

By email  
3 February 2026

314747-00J:\314000\314747-00 ROUSE HILL HOSPITAL

## **Rouse Hill Hospital - H124498**

We have provided the responses to all submissions as requested in TTPM-GCOR-001365 on the Traffic Works for SSDA Design for the new Rouse Hill Hospital (Corner of Commercial Road and Windsor Road, Rouse Hill). These are detailed in table in Attachment A.

Kind regards,

Bryony

**Bryony Dalton**  
Senior Planner

d +61 2 8236 2637

e [bryony.dalton@arup.com](mailto:bryony.dalton@arup.com)

Date

3 February 2026

---

## Attachment 1: RtS Table

Date Received	Comment No.	Comment	Arup Response
2-Dec-25	1	Hospitals typically operate with three shifts with overlap between them which can affect both the AM and PM peak periods (particularly around school hours). The TAIA appears to assume only two staff shifts, daytime and nighttime. Could you please confirm what the standard shift times and staffing numbers are during changeover?	<p>Table 8 does not assume that the hospital operates with only two staff shifts. The traffic assessment uses total daily staff numbers from the Schedule of Accommodation (SoA) together with daily arrival and departure profiles derived from surveys of comparable Sydney hospitals, which operate with multiple overlapping shifts. This methodology is described in Sections 4.3.2.1 and 4.3.2.2 and the resulting 24 hour staff profile is shown in Figure 22.</p> <p>Peak hour person trips for the road network assessment were obtained by applying this daily profile to identify the number of staff trips in the road network peak hours of 8:00 to 9:00 am and 4:45 to 5:45 pm. Table 8 simply summarises, for these peak hours only, the proportion of staff trips that are inbound and outbound, labelled as “daytime shift” and “nighttime shift” to indicate whether the predominant movement is staff starting or finishing duty.</p> <p>Staff movements associated with other shift changeovers that occur outside the defined AM and PM peak traffic hours are captured in the broader daily profiles and in the parking accumulation and departure curves in Figures 13 and 14. These do not materially influence the worst case peak hour traffic conditions that were modelled in SIDRA.</p>
	2	The TAIA calculates vehicle trips and parking demand based on some graphs. It is unclear how these graphs were derived, and no supporting evidence has been provided. The TAIA only notes that the graphs were developed using the SoA, project specific information from HI, and profile surveys from other Sydney hospitals. Could you please clarify the methodology and provide more detailed supporting information?	<p>The graphs referred to in the comment are derived from the first-principles demand model that underpins both the parking and traffic assessments. The key steps are summarised below.</p> <p><b>Staff demand</b></p> <p>For staff, the model starts from the projected Full Time Equivalent (FTE) staffing for the opening year. These positions are broken down into standard public hospital staff categories:</p> <ul style="list-style-type: none"> <li>- Nursing</li> <li>- Medical</li> <li>- Administration</li> <li>- Allied health or technical</li> <li>- Commercial or support services</li> </ul> <p>For each staff category, benchmark data from public hospital surveys is used to determine:</p> <ul style="list-style-type: none"> <li>- The proportion of staff who are typically on site on a weekday, and</li> <li>- The typical number of staff movements per day for that category.</li> </ul> <p>Applying these on-site ratios and movement rates to the FTE produces the total daily staff person trips (arrivals plus departures) that form the basis of the parking and traffic calculations.</p> <p><b>Patients and visitors</b></p> <p>Patients and visitors are derived from the Schedule of Accommodation (SoA) and the RHH PDC 23 Report (September 2024 infrastructure table), which specifies the indicative number of beds for 2031, 2031B and 2036.</p> <ul style="list-style-type: none"> <li>- Patients are grouped into the following types: <ul style="list-style-type: none"> <li>- Outpatients</li> <li>- Inpatients (non-casualty)</li> <li>- Casualty or Emergency Department patients</li> </ul> </li> </ul> <p>Benchmark percentages for each patient type are applied to the total bed numbers and indicative activity levels to estimate the number of patients of each type on a typical weekday and the associated daily arrivals and departures.</p> <p>Visitor demand is then estimated from the occupied bed numbers, based on an assumption of two vehicle trips per occupied bed per day. This is consistent with observed visitor behaviour at comparable Sydney hospitals and captures both arrivals and departures such as Concorde Hospital.</p> <p><b>Arrival and departure profiling</b></p> <p>To determine when these trips occur during the day, the model applies time-of-day profiles derived from previous traffic generation and arrival/departure profile surveys at comparable Sydney hospitals, including Concord, Westmead, Blacktown, Sutherland, St George and Prince of Wales Hospitals, as described in Sections 3.3.2.1 and 4.3.2.1 - 4.3.2.2 of the TAIA. These surveys provide hourly arrival and departure patterns for different staff types and for patients/visitors, which are normalised and applied to the SoA-based daily trip totals to generate the profiles shown in Figures 22 and 23.</p> <ul style="list-style-type: none"> <li>- Staff profiles are based on arrival and departure patterns for five categories of medical and non-medical staff.</li> <li>- A separate profile is used for patients and visitors.</li> <li>- Each staff, patient and visitor class is assigned a unique hourly arrival and departure profile that reflects observed behaviour for that class. These profiles are then used to: <ul style="list-style-type: none"> <li>- Convert daily person trips to hourly person trips across a 24 hour period, and</li> <li>- Identify the number of arrivals and departures in the AM and PM peak traffic hours.</li> </ul> </li> </ul> <p><b>How this produces the three figures</b></p> <p>Using the steps above, the model generates hourly parking and trip demands, which are then presented in the figures as follows:</p> <ul style="list-style-type: none"> <li>- Figure 1 – Daily parking demand for all users <p>This figure shows the combined parking accumulation curve for staff, patients and visitors. It is produced by accumulating the difference between arrivals and departures for all user groups in each hour of the day.</p> </li> <li>- Figure 2 – Daily parking demand for staff only <p>This figure repeats the same accumulation process as Figure 1, but includes only staff arrivals and departures. It isolates the contribution of staff to the overall parking peak.</p> </li> <li>- Figure 3 – Daily parking demand for patients and visitors only <p>This figure again uses the same method as Figure 1, but includes only patients and visitors. It shows the shape and magnitude of parking demand from non-staff users, separate from staff.</p> </li> </ul> <p>Council notes a discrepancy between the Northern Frame Precinct traffic assumed in the TAIA and the GPT Planning Proposal traffic report, and requests assessment of redistributed Northern Frame trips on Caddies Boulevard and Rouse Hill Drive.</p>
	3	Council notes a discrepancy between the Northern Frame Precinct traffic assumed in the TAIA and the GPT Planning Proposal traffic report, and requests assessment of redistributed Northern Frame trips on Caddies Boulevard and Rouse Hill Drive.	<p>The Northern Frame Precinct traffic included in the TAIA is based on the adopted Rouse Hill Precinct Plan (2023). Section 2.6.2 of the TAIA explains that, using the Precinct Plan dwelling and employment uptake for Area C and assuming linear growth to 2041, the Northern Frame Precinct is assumed to generate up to 172 peak hour vehicle trips in 2029 and 613 peak hour vehicle trips in 2039 within the modelled network.</p> <p>The trip generation figures cited from the GPT Rouse Hill Northern Precinct Master Plan Traffic Impact Assessment (AECOM, Revision E, 18 July 2024) represent the total two way vehicle trips generated by the full Northern Precinct at ultimate development (1,394 veh/h AM, 1,438 veh/h PM and 520 veh/h weekend), prior to spatial distribution across the road network and for a different land use program and horizon. These values are therefore not directly comparable to the background increments derived from the Precinct Plan and applied in the TAIA for the specific 2029 and 2039 assessment years.</p> <p>Importantly, the hospital proposal does not provide a vehicular connection from Hospital Road into the Northern Frame Precinct. Section 3.1 of the TAIA states that “the proposal does not include a connection from Hospital Road to the adjoining Northern Frame site to the east”, with Hospital Road operating as a private internal access road for the hospital campus only.</p> <p>As a result, the TAIA does not assume any Northern Frame traffic using Hospital Road in either the future without hospital or future with hospital scenarios. Trips generated by the Northern Frame Precinct are instead accommodated on the wider network via Commercial Road, Caddies Boulevard and Rouse Hill Drive, consistent with the Rouse Hill Precinct Plan and the GPT access strategy, and are already reflected in the background traffic adopted in the TAIA (Figures 20 and 21, Table 11).</p> <p>The SIDRA modelling shows that by 2039 key intersections on Windsor Road and Caddies Boulevard operate at or near capacity in the future background (without hospital) case, reflecting cumulative growth from the broader Rouse Hill Strategic Centre, including the Northern Frame Precinct. The additional traffic generated by the hospital represents a relatively small proportion of total flows and does not materially change the need for, or form of, the broader Windsor Road and Commercial Road / Caddies Boulevard upgrades being progressed by TfNSW, Council and GPT.</p> <p>Notwithstanding, Arup acknowledges the GPT Planning Proposal and associated traffic assessment. As the Northern Frame Precinct planning progresses, Arup will continue to liaise with TfNSW, Council and GPT to ensure ongoing consistency of background growth assumptions. If required by TfNSW or Council, further sensitivity testing using the GPT Northern Precinct trip generation can be undertaken to confirm the robustness of the TAIA conclusions.</p>
10/12/2025	4	<p><b>Trip Rates</b></p> <p>The TAIA needs to provide evidence as to how the parking and trips rates were derived.</p> <p>The report only provides sizes of site/development as shown below (Table 7). More detailed information needs to be provided to assist in understanding how the trips rates were derived and any assumption associated.</p>	Health Infrastructure has already provided Council with the proposed bed and staff approximations for the project. Arup has also outlined the methodology used to apply these bed and staff assumptions to derive the site’s trip generation and parking demand.
	5	<p><b>Mode Split Assumptions</b></p> <p>Evidence needs to be provided to support the mode split assumptions.</p> <p>The vehicle trips are derived from the mode share percentage (as below).</p>	Refer to response to comment 4

Type	Car (driver) mode share	Vehicle occupancy
Staff	<ul style="list-style-type: none"> <li>50% for daytime shift*</li> <li>95% for nighttime shift</li> </ul>	<ul style="list-style-type: none"> <li>1.09 for daytime shift</li> <li>1.0 for nighttime shift</li> </ul>
Patients	84%	1.0
Visitors	60%*	1.2

6 The staff trips rates for the shifts needs clarity. Hospitals typically have three shifts with overlap between them which can impact both the AM and PM peak (particularly with school hours). The TAlA needs to capture shift-change peaks and related parking accumulation and  
The 50% mode share for daytime staff is very low compared to:  
•Blacktown Hospital Stage 1 and 2 which used a mode split of 83–88% for staff.  
•ABS 2016 Census data for Rouse Hill–Beaumont Hills (SA2) of 88% (80% as driver and 8% as passenger)  
The 60% mode share for visitors are also not realistic based on Council experience, and 80% is considered a more appropriate assumption.  
Need to comment on 50% mode share

Refer to response to comment 4

7 **Cumulative traffic impacts from nearby developments**  
The TAlA has not demonstrated it has considered the current cumulative traffic impacts from nearby developments of Northern Residential Precinct, Northern Frame Precinct, Rouse Hill Town Centre Expansion and Tallawong Station Release Area.  
The Rouse Hill Northern Frame Precinct trip rates used were from the Rouse Hill Precinct Plan (original masterplan). The TAlA should use the GPT Planning Proposal for the Northern Frame Precinct which has significantly higher trip rates (approximately 1,394 AM, 1,438 PM, and 520 weekend trips) with a forecast of 15% of trips to use Commercial Road.  
As the hospital proposal prohibits access from Commercial Road to the Rouse Hill Northern Frame Precinct, this 15% share (equivalent to approximately 200–215 weekday peak-hour vehicle trips) is expected to be redistributed to Rouse Hill Drive. This redistribution has the potential to increase queuing on Rouse Hill Drive, affecting the Northern Frame Precinct access as well as the Windsor Road intersection  
It is recommended that the traffic impact assessment incorporate the traffic generation forecasts from the Northern Frame Precinct Planning Proposal and assess the broader impacts on Rouse Hill Drive that may arise from the removal of Commercial Road access due to the proposed  
The proposed intersection at the hospital access with Commercial Road includes the closure of the right-turn access from Commercial Road into the Fiddler Hotel (in order to facilitate the right-turn lane into the hospital). The TAlA should assess the impacts of this turn closure and Council is in the process of updating its in-house traffic study and modelling for the extended Rouse Hill Precinct Area, which was previously undertaken using the applicant's interim data. The study is expected to be finalised before 18 December 2025 and will be provided to the applicant as part of the process to understand how the trips rates were derived and the forecast impact to the road network.  
Need to comment on Fiddler

Cumulative traffic impact has been included in the modelling in the form of background growth from the STFM numbers provided by TfNSW. Refer to the modelling tech memo attached to this letter

8 **Pedestrian Trips**  
The pedestrian trips need to be forecasted including an assessment of the walking routes to/from Rouse Hill interchange/bus stops including performance of pedestrian crossings phases/delay. The development is likely to generate significant pedestrian trips.  
The proposal has not included any walking and cycling analysis. Based on the assumed mode shares of 50% for daytime staff, 84% for patients, and 60% for visitors, the development is expected to generate approximately 145 AM peak and 158 PM peak pedestrian and cycling  
The pedestrian bridges over Commercial Road and Rouse Hill Drive identified in the Rouse Hill Precinct Plan continue to be supported by  
The bridges provide pedestrian connectivity between the trip generators on the northern side of Commercial Road, Rouse Hill Northern Precinct and Rouse Hill Town Centre including the station and bus interchange.  
The nearest alternative crossing on Commercial Road is at Windsor Road and Commercial Road intersection. The nearest alternative crossing on Rouse Hill Drive is at Windsor Road and Rouse Hill Drive intersection. Both are likely to have long pedestrian waiting times due the traffic  
The design of the pedestrian bridges is yet to be determined with a recommendation that they incorporate lifts rather than long ramps, with potential for high level bridges directly into adjacent developments where possible. Land for the pedestrian bridges will need to be dedicated  
The ongoing maintenance of pedestrian lift needs to be determined, with Council preference for State Government to provide to be responsible for lifts at Rouse Hill Drive as it will be highly utilised by hospital visitors and staff and form an integral part of Rouse Hill interchange.  
The NSW Government has allocated \$10 million for planning critical upgrades to Windsor Road at the future Rouse Hill Hospital site and it is recommended that the pedestrian bridge be included in the overall infrastructure budget. It is noted that the Australian Government has committed \$200 million for broader Windsor Road upgrades, contingent on matching NSW funding.

