8.8	LOS A	0.2	1.1	0.57	0.75	0.57	43.8
Approach		313	9.6	329	9.6	0.164	0.8	NA	0.2	1.1	0.05	0.06	0.05	49.4
All Vehicles		967	9.4	1018	9.4	0.323	1.5	NA	0.7	4.8	0.05	0.09	0.05	48.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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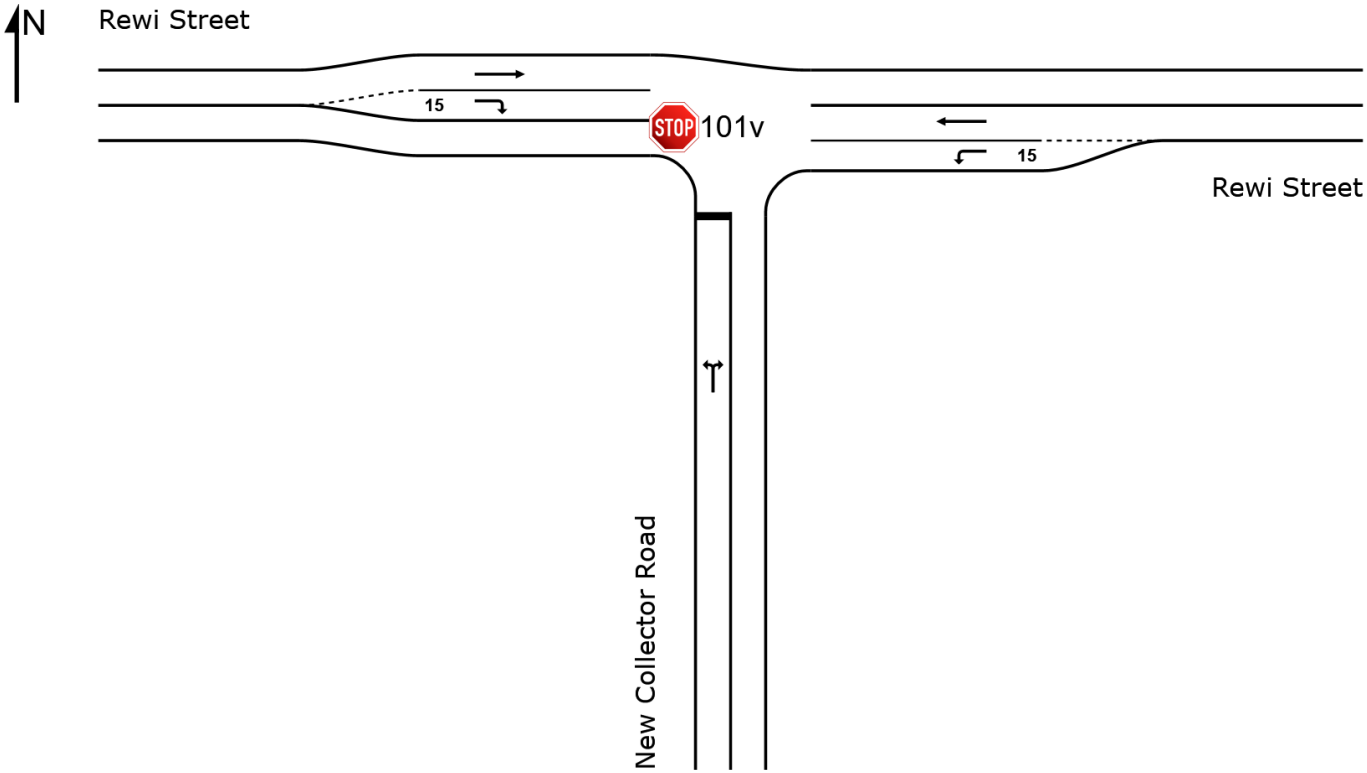
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SITE LAYOUT

Site: 101v [Collector Road / Rewi Street_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

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MOVEMENT SUMMARY

Site: 101v [Collector Road / Rewi Street_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Collector Road														
1	L2	43	5.0	45	5.0	0.400	11.9	LOS B	1.8	13.2	0.68	1.05	0.94	38.8
3	R2	75	5.0	79	5.0	0.400	27.4	LOS D	1.8	13.2	0.68	1.05	0.94	38.7
Approach		118	5.0	124	5.0	0.400	21.7	LOS C	1.8	13.2	0.68	1.05	0.94	38.8
East: Rewi Street														
4	L2	26	5.0	27	5.0	0.016	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
5	T1	237	10.0	249	10.0	0.135	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		263	9.5	277	9.5	0.135	0.5	NA	0.0	0.0	0.00	0.05	0.00	49.6
West: Rewi Street														
11	T1	521	10.0	548	10.0	0.298	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
12	R2	15	5.0	16	5.0	0.015	5.8	LOS A	0.1	0.4	0.37	0.56	0.37	45.4
Approach		536	9.9	564	9.9	0.298	0.3	NA	0.1	0.4	0.01	0.02	0.01	49.7
All Vehicles		917	9.1	965	9.1	0.400	3.1	NA	1.8	13.2	0.09	0.16	0.13	47.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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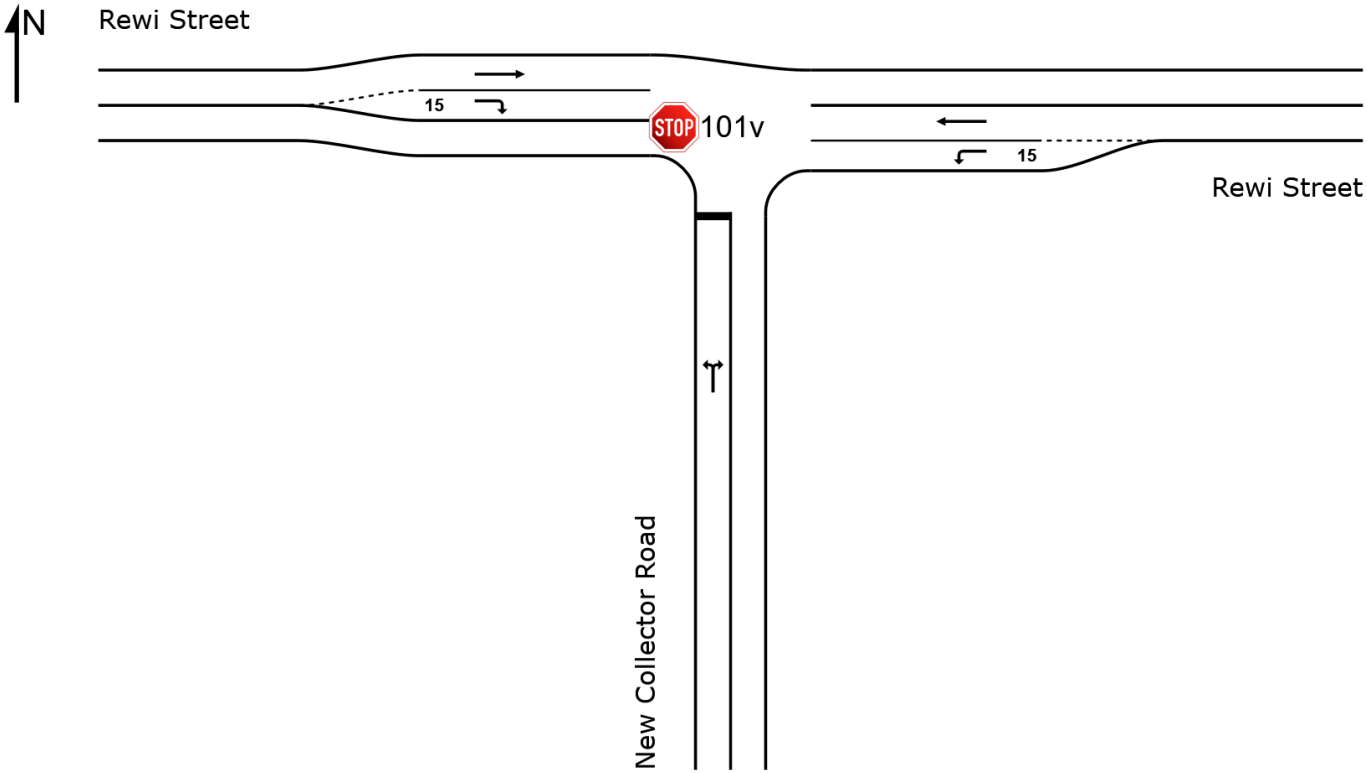
Document Set ID: 11324600
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SITE LAYOUT

Site: 101v [Collector Road / Rewi Street_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

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



Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

MOVEMENT SUMMARY

Site: 101v [Collector Road / Rewi Street_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street and Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Collector Road														
1	L2	22	5.0	23	5.0	0.281	14.7	LOS B	1.0	7.4	0.82	1.04	0.95	37.5
3	R2	37	5.0	39	5.0	0.281	31.8	LOS D	1.0	7.4	0.82	1.04	0.95	37.4
Approach		59	5.0	62	5.0	0.281	25.4	LOS D	1.0	7.4	0.82	1.04	0.95	37.4
East: Rewi Street														
4	L2	62	5.0	65	5.0	0.037	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.5
5	T1	568	10.0	598	10.0	0.323	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
Approach		630	9.5	663	9.5	0.323	0.6	NA	0.0	0.0	0.00	0.05	0.00	49.5
West: Rewi Street														
11	T1	287	10.0	302	10.0	0.165	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
12	R2	36	5.0	38	5.0	0.062	9.0	LOS A	0.2	1.6	0.58	0.78	0.58	43.7
Approach		323	9.4	340	9.4	0.165	1.0	NA	0.2	1.6	0.06	0.09	0.06	49.2
All Vehicles		1012	9.2	1065	9.2	0.323	2.2	NA	1.0	7.4	0.07	0.12	0.08	48.5

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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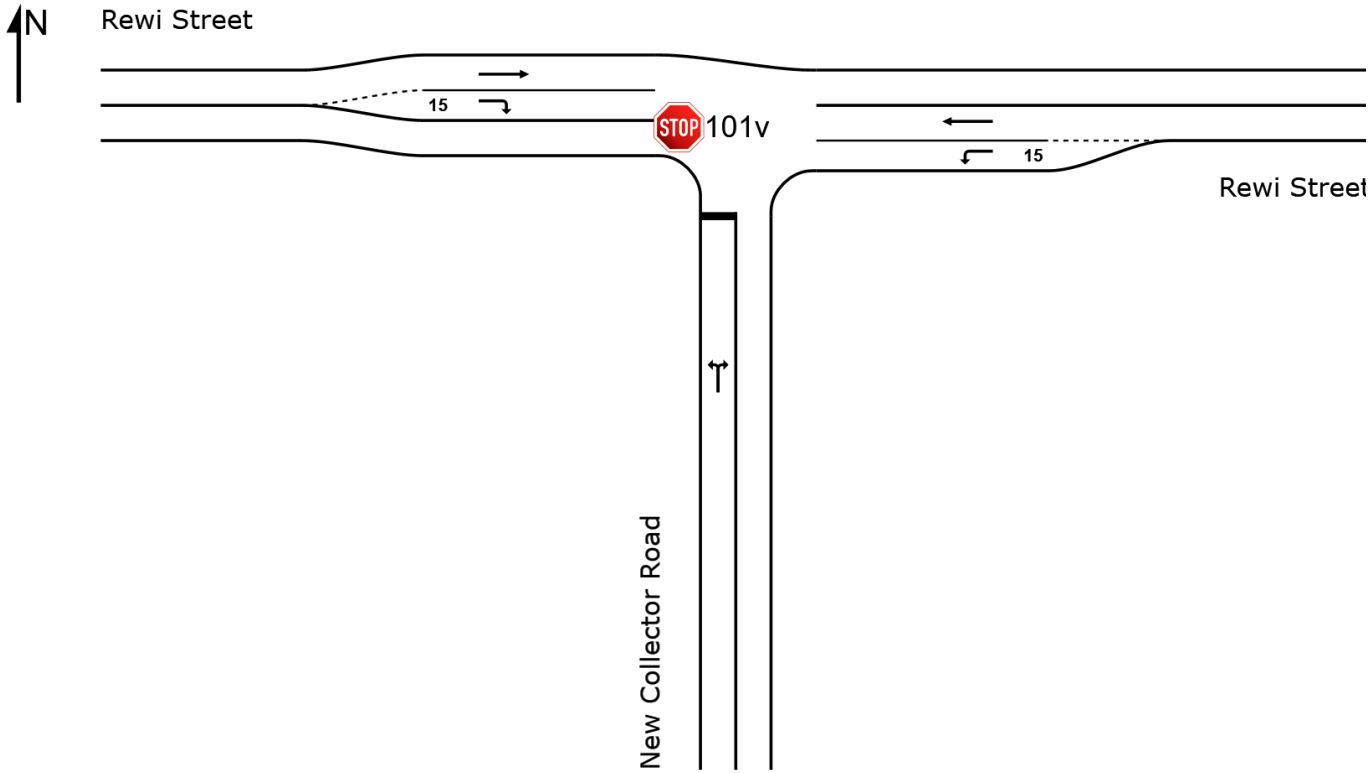
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101v [Collector Road / Rewi Street_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street, Puniu Road & Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

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Project: Z:\310205677\7_technical\SIDRA\t4-growth-area_collector road & rewi street_20230530.sip9

MOVEMENT SUMMARY

Site: 101v [Collector Road / Rewi Street_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street, Puniu Road & Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Collector Road														
1	L2	31	5.0	33	5.0	0.355	11.1	LOS B	1.5	11.1	0.68	1.03	0.88	39.1
3	R2	73	5.0	77	5.0	0.355	25.2	LOS D	1.5	11.1	0.68	1.03	0.88	39.0
Approach		104	5.0	109	5.0	0.355	21.0	LOS C	1.5	11.1	0.68	1.03	0.88	39.0
East: Rewi Street														
4	L2	25	5.0	26	5.0	0.015	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
5	T1	222	10.0	234	10.0	0.126	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
Approach		247	9.5	260	9.5	0.126	0.5	NA	0.0	0.0	0.00	0.05	0.00	49.6
West: Rewi Street														
11	T1	513	10.0	540	10.0	0.293	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
12	R2	11	5.0	12	5.0	0.011	5.7	LOS A	0.0	0.3	0.35	0.55	0.35	45.4
Approach		524	9.9	552	9.9	0.293	0.2	NA	0.0	0.3	0.01	0.01	0.01	49.8
All Vehicles		875	9.2	921	9.2	0.355	2.8	NA	1.5	11.1	0.09	0.14	0.11	48.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Project: Z:\310205677\7_technical\SIDRA\t4-growth-area_collector road & rewi street_20230530.sip9

