Gillieston Public School Redevelopment and New Public Preschool



Traffic and Transport Impact Assessment

NSW Department of Education

17 January 2025



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RESPONSE TO ENVIRONMENTAL ASSESSMENT REQUIREMENTS

The Planning Secretary's environmental assessment requirements are provided below for the Gillieston Public School redevelopment and new public preschool. Table E.1 below summarises Bitzios' response to the Department of Planning, Housing and Infrastructure's general assessment considerations Item 10 dated 26 July 2024.

Table E.1.1: General Assessment Considerations Item Responses

Item 10 Response Provide a transport and accessibility impact assessment, which includes:

an analysis of the existing and future transport network, including the road hierarchy and any pedestrian, bicycle or public transport infrastructure, future duplication of Cessnock Road (including possible impacts of construction and operation and associated mitigation measures), current daily and peak hour vehicle movements, and existing performance levels of nearby intersections, including (but not limited to):

- Ryans Road,
- Gillieston Road,
- Northview Street,
- Cessnock Road.
- Vintage Drive,
- Fanning Street,
- future roads post greenfield subdivision, and
- any internal access road

The transport context is discussed in Section 2, and existing conditions are noted in Section 3.

The redevelopment of the GPS is in response to the need for facilities upgrades of the existing school as well as the new Gillieston Heights urban release and residential development surrounding the site.

Without the school upgrade, traffic growth in this area would still occur as a direct result of the residential development, and school-related trips would still be generated to other locations further afield from Gillieston Heights.

The proposed school upgrades transport needs therefore need to be assessed and reviewed in the context of the surrounding growth and development of the area.

It is also important to note that while school related traffic occurs during morning and afternoon periods, the school generates limited traffic movements to contributed to daily traffic volumes utilising the surrounding road network. Therefore, it is expected that the daily traffic volumes and Council's planned road hierarchy and environmental capacities surrounding the existing school site remains largely unchanged as a result of the school upgrade.

Please refer to Section 7 for the traffic assessment. The traffic assessment is focused on key intersections where the increase school enrolments and staff over time will generate higher traffic movements than currently experienced.

Details of the delivery (including status and timing) of the surrounding road and active transport network the school is to rely upon, including timing for completion in relation to the proposed pedestrian and vehicular access arrangements.

Proposed transport facility improvements are discussed in Sections 4.2 and further herein.

The improvements will include provision of:

- two new pedestrian crossing facilities on Northview Street and across Ryans Road.
- a new bus bay facility on Gillieston Road with associated pathway infrastructure. This facility will be relocated in response to Council's upgrade along Ryans Road
- updates to Northview kerbside parking fronting the site to provide a dedicated Kiss n Drop facility. This facility will include widening along



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	Northview and new kerbside parking and driveways to allow Kiss n Drop vehicles to turn around until such time that new local road connections between Northview Street and Gillieston Road are constructed (by others).
	These new facilities meet the needs of the activity based on the project activity and the surrounding transport network that will be present in 2026.
	It is likely that other transport improvements (i.e. pathways, crossings) will be undertaken in response to future residential growth as it occurs in the area and coordinated with other activity (i.e. shared path on the northern side of Gillieston Road). DoE will therefore work with Council and TfNSW (through GetActive NSW grants) to help review and facilitate further improvements as they are required across Gillieston Heights. This may include the further upgrades along Gillieston Road and Cessnock Road.
an outline of the proposed activity, including likely existing and future pedestrian, cycling and vehicular access arrangements (including swept path analysis of the largest vehicle and height clearances), parking arrangements and rates (including bicycle and end-of-trip facilities), drop-off/pick-up-zone(s) and bus bays (if applicable), and provisions for servicing and loading/unloading.	Sections 4 to 9 of this TTIA respond to these considerations
an analysis of the impacts of the proposed activity (including justification for the methodology used), including predicted modal split, a forecast of additional daily and peak hour multimodal network flows as a result of the activity (using industry standard modelling), potential queuing in drop-off/pick-up zones and bus bays during peak periods, identification of potential traffic impacts on road capacity, intersection performance and road safety (including pedestrian and cyclist conflict), and any cumulative impact from surrounding approved activity.	Please refer to Section 7 for the traffic assessment.
measures to mitigate any traffic impacts, including details of any new or upgraded infrastructure to achieve	Proposed transport facility improvements are discussed in Sections 4.2 and further herein.
acceptable performance and safety, and the timing, viability and mechanisms (including proposed arrangements with relevant local councils or government agencies) of delivery of any infrastructure improvements in accordance with relevant standards.	The increase in school trips is expected to have a negligible impact on intersection performance across the network when considering the overall development growth in the region. The proposed school facilities upgrade includes transport infrastructure in response the activity recently completed or planned by Council. Specifically, the numerous intersection treatments and road attributed along Ryans Road.
	While some improvements are proposed to the Kiss N Drop facility, significant road capacity upgrades directly fronting the site (such as Northview Street) are both not feasible or appropriate. Focus is rather on the improvements to pedestrian facilities to promote walking and riding to schools for the emerging community surrounding the school over time.



Item 10	Response
measures to promote sustainable travel choices for employees, students and visitors, such as connections into existing walking and cycling networks, minimising car parking provision, encouraging car share and public transport, providing adequate bicycle parking and high quality end-of-trip facilities, and implementing a Green Travel Plan.	Mode shares are discussed in Section 3.4 and 7.1. A preliminary School Travel Plan is provided in Appendix F.
a preliminary operational traffic and access management plan for the activity, including drop-off/pick-up zones,	Plans for transport access and movement is contained in this report.
number of bus movements, bus bays and their operations.	Section 4.2 notes transport facility improvements Section 5 discusses access arrangements and Section 6 discusses bus facilities and operations.



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1. Introduction

1.1 Background

The Gillieston Public School have been identified by the NSW Department of Education (DoE) as requiring redevelopment. The proposed Gillieston Public School redevelopment and new public preschool is driven by service need including increase in expected student enrolments and the and removing demountable structure and replacement with permanent teaching spaces.

The Gillieston Public School redevelopment and new public preschool comprises the following activities:

- Demolition and removal of existing temporary structures.
- Site preparation activities, including demolition, earthworks, tree removal.
- Construction of new:
 - 32 permanent general learning spaces and 3 support teaching spaces
 - Administration and staff hubs
 - Hall, canteen and library
 - Out of school hours care
 - Public preschool (standalone building for 60 places)
 - Covered Outdoor Learning Areas (COLAs)
 - Outdoor play areas, including games courts and yarning circle
 - New at-grade car parking
 - Extension of the existing drop-off / pick-up area and new bus bay
 - Realignment of the existing fencing
 - Associated stormwater infrastructure upgrades
 - Associated landscaping
 - Associated pedestrian and road upgrade activities

Bitzios Consulting has been engaged by NSW Department of Education's, School Infrastructure (SINSW), to undertake a Traffic and Transport Impact Assessment (TTIA) for the proposed Gillieston Public School (GPS) redevelopment and new public preschool. This TTIA supports a Review of Environment Factors (REF) for proposed redevelopment of GPS is driven by service need including increase in expected student enrolments and the removing demountable structure and replacement with permanent teaching spaces. Activity plans prepared by SHAC Architects are provided in **Appendix A**.

The Site is identified as 100 Ryans Road and 19 Northview Street, Gillieston Heights, legally described as Lot 51 DP 1162489 and Lot 2 DP1308605.

The Site is located within the Maitland Local Government Area (LGA) and is zoned RU2 Rural Landscape and R1 General Residential zone under the provisions of the Maitland Local Environmental Plan 2011 (MLEP2011).

Existing attributes of the subject site are noted as follows:

- The subject site exhibits an area of approximately 23,385m² and is located in the suburb of Gillieston Heights
- The subject site has a frontage to Ryans Road to the east, Gillieston Road to the north, and Northview Street to the south
- In its existing state, the subject site comprises the existing Gillieston Public School. Existing school buildings are primarily located in the west portion of the subject site with a large area of open space situated in the eastern portion. There are limited permanent structures located on the subject site with thirteen (13) existing demountable classrooms currently occupying the subject site. Permanent buildings consist of the Main Administration Building, Original Brick Cottage, Library and GLS building located in the centre of the subject site



Carparking is provided from Gillieston Road for staff. Pedestrian access is available via this
main entrance from Gillieston Road and via a separate pedestrian-only access gates on
Northview Street and Ryans Road

The existing site context is shown in Figure 1.1 and Figure 1.2 below.

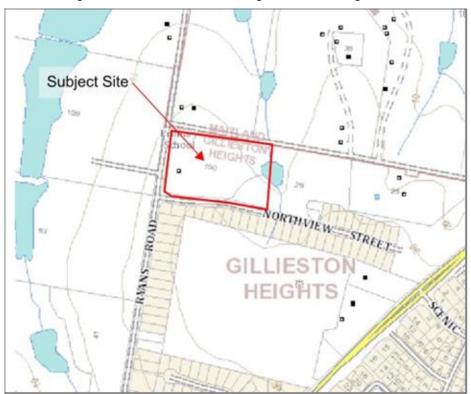


Figure 1.1: Cadastral Map (Source: NSW Spatial Viewer, 2024)



Figure 1.2: Site Aerial Map (Source: Near Map, 2024)



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1.2 Scope and Significance of Environmental Impacts

This TTIA includes the following components:

- A review of the existing transport conditions including drop-off / pick-up arrangements, pedestrian and cycling facilities, public transport facilities and connectivity surrounding the subject site
- A review of the existing transport planning documents
- A transport assessment of the activity's student enrolment catchment and travel modes
- A review of historical crash data
- Assessment of the existing and proposed access arrangements for vehicles, servicing and refuse collection
- Estimation of the activity's trip generation and distribution on the local road network
- Assessment of the activity's impacts on the surrounding road network
- Assessment of the activity's car and bicycle parking provision
- Assessment of the on-site parking layout, access, servicing and refuse collection requirements.

Based on the identification of potential impacts and an assessment of the nature and extent of the impacts of the proposed development, it is determined that all potential impacts can be appropriately mitigated to ensure that there is minimal impact on the locality, community and/or the environment.

Important, the assessment of the transport impacts of this school need to be put into context, including:

- The school is an existing school facility located in a rural setting, which is undergoing a significant urban / residential transformation
- The school project's immediate focus is to upgrade existing facilities on the site to improve learning and education conditions for existing students
- The surrounding land parcels are currently being redeveloped for residential housing as part of the Gillieston Heights Urban Release Area (URA). This includes a series of road upgrades as well as contributions towards transport infrastructure to facilitate this growth
- The school is therefore considered a necessary piece of infrastructure for this new community and essentially a trip-end for education based trips for these emerging residential areas in the schools catchment
- Focus is therefore geared towards improvements to active transport facilities fronting the school site to integrate with the surrounding growth and transport infrastructure provides by Council and the greater URA.

1.3 Stakeholder Engagement

In preparation of this Transport and Traffic Impact Assessment (TTIA), key transport stakeholders were consulted including representatives from, Maitland City Council (Council) and Transport for New South Wales (TfNSW) as required by the Planning Secretary's general assessment requirements. This was undertaken through a number of meetings as part of a Transport Working Group process.

Consultation regarding the existing transport operations of the school was also undertaken with the current principal. Key items from the stakeholder engagement are as follows:

- Transport Design discussions occurring with Council on 19 April 2023 to discuss the proposed school upgrade and surrounding road environment and activity consideration
- A site meeting occurred involving Council, SINSW, School and Rover Coaches representatives (TfNSW contracted school bus service provider) on 10 May 2023 to understand the current onthe-ground situation, upcoming activity works and limitations of locations suitable for bus facilities and Kiss n Drop. During this meeting Rover Coaches indicated their support for the propose for a bus facility to be located on Gillieston Road



- Consultation meeting with Council (8 August 2024) to discuss updated with the activity and items raised by Council through receipt of earlier advice. At this meeting Council flagged concerns with potential u-turns with the Kiss n Drop (KnD) and any alternate options.
- Transport Working Group (TWG) Meeting on 3 September 2024 with SINSW, Council and TfNSW to provide further project update, discuss context of school growth with future activity and proposed transport facility improvements. Updates to the KnD including the temporary turn around facility were presented for Council review/comment to overcome previous concerns raised with u-turns and noting limitation on viable alternate options for KnD.
- Transport Working Group (TWG) Meeting on 9 October 2024 with SINSW, Council and TfNSW.
 The discussion again related to the proposed frontage activity details as well as external infrastructure timing and responsibilities. Specifically:
 - SINSW outlined the reasoning for the KnD facility design including the improvements compared to the existing situation and limitations with respect to land ownership, future road links by others and Council's pre-planned frontage activity on Ryan Road and Gillieston Road.
 - Council re-iterated their request for infrastructure activity including Ryans Road and Gillieston Road widening
 - Pedestrian crossing locations were discussed with regarding to connecting to pathways under construction by others and detailed design to be investigated as part of Works Applications and Local Traffic Committee.
 - SINSW re-iterated their position with respect to the facilities upgrade needs first and foremost on and fronting the site. The proposed transport facilities have been design to consider and align with Council's planning for the greater activity as part of the Gillieston Heights development area. The proposed works do not preclude the additional civil road activity from occurring in the future.



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2. TRANSPORT PLANNING CONTEXT

2.1 Overview

A review of State and Local planning documents was undertaken to gain an understanding of the current policies and programs within the Maitland City Council. This also allows this assessment to align with other related plans. A range of documents were reviewed, and the subsequent sections detail the documents that have outcomes relevant to this assessment.

2.2 State Documents

State documents were reviewed including the NSW Government's Future Transport Strategy 2056, Long-Term Strategic Master Plan, NSW Active Transport Strategy, Regional NSW Services, Hunter Regional Transport Plan, Road Safety Plan and the NSW Planning Guidelines for Walking and Cycling. The following details the outcomes from the relevant state government plans:

- NSW Future Transport Strategy 2056 This plan outlines the overarching strategy, supported by a suite of plans to achieve a 40-year vision for the NSW transport system
- NSW Long Term Transport Master Plan this plan identifies that bus service contracts in the region
 are to be renewed which is an opportunity to improve routes and outcomes for customers. This
 includes cross-border routes and infrastructure.
- NSW Active Transport Strategy this plan outlines key focus areas for 15-minute cities and walking and cycling including:
 - an ambition to double the number of children walking or riding to school with supporting programs and trials to support active travel to school and behaviour change initiatives to shift modes by 2028
 - partnering with the Department of Education and key stakeholders to improve safe walking, cycling and public transport access to schools.
- NSW Planning Guidelines for Walking and Cycling this plan identifies the value of walking and cycling as tools to reduce congestion, freeing up capacity on public transport and encouraging active transport for short local trips.

Transport for NSW is also currently corridor investigations and modelling for the MR195 (Cessnock Road) corridor to contribute to optioneering of corridor and intersection upgrades to accommodate for the residential growth in the area coupled safety history of MR195 corridor.

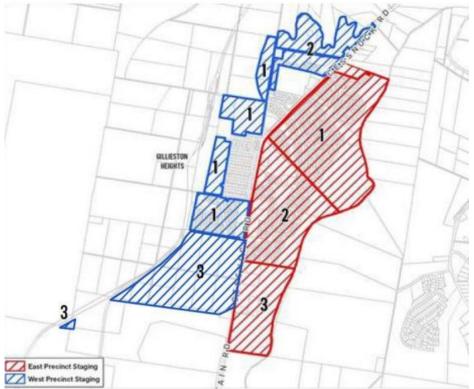
2.3 Local Documents

Council documents were reviewed including the Local Environment Plan, Development Control Plan, Section 7.11 Developer Contributions, Pedestrian Access and Mobility Plan (PAMP) and Maitland Bicycle Plan and Strategy (2014).

Under the DCP there is specific guidance on urban release areas including Gillieston Heights. Of particular note for Gillieston Heights:

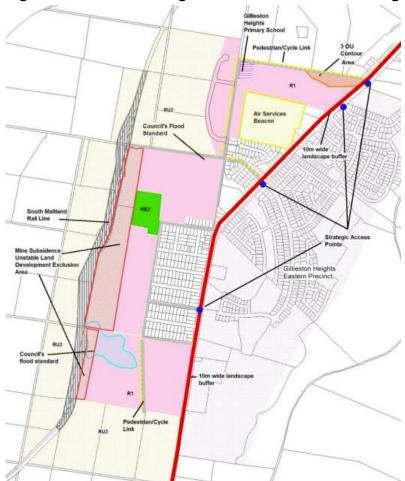
- activity will be staged to provide for the timely and efficient realise of urban land making provision for necessary infrastructure and sequencing
- The focus of the activity area's transport and movement objectives is to provide walkable neighbourhoods with convenient access to facilities and services, with less dependence on cars for travel
- Off-road shared path infrastructure shall be provided on the lower side of the perimeter roads to crease a continuous pathway





Source: Maitland DCP

Figure 2.1: Gillieston Heights Urban Release Area – Staging Plan



Source: Maitland DCP

Figure 2.2: Gillieston Heights Western Precinct Plan



2.4 Relevance to School Redevelopment and Transport Impacts

The redevelopment of the GPS and new public preschool is in response to the Gillieston Heights urban release area and residential development surrounding the site. Activity and supporting transport infrastructure upgrades are being constructed progressively over time by adjacent land owners, the Council and the NSW State Government. Growth will occur over a period of time and will be subject to a combination of factors. This will influence how the school's population will expand over time and also what transport infrastructure is available.

Notably, a significant proportion of the student growth will be within the surrounding walk and cycle catchment of the school, supporting local and state government goals of reduced car dependence.

Without this proposed school upgrade, traffic growth in this area would still occur as a direct result of the Gillieston Heights URA, and if the GPS were not upgraded or expended in its enrolments, school-related trips would still be generated by the Gillieston Heights URA in this vicinity and travel to other locations further afield from Gillieston Heights.

The proposed school upgrades transport needs, therefore, need to be assessed and reviewed in the context of the surrounding growth and activity of the area by others. The activity and proposed transport facility improvements responds to needs of the activity and mitigations for traffic impacts of the activity.

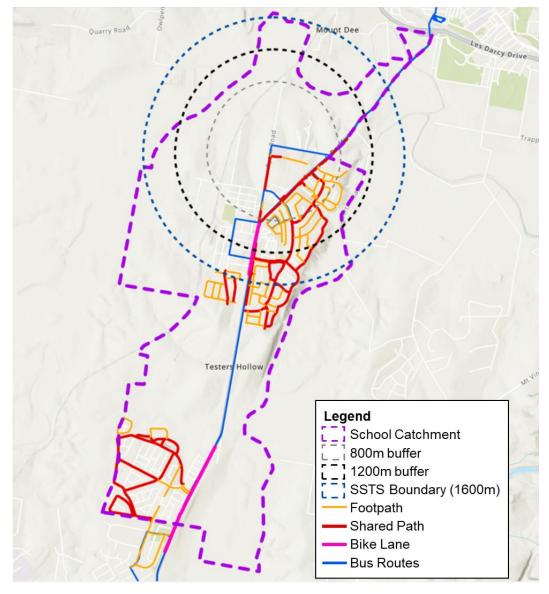


Figure 2.3: School Catchment and Walk/Cycle Catchments



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3. Existing Conditions

3.1 Subject Site

The school currently operates with around 339 students and 23 full time equivalent (FTE) staff. The school starts at 8:45am and finishes at 3:05pm. Existing attributes of the subject site are noted as follows:

- The subject site exhibits an area of approximately 23,385m² and is located in the suburb of Gillieston Heights
- The subject site has a frontage to Ryans Road to the east, Gillieston Road to the north, and Northview Street to the south
- In its existing state, the subject site comprises the existing Gillieston Public School. Existing school buildings are primarily located in the west portion of the subject site with a large area of open space situated in the eastern portion. There are limited permanent structures located on the subject site with thirteen (13) existing demountable classrooms currently occupying the subject site. Permanent buildings consist of the Main Administration Building, Original Brick Cottage, Library and GLS building located in the centre of the subject site
- Carparking is provided from Gillieston Road for staff. Pedestrian access is available via this
 main entrance from Gillieston Road and via a separate pedestrian-only access gates on
 Northview Street and Ryans Road.



Figure 3.1: Existing Site Conditions



3.2 Road Network

Details of the surrounding road network are provided in Table 3.1

Table 3.1: Surrounding Road Network

Road Name	Jurisdiction	Hierarchy	Lanes	Divided	Posted Speed
Northview Street	Council	Local	2	No	50km/h
Ryans Road	Council	Local	2	No	50km/h 40km/h (school peaks)
Gillieston Road	Council	Local	2	No	50km/h 40km/h (school peaks)
Vintage Drive	Council	Local	2	No	50km/h
Cessnock Road	TfNSW	State Road	2	No	60km/h

The surrounding key intersections in proximity to the school are summarised in Table 3.2.

Table 3.2: Surrounding Key Intersection Details

No.	Major Road	Minor Road	Jurisdiction	Control
1	Gillieston Road	Cessnock Road	Council	Priority
2	Ryans Road	Vintage Drive	Council	Priority
3	Vintage Drive	Cessnock Road	TfNSW	Signalised

The location of the key intersections with respect to the school is shown in Figure 3.2.



Source: NSW Road Network Classification

Figure 3.2: Key Intersections



3.3 Alternate Transport

3.3.1 Active Transport

There are numerous gaps in the active transport network, including narrow paths and insufficient crossing points. There are no continuous formal pedestrian pathways or cycling networks around the subject site that connect the school with the nearest public transportation or major roads.

The existing footpath network surrounding the subject site is shown in Figure 3.3. The current cycling network surrounding the subject site is shown in Figure 3.4. A shared path is to be provided on the western side of Ryans Road as part of the residential subdivision currently being constructed.



Base Image Source: Google Maps

Figure 3.3: Pedestrian Connectivity





Source: NSW Cycleway Finder

Figure 3.4: Cycling Connectivity

3.3.2 School Bus and Public Transport

Existing school bus services are provided by Rover Coaches and public bus service area provided by Hunter Valley Buses under contracts with TfNSW. There are three school bus services – S934 operates in the morning, S851 and S936 operate in the afternoon that service the school and currently stop in front the school on its Ryans Road frontage.



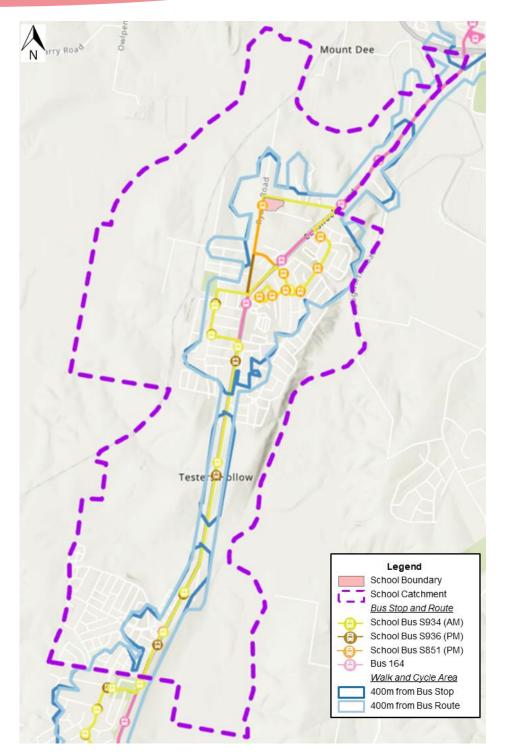


Figure 3.5: School Bus Routes

The public transport facilities surrounding the school are shown in Figure 3.6.





Base Map Source: Google maps

Figure 3.6: Public Transport Facilities

Details of the public transport services are provided in Table 3.3.

Table 3.3: Route Information

Route Number	Route	Start	Finish		
	АМ				
S934	From Kurri Kurri, Heddon Greta & Gillieston Heights	7:20	9:00		
	PM				
S851	To Gillieston Heights	15:10	15:50		
S936	To Kurri Kurri	14:35	16:00		



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3.4 Transport Mode Share

A student travel mode share survey was undertaken in February 2023 to determine the existing travel behaviours. The survey accounted for 87% of students with the remaining students being absence on the day of the survey. The estimated mode share split of students is provided in Figure 3.5.

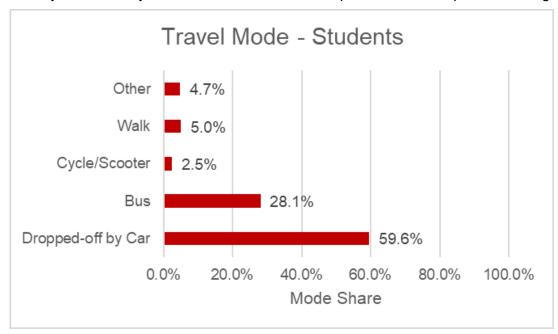


Figure 3.7: Student Travel Mode Share

While car based travel is currently the highest mode of travel, of car based trips 60% are carpooling (i.e. dropped-off/picked up in a car with another siblings or other students).

As shown, buses account for 28.1% of student travel. At the time of the travel survey 56% students lived within 400m of a bus stop. Importantly, any changes to the bus network are the responsibility of TfNSW. The 4.7% other mode is predominately based on an outside of school hours car services operated by Tilly's which have a mini-bus/van that drop off/pick up students.

Active transport participation is limited but this reflects the historically rural environment that is still in transition with surrounding residential development. At the time of the survey only 6% of students lived in a walk up catchment and 22% within a cycle catchment. Use of active modes will however only increase with new residents moving into the surrounding residential developments and the delivery of improved active transport infrastructure including a shared path on the western side of Ryans Road with residential developments current being constructed.

A staff travel mode survey was not undertaken but existing staff mode shares are understood to entirely be by car and there is little alternate transport participation.

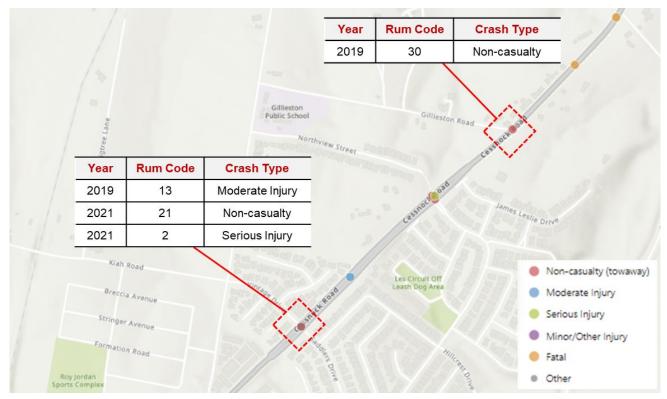
As discussed herein, the staff car parking provided is compliant with the staff component of Council's DCP car parking requirement. Additional encouragement to shift staff to other modes is discussed in more detail through the implementation of a School Travel Plan (STP) provided in **Appendix B**.

3.5 Historic Crash Analysis

The TfNSW Centre for Road Safety's interactive crash statistics were used to source crash data for the area surrounding Gillieston Public School. A review of reported crashes that occurred between 2018 and 2022 were analysed and identified a total of four crashes occurring within 100m proximity to the key intersections along Cessnock Road.

Figure 3.6 shows the location and Road User Movement (RUM) code of each crash.





SOURCE: TFNSW Crash Map

Figure 3.8: Crash Analysis

Based on crash information, reported vehicular incidents do not appear to involve vehicle traffic associated with the school.



4. PROPOSED ACTIVITY

4.1 Activity Details

The Gillieston Public School have been identified by the NSW Department of Education (DoE) as requiring redevelopment. The proposed Gillieston Public School redevelopment and new public preschool is driven by service need including increase in expected student enrolments and the and removing demountable structure and replacement with permanent teaching spaces.

The Gillieston Public School redevelopment and new public preschool comprises the following activity:

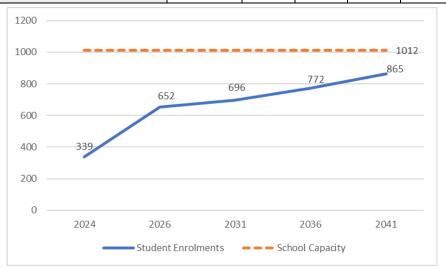
- Demolition and removal of existing temporary structures.
- Site preparation activities, including demolition, earthworks, tree removal.
- Construction of new:
 - 32 permanent general learning spaces and 3 support teaching spaces
 - Administration and staff hubs
 - Hall, canteen and library
 - Out of school hours care
 - Public preschool (standalone building for 60 places)
 - Covered Outdoor Learning Areas (COLAs)
 - Outdoor play areas, including games courts and yarning circle
 - New at-grade car parking
 - Extension of the existing drop-off / pick-up area and new bus bay
 - Realignment of the existing fencing
 - Associated stormwater infrastructure upgrades
 - Associated landscaping
 - Associated pedestrian and road upgrade activity.

The growth of the school enrolments will be due to surrounding residential activity in the area.

The general assessment requirements necessitate that traffic generation to be based on projected growth from commencement of the approved activity over a 10 year design horizon. Projected student enrolment increases over the 10-year period from the anticipated year of opening (year 2026) to the 10-year design horizon (year 2036) is detailed in Table 4.1. Staff numbers of expected to be 50 staff by 2036.

Table 4.1: Projected Student Enrolment Increases

Year	Current	2026	2031	2036	2041
Student Enrolments	339	652	696	772	865



The site will also accommodate universal pre-school (UPS) with capacity for 60 children and <10 staff.



4.2 Proposed Transport Facilities

Additional transport facility upgrades are included in the activity to accommodate the increase in enrolments and changes to the transport strategy associated with the GPS. The activity plans prepared by Shac Architects are provided in **Appendix A**.

The transport related components are discussed in Table 4.2.

Table 4.2: Proposed Transport Facility Upgrades

Inf	rastructure Description	Benefit
1.	New pedestrian crossing on Ryans Road	Provides a new raised crossing facility for pedestrians travelling to/from the school entrance to the western side of Ryans Road where shared path infrastructure is planned and to be delivered by a residential development currently being constructed
2.	Crossing on Northview Street	Provides an improved crossing facility for pedestrians travelling from the school to south of the school consisting of a children's crossing
3.	Bus Stop on Gillieston Road	Provide a new school bus stop facility on Gillieston Road as an indented bus bay for two buses and footpath connections in vicinity of the bus bay and the schools driveway to the east
4.	Kiss'n'drop (KnD) facility	KnD facility proposed to be provided as an indented area off Northview Street. The KnD facility includes 4 KnD bays positioned at the eastern end and can accommodate a total of 80m of queueing including the bays and storage lane on Northview Street. The KnD bays will also allow for visitor parking use between 9:30am – 2:30pm.
		In the interim a temporary turnaround facility will be provided to connect the KnD with the site's access driveway to provide a turning facility until a future subdivision road is created that will connect vehicles from Northview Street to Gillieston Road.

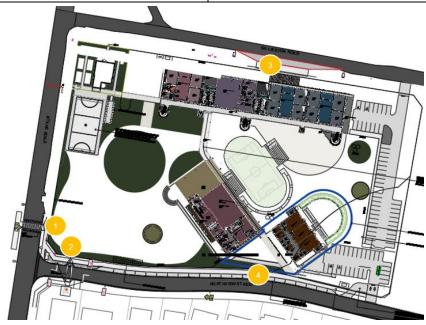


Figure 4.1: Transport Facility Upgrades

All other transport improvements (i.e. wider pathways and crossing activity) will remain to be undertaken in future as activity occurs in the area, coordinated with developer activity (i.e. shared path on the northern side of Gillieston Road) and through programs in collaboration with Council and TfNSW (through GetActive NSW grants) such as future crossing facilities on Gillieston Road once there is connecting shared path facilities on the north to generate the need for the crossing.

The proposed activity can adequately accommodate the activity and the school can operate without relying on the wider activity noted above which can be delivered over time.



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5. Access Assessment

5.1 Overview

The proposed site access arrangements for vehicles (car and bus), pedestrians and cyclists responds to the changes surrounding the site including road upgrades and intersections.

Based on the existing and changing road environment around the site and locations that provide convenient, safe and DDA compliant access are limited to two locations, being the eastern end of the site's frontage to Gillieston Road and Northview Street.

Based on current and future road activity on Ryans Road equitable access is not able to be provided without extensive ramping. Additionally an intersection has been approved and is being currently constructed directly opposite the existing bus pick-up/drop off area on Ryans Road meaning a bus stop cannot be safely retained in this location, notwithstanding the challenges for providing DDA compliant access into the site. Accordingly bus facilities are proposed to be located to Gillieston Road as there is not ability for a bus to turn around in Northview Street.

Separating peak buses and cars movements is important, while providing equitable access, meaning that the Kiss and Drop (KnD) facility must be located on Northview Street.

Pedestrian 'front door' access will be retained on Northview Street but be relocated based on new building locations. Crossing facilities are proposed to improve crossing safety and connect to shared path infrastructure (currently being delivered by others).