Refer to the walking space assessment attached to this letter

Refer to the walking space assessment attached to this letter

9 **Car and Bicycle Parking**  
The number of beds or employees needs to be provided to determine the number of car parking spacing to be provided. A proportion of spaces capable of providing vehicle EV recharge facilities, it is suggested that this is between 5-10% of spaces.  
The level of cycle parking at 10 spaces is too low. The basis of the rate needs to be provided. Staff bicycle parking needs to include secure parking and shower facilities. Visitor bicycle parking needs to be provided separately.  
Bed and employee numbers raised above.  
Could provide a range, approximation or rule of thumb based on floor space for parking and end of trip purposes?  
The TAlA includes peak parking demand numbers already. If this information is particularly sensitive it could be provided to DPHI in a redacted/commercial in confidence format.  
Arup to comment on EV demand and cycle parking.

Refer to response to comment 4

10 **Bus services and infrastructure**  
The public transport trips need to be forecasted including an assessment of the walking routes to/from Rouse Hill interchange/bus stops including performance of pedestrian crossings phases/delay.  
In addition, there needs to be an assessment of bus reliability due to the impact of generated traffic and the need or otherwise of bus priority.  
Bus reliability impacts on bus attractiveness and mode split assumptions.  
It is noted that TfNSW's preference is a bus routes from Rouse Hill northern bus layover to Commercial Road through the RHH site.

HI is not proposing changes to existing bus services at this time. This has been addressed in the TAlA provided in the EIS.  
Bus reliability assessment is outside of the scope for this project. The assessment needs to be conducted by TfNSW to ensure adequate bus services to meet the requirements.

11 **Travel Plan**  
The scope of the Travel Plan needs to be clarified.  
Best practice travel plans are usually finalised post occupation once travel patterns are understood through travel surveys. Travel behaviour change programs can then be developed to response to known behaviours. Travel Plans prepared before occupation tend to capture mitigating measures to encourage/enable preferred mode split identified through the transport impact assessment process and have little impact on travel

Noted and a Green Travel Plan will be provided prior to Hospital operations

12 Carpark layout driveways, and aisles are to be designed according to the relevant Australian Standards. AS/NZS 2890.1:2004, AS 2890.2-2002 and AS/NZS 2890.6:2009. All dimensions are to be clearly labelled on the plans. Plans should also clearly identify if they are dedicated to visitors or staff. All dimensions are to be detailed on the plan including the parking spaces relevant to the user classification

Noted

15/12/2025

**Transport for New South Wales**

13 TfNSW has been in discussion with the Applicant regarding the ability of buses to enter the proposed hospital site with a view of providing more efficient bus services in the locality. It would also enable bus services to provide public services that directly access the hospital if desired to support travel demand strategy of the site but also ensure future users of the development have a direct access point to the facility.

HI will continue to consult with TfNSW, refer to item 10

Recommendation: TfNSW will continue to work with the proponent to confirm whether bus operations can be accommodated through the site and can be documented as part of the RtS

14 It appears that Truck bays 1, 4 & 5 cannot enter the loading dock if other heavy vehicles are parked in either dock 1 or dock 2. This may result in trucks waiting on the access road until such time as they can enter safely. It is also noted that trucks leaving the loading dock occupy the full road width when turning from the loading dock driveway into the access road.  
Recommendation: TfNSW recommends that the Applicant consider managing this via the Operational Plan of Management for the

Noted

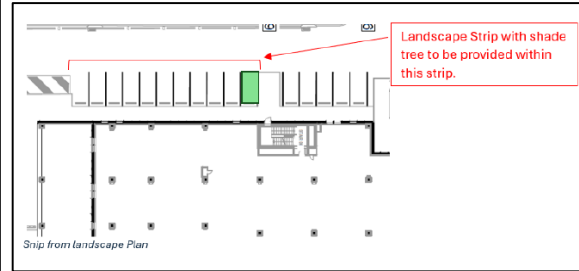
**Hills Shire Council**

15 The proposal has not adequately addressed the non-provision of the link road between Hospital Road and Rouse Hill Drive. This matter was raised at the prelodgement meeting with the applicant on 19 October 2024. Concerns are raised that the Masterplan shows a road link from Rouse Hill Drive to Commercial Road (known as Orchard Road) which has been ear marked to be a public road in discussions regarding the development of the precinct. Should Hospital Road remain as a private road/driveway, this would be contrary to the Masterplan.

Refer to submissions report

16 Car parking to be designed in accordance with THSDCP Part C Section 3 – Landscaping Clause 3.12 Car Parking, and Part C Section 1- Parking. Two metre wide Landscape strips are to be provided between rows served by different aisles and between spaces at a rate of one in every ten car parking spaces. Shade trees are to be provided within the landscape strips. (See snip Below)

Refer to submissions report



17 **The TAlA needs to provide evidence as to how the parking and trips rates were derived.**

Refer to response to comment 4

The report only provides sizes of site/development as shown below. More detailed information needs to be provided to assist in understanding how the trips rates were derived and any assumption associated.  
The trips have been revised compared to the initial study however the size of the development has increased from 15,000m<sup>2</sup> to 39,100 m<sup>2</sup> (excluding the proposed multi-storey car park of 13,750 m<sup>2</sup> GFA). This represents more than a twofold increase in GFA. However, the corresponding revised trips have not increased in proportion to the increase in development size as expected. The revised trips have a marginal  
The TAlA provides parking spaces and person/vehicle trips however it says the rates are based on the Schedule of Accommodation (SoA), other project-specific information from Health Infrastructure, and profile surveys of other Sydney hospitals. No evidence has been provided to  
The peak parking demand is derived from the peak point of a graph in the study however there is no evidence showing how the demand and  
Similarly, the peak hour person and vehicle trips are also based on graphs produced by the applicant's traffic consultant with no supporting

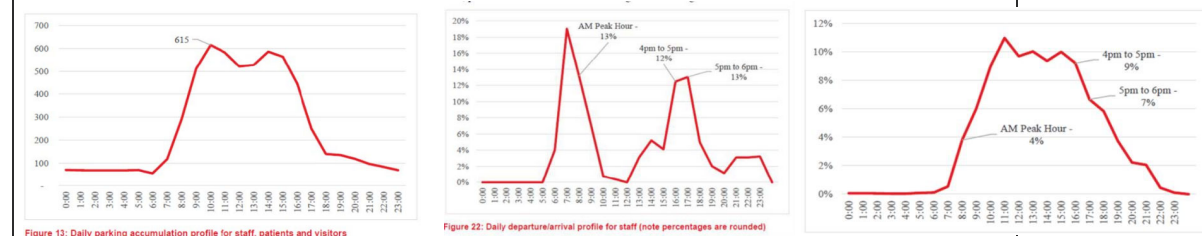
**Numerical Overview**  
Table 7 provides a numerical overview of the key elements of Rouse Hill Hospital.

**Table 7 Numerical overview of the proposed development**

Key element	Project
Site area (extent of works)	29,525m <sup>2</sup>
Hospital site area	23,528m <sup>2</sup>
Land use	Health Services Facility (Hospital) including ancillary functions
<b>Gross Floor Area</b>	
Integrated services hospital building	39,100m <sup>2</sup>
Multi storey Carpark	13,750m <sup>2</sup>
<b>Maximum Building Height</b>	
New Integrated Services Hospital Building	11 storeys, 49 metres (RL 101.17m)
Multi Storey Carpark	10 storeys, 29 metres (RL 83.98m)

19 The trips have been revised compared to the initial study however the size of the development has increased from 15,000m<sup>2</sup> to 39,100 m<sup>2</sup> (excluding the proposed multi-storey car park of 13,750 m<sup>2</sup> GFA). This represents more than a twofold increase in GFA. However, the corresponding revised trips have not increased in proportion to the increase in development size as expected. The revised trips have a marginal  
The TAlA provides parking spaces and person/vehicle trips however it says the rates are based on the Schedule of Accommodation (SoA), other project-specific information from Health Infrastructure, and profile surveys of other Sydney hospitals. No evidence has been provided to  
The peak parking demand is derived from the peak point of a graph in the study however there is no evidence showing how the demand and peak period axes were determined.  
Similarly, the peak hour person and vehicle trips are also based on graphs produced by the applicant's traffic consultant with no supporting