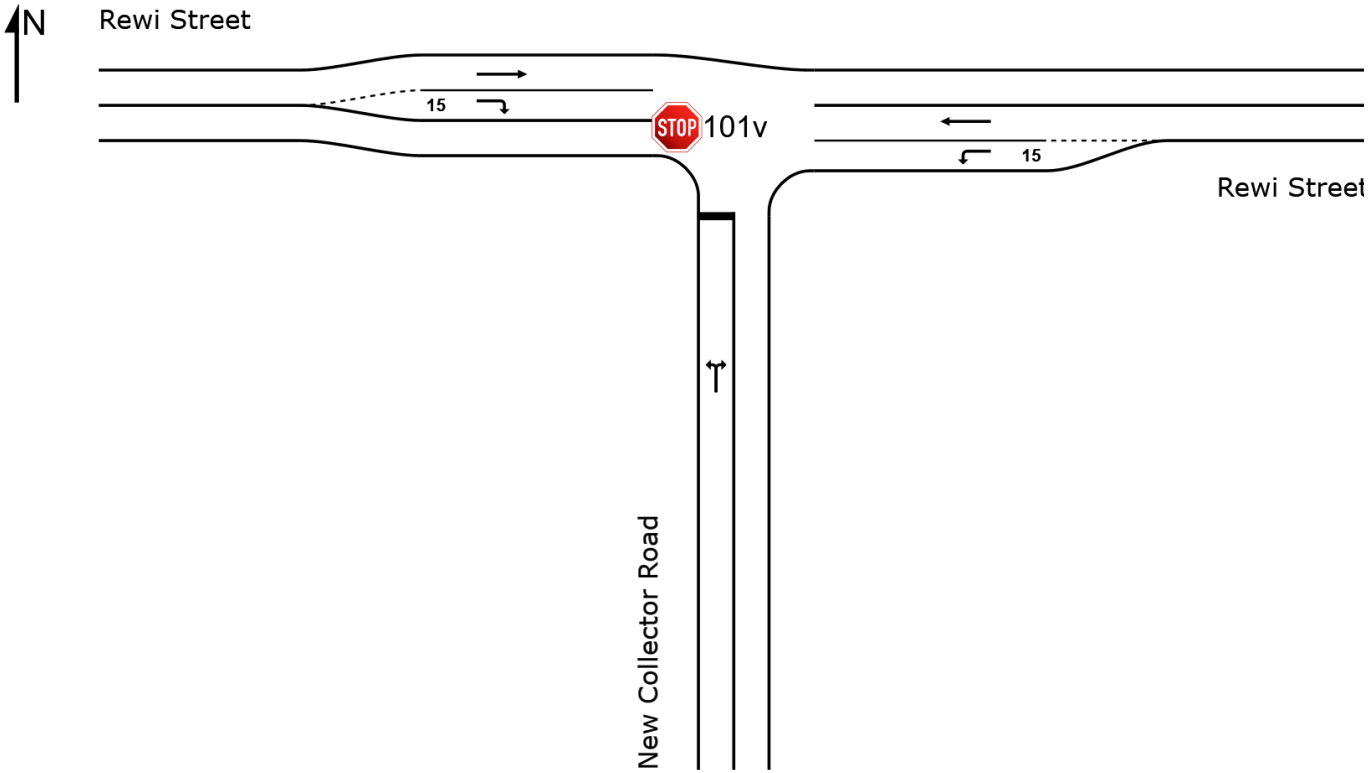
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SITE LAYOUT

Site: 101v [Collector Road / Rewi Street_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street, Puniu Road & Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101v [Collector Road / Rewi Street_2031 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street, Puniu Road & Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Collector Road														
1	L2	15	5.0	16	5.0	0.240	13.6	LOS B	0.8	6.2	0.81	1.03	0.89	38.0
3	R2	37	5.0	39	5.0	0.240	28.3	LOS D	0.8	6.2	0.81	1.03	0.89	37.9
Approach		52	5.0	55	5.0	0.240	24.1	LOS C	0.8	6.2	0.81	1.03	0.89	37.9
East: Rewi Street														
4	L2	61	5.0	64	5.0	0.036	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.5
5	T1	547	10.0	576	10.0	0.311	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
Approach		608	9.5	640	9.5	0.311	0.6	NA	0.0	0.0	0.00	0.05	0.00	49.5
West: Rewi Street														
11	T1	273	10.0	287	10.0	0.156	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
12	R2	26	5.0	27	5.0	0.043	8.7	LOS A	0.2	1.1	0.57	0.74	0.57	43.9
Approach		299	9.6	315	9.6	0.156	0.8	NA	0.2	1.1	0.05	0.06	0.05	49.3
All Vehicles		959	9.3	1009	9.3	0.311	1.9	NA	0.8	6.2	0.06	0.11	0.06	48.6

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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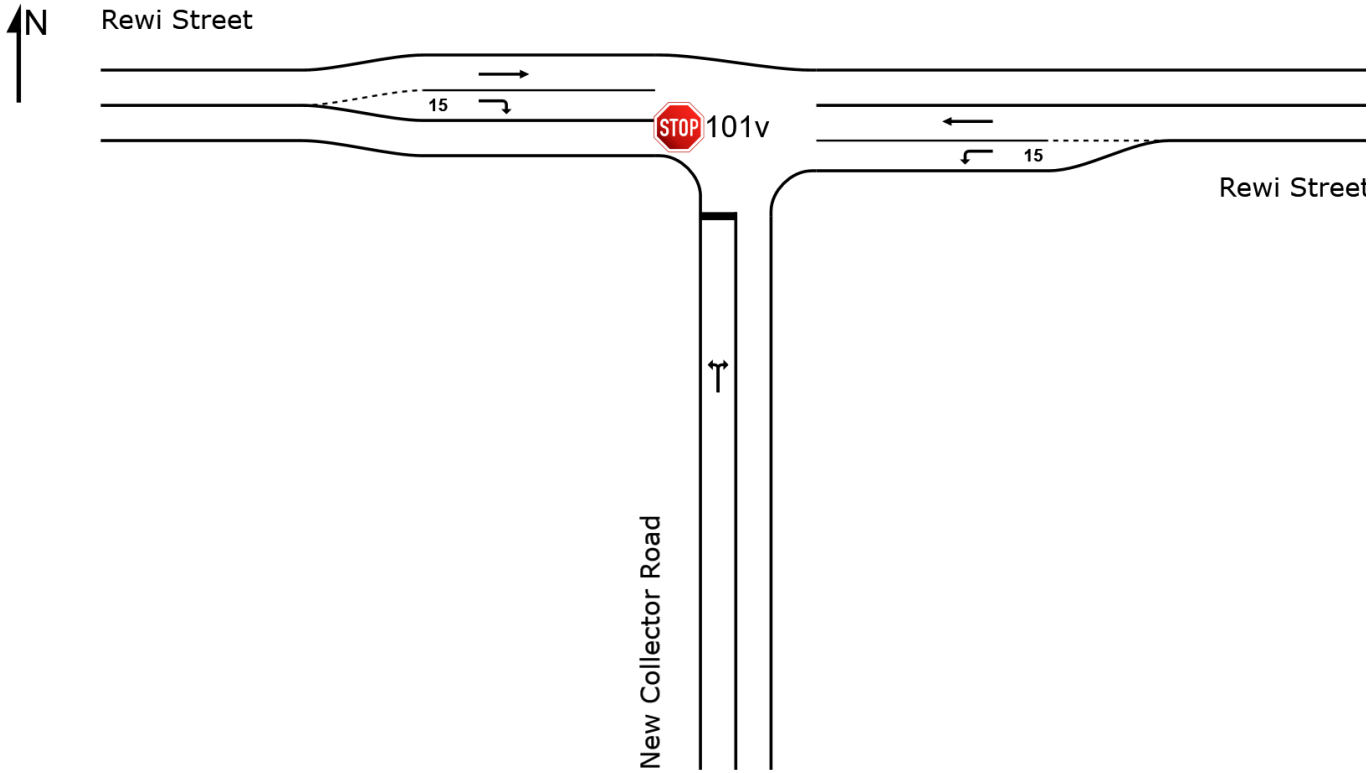
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SITE LAYOUT

Site: 101v [Collector Road / Rewi Street_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street, Puniu Road & Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

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Project: Z:\310205677\7_technical\SIDRA\t4-growth-area_collector road & rewi street_20230530.sip9

MOVEMENT SUMMARY

Site: 101v [Collector Road / Rewi Street_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street, Puniu Road & Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Collector Road														
1	L2	43	5.0	45	5.0	0.513	13.9	LOS B	2.6	19.2	0.73	1.12	1.15	37.7
3	R2	104	5.0	109	5.0	0.513	29.2	LOS D	2.6	19.2	0.73	1.12	1.15	37.6
Approach		147	5.0	155	5.0	0.513	24.7	LOS C	2.6	19.2	0.73	1.12	1.15	37.6
East: Rewi Street														
4	L2	35	5.0	37	5.0	0.021	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
5	T1	222	10.0	234	10.0	0.126	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
Approach		257	9.3	271	9.3	0.126	0.7	NA	0.0	0.0	0.00	0.07	0.00	49.5
West: Rewi Street														
11	T1	513	10.0	540	10.0	0.294	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
12	R2	15	5.0	16	5.0	0.015	5.8	LOS A	0.1	0.4	0.36	0.56	0.36	45.4
Approach		528	9.9	556	9.9	0.294	0.3	NA	0.1	0.4	0.01	0.02	0.01	49.7
All Vehicles		932	8.9	981	8.9	0.513	4.2	NA	2.6	19.2	0.12	0.20	0.19	47.2

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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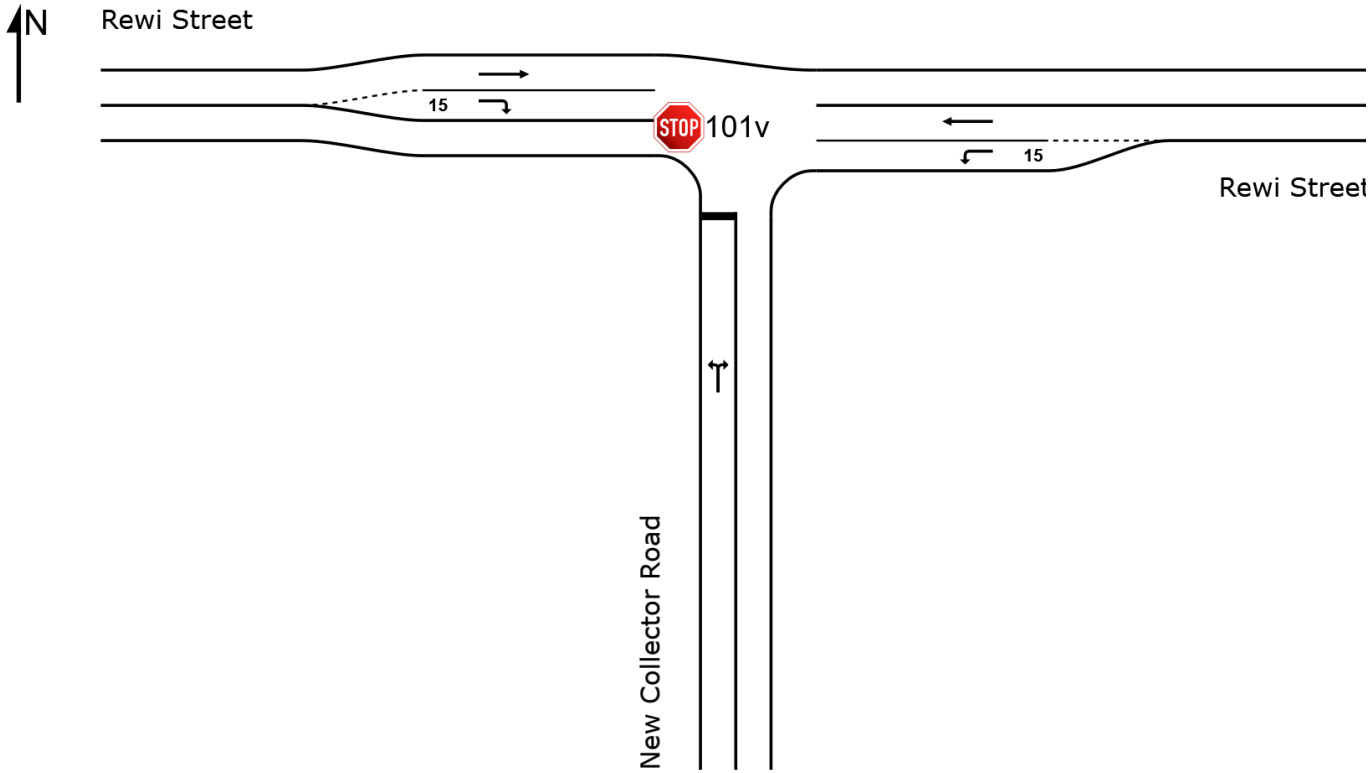
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SITE LAYOUT

Site: 101v [Collector Road / Rewi Street_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street, Puniu Road & Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

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Project: Z:\310205677\7_technical\SIDRA\t4-growth-area_collector road & rewi street_20230530.sip9