Vehicle access into the site is provided from Gillieston Road and Northview Street and will provide separation of movement between the public school staff and service vehicles, and those associated with the preschool.

5.2 Pedestrian Access

Pedestrian access to the subject site is provided at two locations on Northview Street, and Gillieston Road (in vicinity of the proposed bus stop.) The activity includes:

- Provision of a wombat crossing on Ryan Road
- Provision of a children's crossing on Northview Street
- Footpath along the school site's frontage on Gillieston Road in vicinity of the school bus stop and staff car park driveway.

The location and type of crossing facility on both Northview Street and Ryans Road are limiting due to their road reserve width as well as the recently constructed intersections. The Wombat crossing on Ryans Road provides a speed treatment between the closely spaced intersections and directly in front of the school.

Figure 5.1 details the proposed pedestrian crossing facilities fronting the school. The residential development opposite the school site that currently being constructed will deliver provision of a shared path of the western side of Ryans Road.



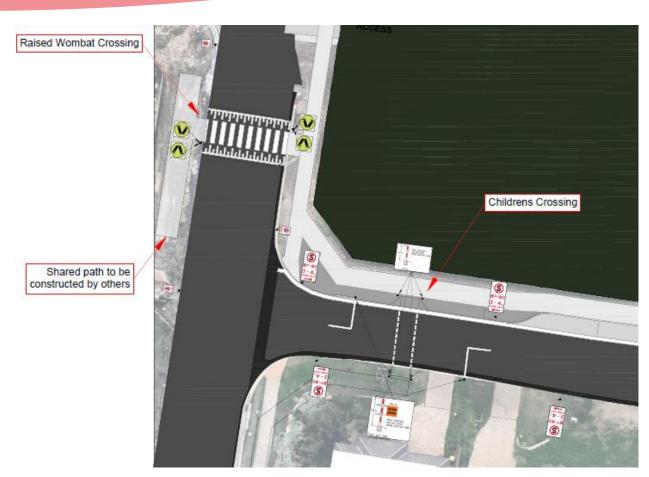


Figure 5.1: Proposed Crossing Facilities

5.3 Car Parking and Service Access

Vehicular access to GPS is provided at two locations:

- A new vehicular crossover on Gillieston Road to provide access to parking and servicing for the Public School
- A new vehicular crossover on Northview Street to provide access to parking for the pre-school with a temporary KnD exit connection (before future adjoining subdivision roads occur)

An assessment of the proposed accesses in accordance with Council's and Australian Standards AS2890.1 requirements was undertaken with the outcomes summarised in Table 5.1

Table 5.1: Driveway Compliance

Design Element	Details
	Northern Crossover
Access Facility Category	Category 1 (i.e. User Class 1, 25-100 car parking spaces and local road frontage)
Crossover Form	Council Standard Drawing S.D.017 (6.0m wide at the property boundary)
Pedestrian Sight Line Triangle	A pedestrian sight line triangle is provided on the egress side of the driveway as per Figure 3.3 in AS2890.1.
	Southern Crossover
Access Facility Category	Category 1 (i.e. User Class 1, 25-100 car parking spaces and local road frontage)
Crossover Form	Council Standard Drawing S.D.017 (6.0m wide at the property boundary)
Pedestrian Sight Line Triangle	A pedestrian sight line triangle is provided on both sides of the driveway as per Figure 3.3 in AS2890.1.



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6. Bus Facility and Operations

6.1 Bus Facility Upgrades

With over 28% of school students currently using buses, maintaining bus utilisation and public transport mode share for students is critical to the success of the GPS.

As noted earlier, based on approved subdivision roads on the western side of Ryans Road and level difference between the road and site there is the need for the existing school bus stop to be relocated to Gillieston Road for safety and DDA compliance. Therefore, the relocation of the bus stop facility to Gillieston Road is necessary in response to the surrounding road upgrades, but maintains a single kerbside bus facility fronting the school.

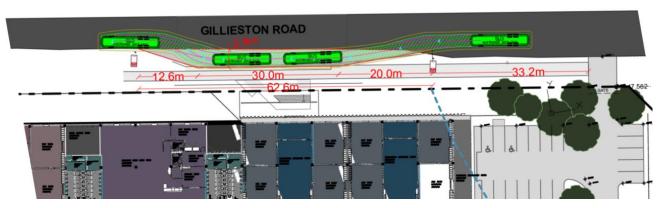


Figure 6.1: Proposed School Bus Facility

The new location will allow for buses to travel on their existing routes and provides a stop able to accommodate up to two (2) buses at any one time. The stop will have convenient and direct access into the school and its Building C which will provide for undercover waiting areas close to the stop.

The design of the stop will be a 3.2m wide indented bus bay initially and then form part of kerbside shoulder/lane once wider upgrades to Gillieston Road occur in the future.

The proposed arrangements are anticipated to be sufficient to accommodate for the demands associated with the school. Student bus demands and bus operations can be reviewed over time in collaboration between TfNSW, bus operators and the school as part of yearly school travel pass application processes.



7. TRAFFIC ASSESSMENT

7.1 Overview and Methodology

The purpose of this traffic assessment is to determine the impacts of the proposed school upgrade on the external network due to the increase in student numbers.

Traffic impacts have been assessed at the following key surrounding intersections:

- Gillieston Road / Cessnock Road
- Ryans Road / Vintage Drive
- Vintage Drive / Cessnock Road

It is noted within the other intersections were identified by Maitland Council but have not been assessed based on the following:

Table 7.1: Other Roads and Intersections

Road / Intersection	Commentary
Northview Street / Ryans Road	Northview Street is the only location where the Kiss n Drop facility can be provided as discussed further in Section 8.2.1. It is important to note this intersection form and ability to consider any mitigations have been limited by Council previously approving closely spaced intersections nearby on the western side of Ryans Road. As a result, no turning lanes or higher order treatment is achievable at this location.
Ryans Road / Gillieston Road	Increases in school traffic at this intersection will be limited given much of the student catchment is to the south, existing and future bus movements will continue to turn left at this intersection out of Gillieston Road onto Ryans Road with minimal impedance. The future development on the northern leg of the intersection is also likely limited. Any future longer-term improvements at this intersection would be subject to widening on the northern side of Gillieston Road.
Fanning Street / Cessnock Road	Fanning Street is a significant distance away from the school and is unlikely a route to generate school related traffic to a level that would warrant any upgrades to be imposed. Therefore, this intersection is not considered relevant to this assessment, rather subject to the greater Gillieston Heights URA growth.
Future roads post greenfield subdivision	School traffic would only have an influence on the future subdivision road to the east, though the timing of this subdivision is unknown. As much of the student catchment to the south vehicles most school related traffic would be making left turn movements into the subdivision road and then out of the subdivision road onto Gillieston Road. The intersection form has already been approved by Council as 4-way priority-controlled intersection and given the existing school location would have formed part of Council's consideration when confirming the intersection form.

The additional traffic associated with the upgrade of GPS has been determined based on the proportionate increase in enrolments and staff as detailed in Section 4.1.

The additional traffic associated with the GPS upgrade has been determined based on the existing schools and the proposed increase to capacity for the redevelopment year of opening (2026) and ultimate design year (2036).

As part of the traffic assessment, travel mode surveys were undertaken. The mode shares have been developed based on a catchment analysis of students forecasted to be located within relevant active transport and public transport service catchments. Accordingly, practical targets have been developed based on the local context and catchments.



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For staff, the mode share targets are based on TfNSW's Regional Transport Strategy and are considered as more ambition targets from GTP rather than to inform traffic and parking assessment. The adopted mode shares are illustrated in Figure 7.1 below.

Public School (2026)									
Travel Mode	Existing	Mode Share Targets*	% Change						
	Staff								
Private Vehicle	99%	92%	-7%						
Walking	0%	2%	2 %						
Cycling	0%	2%	2 %						
Bus	0%	3%	3%						
Student (2026)									
Private Vehicle	60%	50%	10%						
Walking	5%	7%	2%						
Cycling	3%	6%	4%						
Bus	28%	32%	4%						
Other	5%	5%	0%						
	Public	School (2036)							
Travel Mode	Existing	Mode Share Targets	% Change						
	Staff								
Private Vehicle	99%	82%	17%						
Walking	1%	8%	7 %						
Cycling	0%	5%	5 %						
Bus	0%	5%	5%						
	Student								
Private Vehicle	60%	45%	-15%						
Walking	5%	8%	3%						
Cycling	3%	8%	6%						
Bus	28%	35%	7%						
Other	5%	5%	0%						

Figure 7.1: Mode Share Targets

7.2 Background Traffic

Background traffic volumes were obtained from traffic surveys undertaken by Traffic Data and Control on 6 December 2022 at the following intersections:

- Cessnock Road / Gillieston Road
- Cessnock Road / Vintage Drive
- Vintage Drive / Ryans Road

Surveys found that the AM peak hour occurred between 7:45-8:45am and PM peak hour 2:30-3:30pm.

The traffic survey data is provided in **Appendix B** and the traffic network diagrams provided in **Appendix C**.



7.3 Existing School Traffic

As the school has limited on-site parking and no formalised Kiss n Drop facility traffic generated by the existing school has been estimated based the existing school population and site observations. The following assumptions have been made:

- Current staff drive mode shares is 100%, though typically only 50% of staff PM trips occur during the peak
- Current student drive mode share is 59%
- An average car share factor of 1.75 students per car has been applied non-staff trips to represent families with more than one child attending the GPS or students carpooling with each other and is reflective of car pooling numbers captured through the school student travel survey.

Table 7.2 summarises the estimated school trips based on the existing school.

Figure 7.2: Estimated Existing School Peak Traffic Generation

Component		AM		РМ			
Component	IN	OUT	Total	IN	OUT	Total	
Staff	23	0	23	0	12	12	
Non-staff (student drop off/pick up)	114	114	228	114	114	228	
TOTAL	137	114	251	114	126	240	

In terms of trip distribution the majority of the school catchment is located toward the south of the site so would be contributing to predominately surveyed traffic around Cessnock Road / Vintage Drive and Vintage Drive / Ryans Road intersections.

For staff, these trips are estimated to be closer to a 50/50 split between vehicles traveling north and south on Cessnock Road so trips would be split between Cessnock Road / Gillieston Road and Cessnock Road / Vintage Drive intersections.

7.4 Forecast Background Traffic

To inform background traffic growth rates the permission was given by TfNSW to utilise information from the MR195 corridor project and its transport model to develop traffic growth rates on Cessnock Road and assumed activity projections with state and Council on nearby activity approvals and forecast residential dwellings.

For Cessnock Road between 2021 to 2026 trips are forecast to increase by 3.73% northbound and 3% southbound. Between 2026 to 2036 trips are forecast to increase by 2.88% and 3%.

Based on recent subdivisions approvals (see Figure 7.3 for locations) there is approximately 396 new residential lots expected to be developed and occupied between 2021 and 2026 immediate surrounding the school site. There is a further 180 lots have active development application but not likely to be occupied by residents by 2026.



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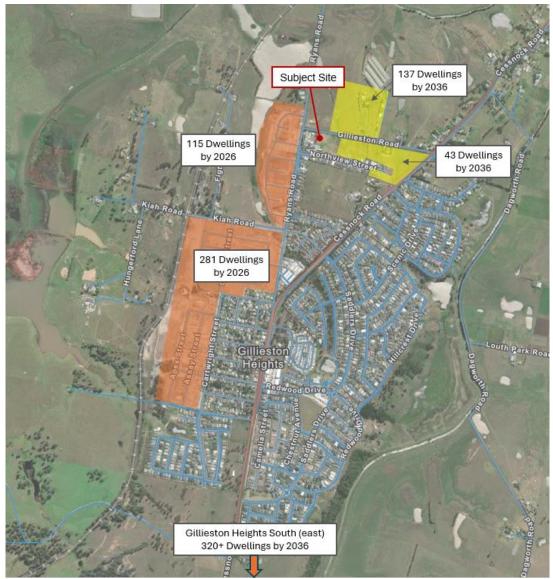


Figure 7.3: Activity Areas Map

Table 7.1 summarised the expected daily and peak hour traffic estimated to be generated by these developments.

Table 7.2: Subdivisions Summary and Traffic Generation

Cub division I o		Traffic Generation Rate					AM 1	Γrips	PM 1	rips	
Subdivision Lots	Daily Rate	AM Rate	PM Rate	Daily Volume	AM Trips	PM Trips	IN	OUT	IN	OUT	
Lots estimate to be	Lots estimate to be occupied by 2026										
Kiah Road – Lots 1-3, DP 113652	281	7.4	0.71	0.78	2,079	200	219	60	140	153	66
109- Ryans Road	115				851	82	90	24	57	63	27
Future Lots (between	Future Lots (between 2026-2036)										
Northview Street / Gillieston Road	43				318	31	34	9	21	23	10
Gillieston Road - Lot 1 DP 986279 – DA 2019/278	137	А	s above	9	1,014	97	107	29	68	75	32



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Traffic distribution have been applied to each of these activities based on their main access locations and expected travel route along Ryans Road, Gillieston Road and Vintage Drive to reach Cessnock Road. In addition to the activity noted in Table 7.1 there is further residential development approved to the south east of the school. Traffic associated with these activity areas has been assumed to be accommodated within Cessnock Road's traffic growth forecasts.

Traffic distributions showing forecast background traffic volumes through the network at the anticipated year of opening 2026 and the 10-year design horizon are provided in **Appendix C**.

7.5 Design Traffic

7.5.1 Traffic Generation

Traffic generation associated with the school upgrade has been estimated based on the anticipated GPS enrolments and full-time staff. The student travel mode surveys were used to provide a baseline of existing peak hour student related operations and was compared to the *target mode share*. The target mode share was based on the number of forecast students expected to be within the walking and cycling catchments.

Each student dropped off at school will generate two trips, being one IN and one OUT trip. In addition, an average carpool factor (1.75 student per car) has been applied to the proposed GPS enrolments to represent families with more than one child attending the GPS or students carpooling with each other.

The number of trips generated by GPS associated with the above considerations is summarised in Table 7.3 and Table 7.3.

Table 7.3: GPS 2026 Activity Traffic

Component	Quantity	Туре	Driving Mode Share	Resultant Trips
Primary School Students Trips	652	KnD	50%	652
Pre-school trips	60	Pick up / drop-off	100%	120
	772			
To	otal students'	trips with ca	rpool correction factor	442
School Staff Trips	50	staff	100%	50
Pre-school Staff Trips	10	staff	100%	10
			Existing Trips	251
			Additional Trips	+183

Table 7.4: GPS 2036 Activity Traffic

Component	Quantity	Туре	Driving Mode Share	Resultant Trips
Primary School Students Trips	772	KnD	45%	696
Pre-school trips	60 Pick up / 100%		120	
	816			
To	rpool correction factor	468		
School Staff Trips	50	staff	100%	50
Pre-school Staff Trips	10	staff	100%	10
	251			
			Additional Trips	+201

Based on the school enrolments and staff increases to 2026 and 2036 the school is expected to generate 183 and 201 additional trips respectively above the existing school's traffic generation.



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7.5.2 Activity Splits

To determine the overall number of peak hour trips generated by the GPS redevelopment and new public preschool, the following assumptions were made:

- Each student dropped off at school will generate two trips, being one IN and one OUT trip
- Staff will generate one IN trip during the AM peak, and one OUT trip during the PM peak
 - Based on observations and experience with other school projects 50% of staff trips are assumed to occur after the PM peak

Table 7.5: 2026 AM Trips

Component	IN	OUT	IN Trips	OUT Trips
Primary School (Drop-off)	100% 100%		326	326
Pre-School (Drop-off)	100%	100%	60	60
School Staff	100%	0%	50	0
Pre-School Staff	100%	0%	10	0
Total student	s' trips with carpo	ol correction factor	221	221
		Staff trips	60	0
	281	221		
	137	114		
	+144	+107		

Table 7.6: 2026 PM Peak Trips

Component	IN OUT		IN Trips	OUT Trips
Primary School (KnD)	100%	100%	326	326
Pre-School (Pick-up)	100% 100%		60	60
School Staff	0%	50%	0	25
Pre-School Staff	0%	50%	0	5
Total students	' trips with carpoo	I correction factor	221	221
		Staff trips	0	30
	221	251		
	114	126		
	+107	+125		

Table 7.7: 2036 AM Peak Trips

Component	IN	OUT	IN Trips	OUT Trips
Primary School (Drop-off)	100%	100%	199	199
Pre-School (Drop-off)	100%	100%	60	60
School Staff	100%	0%	50	0
Pre-School Staff	100%	0%	10	0
Total students	' trips with carpoo	I correction factor	259	259
		Staff trips	60	0
	319	259		
	114	126		
	+205	+133		



Table 7.8: 2036 PM Peak Trips

Component	IN	OUT	IN Trips	OUT Trips
Primary School (KnD)	100% 100%		199	199
Pre-School (Pick-up)	100%	100%	60	60
School Staff	0%	50%	0	25
Pre-School Staff	0%	50%	0	5
Student trips (w	259	259		
		Staff trips	0	30
	259	289		
	114	126		
	+145	+163		

It is important to note a large portion of KnD trips are stop-by trips for parents or guardians who continue on their journey to work and beyond after dropping students off in the morning and similar in the afternoon picking up students on the way home.

Accordingly, the majority of these student related trips is likely traffic already on the road network as part of background traffic assumptions and there would be only minor trip diversions (i.e. vehicles pulling into Northview Street to use drop-off/pick up students then continuing their onward journey towards Cessnock Road and further afield).

7.6 Intersection Assessment

7.6.1 Overview

The key intersections were assessed using SIDRA Intersection (Version 9.1) to determine the activity traffic impacts by comparing 'without activity' (background traffic) and 'with activity' (design traffic) for the anticipated year of opening (2026) and 10-year design horizon (2036). The impacts were assessed during the morning and afternoon peak hours.

With regard to activity traffic, as noted earlier much of the school student related traffic would already be accommodated within background traffic growth (i.e. majority of trips would still occur at key intersections). As such activity related trips above these background scenario have been considered based on the following:

- Net staff trips as staff who would travel from further afield as they do not need to live 'within catchment'
- Minor diversion of car-based trips from those residing in the new activity off Kiah Road (Lots 1-3, DP 113652) who would first travel up Ryans Road to drop-off rather than travelling directly towards Cessnock Road and similar divert their trip in the afternoon
 - 47 trips has been estimated based on 0.45 trips per dwelling which has been assumed considered ABS Census data indicated 0.9 children per household of in Gillieston Heights of which half are of pre/public school age and car based mode share assumption of 40% for student travel
- Car-based trips for new students who would reside within the Gillieston Heights South (East Precinct) in which there is a 257 dwelling activity being proposed by Walker Gillieston Heights Pt Ltd and 67 dwellings by others at 457 and 463 Cessnock Road. As activities have not started at these site it would be expected this would only contribute to 2036 traffic assumption. This area has been assumed as accounting for 58 trips in peaks that would be trip diverted to turn in/out of Vintage Drive rather than be a through trip on Cessnock Road in background traffic growth scenarios.
 - 58 trips based same earlier noted assumptions students per household and mode share assumptions of 40% car travel in 2036

Each intersection is assessed in the following sections with a full copy of the SIDRA Intersection 9.1 outputs are provided in **Appendix F**.



7.6.2 Cessnock Road / Gillieston Road

The layout adopted for the Cessnock Road / Gillieston Road intersection is shown in Figure 7.4.

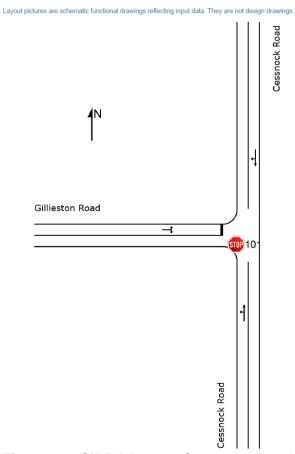


Figure 7.4: SIDRA Layout Cessnock Road / Gillieston Road intersection

Table 7.8 summarises the SIDRA output for the Cessnock Road / Gillieston Road

Table 7.9: Cessnock Road / Gillieston Road SIDRA Results

,			VI Peak		PM Peak			
Scenario LOS	DOS	Avg Delay (s)	95%ile Queue (m)	LOS	DOS	Avg Delay (s)	95%ile Queue (m)	
2026 Background Traffic Volumes								
2026 BG	F	2.25	82.9	334.9	F	0.96	5.3	27.0
		2	2036 Backgr	ound Traffic V	/olumes			
2036 BG	F	27.18	3013.1	4143.3	F	5.16	259.1	1802.6
			2026 Desi	gn Traffic Vol	umes			
2026 Design	F	2.49	129.4	392.4	F	1.87	32.3	171.4
2036 Design Traffic Volumes								
2036 Design	F	29.16	4358.1	4394.7	F	7.23	411.3	2078.7

The results show that intersection will be operating at capacity in 2026 regardless of the school redevelopment. The existing intersection has deficiencies with its geometry and has been identified as needing to be reconfigured and upgraded to signals based on previous TfNSW investigations and related to residential development approvals in the area. It is noted that any upgrade is contingent on acquiring land on the south-western corner of the intersection to provide sufficient space to upgrade the intersection.



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Activity trips only contributing approximately 53 net trips (2% of overall intersection peak hour traffic) to the intersection. This level of net impacts is considered negligible for the purpose of imposing mitigation measures as a result of the school redevelopment in its own right. Notwithstanding, TfNSW are in the process of developing their action plan for upgrades along Cessnock Road, including this particular intersection. Any upgrades to this intersection are therefore subject to a third party and require coordination between TfNSW, Council and the subject land owner. DoE are therefore recommended to work with TfNSW, Council in progressing these future upgrades to support the greater Gillieston Heights URA, inclusive of GPS.

7.6.3 Ryans Road / Vintage Drive

The layout adopted for the Ryans Road / Vintage Drive intersection is shown in Figure 7.5.

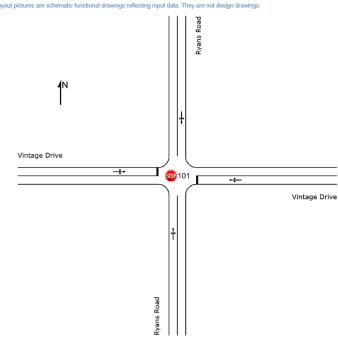


Figure 7.5: SIDRA Layout Ryans Road/ Vintage Drive intersection

Table 7.9 summarises the SIDRA output for the intersection.

Table 7.10: SIDRA Results Ryans Road/ Vintage Drive intersection

	AM Peak			PM Peak				
Scenario	LOS	DOS	Ave Delay (s)	95%ile Queue (m)	LOS	DOS	Ave Delay (s)	95%ile Queue (m)
	2026 Background Traffic Volumes							
2026 BG	В	0.16	6.2	4.4	В	0.14	6.3	3.9
		2	2036 Backgrou	nd Traffic	Volumes			
2036 BG	В	0.21	6.3	6.1	В	0.17	6.4	5.0
2026 Design Traffic Volumes								
2026 Design	В	0.18	5.9	5.1	В	0.14	5.8	3.8
2036 Design Traffic Volumes								
2036 Design	В	0.23	6.1	7	В	0.17	6.0	4.9

As shown, the intersection is expected to operate well within acceptable performance limits (DOS < 0.8) for a priority-controlled intersection for the expected 10-year design horizon (2036) with and without the proposed activity. Furthermore, the introduction of activity trips is expected to have a negligible impact on intersection performance and may result in a reduction in delays by the event of



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diverted trips travelling straight along Ryans Road rather than turning immediately right at the intersection to head towards Cessnock Road.

7.6.4 Cessnock Road / Vintage Drive

The layout adopted for the Cessnock Road / Vintage Drive intersection is shown in Figure

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

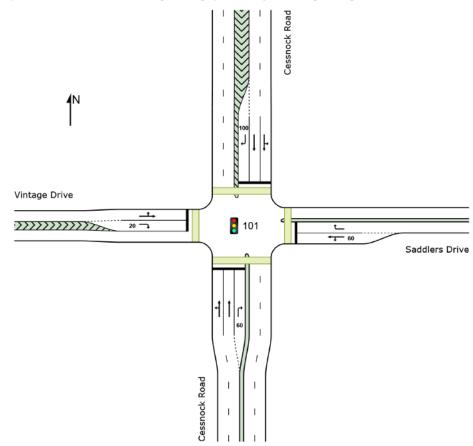


Figure 7.6: SIDRA Layout Cessnock Road / Vintage Drive intersection

Table 7.10 summarises the SIDRA output for the intersection.

Table 7.11: SIDRA Results

Table 7.11. SIDKA Results								
	AM Peak			PM Peak				
Scenario	LOS	DOS	Ave Delay (s)	95%ile Queue (m)	LOS	DOS	Ave Delay (s)	95%ile Queue (m)
	2026 Background Traffic Volumes							
2026 BG	С	0.78	20.1	86.5	В	0.69	17.4	74.8
	2036 Background Traffic Volumes							
2036 BG	С	0.84	26.9	164.4	В	0.74	18.2	118.2
2026 Design Traffic Volumes								
2026 Design	В	0.78	19.4	84.9	В	0.70	17.5	76.2
2036 Design Traffic Volumes								
2036 Design	С	0.87	27.9	174.9	В	0.74	18.2	118.2

The addition of the activity traffic is shown to have a negligible impact on the intersection performance. Therefore, the results do not warrant the need for any mitigation measures to be imposed on the proposed school redevelopment.



7.7 Daily Traffic and Road Capacity/Cross Sections

While traffic is concentrated during peak periods, it is important to note schools generate limited trips outside of peak times and therefore minimal contributors to daily traffic volumes. In our experience with numerous other school projects approximately 80% of daily trips occur during peak periods so the school redevelopment would be estimated to generate in the order of 397 to 527 additional daily trips 2026 and 2036, respectively. Considering the schools catchment and location in an emerging urban release area, daily traffic volumes are therefore a matter that is in response to the urban release area as a whole. As noted in Table 7.2 residential developments surrounding the school are expected to progressively be developed between now and 2036 and are expected to generate in the order of 2,180 additional daily trips split across Gillieston Road and Ryans Road. This is in addition to an estimated 452 daily trips generated by existing residential properties in this immediate area surrounding the school that would utilising Ryans Road and/or Gillieston Road.

Council has identified planned road forms for Gillieston Road and Ryans Road to be of a collector street standard. By 2026, Ryans Road will be generally of an urban road form with widening and upgrades occurring on the western side of the road. An urban road with a kerbside lane with occasional parked vehicles has a capacity of around 600 vehicle per hour per lane and environmental capacity of around 6,000 vehicles per day for a collector street.

Gillieston Road currently has a pavement which ranges from approximately 5.5m to 7.5m width which allows for two way movement (if on-street parking is restricted). Road cross section upgrades in vicinity of the school site will therefore need to be timed/coordinated to align activity to the north and east of the school.

7.8 Traffic Assessment Summary

The key details of the traffic assessment are as follows:

- The traffic generated by the GPS is expected to increase proportionally with the enrolments, which equates to an additional 183 and 201 trips in 2026 and 2036 respectively
- It is important to note a large portion of student related trips are stop-by trips for parents or guardians who continue on their journey to work and beyond after dropping students off in the morning and similar in the afternoon picking up students on the way home.
- As an increase is "trip ends" to the site in response to the surrounding residential growth, the
 majority of student related trips re likely traffic already considered as part of background traffic
 growth assumptions and there would be only minor trip diversions (i.e. vehicles pulling into
 Northview Street to use drop-off/pick up students then continuing their onward journey towards
 Cessnock Road and further afield).
- Without the school upgrade, traffic growth in this area would be expected to occur, and if the GPS were not upgraded, school-related trips would occur as part of the URA to other locations further afield from Gillieston Heights.
- Traffic impacts have been assessed at Cessnock Road / Gillieston Road, the Ryans Road / Vintage Drive and Cessnock Road / Vintage Drive and found the activity would have a negligible impact on intersection performance and do not warrant the need for any mitigation measures to be imposed on the proposed school redevelopment specifically.
- As the Gillieston Height URA is developed, it is recommended that SI-NSW along with Council
 and TfNSW work to deliver targeted transport infrastructure to support the growth surrounding the
 school.



8. Parking Assessment

8.1 Overview and Methodology

The purpose of this parking assessment is to determine the impacts of the proposed upgrade on the off-street and on-street parking facilities. The following is noted:

- Limited parking is currently provided on-site, and parking provision are proposed to meet staff demands based on DCP rates
- Student pick-up/drop-off occurs in an informal arrangement on Northview Street so the propose seeks to formalise facilities, improve road infrastructure (i.e. width to accommodate KnD while still allowing for two-way through traffic movements)

8.2 Council Car Parking Requirements

Standard car parking rates were sourced from Council's *Development Control Plan (DCP) - Part C Design Guidelines*. The relevant car parking rates and requirements are outlined in Table 8.1.

Table 8.1: Activity Parking Requirements and Compliance

Land Use	Parking Rate	Quantity	Spaces Required	Spaces Provided
Primary School (Education Establishment)	1 space per staff plus provision for a drop off/pick up area	50 staff (FTE)	50	50
Pre School (Child Care)	1 space per 4 children in attendance or part thereof.	60 Students	15	15
	•	Total	65	65

The proposed parking provision meets Council's DCP requirements.

8.2.1 Kiss n Drop Facility

A KnD facility is proposed to offset the need to provide dedicated parking spaces for student pick-up/drop-off purposes on site. The proposed KnD facility is located along the Northview Street frontage as part of an upgrade to the existing parallel parking spaces fronting the school which current operates informally for pick-up and drop-off of students.

The KnD facility provides four (4) collection bays and estimated to be able to service 288 vehicles over a 30-minute period. The KnD demand for school based on mode share targets is approximately 176 to 186 vehicles.

In addition to the collection bays, the indented lane widening on Northview Street will provide queuing capacity of a further eight (8) vehicles to maintain two-way vehicle movements along Northview Street

In response to Council concerns raised during TWG meetings related to potential vehicles trying to uturn in vicinity of the KnD it is proposed that a temporary driveway turnaround facility be provided that links into the existing driveway for the pre-school car park (see Figure 8.1). This facility would be proposed to address these Council concerns but be removed once a future subdivision road is provided that connects Northview Street to Gillieston Road.

The operations of the KnD facility will includes clear policies and procedures outlined in the School Travel Plan.





Figure 8.1: Temporary Turning Facility

The KnD collection bays and queuing will be signed as No Parking and No Stopping zones during peak times and allow for parking outside of these times.

It is noted that potential peak queues could extend to include queued vehicles onto Ryan Road waiting to turn into Northview Street for a short period of time (i.e. less than 15 minutes). Normally our recommendation would be for a turn lane to be created and kerbside parking restricted in vicinity of the intersection. However in this case closely spaced intersection previously approved by Council on the western side of Ryan Road (see Figure 8.2) which are both within 25m of Northview Street's intersection with Ryans Road which does not align with Council's DCP which requires a minimum intersection of at least 40m.



Figure 8.2: Approved Subdivision Roads in vicinity of Northview Street



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This configuration prevents the ability to be able to provide a right turn lane on Ryans Road due to the close spacing between intersections creating the potential for opposing/conflicting right turn movements. Additionally while there could be an option of installing time of day based "No Stopping" treatments along the parking lane adjacent to the intersection to allow through traffic to pass right turning vehicles it would not be recommended. This is due to the risk associated with conflicts from through vehicle movements and vehicles trying to turn right between queued vehicles. Given the spacing of intersections, an alternative treatment that may be considered by Council would be to restrict either Northview Street or the opposing new streets on the western side to left-in/left-out only. This would remove turning vehicle conflicts on Ryans Road in proximity to the school and pedestrian crossings.

To manage demands and the operational efficiency of the KnD, the infrastructure provisions will be supported by the School Travel Plan, Travel Access Guide and supporting operational guidance on the correct and appropriate use of the KnD zone i.e:

- This kiss and drop is a 'No Parking' zone, meaning you may stop for a maximum of 2 minutes.
- Do not arrive before the school bell time and park in the kiss and drop
- If you wish to park, there are other alternate locations nearby within unrestricted parking where you can park and walk to the school gate
- Drive as far towards the front of the kiss and drop as possible so people can pull in behind you.

8.3 Bicycle Parking Requirements

Standard bike parking rates were sourced from Austroads Guide to Traffic Management, Part 11. The relevant bike parking rates and requirements are outlined in Table 8.2.

Table 8.2: Bicycle Parking Rates

Land Use	Anticipated Quantity	Parking Rate	Spaces Required	Spaces Provided
School	652 at 2026 of which ~218 Students over year 4	1 space per 5 pupils over year 4	44	52

Note: - Number of students has been assumed to be equivalent to a third (based on uniform distribution of students across year levels)

The activity exceeds the required number of bicycle parking spaces based on the anticipated number of students over year 4.