Refer to response to Comment 2



20	<p><b>Mode Split Assumptions</b> Evidence needs to be provided to support the mode split assumptions. The vehicle trips are derived from the mode share percentage (as below).</p> <table border="1" data-bbox="344 212 807 394"> <thead> <tr> <th>Type</th> <th>Car (driver) mode share</th> <th>Vehicle occupancy</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Staff</td> <td>• 50% for daytime shift*</td> <td>• 1.09 for daytime shift</td> </tr> <tr> <td>• 95% for nighttime shift</td> <td>• 1.0 for nighttime shift</td> </tr> <tr> <td>Patients</td> <td>84%</td> <td>1.0</td> </tr> <tr> <td>Visitors</td> <td>60%*</td> <td>1.2</td> </tr> </tbody> </table> <p><b>The staff trips rates for the shifts needs clarity.</b> Hospitals typically have three shifts with overlap between them which can impact both the AM and PM peak (particularly with school hours). The TAIA needs to capture shift-change peaks and related parking accumulation and access/egress spikes The 50% mode share for daytime staff is very low compared to:</p> <ul style="list-style-type: none"> <li>•Blacktown Hospital Stage 1 and 2 which used a mode split of 83–88% for staff.</li> <li>•ABS 2016 Census data for Rouse Hill–Beaumont Hills (SA2) of 88% (80% as driver and 8% as passenger)</li> </ul> <p>The 60% mode share for visitors are also not realistic based on Council experience, and 80% is considered a more appropriate assumption.</p>	Type	Car (driver) mode share	Vehicle occupancy	Staff	• 50% for daytime shift*	• 1.09 for daytime shift	• 95% for nighttime shift	• 1.0 for nighttime shift	Patients	84%	1.0	Visitors	60%*	1.2	Refer to response to Comment 4
Type	Car (driver) mode share	Vehicle occupancy														
Staff	• 50% for daytime shift*	• 1.09 for daytime shift														
	• 95% for nighttime shift	• 1.0 for nighttime shift														
Patients	84%	1.0														
Visitors	60%*	1.2														
21	<p><b>Cumulative traffic impacts from nearby developments</b> The TAIA has not demonstrated it has considered the current cumulative traffic impacts from nearby developments of Northern Residential Precinct, Northern Frame Precinct, Rouse Hill Town Centre Expansion and Tallawong Station Release Area. The Rouse Hill Northern Frame Precinct trip rates used were from the Rouse Hill Precinct Plan (original masterplan). The TAIA should use the GPT Planning Proposal for the Northern Frame Precinct which has significantly higher trip rates (approximately 1,394 AM, 1,438 PM, and 520 weekend trips) with a forecast of 15% of trips to use Commercial Road. As the hospital proposal prohibits access from Commercial Road to the Rouse Hill Northern Frame Precinct, this 15% share (equivalent to approximately 200–215 weekday peak-hour vehicle trips) is expected to be redistributed to Rouse Hill Drive. This redistribution has the potential to increase queuing on Rouse Hill Drive, affecting the Northern Frame Precinct access as well as the Windsor Road intersection It is recommended that the traffic impact assessment incorporate the traffic generation forecasts from the Northern Frame Precinct Planning Proposal and assess the broader impacts on Rouse Hill Drive that may arise from the removal of Commercial Road access due to the proposed The proposed intersection at the hospital access with Commercial Road includes the closure of the right-turn access from Commercial Road into the Fiddler Hotel (in order to facilitate the right-turn lane into the hospital). The TAIA should assess the impacts of this turn closure and Council is in the process of updating its in-house traffic study and modelling for the extended Rouse Hill Precinct Area, which was previously undertaken using the applicant's interim data. The study is expected to be finalised before 18 December 2025 and will be provided to the applicant as part of the process to understand how the trips rates were derived and the forecast impact to the road network.</p>	Refer to comment 7														
22	<p><b>Pedestrian Trips</b> The pedestrian trips need to be forecasted including an assessment of the walking routes to/from Rouse Hill interchange/bus stops including performance of pedestrian crossings phases/delay. The development is likely to generate significant pedestrian trips. The proposal has not included any walking and cycling analysis. Based on the assumed mode shares of 50% for daytime staff, 84% for patients, and 60% for visitors, the development is expected to generate approximately 145 AM peak and 158 PM peak pedestrian and cycling The pedestrian bridges over Commercial Road and Rouse Hill Drive identified in the Rouse Hill Precinct Plan continue to be supported by The bridges provide pedestrian connectivity between the trip generators on the northern side of Commercial Road, Rouse Hill Northern Precinct and Rouse Hill Town Centre including the station and bus interchange. The nearest alternative crossing on Commercial Road is at Windsor Road and Commercial Road intersection. The nearest alternative crossing on Rouse Hill Drive is at Windsor Road and Rouse Hill Drive intersection. Both are likely to have long pedestrian waiting times due to the traffic The design of the pedestrian bridges is yet to be determined with a recommendation that they incorporate lifts rather than long ramps, with potential for high level bridges directly into adjacent developments where possible. Land for the pedestrian bridges will need to be dedicated The ongoing maintenance of pedestrian lift needs to be determined, with Council preference for State Government to provide to be responsible for lifts at Rouse Hill Drive as it will be highly utilised by hospital visitors and staff and form an integral part of Rouse Hill interchange. The NSW Government has allocated \$10 million for planning critical upgrades to Windsor Road at the future Rouse Hill Hospital site and it is recommended that the pedestrian bridge be included in the overall infrastructure budget. It is noted that the Australian Government has committed \$200 million for broader Windsor Road upgrades, contingent on matching NSW funding.</p>	Refer to comment 8 and the walking space assessment attached to this letter														
23	<p><b>Car and Bicycle Parking</b> The number of beds or employees needs to be provided to determine the number of car parking spacing to be provided. A proportion of spaces capable of providing vehicle EV recharge facilities, it is suggested that this is between 5-10% of spaces. The level of cycle parking at 10 spaces is too low. The basis of the rate needs to be provided. Staff bicycle parking needs to include secure parking and shower facilities. Visitor bicycle parking needs to be provided separately. Bed and employee numbers raised above. Could provide a range, approximation or rule of thumb based on floor space for parking and end of trip purposes? The TAIA includes peak parking demand numbers already. If this information is particularly sensitive it could be provided to DPPI in a redacted/commercial in confidence format. Arup to comment on EV demand and cycle parking.</p>	Refer to Comment 4														
24	<p><b>Bus services and infrastructure</b> The public transport trips need to be forecasted including an assessment of the walking routes to/from Rouse Hill interchange/bus stops including performance of pedestrian crossings phases/delay. In addition, there needs to be an assessment of bus reliability due to the impact of generated traffic and the need or otherwise of bus priority. Bus reliability impacts on bus attractiveness and mode split assumptions. It is noted that TfNSW's preference is a bus routes from Rouse Hill northern bus layover to Commercial Road through the RHH site.</p>	Refer to walking space assessment attached to this letter														
11	<p><b>Travel Plan</b> The scope of the Travel Plan needs to be clarified. Best practice travel plans are usually finalised post occupation once travel patterns are understood through travel surveys. Travel behaviour change programs can then be developed to response to known behaviours. Travel Plans prepared before occupation tend to capture mitigating measures to encourage/enable preferred mode split identified through the transport impact assessment process and have little impact on travel</p>	Refer to Comment 11														
21	<p><b>Upgrade of Local Road Infrastructure</b> The development does not adequately address the impact on the already under pressure local road network. While the federal government has announced a \$200 million commitment towards Windsor Road upgrades, this funding is contingent on Transport for NSW completing a \$10 million study to identify required infrastructure improvements within the precinct, and on the NSW State Government agreeing to match the Even if these conditions are met, the hospital development itself provides no clarity on how surrounding roads, including Commercial Road, Caddies Boulevard, and the connecting corridors through Box Hill, Gables, North Kellyville, and the Kellyville and Bella Vista Transit Oriented Development precincts will be upgraded to accommodate the significant increase in traffic demand. These areas are experiencing</p>	Hospital is a small contributor to the background growth - HI is working with TfNSW on a whole of government solution to the road network upgrade.														

	Without a clear identification of infrastructure improvements to not just Windsor Road, but the local road network, Council has concerns about the currently proposed infrastructure items of being incapable of supporting the patronage to the hospital.	
22	<b>Road layout and traffic:</b>	
22a	A Traffic report prepared by a suitably qualified traffic engineer shall be provided with the application. A traffic report will be required addressing sight distance, driveways, ramps, circulation aisles, car park areas, clearance heights etc.	Noted, to be considered in detailed design
22b	If Hospital Road is proposed as a public road, the design, construction and future maintenance shall comply with Council's Design Guidelines Subdivisions/ Developments and construction specification The design of the internal road and site access shall comply with Part D Section 6 Rouse Hill Regional Centre and the Precinct Plan DA Minimum Sight Distance Requirements (MSDR) and Minimum Gap Sight Distance (MGSD) (including sight distance for pedestrian) shall comply with relevant AS/ NZS 2890.1, AS 2890.2 and AS/ NZS 2890.6 and Ausroad Footpath and shared pathway shall be shown on the plans and shall be connected to an existing footpath and shared pathway. The proposed road layout is inconsistent with the Part D Section 6 Rouse Hill Regional Centre and the Precinct Plan DA 354/2013/HB (as The note on the civil plans which states "note: only construct roads and bulk excavation are included in the early works kerbs, gutters, footpaths, final road build up and surface are not included in early works and are shown only for information" the future surface levels can only be vary by 100mm or less is required to be clarified. The surface level will be fixed by this Development Application approval hence the Carpark layout driveways, and aisles are to be designed according to the relevant Australian Standards. AS/NZS 2890.1:2004, AS 2890.2-2002 and AS/NZS 2890.6:2009. All dimensions are to be clearly labelled on the plans. Plans should also clearly identify if they are dedicated to visitors or staff. All dimensions are to be detailed on the plan including the parking spaces relevant to the user classification. A cross-section plan of all ramps will need to be provided on plan; it must detail the gradient and the rate of grade change compliance with the Submit swept turning paths demonstrating the required manoeuvring in order for longest vehicle to enter and leave the site in a forward The driveway width must be designed to facilitate expected longest vehicle type and a B99 car pass each other simultaneously (i.e. maintaining Any discrepancy or non-compliance with the Council's Design Guidelines for Subdivision/Developments (dated December 2023) or the relevant Council DCP—particularly regarding civil works, stormwater, traffic, and access—may result in the refusal of a future Section 138	Noted, to be considered in detailed design
22c	It was indicated that Hospital Road would remain as a private road/driveway and would only provide access between the hospital site and Commercial Road. Concerns are raised that the Masterplan shows a road link from Rouse Hill Drive to Commercial Road (known as Orchard Road) which has been earmarked to be a public road in discussions regarding the development of the precinct. Should Hospital Road remain as a private road/driveway, this would be contrary to the Masterplan. Should Hospital Road be proposed as a private road, agreement is required to be provided from GPT for a private road.	Addressed in submissions report
22d	It is recommended that further consultation occur between Health Infrastructure, Transport for NSW, Council and GPT with respect to the access arrangements for the future hospital and the surrounding existing and proposed road network.	Addressed in submissions report
22e	Any discrepancy or non-compliance with the Council's Design Guidelines for Subdivision/Developments (dated December 2023) or the relevant Council DCP—particularly regarding civil works, stormwater, traffic, and access—may result in the refusal of a future Section 138 permit application.	Addressed in submissions report
23	The impact of the traffic generated by the hospital will also affect the intersection of Schofields Road/Windsor Road, especially the left turn out of Schofields Road onto Windsor Road to get to the hospital. This must be evaluated to determine if this single lane is adequate or has to be upgraded to 2 left turn lanes to cater for the demand to get to the hospital. Based on the above, traffic modelling needs to be revised to take into consideration: • the Windsor Road and Commercial Road intersection as a 4-way signalised intersection and an increased demand on the left turn out of • the impact of traffic generated by the proposal within the Blacktown LGA must be assessed, especially from Schofields Road.	Addressed in submissions report
<b>GPT</b>		
24	<b>Traffic Modelling</b> HINSW's proposal assumes the 4-way signalisation of the Commercial Rd / Caddis Blvd intersection. It should be noted that the 4-way signalisation is subject to the DA Conditions and Voluntary Planning Agreement in place between Council and Norlex Holdings, of which we understand the VPA has been novated to the current landowner. The 4-way signalisation is dependent on the commencement of development on Lot 5 and is not reliant on GPT as inferred in the TAIA. Furthermore, GPT's Development Consent for the RHTC Retail Expansion conditions the signalisation of the existing 3-way intersection, in line with the Council approved Concept Plan. It is noted that GPT is in ongoing discussions with Council and TfNSW regarding this condition. HINSW should consider the above in their assessment and update their modelling, with the existing 3-way intersection in place.	Addressed in the submissions report.
25	<b>Road Network design</b> The proposed road network to facilitate the operations of the future Rouse Hill Hospital does not currently allow for vehicular access between Hospital Road and Park Road North (Rouse Hill Northern Frame). GPT are supportive of their being a logical road connection between the two sites, to achieve a more efficient traffic flow and provide alternate routes during peak periods of the day. Given the existing satisfactory performance of the Windsor Road/Commercial Rd/Rouse Hill Drive/Caddies Blvd intersections, and additional traffic impacts of the RHH, further consultation should be undertaken between key stakeholders (i.e. GPT, TfNSW, HINSW and Council) to determine the best traffic	Addressed in the submissions report.
26	<b>Traffic Management during Construction</b> During the construction of the hospital, inclusive of the early works, HI should ensure that the construction vehicles do not adversely affect the access and operations of RHTC at Rouse Hill Drive and Caddies Creek. This is relevant for both the retail operations, and the construction	Noted
<b>Blacktown Council Comments</b>		
27	<b>City Transport</b> It is noted that the traffic modelling for the intersection of Windsor Road and Commercial Road has been undertaken as a signalised T-intersection. In the Cudgegong Station Precinct Plan this intersection has a fourth leg which is to the west of Windsor Road. This means that Commercial Road is expected to be extended in a westerly direction into the Blacktown LGA. The impact of the traffic generated by the hospital will also affect the intersection of Schofields Road/Windsor Road, especially the left turn out of Schofields Road onto Windsor Road to get to the hospital. This must be evaluated to determine if this single lane is adequate or has to be upgraded to 2 left turn lanes to cater for the demand to get to the hospital. Based on the above, traffic modelling needs to be revised to take into consideration: • the Windsor Road and Commercial Road intersection as a 4-way signalised intersection and an increased demand on the left turn out of Schofields Road to the hospital • the impact of traffic generated by the proposal within the Blacktown LGA must be assessed, especially from Schofields Road.	Refer to comment 23
30	<b>Provide shared path and street trees along Commercial Road</b> There is an existing signalised pedestrian crossing at the corner of Windsor and Commercial Roads, which pedestrians and cyclists are likely to use to cross Windsor Road. Windsor Road is an arterial road and includes a shared path that connects north to Rouse Road and south to Schofields Road. We recommend that the proposed path along Commercial Road be a minimum 2.5 metres wide shared path, complemented	Refer to the walking space assessment attached to this letter
31	<b>Secure bike parking and Green Travel Plan.</b>	Noted, Green Travel Plan will be implemented for operation