MOVEMENT SUMMARY

Site: 101v [Collector Road / Rewi Street_2031 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street, Puniu Road & Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Collector Road														
1	L2	22	5.0	23	5.0	0.348	15.6	LOS C	1.3	9.8	0.83	1.07	1.04	36.9
3	R2	51	5.0	54	5.0	0.348	31.8	LOS D	1.3	9.8	0.83	1.07	1.04	36.8
Approach		73	5.0	77	5.0	0.348	26.9	LOS D	1.3	9.8	0.83	1.07	1.04	36.8
East: Rewi Street														
4	L2	87	5.0	92	5.0	0.052	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.5
5	T1	547	10.0	576	10.0	0.311	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
Approach		634	9.3	667	9.3	0.311	0.7	NA	0.0	0.0	0.00	0.07	0.00	49.4
West: Rewi Street														
11	T1	273	10.0	287	10.0	0.157	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
12	R2	36	5.0	38	5.0	0.062	9.0	LOS A	0.2	1.6	0.58	0.77	0.58	43.7
Approach		309	9.4	325	9.4	0.157	1.1	NA	0.2	1.6	0.07	0.09	0.07	49.1
All Vehicles		1016	9.0	1069	9.0	0.348	2.7	NA	1.3	9.8	0.08	0.15	0.10	48.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
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Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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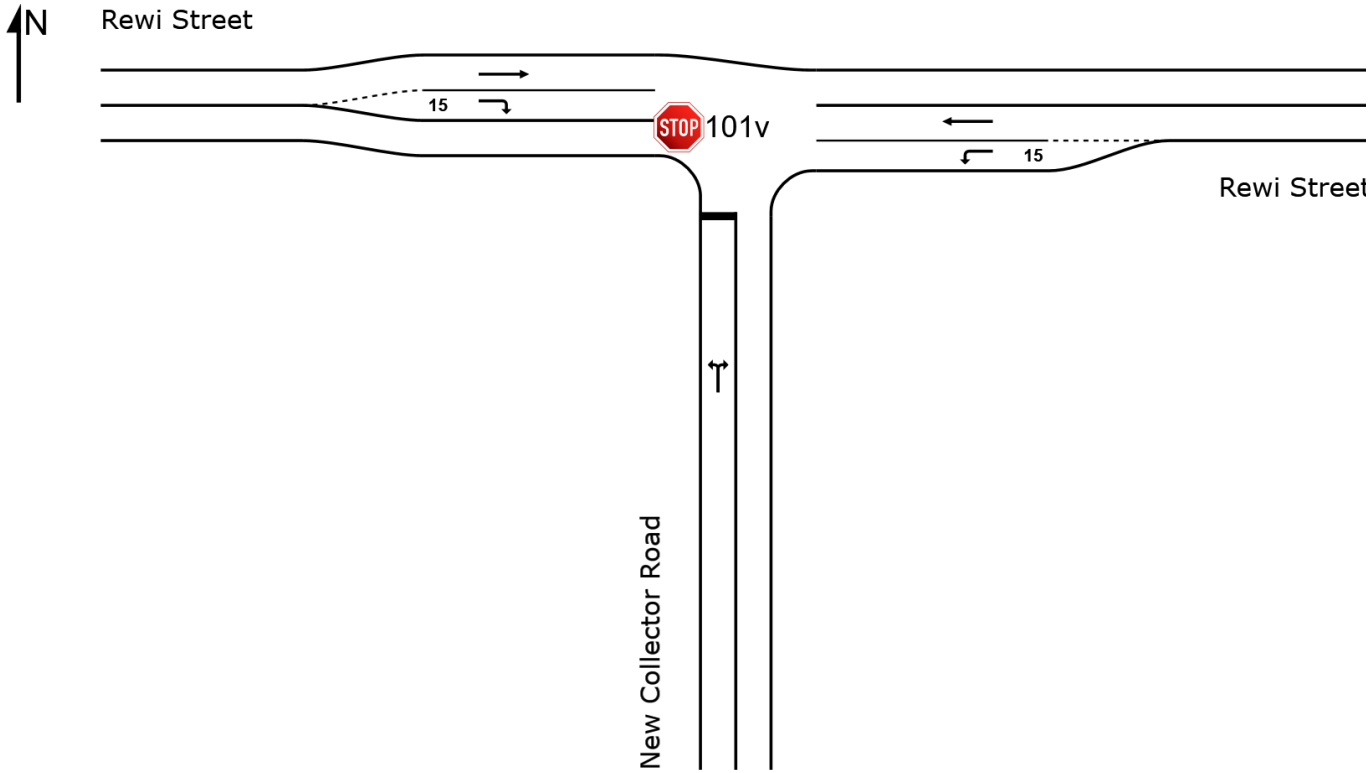
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Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101v [Collector Road / Rewi Street_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street, Puniu Road & Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101v [Collector Road / Rewi Street_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_AM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street, Puniu Road & Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Collector Road														
1	L2	31	5.0	33	5.0	0.373	11.6	LOS B	1.6	11.7	0.71	1.04	0.93	38.7
3	R2	73	5.0	77	5.0	0.373	26.6	LOS D	1.6	11.7	0.71	1.04	0.93	38.6
Approach		104	5.0	109	5.0	0.373	22.1	LOS C	1.6	11.7	0.71	1.04	0.93	38.6
East: Rewi Street														
4	L2	25	5.0	26	5.0	0.015	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
5	T1	237	10.0	249	10.0	0.135	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		262	9.5	276	9.5	0.135	0.5	NA	0.0	0.0	0.00	0.05	0.00	49.6
West: Rewi Street														
11	T1	521	10.0	548	10.0	0.298	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
12	R2	11	5.0	12	5.0	0.011	5.8	LOS A	0.0	0.3	0.37	0.56	0.37	45.4
Approach		532	9.9	560	9.9	0.298	0.2	NA	0.0	0.3	0.01	0.01	0.01	49.8
All Vehicles		898	9.2	945	9.2	0.373	2.8	NA	1.6	11.7	0.09	0.14	0.11	48.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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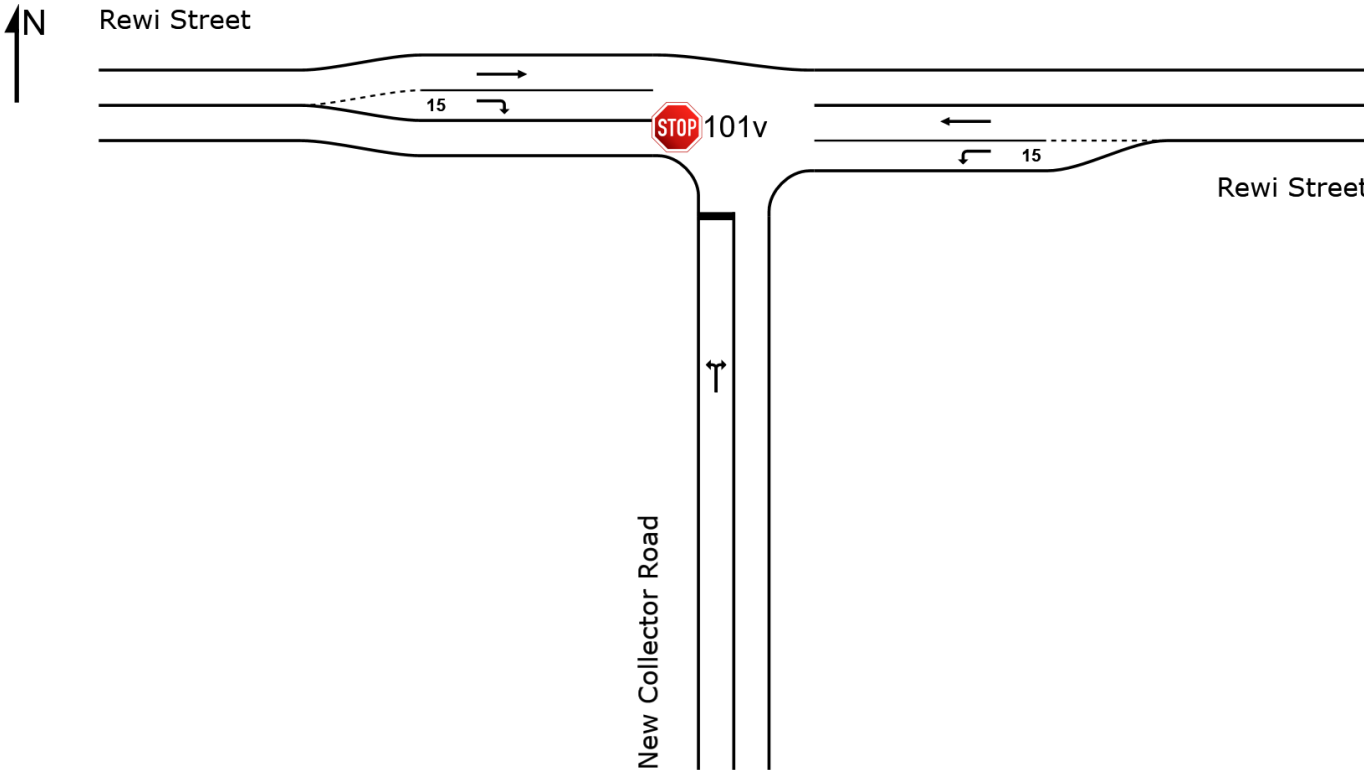
Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

SITE LAYOUT

Site: 101v [Collector Road / Rewi Street_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street, Puniu Road & Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

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



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MOVEMENT SUMMARY

Site: 101v [Collector Road / Rewi Street_2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)_PM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street, Puniu Road & Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Collector Road														
1	L2	15	5.0	16	5.0	0.261	14.5	LOS B	0.9	6.7	0.83	1.03	0.93	37.2
3	R2	37	5.0	39	5.0	0.261	30.8	LOS D	0.9	6.7	0.83	1.03	0.93	37.1
Approach		52	5.0	55	5.0	0.261	26.1	LOS D	0.9	6.7	0.83	1.03	0.93	37.1
East: Rewi Street														
4	L2	61	5.0	64	5.0	0.036	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.5
5	T1	568	10.0	598	10.0	0.323	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
Approach		629	9.5	662	9.5	0.323	0.6	NA	0.0	0.0	0.00	0.05	0.00	49.5
West: Rewi Street														
11	T1	287	10.0	302	10.0	0.164	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
12	R2	26	5.0	27	5.0	0.045	8.9	LOS A	0.2	1.2	0.58	0.76	0.58	43.8
Approach		313	9.6	329	9.6	0.164	0.8	NA	0.2	1.2	0.05	0.06	0.05	49.4
All Vehicles		994	9.3	1046	9.3	0.323	2.0	NA	0.9	6.7	0.06	0.11	0.06	48.6

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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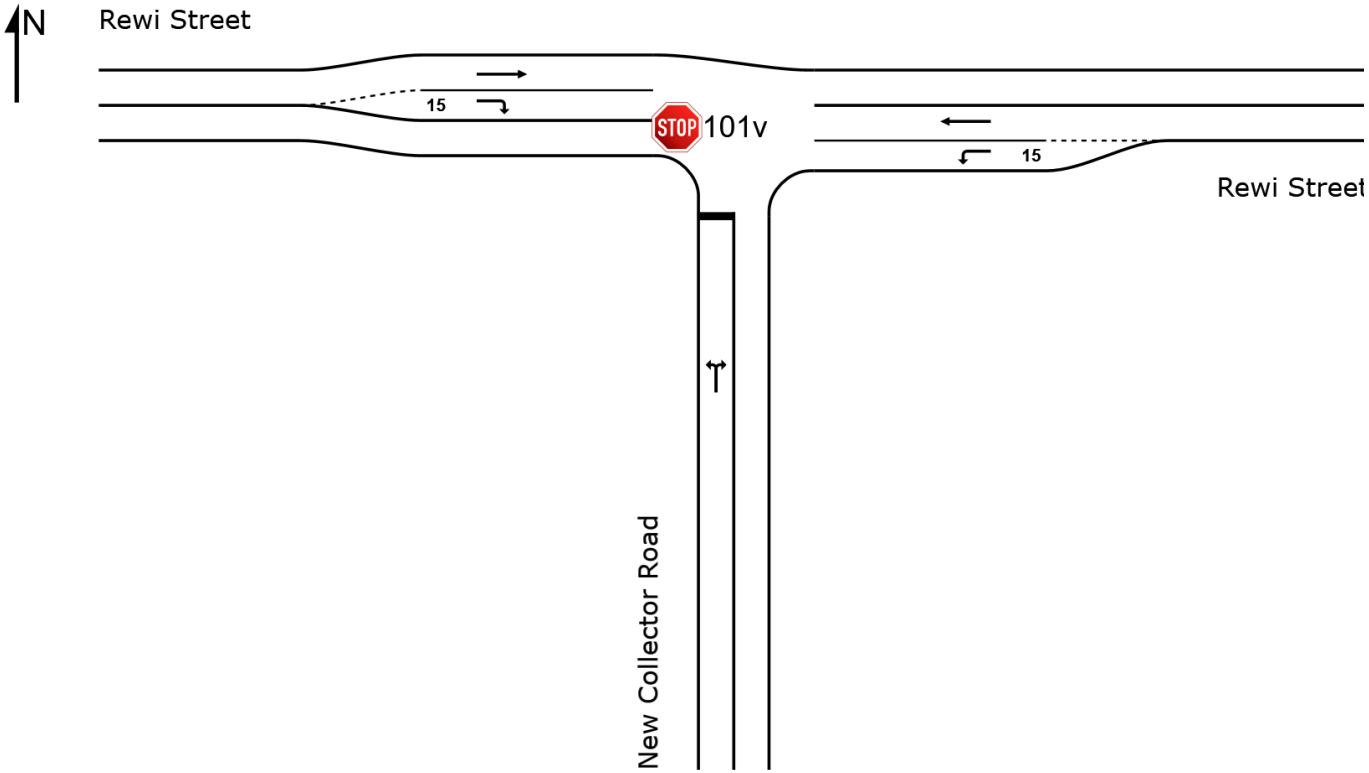
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SITE LAYOUT

Site: 101v [Collector Road / Rewi Street_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street, Puniu Road & Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

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MOVEMENT SUMMARY

Site: 101v [Collector Road / Rewi Street_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_AM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street, Puniu Road & Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Collector Road														
1	L2	43	5.0	45	5.0	0.538	14.8	LOS B	2.8	20.4	0.75	1.14	1.23	37.1
3	R2	104	5.0	109	5.0	0.538	31.1	LOS D	2.8	20.4	0.75	1.14	1.23	36.9
Approach		147	5.0	155	5.0	0.538	26.4	LOS D	2.8	20.4	0.75	1.14	1.23	37.0
East: Rewi Street														
4	L2	35	5.0	37	5.0	0.021	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
5	T1	237	10.0	249	10.0	0.135	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		272	9.4	286	9.4	0.135	0.6	NA	0.0	0.0	0.00	0.07	0.00	49.5
West: Rewi Street														
11	T1	521	10.0	548	10.0	0.298	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
12	R2	15	5.0	16	5.0	0.015	5.9	LOS A	0.1	0.4	0.37	0.56	0.37	45.4
Approach		536	9.9	564	9.9	0.298	0.3	NA	0.1	0.4	0.01	0.02	0.01	49.7
All Vehicles		955	9.0	1005	9.0	0.538	4.4	NA	2.8	20.4	0.12	0.20	0.19	47.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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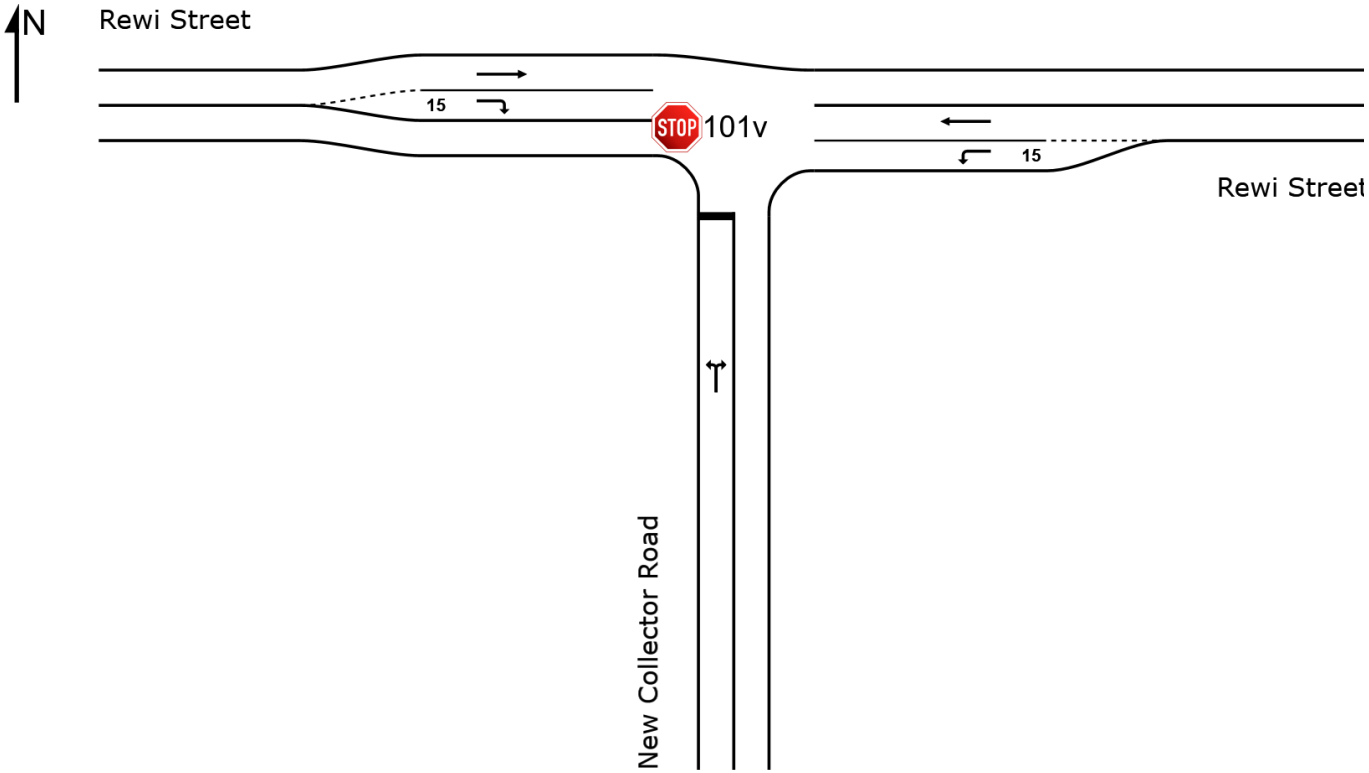
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SITE LAYOUT