Students travelling by bicycle is linked to:

- The age of the student and therefore competence and confidence
- The quality infrastructure to provide a high level of service
- The quantity and quality of end of trips facilities provided at the destination.

While bicycle participation is expected to increase as a result of the project and due to the infrastructure improvements being delivered in the surrounding, any increase is expected to occur gradually over time. Bicycle participation should be monitored in the future to ensure the bicycle parking provision is meeting the demand and there is space for bicycle parking facilities to be expanded over time.

To further encourage a modal shift, it is recommended that an initial four staff bicycle parking spaces be provided to meet the active travel mode target of the GTP. Similar to the student bicycle parking spaces, this should also be monitored and increased based on the demand in the future. Additionally, staff bicycle parking spaces should be secure, weather protected and located near the main staff areas separate to student bicycle parking. The staff bicycle parking is to be supplemented with end of trip facilities (e.g. showers, lockers, change areas, etc).



8.4 Car Parking Layout Review

On-site car parking facilities provided have been assessed against the relevant requirements of Council's DCP and Australian Standards AS2890.1, AS2890.2 and AS2890.6. The assessment is documented in Table 8.4.

Table 8.3: Car Parking Geometrical Assessment

Design Element	Requirement	Proposed	Compliant
90° Staff Parking Bays (User Class 1A)	2.4m x 5.4m (min.)	2.5m x 5.4m	Yes
90° Visitor Parking Bays (User Class 2)	2.5m x 5.4m (min.)	2.5m x 5.4m	Yes
PWD Bay (User Class 4)	2.4m x 5.4m with shared area of the same dimension	2.4m x 5.4m with shared area of the same dimension	Yes
Parallel Parking Bays (User Class 1A)	2.1m x 6.2m (min.)	2.1m x 6.6m	Yes
90° Parking Aisle Width	5.8m (min.) + 0.3m clearance where bounded by solid wall	5.8m (min.)	Yes
Circulating Aisle	5.5m (min.) + 0.3m clearance where bounded by solid wall	6.1m (min.)	Yes
Clearance adjacent to vertical obstructions	0.3m (min.)	0.3m (min.)	Yes
Bicycle Parking (Horizontal)	0.5m x 1.8m (min.) with 1.5m aisle	0.5m x 1.8m with 1.5m aisle	Yes

Swept paths of critical car parking and circulation manoeuvres have been undertaken and are provided in **Appendix E**.

The architectural plans provided are considered preliminary and subject to further detailed design. It is therefore recommended that appropriate mitigations measures be imposed regarding design compliance to Australian Standards.



9. HEAVY VEHICLE ASSESSMENT

9.1 Servicing and Refuse Collection

The proposed upgrade is not expected to result in a significant change to the servicing or refuse collection demand.

The school has confirmed that the largest vehicle to enter the site is the refuse collection vehicle (RCV). During collection times, the bins will be moved from the storage location to a location where the RCV can collect the bins. Service and RCV will access the site via Gillieston Road. Swept paths provided in **Appendix H** show that a 12.3m front loading RCV is able to circulate through the site while maintaining adequate outer body clearances.

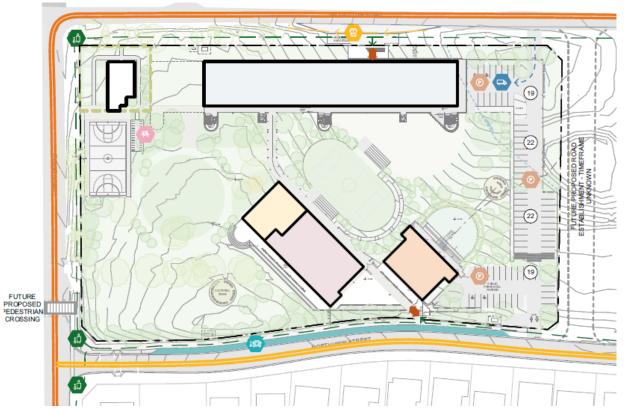


Figure 9.1: Refuse Collection Location

Servicing is typically undertaken with a much smaller vehicle than the RCV. Swept paths provided in **Appendix H** show that an 8.8m long medium rigid vehicle (MRV) is able to circulate through the site while maintaining adequate outer body clearances. This vehicle (MRV) is consistent with a large delivery truck and a typical emergency vehicle (i.e., ambulance or fire truck). Therefore, these vehicles are able to access and circulate through the site as needed.

As servicing and refuse collection occur outside of peak times it will not have an adverse impact on the safety and efficiency for other road users or pedestrians.



10. STAGING

10.1 Overview

The project will be delivered in two main stages generally consisting of:

- Stage 1, site establishment and building new facilities on the eastern side of the site while the existing occupied school continues to operate. Key elements will include:
 - Site Establishment
 - Neighbouring & Council storm water activities
 - All activities required for the completion of the new Learning Building & required decanting
 - All activities required for the completion of the new Pre-School
 - Bus Bay & Gillieston Road activities
 - Eastern sections of the public domain activities on Northview Street for the Kiss n Drop
- Stage 2 consisting of the following elements and sub-stages:
 - Stage 2.1 relocation of demountable, and site sheds to facility hall construction, construction of the hall building, completion and handover of carpark facilities
 - Stage 2.2 Completion of the Hall building, and public domain activities on Northview to compete the western section of the KnD zone
 - Stage 2.3 completion of landscaping including basketball court

10.2 Transport Staging Considerations

In terms of transport considerations during Stage 1, pedestrian access into the school with be maintained in its existing location along with bus facilities remaining on Ryans Road until the Gillieston Road activities are completed.

KnD operations would be maintained along Northview Avenue with site specific traffic management planning and traffic / pedestrian control devices employed in proximity to site activities zones.

Construction vehicle access during Stage 1 will be via Northview Avenue as access from Gillieston Road will be limited due to retaining and earthworks needing to be completed in the north-eastern corner of the site.

For Stage 2, the primary school access will be relocated to the new permanent site on Northview Ave, with bus bay operations relocated to Gillieston Road frontage.

Construction vehicle access during Stage 2 will be via the existing site's driveway on Ryans Road.

Appendix A contains more information of the proposed staging plan



11. SUMMARY

The key findings of the Gillieston Public School redevelopment and new public preschool traffic and transport impact assessment are as follows:

- The proposed redevelopment of GPS is driven by a facilities upgrade and to support the increase in expected student enrolments for the immediate catchment
- Residential growth is planned immediately adjacent to the existing school site as part of the Gillieston Heights URA. Notably, a significant proportion of the student growth will be within the surrounding walk and cycle catchment of the school, supporting local and state government goals of reduced car dependence
- Without the school upgrade, traffic growth in this area would still occur, and if the GPS were not upgraded, school-related trips would occur to other locations further afield from Gillieston Heights as part of the URA
- The proposed school upgrades transport needs were assessed and reviewed in the context of the surrounding growth and activities of the area. The activity and proposed transport facility improvements responds to needs of the activity and potential impacts namely:
 - Two crossing facilities consisting of a wombat crossing on Ryan Road and children's crossing on Northview Street to cater for safe crossings and increased pedestrian demands to/from the school
 - Relocated and upgraded bus facilities consisting of a bus bay, catering for up to two buses, on Gillieston Road and associated infrastructure
 - Formalised Kiss n Drop zone consisting of an indented bays on Northview catering for 4 collection bays and queuing for a further 8 vehicles.
- Based on the school enrolments and staff increases to 2026 and 2036 the school is expected to generate 183 and 201 additional trips respectively above the existing school's traffic generation
- Notably, the expected trip generation does not result in a change to intersection performance in terms of LoS for any of the tested intersections
- Traffic impacts have been assessed at Cessnock Road / Gillieston Road, the Ryans Road / Vintage Drive and Cessnock Road / Vintage Drive and found the activity would have a negligible impact on intersection performance and does not warrant the need for any mitigation measures to be imposed on the proposed school redevelopment beyond that identified fronting the site
- It is noted that potential peak queues from the Kiss n Drop could extend to include queued vehicles onto Ryan Road waiting to turn into Northview Street for a short period of time (i.e. less than 15 minutes). Closely spaced intersection approved by Council on the western side of Ryan Road (see Figure 8.2) which are both within 25m of Northview Street's intersection with Ryans Road which does not align with Council's DCP which requires a minimum intersection of at least 40m. This configuration prevents the ability to be able to provide a right turn lane on Ryans Road. Considering the pedestrian crossing improvements on Ryans Road, Council are recommended to consider local access intersection treatments
- To assist in manage demands and the operational efficiency of the KnD, the infrastructure provisions will be supported by the School Travel Plan, Travel Access Guide and supporting operational guidance on the correct and appropriate use of the KnD zone
- The proposed treatments in response to the activity are considered appropriate to meet the needs of the school at year of opening. Beyond this, additional transport improvements (i.e. pathways, crossings, road widening and intersections) are expected to be constructed over time as part of future residential development across the Gillieston Heights URA as they progress. It is therefore recommended that SI-NSW continue to work with Council and TfNSW to facilitate targeted transport infrastructure across the precinct through funding initiatives such as GetActive NSW grants, Council's development contributions for the areas and TfNSW's infrastructure planning for the MR195 corridor.

A summary of the proposed mitigation measure is provided in **Table 11.1**



Table 11.1 Proposed Mitigation Measures

Project Stage Design (D) Construction (C) Operation (O)	Mitigation Measures	Relevant Section of Report
D/C	To address deficiencies in the crossing facilities surrounding the site and provide safe crossings for increased pedestrian demands to/from the school, install Two crossing facilities consisting of: One raised zebra (wombat) crossing on Ryans Road and	Sections 4.2, 51
	One Children's crossing on Northview Street.	
D/C	Relocate and upgrade bus stop facilities consisting of a new bus bay to accommodate two buses on Gillieston Road (southern frontage).	Section 6
D/C	Extend and upgrade the indented parking spaces on Northview Street to formalise the Kiss n Drop (KnD) zone. The KnD Zone is to consist of indented bays on Northview catering for 4 collection bays and queuing for a further 8 vehicles.	Sections 8.2.1
	The frontage activity on Northview Street shall include a driveway facility that allows vehicles to turn-around on the site, until such time that a future road or cul-de-sac facility is provide to the east on Northview Street.	
0	To assist in manage demands and the operational efficiency of the KnD, bus bay and pedestrian access areas, the infrastructure provisions should be supported by the School Travel Plan, Travel Access Guide and supporting operational guidance on the correct and appropriate use of the transport facilities surrounding the site.	Sections 5,6,7,8

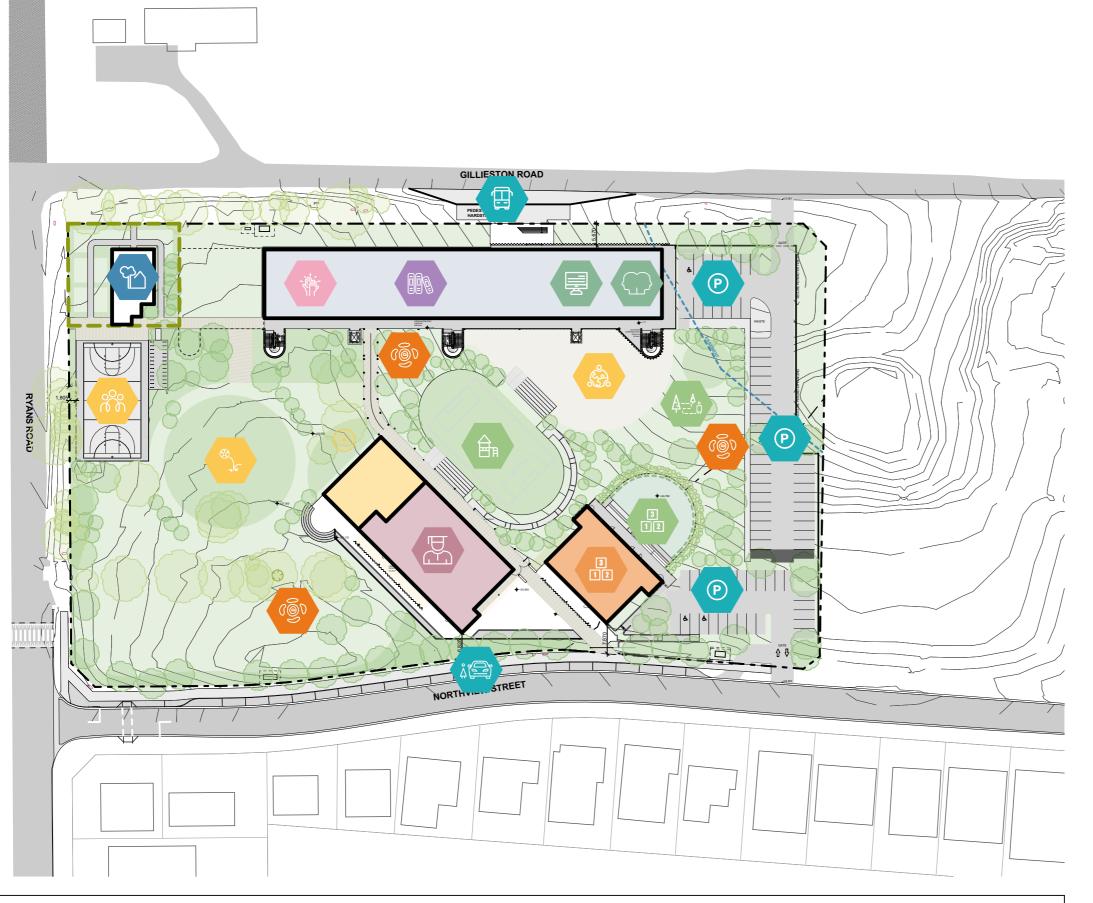
Separate to the project, additional transport improvements (i.e. pathways, crossings, road widening and intersections) are expected to be constructed over time as part of future residential development across the Gillieston Heights URA as they progress. It is therefore recommended that DoE continue to work with Council and TfNSW to facilitate targeted transport infrastructure across the precinct through funding initiatives such as GetActive NSW grants, Council's development contributions for the areas and TfNSW's infrastructure planning for the MR195 corridor.



Appendix A: Architectural Plans and Staging







SCHEMATIC DESIGN

Dimensions are in millimetres unless otherwise shown.

Check all dimensions on site prior to construction and fabrication.

 Pring any discrepancies to the attention of the proprietor & archite

LEGEND



PRESCHOOL



HALL, CANTEEN & OSHC



ADMINISTRATION



STAFF HUB



LIBRARY HUB



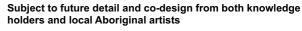
LEARNING SUPPORT



EXISTING HERITAGE BUILDING



CULTURAL ZONE / YARNING CIRCLE





PRESCHOOL PLAY



ECOLOGICAL PLAY



SITE TRANSITION & TERRACED PLAY



 ${\sf ASSEMBLYAREA}$



OPEN PLAY



SPORTS COURT - COMMUNITY USE



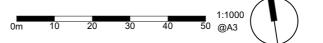
PARKING



KISS & DROP



BUS BAY



4814

DA3501

RevB 15.11.24

GILLIESTON ROAD

NORTHVIEW STREET



SCHEMATIC DESIGN

Dimensions are in millimetres unless otherwise shown
 Work to given dimensions. Do not scale from drawing.

Check all dimensions on site prior to construction and fabrication
 Bring any discrepancies to the attention of the proprietor & architecture.

TECHNICAL OVERLAY

Public Domain Elements

- New shared footpath on Northview Road
- Front entry forecourt on Northview Street & Gillieston Rd
- Shared Community Western Court and Heritage Building

Shared Community Uses

- Gillieston Public School has a sense of community ownership and pride which can be maintained through shared-use facilities on the school site, reinforcing the importance of community connection and the school as a public institution in a fast-growing neighbourhood.
- Shared use arrangements between SINSW and Maitland City Council TBC. Discussions on hardcourt use by public are underway with Council.
- Administration reception adjacent to the front of the school
- Community use of the hall and COLA space for public and school events to be confirmed
- Library on the lower ground floor, accessed via Gillieston Road school entry and open to community use.
- After hours access, signage and lighting TBC during later stages of the design

LEGEND



- NEW SHARED PATHS
- ENTRY FORECOURT



- HARD COURT AND OPEN PLAY SPACE



- CULTURAL ZONE



- SHARED COMMUNITY LIBRARY
- AFTER HOURS ACCESS TO HALL



- ADMINISTRATION ACESS & CONTROLLED ACCESS



- ENTRY



- SITE ACCESS



100 Ryans Road & 19 Northview Street

Public Domain and Community

SCHEMATIC DESIGN

Dimensions are in millimetres unless otherwise show

Check all dimensions on site prior to construction and fabrication.
 Bring any discrepancies to the attention of the proprietor & archite

TECHNICAL OVERLAY



Bus Stop

A new bus bay creates a new school entry point off Gillieston Road, providing equitable access for all students complying with AS1428.1 and the Disability Discrimination Act. If part of a new building proposal, lift and stair access to also be provided. Ramps will be required if added to existing campus without a new building.



Carparking

50 School Staff Carparking Space 15 Public Preschool Carparking Space (Staff calculation provided to SHAC by SINSW on 13.12.22)

The carpark in the NE corner of the site utilises the unused portion of the land, with immediate access off Gillieston Road and future access opportunities from the proposed link road. This relies on a connection to a new building and lift for full AS1428.1 access and to meet obligations under the Disability Discrimination Act. The carpark in the SE corner of the site is required to provide compliant AS1428.1 and Disability Discrimination Act access to the admin building. This could be a small visitor parking area, with staff and most school visitors being directed to the NE carpark and away from Northview Street. The carpark in the NW corner is to cater to UPS parking demands.



Kiss n Drop

11 spaces of kiss n drop zone located on Northview Street



Bicycles and Scooters

37 bicycle storage spaces located east of the Sports Court



Crossings and School Zones



Maintenance and Delivery Access

LEGEND



- FUTURE PROPOSED ROADS



- CAR PARKING



- KISS N DROP & QUEUING ZONE
- BICYCLE / SCOOTER PARKING



- MAINTENANCE / DELIVERY ACCESS



- ACTIVE TRANSPORT LINKS



- MULTIDIRECTIONAL CAR ACCESS



- NARROW CUL DE SAC

- BUSBAY DROP OFF



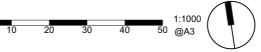
- ENTRY

4814 DA3502 RevA 17.09.24

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Transport and Parking

Gillieston Public School Redevelopment and New Public Preschool 100 Ryans Road & 19 Northview Street

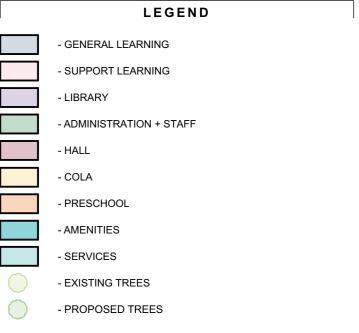




PLANNING

LOWER GROUND FLOOR FACILITIES

- Busbay
- Amenities & Service Core
- Administration
- Special Programs Rooms
- Outdoor Assembly Area
- **Ecological Play**
- Carparking
- Covered & Uncovered Circulation



4814 **DA3201** RevB 23.10.24

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Gillieston Public School Redevelopment and New Public Preschool 100 Ryans Road & 19 Northview Street





SCHEMATIC DESIGN

Dimensions are in millimetres unless otherwise shown.
 Work to given dimensions. Do not scale from drawing.

Check all dimensions on site prior to construction and fabrication.
 Bring any discrepancies to the attention of the proprietor & archite

PLANNING

GROUND FLOOR FACILITIES

- Kiss n Drop
- 2 x General Learning Hubs
- Support Learning Hub
- Amenities & Service Core
- Library
- Communal Hall & COLA
- Public Preschool
- Open Playspace
- Carparking
- Covered & Uncovered Circulation

LEGEND

- GENERAL LEARNING

- SUPPORT LEARNING

- LIBRARY

- ADMINISTRATION + STAFF

- HALL

- COLA

- PRESCHOOL

- AMENITIES

- SERVICES

- SERVICE

- EXISTING TREES

- PROPOSED TREES

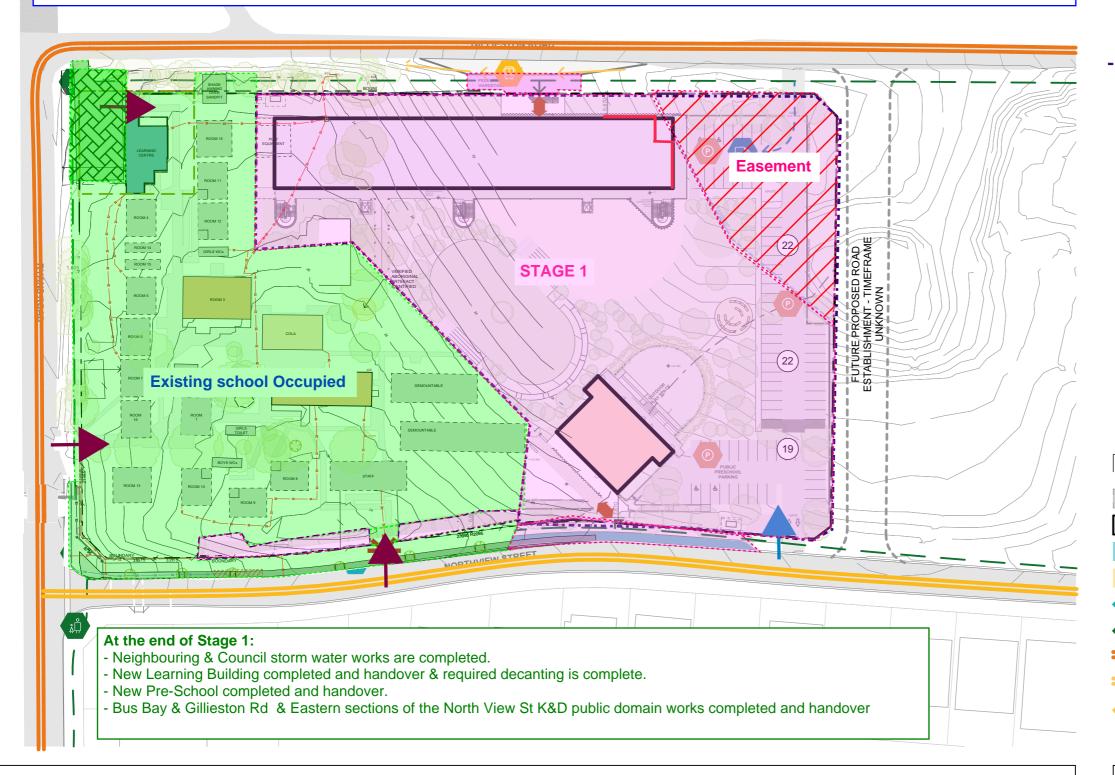
SHAC

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- Site Establishment
- Neighbouring & Council storm water works
- All works required for the Completion of the new Learning Building & required decanting
- All works required for the Completion of the new Pre-School
- Bus Bay & Gillieston Rd & Eastern sections of the North View St K&D public domain works

Key Notes:

- 1. Staff will be utilising the existing car park adjacent to Building D (Brick Cottage) on Gillieston Road during Stage 1 Construction Works
- 2. School Access on Northyiew Street is retained across Stage 1 Services corridor



CONSTRUCTION LEGEND

Easement - This area is in possession of the Contractor. However, works in this area cannot be commenced until neighbouring & council stormwater works are complete

In Construction & Site in possession with the contractor

Existing and Operational

Completed and Occupied

Contractor Site Access

School Access

Hoarding Line

Staff car park

Remediation - This area is required to be remediated and made good prior to Hall and OOSH demountable installation

TECHNICAL OVERLAY

Bus Stop

Carparking

Kiss n Drop

Bicycles and Scooters

Crossings and School Zones

Maintenance and Delivery Access

LEGEND

- FUTURE PROPOSED ROADS

- CAR PARKING

- KISS N DROP & QUEUING ZONE

- BICYCLE / SCOOTER PARKING

- MAINTENANCE / DELIVERY ACCESS

- ACTIVE TRANSPORT LINKS

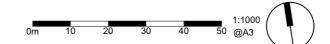
- NARROW CUL DE SAC

- MULTIDIRECTIONAL CAR ACCESS

- BUSBAY DROP OFF

- ENTRY

4814 **DA3502**





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Gillieston Public School - Stage 2 Construction Works

Some parts of Stage 2 works would occur simultaneously

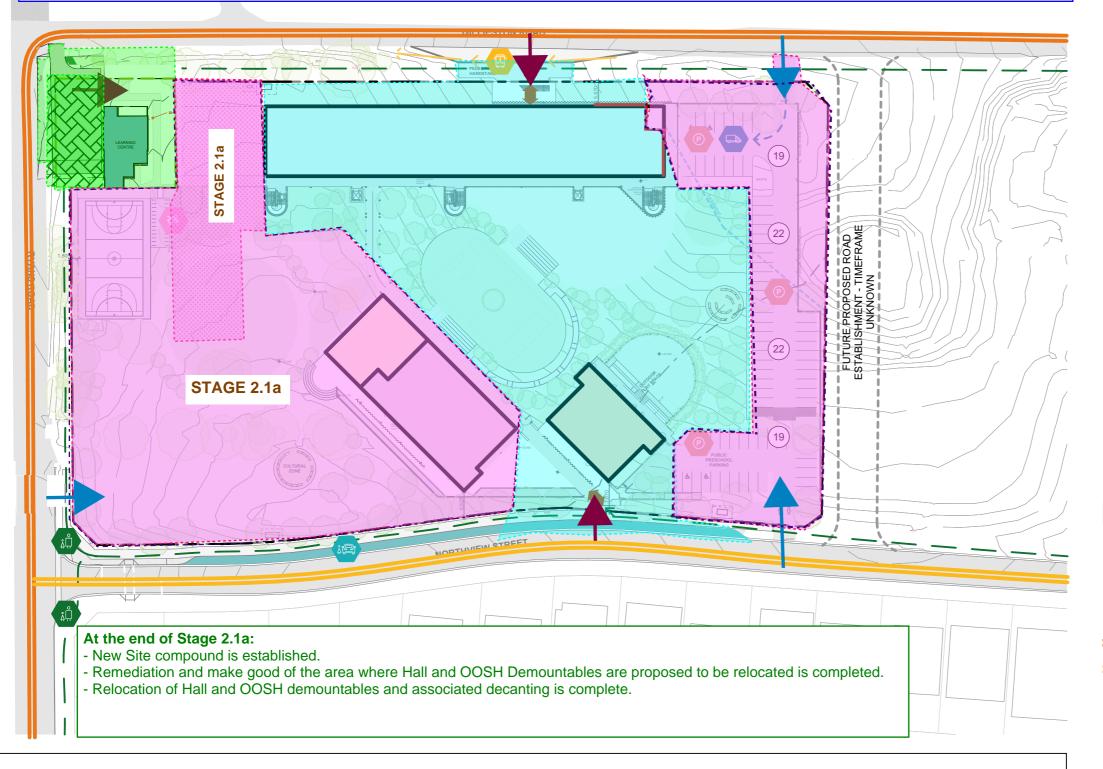
Gillieston Public School - Stage 2.1a Construction Works

Construction works include:

- Site shed relocation.
- Remediation and make good of the area where Hall and OOSH Demountables are proposed to be relocated.
- Relocation of Hall and OOSH demountables and associated decanting to facilitate construction of New Hall and OOSH Building.

Key Notes:

1. Staff will be utilising the existing car park adjacent to Building D (Brick Cottage) on Gillieston Road during Stage 2.1a Construction Works



CONSTRUCTION LEGEND

Easement - This area is in possession of the Contractor. However, works in this area cannot be commenced until neighbouring & council stormwater works are complete

In Construction & Site in possession with the contractor

Existing and Operational

Completed and Occupied

Contractor Site Access

School Access

Hoarding Line

Staff car park

Remediation - This area is required to be remediated and made good prior to Hall and OOSH demountable installation

TECHNICAL OVERLAY

Bus Stop

Carparking

Kiss n Drop

Bicycles and Scooters

Crossings and School Zones

Maintenance and Delivery Access

LEGEND

- FUTURE PROPOSED ROADS

- CAR PARKING

- KISS N DROP & QUEUING ZONE

- BICYCLE / SCOOTER PARKING

- MAINTENANCE / DELIVERY ACCESS

- ACTIVE TRANSPORT LINKS

- MULTIDIRECTIONAL CAR ACCESS

- NARROW CUL DE SAC

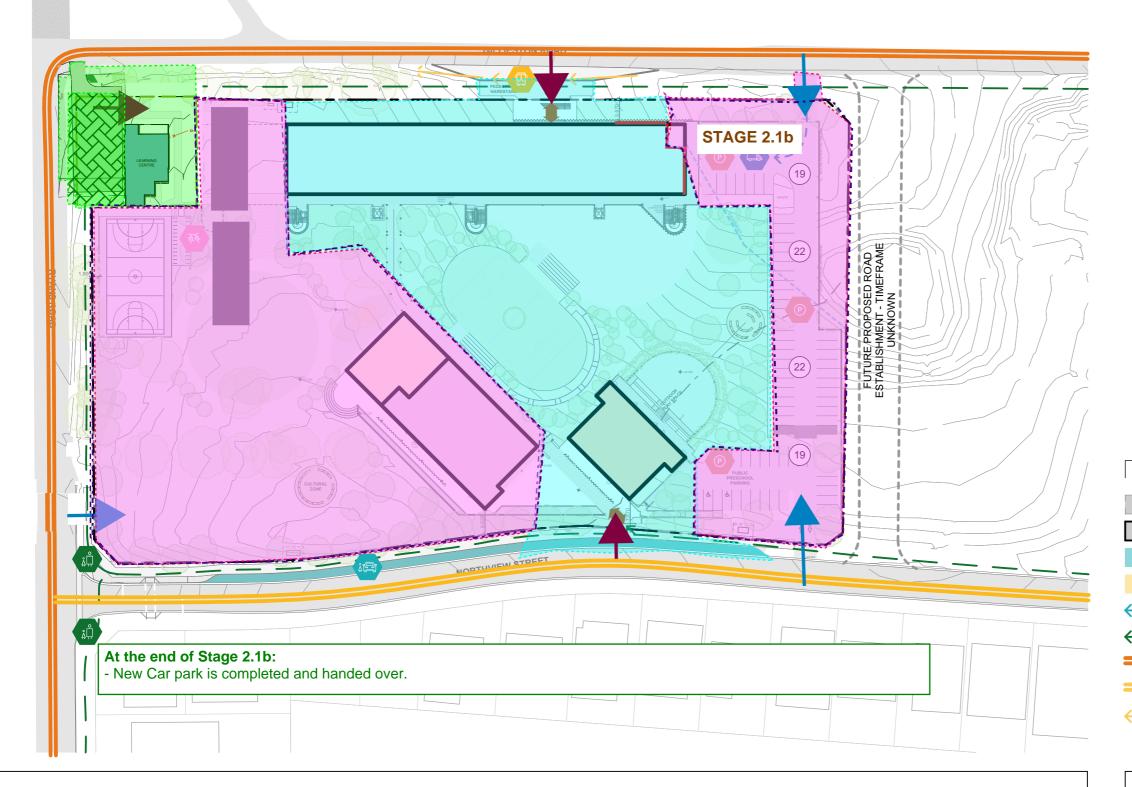
- BUSBAY DROP OFF

- ENTRY



Key Notes:

1. Staff will be utilising the existing car park adjacent to Building D (Brick Cottage) on Gillieston Road during Stage 2.1b Construction Works



CONSTRUCTION LEGEND

Easement - This area is in possession of the Contractor. However, works in this area cannot be commenced until neighbouring & council stormwater works are complete

In Construction & Site in possession with the contractor

Existing and Operational

Completed and Occupied

Contractor Site Access

School Access

Hoarding Line

Staff car park

Remediation - This area is required to be remediated and made good prior to Hall and OOSH demountable installation