	There is insufficient information on hospital population and bike-parking demand. In this regard, there is no clear indication of the expected number of staff, patients, and visitors. Without this information, it is difficult to assess whether the proposed bike-parking provision is adequate. As currently proposed, 10 secure bike-parking spaces is unlikely to meet the needs of a facility of this scale.	
32	<b>Inadequate total bike-parking provision</b> The proposal includes 10 secure spaces within the end-of-trip facility and 20 external public bike-parking spaces. For a public hospital of this size and significance, 30 spaces in total appears substantially inadequate and not aligned with contemporary active-transport or sustainability	Bike parking provision has been increased to a total of 52 spaces
33	<b>Concerns about location and visibility of external bike-parking spaces</b> The landscape plans indicate the location of 20 external bike-parking spaces. However, only 16 appear to be shown. Additionally, the proposed locations seem to be tucked behind buildings or screened by vegetation, offering little passive surveillance and presenting security External bike parking should be placed in highly visible, well-lit areas with CCTV coverage to ensure safety and encourage use.	Addressed in the submissions report
<b>Meccone Comments</b>		
34	<b>Construction works and vehicular access</b> Both the architectural and civil plans indicate that modifications are proposed to Commercial Road that include: the augmentation of the controlled intersection to the bulky goods premises to the east of 2 Commercial Road (marked on the architectural plans as 'Ancillary works to Commercial Road') works that are marked as being undertaken by others (presumably Council and/or Transport for New South Wales (TfNSW)). Part of the 'Ancillary works to Commercial Road' overlaps with the right turn lane that enables: westbound traffic on Commercial Road to enter 2 Commercial Road traffic leaving 2 Commercial Road to turn west onto Commercial Road towards Windsor Road. This information does not indicate whether these amendments will permanently block westbound traffic from entering or leaving the site. In the event that construction works will result in a temporary blockage of the right turn lane, the submitted information does not provide details regarding how long such disruption is anticipated to occur and alternative site access/egress arrangements. The submitted documentation does not provide details regarding what (if any) additional impact this may have upon the surrounding road network. If any blockage were to occur, then this would have significant and adverse impacts on businesses at 2 Commercial Road, particularly as the surrounding road network does not provide any opportunities for westbound traffic on Commercial Road to turn around or 'double back' to access the site from eastbound lanes. As such, we therefore request that further information be provided as to whether proposal may affect It is to be noted that any blockage of vehicular access to the site from westbound lanes in Commercial Road will be strongly opposed. If access and egress will be affected, then information must demonstrate how suitable alternative access arrangements will be provided (noting that such alternatives must be practicable and without expense to our client and/or other business owners and operators at 2 Commercial Road).	Noted
35	<b>Traffic impacts and intersection performance</b> The submitted Transport and Accessibility Impact Assessment (TAIA) provides that traffic surveys were undertaken at the intersection of numerous roads/driveways (which includes the sole vehicular access/egress point to the site from Commercial Road) at the following dates and Tuesday 25 June 2024, 7:00am to 10:00am and 3:00pm to 6:00pm Wednesday 26 June 2024, 7:00am to 10:00am and 3:00pm to 6:00pm Thursday 27 June 2024, 7:00am to 10:00am and 3:00pm to 6:00pm. While these times have considered traffic volumes during the AM and PM peaks, they do not correlate with the peak trading times for both The Fiddler and the KFC (i.e. evenings and weekends) and associated traffic volumes. Consultation undertaken for the Social Impact Assessment (SIA) noted concerns raised about high levels of traffic and congestion on Windsor Road during peak times, in particular the amount of traffic turning at the intersection from Windsor Road onto Commercial Road during peak times and on Friday nights to access The Concern is therefore raised that traffic volumes and intersection performance in proximity to the hospital has not been adequately surveyed and considered and should be investigated prior to any determination.	Refer to transport modelling memo attached to this letter
17/12/2025	<b>Blacktown Council Comments</b>	
36	<b>Provide sufficient on-site car parking</b> The proposed location of the carpark is approximately 150 metres from the future local road within the BCC LGA in the Tallawong precinct. To minimise the likelihood of people parking on nearby local streets and walking across Windsor Road to access the hospital (which would place additional parking pressure on the surrounding neighbourhood), our team recommends that the proposal incorporate sufficient on-site Landscape Architect 1. Provide sufficient on-site car parking The proposed location of the carpark is approximately 150 metres from the future local road within the BCC LGA in the Tallawong precinct. To minimise the likelihood of people parking on nearby local streets and walking across Windsor Road to access the hospital (which would place additional parking pressure on the surrounding neighbourhood), our team recommends that the proposal incorporate sufficient on-site	Car parking provision has been increased to 744 spaces
	The development should be supported by improved public transport services, particularly overnight and during off peak times to support shift staff. The site is not benefited by close proximity to high quality 24/7 transport options like an inner city area resulting in private car centric behaviour. To support staff, NSW Health is committed to supporting mode shifts to encourage more active transport. This shift relies upon quality public transport to ensure its uptake. The large scale investment and anticipated size of the hospital presents a sufficient need for an increase in 'off peak' services, encouraging the modal shift detailed in transport reports.	Addressed in the submissions report
	Construction works and vehicular access Both the architectural and civil plans indicate that modifications are proposed to Commercial Road that include: •the augmentation of the controlled intersection to the bulky goods premises to the east of 2 Commercial Road (marked on the architectural plans as 'Ancillary works to Commercial Road') •works that are marked as being undertaken by others (presumably Council and/or Transport for New South Wales (TfNSW)). Part of the 'Ancillary works to Commercial Road' overlaps with the right turn lane that enables: •westbound traffic on Commercial Road to enter 2 Commercial Road •traffic leaving 2 Commercial Road to turn west onto Commercial Road towards Windsor Road. This information does not indicate whether these amendments will permanently block westbound traffic from entering or leaving the site. In the event that construction works will result in a temporary blockage of the right turn lane, the submitted information does not provide details regarding how long such disruption is anticipated to occur and alternative site access/egress arrangements. The submitted documentation does not provide details regarding what (if any) additional impact this may have upon the surrounding road network. If any blockage were to occur, then this would have significant and adverse impacts on businesses at 2 Commercial Road, particularly as the surrounding road network does not provide any opportunities for westbound traffic on Commercial Road to turn around or 'double back' to access the site from eastbound lanes. As such, we therefore request that further information be provided as to whether proposal may affect vehicular access and egress to/from the site (including any temporary blockages during works). It is to be noted that any blockage of vehicular access to the site from westbound lanes in Commercial Road will be strongly opposed. If access and egress will be affected, then information must demonstrate how suitable alternative access arrangements will be provided (noting that such alternatives must be practicable and without expense to our client and/or other business owners and operators at 2 Commercial Road).	Noted, to be addressed in the Construction Traffic Management Plan

	<p>Traffic impacts and intersection performance</p> <p>The submitted Transport and Accessibility Impact Assessment (TAIA) provides that traffic surveys were undertaken at the intersection of numerous roads/driveways (which includes the sole vehicular access/egress point to the site from Commercial Road) at the following dates and times:</p> <ul style="list-style-type: none"><li>•Tuesday 25 June 2024, 7:00am to 10:00am and 3:00pm to 6:00pm</li><li>•Wednesday 26 June 2024, 7:00am to 10:00am and 3:00pm to 6:00pm</li><li>•Thursday 27 June 2024, 7:00am to 10:00am and 3:00pm to 6:00pm.</li></ul> <p>While these times have considered traffic volumes during the AM and PM peaks, they do not correlate with the peak trading times for both The Fiddler and the KFC (i.e. evenings and weekends) and associated traffic volumes. Consultation undertaken for the Social Impact Assessment (SIA) noted concerns raised about high levels of traffic and congestion on Windsor Road during peak times, in particular the amount of traffic turning at the intersection from Windsor Road onto Commercial Road during peak times and on Friday nights to access The Fiddler and KFC.</p>	<p>Refer to transport modelling memo attached to this letter</p>
--	--	--

Date

3 February 2026

---

**Attachment 2: Walking Space Assessment**

## Memorandum

**To** Katie Babula  
**Date** 27 January 2026  
**Copies** Muskan Bindal  
**Reference number** 286539-00  
**From** Wendy Zheng  
**File reference** 20260127 RHH RtS - Walking Space  
**Subject** RHH RtS - Pedestrian Accommodation Review

---

### Introduction

This Walking Space Guide Assessment (WSGA) has been prepared by Arup on behalf of Health Infrastructure, to support the State Significant Development Application (SSDA) for a new hospital at Rouse Hill, known as Rouse Hill Hospital (RHH).

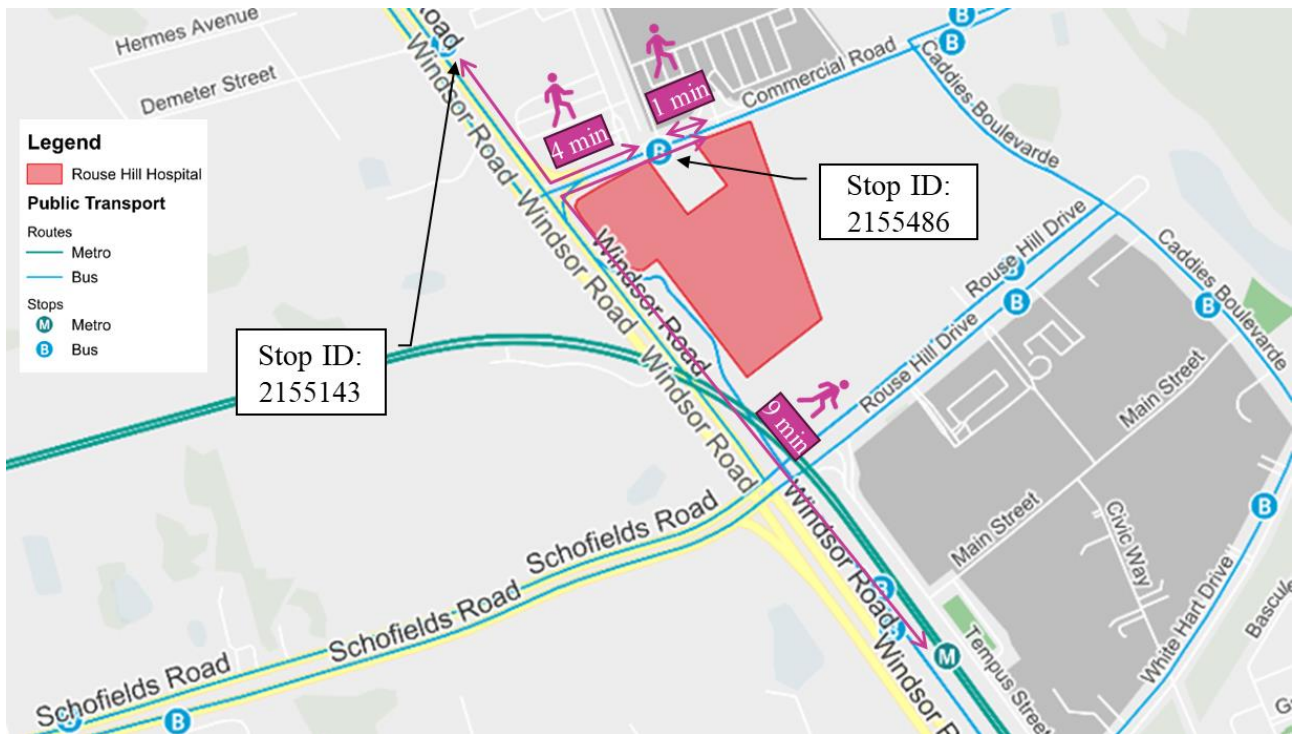
### Site Context

The Rouse Hill Hospital (RHH) site is located at the north-western corner of the intersection of Windsor Road and Commercial Road, adjacent to the Mungerie Park Zone Substation, Rouse Hill, NSW, 2155.

The site is well-serviced by both Sydney Metro and bus services, offering strong connectivity to key regional and metropolitan destinations. Public transport facilities in the vicinity of the proposed site are:

- Rouse Hill Station (Sydney Metro Northwest) – approximately 300 metres south of the Site.
- Local bus stops (Commercial Rd before Windsor Rd, Stop ID 2155486 and Windsor Rd before Commercial Rd, Stop ID 2155143) are located within 400m or 5 minute walk of the Site and are serviced by Region 1 and Region 4 routes (601, 605, 608, 617, 633, 641, 643, 740, 742 and 746)
- NightRide N92 – overnight service from Tallawong to Macquarie Park and Town Hall, operating when Metro is unavailable.

The Site is within 10 minutes walking distance of Rouse Hill Station and Rouse Hill Town Centre, making it highly accessible on foot for residents and transit users. The pedestrian network is well established, with continuous footpaths along Windsor Road, Commercial Road, Rouse Hill Drive, and Caddies Boulevard. 1.5m wide formal footpaths with 2m buffer zones are available on the Commercial Road, Windsor Road and Caddies Boulevard frontages and a 3m wide shared path with 1.2m buffer zone is available on the Rouse Hill Drive frontage.



**Figure 1: RHH Walking Route to Public Transport**

There are signalised pedestrian crossings available at the intersections of Windsor Road / Commercial Road, Windsor Road / Rouse Hill Drive and mid block on both Commercial Road and Rouse Hill Drive connecting to the bus stops to the north and Metro station to the south. These signalised pedestrian crossings at major intersections support safe pedestrian movement across frontage roads.

### NSW Walking Space Guide Approach

The NSW WSG is a tool to assess pedestrian footpath space within the built environment, with the aim of achieving comfortable walking environments. The guide establishes a consistent framework for assessing street footpaths based on effective walking space, pedestrian volumes, and to evaluate pedestrian comfort levels. The WSG was developed based on research taken at midblock footpaths in primarily urban areas, so is applicable to street footpaths adjacent to proposed developments.

The WSG sets out a five-step assessment process for analysing footpaths which this report follows for the assessment of the shared zone.

1. Select and assess the site by collating information regarding to land use and surrounding transport networks for existing or future scenarios.
2. Classify footpath types using foot path typologies defined within the walking space guide. There are two methods of analysis to determine footpath type dependant on the availability of data. Street footpath classification for the shared zone footpath is conducted based on existing and future indicative pedestrian demand.
3. Determine Walking Space by measuring footpaths taking into account of kerbside traffic buffers, obstructions or static activity.