Site: 101v [Collector Road / Rewi Street_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street, Puniu Road & Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

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MOVEMENT SUMMARY

Site: 101v [Collector Road / Rewi Street_2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)_PM Peak (Site Folder: Collector Road / Rewi Street Intersection with Rewi Street, Puniu Road & Wallace Terrace connections)]

New Site
Site Category: Proposed Design 1
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Collector Road														
1	L2	22	5.0	23	5.0	0.378	16.8	LOS C	1.5	10.7	0.85	1.07	1.09	36.0
3	R2	51	5.0	54	5.0	0.378	34.9	LOS D	1.5	10.7	0.85	1.07	1.09	35.9
Approach		73	5.0	77	5.0	0.378	29.5	LOS D	1.5	10.7	0.85	1.07	1.09	35.9
East: Rewi Street														
4	L2	87	5.0	92	5.0	0.052	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.5
5	T1	568	10.0	598	10.0	0.323	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
Approach		655	9.3	689	9.3	0.323	0.7	NA	0.0	0.0	0.00	0.07	0.00	49.4
West: Rewi Street														
11	T1	287	10.0	302	10.0	0.165	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
12	R2	36	5.0	38	5.0	0.064	9.3	LOS A	0.2	1.7	0.60	0.79	0.60	43.6
Approach		323	9.4	340	9.4	0.165	1.1	NA	0.2	1.7	0.07	0.09	0.07	49.1
All Vehicles		1051	9.1	1106	9.1	0.378	2.8	NA	1.5	10.7	0.08	0.15	0.10	48.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Minor Road Approach LOS values are based on average delay for all movements (v/c not used).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Version: 2, Version Date: 26/02/2026

Attachment 4: Crash Estimation Compendium Safety Assessment Summaries

Document Set ID: 11324600
Version: 2, Version Date: 26/02/2026

Crash Prediction Analysis for the existing adjoining intersections - 2031 Horizon Year

Scenario	Total dwellings	ADT Inputs				Existing Intersection Form							% Change compared to baseline
		Qmajor 1	QMajor 2	Qminor 1	Qminor 2	b0	b1	b2	A_T (Injury Crashes / year)	Crash Modification Factor(s)	Adjusted A_T (Injury Crashes / year)	Adjusted A_T (Years per injury crash)	
With Wallace Terrace connection only													
Rewi Street / College Street Intersection													
2031 Baseline flows	0	5,038	4,369	1,145	2,048	0.0000489	0.76	0.2	0.130	1	0.130	7.7	
2031 Baseline + Area 1 (70 dwellings)	70	5,153	4,455	1,260	2,364	0.0000489	0.76	0.2	0.135	1	0.135	7.4	-4%
2031 Baseline + Area 1 (94 dwellings)	94	5,192	4,484	1,299	2,472	0.0000489	0.76	0.2	0.137	1	0.137	7.3	-5%
Wallace Terrace / Fairview Road Intersection													
2031 Baseline flows	0	426	2,406	2,271	-	0.0000489	0.76	0.2	0.085	1	0.085	11.7	
2031 Baseline + Area 1 (70 dwellings)	70	1,000	2,836	2,414	-	0.0000489	0.76	0.2	0.098	1	0.098	10.2	-13%
2031 Baseline + Area 1 (94 dwellings)	94	1,197	2,984	2,463	-	0.0000489	0.76	0.2	0.102	1	0.102	9.8	-16%
Teasdale Street / Downes Street Intersection													
2031 Baseline flows	0	2,406	489	2,048	-	0.0000489	0.76	0.2	0.083	1	0.083	12.0	
2031 Baseline + Area 1 (70 dwellings)	70	2,836	604	2,364	-	0.0000489	0.76	0.2	0.097	1	0.097	10.3	-14%
2031 Baseline + Area 1 (94 dwellings)	94	2,984	643	2,472	-	0.0000489	0.76	0.2	0.102	1	0.102	9.8	-18%
Puniu Road / Fairview Road Intersection													
2031 Baseline flows	0	3,254	2,888	1,229	-	0.0000489	0.76	0.2	0.095	1	0.095	10.6	
2031 Baseline + Area 1 (70 dwellings)	70	3,340	2,945	1,372	-	0.0000489	0.76	0.2	0.099	1	0.099	10.1	-4%
2031 Baseline + Area 1 (94 dwellings)	94	3,369	2,965	1,421	-	0.0000489	0.76	0.2	0.100	1	0.100	10.0	-5%
With Puniu Road connection only													
Puniu Road / Fairview Road Intersection													
2031 Baseline flows	0	3,254	2,888	1,229	-	0.0000489	0.76	0.2	0.095	1	0.095	10.6	
2031 Baseline + Area 2 (70 dwellings)	70	3,741	3,146	1,458	-	0.0000489	0.76	0.2	0.109	1	0.109	9.2	-13%
2031 Baseline + Area 2 (150 dwellings)	150	4,299	3,441	1,721	-	0.0000489	0.76	0.2	0.125	1	0.125	8.0	-24%
2031 Baseline + Area 2 (216 dwellings)	216	4,759	3,685	1,937	-	0.0000489	0.76	0.2	0.139	1	0.139	7.2	-32%
With Rewi Street & Wallace Terrace connections only													
Rewi Street / College Street Intersection													
2031 Baseline flows	0	5,038	4,369	1,145	2,048	0.0000489	0.76	0.2	0.130	1	0.130	7.7	
2031 Baseline + Area 1 (70 dwellings)	70	5,239	4,455	1,260	2,048	0.0000489	0.76	0.2	0.137	1	0.137	7.3	-5%
2031 Baseline + Area 1 (94 dwellings)	94	5,308	4,484	1,299	2,048	0.0000489	0.76	0.2	0.139	1	0.139	7.2	-6%
2031 Baseline + Area 2 (150 dwellings)	150	5,469	4,553	1,391	2,048	0.0000489	0.76	0.2	0.144	1	0.144	6.9	-10%
2031 Baseline + Area 1 (70 dwellings) and Area 2 (150 dwellings)	220	5,670	4,639	1,506	2,048	0.0000489	0.76	0.2	0.151	1	0.151	6.6	-13%
2031 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	5,928	4,750	1,653	2,048	0.0000489	0.76	0.2	0.159	1	0.159	6.3	-18%
Wallace Terrace / Fairview Road Intersection													
2031 Baseline flows	0	426	2,406	2,271	-	0.0000489	0.76	0.2	0.085	1	0.085	11.7	
2031 Baseline + Area 1 (70 dwellings)	70	685	2,521	2,414	-	0.0000489	0.76	0.2	0.089	1	0.089	11.2	-5%
2031 Baseline + Area 1 (94 dwellings)	94	773	2,560	2,463	-	0.0000489	0.76	0.2	0.091	1	0.091	11.0	-6%
2031 Baseline + Area 2 (150 dwellings)	150	980	2,652	2,578	-	0.0000489	0.76	0.2	0.094	1	0.094	10.6	-9%
2031 Baseline + Area 1 (70 dwellings) and Area 2 (150 dwellings)	220	1,238	2,767	2,722	-	0.0000489	0.76	0.2	0.098	1	0.098	10.2	-13%
2031 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	1,570	2,914	2,906	-	0.0000489	0.76	0.2	0.104	1	0.104	9.7	-18%
Teasdale Street / Downes Street Intersection													
2031 Baseline flows	0	2,406	489	2,048	-	0.0000489	0.76	0.2	0.083	1	0.083	12.0	
2031 Baseline + Area 1 (70 dwellings)	70	2,521	604	2,048	-	0.0000489	0.76	0.2	0.086	1	0.086	11.6	-3%
2031 Baseline + Area 1 (94 dwellings)	94	2,560	643	2,048	-	0.0000489	0.76	0.2	0.087	1	0.087	11.4	-5%
2031 Baseline + Area 2 (150 dwellings)	150	2,652	735	2,048	-	0.0000489	0.76	0.2	0.090	1	0.090	11.1	-7%
2031 Baseline + Area 1 (70 dwellings) and Area 2 (150 dwellings)	220	2,767	850	2,048	-	0.0000489	0.76	0.2	0.093	1	0.093	10.8	-10%
2031 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	2,914	997	2,048	-	0.0000489	0.76	0.2	0.097	1	0.097	10.4	-14%
Puniu Road / Fairview Road Intersection													
2031 Baseline flows	0	3,254	2,888	1,229	-	0.0000489	0.76	0.2	0.095	1	0.095	10.6	
2031 Baseline + Area 1 (70 dwellings)	70	3,340	2,945	1,372	-	0.0000489	0.76	0.2	0.099	1	0.099	10.1	-4%
2031 Baseline + Area 1 (94 dwellings)	94	3,369	2,965	1,421	-	0.0000489	0.76	0.2	0.100	1	0.100	10.0	-5%
2031 Baseline + Area 2 (150 dwellings)	150	3,438	3,011	1,536	-	0.0000489	0.76	0.2	0.103	1	0.103	9.7	-8%
2031 Baseline + Area 1 (70 dwellings) and Area 2 (150 dwellings)	220	3,524	3,068	1,680	-	0.0000489	0.76	0.2	0.107	1	0.107	9.3	-12%
2031 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	3,635	3,142	1,864	-	0.0000489	0.76	0.2	0.112	1	0.112	8.9	-15%
With Puniu Road & Wallace Terrace connections only													
Rewi Street / College Street Intersection													
2031 Baseline flows	0	5,038	4,369	1,145	2,048	0.0000489	0.76	0.2	0.130	1	0.130	7.7	
2031 Baseline + Area 2 (70 dwellings)	70	5,153	4,455	1,260	2,364	0.0000489	0.76	0.2	0.135	1	0.135	7.4	-4%
2031 Baseline + Area 2 (150 dwellings)	150	5,284	4,553	1,391	2,724	0.0000489	0.76	0.2	0.140	1	0.140	7.1	-7%
2031 Baseline + Area 1 (70 dwellings) and Area 2 (150 dwellings)	220	5,432	4,664	1,538	3,130	0.0000489	0.76	0.2	0.146	1	0.146	6.8	-11%
2031 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	5,547	4,750	1,653	3,446	0.0000489	0.76	0.2	0.151	1	0.151	6.6	-14%
Wallace Terrace / Fairview Road Intersection													
2031 Baseline flows	0	426	2,406	2,271	-	0.0000489	0.76	0.2	0.085	1	0.085	11.7	
2031 Baseline + Area 2 (70 dwellings)	70	857	2,836	2,271	-	0.0000489	0.76	0.2	0.097	1	0.097	10.4	-12%
2031 Baseline + Area 2 (150 dwellings)	150	1,349	3,328	2,271	-	0.0000489	0.76	0.2	0.109	1	0.109	9.2	-22%
2031 Baseline + Area 1 (70 dwellings) and Area 2 (150 dwellings)	220	1,902	3,882	2,271	-	0.0000489	0.76	0.2	0.123	1	0.123	8.2	-30%
2031 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	2,333	4,312	2,271	-	0.0000489	0.76	0.2	0.133	1	0.133	7.5	-36%
Teasdale Street / Downes Street Intersection													
2031 Baseline flows	0	2,406	489	2,048	-	0.0000489	0.76	0.2	0.083	1	0.083	12.0	
2031 Baseline + Area 2 (70 dwellings)	70	2,836	604	2,364	-	0.0000489	0.76	0.2	0.097	1	0.097	10.3	-14%
2031 Baseline + Area 2 (150 dwellings)	150	3,328	735	2,724	-	0.0000489	0.76	0.2	0.113	1	0.113	8.8	-26%
2031 Baseline + Area 1 (70 dwellings) and Area 2 (150 dwellings)	220	3,882	882	3,130	-	0.0000489	0.76	0.2	0.131	1	0.131	7.7	-36%
2031 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	4,312	997	3,446	-	0.0000489	0.76	0.2	0.144	1	0.144	6.9	-42%
Puniu Road / Fairview Road Intersection													
2031 Baseline flows	0	3,254	2,888	1,229	-	0.0000489	0.76	0.2	0.095	1	0.095	10.6	
2031 Baseline + Area 2 (70 dwellings)	70	3,311	2,945	1,229	-	0.0000489	0.76	0.2	0.096	1	0.096	10.4	-1%
2031 Baseline + Area 2 (150 dwellings)	150	3,377	3,011	1,229	-	0.0000489	0.76	0.2	0.097	1	0.097	10.3	-3%
2031 Baseline + Area 1 (70 dwellings) and Area 2 (150 dwellings)	220	3,450	3,084	1,229	-	0.0000489	0.76	0.2	0.099	1	0.099	10.1	-4%
2031 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	3,508	3,142	1,229	-	0.0000489	0.76	0.2	0.100	1	0.100	10.0	-6%
With Rewi Street & Puniu Road & Wallace Terrace connections													
Rewi Street / College Street Intersection													
2031 Baseline flows	0	5,038	4,369	1,145	2,048	0.0000489	0.76	0.2	0.130	1	0.130	7.7	
2031 Baseline + Area 1 (70 dwellings) and Area 2 (150 dwellings)	220	5,966	4,903	1,538	2,048	0.0000489	0.76	0.2	0.157	1	0.157	6.4	-17%
2031 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	6,282	5,104	1,653	2,048	0.0000489	0.76	0.2	0.166	1	0.166	6.0	-21%
Wallace Terrace / Fairview Road Intersection													
2031 Baseline flows	0	426	2,406	2,271	-	0.0000489	0.76	0.2	0.085	1	0.085	11.7	
2031 Baseline + Area 1 (70 dwellings) and Area 2 (150 dwellings)	240	581	2,560	2,271	-	0.0000489	0.76	0.2	0.089	1	0.089	11.2	-5%
2031 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	581	2,560	2,271	-	0.0000489	0.76	0.2	0.089	1	0.089	11.2	-5%
Teasdale Street / Downes Street Intersection													
2031 Baseline flows	0	2,406	489	2,048	-	0.0000489	0.76	0.2	0.083	1	0.083	12.0	
2031 Baseline + Area 1 (70 dwellings) and Area 2 (150 dwellings)	220	2,560	643	2,048	-	0.0000489	0.76	0.2	0.087	1	0.087	11.4	-5%
2031 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	2,560	643	2,048	-	0.0000489	0.76	0.2	0.087	1	0.087	11.4	-5%
Puniu Road / Fairview Road Intersection													
2031 Baseline flows	0	3,254	2,888	1,229	-	0.0000489	0.76	0.2	0.095	1	0.095	10.6	
2031 Baseline + Area 1 (70 dwellings) and Area 2 (150 dwellings)	220	3,450	3,084	1,229	-	0.0000489	0.76	0.2	0.099	1	0.099	10.1	-4%
2031 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	3,508	3,142	1,229	-	0.0000489	0.76	0.2	0.100	1	0.100	10.0	-6%