TECHNICAL OVERLAY

Bus Stop

Carparking

Kiss n Drop

Bicycles and Scooters

Crossings and School Zones

Maintenance and Delivery Access

LEGEND

- FUTURE PROPOSED ROADS

- CAR PARKING

- KISS N DROP & QUEUING ZONE

- BICYCLE / SCOOTER PARKING

- MAINTENANCE / DELIVERY ACCESS

- ACTIVE TRANSPORT LINKS

- MULTIDIRECTIONAL CAR ACCESS

- NARROW CUL DE SAC

- BUSBAY DROP OFF

- ENTRY

4814 **DA3502**

Gillieston Public School

100 Ryans Road & 29 Northview Street





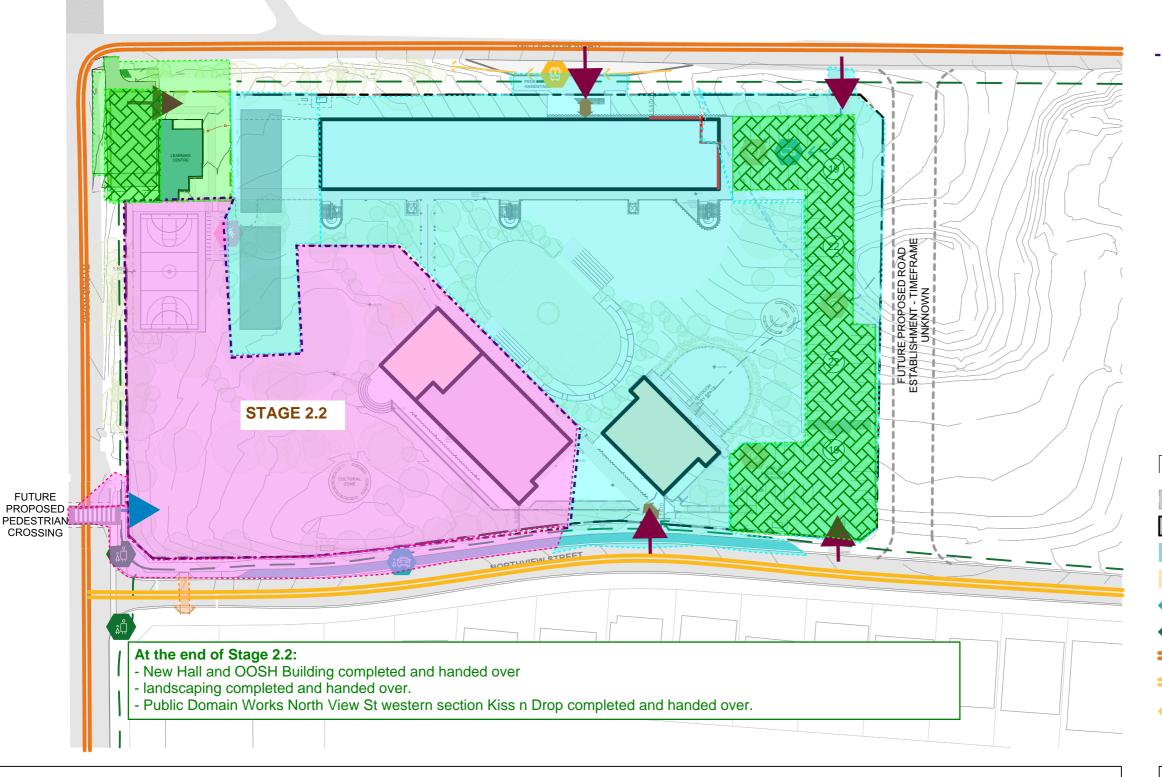


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- Completion & Handover of New Hall and OOSH Building
- Completion of landscaping
- Completion of Public Domain Works North View St western section Kiss n Drop

Key Notes:

1. Staff will be utilising the existing car park adjacent to Building D (Brick Cottage) on Gillieston Road and the new car park during Stage 2.2 Construction Works



CONSTRUCTION LEGEND

Easement - This area is in possession of the Contractor. However, works in this area cannot be commenced until neighbouring & council stormwater works are complete

In Construction & Site in possession with the contractor

Existing and Operational

Completed and Occupied

Contractor Site Access

School Access

Hoarding Line

Staff car park

Remediation - This area is required to be remediated and made good prior to Hall and OOSH demountable installation

TECHNICAL OVERLAY

Bus Stop

Carparking

Kiss n Drop

Bicycles and Scooters

Crossings and School Zones

Maintenance and Delivery Access

LEGEND

- FUTURE PROPOSED ROADS

- CAR PARKING

- KISS N DROP & QUEUING ZONE
- BICYCLE / SCOOTER PARKING

- MAINTENANCE / DELIVERY ACCESS

- ACTIVE TRANSPORT LINKS

- NARROW CUL DE SAC

- MULTIDIRECTIONAL CAR ACCESS

- WIGHT DIRECTIONAL CAR ACCESS

BUSBAY DROP OFF

- ENTRY

4814 DA3502

RevA 17.09.24

Gillieston Public School

100 Ryans Road & 29 Northview Street

0m 10





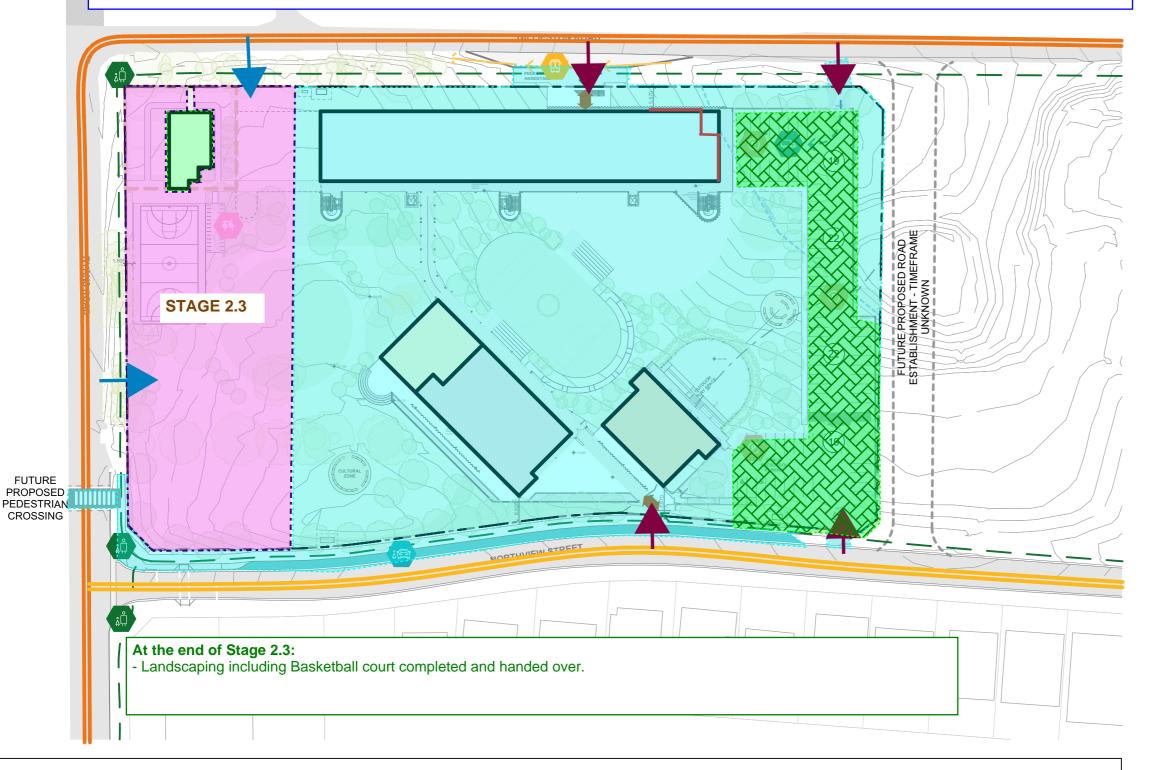


Construction works include:

- Removal of relocated demountables
- Completion of landscaping including Basketball court

Key Notes:

1. Staff will be utilising the new car park during Stage 2.3 Construction Works



CONSTRUCTION LEGEND

Easement - This area is in possession of the Contractor. However, works in this area cannot be commenced until neighbouring & council stormwater works are complete

In Construction & Site in possession with the contractor

Existing and Operational

Completed and Occupied

Contractor Site Access

School Access

Hoarding Line Staff car park

Remediation - This area is required to be remediated and made good prior to Hall and OOSH demountable installation

TECHNICAL OVERLAY

Bus Stop

Carparking

Kiss n Drop

Bicycles and Scooters

Crossings and School Zones

Maintenance and Delivery Access

LEGEND

- FUTURE PROPOSED ROADS

- CAR PARKING

- KISS N DROP & QUEUING ZONE

- BICYCLE / SCOOTER PARKING

- MAINTENANCE / DELIVERY ACCESS

- ACTIVE TRANSPORT LINKS

- MULTIDIRECTIONAL CAR ACCESS

- NARROW CUL DE SAC

- BUSBAY DROP OFF

- ENTRY

4814 **DA3502**





CONSTRUCTION LEGEND

Easement - This area is in possession of the Contractor. However, works in this area cannot be Contractor. However, works in this area same as commenced until neighbouring & council stormwater works are complete

In Construction & Site in possession with the contractor

Existing and Operational

Completed and Occupied

Contractor Site Access

School Access

Staff car park

Hoarding Line

Remediation - This area is required to be remediated and made good prior to Hall and OOSH demountable installation

TECHNICAL OVERLAY

Bus Stop

Carparking

Kiss n Drop

Bicycles and Scooters

Crossings and School Zones

Maintenance and Delivery Access

LEGEND

- FUTURE PROPOSED ROADS

- CAR PARKING

- KISS N DROP & QUEUING ZONE

BICYCLE / SCOOTER PARKING - MAINTENANCE / DELIVERY ACCESS

- NARROW CUL DE SAC

- MULTIDIRECTIONAL CAR ACCESS

- ACTIVE TRANSPORT LINKS

- BUSBAY DROP OFF

- ENTRY

4814 **DA3502**

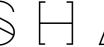
FUTURE

CROSSING

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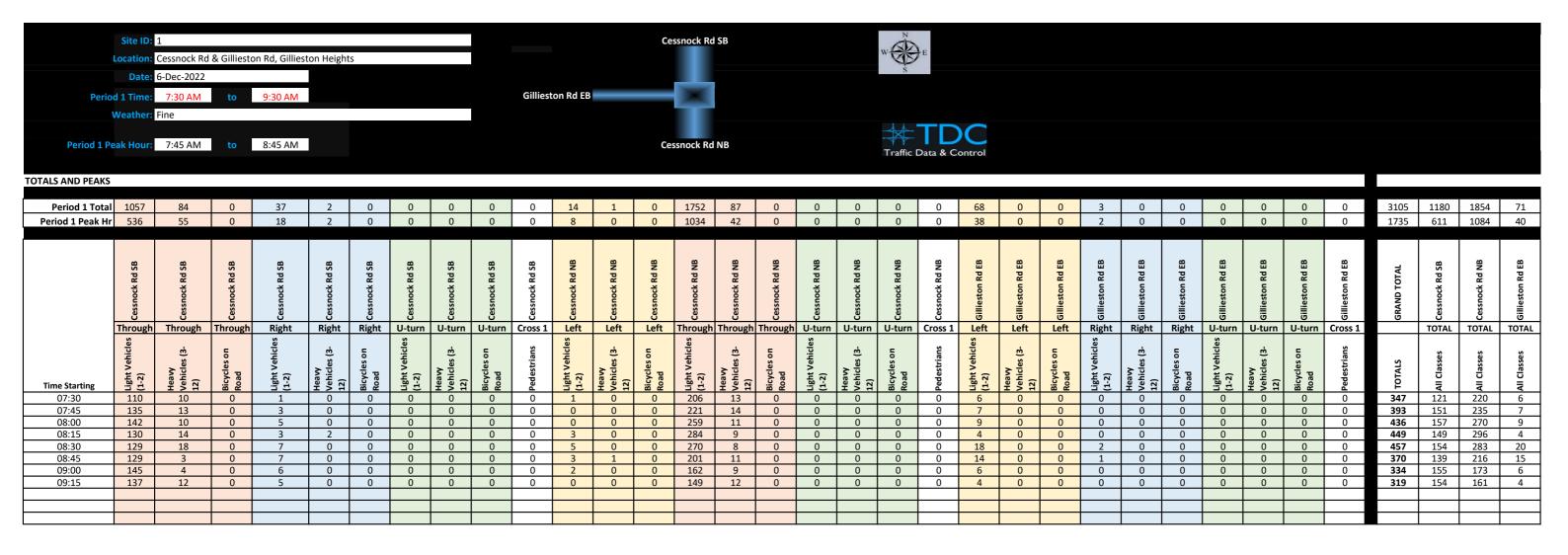