4. Assess the Walking Space Level of Service (LoS) based on the peak hour flow rate and minimum walking space width in metres.
5. Understand the LoS Rating, Targets and Mitigation Measures based on comfort levels; LoS C is considered the minimum target level.

## Footpath Classification

The WSG details two options to determine the intensity of use and hence footpath type:

- 1) Pedestrian Peak Hour walking counts extrapolated for the life of the infrastructure; or
- 2) Desktop analysis.

As RHH is forecast to open in 2029 and there is significant development forecasted for this area, a combination of the two options above is used to determine the footpath classification.

Pedestrian counts were undertaken at the following signalised intersections 2024.

**Table 1: Pedestrian Survey June 2024**

Surveyed Pedestrian Trips Per Hour		
	AM Peak (8:00 - 9:00)	PM Peak (16:45 - 17:45)
Windsor Road / Commercial Road*		
Windsor Road Crossing	24	22
Commercial Road Crossing	21	38
Commercial Road / Health Co*		
Commercial Road Crossing East	2	10
Commercial Road Crossing West	3	8
Health Co Access Crossing	0	3
Windsor Road / Rouse Hill Drive**		
Windsor Road Crossing East	111	135

\*June 2024 survey from RHH TAIA prepared by Arup

\*\*Dec 2024 survey from RHNP RtS letter prepared by Aecom

Desktop analysis of the pedestrian / public transport for full development in the 2039 scenario has been undertaken to understand impact full RHH development will have on the surrounding pedestrian network.

Note that the pedestrian generation is for staff only, given the undetermined department mix for the hospital development, visitor / patient pedestrian generation is not possible within this assessment. The pedestrian trip generation is estimated by applying the target mode share (presented in RHH TAIA) to the staff person trip generation and shown in the table below.

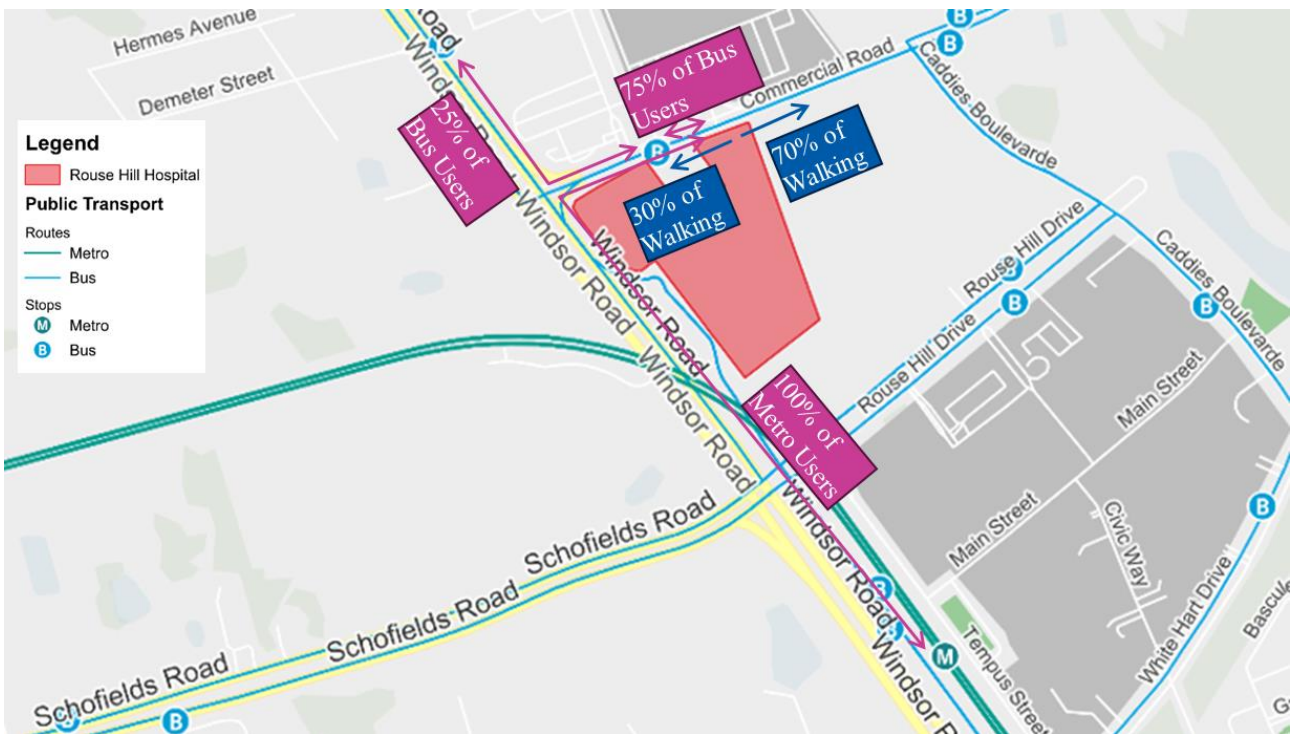
**Table 2: RHH Staff Pedestrian Generation Estimates**

RHH Staff Peak Hour Pedestrian Trips		
	Weekday AM Peak (8:00 - 9:00)	Weekday PM Peak (16:45 - 17:45)
Walking	13	13
Metro	48	47

Bus	22	21
-----	----	----

Given the existing residential development to the north east and south east of the site, it is expected that the majority of staff walking to / from site will be those residing in those areas.

The bus stop on Commercial Road immediately in front of the site access (Stop ID 2155486) will likely be utilized by the majority of the bus users with the rest proceeding to the bus stop on Windsor Road (Stop ID 2155143).



**Figure 2: Pedestrian Trip Distribution**

Table 2A of the WSG is used to classify footpath types:

### Walking Space Guide Summary

Footpath Type 1	Type 2	Type 3	Type 4	Type 5
<b>Typical description:</b> Local footpath – Low activity	Local footpath – Medium activity	Main street footpath – Medium activity / Local footpath – High activity	Main street footpath – High activity	Main street footpath – Very high activity
<b>Short walk interaction:</b> Unlikely to pass someone	Likely to pass someone	Virtually certain to pass someone	Virtually certain to meet multiple groups of people	Busy
<b>Peak hour maximum use:</b> Very few people per hour	7 or more people per hour	70 or more people per hour	400 or more people per hour	More than 2,000 people per hour
<b>MINIMUM TARGET Walking Space: 2.0m</b>	<b>2.3m + 0.6m</b> Passing Zone	<b>3.2m (3.0m not adjacent to active shopfronts)</b>	<b>3.9m (3.7m)</b>	<b>less than or equal to 9.5 People Per Metre / Minute</b>
<b>Intervention Trigger (less than): 1.3m*</b>	1.6m + 0.6m Passing Zone	2.3m (2.2m)	2.9m (2.7m)	greater than 18.0 People Per Metre / Minute

**Figure 3: WSG Footpath Classification Types**

## **WSG Assessment**

The majority of the pedestrian demand for the pedestrian network connecting RHH to the public transport nodes falls on Windsor Road and Commercial Road especially in the connection to the Rouse Hill Metro Station.

The existing pedestrian demand on Windsor Road show that the pedestrian provision should be a Type 3 footpath achieving the minimum target walking space of 3.0m width but it is being accommodated with the existing provision of 1.5m formal footpath and 2m buffer zone. The addition of the RHH pedestrian demand on Windsor Road does not affect the existing classification.

Similarly on Commercial Road, the existing pedestrian demand show that the pedestrian provision should be a Type 2 footpath achieving the minimum target walking space of 2.3m width but it is being accommodated with the existing provision of 1.5m formal footpath and 2m buffer zone. The addition of the RHH pedestrian demand on Commercial Road does not affect the existing classification.

Based on the above, the existing walking space provision is sufficient to accommodate existing pedestrian demand in addition to the estimated RHH staff pedestrian demand.

However, as future developments in this area comes online, there is opportunity for improving the formal footpath provision.

## **Pedestrian Crossing Review**

The Rouse Hill Strategic Centre Precinct Plan (the Precinct Plan) identified three future pedestrian bridges in the Rouse Hill Town Centre area.



Figure 4: Proposed future pedestrian footbridges near Rouse Hill Station

The bridges are proposed to cross:

- Winsor Road north of Commercial Road
- Commercial Road near the intersection of Windsor Road / Commercial Road
- Rouse Hill Drive near the intersection of Windsor Road / Commercial Road.

This memo assesses the proposed pedestrian footbridge crossing Commercial Road.

Staff walking to / from RHH from the Metro will cross at the Windsor Road / Rouse Hill Drive intersection but will not need to cross Commercial Road. Those using the bus or walking will not need to cross Commercial Road at all or cross at either the Commercial Road / Windsor Road signalised intersection or the Commercial Road / Health Co signalised intersection.

As safe signalised crossing opportunities for the less than 20 estimated staff members needing to cross Commercial Road are available in three locations within 200m, a pedestrian bridge is not needed to cater for additional RHH generated pedestrian demand.

Date

3 February 2026

---

**Attachment 3: Modelling Memo**

---

## Technical Note

<b>Project title</b>	Rouse Hill Hospital
<b>Job number</b>	603702\26
<b>File reference</b>	20260130- Rouse Hill Hospital- Updated Traffic Modelling- Technical Memo- DRAFT
<b>cc</b>	Wendy Zheng
<b>Prepared by</b>	Sharif Hasan
<b>Date</b>	30 January 2026
<b>Subject</b>	Updated FTE - Traffic Modelling

Level 5 151 Clarence Street Sydney NSW, 2000 Australia

t +612 9320 9320 d +61 2 9320 9100

[arup.com](http://arup.com)

---

### 1. Background

Health Infrastructure NSW (HI) commissioned ARUP to support a State Significant Development Application (SSDA) for the construction and operation of a new hospital campus at the corner of Commercial Road and Windsor Road at Rouse Hill (SSD-96248991). The proposed hospital is simply referred to as Rouse Hill Hospital (RHH).

Previously, ARUP prepared “Rouse Hill Hospital – Transport and Accessibility Impact Assessment” report dated 11 November 2025 (referred to as “ARUP 2025 TAIA”), which summarised-

- Existing transport conditions near the proposed Site.
- Transport assessment including forecast traffic generation and impacts on the road network, parking, access, public transport network and walking and cycling.
- Proposed pedestrian, cyclist and vehicle access, loading dock operation and car and cycle parking arrangements.
- Construction Traffic Management Plan.
- Framework Green Travel Plan.

Recently, HI has been investigating the potential increase of Full Time Equivalent (FTE) staff number for RHH. Additionally, the revised traffic impact assessment report of a neighbouring planned development, known as Rouse Hill Northern Precinct (RHNP), shows a significant increase in forecast traffic generation (more details in Section 8.2.2). As requested by HI, ARUP has undertaken an updated transport assessment to predict the impact of these changes on the surrounding road network.

This Technical Note (TN) summarises the inputs, assumptions and outcomes of the updated transport assessment for RHH and should be read in conjunction with ARUP 2025 TAIA.

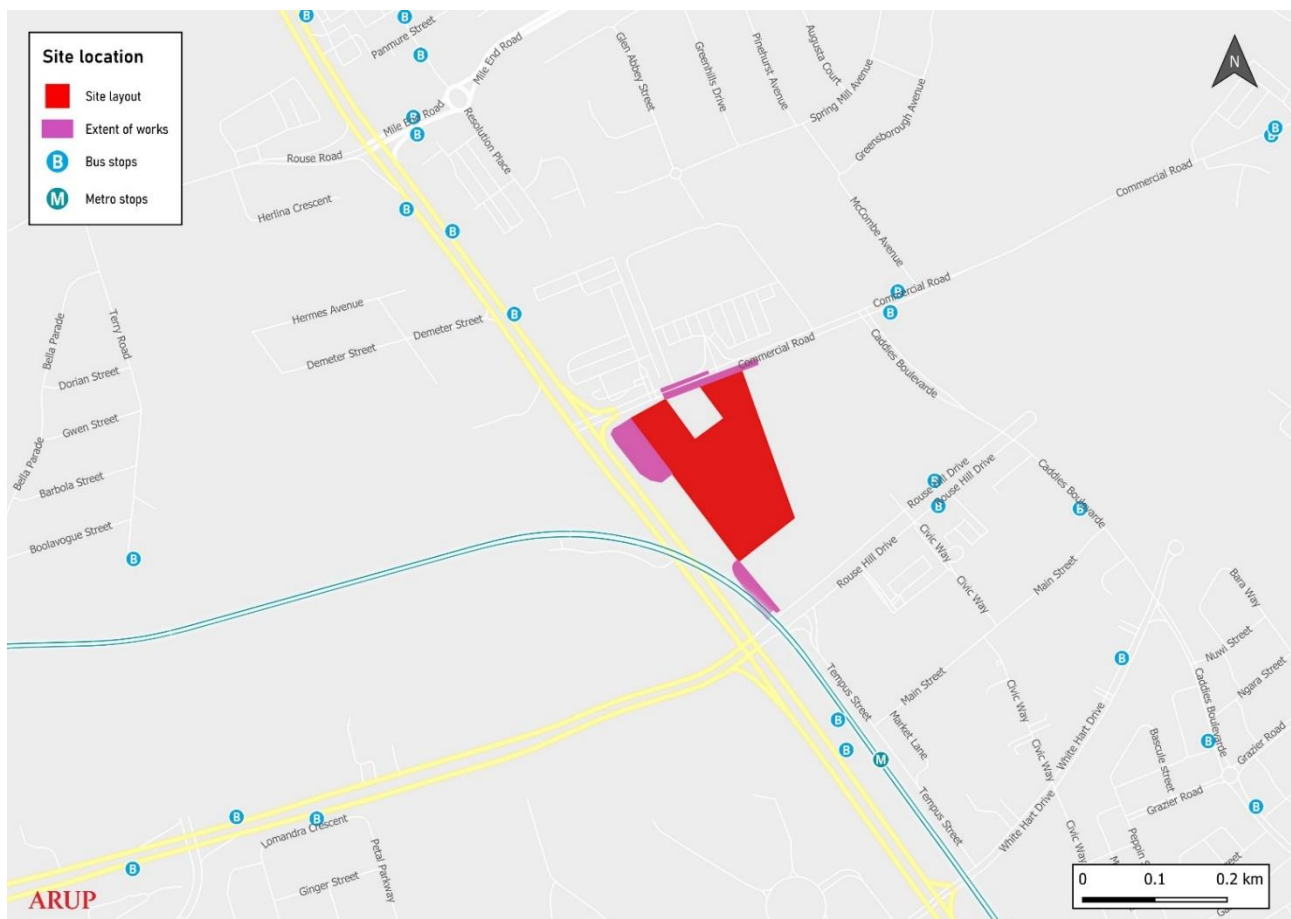
Job number 603702\26  
 Date 30 January 2026