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Crash Prediction Analysis for the existing adjoining intersections - 2041 Horizon Year

Scenario	Total dwellings	ADT Inputs				Existing Intersection Form							% Change compared to baseline
		Qmajor 1	QMajor 2	Qminor 1	Qminor 2	b0	b1	b2	A_T (Injury Crashes / year)	Crash Modification Factor(s)	Adjusted A_T (Injury Crashes / year)	Adjusted A_T (Years per injury crash)	
With Wallace Terrace connection only													
Rewi Street / College Street Intersection													
2041 Baseline flows	0	5,057	4,520	1,226	2,176	0.0000489	0.76	0.2	0.132	1	0.132	7.6	
2041 Baseline + Area 1 (70 dwellings)	70	5,172	4,606	1,341	2,492	0.0000489	0.76	0.2	0.137	1	0.137	7.3	-3%
2041 Baseline + Area 1 (94 dwellings)	94	5,211	4,635	1,380	2,600	0.0000489	0.76	0.2	0.139	1	0.139	7.2	-5%
Wallace Terrace / Fairview Road Intersection													
2041 Baseline flows	0	426	2,743	2,433	-	0.0000489	0.76	0.2	0.095	1	0.095	10.5	
2041 Baseline + Area 1 (70 dwellings)	70	1,000	3,174	2,576	-	0.0000489	0.76	0.2	0.108	1	0.108	9.3	-12%
2041 Baseline + Area 1 (94 dwellings)	94	1,197	3,321	2,625	-	0.0000489	0.76	0.2	0.112	1	0.112	8.9	-15%
Teasdale Street / Downes Street Intersection													
2041 Baseline flows	0	2,743	514	2,176	-	0.0000489	0.76	0.2	0.093	1	0.093	10.7	
2041 Baseline + Area 1 (70 dwellings)	70	3,174	629	2,492	-	0.0000489	0.76	0.2	0.107	1	0.107	9.3	-13%
2041 Baseline + Area 1 (94 dwellings)	94	3,321	669	2,600	-	0.0000489	0.76	0.2	0.112	1	0.112	8.9	-17%
Puniu Road / Fairview Road Intersection													
2041 Baseline flows	0	3,526	3,112	1,319	-	0.0000489	0.76	0.2	0.102	1	0.102	9.8	
2041 Baseline + Area 1 (70 dwellings)	70	3,612	3,169	1,462	-	0.0000489	0.76	0.2	0.106	1	0.106	9.4	-4%
2041 Baseline + Area 1 (94 dwellings)	94	3,642	3,189	1,512	-	0.0000489	0.76	0.2	0.108	1	0.108	9.3	-5%
With Puniu Road connection only													
Puniu Road / Fairview Road Intersection													
2041 Baseline flows	0	3,526	3,112	1,319	-	0.0000489	0.76	0.2	0.102	1	0.102	9.8	
2041 Baseline + Area 2 (70 dwellings)	70	4,014	3,370	1,549	-	0.0000489	0.76	0.2	0.116	1	0.116	8.6	-12%
2041 Baseline + Area 2 (150 dwellings)	150	4,572	3,665	1,811	-	0.0000489	0.76	0.2	0.133	1	0.133	7.5	-23%
2041 Baseline + Area 2 (216 dwellings)	216	5,032	3,909	2,027	-	0.0000489	0.76	0.2	0.146	1	0.146	6.9	-30%
With Rewi Street & Wallace Terrace connections only													
Rewi Street / College Street Intersection													
2041 Baseline flows	0	5,057	4,520	1,226	2,176	0.0000489	0.76	0.2	0.132	1	0.132	7.6	
2041 Baseline + Area 1 (70 dwellings)	70	5,258	4,606	1,341	2,176	0.0000489	0.76	0.2	0.139	1	0.139	7.2	-5%
2041 Baseline + Area 1 (94 dwellings)	94	5,327	4,635	1,380	2,176	0.0000489	0.76	0.2	0.141	1	0.141	7.1	-6%
2041 Baseline + Area 2 (150 dwellings)	150	5,488	4,704	1,472	2,176	0.0000489	0.76	0.2	0.146	1	0.146	6.8	-9%
2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)	220	5,688	4,790	1,587	2,176	0.0000489	0.76	0.2	0.152	1	0.152	6.6	-13%
2041 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	5,947	4,901	1,734	2,176	0.0000489	0.76	0.2	0.161	1	0.161	6.2	-18%
Wallace Terrace / Fairview Road Intersection													
2041 Baseline flows	0	426	2,743	2,433	-	0.0000489	0.76	0.2	0.095	1	0.095	10.5	
2041 Baseline + Area 1 (70 dwellings)	70	685	2,858	2,576	-	0.0000489	0.76	0.2	0.100	1	0.100	10.0	-4%
2041 Baseline + Area 1 (94 dwellings)	94	773	2,897	2,625	-	0.0000489	0.76	0.2	0.101	1	0.101	9.9	-6%
2041 Baseline + Area 2 (150 dwellings)	150	980	2,989	2,740	-	0.0000489	0.76	0.2	0.104	1	0.104	9.6	-9%
2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)	220	1,238	3,104	2,884	-	0.0000489	0.76	0.2	0.108	1	0.108	9.2	-12%
2041 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	1,570	3,252	3,068	-	0.0000489	0.76	0.2	0.114	1	0.114	8.8	-16%
Teasdale Street / Downes Street Intersection													
2041 Baseline flows	0	2,743	514	2,176	-	0.0000489	0.76	0.2	0.093	1	0.093	10.7	
2041 Baseline + Area 1 (70 dwellings)	70	2,858	629	2,176	-	0.0000489	0.76	0.2	0.096	1	0.096	10.4	-3%
2041 Baseline + Area 1 (94 dwellings)	94	2,897	669	2,176	-	0.0000489	0.76	0.2	0.097	1	0.097	10.3	-4%
2041 Baseline + Area 2 (150 dwellings)	150	2,989	760	2,176	-	0.0000489	0.76	0.2	0.100	1	0.100	10.0	-6%
2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)	220	3,104	875	2,176	-	0.0000489	0.76	0.2	0.102	1	0.102	9.8	-9%
2041 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	3,252	1,023	2,176	-	0.0000489	0.76	0.2	0.106	1	0.106	9.4	-12%
Puniu Road / Fairview Road Intersection													
2041 Baseline flows	0	3,526	3,112	1,319	-	0.0000489	0.76	0.2	0.102	1	0.102	9.8	
2041 Baseline + Area 1 (70 dwellings)	70	3,612	3,169	1,462	-	0.0000489	0.76	0.2	0.106	1	0.106	9.4	-4%
2041 Baseline + Area 1 (94 dwellings)	94	3,642	3,189	1,512	-	0.0000489	0.76	0.2	0.108	1	0.108	9.3	-5%
2041 Baseline + Area 2 (150 dwellings)	150	3,711	3,235	1,626	-	0.0000489	0.76	0.2	0.111	1	0.111	9.0	-8%
2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)	220	3,797	3,292	1,770	-	0.0000489	0.76	0.2	0.115	1	0.115	8.7	-11%
2041 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	3,908	3,366	1,954	-	0.0000489	0.76	0.2	0.119	1	0.119	8.4	-15%
With Puniu Road & Wallace Terrace connections only													
Rewi Street / College Street Intersection													
2041 Baseline flows	0	5,057	4,520	1,226	2,176	0.0000489	0.76	0.2	0.132	1	0.132	7.6	
2041 Baseline + Area 2 (70 dwellings)	70	5,172	4,606	1,341	2,492	0.0000489	0.76	0.2	0.137	1	0.137	7.3	-3%
2041 Baseline + Area 2 (150 dwellings)	150	5,303	4,704	1,472	2,853	0.0000489	0.76	0.2	0.142	1	0.142	7.0	-7%
2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)	220	5,451	4,815	1,619	3,259	0.0000489	0.76	0.2	0.148	1	0.148	6.7	-11%
2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)	310	5,565	4,901	1,734	3,574	0.0000489	0.76	0.2	0.153	1	0.153	6.6	-13%
Wallace Terrace / Fairview Road Intersection													
2041 Baseline flows	0	426	2,743	2,433	-	0.0000489	0.76	0.2	0.095	1	0.095	10.5	
2041 Baseline + Area 2 (70 dwellings)	70	857	3,174	2,433	-	0.0000489	0.76	0.2	0.107	1	0.107	9.4	-10%
2041 Baseline + Area 2 (150 dwellings)	150	1,349	3,666	2,433	-	0.0000489	0.76	0.2	0.119	1	0.119	8.4	-20%
2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)	220	1,902	4,219	2,433	-	0.0000489	0.76	0.2	0.132	1	0.132	7.6	-28%
2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)	310	2,333	4,650	2,433	-	0.0000489	0.76	0.2	0.142	1	0.142	7.0	-33%
Teasdale Street / Downes Street Intersection													
2041 Baseline flows	0	2,743	514	2,176	-	0.0000489	0.76	0.2	0.093	1	0.093	10.7	
2041 Baseline + Area 2 (70 dwellings)	70	3,174	629	2,492	-	0.0000489	0.76	0.2	0.107	1	0.107	9.3	-13%
2041 Baseline + Area 1 (70 dwellings) + Area 2 (80 dwellings)	150	3,666	760	2,853	-	0.0000489	0.76	0.2	0.123	1	0.123	8.1	-24%
2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)	220	4,219	908	3,259	-	0.0000489	0.76	0.2	0.140	1	0.140	7.1	-33%
2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)	310	4,650	1,023	3,574	-	0.0000489	0.76	0.2	0.154	1	0.154	6.5	-39%
Puniu Road / Fairview Road Intersection													
2041 Baseline flows	0	3,526	3,112	1,319	-	0.0000489	0.76	0.2	0.102	1	0.102	9.8	
2041 Baseline + Area 2 (70 dwellings)	70	3,584	3,169	1,319	-	0.0000489	0.76	0.2	0.103	1	0.103	9.7	-1%
2041 Baseline + Area 2 (150 dwellings)	150	3,649	3,235	1,319	-	0.0000489	0.76	0.2	0.105	1	0.105	9.5	-3%
2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)	220	3,723	3,309	1,319	-	0.0000489	0.76	0.2	0.106	1	0.106	9.4	-4%
2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)	310	3,780	3,366	1,319	-	0.0000489	0.76	0.2	0.108	1	0.108	9.3	-5%
With Rewi Street & Puniu Road & Wallace Terrace connections													
Rewi Street / College Street Intersection													
2041 Baseline flows	0	5,057	4,520	1,226	2,176	0.0000489	0.76	0.2	0.132	1	0.132	7.6	
2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)	220	5,985	5,054	1,619	2,176	0.0000489	0.76	0.2	0.159	1	0.159	6.3	-17%
2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)	310	6,301	5,255	1,734	2,176	0.0000489	0.76	0.2	0.168	1	0.168	6.0	-21%
Wallace Terrace / Fairview Road Intersection													
2041 Baseline flows	0	426	2,743	2,433	-	0.0000489	0.76	0.2	0.095	1	0.095	10.5	
2041 Baseline + Area 1 70 dwellings) + Area 2 (150 dwellings)	220	581	2,897	2,433	-	0.0000489	0.76	0.2	0.099	1	0.099	10.1	-4%
2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)	310	581	2,897	2,433	-	0.0000489	0.76	0.2	0.099	1	0.099	10.1	-4%
Teasdale Street / Downes Street Intersection													
2041 Baseline flows	0	2,743	514	2,176	-	0.0000489	0.76	0.2	0.093	1	0.093	10.7	
2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)	220	2,897	669	2,176	-	0.0000489	0.76	0.2	0.097	1	0.097	10.3	-4%
2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)	310	2,897	669	2,176	-	0.0000489	0.76	0.2	0.097	1	0.097	10.3	-4%
Puniu Road / Fairview Road Intersection													
2041 Baseline flows	0	3,526	3,112	1,319	-	0.0000489	0.76	0.2	0.102	1	0.102	9.8	
2041 Baseline + Area 1 (70 dwellings) + Area 2 (150 dwellings)	220	3,723	3,309	1,319	-	0.0000489	0.76	0.2	0.106	1	0.106	9.4	-4%
2041 Baseline + Area 1 (94 dwellings) + Area 2 (216 dwellings)	310	3,780	3,366	1,319	-	0.0000489	0.76	0.2	0.108	1	0.108	9.3	-5%

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Crash Prediction Analysis for the Proposed Collector Road Intersections - 2023 Assessment Year