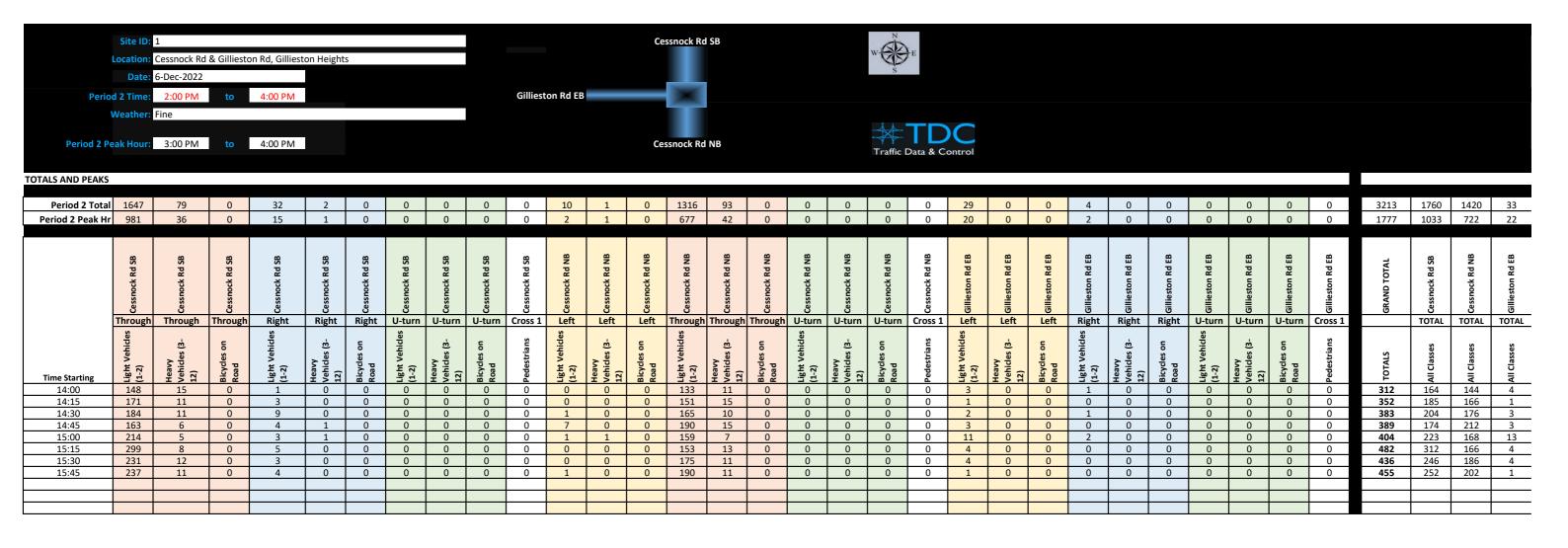


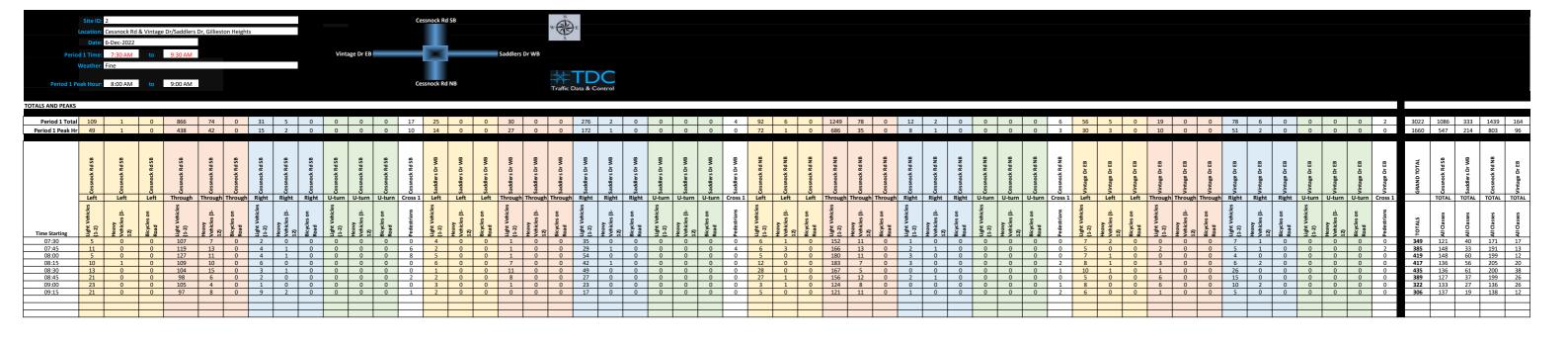
Appendix B: Traffic Survey Results

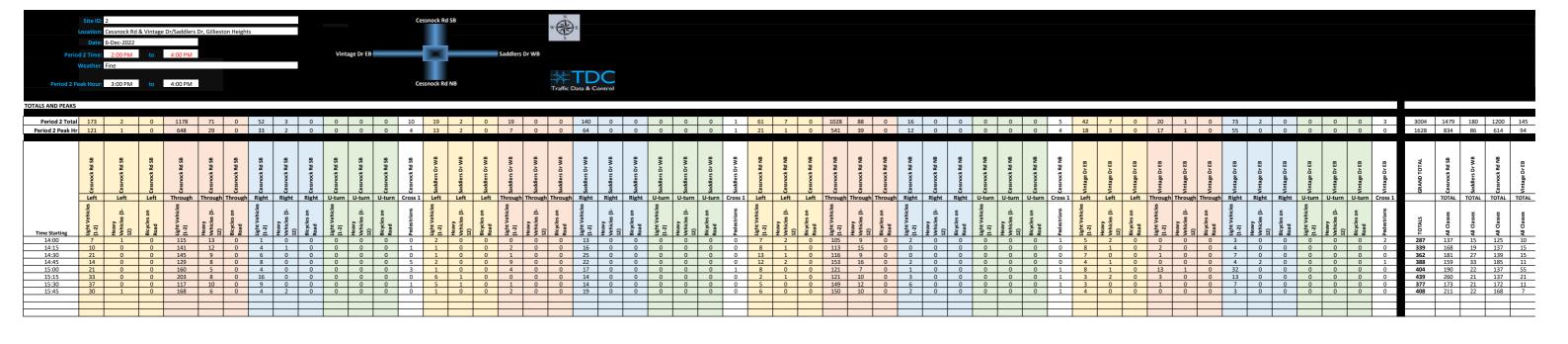




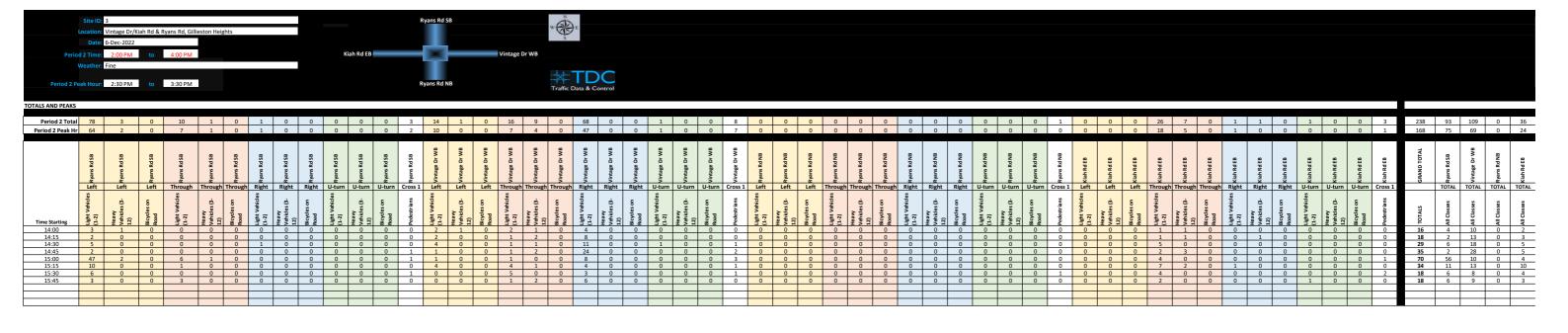








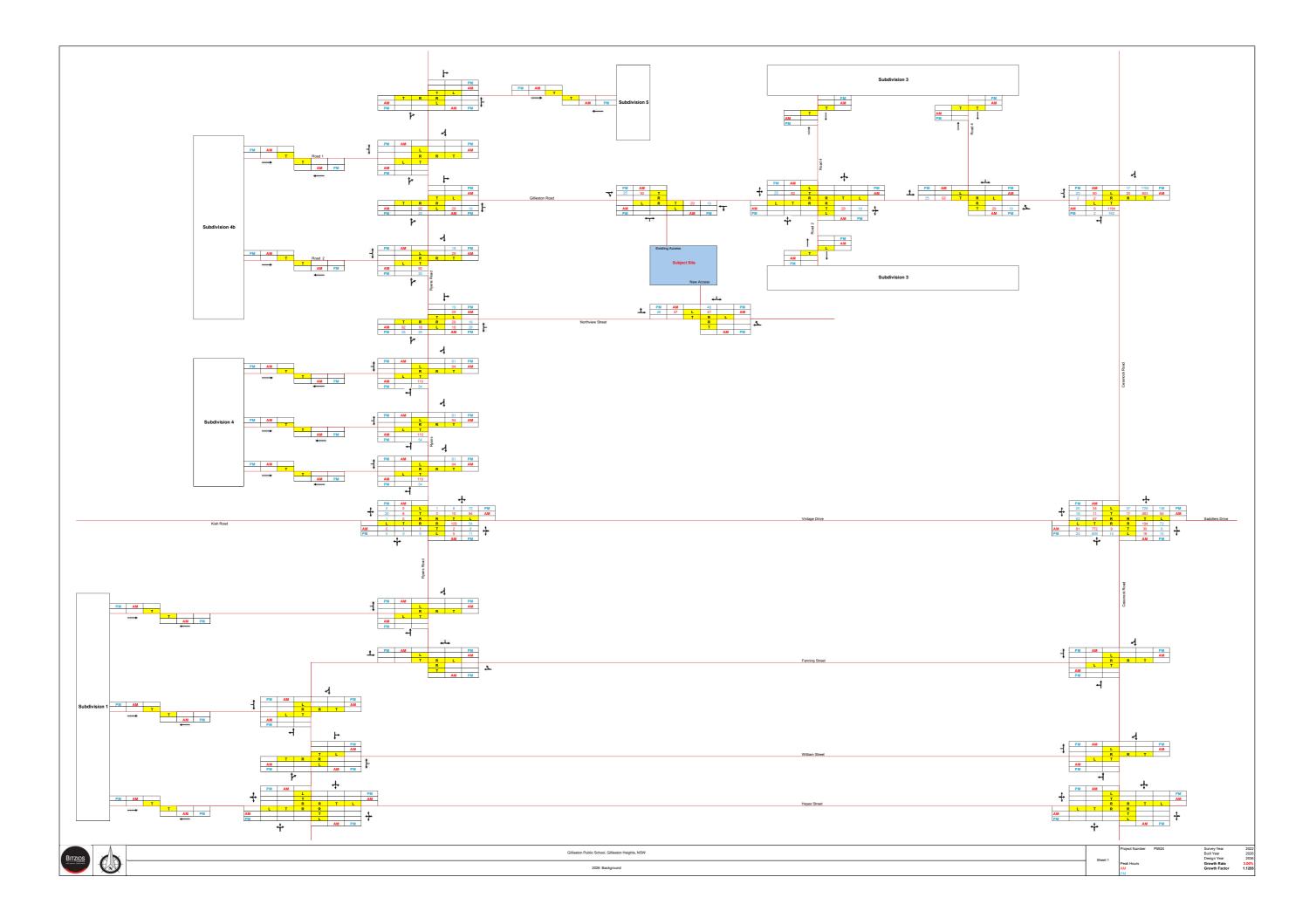


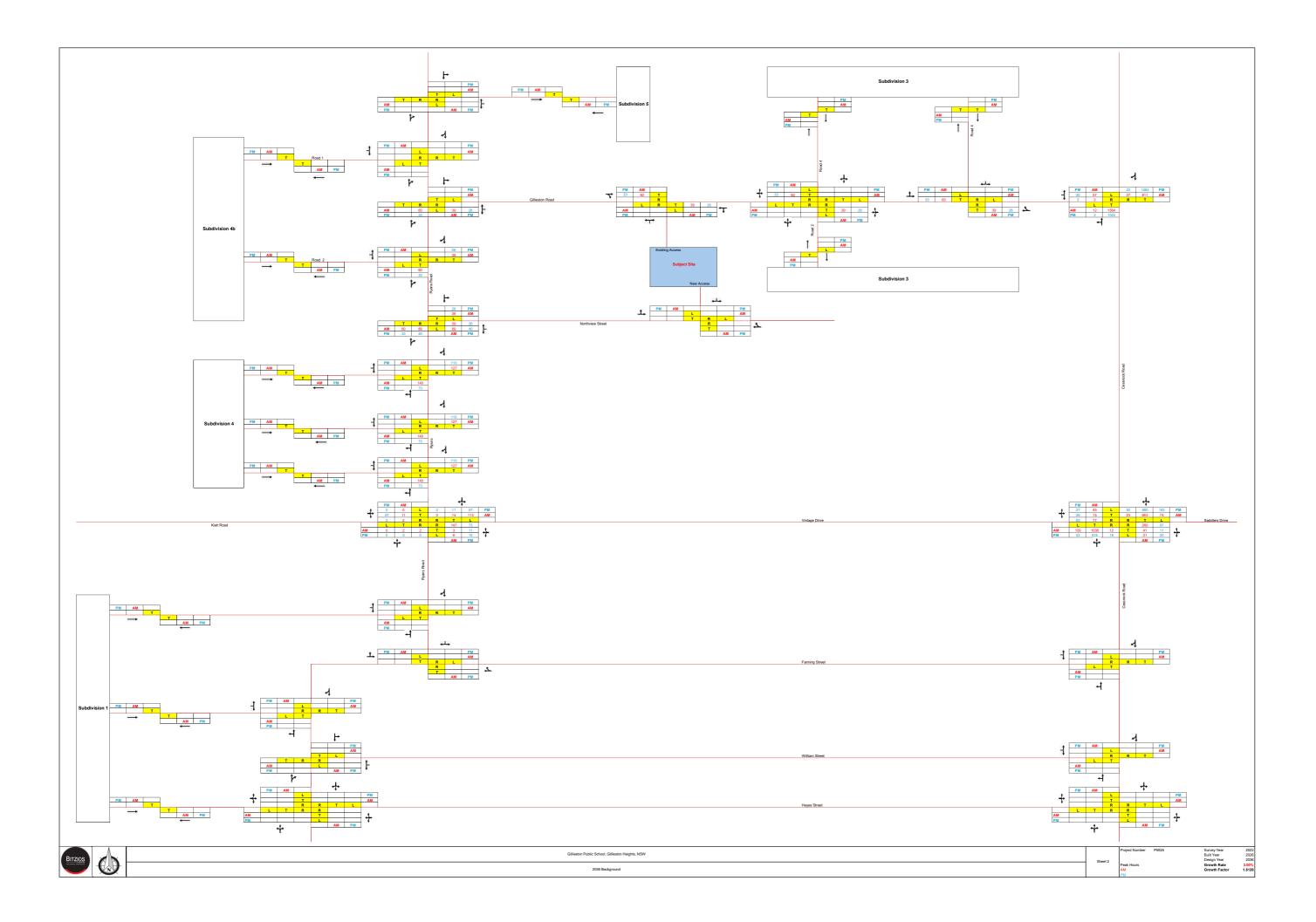


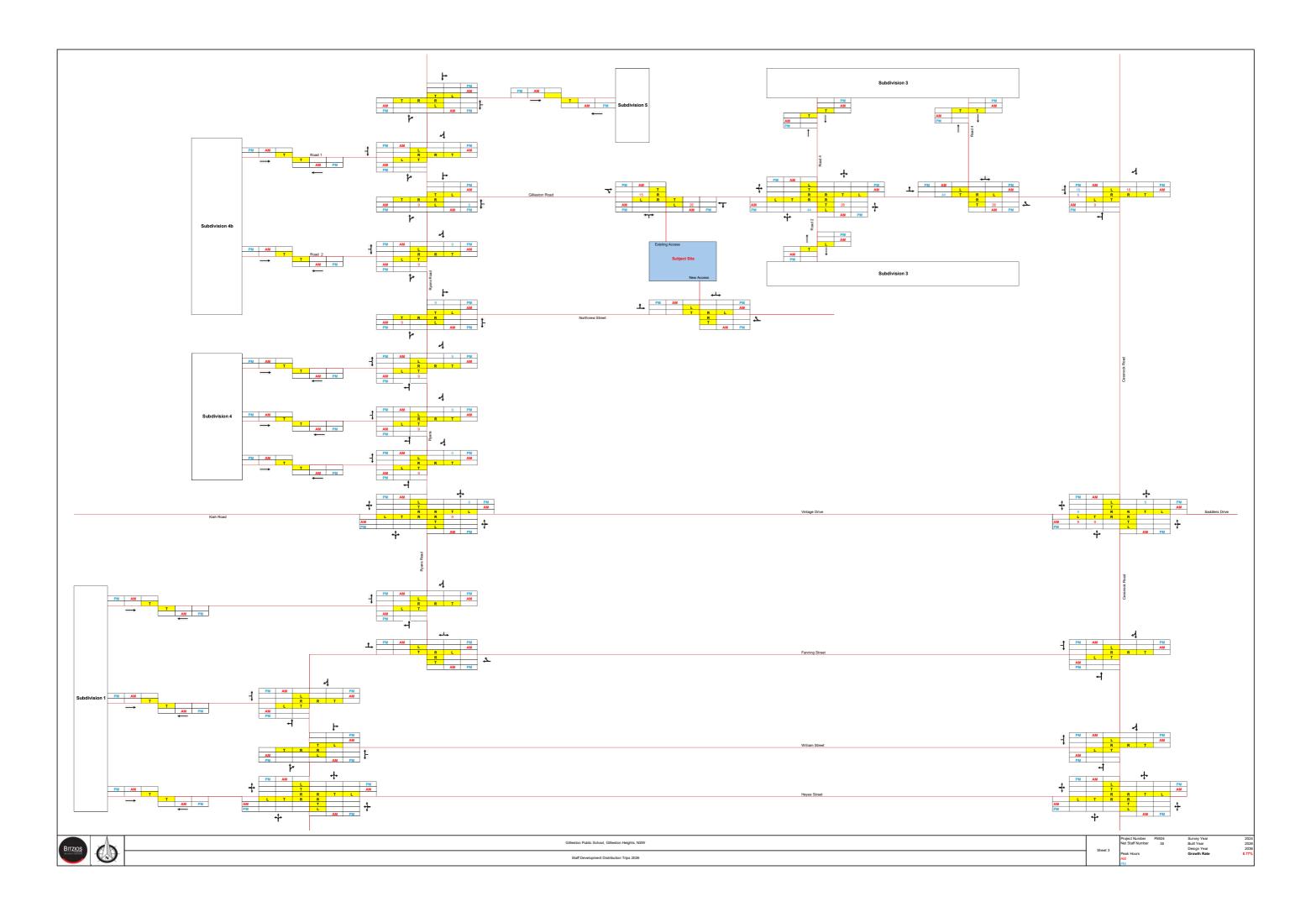
Appendix C: Traffic Network Diagrams

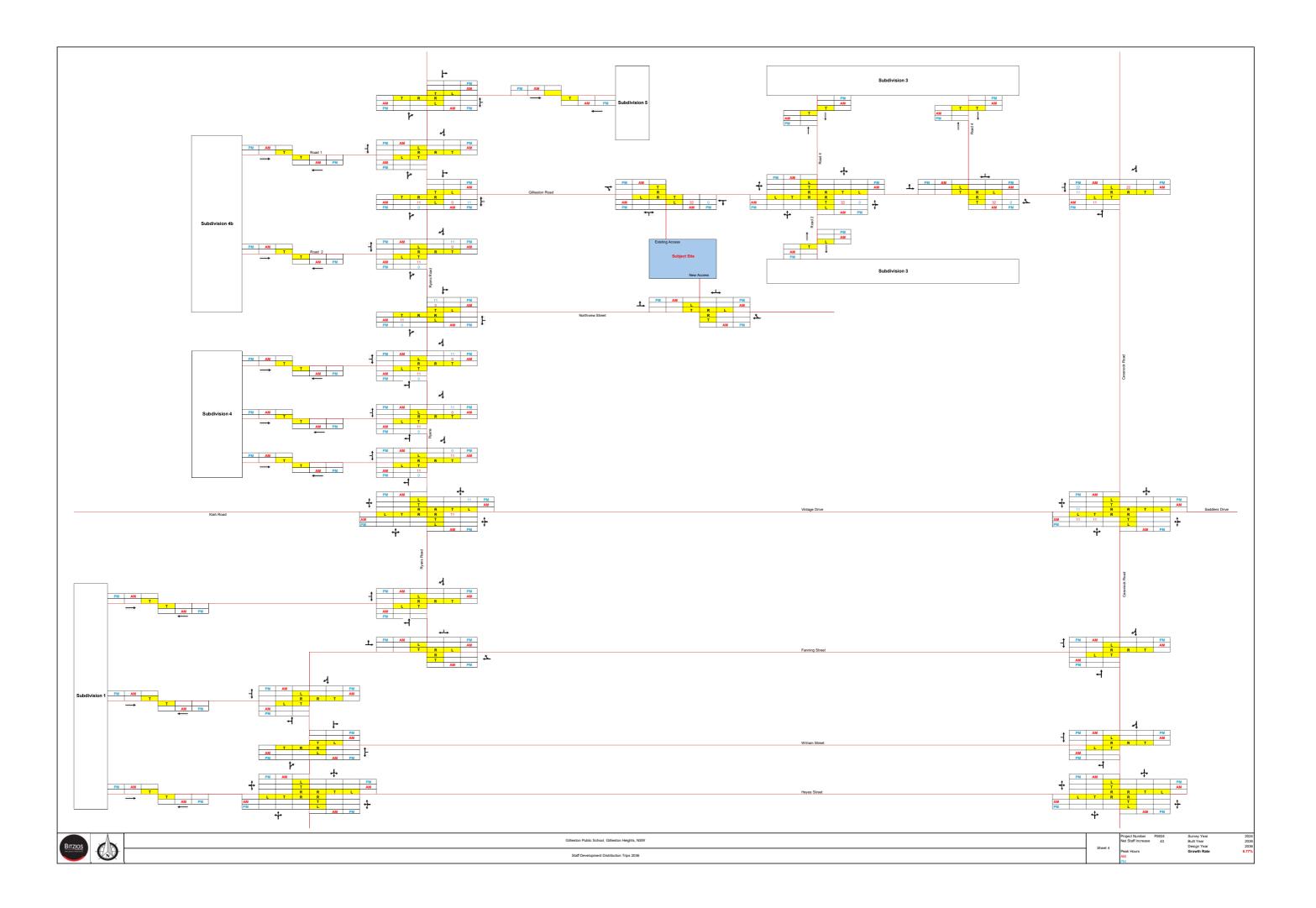


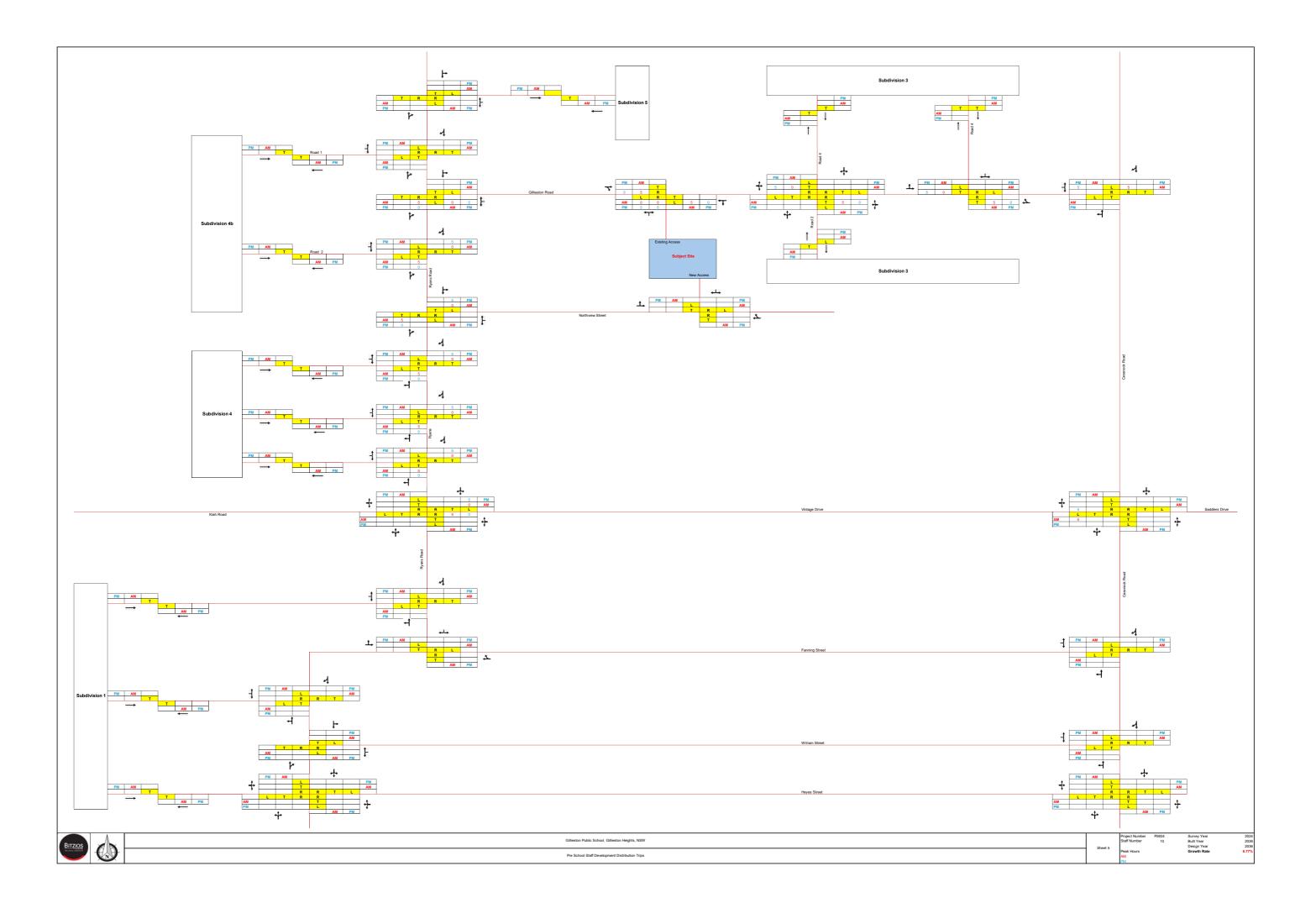


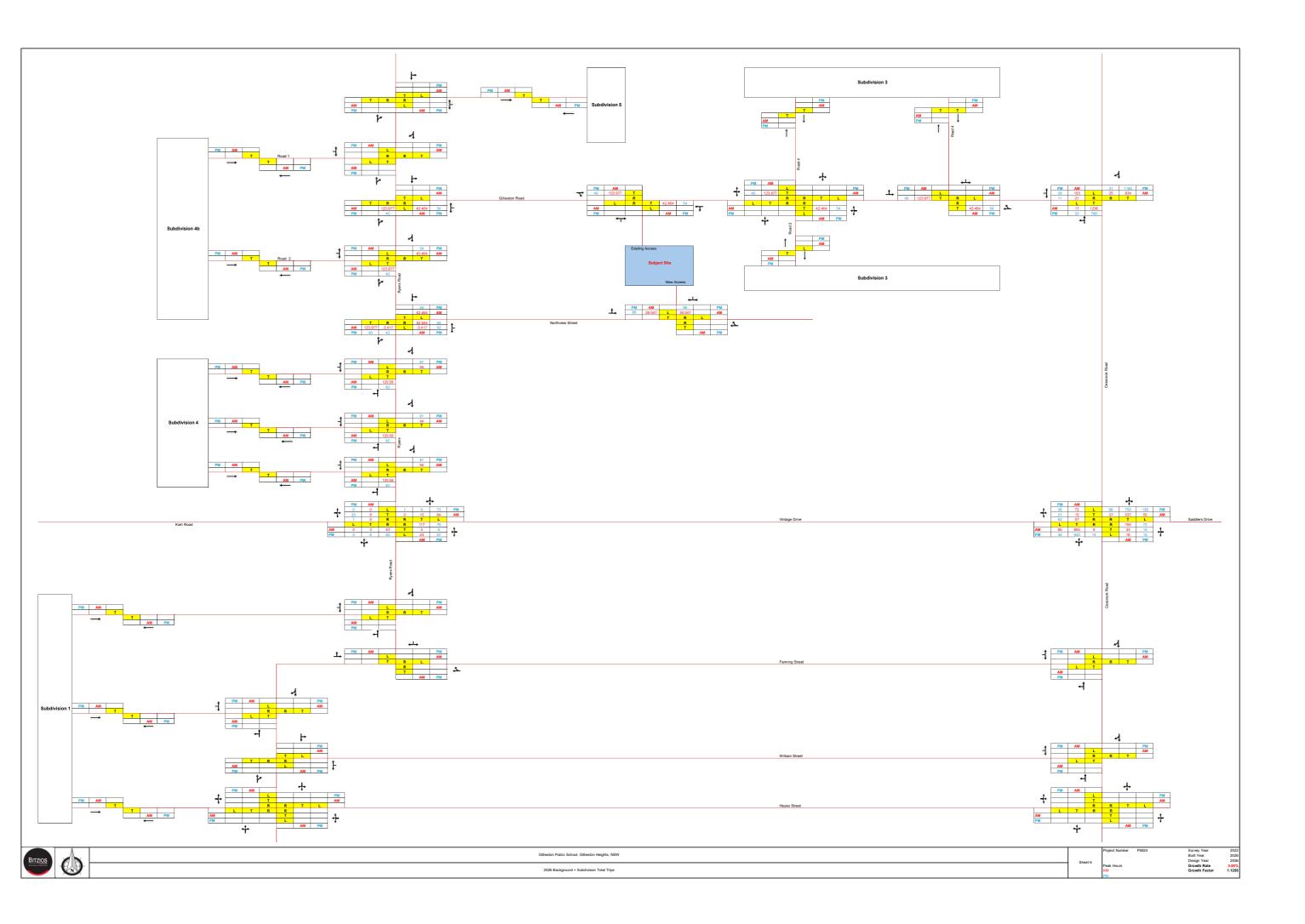


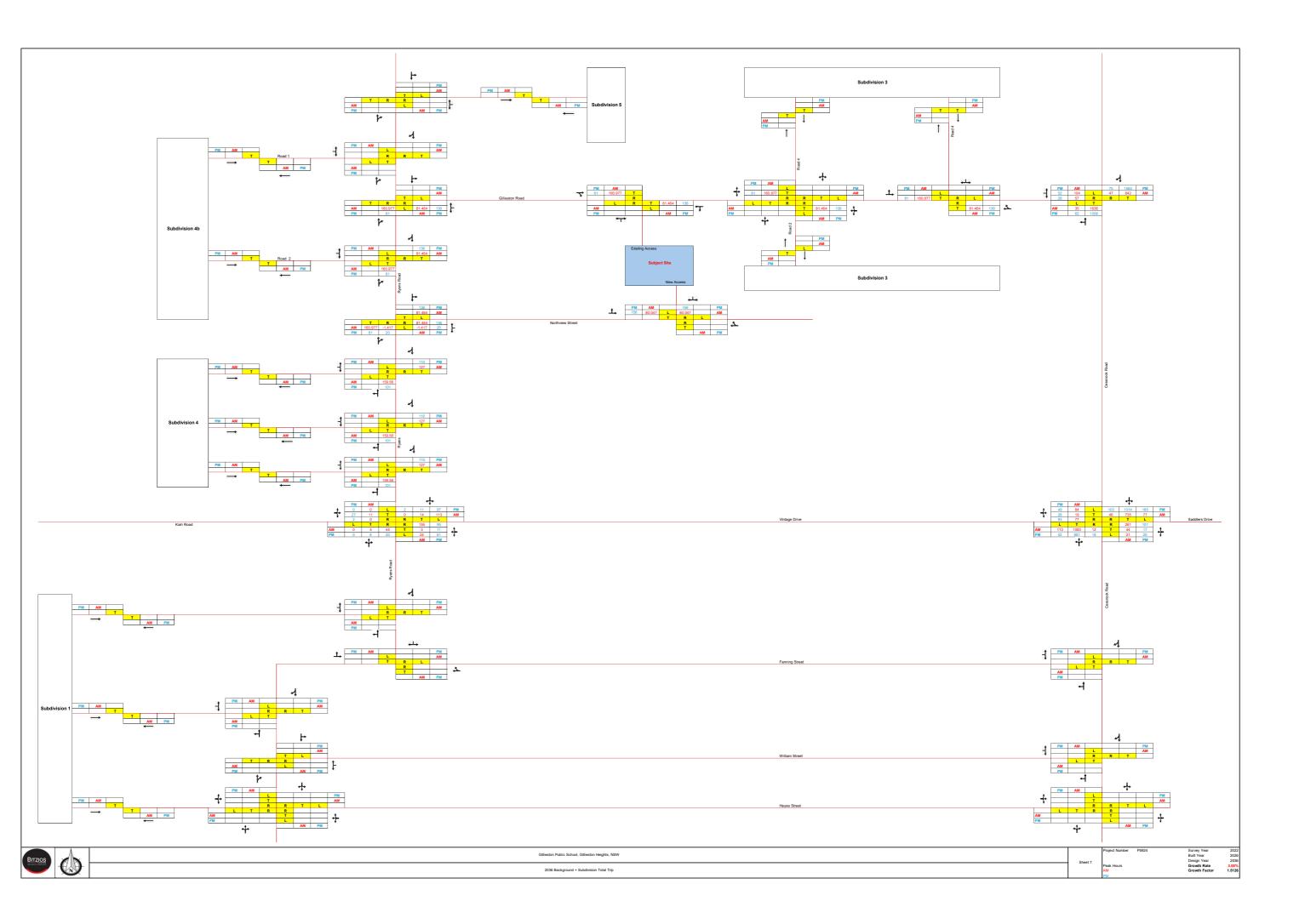


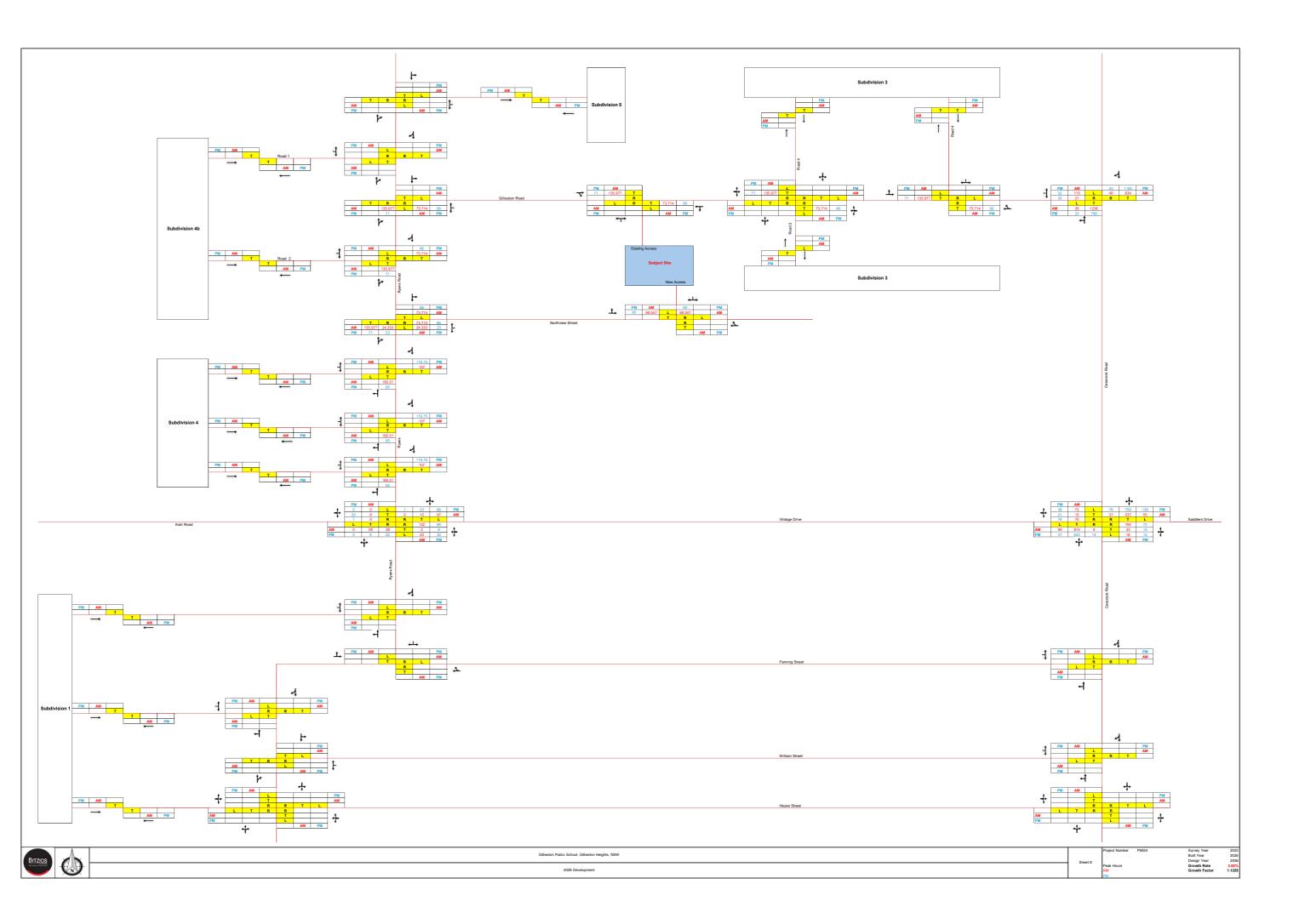


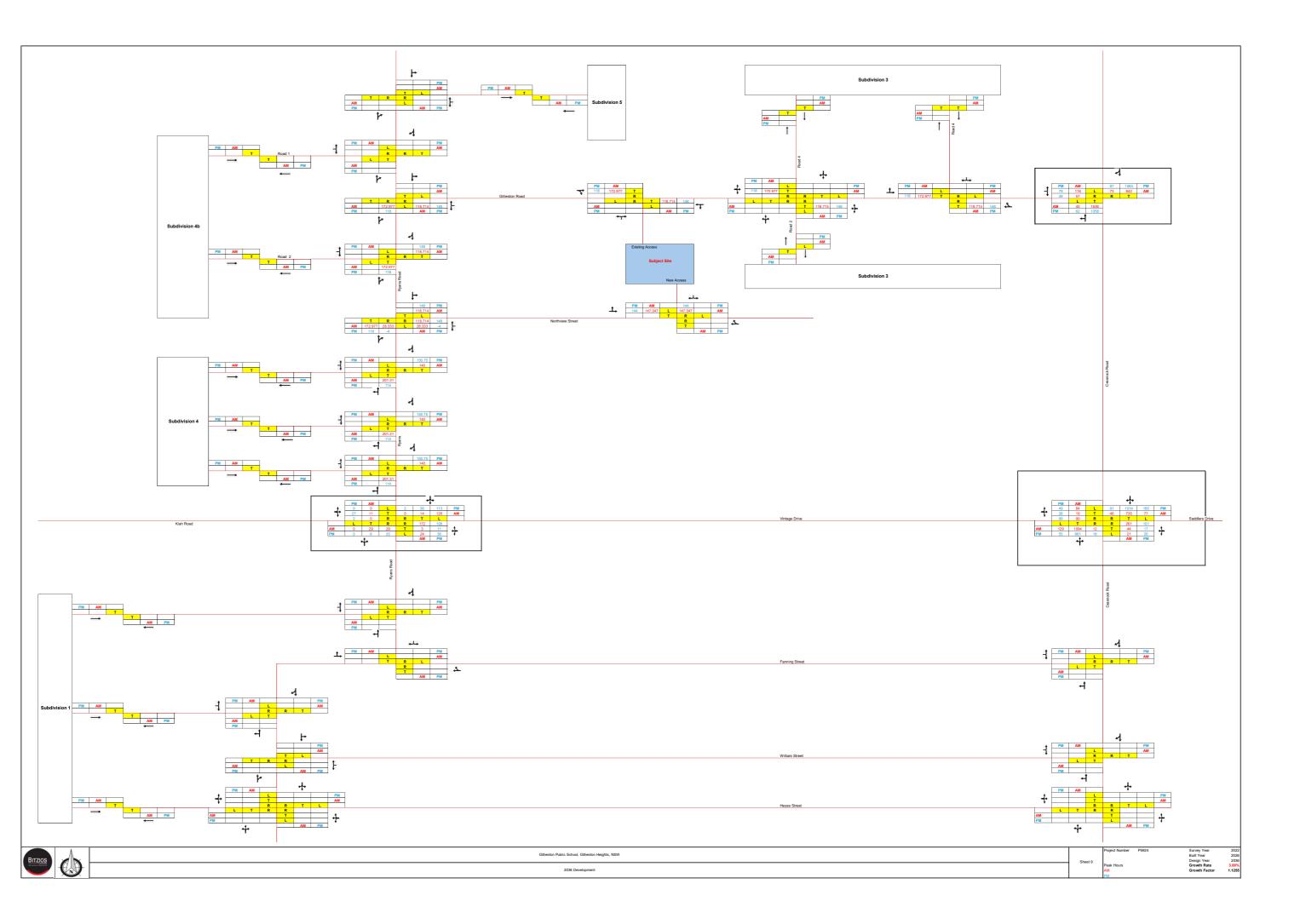












Appendix D: SIDRA Analysis



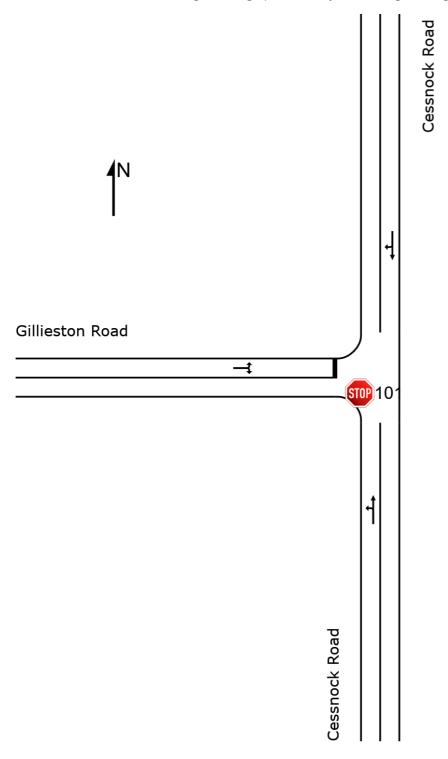


SITE LAYOUT

Site: 101 [2026 BG+SD AM (Site Folder: Cessnock Road / Gillieston Road)]

P5924 Gillieston Public School Cessnock Road / Gillieston Road Site Category: (None) Stop (Two-Way)

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



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🧓 Site: 101 [2026 BG+SD AM (Site Folder: Cessnock Road /

Gillieston Road)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

P5924 Gillieston Public School Cessnock Road / Gillieston Road Site Category: (None) Stop (Two-Way)

Vehic	le Mo	ovement	Perfo	rma	nce										
Mov ID	Turn	Mov Class	FI			rival lows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service		Back Of Jeue Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South	: Cess	snock Roa	ad												
1	L2	All MCs	18	0.0	18	0.0	0.694	4.0	LOSA	0.0	0.0	0.00	0.01	0.00	39.0
2	T1	All MCs	1301	4.0	1301	4.0	0.694	0.6	LOSA	0.0	0.0	0.00	0.01	0.00	39.4
Appro	ach		1319	3.9	1319	3.9	0.694	0.7	NA	0.0	0.0	0.00	0.01	0.00	39.4
North:	Cess	nock Roa	nd												
8	T1	All MCs	667	10.0	667	10.0	0.595	27.6	LOS D	11.7	89.0	0.25	0.27	0.58	30.4
9	R2	All MCs	26	11.0	26	11.0	0.595	58.8	LOS F	11.7	89.0	0.25	0.27	0.58	30.0
Appro	ach		694	10.0	694	10.0	0.595	28.8	NA	11.7	89.0	0.25	0.27	0.58	30.4
West:	Gillie	ston Road	t												
10	L2	All MCs	108	0.0	108	0.0	2.249	1174.3	LOS F	47.8	334.9	1.00	3.88	10.28	2.8
12	R2	All MCs	22	0.0	22	0.0	2.249	1337.3	LOS F	47.8	334.9	1.00	3.88	10.28	2.8
Appro	ach		131	0.0	131	0.0	2.249	1201.9	LOS F	47.8	334.9	1.00	3.88	10.28	2.8
All Ve	hicles		2143	5.7	2143	5.7	2.249	82.9	NA	47.8	334.9	0.14	0.33	0.82	20.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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

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🧓 Site: 101 [2026 Design AM (Site Folder: Cessnock Road /

Gillieston Road)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

P5924 Gillieston Public School Cessnock Road / Gillieston Road Site Category: (None) Stop (Two-Way)

Vehic	le Mo	ovement	Perfo	rma	nce										
Mov ID	Turn	Mov Class	F			rival lows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service		Back Of leue Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South	: Cess	snock Roa	ad												
1	L2	All MCs	27	0.0	27	0.0	0.699	4.0	LOSA	0.0	0.0	0.00	0.01	0.00	39.0
2	T1	All MCs	1301	4.0	1301	4.0	0.699	0.6	LOSA	0.0	0.0	0.00	0.01	0.00	39.4
Appro	ach		1328	3.9	1328	3.9	0.699	0.7	NA	0.0	0.0	0.00	0.01	0.00	39.4
North:	Cess	nock Roa	ıd												
8	T1	All MCs	667	10.0	667	10.0	0.827	107.9	LOS F	44.4	337.5	0.43	0.49	2.37	18.1
9	R2	All MCs	51	11.0	51	11.0	0.827	134.6	LOS F	44.4	337.5	0.43	0.49	2.37	18.0
Appro	ach		718	10.1	718	10.1	0.827	109.7	NA	44.4	337.5	0.43	0.49	2.37	18.1
West:	Gillies	ston Road	t												
10	L2	All MCs	121	0.0	121	0.0	2.495	1393.2	LOS F	56.1	392.4	1.00	4.08	10.91	2.4
12	R2	All MCs	22	0.0	22	0.0	2.495	1575.4	LOS F	56.1	392.4	1.00	4.08	10.91	2.4
Appro	ach		143	0.0	143	0.0	2.495	1421.3	LOS F	56.1	392.4	1.00	4.08	10.91	2.4
All Vel	hicles		2189	5.7	2189	5.7	2.495	129.4	NA	56.1	392.4	0.21	0.43	1.49	16.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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

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🚋 Site: 101 [2036 BG+SD AM (Site Folder: Cessnock Road /

Gillieston Road)1

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P5924 Gillieston Public School Cessnock Road / Gillieston Road Site Category: (None) Stop (Two-Way)

Vehic	le Mo	vement	Perfo	rmaı	nce										
Mov ID	Turn	Mov Class		ows HV]		rival ows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service		Back Of leue Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South	Cess	nock Roa	ad												
1	L2	All MCs	37	0.0	37	0.0	0.926	6.3	LOSA	0.0	0.0	0.00	0.01	0.00	37.0
2	T1	All MCs	1722	4.0	1722	4.0	0.926	3.2	LOSA	0.0	0.0	0.00	0.01	0.00	37.4
Appro	ach		1759	3.9	1759	3.9	0.926	3.3	NA	0.0	0.0	0.00	0.01	0.00	37.4
North:	Cess	nock Roa	d												
8	T1	All MCs	886	10.0	886	10.0	5.916	4890.6	LOS F	544.9	4143.3	1.00	1.03	2.93	0.7
9	R2	All MCs	49	11.0	49	11.0	5.916	4920.7	LOS F	544.9	4143.3	1.00	1.03	2.93	0.7
Appro	ach		936	10.1	936	10.1	5.916	4892.2	NA	544.9	4143.3	1.00	1.03	2.93	0.7
West:	Gillies	ston Road	l												
10	L2	All MCs	109	0.0	109	0.0	27.182	24035. 5	LOS F	103.5	724.7	1.00	1.57	3.13	0.2
12	R2	All MCs	60	0.0	60	0.0	27.182	23582. 2	LOS F	103.5	724.7	1.00	1.57	3.13	0.2
Appro	ach		169	0.0	169	0.0	27.182	23875. 0	LOS F	103.5	724.7	1.00	1.57	3.13	0.2
All Vel	nicles		2864	5.7	2864	5.7	27.182	3013.1	NA	544.9	4143.3	0.39	0.44	1.14	1.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA gueue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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

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P5924 Gillieston Public School Cessnock Road / Gillieston Road Site Category: (None) Stop (Two-Way)

Vehic	le Mo	ovement	Perfo	rmai	nce										
Mov ID	Turn	Mov Class		ows HV]		rival ows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service		Back Of eue Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South	: Cess	snock Roa	ad												
1	L2	All MCs	47	0.0	47	0.0	0.932	6.5	LOSA	0.0	0.0	0.00	0.01	0.00	36.9
2	T1	All MCs	1722	4.0	1722	4.0	0.932	3.4	LOSA	0.0	0.0	0.00	0.01	0.00	37.2
Appro	ach		1769	3.9	1769	3.9	0.932	3.5	NA	0.0	0.0	0.00	0.01	0.00	37.2
North:	Cess	nock Roa	d												
8	T1	All MCs	886	10.0	886	10.0	9.745	8327.3	LOS F	577.9	4394.7	1.00	1.04	2.84	0.4
9	R2	All MCs	77	11.0	77	11.0	9.745	8346.4	LOS F	577.9	4394.7	1.00	1.04	2.84	0.4
Appro	ach		963	10.1	963	10.1	9.745	8328.8	NA	577.9	4394.7	1.00	1.04	2.84	0.4
West:	Gillies	ston Road	l												
10	L2	All MCs	122	0.0	122	0.0	29.164	25819. 6	LOS F	111.4	779.7	1.00	1.58	3.13	0.1
12	R2	All MCs	60	0.0	60	0.0	29.164	25363. 5	LOS F	111.4	779.7	1.00	1.58	3.13	0.1
Appro	ach		182	0.0	182	0.0	29.164	25669. 3	LOS F	111.4	779.7	1.00	1.58	3.13	0.1
All Vel	hicles		2915	5.7	2915	5.7	29.164	4358.1	NA	577.9	4394.7	0.39	0.45	1.13	0.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA gueue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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

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Site: 101 [2026 BG+SD PM (Site Folder: Cessnock Road / Gillieston Road)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

P5924 Gillieston Public School Cessnock Road / Gillieston Road Site Category: (None) Stop (Two-Way)

Vehic	cle Mo	ovement	Perfo	rma	nce										
Mov ID	Turn	Mov Class		ows HV]		rival lows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service		Back Of leue Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South	: Cess	snock Roa	ad												
1	L2	All MCs	24	50.0	24	50.0	0.464	3.9	LOSA	0.0	0.0	0.00	0.01	0.00	39.1
2	T1	All MCs	838	6.0	838	6.0	0.464	0.2	LOS A	0.0	0.0	0.00	0.01	0.00	39.8
Appro	ach		862	7.2	862	7.2	0.464	0.4	NA	0.0	0.0	0.00	0.01	0.00	39.7
North	Cess	nock Roa	nd												
8	T1	All MCs	1245	4.0	1245	4.0	0.719	2.1	LOSA	3.4	24.6	0.08	0.09	0.27	39.0
9	R2	All MCs	33	7.0	33	7.0	0.719	14.0	LOS B	3.4	24.6	0.08	0.09	0.27	38.4
Appro	ach		1278	4.1	1278	4.1	0.719	2.4	NA	3.4	24.6	0.08	0.09	0.27	38.9
West:	Gillies	ston Road	t												
10	L2	All MCs	31	0.0	31	0.0	0.961	127.0	LOS F	3.9	27.0	1.00	1.41	2.15	12.8
12	R2	All MCs	12	0.0	12	0.0	0.961	370.2	LOS F	3.9	27.0	1.00	1.41	2.15	12.8
Appro	ach		42	0.0	42	0.0	0.961	193.9	LOS F	3.9	27.0	1.00	1.41	2.15	12.8
All Ve	hicles		2182	5.2	2182	5.2	0.961	5.3	NA	3.9	27.0	0.07	0.09	0.20	37.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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

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💿 Site: 101 [2026 Design PM (Site Folder: Cessnock Road /

Gillieston Road)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

P5924 Gillieston Public School Cessnock Road / Gillieston Road Site Category: (None) Stop (Two-Way)