## 2. Site location

The road network surrounding the Rouse Hill Hospital site comprises a mix of state and local roads, that provide regional and local connectivity. Windsor Road is the primary state road in the vicinity, offering north-south connections to Greater Sydney’s arterial and motorway network. To the west of the site, Schofields Road, also classified as a state road, provides an important east-west connection to the suburbs of Schofields, Marsden Park, and Mount Drutt.

Local access to the site is primarily provided via Commercial Road, which extends east-west between Rouse Hill and North Kellyville, with a posted speed limit of 60 km/h. Caddies Boulevard links Commercial Road to Rouse Hill Town Centre, located to the south of the Site, while Rouse Hill Drive provides additional east-west connectivity from Windsor Road into the town centre precinct.

The location of the Site and its surrounding transport network is shown in Figure 1.



**Figure 1: Site location and surrounding transport network**

**Job number** 603702\26  
**Date** 30 January 2026

### 3. Scope of work

This TN covers the following scope of work:

- Revised traffic and transport demand analysis, considering proposed changes in the FTE for RHH and increased development trips associated with RHNP.
- Revised transport modelling assessment to predict the impact of the above changes.

### 4. Reference documents

The documents referenced in this TN have been listed in Table 1.

**Table 1: List of reference documents**

#	Document title	Prepared by	Date	Reference in this TN
1	Rouse Hill Hospital – Transport and Accessibility Impact Assessment	ARUP	11 Nov 2025	ARUP 2025 TAIA
2	Rouse Hill Northern Precinct Master Plan – Traffic Impact Assessment	Aecom	18 Jul 2024	Aecom 2024 RHNP TIA
3	Rouse Hill Northern Precinct – Transport Addendum Statement	Aecom	30 Jun 2025	Aecom 2025 RHNP TAS
4	Rouse Hill Northern Residential Precinct Level 2 Precinct DA – Traffic and Transport Study	SCT	2022	SCT 2022 NRP TTS

### 5. List of intersections assessed

In line with ARUP 2025 TAIA, the following 6 intersections were assessed as part of this study:

1. Windsor Road / Commercial Road,
2. Commercial Road / The Fiddler Access,
3. Commercial Road / Health Co Access,
4. Commercial Road / Caddies Boulevard,
5. Windsor Road / Rouse Road / Mile End Road, and
6. Windsor Road / Schofields Road / Rouse Hill Drive.

### 6. Input Data

Traffic surveys were carried out on June 2024, which provided a basis for the traffic demand development, coding of signal phasing and timing in the model as well as base year model calibration and validation, all of which are discussed in detail in ARUP 2025 TAIA.

No new data was collected for this TN.

Job number

603702\26

Date

30 January 2026

## 7. Transport modelling

### 7.1 Modelling years

SIDRA modelling documented in this TN consists of the following years:

- 2024: Base year, unchanged from ARUP 2025 TAIA.
- 2029: RHH opening year, updated.
- 2039: RHH opening+10 years, updated.

### 7.2 Road user classification

The traffic count data were collected for the following road user classes, which were also modelled in SIDRA:

- Light vehicles: Austroads class 1 and 2,
- Heavy vehicles: Austroads class 3 and above,
- Bus,
- Bicycles, and
- Pedestrians.

### 7.3 Modelled peak hours

Based on the traffic survey data, the following weekday network peak hours were identified:

- AM peak: 8:00am – 9:00am, and
- PM peak: 4:45pm – 5:45pm.

### 7.4 Modelling Scenarios

The modelling scenarios documented in this TN have been summarised in Table 2.

**Table 2: Modelling scenarios**

#	Scenario	Geometry			Traffic demand			
		Existing 2024	Planned Upgrades	Site access	Surveyed traffic count	Background traffic growth	Nearby planned development traffic	RHH development traffic
1	2024 Base Case	√			√			
2	2029 Base Case	√	√		√	√	√	
3	2029 Project Case (with Proposal)	√	√	√	√	√	√	√
4	2039 Base Case	√	√		√	√	√	
5	2039 Project Case (with Proposal)	√	√	√	√	√	√	√

Job number 603702\26  
 Date 30 January 2026

## 8. Future Base Case Traffic

Future year base case traffic (i.e. without the RHH development traffic) consists of-

- background traffic growth, and
- nearby planned development traffic.

### 8.1 Background traffic growth

Traffic forecasts from Transport for New South Wales (TfNSW) strategic models for 2021, 2026, 2036 and 2041 were collated, analysed and interpolated to estimate 2024, 2029 and 2039 link volumes. To estimate future year demand without the Proposal, a percentage growth was then calculated between the 2024, 2029 and 2039 STFM link volumes and applied to the existing 2024 traffic volumes.

### 8.2 Nearby planned development traffic

#### 8.2.1 Northern Residential Precinct

With reference to SCT 2022 NRP TTS report, the peak hour traffic generation of NRP have been summarised in Table 3.

**Table 3: Northern Residential Precinct traffic generation (veh/hr)**

Peak	In	Out	Total
AM	8.4	75.6	84
PM	75.6	8.4	84

#### 8.2.2 Rouse Hill Northern Precinct

The Rouse Hill Northern Precinct (RHNP) is expected to be operational in 2041 (source: Aecom 2025 RHNP TAS).

The peak hour traffic generation of fully operational RHNP have been collated from Aecom 2024 RHNP TIA. Assuming linear growth of RHNP from construction starting year 2026 to opening year 2041, the development trips were interpolated to estimate the 2029 and 2039 trips, as summarised in Table 4.

**Table 4: Rouse Hill Northern Precinct traffic generation (veh/hr)**

Year	Peak	In	Out	Total
2029	2029 AM	185	94	279
	2029 PM	103	185	288
2039	2039 AM	800	408	1,208
	2039 PM	446	800	1,246
2041	2041 AM	923	471	1,394
	2041 PM	515	923	1,438

Job number 603702\26  
 Date 30 January 2026

Note that in the ARUP 2025 TAIA, the Northern Frame Precinct (which is now known as the RHNP) was estimated to generate up to 172 trips per hour in 2029 and 613 trips per hour in 2039.

## 9. RHH development traffic

### 9.1 Proposed FTE

HI has proposed an increase in the amount of FTE staff number for RHH.

### 9.2 Trip generation

The daily and peak hour arrival and departure profiles for staff, patients and visitors have been based on previous surveys of a range of comparable hospitals in Sydney, such as Concord Hospital, Westmead Hospital, Blacktown Hospital, Sutherland Hospital, St George Hospital and Princes of Wales Hospital. Accordingly, the weekday network peak hour trips are summarised below.

#### 9.2.1 Person trips

The person trips during network peak hours are summarised in Table 5.

**Table 5: Rouse Hill Hospital – generated Person trips**

User	Peak	In	Out	Total
Staff	AM	252	16	268
	PM	24	238	262
	Daily	1,016	1,016	2,032
Patients	AM	126	23	149
	PM	32	187	219
	Daily	1,714	1,714	3,428
Visitors	AM	29	0	29
	PM	77	45	122
	Daily	622	622	1,244
All (Staff + Patients + visitors)	AM	407	39	446
	PM	133	470	603
	Daily	3,353	3,353	6,706

The mode share and occupancy assumptions adopted for Car trips are shown in

Table 6. These values are based on previous surveys of a range of comparable hospitals in Sydney, which also tie into the proximity of the Metro, as well as the car parking provision and the green travel plan.

Also, for the purpose of mode share assumptions, the Staff trips are separated into two shifts:

- Daytime shift: AM peak Inbound and PM peak Outbound trips.
- Nighttime shift: AM peak Outbound and PM peak Inbound trips.

Job number

603702\26

Date

30 January 2026

**Table 6: Adopted mode share and vehicle occupancy parameters for car**

User	Car (driver) mode share	Vehicle occupancy
Staff	<ul style="list-style-type: none"> <li>65% for daytime shift*</li> <li>95% for nighttime shift</li> </ul>	<ul style="list-style-type: none"> <li>1.09 for daytime shift</li> <li>1.0 for nighttime shift</li> </ul>
Patients	84%	1.0
Visitors	60%*	1.2

\*This 65% consists of 50% Car (driver) trips and 15% Car (passenger) trips, as per the target mode share in green travel plan (reference: ARUP 2025 TAIA, Appendix C - Green Travel Plan, Table 5).

The resulting number of Car trips are summarised in Table 7.

**Table 7: Rouse Hill Hospital – generated Car trips**

User	Peak	In	Out	Total
Staff	AM	151	15	166
	PM	23	142	165
	Daily	681	681	1,362
Patients	AM	106	19	125
	PM	27	157	184
	Daily	1,440	1,440	2,880
Visitors	AM	14	0	14
	PM	38	22	60
	Daily	311	311	622
All (Staff + Patients + visitors)	AM	271	34	305
	PM	88	321	409
	Daily	2,431	2,431	4,862

### 9.3 Trip distribution

The regional trip distribution percentages were adopted with reference to Aecom 2024 RHNP TIA (and Rouse Hill Town Centre Stage 2 study), as summarised in Table 8.

**Table 8: Adopted regional trip distribution assumptions**

	In	Out
Windsor Rd North	20%	20%
Windsor Rd South	30%	30%
Commercial Road	15%	15%
Schofields Road	20%	20%
Other (Caddies South & outside)	15%	15%

Job number 603702\26  
Date 30 January 2026

---

## 10. Modelling outcomes

### 10.1 Intersection operational performance

The updated SIDRA network model predicted operational performance of key intersections in future years 2029 and 2039 with and without the Proposal are summarised in Table 9. For easier reference, Base year 2024 results have been copied from the ARUP 2025 TAIA and added into Table 9.

Key findings:

- Under 2024 Base year (existing) conditions, 4 out of the 6 intersections assessed – such as Windsor Road / Commercial Road, Commercial Road / Caddies Boulevard, Windsor Road / Rouse Road / Mile End Road and Windsor Road / Schofields Road / Rouse Hill Drive – operate at or near capacity (i.e. Degree of Saturation close to 1.00).
- Under 2024 Base year (existing) conditions, 3 out of 6 intersections – such as Commercial Road / Caddies Boulevard, Windsor Road / Rouse Road / Mile End Road and Windsor Road / Schofields Road / Rouse Hill Drive – operate with unacceptable delays (Level of Service “F” or LoS F).
- With the projected increase in background traffic in 2029 Base Case and 2039 Base Case (i.e. without the Proposal), the intersections are expected to perform worse than assessed in the 2025 TAIA.
- In fact, 4 out of 6 intersections are expected to operate with unacceptable delays (LoS F) and degrees of saturation in 2039 Base Case. The exceptions are Commercial Road / Health Co Access and Commercial Road / Caddies Boulevard.
- With the addition of RHH development traffic, all 6 intersections will operate at LoS F in 2039.