		ADT Inputs				Priority T-intersection							Priority T-intersection with RTB							Roundabout (Single-lane)						Injury crash rate (Years per injury crash)		
Scenario	Total dwellings	Qmajor 1	QMajor 2	Qminor 1	Qminor 2	b0	b1	b2	A_T (Injury Crashes / year)	Crash Modification Factor(s)	Adjusted A_T (Injury Crashes / year)	Adjusted A_T (Years per injury crash)	b0	b1	b2	A_T (Injury Crashes / year)	Crash Modification Factor(s)	Adjusted A_T (Injury Crashes / year)	Adjusted A_T (Years per injury crash)	b0	b1	A_T (Injury Crashes / year)	Crash Modification Factor(s)	Adjusted A_T (Injury Crashes / year)	Adjusted A_T (Years per injury crash)	Priority T-intersection	Priority T-intersection with RTB	Roundabout (Single-lane)
Collector Road / Rewi Street Intersection																												
With Rewi Street & Wallace Terrace connections																												
2023 Baseline flows	0	3,725	3,725	-	-	0.0000489	0.76	0.2	0.000	1	0.000	0.0	0.0000489	0.76	0.2	0.000	0.65	0.000	0.0	0.000481	0.58	0.113	1	0.113	8.8	0.0	0.0	8.8
2023 Baseline + Area 1 (70 dwellings)	70	3,840	3,926	316	-	0.0000489	0.76	0.2	0.083	1	0.083	12.0	0.0000489	0.76	0.2	0.083	0.65	0.054	18.5	0.000481	0.58	0.130	1	0.130	7.7	12.0	18.5	7.7
2023 Baseline + Area 1 (94 dwellings)	94	3,879	3,995	424	-	0.0000489	0.76	0.2	0.090	1	0.090	11.2	0.0000489	0.76	0.2	0.090	0.65	0.058	17.2	0.000481	0.58	0.133	1	0.133	7.5	11.2	17.2	7.5
2023 Baseline + Area 1 (70 dwellings) and Area 2 (150 dwellings)	220	4,086	4,356	992	-	0.0000489	0.76	0.2	0.113	1	0.113	8.8	0.0000489	0.76	0.2	0.113	0.65	0.074	13.6	0.000481	0.58	0.148	1	0.148	6.7	8.8	13.6	6.7
2023 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	4,233	4,615	1,398	-	0.0000489	0.76	0.2	0.127	1	0.127	7.9	0.0000489	0.76	0.2	0.127	0.65	0.082	12.1	0.000481	0.58	0.157	1	0.157	6.4	7.9	12.1	6.4
With Rewi Street & Puniu Road & Wallace Terrace connections																												
2023 Baseline flows	0	3,725	3,725	-	-	0.0000489	0.76	0.2	0.000	1	0.000	0.0	0.0000489	0.76	0.2	0.000	0.65	0.000	0.0	0.000481	0.58	0.113	1	0.113	8.8	0.0	0.0	8.8
2023 Baseline + Area 1 (70 dwellings) and Area 2 (150 dwellings)	220	4,119	4,653	1,322	-	0.0000489	0.76	0.2	0.126	1	0.126	7.9	0.0000489	0.76	0.2	0.126	0.65	0.082	12.2	0.000481	0.58	0.156	1	0.156	6.4	7.9	12.2	6.4
2023 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	4,233	4,969	1,752	-	0.0000489	0.76	0.2	0.140	1	0.140	7.1	0.0000489	0.76	0.2	0.140	0.65	0.091	11.0	0.000481	0.58	0.165	1	0.165	6.1	7.1	11.0	6.1
Collector Road / Puniu Road Intersection																												
With Puniu Road connection only																												
2023 Baseline flows	0	3,143	3,143	-	-	0.0000489	0.76	0.2	0.000	1	0.000	0.0	0.0000489	0.76	0.2	0.000	0.65	0.000	0.0	0.000481	0.58	0.103	1	0.103	9.7	0.0	0.0	9.7
2023 Baseline + Area 2 (70 dwellings)	70	3,229	3,631	574	-	0.0000489	0.76	0.2	0.088	1	0.088	11.3	0.0000489	0.76	0.2	0.088	0.65	0.057	17.4	0.000481	0.58	0.127	1	0.127	7.9	11.3	17.4	7.9
2023 Baseline + Area 2 (150 dwellings)	150	3,328	4,189	1,230	-	0.0000489	0.76	0.2	0.115	1	0.115	8.7	0.0000489	0.76	0.2	0.115	0.65	0.075	13.4	0.000481	0.58	0.144	1	0.144	7.0	8.7	13.4	7.0
2023 Baseline + Area 2 (216 dwellings)	216	3,409	4,649	1,771	-	0.0000489	0.76	0.2	0.134	1	0.134	7.5	0.0000489	0.76	0.2	0.134	0.65	0.087	11.5	0.000481	0.58	0.155	1	0.155	6.4	7.5	11.5	6.4
With Puniu Road & Wallace Terrace connections																												
2023 Baseline flows	0	3,143	3,143	-	-	0.0000489	0.76	0.2	0.000	1	0.000	0.0	0.0000489	0.76	0.2	0.000	0.65	0.000	0.0	0.000481	0.58	0.103	1	0.103	9.7	0.0	0.0	9.7
2023 Baseline + Area 2 (150 dwellings)	150	3,328	3,266	308	-	0.0000489	0.76	0.2	0.073	1	0.073	13.7	0.0000489	0.76	0.2	0.073	0.65	0.047	21.1	0.000481	0.58	0.119	1	0.119	8.4	13.7	21.1	8.4
2023 Baseline + Area 1 (70 dwellings) and Area 2 (150 dwellings)	220	3,438	3,340	492	-	0.0000489	0.76	0.2	0.082	1	0.082	12.2	0.0000489	0.76	0.2	0.082	0.65	0.053	18.7	0.000481	0.58	0.125	1	0.125	8.0	12.2	18.7	8.0
2023 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	3,524	3,397	636	-	0.0000489	0.76	0.2	0.088	1	0.088	11.3	0.0000489	0.76	0.2	0.088	0.65	0.057	17.4	0.000481	0.58	0.129	1	0.129	7.8	11.3	17.4	7.8
With Rewi Street & Puniu Road & Wallace Terrace connections																												
2023 Baseline flows	0	3,143	3,143	-	-	0.0000489	0.76	0.2	0.000	1	0.000	0.0	0.0000489	0.76	0.2	0.000	0.65	0.000	0.0	0.000481	0.58	0.103	1	0.103	9.7	0.0	0.0	9.7
2023 Baseline + Area 1 (70 dwellings) and Area 2 (150 dwellings)	220	3,438	3,340	492	-	0.0000489	0.76	0.2	0.082	1	0.082	12.2	0.0000489	0.76	0.2	0.082	0.65	0.053	18.7	0.000481	0.58	0.125	1	0.125	8.0	12.2	18.7	8.0
2023 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	3,524	3,397	636	-	0.0000489	0.76	0.2	0.088	1	0.088	11.3	0.0000489	0.76	0.2	0.088	0.65	0.057	17.4	0.000481	0.58	0.129	1	0.129	7.8	11.3	17.4	7.8

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Crash Prediction Analysis for the Proposed Collector Road Intersections - 2031 Horizon Year

		ADT Inputs				Priority T-intersection							Priority T-intersection with RTB							Roundabout (Single-lane)						Injury crash rate (Years per injury crash)		
Scenario	Total dwell	Qmajor 1	QMajor 2	Qminor 1	Qminor 2	b0	b1	b2	A_I (Injury Crashes / year)	Crash Modification Factor(s)	Adjusted A_I (Injury Crashes / year)	Adjusted A_C (Years per injury crash)	b0	b1	b2	A_I (Injury Crashes / year)	Crash Modification Factor(s)	Adjusted A_I (Injury Crashes / year)	Adjusted A_C (Years per injury crash)	b0	b1	A_I (Injury Crashes / year)	Crash Modification Factor(s)	Adjusted A_I (Injury Crashes / year)	Adjusted A_C (Years per injury crash)	Priority T-intersection	Priority T-intersection with RTB	Roundabout (Single-lane)
Collector Road / Rewi Street Intersection																												
With Rewi Street & Wallace Terrace connections																												
2031 Baseline flows	0	5,038	5,038	-	-	0.0000489	0.76	0.2	0.000	1	0.000	0.0	0.0000489	0.76	0.2	0.000	0.65	0.000	0.0	0.000481	0.58	0.135	1	0.135	7.4	0.0	0.0	7.4
2031 Baseline + Area 1 (70 dwellings)	70	5,153	5,239	316	-	0.0000489	0.76	0.2	0.104	1	0.104	9.6	0.0000489	0.76	0.2	0.104	0.65	0.067	14.8	0.000481	0.58	0.151	1	0.151	6.6	9.6	14.8	6.6
2031 Baseline + Area 1 (94 dwellings)	94	5,192	5,308	424	-	0.0000489	0.76	0.2	0.111	1	0.111	9.0	0.0000489	0.76	0.2	0.111	0.65	0.072	13.8	0.000481	0.58	0.154	1	0.154	6.5	9.0	13.8	6.5
2031 Baseline + Area 1 (70 dwellings) and Area 2 (150 dwellings)	220	5,399	5,670	992	-	0.0000489	0.76	0.2	0.138	1	0.138	7.2	0.0000489	0.76	0.2	0.138	0.65	0.090	11.1	0.000481	0.58	0.169	1	0.169	5.9	7.2	11.1	5.9
2031 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	5,547	5,928	1,398	-	0.0000489	0.76	0.2	0.153	1	0.153	6.5	0.0000489	0.76	0.2	0.153	0.65	0.100	10.0	0.000481	0.58	0.178	1	0.178	5.6	6.5	10.0	5.6
With Rewi Street & Puniu Road & Wallace Terrace connections																												
2031 Baseline flows	0	5,038	5,038	-	-	0.0000489	0.76	0.2	0.000	1	0.000	0.0	0.0000489	0.76	0.2	0.000	0.65	0.000	0.0	0.000481	0.58	0.135	1	0.135	7.4	0.0	0.0	7.4
2031 Baseline + Area 1 (70 dwellings) and Area 2 (150 dwellings)	220	5,432	5,966	1,322	-	0.0000489	0.76	0.2	0.152	1	0.152	6.6	0.0000489	0.76	0.2	0.152	0.65	0.099	10.1	0.000481	0.58	0.176	1	0.176	5.7	6.6	10.1	5.7
2031 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	5,547	6,282	1,752	-	0.0000489	0.76	0.2	0.168	1	0.168	6.0	0.0000489	0.76	0.2	0.168	0.65	0.109	9.2	0.000481	0.58	0.185	1	0.185	5.4	6.0	9.2	5.4
Collector Road / Puniu Road Intersection																												
With Puniu Road connection only																												
2031 Baseline flows	0	3,254	3,254	-	-	0.0000489	0.76	0.2	0.000	1	0.000	0.0	0.0000489	0.76	0.2	0.000	0.65	0.000	0.0	0.000481	0.58	0.105	1	0.105	9.5	0.0	0.0	9.5
2031 Baseline + Area 2 (70 dwellings)	70	3,340	3,741	574	-	0.0000489	0.76	0.2	0.090	1	0.090	11.1	0.0000489	0.76	0.2	0.090	0.65	0.059	17.0	0.000481	0.58	0.129	1	0.129	7.7	11.1	17.0	7.7
2031 Baseline + Area 2 (150 dwellings)	150	3,438	4,299	1,230	-	0.0000489	0.76	0.2	0.117	1	0.117	8.5	0.0000489	0.76	0.2	0.117	0.65	0.076	13.1	0.000481	0.58	0.145	1	0.145	6.9	8.5	13.1	6.9
2031 Baseline + Area 2 (216 dwellings)	216	3,519	4,759	1,771	-	0.0000489	0.76	0.2	0.136	1	0.136	7.3	0.0000489	0.76	0.2	0.136	0.65	0.088	11.3	0.000481	0.58	0.157	1	0.157	6.4	7.3	11.3	6.4
With Puniu Road & Wallace Terrace connections																												
2031 Baseline flows	0	3,254	3,254	-	-	0.0000489	0.76	0.2	0.000	1	0.000	0.0	0.0000489	0.76	0.2	0.000	0.65	0.000	0.0	0.000481	0.58	0.105	1	0.105	9.5	0.0	0.0	9.5
2031 Baseline + Area 2 (150 dwellings)	150	3,438	3,377	308	-	0.0000489	0.76	0.2	0.075	1	0.075	13.4	0.0000489	0.76	0.2	0.075	0.65	0.049	20.5	0.000481	0.58	0.121	1	0.121	8.3	13.4	20.5	8.3
2031 Baseline + Area 1 (70 dwellings) and Area 2 (150 dwellings)	220	3,549	3,450	492	-	0.0000489	0.76	0.2	0.084	1	0.084	11.9	0.0000489	0.76	0.2	0.084	0.65	0.055	18.3	0.000481	0.58	0.127	1	0.127	7.9	11.9	18.3	7.9
2031 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	3,635	3,508	636	-	0.0000489	0.76	0.2	0.090	1	0.090	11.1	0.0000489	0.76	0.2	0.090	0.65	0.059	17.0	0.000481	0.58	0.131	1	0.131	7.6	11.1	17.0	7.6
With Rewi Street & Puniu Road & Wallace Terrace connections																												
2031 Baseline flows	0	3,254	3,254	-	-	0.0000489	0.76	0.2	0.000	1	0.000	0.0	0.0000489	0.76	0.2	0.000	0.65	0.000	0.0	0.000481	0.58	0.105	1	0.105	9.5	0.0	0.0	9.5
2031 Baseline + Area 1 (70 dwellings) and Area 2 (150 dwellings)	220	3,549	3,450	492	-	0.0000489	0.76	0.2	0.084	1	0.084	11.9	0.0000489	0.76	0.2	0.084	0.65	0.055	18.3	0.000481	0.58	0.127	1	0.127	7.9	11.9	18.3	7.9
2031 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	3,635	3,508	636	-	0.0000489	0.76	0.2	0.090	1	0.090	11.1	0.0000489	0.76	0.2	0.090	0.65	0.059	17.0	0.000481	0.58	0.131	1	0.131	7.6	11.1	17.0	7.6

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Crash Prediction Analysis for the Proposed Collector Road Intersections - 2041 Horizon Year

		ADT Inputs				Priority T-intersection							Priority T-intersection with RTB							Roundabout (Single-lane)						Injury crash rate (Years per injury crash)		
Scenario	Total dwell	Qmajor 1	QMajor 2	Qminor 1	Qminor 2	b0	b1	b2	A_I (Injury Crashes / year)	Crash Modification Factor(s)	Adjusted A_I (Injury Crashes / year)	Adjusted A_I (Years per injury crash)	b0	b1	b2	A_I (Injury Crashes / year)	Crash Modification Factor(s)	Adjusted A_I (Injury Crashes / year)	Adjusted A_I (Years per injury crash)	b0	b1	A_I (Injury Crashes / year)	Crash Modification Factor(s)	Adjusted A_I (Injury Crashes / year)	Adjusted A_I (Years per injury crash)	Priority T-intersection	Priority T-intersection with RTB	Roundabout (Single-lane)
Collector Road / Rewi Street Intersection																												
With Rewi Street & Wallace Terrace connections																												
2041 Baseline flows	0	5,057	5,057	-	-	0.0000489	0.76	0.2	0.000	1	0.000	0.0	0.0000489	0.76	0.2	0.000	0.65	0.000	0.0	0.000481	0.58	0.135	1	0.135	7.4	0.0	0.0	7.4
2041 Baseline + Area 1 (70 dwellings)	70	5,172	5,258	316	-	0.0000489	0.76	0.2	0.104	1	0.104	9.6	0.0000489	0.76	0.2	0.104	0.65	0.068	14.8	0.000481	0.58	0.151	1	0.151	6.6	9.6	14.8	6.6
2041 Baseline + Area 1 (94 dwellings)	94	5,211	5,327	424	-	0.0000489	0.76	0.2	0.111	1	0.111	9.0	0.0000489	0.76	0.2	0.111	0.65	0.072	13.8	0.000481	0.58	0.155	1	0.155	6.5	9.0	13.8	6.5
2041 Baseline + Area 1 (70 dwellings) and Area 2 (150 dwellings)	220	5,418	5,688	992	-	0.0000489	0.76	0.2	0.139	1	0.139	7.2	0.0000489	0.76	0.2	0.139	0.65	0.090	11.1	0.000481	0.58	0.169	1	0.169	5.9	7.2	11.1	5.9
2041 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	5,565	5,947	1,398	-	0.0000489	0.76	0.2	0.154	1	0.154	6.5	0.0000489	0.76	0.2	0.154	0.65	0.100	10.0	0.000481	0.58	0.178	1	0.178	5.6	6.5	10.0	5.6
With Rewi Street & Puniu Road & Wallace Terrace connections																												
2041 Baseline flows	0	5,057	5,057	-	-	0.0000489	0.76	0.2	0.000	1	0.000	0.0	0.0000489	0.76	0.2	0.000	0.65	0.000	0.0	0.000481	0.58	0.135	1	0.135	7.4	0.0	0.0	7.4
2041 Baseline + Area 1 (70 dwellings) and Area 2 (150 dwellings)	220	5,451	5,985	1,322	-	0.0000489	0.76	0.2	0.153	1	0.153	6.5	0.0000489	0.76	0.2	0.153	0.65	0.099	10.1	0.000481	0.58	0.176	1	0.176	5.7	6.5	10.1	5.7
2041 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	5,565	6,301	1,752	-	0.0000489	0.76	0.2	0.168	1	0.168	5.9	0.0000489	0.76	0.2	0.168	0.65	0.109	9.2	0.000481	0.58	0.185	1	0.185	5.4	5.9	9.2	5.4
Collector Road / Puniu Road Intersection																												
With Puniu Road connection only																												
2041 Baseline flows	0	2,936	3,526	-	-	0.0000489	0.76	0.2	0.000	1	0.000	0.0	0.0000489	0.76	0.2	0.000	0.65	0.000	0.0	0.000481	0.58	0.104	1	0.104	9.6	0.0	0.0	9.6
2041 Baseline + Area 2 (70 dwellings)	70	3,022	4,014	574	-	0.0000489	0.76	0.2	0.095	1	0.095	10.5	0.0000489	0.76	0.2	0.095	0.65	0.062	16.1	0.000481	0.58	0.129	1	0.129	7.8	10.5	16.1	7.8
2041 Baseline + Area 2 (150 dwellings)	150	3,121	4,572	1,230	-	0.0000489	0.76	0.2	0.123	1	0.123	8.1	0.0000489	0.76	0.2	0.123	0.65	0.080	12.5	0.000481	0.58	0.145	1	0.145	6.9	8.1	12.5	6.9
2041 Baseline + Area 2 (216 dwellings)	216	3,202	5,032	1,771	-	0.0000489	0.76	0.2	0.142	1	0.142	7.0	0.0000489	0.76	0.2	0.142	0.65	0.092	10.8	0.000481	0.58	0.156	1	0.156	6.4	7.0	10.8	6.4
With Puniu Road & Wallace Terrace connections																												
2041 Baseline flows	0	2,936	3,526	-	-	0.0000489	0.76	0.2	0.000	1	0.000	0.0	0.0000489	0.76	0.2	0.000	0.65	0.000	0.0	0.000481	0.58	0.104	1	0.104	9.6	0.0	0.0	9.6
2041 Baseline + Area 2 (150 dwellings)	150	3,121	3,649	308	-	0.0000489	0.76	0.2	0.078	1	0.078	12.8	0.0000489	0.76	0.2	0.078	0.65	0.051	19.6	0.000481	0.58	0.120	1	0.120	8.3	12.8	19.6	8.3
2041 Baseline + Area 1 (70 dwellings) and Area 2 (150 dwellings)	220	3,231	3,723	492	-	0.0000489	0.76	0.2	0.087	1	0.087	11.4	0.0000489	0.76	0.2	0.087	0.65	0.057	17.6	0.000481	0.58	0.126	1	0.126	7.9	11.4	17.6	7.9
2041 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	3,318	3,780	636	-	0.0000489	0.76	0.2	0.093	1	0.093	10.7	0.0000489	0.76	0.2	0.093	0.65	0.061	16.5	0.000481	0.58	0.130	1	0.130	7.7	10.7	16.5	7.7
With Rewi Street & Puniu Road & Wallace Terrace connections																												
2041 Baseline flows	0	2,936	3,526	-	-	0.0000489	0.76	0.2	0.000	1	0.000	0.0	0.0000489	0.76	0.2	0.000	0.65	0.000	0.0	0.000481	0.58	0.104	1	0.104	9.6	0.0	0.0	9.6
2041 Baseline + Area 1 (70 dwellings) and Area 2 (150 dwellings)	220	3,231	3,723	492	-	0.0000489	0.76	0.2	0.087	1	0.087	11.4	0.0000489	0.76	0.2	0.087	0.65	0.057	17.6	0.000481	0.58	0.126	1	0.126	7.9	11.4	17.6	7.9
2041 Baseline + Area 1 (94 dwellings) and Area 2 (216 dwellings)	310	3,318	3,780	636	-	0.0000489	0.76	0.2	0.093	1	0.093	10.7	0.0000489	0.76	0.2	0.093	0.65	0.061	16.5	0.000481	0.58	0.130	1	0.130	7.7	10.7	16.5	7.7