Vehic	le Mo	ovement	Perfo	rma	nce										
Mov ID	Turn	Mov Class		lows HV]		rival lows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service		Back Of eue Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South	: Cess	nock Roa	ad												
1	L2	All MCs	24	50.0	24	50.0	0.464	3.9	LOSA	0.0	0.0	0.00	0.01	0.00	39.1
2	T1	All MCs	838	6.0	838	6.0	0.464	0.2	LOSA	0.0	0.0	0.00	0.01	0.00	39.8
Appro	ach		862	7.2	862	7.2	0.464	0.4	NA	0.0	0.0	0.00	0.01	0.00	39.7
North:	Cess	nock Roa	ıd												
8	T1	All MCs	1245	4.0	1245	4.0	0.743	3.2	LOSA	5.0	36.4	0.11	0.13	0.40	38.5
9	R2	All MCs	45	7.0	45	7.0	0.743	14.9	LOS B	5.0	36.4	0.11	0.13	0.40	37.9
Appro	ach		1291	4.1	1291	4.1	0.743	3.6	NA	5.0	36.4	0.11	0.13	0.40	38.5
West:	Gillies	ston Road	t												
10	L2	All MCs	55	0.0	55	0.0	1.865	813.1	LOS F	24.5	171.4	1.00	3.10	6.89	3.7
12	R2	All MCs	21	0.0	21	0.0	1.865	1073.2	LOS F	24.5	171.4	1.00	3.10	6.89	3.7
Appro	ach		76	0.0	76	0.0	1.865	885.4	LOS F	24.5	171.4	1.00	3.10	6.89	3.7
All Vel	hicles		2228	5.2	2228	5.2	1.865	32.3	NA	24.5	171.4	0.10	0.18	0.46	29.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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

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🚋 Site: 101 [2036 BG+SD PM (Site Folder: Cessnock Road /

Gillieston Road)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

P5924 Gillieston Public School Cessnock Road / Gillieston Road Site Category: (None) Stop (Two-Way)

Vehic	cle Mo	ovement	Perfo	rmaı	nce										
Mov ID	Turn	Mov Class		ows HV]		rival ows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service		Back Of Jeue Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South	: Cess	snock Roa	ad												
1	L2	All MCs	65	50.0	65 5	50.0	0.641	4.1	LOSA	0.0	0.0	0.00	0.02	0.00	38.9
2	T1	All MCs	1114	6.0	1114	6.0	0.641	0.5	LOSA	0.0	0.0	0.00	0.02	0.00	39.5
Appro	ach		1179	8.4	1179	8.4	0.641	0.7	NA	0.0	0.0	0.00	0.02	0.00	39.5
North:	Cess	nock Roa	nd												
8	T1	All MCs	1645	4.0	1645	4.0	1.245	257.9	LOS F	248.7	1802.6	1.00	1.16	11.13	10.3
9	R2	All MCs	79	7.0	79	7.0	1.245	336.1	LOS F	248.7	1802.6	1.00	1.16	11.13	10.3
Appro	ach		1724	4.1	1724	4.1	1.245	261.5	NA	248.7	1802.6	1.00	1.16	11.13	10.3
West:	Gillie	ston Road	t												
10	L2	All MCs	55	0.0	55	0.0	5.164	3861.2	LOS F	44.1	309.0	1.00	2.55	6.02	0.9
12	R2	All MCs	29	0.0	29	0.0	5.164	3759.4	LOS F	44.1	309.0	1.00	2.55	6.02	0.9
Appro	ach		84	0.0	84	0.0	5.164	3825.6	LOS F	44.1	309.0	1.00	2.55	6.02	0.9
All Ve	hicles		2987	5.7	2987	5.7	5.164	259.1	NA	248.7	1802.6	0.61	0.75	6.60	10.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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

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Site: 101 [2036 Design PM (Site Folder: Cessnock Road / Gillieston Road)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

P5924 Gillieston Public School Cessnock Road / Gillieston Road Site Category: (None) Stop (Two-Way)

Vehic	cle Mo	ovemen	Perfo	rma	nce										
Mov ID	Turn	Mov Class		lows HV]		rival lows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service		Back Of Jeue Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South	: Cess	snock Ro	ad												
1	L2	All MCs	65	50.0	65	50.0	0.641	4.1	LOSA	0.0	0.0	0.00	0.02	0.00	38.9
2	T1	All MCs	1114	6.0	1114	6.0	0.641	0.5	LOSA	0.0	0.0	0.00	0.02	0.00	39.5
Appro	ach		1179	8.4	1179	8.4	0.641	0.7	NA	0.0	0.0	0.00	0.02	0.00	39.5
North	Cess	nock Roa	ad												
8	T1	All MCs	1645	4.0	1645	4.0	1.306	310.0	LOS F	286.7	2078.7	1.00	1.21	12.86	9.0
9	R2	All MCs	92	7.0	92	7.0	1.306	377.0	LOS F	286.7	2078.7	1.00	1.21	12.86	9.0
Appro	ach		1737	4.2	1737	4.2	1.306	313.5	NA	286.7	2078.7	1.00	1.21	12.86	9.0
West:	Gillie	ston Road	t												
10	L2	All MCs	83	0.0	83	0.0	7.225	5709.5	LOS F	68.4	479.1	1.00	2.76	6.66	0.6
12	R2	All MCs	41	0.0	41	0.0	7.225	5608.6	LOS F	68.4	479.1	1.00	2.76	6.66	0.6
Appro	ach		124	0.0	124	0.0	7.225	5676.2	LOS F	68.4	479.1	1.00	2.76	6.66	0.6
All Ve	hicles		3040	5.6	3040	5.6	7.225	411.3	NA	286.7	2078.7	0.61	0.81	7.62	7.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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

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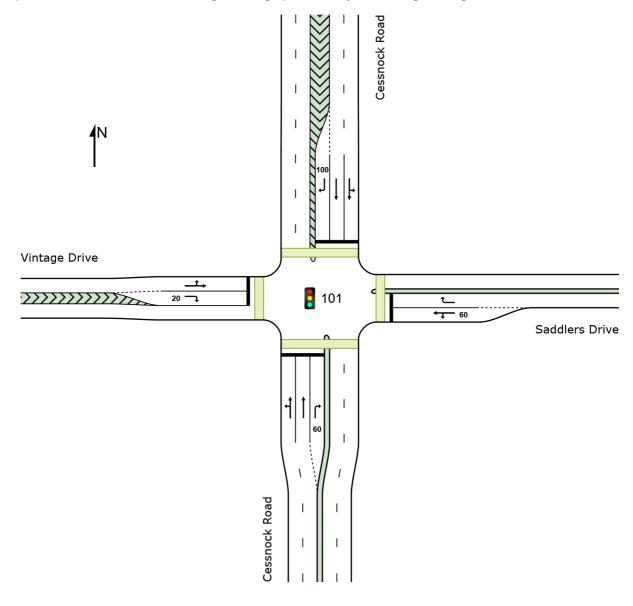
SITE LAYOUT

Site: 101 [2026 BG+SD AM (Site Folder: Cessnock Road / Vintage Drive)]

Gillieston Public School Cessnock Rd/Vintage Dr Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



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Site: 101 [2026 BG+SD AM (Site Folder: Cessnock Road / Vintage Drive)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

P5924

Gillieston Public School Cessnock Rd/Vintage Dr Site Category: (None)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehic	cle Mo	ovement	Perfo	rma	nce										
Mov ID	Turn	Mov Class	FI			rival lows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service		Back Of eue Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South	: Cess	nock Ro	ad												
1	L2	All MCs	89	1.0	89	1.0	0.777	25.7	LOS C	11.8	85.6	0.96	0.94	1.14	38.1
2	T1	All MCs	847	5.0	847	5.0	* 0.777	20.1	LOS C	11.9	86.5	0.96	0.93	1.14	44.8
3	R2	All MCs	9	13.0	9	13.0	0.046	27.9	LOS C	0.2	1.7	0.91	0.66	0.91	37.8
Appro	ach		946	4.7	946	4.7	0.777	20.7	LOS C	11.9	86.5	0.96	0.93	1.13	44.2
East:	Saddle	ers Drive													
4	L2	All MCs	17	0.0	17	0.0	0.125	14.8	LOS B	1.0	7.5	0.83	0.66	0.83	41.2
5	T1	All MCs	35	4.0	35	4.0	0.125	21.0	LOS C	1.0	7.5	0.83	0.66	0.83	37.1
6	R2	All MCs	204	0.0	204	0.0	* 0.707	28.4	LOS C	5.3	37.1	0.99	0.90	1.17	37.3
Appro	ach		256	0.5	256	0.5	0.707	26.5	LOS C	5.3	37.1	0.96	0.85	1.11	37.5
North	: Cess	nock Roa	ad												
7	L2	All MCs	58	2.0	58	2.0	0.532	21.1	LOS C	6.5	48.6	0.87	0.75	0.87	42.7
8	T1	All MCs	565	10.0	565	10.0	0.532	15.6	LOS B	6.5	49.1	0.87	0.74	0.87	47.5
9	R2	All MCs	39	13.0	39	13.0	* 0.191	28.7	LOS C	0.9	7.2	0.93	0.72	0.93	34.5
Appro	ach		662	9.5	662	9.5	0.532	16.8	LOS B	6.5	49.1	0.87	0.74	0.87	46.2
West:	Vinta	ge Drive													
10	L2	All MCs	76	10.0	76	10.0	0.157	15.4	LOS B	1.6	12.0	0.73	0.69	0.73	40.0
11	T1	All MCs	16	0.0	16	0.0	0.157	22.0	LOS C	1.6	12.0	0.73	0.69	0.73	38.4
12	R2	All MCs	60	4.0	60	4.0	0.194	24.4	LOS C	1.3	9.5	0.88	0.73	0.88	36.0
Appro	ach		152	6.6	152	6.6	0.194	19.7	LOS B	1.6	12.0	0.79	0.71	0.79	38.2
All Ve	hicles		2016	5.9	2016	5.9	0.777	20.1	LOS C	11.9	86.5	0.92	0.84	1.02	43.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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

Pedestrian I	Noveme	nt Perf	ormano	:e						
Mov ID Crossing	Input Vol.	Dem. Flow		Level of A Service	VERAGE QUE I Ped		Prop. Que	Eff. Stop Rate	Travel Time	Travel Aver. Dist. Speed
South: Cessno	ped/h ock Road	ped/h	sec	_	ped	m ¹	_	-	sec	m m/sec

P1 Full	3	3	19.4	LOS B	0.0	0.0	0.88	0.88	173.2	200.0	1.15
East: Saddler	s Drive										
P2 Full	1	1	19.4	LOS B	0.0	0.0	0.88	0.88	173.2	200.0	1.15
North: Cessno	ock Road										
P3 Full	11	12	19.4	LOS B	0.0	0.0	0.88	0.88	173.2	200.0	1.15
West: Vintage	Drive										
P4 Full	1	1	19.4	LOS B	0.0	0.0	0.88	0.88	173.2	200.0	1.15
All Pedestrians	16	17	19.4	LOS B	0.0	0.0	0.88	0.88	173.2	200.0	1.15

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Site: 101 [2026 Design AM (Site Folder: Cessnock Road / Vintage Drive)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

P5924

Gillieston Public School Cessnock Rd/Vintage Dr Site Category: (None)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehic	le Mo	vement	Perfo	rma	nce										
Mov ID	Turn	Mov Class	FI			rival lows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service		lack Of eue Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South	: Cess	nock Roa	ad												
1	L2	All MCs	104	1.0	104	1.0	0.750	24.0	LOS C	11.6	83.9	0.94	0.90	1.07	39.0
2	T1	All MCs	857	5.0	857	5.0	* 0.750	18.4	LOS B	11.6	84.9	0.94	0.90	1.07	45.8
3	R2	All MCs	9	13.0	9	13.0	0.046	27.9	LOS C	0.2	1.7	0.91	0.66	0.91	37.8
Appro	ach		971	4.6	971	4.6	0.750	19.1	LOS B	11.6	84.9	0.94	0.89	1.07	45.0
East:	Saddle	ers Drive													
4	L2	All MCs	17	0.0	17	0.0	0.138	15.6	LOS B	1.1	7.7	0.86	0.67	0.86	40.8
5	T1	All MCs	35	4.0	35	4.0	0.138	22.1	LOS C	1.1	7.7	0.86	0.67	0.86	36.6
6	R2	All MCs	204	0.0	204	0.0	* 0.780	31.0	LOS C	5.6	39.3	1.00	0.97	1.32	36.3
Appro	ach		256	0.5	256	0.5	0.780	28.8	LOS C	5.6	39.3	0.97	0.91	1.23	36.6
North	Cess	nock Roa	nd												
7	L2	All MCs	58	2.0	58	2.0	0.500	20.2	LOS C	6.3	47.0	0.84	0.73	0.84	43.2
8	T1	All MCs	565	10.0	565	10.0	0.500	14.6	LOS B	6.3	47.6	0.84	0.72	0.84	48.1
9	R2	All MCs	39	13.0	39	13.0	* 0.191	28.7	LOS C	0.9	7.2	0.93	0.72	0.93	34.5
Appro	ach		662	9.5	662	9.5	0.500	15.9	LOS B	6.3	47.6	0.85	0.72	0.85	46.8
West:	Vinta	ge Drive													
10	L2	All MCs	76	10.0	76	10.0	0.167	16.2	LOS B	1.7	12.4	0.75	0.70	0.75	39.5
11	T1	All MCs	16	0.0	16	0.0	0.167	23.1	LOS C	1.7	12.4	0.75	0.70	0.75	38.0
12	R2	All MCs	74	4.0	74	4.0	0.261	25.7	LOS C	1.7	12.2	0.91	0.74	0.91	35.4
Appro	ach		165	6.4	165	6.4	0.261	21.1	LOS C	1.7	12.4	0.82	0.72	0.82	37.5
All Ve	hicles		2054	5.8	2054	5.8	0.780	19.4	LOS B	11.6	84.9	0.91	0.83	1.00	43.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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

Pedestrian I	Noveme	nt Perf	ormano	Pedestrian Movement Performance														
Mov ID Crossing	Input Vol.	Dem. Flow		Level of A Service	VERAGE QUE I Ped		Prop. Que	Eff. Stop Rate	Travel Time	Travel Aver. Dist. Speed								
South: Cessno	ped/h ock Road	ped/h	sec	_	ped	m ¹	_	-	sec	m m/sec								

P1 Full	3	3	19.4	LOS B	0.0	0.0	0.88	0.88	173.2	200.0	1.15
East: Saddler	s Drive										
P2 Full	1	1	19.4	LOS B	0.0	0.0	0.88	0.88	173.2	200.0	1.15
North: Cessno	ock Road										
P3 Full	11	12	19.4	LOS B	0.0	0.0	0.88	0.88	173.2	200.0	1.15
West: Vintage	Drive										
P4 Full	1	1	19.4	LOS B	0.0	0.0	0.88	0.88	173.2	200.0	1.15
All Pedestrians	16	17	19.4	LOS B	0.0	0.0	0.88	0.88	173.2	200.0	1.15

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Site: 101 [2036 BG+SD AM (Site Folder: Cessnock Road / Vintage Drive)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

P5924

Gillieston Public School Cessnock Rd/Vintage Dr Site Category: (None)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehic	le Mo	vement	Perfo	rma	nce										
Mov ID	Turn	Mov Class	FI			rival lows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% B Qu [Veh. veh	ack Of eue Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South	: Cess	nock Roa	ad												
1	L2	All MCs	119	1.0	119	1.0	0.837	32.0	LOS C	22.5	163.6	0.97	0.98	1.13	35.0
2	T1	All MCs	1140	5.0	1140	5.0	* 0.837	29.1	LOS C	22.5	164.4	0.97	0.98	1.13	41.6
3	R2	All MCs	13	13.0	13	13.0	0.087	44.3	LOS D	0.4	3.3	0.95	0.68	0.95	33.8
Appro	ach		1272	4.7	1272	4.7	0.837	29.5	LOS C	22.5	164.4	0.97	0.98	1.13	39.8
East:	Saddle	ers Drive													
4	L2	All MCs	22	0.0	22	0.0	0.134	18.9	LOS B	1.8	12.8	0.79	0.65	0.79	39.6
5	T1	All MCs	46	4.0	46	4.0	0.134	24.2	LOS C	1.8	12.8	0.79	0.65	0.79	35.4
6	R2	All MCs	275	0.0	275	0.0	* 0.842	41.2	LOS D	10.8	75.4	1.00	1.02	1.33	33.0
Appro	ach		343	0.5	343	0.5	0.842	37.5	LOS D	10.8	75.4	0.96	0.94	1.22	33.6
North:	Cess	nock Roa	d												
7	L2	All MCs	81	2.0	81	2.0	0.584	23.5	LOS C	11.6	87.0	0.84	0.75	0.84	41.6
8	T1	All MCs	774	10.0	774	10.0	0.584	17.9	LOS B	11.6	88.1	0.84	0.74	0.84	46.0
9	R2	All MCs	48	13.0	48	13.0	* 0.332	40.8	LOS D	1.7	13.1	0.98	0.74	0.98	29.9
Appro	ach		903	9.4	903	9.4	0.584	19.7	LOS B	11.6	88.1	0.84	0.74	0.84	44.6
West:	Vinta	ge Drive													
10	L2	All MCs	88	10.0	88	10.0	0.177	19.6	LOS B	2.6	19.2	0.72	0.70	0.72	37.8
11	T1	All MCs	20	0.0	20	0.0	0.177	25.2	LOS C	2.6	19.2	0.72	0.70	0.72	36.4
12	R2	All MCs	81	4.0	81	4.0	0.232	28.3	LOS C	2.3	16.7	0.84	0.74	0.84	34.3
Appro	ach		189	6.4	189	6.4	0.232	23.9	LOS C	2.6	19.2	0.77	0.72	0.77	36.1
All Ve	hicles		2707	5.9	2707	5.9	0.842	26.9	LOS C	22.5	164.4	0.91	0.87	1.02	40.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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

Pedestrian I	Noveme	nt Perf	ormano	Pedestrian Movement Performance														
Mov ID Crossing	Input Vol.	Dem. Flow		Level of A Service	VERAGE QUE I Ped		Prop. Que	Eff. Stop Rate	Travel Time	Travel Aver. Dist. Speed								
South: Cessno	ped/h ock Road	ped/h	sec	_	ped	m ¹	_	-	sec	m m/sec								

P1 Full	5	5	29.3	LOS C	0.0	0.0	0.91	0.91	183.1	200.0	1.09
East: Saddler	s Drive										
P2 Full	1	1	29.3	LOS C	0.0	0.0	0.91	0.91	183.1	200.0	1.09
North: Cessno	ock Road										
P3 Full	15	16	29.3	LOS C	0.0	0.0	0.91	0.91	183.1	200.0	1.09
West: Vintage	Drive										
P4 Full	1	1	29.3	LOS C	0.0	0.0	0.91	0.91	183.1	200.0	1.09
All Pedestrians	22	23	29.3	LOS C	0.0	0.0	0.91	0.91	183.1	200.0	1.09

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Site: 101 [2036 Design AM (Site Folder: Cessnock Road / Vintage Drive)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

P5924

Gillieston Public School Cessnock Rd/Vintage Dr Site Category: (None)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehi	cle Mo	ovement	Perfo	rma	nce										
Mov ID	Turn	Mov Class	FI			rival lows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% B Que [Veh. veh		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South	n: Cess	snock Roa	ad												
1	L2	All MCs	136	1.0	136	1.0	0.857	33.9	LOS C	24.0	173.9	0.98	1.02	1.18	34.1
2	T1	All MCs	1152	5.0	1152	5.0	* 0.857	31.3	LOS C	24.0	174.9	0.98	1.02	1.18	40.7
3	R2	All MCs	13	13.0	13	13.0	0.087	44.8	LOS D	0.4	3.3	0.95	0.68	0.95	33.8
Appr	oach		1300	4.7	1300	4.7	0.857	31.7	LOS C	24.0	174.9	0.98	1.01	1.18	38.8
East:	Saddl	ers Drive													
4	L2	All MCs	22	0.0	22	0.0	0.134	18.9	LOS B	1.8	12.8	0.79	0.65	0.79	39.6
5	T1	All MCs	46	4.0	46	4.0	0.134	24.2	LOS C	1.8	12.8	0.79	0.65	0.79	35.4
6	R2	All MCs	275	0.0	275	0.0	* 0.842	41.2	LOS D	10.8	75.4	1.00	1.02	1.33	33.0
Appr	oach		343	0.5	343	0.5	0.842	37.5	LOS D	10.8	75.4	0.96	0.94	1.22	33.6
North	n: Cess	nock Roa	ıd												
7	L2	All MCs	81	2.0	81	2.0	0.584	23.5	LOS C	11.6	87.0	0.84	0.75	0.84	41.6
8	T1	All MCs	774	10.0	774	10.0	0.584	17.9	LOS B	11.6	88.1	0.84	0.74	0.84	46.0
9	R2	All MCs	48	13.0	48	13.0	* 0.332	40.8	LOS D	1.7	13.1	0.98	0.74	0.98	29.9
Appr	oach		903	9.4	903	9.4	0.584	19.7	LOS B	11.6	88.1	0.84	0.74	0.84	44.6
West	: Vinta	ge Drive													
10	L2	All MCs	88	10.0	88	10.0	0.177	19.6	LOS B	2.6	19.2	0.72	0.70	0.72	37.8
11	T1	All MCs	20	0.0	20	0.0	0.177	25.2	LOS C	2.6	19.2	0.72	0.70	0.72	36.4
12	R2	All MCs	95	4.0	95	4.0	0.271	28.6	LOS C	2.7	19.7	0.85	0.75	0.85	34.2
Appr	oach		203	6.2	203	6.2	0.271	24.3	LOS C	2.7	19.7	0.78	0.72	0.78	35.9
All Ve	ehicles		2749	5.8	2749	5.8	0.857	27.9	LOS C	24.0	174.9	0.92	0.89	1.04	39.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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

Pedestrian I	Noveme	nt Perf	ormano	Pedestrian Movement Performance														
Mov ID Crossing	Input Vol.	Dem. Flow		Level of A Service	VERAGE QUE I Ped		Prop. Que	Eff. Stop Rate	Travel Time	Travel Aver. Dist. Speed								
South: Cessno	ped/h ock Road	ped/h	sec	_	ped	m ¹	_	-	sec	m m/sec								

P1 Full	5	5	29.3	LOS C	0.0	0.0	0.91	0.91	183.1	200.0	1.09
East: Saddler	s Drive										
P2 Full	1	1	29.3	LOS C	0.0	0.0	0.91	0.91	183.1	200.0	1.09
North: Cessno	ock Road										
P3 Full	15	16	29.3	LOS C	0.0	0.0	0.91	0.91	183.1	200.0	1.09
West: Vintage	Drive										
P4 Full	1	1	29.3	LOS C	0.0	0.0	0.91	0.91	183.1	200.0	1.09
All Pedestrians	22	23	29.3	LOS C	0.0	0.0	0.91	0.91	183.1	200.0	1.09

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Site: 101 [2026 BG+SD PM (Site Folder: Cessnock Road / Vintage Drive)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

P5924

Gillieston Public School Cessnock Rd/Vintage Dr Site Category: (None)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehic	le Mo	vement	Perfo	rma	nce										
Mov ID	Turn	Mov Class		ows HV]		rival lows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% B Que [Veh. veh		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South	: Cess	nock Roa	ad												
1	L2	All MCs	36	5.0	36	5.0	0.531	19.7	LOS B	7.1	52.4	0.84	0.73	0.84	41.9
2	T1	All MCs	676	7.0	676	7.0	0.531	14.1	LOS B	7.1	52.7	0.84	0.72	0.84	48.6
3	R2	All MCs	15	0.0	15	0.0	0.066	27.8	LOS C	0.3	2.4	0.91	0.68	0.91	37.9
Appro	ach		726	6.8	726	6.8	0.531	14.6	LOS B	7.1	52.7	0.84	0.72	0.84	48.0
East:	Saddle	ers Drive													
4	L2	All MCs	16	15.0	16	15.0	0.084	16.6	LOS B	0.6	4.6	0.82	0.65	0.82	40.6
5	T1	All MCs	15	0.0	15	0.0	0.084	23.2	LOS C	0.6	4.6	0.82	0.65	0.82	36.8
6	R2	All MCs	76	0.0	76	0.0	* 0.303	26.9	LOS C	1.8	12.5	0.94	0.75	0.94	37.9
Appro	ach		106	2.2	106	2.2	0.303	24.8	LOS C	1.8	12.5	0.90	0.72	0.90	38.2
North	Cess	nock Roa	nd												
7	L2	All MCs	143	1.0	143	1.0	0.685	21.4	LOS C	10.2	73.6	0.91	0.83	0.95	42.3
8	T1	All MCs	789	4.0	789	4.0	* 0.685	15.8	LOS B	10.3	74.8	0.91	0.82	0.95	47.2
9	R2	All MCs	93	6.0	93	6.0	* 0.433	29.6	LOS C	2.3	16.8	0.97	0.76	0.97	34.2
Appro	ach		1025	3.8	1025	3.8	0.685	17.8	LOS B	10.3	74.8	0.91	0.82	0.95	45.2
West:	Vinta	ge Drive													
10	L2	All MCs	40	17.0	40	17.0	0.157	17.3	LOS B	1.2	9.7	0.82	0.69	0.82	38.0
11	T1	All MCs	22	6.0	22	6.0	0.157	24.6	LOS C	1.2	9.7	0.82	0.69	0.82	36.8
12	R2	All MCs	65	0.0	65	0.0	0.239	25.6	LOS C	1.5	10.4	0.91	0.74	0.91	35.6
Appro	ach		127	6.4	127	6.4	0.239	22.8	LOS C	1.5	10.4	0.87	0.71	0.87	36.5
All Ve	hicles		1985	4.9	1985	4.9	0.685	17.4	LOS B	10.3	74.8	0.88	0.77	0.91	45.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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

Pedestrian Movement Performance														
Travel Aver.	Travel	Eff.	Prop.	E BACK OF	AVERAGE	Level of	Aver.	Dem.	Input	ov				
Dist. Speed	Time	Stop Rate	Que	EUE Dist]	QU [Ped	Service	Delay	Flow	Vol.	Crossing				
m m/sec	sec			m	ped		sec	ped/h	ped/h					
	sec	_	_	m	ped	_	sec			outh: Cessno				

P1 Full	5	5	19.4	LOS B	0.0	0.0	0.88	0.88	173.2	200.0	1.15
East: Saddlers	Drive										
P2 Full	1	1	19.4	LOS B	0.0	0.0	0.88	0.88	173.2	200.0	1.15
North: Cessno	ck Road										
P3 Full	5	5	19.4	LOS B	0.0	0.0	0.88	0.88	173.2	200.0	1.15
West: Vintage	Drive										
P4 Full	1	1	19.4	LOS B	0.0	0.0	0.88	0.88	173.2	200.0	1.15
All Pedestrians	12	13	19.4	LOS B	0.0	0.0	0.88	0.88	173.2	200.0	1.15

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Site: 101 [2026 Design PM (Site Folder: Cessnock Road / Vintage Drive)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

P5924

Gillieston Public School Cessnock Rd/Vintage Dr Site Category: (None)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehic	le Mo	vement	Perfo	rma	nce										
Mov ID	Turn	Mov Class		ows HV]		rival lows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service		ack Of eue Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South	: Cess	nock Roa	ad												
1	L2	All MCs	49	5.0	49	5.0	0.542	19.7	LOS B	7.2	53.6	0.85	0.73	0.85	41.8
2	T1	All MCs	676	7.0	676	7.0	0.542	14.1	LOS B	7.3	54.0	0.85	0.73	0.85	48.5
3	R2	All MCs	15	0.0	15	0.0	0.066	27.8	LOS C	0.3	2.4	0.91	0.68	0.91	37.9
Appro	ach		740	6.7	740	6.7	0.542	14.8	LOS B	7.3	54.0	0.85	0.73	0.85	47.8
East:	Saddle	ers Drive													
4	L2	All MCs	16	15.0	16	15.0	0.084	16.6	LOS B	0.6	4.6	0.82	0.65	0.82	40.6
5	T1	All MCs	15	0.0	15	0.0	0.084	23.2	LOS C	0.6	4.6	0.82	0.65	0.82	36.8
6	R2	All MCs	76	0.0	76	0.0	0.303	26.9	LOS C	1.8	12.5	0.94	0.75	0.94	37.9
Appro	ach		106	2.2	106	2.2	0.303	24.8	LOS C	1.8	12.5	0.90	0.72	0.90	38.2
North:	Cess	nock Roa	nd												
7	L2	All MCs	143	1.0	143	1.0	0.692	21.6	LOS C	10.4	75.0	0.91	0.84	0.96	42.2
8	T1	All MCs	799	4.0	799	4.0	* 0.692	16.0	LOS B	10.5	76.2	0.91	0.83	0.96	47.1
9	R2	All MCs	80	6.0	80	6.0	* 0.374	29.3	LOS C	2.0	14.4	0.96	0.76	0.96	34.3
Appro	ach		1022	3.7	1022	3.7	0.692	17.8	LOS B	10.5	76.2	0.91	0.82	0.96	45.3
West:	Vinta	ge Drive													
10	L2	All MCs	40	17.0	40	17.0	0.157	17.3	LOS B	1.2	9.7	0.82	0.69	0.82	38.0
11	T1	All MCs	22	6.0	22	6.0	0.157	24.6	LOS C	1.2	9.7	0.82	0.69	0.82	36.8
12	R2	All MCs	80	0.0	80	0.0	* 0.293	25.9	LOS C	1.8	12.9	0.92	0.75	0.92	35.4
Appro	ach		142	5.7	142	5.7	0.293	23.2	LOS C	1.8	12.9	0.88	0.72	0.88	36.3
All Ve	hicles		2011	4.9	2011	4.9	0.692	17.5	LOS B	10.5	76.2	0.89	0.77	0.91	45.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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

						, 	ormanic	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	no venic	edestrian N
Travel Aver.	Travel	Eff.	Prop.	BACK OF	AVERAGE	Level of	Aver.	Dem.	Input	1ov
Dist. Speed	Time	Stop Rate	Que	EUE Dist]	QU [Ped	Service	Delay	Flow	Vol.) Crossing
m m/sec	sec			m	ped		sec	ped/h	ped/h	
	sec			m	ped		sec			outh: Cessno

P1 Full	5	5	19.4	LOS B	0.0	0.0	0.88	0.88	173.2	200.0	1.15
East: Saddlers	Drive										
P2 Full	1	1	19.4	LOS B	0.0	0.0	0.88	0.88	173.2	200.0	1.15
North: Cessno	ck Road										
P3 Full	5	5	19.4	LOS B	0.0	0.0	0.88	0.88	173.2	200.0	1.15
West: Vintage	Drive										
P4 Full	1	1	19.4	LOS B	0.0	0.0	0.88	0.88	173.2	200.0	1.15
All Pedestrians	12	13	19.4	LOS B	0.0	0.0	0.88	0.88	173.2	200.0	1.15

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Site: 101 [2036 BG+SD PM (Site Folder: Cessnock Road / Vintage Drive)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

P5924

Gillieston Public School Cessnock Rd/Vintage Dr Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 60 seconds (Site Practical Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance Mov Turn Mov Demand Arrival Deg. Aver. Level of 95% Back Of Prop. Eff. Aver. Aver.															
Mov ID	Turn	Mov Class	FI	lows HV]		ows	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% B Que [Veh. veh		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South	: Cess	nock Roa	ad												
1	L2	All MCs	44	5.0	44	5.0	0.580	19.0	LOS B	10.7	79.5	0.80	0.71	0.80	42.4
2	T1	All MCs	927	7.0	927	7.0	0.580	13.4	LOS B	10.8	79.9	0.80	0.70	0.80	49.0
3	R2	All MCs	19	0.0	19	0.0	0.102	33.6	LOS C	0.5	3.8	0.94	0.69	0.94	35.7
Appro	ach		991	6.8	991	6.8	0.580	14.1	LOS B	10.8	79.9	0.80	0.70	0.80	48.4
East:	Saddle	ers Drive													
4	L2	All MCs	21	15.0	21	15.0	0.115	21.2	LOS C	1.0	7.2	0.85	0.68	0.85	38.6
5	T1	All MCs	18	0.0	18	0.0	0.115	28.3	LOS C	1.0	7.2	0.85	0.68	0.85	34.6
6	R2	All MCs	106	0.0	106	0.0	* 0.511	33.5	LOS C	3.2	22.1	0.98	0.77	0.98	35.5
Appro	ach		145	2.2	145	2.2	0.511	31.1	LOS C	3.2	22.1	0.95	0.75	0.95	35.8
North	Cess	nock Roa	d												
7	L2	All MCs	195	1.0	195	1.0	0.741	21.8	LOS C	16.2	116.3	0.89	0.84	0.94	42.1
8	T1	All MCs	1067	4.0	1067	4.0	* 0.741	16.2	LOS B	16.3	118.2	0.89	0.83	0.94	46.9
9	R2	All MCs	108	6.0	108	6.0	* 0.609	36.5	LOS D	3.4	24.8	1.00	0.82	1.10	31.4
Appro	ach		1371	3.7	1371	3.7	0.741	18.6	LOS B	16.3	118.2	0.89	0.83	0.95	44.9
West:	Vinta	ge Drive													
10	L2	All MCs	52	17.0	52	17.0	0.228	22.0	LOS C	2.0	15.9	0.86	0.72	0.86	35.6
11	T1	All MCs	29	6.0	29	6.0	0.228	29.5	LOS C	2.0	15.9	0.86	0.72	0.86	34.5
12	R2	All MCs	87	0.0	87	0.0	0.364	31.7	LOS C	2.5	17.4	0.95	0.76	0.95	32.9
Appro	ach		168	6.3	168	6.3	0.364	28.4	LOS C	2.5	17.4	0.91	0.74	0.91	34.0
All Ve	hicles		2675	4.9	2675	4.9	0.741	18.2	LOS B	16.3	118.2	0.86	0.77	0.89	44.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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