Job number 603702\26

Date 30 January 2026

Table 9: Updated SIDRA network modelling results

Peak hour	Scenario	Windsor Road / Commercial Road				Commercial Road / The Fiddler				Commercial Road / Health Co Access				Commercial Road / Caddies Boulevard				Windsor Road / Rouse Road / Mile End Road				Windsor Road / Schofields Road / Rouse Hill Drive			
		DoS	Average delay (s)	LoS	95th% queue (m)	DoS	Average delay (s)	LoS	95th% queue (m)	DoS	Average delay (s)	LoS	95th% queue (m)	DoS	Average delay (s)	LoS	95th% queue (m)	DoS	Average delay (s)	LoS	95th% queue (m)	DoS	Average delay (s)	LoS	95th% queue (m)
AM Peak	Existing 2024	0.85	25	B	310m (north)	0.32	40	C	<5m (north)	0.22	5	A	20m (east)	0.90	66	E	40m (south)	0.98	77	F	510m (north)	0.99	78	F	470m (north)
	Future 2029 Without Proposal	1.02	37	C	320m (north)	0.74	87	F	10m (north)	0.24	5	A	20m (west)	0.78	32 <sup>†††</sup>	C	120m (east)	1.14	150	F	790m (north)	0.90	47	D	260m (west)
	Future 2029 With Proposal	0.90	27	B	280m (north)	0.58	62 <sup>†</sup>	E	10m (north)	0.75	32 <sup>††</sup>	C	140m (east)	0.79	35	C	160m (east)	1.16	156	F	820m (north)	0.90	47	D	260m (west)
	Future 2039 Without Proposal	>3.00	>600	F	>2km (east)	1.07	218	F	20m (north)	0.50	5	A	40m (west)	1.15	142	F	260m (west)	1.42	233	F	1110m (north)	1.07	71	F	430m (west)
	Future 2039 With Proposal	1.35	63	E	370m (north)	0.96	158 <sup>†</sup>	F	120m (east)	1.29	153 <sup>††</sup>	F	490m (east)	1.27	192	F	650m (east)	1.42	241	F	1150m (north)	1.05	93	F	460m (south)
PM Peak	Existing 2024	0.96	38	D	360m (north)	0.77	56	D	20m (north)	0.31	7	A	20m (north)	1.00	91	F	100m (south)	0.99	70	E	380m (north)	0.86	66	E	260m (north)
	Future 2029 Without Proposal	1.02	43	D	410m (north)	2.63	>600	F	210m (north)	0.25	8	A	40m (west)	0.75	28 <sup>†††</sup>	B	100m (east)	1.49	121	F	430m (north)	0.90	59	E	270m (north)
	Future 2029 With Proposal	1.00	50	D	460m (north)	2.78	>600	F	210m (north)	0.71	32 <sup>††</sup>	C	120m (east)	0.85	29	C	110m (east)	1.74	157	F	440m (north)	0.99	61	E	300m (south)
	Future 2039 Without Proposal	2.05	155	F	650m (east)	>3.00	>600	F	340m (north)	0.36	7	A	50m (east)	1.01	50	D	220m (south)	2.42	230	F	740m (north)	1.09	91	F	380m (west)
	Future 2039 With Proposal	1.76	128	F	650m (east)	>3.00	>600	F	320m (north)	0.99	49 <sup>††</sup>	D	290m (east)	1.25	164	F	650m (south)	2.42	268	F	770m (north)	1.13	96	F	410m (west)

Note: as advised by TfNSW, green split priority has been allocated to coordinated movements for intersections along Windsor Road.

<sup>†</sup> Improvement in AM peak with development is due to changes to phasing for new southern leg at Commercial Road / Health Co Access intersection providing more gaps to turn right. However, increase in delay in PM peak due to higher overall traffic volumes on Commercial Road with less gaps.

<sup>††</sup> Increase in average delay due to proposed upgrade of the Commercial Road / Health Co Access intersection. This upgrade would include a new southern approach and traffic signal changes to facilitate access to the Site, which are likely to increase average delay.

<sup>†††</sup> Reduction in delay due to assumed upgrade of the Commercial Road / Caddies Boulevard intersection to a signalised intersection.

For comparison, the previous SIDRA results from ARUP 2025 TAIA have been presented in Table 10

Job number 603702\26  
 Date 30 January 2026

Table 10: Previous SIDRA modelling results from ARUP 2025 TAIA

Peak hour	Scenario	Windsor Road / Commercial Road				Commercial Road / The Fiddler				Commercial Road / Health Co Access				Commercial Road / Caddies Boulevard				Windsor Road / Rouse Road / Mile End Road				Windsor Road / Schofields Road / Rouse Hill Drive			
		DoS	Average delay (s)	LoS	95th% queue (m)	DoS	Average delay (s)	LoS	95th% queue (m)	DoS	Average delay (s)	LoS	95th% queue (m)	DoS	Average delay (s)	LoS	95th% queue (m)	DoS	Average delay (s)	LoS	95th% queue (m)	DoS	Average delay (s)	LoS	95th% queue (m)
AM Peak	Existing 2024	0.85	25	B	310m (north)	0.32	40	C	<5m (north)	0.22	5	A	20m (east)	0.90	66	E	40m (south)	0.98	77	F	510m (north)	0.99	78	F	470m (north)
	Future 2029 Without Proposal	0.91	34	C	340m (north)	0.66	75	F	10m (north)	0.24	5	A	30m (west)	0.75	35 <sup>†††</sup>	C	140m (east)	1.15	155	F	790m (north)	0.95	54	D	300m (west)
	Future 2029 With Proposal	0.91	31	C	280m (north)	0.49	51 <sup>†</sup>	D	10m (north)	0.70	30 <sup>††</sup>	C	120m (east)	0.84	36	C	160m (east)	1.17	160	F	830m (north)	1.00	53	D	310m (west)
	Future 2039 Without Proposal	1.24	59	E	380m (north)	0.90	127	F	120m (east)	0.45	7	A	50m (west)	0.91	44	D	230m (east)	1.42	224	F	1060m (north)	1.21	73	F	520m (west)
	Future 2039 With Proposal	1.32	64	E	370m (north)	0.65	65 <sup>†</sup>	E	120m (east)	1.31	164 <sup>††</sup>	F <sup>††</sup>	350m (east)	1.07	86	F	340m (east)	1.42	243	F	1130m (north)	1.05	79	F	330m (west)
PM Peak	Existing 2024	0.96	38	D	360m (north)	0.77	56	D	20m (north)	0.31	7	A	20m (north)	1.00	91	F	100m (south)	0.99	70	E	380m (north)	0.86	66	E	260m (north)
	Future 2029 Without Proposal	0.90	37	C	410m (north)	2.28	>200	F	190m (north)	0.25	8	A	40m (west)	0.71	31 <sup>†††</sup>	C	100m (west)	1.49	120	F	420m (north)	0.90	60	E	280m (north)
	Future 2029 With Proposal	0.91	43	D	440m (north)	2.26 <sup>†</sup>	>200	F	180m (north)	0.69	31 <sup>††</sup>	C	110m (east)	0.83	34	C	130m (west)	1.71	144	F	430m (north)	0.90	61	E	300m (north)
	Future 2039 Without Proposal	2.26	163	F	450m (north)	>2.0	>200	F	300m (north)	0.31	8	A	50m (east)	0.79	34	C	140m (south)	2.35	220	F	720m (north)	1.08	80	F	310m (south)
	Future 2039 With Proposal	1.77	131	F	490m (north)	>2.0	>200	F	300m (north)	0.82	35 <sup>††</sup>	C	160m (east)	0.90	38	C	160m (west)	2.35	230	F	720m (north)	1.08	82	F	330m (south)

## 10.2 Queueing

The impact of future background traffic growth in an already saturated network can be elaborated by an example of network-wide Queue Storage Ratio (QSR) map, as presented in Figure 2 for 2039 PM Base and Project cases.

QSR 1.00 on any approach means the back of queue has reached 100% of available road capacity, and any further queuing will extend beyond the upstream intersection.

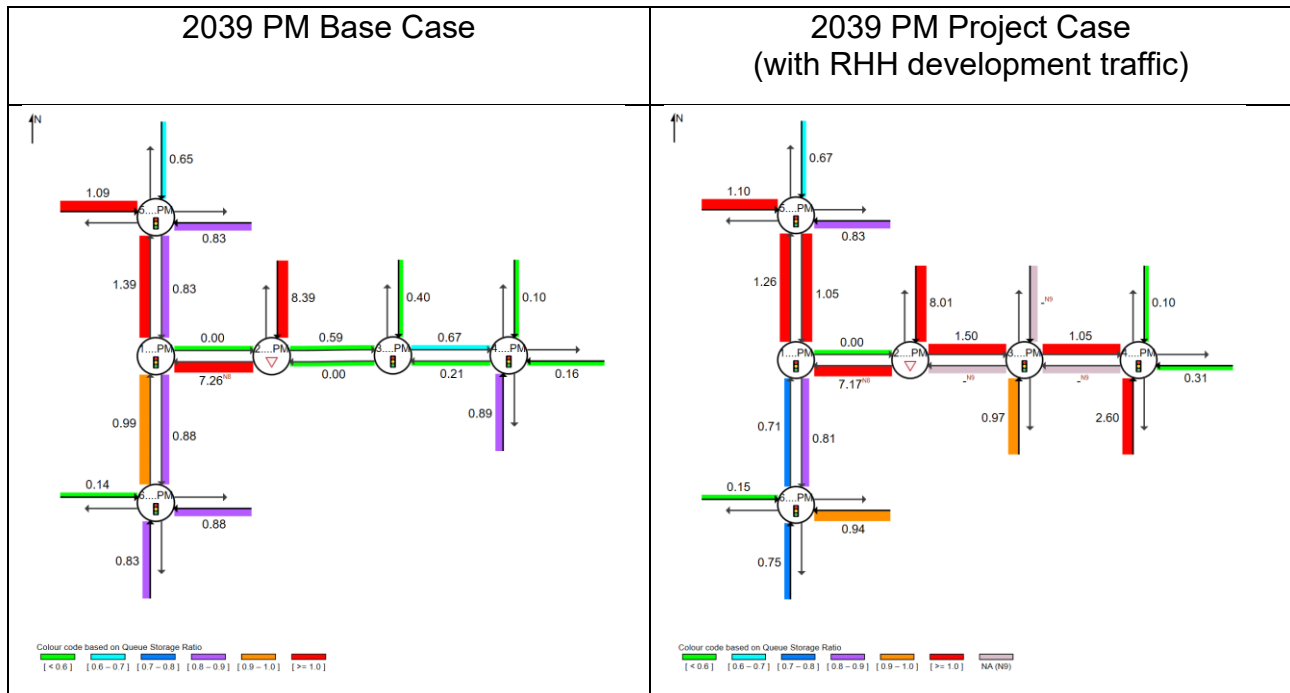


Figure 2: Queue Storage Ratios for 95<sup>th</sup> percentile queue – 2039 PM

As shown above, during 2039 PM Base Case, the QSR at the northbound approach of Windsor Road at the Windsor Road / Rouse Road / Mile End Road intersection is 1.39, resulting in significant queueing at Windsor Road / Commercial Road intersection, in particular on the east approach (QSR 7.26). With the inclusion of RHH traffic in 2039 PM Project Case (right image), the queueing seems to be slightly worsening in some areas, while also slightly improving in other areas.

## 11. Conclusions

The traffic demand analysis and SIDRA modelling assessment documented in this Technical Note quantify the increase in trip numbers associated with Rouse Hill Northern Precinct as well as proposed updated FTE of Rouse Hill Hospital.

In general, the Rouse Hill Hospital development traffic volumes are less than 5% of the total intersection volume in any future year or peak at the 6 intersections assessed.

However, due to oversaturated network conditions expected at the key intersections (particularly along Windsor Road) in future year base case (without the Proposal), the comparison of impact between previous FTE and updated FTE show limited impact on the forecasted road network.