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Attachment 5: Turn Warrant Assessment Summaries

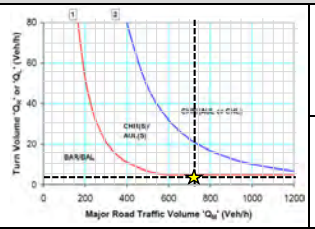
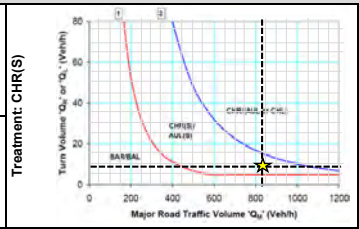
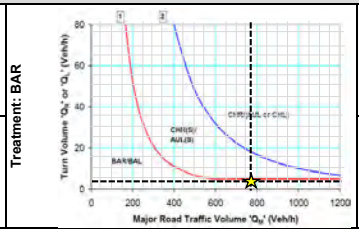
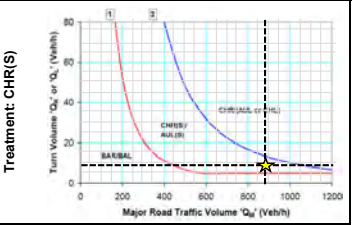
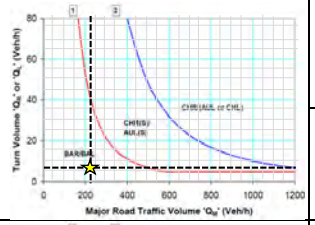
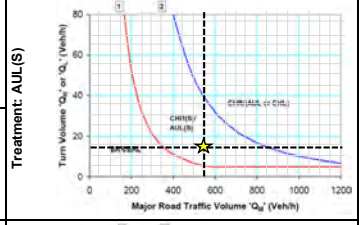
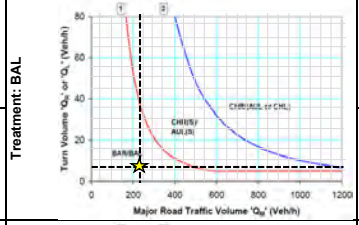
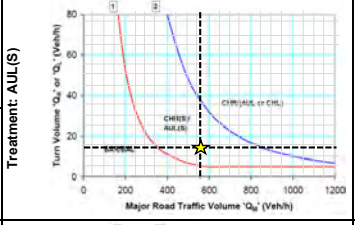
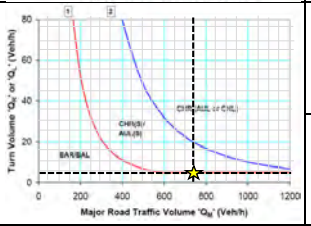
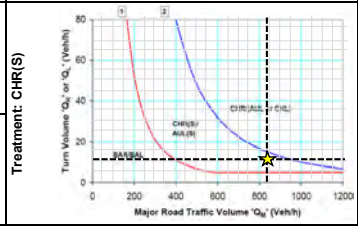
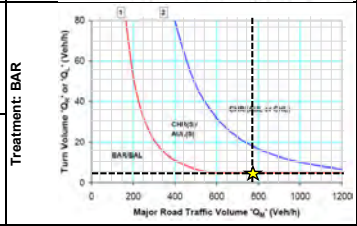
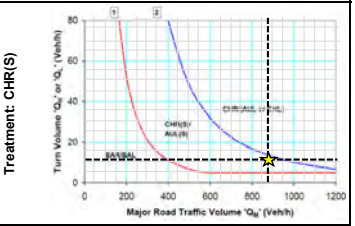
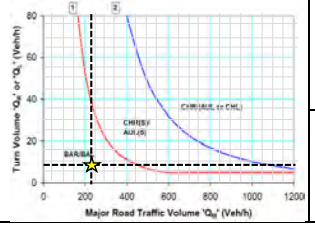
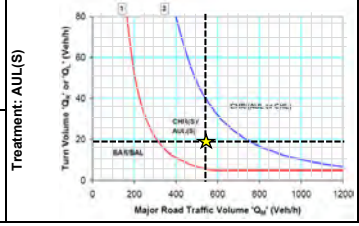
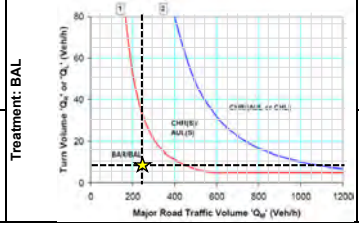
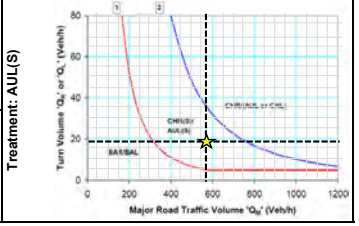
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Turn Warrant Assessment: Proposed Collector Road / Puniu Road Intersection

			2031 Horizon Year				2041 Horizon Year			
			AM Peak		PM Peak		AM Peak		PM Peak	
Land Use Scenario	Turn type		Turn Volume (vph)	Min. Treatment	Turn Volume (vph)	Min. Treatment	Turn Volume (vph)	Min. Treatment	Turn Volume (vph)	Min. Treatment
With just the Puniu Road connection in place										
70 dwellings within the Area 2 development	Right turn in	Qr	14	Treatment: CHR(S)	34	Treatment: CHR	14	Treatment: CHR(S)	34	Treatment: CHR
		Qm	460		659		488		704	
	Left turn in	Ql	3	Treatment: BAL	6	Treatment: BAL	3	Treatment: BAL	6	Treatment: BAL
		Qt2	303		342		316		380	
150 dwellings within the Area 2 development	Right turn in	Qr	29	Treatment: CHR(S)	73	Treatment: CHR	29	Treatment: CHR(S)	73	Treatment: CHR
		Qm	463		666		491		711	
	Left turn in	Ql	6	Treatment: BAL	13	Treatment: BAL	6	Treatment: BAL	13	Treatment: BAL
		Qt2	303		342		316		380	
216 dwellings within the Area 2 development	Right turn in	Qr	42	Treatment: CHR(S)	105	Treatment: CHR	42	Treatment: CHR(S)	105	Treatment: CHR
		Qm	465		672		493		717	
	Left turn in	Ql	8	Treatment: BAL	19	Treatment: BAL	8	Treatment: BAL	19	Treatment: AUL(S)
		Qt2	303		342		316		380	

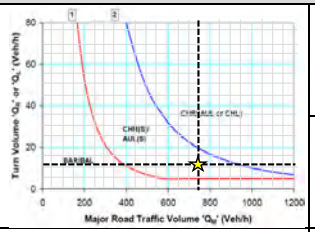
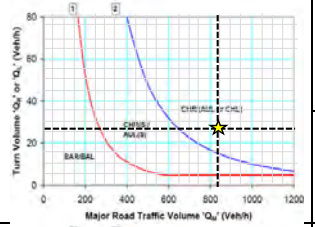
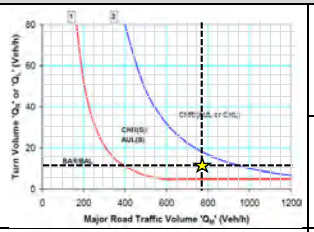
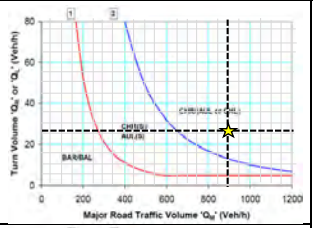
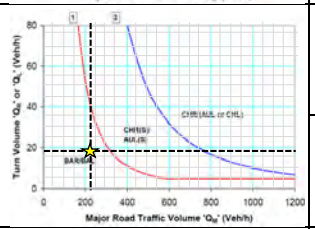
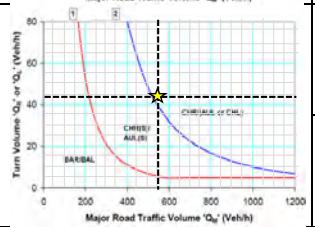
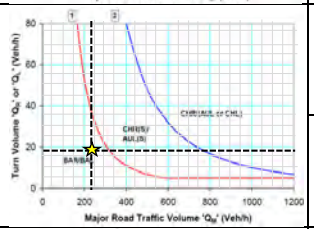
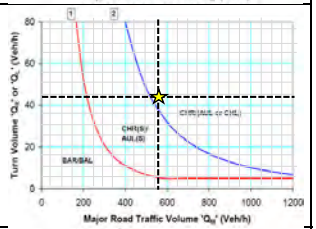
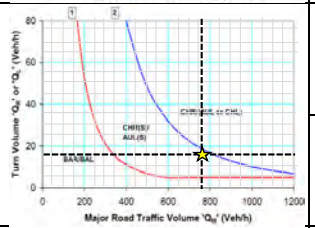
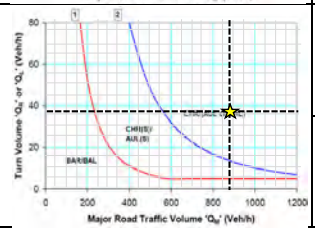
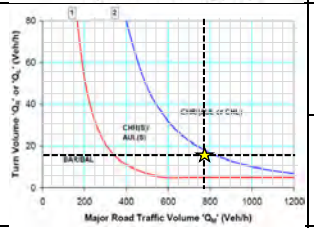
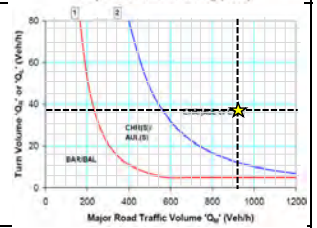
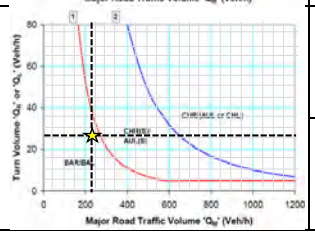
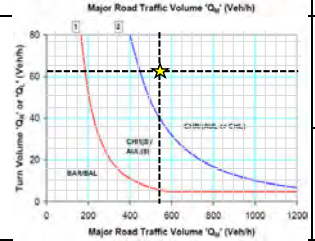
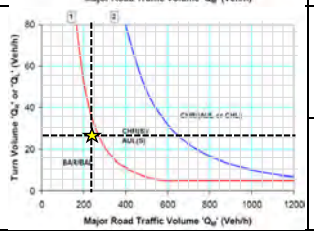
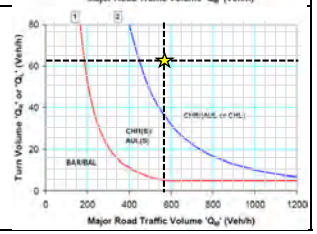
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Turn Warrant Assessment: Proposed Collector Road / Rewi Street Intersection

			2031 Horizon Year				2041 Horizon Year			
			AM Peak		PM Peak		AM Peak		PM Peak	
Land Use Scenario	Turn type		Turn Volume (vph)	Min. Treatment	Turn Volume (vph)	Min. Treatment	Turn Volume (vph)	Min. Treatment	Turn Volume (vph)	Min. Treatment
With just the Rewi Street & Wallace Terrace connections in place (i.e., without the Puniu Road connection)										
70 dwellings within the Area 1 development	Right turn in	Qr	4	Treatment: BAR 	8	Treatment: CHR(S) 	4	Treatment: BAR 	8	Treatment: CHR(S) 
		Qm	741		834		764		869	
	Left turn in	Ql	6	Treatment: BAL 	14	Treatment: AUL(S) 	6	Treatment: BAL 	14	Treatment: AUL(S) 
		Qt2	222		547		237		568	
94 dwellings within the Area 1 development	Right turn in	Qr	5	Treatment: BAR 	11	Treatment: CHR(S) 	5	Treatment: BAR 	11	Treatment: CHR(S) 
		Qm	743		839		766		874	
	Left turn in	Ql	8	Treatment: BAL 	19	Treatment: AUL(S) 	8	Treatment: BAL 	19	Treatment: AUL(S) 
		Qt2	222		547		237		568	