Pedestrian Movement Performance													
Mov ID Crossing	Input Vol.	Dem. Flow		Level of AVERAG Service QU	E BACK OF JEUE Dist 1	Prop. Que	Eff. Stop Rate	Travel Time	Travel Aver. Dist. Speed				
South: Cessno	ped/h ock Road	ped/h	sec	ped	m			sec	m m/sec				

P1 Full	6	6	24.3	LOS C	0.0	0.0	0.90	0.90	178.2	200.0	1.12
East: Saddlers	Drive										
P2 Full	2	2	24.3	LOS C	0.0	0.0	0.90	0.90	178.1	200.0	1.12
North: Cessno	ck Road										
P3 Full	6	6	24.3	LOS C	0.0	0.0	0.90	0.90	178.2	200.0	1.12
West: Vintage	Drive										
P4 Full	1	1	24.3	LOS C	0.0	0.0	0.90	0.90	178.1	200.0	1.12
All Pedestrians	15	16	24.3	LOSC	0.0	0.0	0.90	0.90	178.2	200.0	1.12

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Project: P:\P5924 Gillieston Public School RTA and TPS\Technical\Models\P5924.001S Gillieston Public School RTA.sip9

Site: 101 [2036 Design PM (Site Folder: Cessnock Road / Vintage Drive)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

P5924

Gillieston Public School Cessnock Rd/Vintage Dr Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 60 seconds (Site Practical Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance Mov Turn Mov Demand Arrival Deg. Aver. Level of 95% Back Of Prop. Eff. Aver. Aver.															
Mov ID	Turn	Mov Class	FI	lows HV]		ows	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% B Que [Veh. veh		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South	: Cess	nock Roa	ad												
1	L2	All MCs	58	5.0	58	5.0	0.588	19.1	LOS B	10.9	81.0	0.80	0.72	0.80	42.2
2	T1	All MCs	927	7.0	927	7.0	0.588	13.5	LOS B	11.0	81.5	0.80	0.71	0.80	48.9
3	R2	All MCs	19	0.0	19	0.0	0.102	33.6	LOS C	0.5	3.8	0.94	0.69	0.94	35.7
Appro	ach		1004	6.8	1004	6.8	0.588	14.2	LOS B	11.0	81.5	0.80	0.71	0.80	48.2
East:	Saddle	ers Drive													
4	L2	All MCs	21	15.0	21	15.0	0.115	21.2	LOS C	1.0	7.2	0.85	0.68	0.85	38.6
5	T1	All MCs	18	0.0	18	0.0	0.115	28.3	LOS C	1.0	7.2	0.85	0.68	0.85	34.6
6	R2	All MCs	106	0.0	106	0.0	* 0.511	33.5	LOS C	3.2	22.1	0.98	0.77	0.98	35.5
Appro	ach		145	2.2	145	2.2	0.511	31.1	LOS C	3.2	22.1	0.95	0.75	0.95	35.8
North	Cess	nock Roa	ıd												
7	L2	All MCs	195	1.0	195	1.0	0.741	21.8	LOS C	16.2	116.3	0.89	0.84	0.94	42.1
8	T1	All MCs	1067	4.0	1067	4.0	* 0.741	16.2	LOS B	16.3	118.2	0.89	0.83	0.94	46.9
9	R2	All MCs	96	6.0	96	6.0	* 0.538	35.9	LOS D	2.9	21.5	0.99	0.78	1.03	31.7
Appro	ach		1358	3.7	1358	3.7	0.741	18.4	LOS B	16.3	118.2	0.89	0.83	0.94	45.0
West:	Vinta	ge Drive													
10	L2	All MCs	52	17.0	52	17.0	0.228	22.0	LOS C	2.0	15.9	0.86	0.72	0.86	35.6
11	T1	All MCs	29	6.0	29	6.0	0.228	29.5	LOS C	2.0	15.9	0.86	0.72	0.86	34.5
12	R2	All MCs	104	0.0	104	0.0	0.434	32.1	LOS C	3.0	21.0	0.96	0.77	0.96	32.8
Appro	ach		185	5.7	185	5.7	0.434	28.9	LOS C	3.0	21.0	0.92	0.75	0.92	33.8
All Ve	hicles		2693	4.9	2693	4.9	0.741	18.2	LOS B	16.3	118.2	0.86	0.77	0.89	44.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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

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Travel Aver.	Travel	Eff.	Prop.	BACK OF	AVERAGE	Level of	Aver.	Dem.	Input	1ov
Dist. Speed	Time	Stop Rate	Que	EUE Dist]	QU [Ped	Service	Delay	Flow	Vol.) Crossing
m m/sec	sec			m	ped		sec	ped/h	ped/h	
	sec			m	ped		sec			outh: Cessno

P1 Full	6	6	24.3	LOS C	0.0	0.0	0.90	0.90	178.2	200.0	1.12
East: Saddlers	Drive										
P2 Full	2	2	24.3	LOS C	0.0	0.0	0.90	0.90	178.1	200.0	1.12
North: Cessno	ck Road										
P3 Full	6	6	24.3	LOS C	0.0	0.0	0.90	0.90	178.2	200.0	1.12
West: Vintage	Drive										
P4 Full	1	1	24.3	LOS C	0.0	0.0	0.90	0.90	178.1	200.0	1.12
All Pedestrians	15	16	24.3	LOSC	0.0	0.0	0.90	0.90	178.2	200.0	1.12

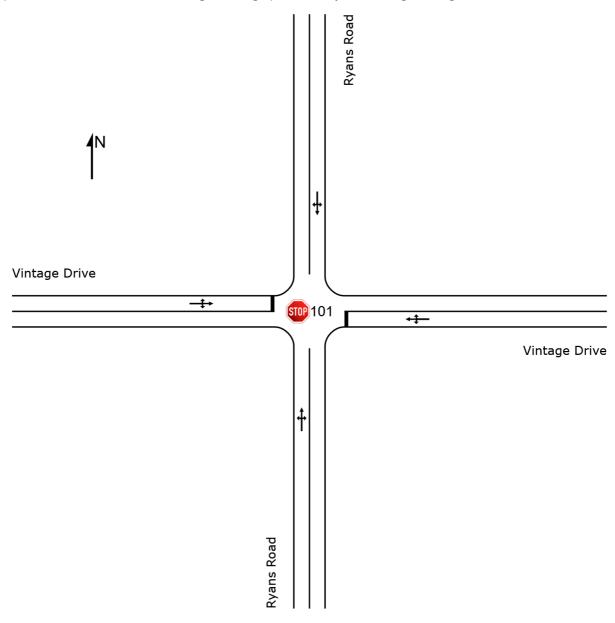
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SITE LAYOUT

Site: 101 [2026 BG+SD AM (Site Folder: Ryans Road / Vintage Drive)]

P5924 Gillieston Public School Ryans Road / Vintage Drive Site Category: (None) Stop (Two-Way)

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



🚋 Site: 101 [2026 BG+SD AM (Site Folder: Ryans Road / Vintage

Drive)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

P5924 Gillieston Public School Ryans Road / Vintage Drive Site Category: (None) Stop (Two-Way)

Vehic	cle Mo	ovement	Performa	nce									
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %	Arrival Flows [Total HV] veh/h %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Ba Que [Veh. veh		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South	: Ryar	ns Road											
1	L2	All MCs	1 0.0	1 0.0	0.030	4.8	LOSA	0.1	0.9	0.20	0.49	0.20	45.2
2	T1	All MCs	3 0.0	3 0.0	0.030	0.3	LOSA	0.1	0.9	0.20	0.49	0.20	46.1
3	R2	All MCs	45 0.0	45 0.0	0.030	4.8	LOSA	0.1	0.9	0.20	0.49	0.20	43.3
Appro	ach		49 0.0	49 0.0	0.030	4.5	NA	0.1	0.9	0.20	0.49	0.20	43.5
East:	Vintag	je Drive											
4	L2	All MCs	24 25.0	24 25.0	0.158	8.4	LOSA	0.6	4.4	0.15	0.92	0.15	41.2
5	T1	All MCs	2 ¹⁰⁰ . 0	2 ^{100.} 0	0.158	12.9	LOS B	0.6	4.4	0.15	0.92	0.15	41.1
6	R2	All MCs	123 0.0	123 0.0	0.158	7.7	LOSA	0.6	4.4	0.15	0.92	0.15	41.7
Appro	ach		149 5.5	149 5.5	0.158	7.9	LOSA	0.6	4.4	0.15	0.92	0.15	41.6
North	: Ryan	s Road											
7	L2	All MCs	88 3.0	88 3.0	0.055	4.6	LOSA	0.0	0.1	0.00	0.47	0.00	44.5
8	T1	All MCs	11 0.0	11 0.0	0.055	0.0	LOSA	0.0	0.1	0.00	0.47	0.00	46.8
9	R2	All MCs	1 0.0	1 0.0	0.055	4.6	LOSA	0.0	0.1	0.00	0.47	0.00	45.7
Appro	ach		100 2.7	100 2.7	0.055	4.1	NA	0.0	0.1	0.00	0.47	0.00	44.8
West	Vintag	ge Drive											
10	L2	All MCs	1 0.0	1 0.0	0.012	7.4	LOSA	0.0	0.4	0.11	1.09	0.11	43.7
11	T1	All MCs	8 43.0	8 43.0	0.012	10.1	LOS B	0.0	0.4	0.11	1.09	0.11	41.7
12	R2	All MCs	1 0.0	1 0.0	0.012	7.4	LOSA	0.0	0.4	0.11	1.09	0.11	43.3
Appro	ach		11 34.4	11 34.4	0.012	9.6	LOSA	0.0	0.4	0.11	1.09	0.11	42.1
All Ve	hicles		309 4.7	309 4.7	0.158	6.2	NA	0.6	4.4	0.11	0.71	0.11	42.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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

page Site: 101 [2026 Design AM (Site Folder: Ryans Road /

Vintage Drive)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

P5924 Gillieston Public School Ryans Road / Vintage Drive Site Category: (None) Stop (Two-Way)

Vehi	cle Mo	ovement	: Performa	nce									
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %	Flows [Total HV]	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% B Que [Veh. veh		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South	ı: Ryar	ns Road											
1	L2	All MCs	1 0.0	1 0.0	0.034	4.9	LOSA	0.1	1.0	0.19	0.30	0.19	46.5
2	T1	All MCs	29 0.0	29 0.0	0.034	0.2	LOSA	0.1	1.0	0.19	0.30	0.19	47.5
3	R2	All MCs	29 0.0	29 0.0	0.034	4.9	LOSA	0.1	1.0	0.19	0.30	0.19	44.9
Appro	ach		60 0.0	60 0.0	0.034	2.6	NA	0.1	1.0	0.19	0.30	0.19	46.3
East:	Vintag	je Drive											
4	L2	All MCs	24 25.0	24 25.0	0.178	8.4	LOSA	0.7	5.1	0.17	0.91	0.17	41.1
5	T1	All MCs	2 ^{100.} 0	_	0.178	13.2	LOS B	0.7	5.1	0.17	0.91	0.17	41.0
6	R2	All MCs	139 0.0	139 0.0	0.178	7.8	LOSA	0.7	5.1	0.17	0.91	0.17	41.6
Appro	ach		165 4.9	165 4.9	0.178	8.0	LOSA	0.7	5.1	0.17	0.91	0.17	41.6
North	: Ryan	s Road											
7	L2	All MCs	102 3.0	102 3.0	0.062	4.6	LOSA	0.0	0.1	0.00	0.48	0.00	44.5
8	T1	All MCs	11 0.0	11 0.0	0.062	0.0	LOSA	0.0	0.1	0.00	0.48	0.00	46.7
9	R2	All MCs	1 0.0	1 0.0	0.062	4.6	LOSA	0.0	0.1	0.00	0.48	0.00	45.7
Appro	ach		114 2.7	114 2.7	0.062	4.2	NA	0.0	0.1	0.00	0.48	0.00	44.7
West	Vinta	ge Drive											
10	L2	All MCs	1 0.0	1 0.0	0.013	7.5	LOSA	0.0	0.4	0.24	1.01	0.24	43.8
11	T1	All MCs	8 43.0	8 43.0	0.013	10.3	LOS B	0.0	0.4	0.24	1.01	0.24	41.8
12	R2	All MCs	1 0.0	1 0.0	0.013	7.4	LOSA	0.0	0.4	0.24	1.01	0.24	43.4
Appro	ach		11 34.4	11 34.4	0.013	9.7	LOSA	0.0	0.4	0.24	1.01	0.24	42.2
All Ve	hicles		349 4.2	349 4.2	0.178	5.9	NA	0.7	5.1	0.12	0.67	0.12	43.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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

Site: 101 [2036 BG+SD AM (Site Folder: Ryans Road /

Vintage Drive)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

P5924 Gillieston Public School Ryans Road / Vintage Drive Site Category: (None) Stop (Two-Way)

Vehic	cle Mo	ovement	: Performa	nce									
Mov ID	Turn	Mov Class		Arrival Flows [Total HV] veh/h %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% B Que [Veh. veh		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South	: Ryar	ns Road											
1	L2	All MCs	1 0.0	1 0.0	0.032	5.0	LOSA	0.1	1.0	0.24	0.49	0.24	45.2
2	T1	All MCs	4 0.0	4 0.0	0.032	0.4	LOSA	0.1	1.0	0.24	0.49	0.24	46.1
3	R2	All MCs	46 0.0	46 0.0	0.032	4.9	LOSA	0.1	1.0	0.24	0.49	0.24	43.2
Appro	ach		52 0.0	52 0.0	0.032	4.6	NA	0.1	1.0	0.24	0.49	0.24	43.5
East:	Vintag	e Drive											
4	L2	All MCs	25 25.0	25 25.0	0.210	8.5	LOSA	0.8	6.1	0.20	0.90	0.20	41.1
5	T1	All MCs	3 100. 0	3 100. 0	0.210	13.3	LOS B	0.8	6.1	0.20	0.90	0.20	41.0
6	R2	All MCs	163 0.0	163 0.0	0.210	7.9	LOSA	0.8	6.1	0.20	0.90	0.20	41.6
Appro	ach		192 4.9	192 4.9	0.210	8.1	LOSA	8.0	6.1	0.20	0.90	0.20	41.5
North	: Ryan	s Road											
7	L2	All MCs	119 3.0	119 3.0	0.074	4.6	LOSA	0.0	0.1	0.00	0.47	0.00	44.5
8	T1	All MCs	15 0.0	15 0.0	0.074	0.0	LOSA	0.0	0.1	0.00	0.47	0.00	46.8
9	R2	All MCs	1 0.0	1 0.0	0.074	4.6	LOSA	0.0	0.1	0.00	0.47	0.00	45.8
Appro	ach		135 2.6	135 2.6	0.074	4.1	NA	0.0	0.1	0.00	0.47	0.00	44.8
West:	Vintag	ge Drive											
10	L2	All MCs	1 0.0	1 0.0	0.017	7.4	LOSA	0.1	0.5	0.15	1.07	0.15	43.6
11	T1	All MCs	12 43.0	12 43.0	0.017	10.4	LOS B	0.1	0.5	0.15	1.07	0.15	41.6
12	R2	All MCs	1 0.0	1 0.0	0.017	7.4	LOSA	0.1	0.5	0.15	1.07	0.15	43.2
Appro	ach		14 36.4	14 36.4	0.017	10.0	LOSA	0.1	0.5	0.15	1.07	0.15	41.9
All Ve	hicles		392 4.6	392 4.6	0.210	6.3	NA	0.8	6.1	0.14	0.70	0.14	42.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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

🚋 Site: 101 [2036 Design AM (Site Folder: Ryans Road / Vintage

Drive)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

P5924 Gillieston Public School Ryans Road / Vintage Drive Site Category: (None) Stop (Two-Way)

Vehi	cle M	ovement	Performa	nce									
Mov ID	Turn	Mov Class		Arrival Flows [Total HV] veh/h %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% B Que [Veh. veh		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South	ı: Ryaı	ns Road											
1	L2	All MCs	1 0.0	1 0.0	0.036	5.0	LOSA	0.2	1.1	0.22	0.32	0.22	46.4
2	T1	All MCs	31 0.0	31 0.0	0.036	0.3	LOSA	0.2	1.1	0.22	0.32	0.22	47.4
3	R2	All MCs	31 0.0	31 0.0	0.036	5.0	LOSA	0.2	1.1	0.22	0.32	0.22	44.8
Appro	oach		62 0.0	62 0.0	0.036	2.7	NA	0.2	1.1	0.22	0.32	0.22	46.2
East:	Vintag	ge Drive											
4	L2	All MCs	25 25.0	25 25.0	0.234	8.5	LOSA	1.0	7.0	0.22	0.89	0.22	41.0
5	T1	All MCs	3 ¹⁰⁰ .	•	0.234	13.6	LOS B	1.0	7.0	0.22	0.89	0.22	40.9
6	R2	All MCs	181 0.0	181 0.0	0.234	8.1	LOSA	1.0	7.0	0.22	0.89	0.22	41.5
Appro	oach		209 4.5	209 4.5	0.234	8.2	LOSA	1.0	7.0	0.22	0.89	0.22	41.4
North	: Ryar	s Road											
7	L2	All MCs	133 3.0	133 3.0	0.081	4.6	LOSA	0.0	0.1	0.00	0.48	0.00	44.5
8	T1	All MCs	15 0.0	15 0.0	0.081	0.0	LOSA	0.0	0.1	0.00	0.48	0.00	46.8
9	R2	All MCs	1 0.0	1 0.0	0.081	4.6	LOSA	0.0	0.1	0.00	0.48	0.00	45.7
Appro	oach		148 2.7	148 2.7	0.081	4.1	NA	0.0	0.1	0.00	0.48	0.00	44.8
West	: Vinta	ge Drive											
10	L2	All MCs	1 0.0	1 0.0	0.017	7.5	LOSA	0.1	0.6	0.28	1.01	0.28	43.7
11	T1	All MCs	12 43.0	12 43.0	0.017	10.6	LOS B	0.1	0.6	0.28	1.01	0.28	41.7
12	R2	All MCs	1 0.0	1 0.0	0.017	7.5	LOSA	0.1	0.6	0.28	1.01	0.28	43.3
Appro	ach		14 36.4	14 36.4	0.017	10.1	LOS B	0.1	0.6	0.28	1.01	0.28	42.0
All Ve	hicles		434 4.3	434 4.3	0.234	6.1	NA	1.0	7.0	0.15	0.67	0.15	43.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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

🚋 Site: 101 [2026 BG+SD PM (Site Folder: Ryans Road / Vintage

Drive)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

P5924 Gillieston Public School Ryans Road / Vintage Drive Site Category: (None) Stop (Two-Way)

Vehic	cle Mo	ovement	: Perform	ance									
Mov ID	Turn	Mov Class		Flow [Total HV	s Satn	Aver. Delay sec	Level of Service		Back Of ueue Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South	ı: Ryar	ns Road											
1	L2	All MCs	1 0.0	1 0.	0.017	4.8	LOSA	0.1	0.5	0.18	0.42	0.18	45.7
2	T1	All MCs	6 0.0	6 0.	0.017	0.2	LOSA	0.1	0.5	0.18	0.42	0.18	46.7
3	R2	All MCs	21 0.0	21 0.	0.017	4.8	LOSA	0.1	0.5	0.18	0.42	0.18	43.9
Appro	ach		28 0.0	28 0.	0.017	3.8	NA	0.1	0.5	0.18	0.42	0.18	44.7
East:	Vintag	je Drive											
4	L2	All MCs	60 0.0	60 0.	0.139	7.5	LOSA	0.5	3.9	0.09	0.95	0.09	41.7
5	T1	All MCs	8 57.0	8 57.	0.139	10.4	LOS B	0.5	3.9	0.09	0.95	0.09	41.8
6	R2	All MCs	80 0.0	80 0.	0.139	7.6	LOSA	0.5	3.9	0.09	0.95	0.09	41.8
Appro	ach		148 3.2	148 3.	2 0.139	7.7	LOSA	0.5	3.9	0.09	0.95	0.09	41.7
North	: Ryan	s Road											
7	L2	All MCs	76 3.0	76 3.	0.047	4.6	LOSA	0.0	0.1	0.00	0.48	0.00	44.4
8	T1	All MCs	8 14.0	8 14.	0.047	0.0	LOSA	0.0	0.1	0.00	0.48	0.00	46.7
9	R2	All MCs	1 0.0	1 0.	0.047	4.6	LOSA	0.0	0.1	0.00	0.48	0.00	45.7
Appro	ach		85 4.0	85 4.	0.047	4.1	NA	0.0	0.1	0.00	0.48	0.00	44.7
West:	Vinta	ge Drive											
10	L2	All MCs	1 0.0	1 0.	0.025	7.5	LOSA	0.1	0.7	0.17	1.04	0.17	43.9
11	T1	All MCs	21 28.0	21 28.	0.025	9.1	LOSA	0.1	0.7	0.17	1.04	0.17	42.2
12	R2	All MCs	1 0.0	1 0.	0.025	7.5	LOSA	0.1	0.7	0.17	1.04	0.17	43.5
Appro	ach		23 25.5	23 25.	5 0.025	8.9	LOSA	0.1	0.7	0.17	1.04	0.17	42.4
All Ve	hicles		285 5.0	285 5.	0 0.139	6.3	NA	0.5	3.9	0.08	0.76	0.08	42.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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

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Site: 101 [2026 Design PM (Site Folder: Ryans Road /

Vintage Drive)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

P5924 Gillieston Public School Ryans Road / Vintage Drive Site Category: (None) Stop (Two-Way)

Vehic	cle Mo	ovement	Performa	nce									
Mov ID	Turn	Mov Class		Arrival Flows [Total HV] veh/h %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% B Que [Veh. veh		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South	ı: Ryar	ns Road											
1	L2	All MCs	1 0.0	1 0.0	0.017	4.9	LOSA	0.1	0.5	0.23	0.42	0.23	45.6
2	T1	All MCs	6 0.0	6 0.0	0.017	0.3	LOSA	0.1	0.5	0.23	0.42	0.23	46.5
3	R2	All MCs	21 0.0	21 0.0	0.017	4.9	LOSA	0.1	0.5	0.23	0.42	0.23	43.7
Appro	ach		28 0.0	28 0.0	0.017	3.9	NA	0.1	0.5	0.23	0.42	0.23	44.5
East:	Vintag	je Drive											
4	L2	All MCs	34 0.0	34 0.0	0.140	7.6	LOSA	0.5	3.8	0.21	0.91	0.21	41.7
5	T1	All MCs	8 57.0	8 57.0	0.140	10.7	LOS B	0.5	3.8	0.21	0.91	0.21	41.8
6	R2	All MCs	94 0.0	94 0.0	0.140	7.8	LOSA	0.5	3.8	0.21	0.91	0.21	41.7
Appro	ach		136 3.5	136 3.5	0.140	7.9	LOSA	0.5	3.8	0.21	0.91	0.21	41.7
North	: Ryan	s Road											
7	L2	All MCs	91 3.0	91 3.0	0.070	4.6	LOSA	0.0	0.1	0.00	0.39	0.00	45.0
8	T1	All MCs	35 14.0	35 14.0	0.070	0.0	LOSA	0.0	0.1	0.00	0.39	0.00	47.3
9	R2	All MCs	1 0.0	1 0.0	0.070	4.6	LOSA	0.0	0.1	0.00	0.39	0.00	46.1
Appro	ach		126 6.0	126 6.0	0.070	3.3	NA	0.0	0.1	0.00	0.39	0.00	45.7
West:	Vinta	ge Drive											
10	L2	All MCs	1 0.0	1 0.0	0.026	7.5	LOSA	0.1	0.8	0.20	1.03	0.20	43.8
11	T1	All MCs	21 28.0	21 28.0	0.026	9.4	LOSA	0.1	0.8	0.20	1.03	0.20	42.1
12	R2	All MCs	1 0.0	1 0.0	0.026	7.5	LOSA	0.1	0.8	0.20	1.03	0.20	43.4
Appro	ach		23 25.5	23 25.5	0.026	9.2	LOSA	0.1	0.8	0.20	1.03	0.20	42.2
All Ve	hicles		314 5.8	314 5.8	0.140	5.8	NA	0.5	3.8	0.12	0.66	0.12	43.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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

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🧓 Site: 101 [2036 BG+SD PM (Site Folder: Ryans Road / Vintage

Drive)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

P5924 Gillieston Public School Ryans Road / Vintage Drive Site Category: (None) Stop (Two-Way)

Vehic	cle Mo	ovement	Performa	nce									
Mov ID	Turn	Mov Class		Arrival Flows [Total HV] veh/h %	Deg. Satn v/c	Aver. Delay sec	Level of Service		ack Of eue Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South	ı: Ryar	ns Road											
1	L2	All MCs	1 0.0	1 0.0	0.017	4.9	LOSA	0.1	0.5	0.22	0.42	0.22	45.6
2	T1	All MCs	6 0.0	6 0.0	0.017	0.3	LOSA	0.1	0.5	0.22	0.42	0.22	46.6
3	R2	All MCs	21 0.0	21 0.0	0.017	4.9	LOSA	0.1	0.5	0.22	0.42	0.22	43.8
Appro	ach		28 0.0	28 0.0	0.017	3.9	NA	0.1	0.5	0.22	0.42	0.22	44.6
East:	Vintag	je Drive											
4	L2	All MCs	64 0.0	64 0.0	0.171	7.5	LOSA	0.7	5.0	0.12	0.93	0.12	41.6
5	T1	All MCs	12 57.0	12 57.0	0.171	10.6	LOS B	0.7	5.0	0.12	0.93	0.12	41.7
6	R2	All MCs	100 0.0	100 0.0	0.171	7.8	LOSA	0.7	5.0	0.12	0.93	0.12	41.7
Appro	ach		176 3.8	176 3.8	0.171	7.9	LOSA	0.7	5.0	0.12	0.93	0.12	41.7
North	: Ryan	s Road											
7	L2	All MCs	102 3.0	102 3.0	0.064	4.6	LOSA	0.0	0.1	0.00	0.48	0.00	44.4
8	T1	All MCs	12 14.0	12 14.0	0.064	0.0	LOSA	0.0	0.1	0.00	0.48	0.00	46.7
9	R2	All MCs	2 0.0	2 0.0	0.064	4.6	LOSA	0.0	0.1	0.00	0.48	0.00	45.7
Appro	ach		116 4.0	116 4.0	0.064	4.1	NA	0.0	0.1	0.00	0.48	0.00	44.7
West:	Vinta	ge Drive											
10	L2	All MCs	1 0.0	1 0.0	0.035	7.5	LOSA	0.1	1.1	0.21	1.02	0.21	43.9
11	T1	All MCs	28 28.0	28 28.0	0.035	9.3	LOSA	0.1	1.1	0.21	1.02	0.21	42.1
12	R2	All MCs	2 0.0	2 0.0	0.035	7.6	LOSA	0.1	1.1	0.21	1.02	0.21	43.5
Appro	ach		32 25.2	32 25.2	0.035	9.1	LOSA	0.1	1.1	0.21	1.02	0.21	42.3
All Ve	hicles		352 5.5	352 5.5	0.171	6.4	NA	0.7	5.0	0.10	0.75	0.10	42.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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

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Project: P:\P5924 Gillieston Public School RTA and TPS\Technical\Models\P5924.001S Gillieston Public School RTA.sip9

Site: 101 [2036 Design PM (Site Folder: Ryans Road /

Vintage Drive)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

P5924 Gillieston Public School Ryans Road / Vintage Drive Site Category: (None) Stop (Two-Way)

Vehic	cle Mo	ovement	Perform											
Mov ID	Turn	Mov Class	Demano Flow [Total HV veh/h %	s F	rival lows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service		Back Of ueue Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South	ı: Ryar	ns Road												
1	L2	All MCs	1 0.0) 1	0.0	0.017	5.0	LOSA	0.1	0.6	0.26	0.43	0.26	45.5
2	T1	All MCs	6 0.0) 6	0.0	0.017	0.4	LOS A	0.1	0.6	0.26	0.43	0.26	46.4
3	R2	All MCs	21 0.0) 21	0.0	0.017	5.0	LOSA	0.1	0.6	0.26	0.43	0.26	43.6
Appro	ach		28 0.0	28	0.0	0.017	4.0	NA	0.1	0.6	0.26	0.43	0.26	44.4
East:	Vintag	e Drive												
4	L2	All MCs	38 0.0	38	0.0	0.174	7.6	LOSA	0.7	4.9	0.23	0.90	0.23	41.6
5	T1	All MCs	12 57.0) 12	57.0	0.174	10.9	LOS B	0.7	4.9	0.23	0.90	0.23	41.7
6	R2	All MCs	114 0.0) 114	0.0	0.174	8.0	LOSA	0.7	4.9	0.23	0.90	0.23	41.6
Appro	ach		163 4.0	163	4.0	0.174	8.1	LOSA	0.7	4.9	0.23	0.90	0.23	41.6
North	: Ryan	s Road												
7	L2	All MCs	119 3.0) 119	3.0	0.088	4.6	LOSA	0.0	0.1	0.00	0.41	0.00	44.9
8	T1	All MCs	38 14.0	38	14.0	0.088	0.0	LOSA	0.0	0.1	0.00	0.41	0.00	47.2
9	R2	All MCs	2 0.0) 2	0.0	0.088	4.6	LOSA	0.0	0.1	0.00	0.41	0.00	46.0
Appro	ach		159 5.0	159	5.6	0.088	3.5	NA	0.0	0.1	0.00	0.41	0.00	45.5
West:	Vinta	ge Drive												
10	L2	All MCs	1 0.0) 1	0.0	0.037	7.5	LOSA	0.1	1.1	0.23	1.01	0.23	43.7
11	T1	All MCs	28 28.0	28	28.0	0.037	9.7	LOSA	0.1	1.1	0.23	1.01	0.23	42.0
12	R2	All MCs	2 0.0) 2	0.0	0.037	7.6	LOSA	0.1	1.1	0.23	1.01	0.23	43.3
Appro	ach		32 25.	2 32	25.2	0.037	9.4	LOSA	0.1	1.1	0.23	1.01	0.23	42.1
All Ve	hicles		382 6.	1 382	6.1	0.174	6.0	NA	0.7	4.9	0.14	0.67	0.14	43.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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