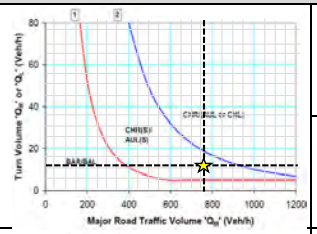
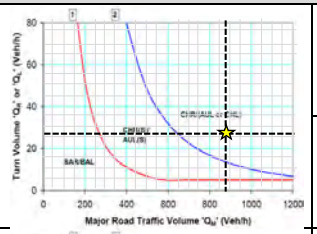
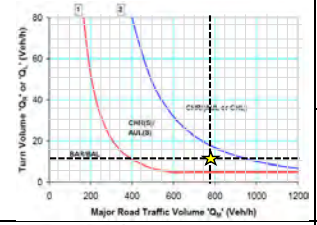
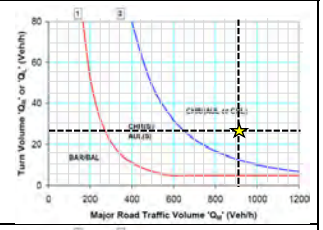
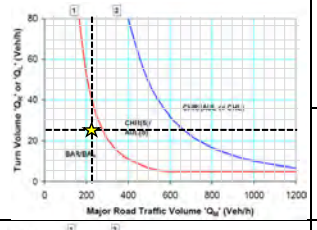
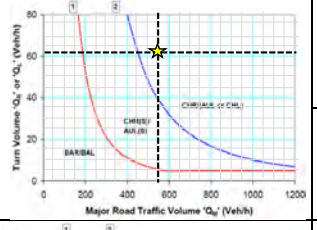
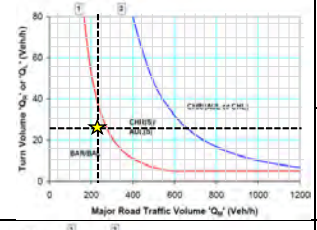
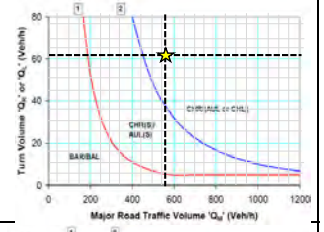
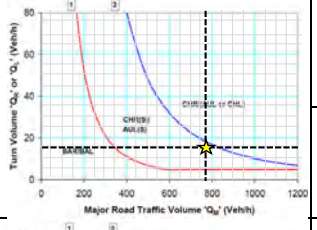
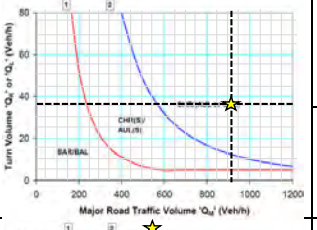
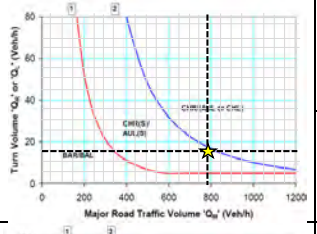
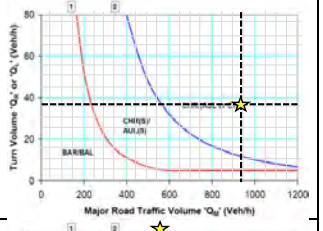
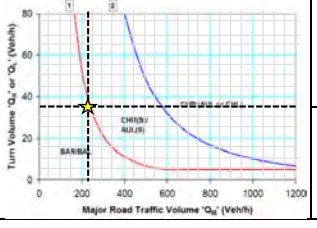
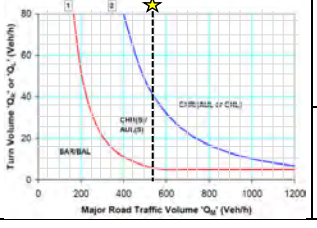
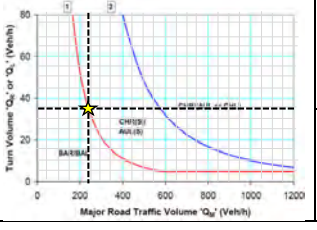
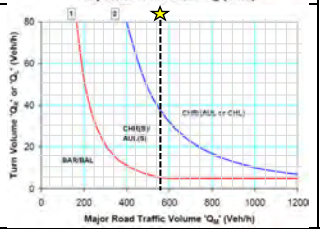
Document Set ID: 11324600
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Turn Warrant Assessment: Proposed Collector Road / Rewi Street Intersection

			2031 Horizon Year				2041 Horizon Year			
			AM Peak		PM Peak		AM Peak		PM Peak	
Land Use Scenario	**Turn type**		**Turn Volume (vph)**	**Min. Treatment**	**Turn Volume (vph)**	**Min. Treatment**	**Turn Volume (vph)**	**Min. Treatment**	**Turn Volume (vph)**	**Min. Treatment**
With just the Rewi Street & Wallace Terrace connections in place (i.e., without the Puniu Road connection)										
220 dwellings within the structure plan area (i.e., 70 dwellings within Area 1 and 150 dwellings within Area 2)	Right turn in	Qr	11	Treatment: CHR(S) 	26	Treatment: CHR 	11	Treatment: CHR(S) 	26	Treatment: CHR 
		Qm	753		864		776		899	
	Left turn in	Ql	18	Treatment: BAL 	44	Treatment: AUL 	18	Treatment: BAL 	44	Treatment: AUL 
		Qt2	222		547		237		568	
310 dwellings within the structure plan area (i.e., 94 dwellings within Area 1 and 216 dwellings within Area 2)	Right turn in	Qr	15	Treatment: CHR(S) 	36	Treatment: CHR 	15	Treatment: CHR(S) 	36	Treatment: CHR 
		Qm	761		882		784		917	
	Left turn in	Ql	26	Treatment: BAL 	62	Treatment: AUL 	26	Treatment: BAL 	62	Treatment: AUL 
		Qt2	222		547		237		568	

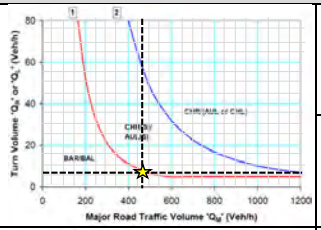
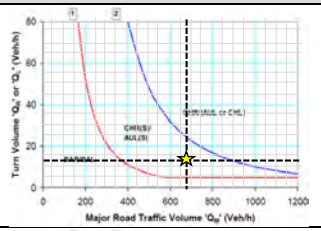
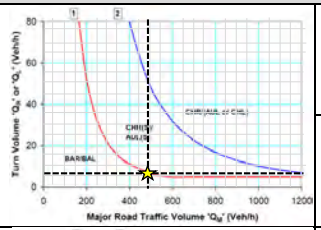
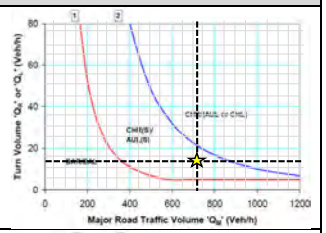
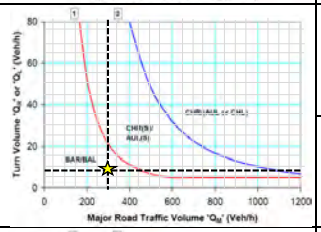
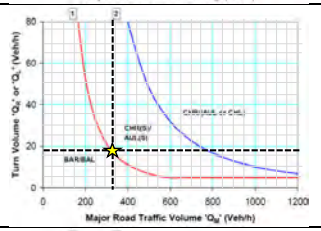
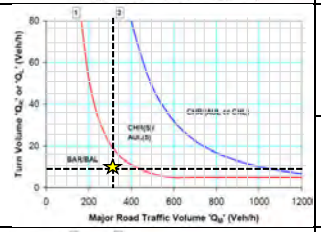
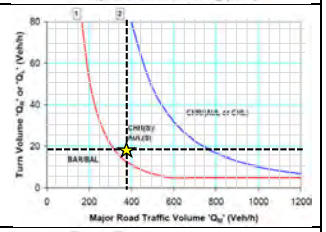
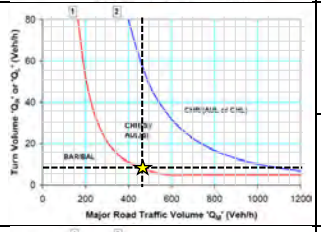
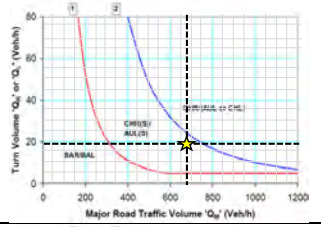
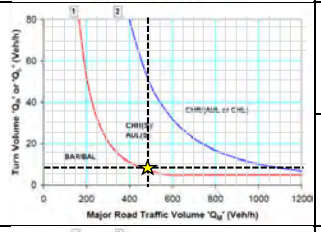
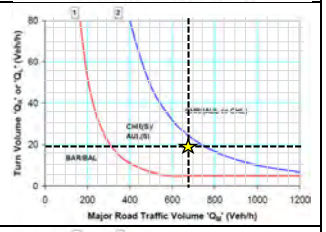
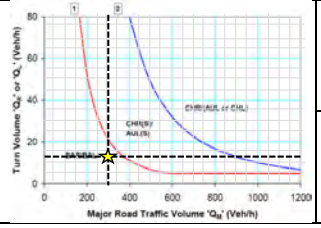
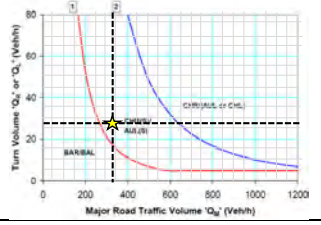
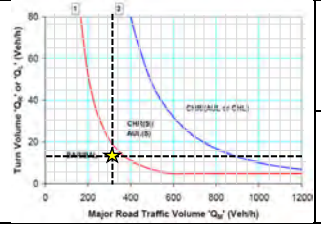
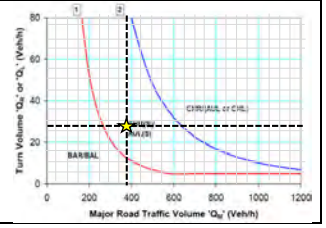
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Turn Warrant Assessment: Proposed Collector Road / Rewi Street Intersection

			2031 Horizon Year				2041 Horizon Year			
			AM Peak		PM Peak		AM Peak		PM Peak	
Land Use Scenario	**Turn type**		**Turn Volume (vph)**	**Min. Treatment**	**Turn Volume (vph)**	**Min. Treatment**	**Turn Volume (vph)**	**Min. Treatment**	**Turn Volume (vph)**	**Min. Treatment**
With both Collector Road connections to Rewi Street and Puniu Road in place										
220 dwellings within the structure plan area (i.e., 70 dwellings within Area 1 and 150 dwellings within Area 2)	Right turn in	Qr	11	Treatment: CHR(S) 	26	Treatment: CHR 	11	Treatment: CHR(S) 	26	Treatment: CHR 
		Qm	760		881		783		916	
	Left turn in	Ql	25	Treatment: BAL 	61	Treatment: AUL 	25	Treatment: BAL 	61	Treatment: AUL 
		Qt2	222		547		237		568	
310 dwellings within the structure plan area (i.e., 94 dwellings within Area 1 and 216 dwellings within Area 2)	Right turn in	Qr	15	Treatment: CHR(S) 	36	Treatment: CHR 	15	Treatment: CHR(S) 	36	Treatment: CHR 
		Qm	770		907		793		942	
	Left turn in	Ql	35	Treatment: BAL 	87	Treatment: AUL / CHL 	35	Treatment: BAL 	87	Treatment: AUL / CHL 
		Qt2	222		547		237		568	

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Turn Warrant Assessment: Proposed Collector Road / Puniu Road Intersection

			2031 Horizon Year				2041 Horizon Year			
			AM Peak		PM Peak		AM Peak		PM Peak	
Land Use Scenario	**Turn type**		**Turn Volume (vph)**	**Min. Treatment**	**Turn Volume (vph)**	**Min. Treatment**	**Turn Volume (vph)**	**Min. Treatment**	**Turn Volume (vph)**	**Min. Treatment**
With both Collector Road connections to Rewi Street and Puniu Road in place										
220 dwellings within the structure plan area (i.e., 70 dwellings within Area 1 and 150 dwellings within Area 2)	Right turn in	Qr	6	Treatment: BAR 	13	Treatment: CHR(S) 	6	Treatment: BAR 	13	Treatment: CHR(S) 
		Qm	466		672		494		717	
	Left turn in	Ql	9	Treatment: BAL 	19	Treatment: BAL 	9	Treatment: BAL 	19	Treatment: AUL(S) 
		Qt2	303		342		316		380	
310 dwellings within the structure plan area (i.e., 94 dwellings within Area 1 and 216 dwellings within Area 2)	Right turn in	Qr	8	Treatment: CHR(S) 	19	Treatment: CHR(S) 	8	Treatment: CHR(S) 	19	Treatment: CHR(S) 
		Qm	469		680		497		725	
	Left turn in	Ql	12	Treatment: BAL 	27	Treatment: AUL(S) 	12	Treatment: BAL 	27	Treatment: AUL(S) 
		Qt2	303		342		316		380	

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Turn Warrant Assessment: Proposed Collector Road / Puniu Road Intersection

			2031 Horizon Year				2041 Horizon Year			
			AM Peak		PM Peak		AM Peak		PM Peak	
Land Use Scenario	**Turn type**		**Turn Volume (vph)**	**Min. Treatment**	**Turn Volume (vph)**	**Min. Treatment**	**Turn Volume (vph)**	**Min. Treatment**	**Turn Volume (vph)**	**Min. Treatment**
With just the Puniu Road & Wallace Terrace connections in place (i.e., without the Rewi Street connection)										
150 dwellings within the Area 2 development	Right turn in	Qr	4	Treatment: BAR	9	Treatment: CHR(S)	4	Treatment: BAR	9	Treatment: CHR(S)
		Qm	463		666		491		711	
	Left turn in	Ql	6	Treatment: BAL	13	Treatment: BAL	6	Treatment: BAL	13	Treatment: BAL
		Qt2	303		342		316		380	
220 dwellings within the structure plan area (i.e., 70 dwellings within Area 1 and 150 dwellings within Area 2)	Right turn in	Qr	6	Treatment: BAR	13	Treatment: CHR(S)	6	Treatment: BAR	13	Treatment: CHR(S)
		Qm	466		672		494		717	
	Left turn in	Ql	9	Treatment: BAL	19	Treatment: AUL(S)	9	Treatment: BAL	19	Treatment: AUL(S)
		Qt2	303		342		316		380	
310 dwellings within the structure plan area (i.e., 94 dwellings within Area 1 and 216 dwellings within Area 2)	Right turn in	Qr	8	Treatment: CHR(S)	19	Treatment: CHR(S)	8	Treatment: CHR(S)	19	Treatment: CHR(S)
		Qm	469		680		497		725	
	Left turn in	Ql	12	Treatment: BAL	27	Treatment: AUL(S)	12	Treatment: BAL	27	Treatment: AUL(S)
		Qt2	303		342		316		380	

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Hamilton
PWC Building, Level 3, 109 Ward Street
Hamilton Central, Hamilton 3204
PO Box 13-052, Armagh
Christchurch 8141
Tel +64 7 839 0241
Fax +64 7 839 4234

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