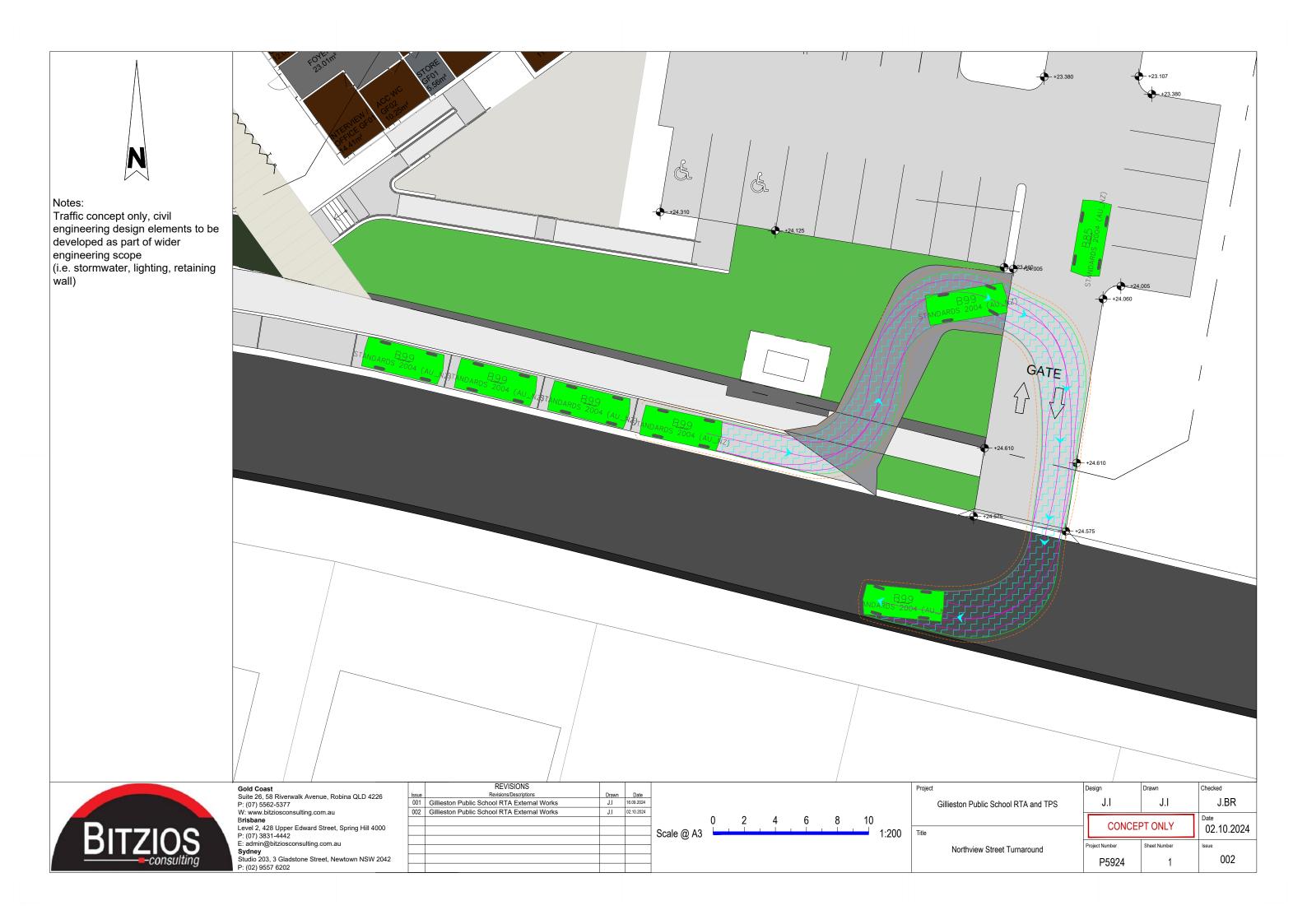
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Appendix E: Swept Paths









Notes:

Traffic concept only, civil engineering design elements to be developed as part of wider engineering scope (i.e. stormwater, lighting, retaining wall)



Option 1

Gillieston Road Bus Stop Road Widening

roject Number

P5924

002

Scale @ A3

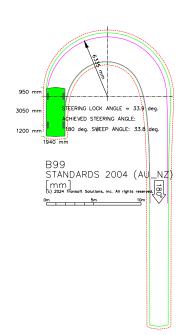


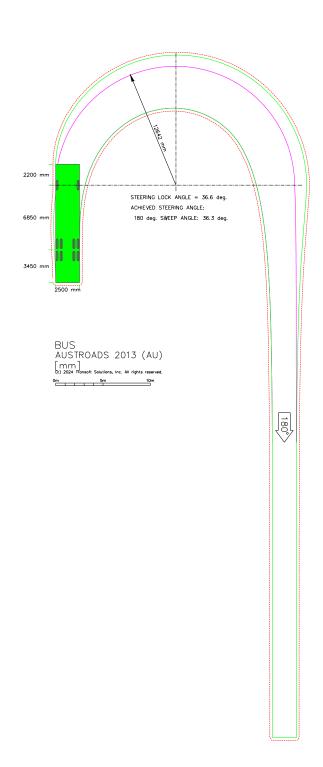
Sydney
Studio 203, 3 Gladstone Street, Newtown NSW 2042
P: (02) 9557 6202



Notes:

Traffic concept only, civil engineering design elements to be developed as part of wider engineering scope (i.e. stormwater, lighting, retaining wall)







Gold Coast
Suite 26, 58 Riverwalk Avenue, Robina QLD 4226
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W: www.bitziosconsulting.com.au
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Sydney
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P: (02) 9557 6202

	REVISIONS		
Issue	Revisions/Descriptions	Drawn	Date
001	Gillieston Public School RTA External Works	J.I	16.09.2024
002	Gillieston Public School RTA External Works	J.I	02.10.2024

			_					
	0	4	8	12	16	20		
Scale @ A3							1:400	
30dic @ 710							1.400	

Project		Design	Drawn	Checked
	Gillieston Public School RTA and TPS	J.I	J.I	J.BR
Title		CONCE	PT ONLY	Date 02.10.2024
	Turning Templates	Project Number	Sheet Number	Issue 002

Appendix F: School Travel Plan





Gillieston Public School

School Transport Plan



NSW Department of Education

17 January 2025



Gold Coast

Suite 26, 58 Riverwalk Avenue Robina QLD 4226

P: (07) 5562 5377

Brisbane

Level 2, 428 Upper Edward Street Spring Hill QLD 4000

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School Transport Plan: Gillieston Public School
Project: P5924 Version: 004

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1.Introduction

1.1 Background

The Gillieston Public School have been identified by the NSW Department of Education (DoE) as requiring redevelopment. The proposed Gillieston Public School redevelopment and new public preschool is driven by service need including increase in expected student enrolments and the and removing demountable structure and replacement with permanent teaching spaces.

The Gillieston Public School redevelopment and new public preschool comprises the following activity:

- Demolition and removal of existing temporary structures.
- Site preparation activities, including demolition, earthworks, tree removal.
- Construction of new:
 - 32 permanent general learning spaces and 3 support teaching spaces
 - Administration and staff hubs
 - Hall, canteen and library
 - Out of school hours care
 - Public preschool (standalone building for 60 places)
 - Covered Outdoor Learning Areas (COLAs)
 - Outdoor play areas, including games courts and yarning circle
 - New at-grade car parking
 - Extension of the existing drop-off / pick-up area and new bus bay
 - Realignment of the existing fencing
 - Associated stormwater infrastructure upgrades
 - Associated landscaping
 - Associated pedestrian and road upgrade activities

The Site is identified as 100 Ryans Road and 19 Northview Street, Gillieston Heights, legally described as Lot 51 DP 1162489 and Lot 2 DP1308605.

The Site is located within the Maitland Local Government Area (LGA) and is zoned RU2 Rural Landscape and R1 General Residential zone under the provisions of the Maitland Local Environmental Plan 2011 (MLEP2011).

Existing attributes of the subject site are noted as follows:

- The subject site exhibits an area of approximately 23,385m² and is located in the suburb of Gillieston Heights
- The subject site has a frontage to Ryans Road to the east, Gillieston Road to the north, and Northview Street to the south
- In its existing state, the subject site comprises the existing Gillieston Public School. Existing school buildings are primarily located in the west portion of the subject site with a large area of open space situated in the eastern portion. There are limited permanent structures located on the subject site with thirteen (13) existing demountable classrooms currently occupying the subject site. Permanent buildings consist of the Main Administration Building, Original Brick Cottage, Library and GLS building located in the centre of the subject site
- Carparking is provided from Gillieston Road for staff. Pedestrian access is available via this main entrance from Gillieston Road and via a separate pedestrian-only access gates on Northview Street and Ryans Road

The existing site context is shown in Figure 1.1 and Figure 1.2 below.



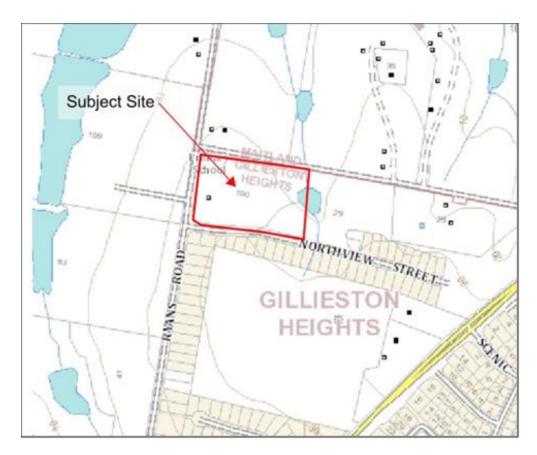


Figure 1.1: Cadastral Map (Source: NSW Spatial Viewer, 2024)



Figure 1.2: Site Aerial Map (Source: Near Map, 2024)



Bitzios Consulting (Bitzios) has been engaged by the NSW Department of Education to assist with the delivery of an upgrade to the Gillieston Public School (GPS). As part of this upgrade, Bitzios has prepared a School Travel Plan to assess the existing conditions for the subject site and provide a series of measures to promote safe, convenient and sustainable travel to the school GPS.

Purpose of a School Transport Plan

The School Transport Plan (STP) is a live document that is managed by a school travel coordinator which identifies strategies to increase safe travel to school. The aim being to deliver efficient, safe, and sustainable access to school during the planning, delivery, and operation of school assets.

1.2 About the School Transport Plan

This STP is a document that focusses on details for sustainable travel options to and from the school and proposes strategies to encourage the wider use of alternative transport.

This plan covers:

- GPS's transport facilities and conditions
- Current student and staff travel patterns
- Proposed green travel targets
- Proposed actions to achieve travel mode share targets.

This STP should be reviewed and updated annually to monitor progress towards targets and strategy successes.

The proposed methodology is outlined in Figure 1.3.

Step 1 - Understanding Existing Conditions

Background information is collected about the existing site, such as:

- Description of the area and the activity
- Public transport routes and facilities
- Active transport routes and facilities
- Existing travel patterns



Step 2 – Specifying Achievable Targets

Transport for New South Wales (TfNSW) Regional NSW Services and Infrastructure Plan & existing mode share data will be sourced to set mode share targets:

- Switching mode share from private vehicles to alternate transport modes
- Reducing vehicle-kilometres travelled.



Step 3 – Developing Actions

A range of actions are developed to meet the targets. These actions involve:

- Identifying measurable outcomes which demonstrate the aims of the plan have been met
- Developing methods to achieve these outcomes.



Step 4 – Monitoring and Revision

The plan is reviewed and updated annually.

Figure 1.3: STP Methodology



2. GPS TRANSPORT INCLUSIONS

2.1 GPS Transport Facilities

The GPS redevelopment seeks to improve facilities and accommodate the growing requirements of the educational providers.

The GPS upgrade project will include facilities for:

- Demolishing select existing structures
- Site preparation works, including demolition, earthworks, tree clearing
- Increased capacity of the School from approximately 339 to 1,012 students and a maximum of 69 staff
- Construction of:
 - 32 general learning spaces and 3 support teaching spaces
 - administration and staff hubs
 - hall, canteen and out of school hours care
 - library
 - public preschool
 - covered Outdoor Learning Areas (COLAs)
 - outdoor play areas, including games courts and yarning circle
 - new at grade parking
 - extension of the existing drop-off / pick-up area and bus bay
 - realignment of the existing fencing
 - associated stormwater infrastructure
 - associated landscaping
 - pedestrian and associated road upgrade activities to adjoining roads.

The pedestrian and vehicle access and parking areas are summarised below:

- Pedestrian 'front door' access will be retained on Northview Street but be relocated based on new building locations
- A new vehicular crossover on Gillieston Road to provide access to parking and servicing for the Public School
- A new vehicular crossover on Northview Street to provide access to parking for the pre-school with a temporary Kiss and Drop (KnD) exit connection (before future adjoining subdivision roads occur)
- A KnD facility is proposed to offset the need to provide dedicated parking spaces for student pick-up/drop-off purposes and is accessed via Northview Street. The KnD facility provides four (4) collection bays and queuing space for a further eight (8) vehicles.

The active and public transport considerations are summarised below:

- On-site bicycle parking is provided in a central location in the school
- A network of pathways and crossings provide connections to the surrounding residential areas.
 There are however some missing pathway links within the wider road network
- Eligible students can receive free or subsidised public transport travel to and from school through the School Student Transport Scheme (SSTS). The scheme is managed in the form of a paper bus pass and eligibility is dependent on the age and distance the student lives from school.

The site is serviced by both public and school bus services. These services are operated by Rover Coaches. Figure 2.1 shows the school bus routes for the GPS.



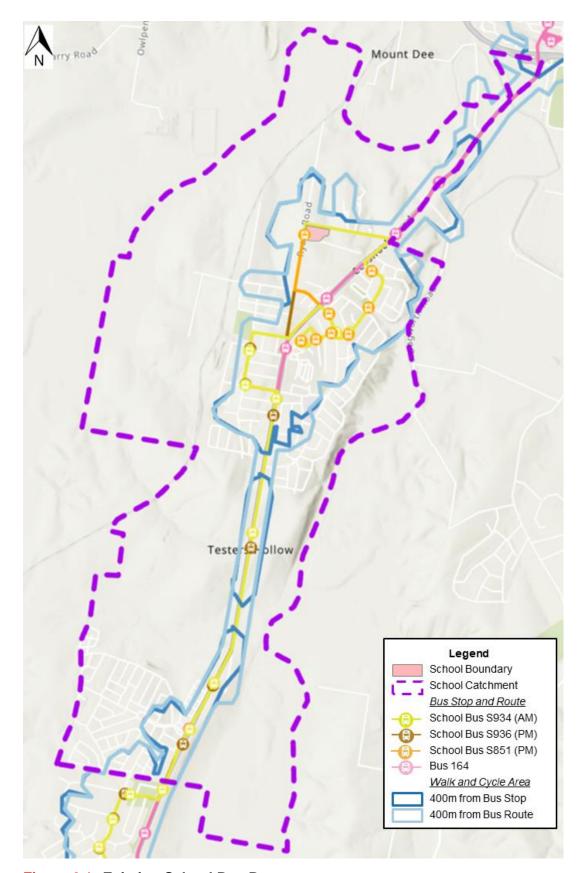


Figure 2.1: Existing School Bus Routes

The school bus services operate as hail 'n' ride, allowing students to get on the bus at any location along the route in lieu of bus stop infrastructure. Based on the information provided is noted regarding the bus services, 165 students (56%) live within 400m of an existing bus stop.



2.2 Catchment Analysis

Depersonalised student data provided by SINSW was used to determine the number of existing students within the school catchment and the number of existing students within key walk and ride catchments as shown in Figure 2.2.

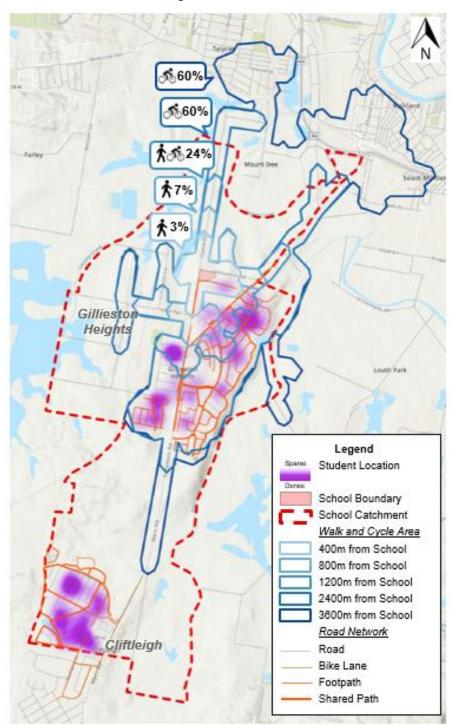


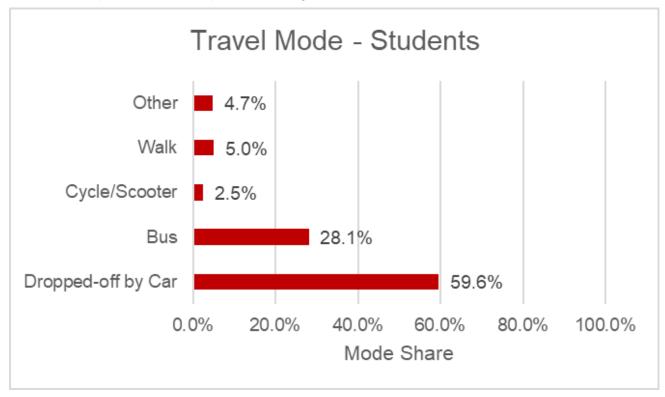
Figure 2.2: Student Catchment Analysis

Approximately 24% of students currently live within a 15-minute walking catchment and 60% live with a 15-minute ride catchment. It is noted the majority of student growth will be within the walk and cycle catchment, so the percentage of students able to walk/cycle will only increase over time.



2.3 Transport Mode Share

A student travel mode share survey was undertaken to determine the existing travel behaviours. The mode share split of students is provided in Figure 2.3.



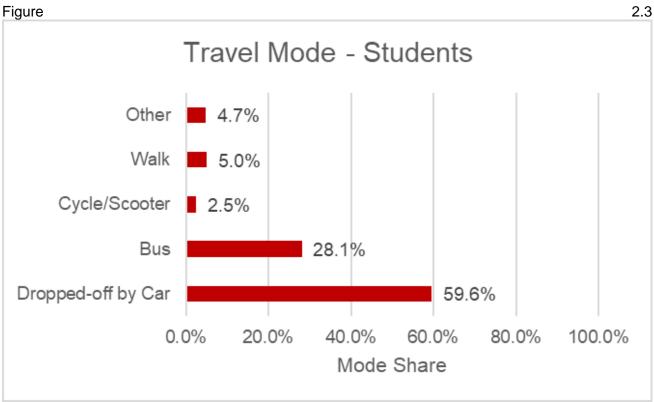


Figure 2.3: Student Travel Mode Share



As shown, the bus mode share is generally well used by students and is anticipated to increase with the activity, which includes improvements to bus operations through providing a new covered waiting/marshalling area in close proximity to the school's bus stop. This may support further increases in bus travel by making accessing this mode of travel easier and more comfortable. New operational arrangements may need to be facilitated through a Bus Operational Plan.

Active transport participation, particularly walking cycling, are also likely to increase given the residential activity occurring within the surrounding area that are within the walk/cycle catchment.

Information received from the school staff indicated that all staff travel to the site by car and there is limited alternate transport participation. Unlike students, staff are not employed based on their place of residence and do not have to live within the school's enrolment catchment. In turn, there may be no other transport options available for the entire trip from home to work and alternate modes of transport are not convenient. Based on listed staff home suburbs there is the potential to reduce car travel/parking demands through promoting carpooling.



3. Transport Policies, Objectives and Actions

3.1 Policy and Objectives

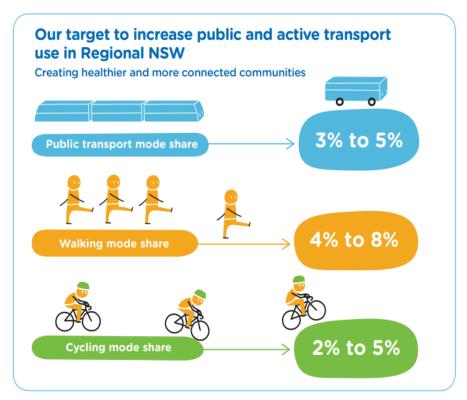
The overarching transport policy for the GPS is to "improve pedestrian and student safety". This will seek to increase participation in alternate transport modes, namely public and active transport, and increase daily physical activity which has a strong correlation to improved education results.

The SINSW STP *Practice Note* was used to adopt objectives specifically relevant for BHS and will drive the direction of the STP.

The 4 key pillars and objectives for school travel is summarised in Table 3.1.

Table 3.1:Transport Objectives

Safe	Efficient	Sustainable	Collaborative
To minimise pedestrian and vehicle conflict	To reduce local traffic congestion and parking impacts	To increase sustainable transport mode share to school	To identify opportunities to work with state and local government transport agencies
To identify and implement new transport and safety measures as required	To ensure required infrastructure and operations are delivered	To minimise car parking and kiss'n'drop provision on site	To share identified travel demand and transport opportunities early in the
	prior to occupancy	To integrate the school transport facilities within the nearby community	process



Source: Regional NSW Services and Infrastructure Plan

Figure 3.1: Regional NSW Mode Share Targets



3.2 Targets

The mode share targets for GPS have been developed considering the transport targets from the *Regional NSW Services and Infrastructure Plan* (2018), existing staff and student travel mode surveys, and the school catchment analysis. It is noted the staff mode share targets more relate to the regional targets and the student mode share targets have been derived from the catchment analysis. That is, mode shares targets are derived from the number of students forecasted to live within a walking catchment and within the cycling and bus catchments.

Table 3.2 details the future mode share targets for GPS.

Table 3.2: GPS Mode Share Targets

Travel Mode	Existing Mode Share	STP Mode Share Targets (2026 + 2036)		Change		
Staff						
Private Vehicle	99%	92%	82%	-7%%	-17%	
Car Pooling	1%	5%	10%	+4%	+9%	
Walking	-	2%	8%	+2%	+8%	
Cycling	-	2%	5%	+2%	+5%	
Bus	-	3%	5%	+3%	+5%	
Student						
Private Vehicle	59.6%	50%	45%	-10%	-15%	
Walking	5%	7%	8%	+2%	+3%	
Cycling/Scooter	2.5%	6%	8%	+3.5%	+6%	
Bus	28.1%	32%	35%	+4%	+7%	
Other*	5%	5%		-		

^{*}Other accounts for students travelling to/from school by outside of school car van/bus

3.3 Actions

3.3.1 Overview

Several actions proposed to achieve the transport objectives and mode share targets are provided below. There is likely to be other actions not mentioned in this document that could be implemented to achieve the transport objective.

As this document is intended to be 'live' and updated regularly, it is recommended that these actions be introduced at any time.



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3.3.2 Active and Public Transport

3.3.2.1 Student and Staff Bicycle/Scooter Parking

Bicycle/scooter/skateboard parking infrastructure for students is required to further encourage a modal shift away from private vehicles. Existing bicycle parking is provided on-site within a central location, and scooters are stored in a dedicated room within the school. In aiming to achieve the mode share targets outlined in Section 3.2, it is recommended consideration be given to additional dedicated storage for active transport, especially for scooter/skateboards to provide a minimum of 5 cycle/scooter parking racks.

In addition to student bicycle parking, it is recommended that staff bicycle parking spaces and end of trip facilities be implemented to cater for the potential cycle demand. Cycling routes and information should also be provided to staff, students, and parents to promote the use of additional bicycle parking facilities. The staff and student bicycle parking facilities should be provided in separate locations.

Monitor and Review

Monitor the usage of the existing bicycle/scooter parking facilities to understand the need for additional facilities to increase in cycling/scooting as a mode share.

Gain student and staff feedback on cycling/scooting and its facilities in an annual travel mode survey.



Figure 3.2: Example of Scooter/Skateboard Parking Facilities



3.3.2.2 Pathway and Crossing Facilities

The project proposes the following crossings upgrades:

- Provision of a wombat crossing on Ryan Road
- Provision of a children's crossing on Northview Street.

A footpath along the school site's frontage on Gillieston Road will also be provided in vicinity of the school bus stop and staff car park driveway.

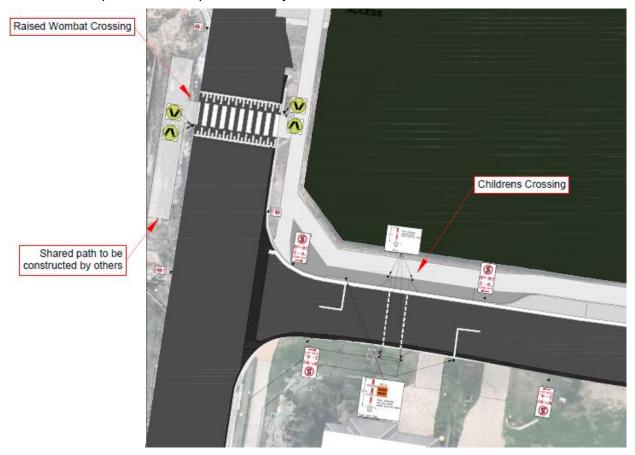


Figure 3.3: Active Transport Infrastructure Upgrade

activities are also being progressed (by others) to provide a shared path on the western side of Ryans Road and between Ryans Road and Cessnock Road.

In addition, there are potential other wider upgrades that would benefit both the school and wider community. Work is continuing in coordination with Maitland Council (Council) on pathways and crossing facilities surrounding the GPS to ensure connections meet the needs of the community and provide safe and convenient pathway connections for all type of users. This would include:

- A review of the post-opening state to record pedestrian and cycle/scooter movements surrounding GPS
- Identification of any new or unforeseen pedestrian desire lines as a result of the GPS upgrade and other nearby Council projects
- Identification of any barriers that inhibit safe travel by walking or cycling
- Recommend improvements to the active transport network to be incorporated into Council's active transport plan.



Aim:

- Encourage all users to engage in active travel by walking or cycling to/from the surrounding areas
- Reduce reliance on private vehicle usage, particularly for shorter local based trips.

Development:

- Review and record the condition and use of active transport network surrounding the site
- Identify treatments than can be incorporated into future activity plans or programs.

Measure:

Outcomes from active transport review and travel surveys.

Timing:

- Active transport facilities review within 3 months of GPS redevelopment opening
- Feedback on facilities 12 months from opening of GPS via the travel survey
- Upgrades to facilities following outcomes of STP reviews and available funding sources.

Monitor and Review

It is recommended that the usage of these additional facilities and any other key desire line are monitored by supervising staff and in an annual mode share survey as discussed in Section 4.

3.3.3 Bus Facility Improvements and Bus Operational Plan

With the proposed school upgrades there is an opportunity to improve bus operations through reduced dwell times with the proposed new building providing a more convenient and direct student bus passenger marshalling area.

It is recommended that Bus Operational Plan and working group be formed and should be responsible for the facilities and operational planning ready for day-of-opening of the upgrade.

While this process will be undertaken following REF approval, preliminary work by SINSW and TfNSW is beneficial to the bus planning process.

The bus operational plan is expected to include, but not be limited to the following:

- Develop a Bus Operations Plan and Reference Guide
- Bus Service information to be included on TfNSW's Journey Planner for all service providers
- GPS as well as public interface improvements via the School's and TfNSW's website
- Investigations in consultations with TfNSW and Council.

Monitor and Review

The working group should review the Bus Operational Plan to assess the ongoing bus route capacity, efficiency and service times including access and availability of information.



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3.3.4 Private Vehicles

3.3.4.1 Staff Carpooling Initiative

Staff carpooling can reduce the number of private vehicle trips by reducing the number of drivers and increasing the number of passengers. This could be undertaken informally (i.e. co-workers) or formally by online registers.

The School Travel Coordinator will monitor and assess the opportunity to introduce staff carpooling which will be implemented if feasible and if there is sufficient interest. A school-based carpooling register could assist in arranging staff carpooling initiatives. It is also recommended that dedicated car parking spaces for carpooling vehicles only are provided in a convenient location to further encourage staff to carpool.

As part of the carpooling initiative the following is recommended to be incorporated:

- Line-marked / signed dedicated parking spaces within the car park for carpool vehicles
- Incentives to staff parking areas for staff involved in the carpool initiative
- Provide a "Guaranteed Ride Home" arrangement with Taxi or rideshare operators to provide the ability for carpool users to return home in an emergency.

Aim:

- Encourage staff to carpool and reduce the total number of private vehicle trips
- Reduce private vehicle trips by increasing carpool mode share
- Reduce car parking demands and allows for cost sharing amongst staff.

Measure:

- Monitor staff level of awareness of carpooling initiative through the travel survey tool
- Monitor the staff carpooling usage to commute daily to GPS
- Review as part of routine utilisation survey.

Timing:

- Trial during the first 12 months of opening
- Review utilisation, uptake and feedback on carpool initiatives as part of travel surveys.

3.3.5 Communication Initiatives

Communication initiatives should outline GPS Green Travel actions. This includes marketing of active transport initiatives, such as the provision of cycle repair stations and location of bike parking, the surrounding active transport network, carpooling initiatives, surrounding public transport initiative and the potential trial for staff concession public transport cards.

3.3.5.1 Transport Access Guide

Provide all staff and students (including parents and guardians) with a Transport Access Guide information map. The map should also be available for staff, visitors and students to the GPS. The map should display information on public transport routes, bus stops, timetable, active transport infrastructure, and community transport providers, as well as referral for further information and related websites and smartphone applications.

A Travel Access Guide (TAG) should be provided to students upon enrolment and before the start of the school year to inform the available transport modes. The TAG summarises the school's location,



access locations, transport facilities and the most direct transport options. This document also provides links to other external information as required (i.e. bus route and timetable information).

Transport Access Guide information is to be clearly available to staff, patients and visitors via a variety of means, including:

- Workforce handbook and induction
- Travel access guide online

Aim:

- To provide easily accessible information on public and active transport modes to all staff, visitor and patients
- Encourage use of alternate modes of transport such as active transport and public transport
- Reduce reliance on private vehicle usage.

Measure:

- Confirm the distribution of the Transport Access Guide at staff induction
- Provide Access Guide Maps in common areas of the GPS for visitors and students
- Provide Access Guide Maps on the GPS website

Timing:

Commence prior to 'opening' in preparation and monitor annually.



Figure 3.4: Transport Access Guide - Example



3.3.5.2 Travel Plan Actions

The alternate transport initiatives provided by STP shall be clearly available particularly for staff. This should include location of on-site bicycle parking and end-of-trip facilities, provision and location of bicycle repair stations, public transport routes that service the GPS site, carpooling initiatives, healthy habits initiatives and also any additional action, such as the potential for public transport concession card for staff. The active transport, public transport and private vehicle existing mode share and mode share goals should also be available.

Transport Access Guide information to be clearly available to staff, patients and visitors via a variety of means, including:

- Workforce handbook and induction
- Monthly / semestral e-mails for all staff.

Measure:

- To provide easily accessible information on alternate transport initiatives for BHS staff
- Encourage use of alternate modes of transport such as active transport and public transport
- Reduce reliance on private vehicle usage.

Measure:

- Confirm the provision of 'School Travel Plan Actions' at staff induction
- Confirm the delivery of semestral internal e-mail with a link for the Travel Plan Actions at the GPS
- Survey the usage of the provided actions, such as bicycle parking, carpooling and public transport

Timing:

Commence upon opening and monitor annually.

3.3.5.3 Healthy Habits Initiatives

There are a number of 'healthy habits' initiatives that can promote the use of alternate transport modes. These initiatives have the potential to change staff and student travel behaviour in the medium / long term. A few examples of well-known healthy habit initiatives are:

- Car-Free Days (celebrated yearly on 22nd September encourages motorists to give up their cars for a day)
- StepTember, 10,000 Steps program or Pedometer Challenge (encourages participants to achieve 10,000 steps daily)
- Display motivational and informative posters / brochure about benefits of physical activity and tips on using active transport / public transport to commute daily.

Aim:

- Promote active transport as a practical mode of transport
- Increase the use of active transport and public transport for staff to commute to work
- Reduce the reliance in private vehicle usage

Measure:

- Monitor awareness of healthy habits initiatives through the travel survey tool
- Monitor active transport usage rates using travel survey tool.

Timing:

Commence upon opening and monitor annually.



4. MONITOR AND MANAGE TRAVEL DEMAND

4.1 Monitor School Travel Plan

An annual student and staff travel mode share survey undertaken by the School Travel Coordinator should be implemented to collect current data and assist in decision making. This data can be compared against the mode share targets identified in Section 3.2. The STP can be updated to align with the results of the mode share survey and potentially include additional actions. The annual student and staff travel mode share survey aims to gain feedback and provide realistic actions targeted specifically for GPS staff and students.

Communication between state and local government agencies will be required to collaborate policies where possible. Maitland Council (Council's) policies including the Pedestrian Access and Mobility Plan (PAMP) and Bike Plan could include the STP's actions to better integrate GPS transport facilities within the nearby community.

It is noted Council does not currently have a Bike Plan and could be beneficial in implementing strategies for the region and the school. The School Travel Coordinator will be required to submit progress reports to the Department of Planning, Infrastructure and Environment.

The following template can be used to accurately monitor and review actions annually.

Action Name (i.e. Staff Carpooling)				
Target Date				
Current Status				
Updates Required				
Revised Target				
Date for Review				



5. FUNDING ARRANGEMENTS

5.1 Potential Funding Opportunities

The available funding for active and public transport projects is reliant on Council's budget allocations and successful grant applications through State and Federal Government programs. Potential funding options include:

- SINSW Infrastructure Programs
- Collaborations with other State Government departments (e.g. TfNSW's Get Active grants and road safety improvements)
- Contributions and targeted infrastructure provided by other developments in the area
- Council's contributions retained from surrounding developments for transport and roads
- Planning Agreements
- Cycleway grants
- Commonwealth Government grants.

SI-NSW seeks to work proactively and collaboratively with both GPS and Council in promoting sustainable school travel outcomes. This includes the continued and ongoing implementation of improved transport infrastructure and operational policies and programs to meet the specific needs of the school.



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