# NETWORK LAYOUT

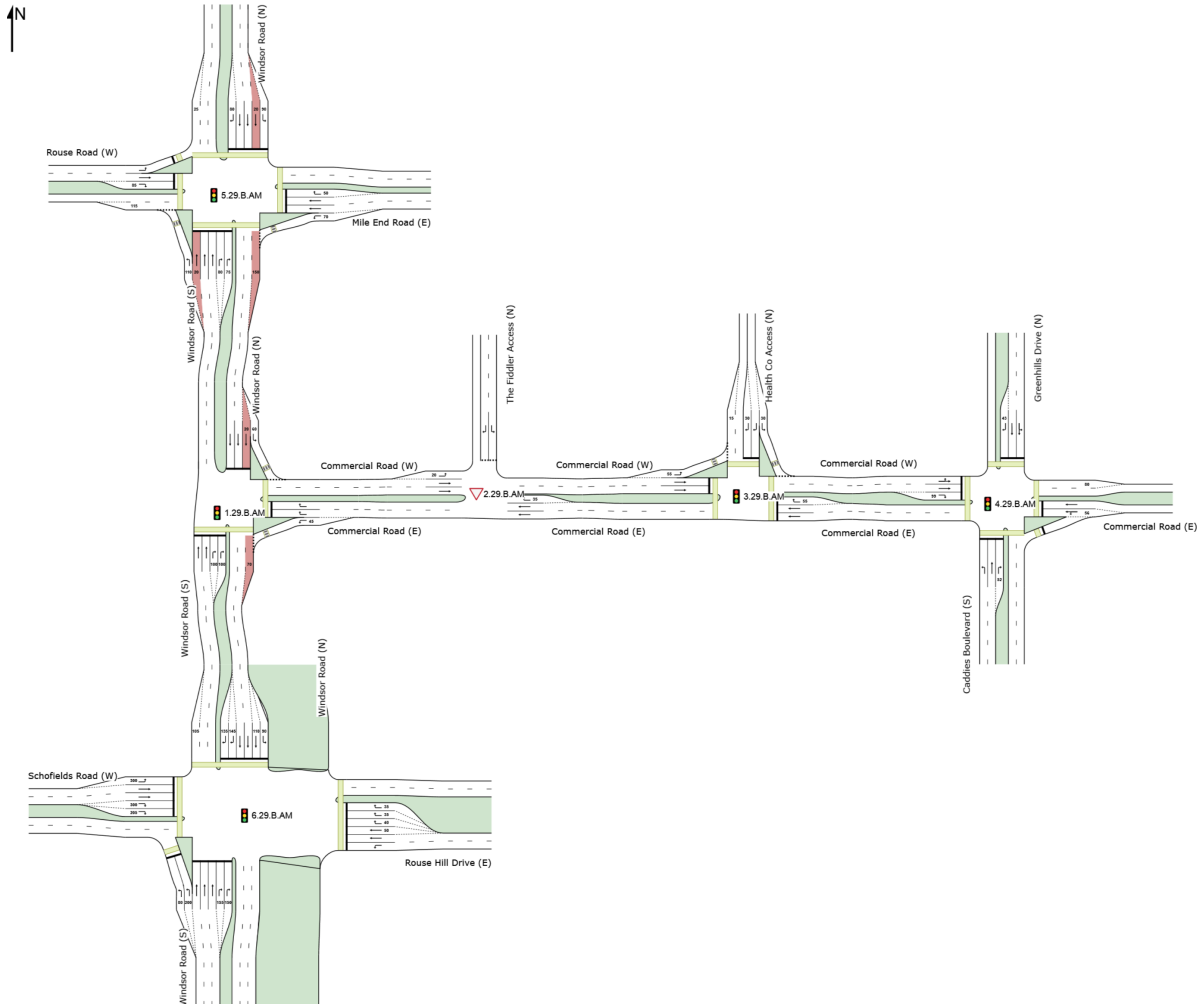
Network: [N.29.B.AM] 2029 Future Base AM Peak (SSDA)

New Network

Network Category: (None)

Network Scenario: 1 | Local Volumes

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



SITES IN NETWORK		
Site ID	CCG ID	Site Name
1. 1.29.B.AM	NA	1. EXISTING Windsor Road / Commercial Road
2. 2.29.B.AM	NA	2. EXISTING Commercial Road / The Fiddler Access
3. 3.29.B.AM	NA	3. EXISTING Commercial Road / Health Co Access
4. 4.29.B.AM	NA	4. FUTURE Commercial Road / Greenhills Drive / Caddies Boulevard
5. 5.29.B.AM	NA	5. EXISTING Windsor Road / Rouse Road / Mile End Road
6. 6.29.B.AM	NA	6. EXISTING Windsor Road / Schofields Road / Rouse Hill Drive

# MOVEMENT SUMMARY

 Site: [1.29.B.AM] 1. EXISTING Windsor Road / Commercial Road (2029 Future (Hospital Opening Year) Base AM)

Network: [N.29.B.AM] 2029 Future Base AM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

TCS 3788

Site Category: NA

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140.0 seconds (Network User-Given Cycle Time)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]			v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
South: Windsor Road (S)															
2	T1	All MCs	1671	9.3	1671	9.3	0.691	6.7	LOS A	26.4	199.6	0.46	0.43	0.46	57.1
3	R2	All MCs	427	1.2	427	1.2	*0.824	79.1	LOS F	15.3	108.3	1.00	0.91	1.13	14.0
Approach			2098	7.7	2098	7.7	0.824	21.5	LOS B	26.4	199.6	0.57	0.52	0.59	35.1
East: Commercial Road (E)															
4	L2	All MCs	416	3.5	416	3.5	0.656	54.5	LOS D	18.2	131.3	0.83	1.25	0.83	8.2
6	R2	All MCs	433	8.0	433	8.0	*1.017	134.8	LOS F	25.9 <sup>N8</sup>	194.1 <sup>N8</sup>	1.00	1.27	1.64	3.1
Approach			848	5.8	848	5.8	1.017	95.5	LOS F	25.9 <sup>N8</sup>	194.1 <sup>N8</sup>	0.92	1.26	1.24	3.9
North: Windsor Road (N)															
7	L2	All MCs	283	3.3	<b>255</b>	3.4	0.160	25.7	LOS B	0.7	5.4	0.05	0.63	0.05	58.7
8	T1	All MCs	1945	7.9	<b>1756</b>	8.1	*0.824	30.1	LOS C	42.5	314.4	0.75	0.69	0.75	44.0
Approach			2228	7.3	<b>2011</b>	7.5	0.824	29.5	LOS C	42.5	314.4	0.66	0.68	0.66	33.8
All Vehicles			5175	7.2	<b>4957</b>	7.5	1.017	37.4	LOS C	42.5 <sup>N8</sup>	314.4 <sup>N8</sup>	0.67	0.71	0.73	24.1

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

<sup>N8</sup> The Percentile Back of Queue extends to upstream Site lanes.

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[ Ped ]	[ Dist ]			sec	m	m/sec
					ped	m					
South: Windsor Road (S)											
P1	Full	22	64.2	LOS F	0.1	0.1	0.96	0.96	246.0	200.0	0.81
East: Commercial Road (E)											
P2	Full	27	64.2	LOS F	0.1	0.1	0.96	0.96	246.0	200.0	0.81
All Pedestrians		49	64.2	LOS F	0.1	0.1	0.96	0.96	246.0	200.0	0.81

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


---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:29:57 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

 Site: [2.29.B.AM] 2. EXISTING Commercial Road / The Fiddler Access (2029 Future (Hospital Opening Year) Base AM)  
 Network: [N.29.B.AM] 2029 Future Base AM Peak (SSDA)  
 Output produced by SIDRA INTERSECTION Version: 10.0.8.241

New Site  
 Site Category: (None)  
 Give-Way (Two-Way)  
**Network Scenario: 1 | Local Volumes      Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	[ Dist ] m				km/h
East: Commercial Road (E)															
5	T1	All MCs	815	5.8	815	5.8	0.275	0.0	LOS A	-N7	-N7	0.00	0.00	0.00	49.8
6	R2	All MCs	17	6.2	17	6.2	0.036	9.6	LOS A	0.1	0.8	0.53	0.71	0.53	21.9
Approach			832	5.8	832	5.8	0.275	0.2	NA	-N7	-N7	0.01	0.01	0.01	48.0
North: The Fiddler Access (N)															
7	L2	All MCs	8	14.3	8	14.3	0.009	3.5	LOS A	0.0	0.3	0.38	0.41	0.38	19.7
9	R2	All MCs	20	5.6	20	5.6	0.742	86.7	LOS F	1.0	7.5	0.98	1.11	1.29	2.3
Approach			28	8.0	28	8.0	0.742	63.5	LOS E	1.0	7.5	0.81	0.92	1.04	3.0
West: Commercial Road (W)															
10	L2	All MCs	37	6.1	36	6.0	0.020	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	31.2
11	T1	All MCs	677	2.1	650	2.1	0.170	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach			714	2.3	686	2.3	0.170	0.2	NA	0.0	0.0	0.00	0.03	0.00	47.8
All Vehicles			1573	4.3	1546	4.4	0.742	1.4	NA	-N7	-N7	0.02	0.04	0.02	41.0

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

**N7** The capacity reduction has been determined from the queue blockage probability based on the Percentile Back of Queue values of a Site further downstream.

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:29:57 AM  
 Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

 Site: [3.29.B.AM] 3. EXISTING\_Commercial Road / Health Co Access (2029 Future (Hospital Opening Year) Base AM)

Network: [N.29.B.AM] 2029 Future Base AM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

TCS 4598

Site Category: NA

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90.0 seconds (Site User-Given Cycle Time)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]			v/c	sec		[ Veh. veh ]	[ Dist ] m				km/h
East: Commercial Road (E)															
5	T1	All MCs	764	6.3	764	6.3	*0.242	1.1	LOS A	2.9	21.0	0.19	0.16	0.19	46.9
6	R2	All MCs	114	0.0	114	0.0	0.156	6.5	LOS A	1.0	7.0	0.29	0.93	0.29	22.9
Approach			878	5.5	878	5.5	0.242	1.8	LOS A	2.9	21.0	0.20	0.26	0.20	40.1
North: Health Co Access (N)															
7	L2	All MCs	34	0.0	34	0.0	0.031	1.5	LOS A	0.1	0.4	0.04	0.25	0.04	25.8
9	R2	All MCs	78	1.4	78	1.4	*0.242	44.9	LOS D	1.7	12.0	0.97	0.72	0.97	5.9
Approach			112	1.0	112	1.0	0.242	31.8	LOS C	1.7	12.0	0.69	0.58	0.69	7.8
West: Commercial Road (W)															
10	L2	All MCs	154	0.7	148	0.7	0.105	4.7	LOS A	0.2	1.7	0.04	0.50	0.04	29.7
11	T1	All MCs	530	2.6	509	2.6	0.179	3.4	LOS A	3.2	22.7	0.31	0.26	0.31	33.3
Approach			684	2.2	658	2.2	0.179	3.7	LOS A	3.2	22.7	0.25	0.32	0.25	32.0
All Vehicles			1674	3.9	1648	3.9	0.242	4.6	LOS A	3.2	22.7	0.25	0.31	0.25	33.2

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[ Ped ped ]	[ Dist ] m			sec	m	m/sec
East: Commercial Road (E)											
P2	Full	6	39.2	LOS D	0.0	0.0	0.93	0.93	221.0	200.0	0.90
North: Health Co Access (N)											
P3	Full	2	39.2	LOS D	0.0	0.0	0.93	0.93	221.0	200.0	0.90
West: Commercial Road (W)											
P4	Full	4	39.2	LOS D	0.0	0.0	0.93	0.93	221.0	200.0	0.90

All Pedestrians	13	39.2	LOS D	0.0	0.0	0.93	0.93	221.0	200.0	0.90
-----------------	----	------	-------	-----	-----	------	------	-------	-------	------

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:29:57 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

 Site: [4.29.B.AM] 4. FUTURE Commercial Road / Greenhills Drive / Caddies Boulevard (2029 Future (Hospital Opening Year) Base AM)

Network: [N.29.B.AM] 2029 Future Base AM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

New Site TCS4598

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90.0 seconds (Site User-Given Cycle Time)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance													
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed	
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ]			km/h	
South: Caddies Boulevard (S)													
1	L2	All MCs	284 10.1	284 10.1	0.477	29.1	LOS C	9.8	74.4	0.83	0.80	0.83	19.9
2	T1	All MCs	88 2.0	88 2.0	0.243	34.0	LOS C	3.4	23.9	0.89	0.70	0.89	31.0
3	R2	All MCs	149 4.6	149 4.6	*0.776	52.0	LOS D	7.1	51.6	1.00	0.93	1.22	29.1
Approach			522 7.1	522 7.1	0.776	36.5	LOS C	9.8	74.4	0.89	0.82	0.95	26.4
East: Commercial Road (E)													
4	L2	All MCs	387 1.1	387 1.1	0.654	23.0	LOS B	17.3	123.2	0.81	0.79	0.81	37.9
5	T1	All MCs	497 3.8	497 3.8	0.654	32.1	LOS C	17.3	123.2	0.90	0.80	0.90	33.6
Approach			884 2.6	884 2.6	0.654	28.1	LOS B	17.3	123.2	0.86	0.80	0.86	34.7
North: Greenhills Drive (N)													
7	L2	All MCs	86 2.0	86 2.0	*0.315	12.0	LOS A	3.6	25.9	0.84	1.05	0.84	32.1
8	T1	All MCs	191 2.0	191 2.0	*0.315	31.0	LOS C	4.5	32.3	0.88	0.84	0.88	29.0
9	R2	All MCs	65 2.0	65 2.0	0.315	45.8	LOS D	2.8	19.6	0.96	0.75	0.96	22.5
Approach			342 2.0	342 2.0	0.315	29.0	LOS C	4.5	32.3	0.88	0.88	0.88	29.1
West: Commercial Road (W)													
10	L2	All MCs	32 2.0	31 2.0	0.318	13.5	LOS A	4.2	29.9	0.83	1.02	0.83	30.2
11	T1	All MCs	359 3.2	347 3.1	*0.656	31.5	LOS C	9.1	65.4	0.93	0.90	0.95	33.2
12	R2	All MCs	185 0.6	179 0.6	*0.776	50.5	LOS D	8.4	58.9	1.00	0.93	1.20	20.1
Approach			576 2.3	556 2.2	0.776	36.6	LOS C	9.1	65.4	0.95	0.92	1.02	29.4
All Vehicles			2325 3.5	2304 3.5	0.776	32.2	LOS C	17.3	123.2	0.89	0.84	0.92	30.8

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

Pedestrian Movement Performance										
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE	Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
					[ Ped Dist ]					

	ped/h	sec		ped	m		sec	m	m/sec	
South: Caddies Boulevard (S)										
P1 Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
East: Commercial Road (E)										
P2 Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
P2B Slip/ Bypass	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
North: Greenhills Drive (N)										
P3 Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
West: Commercial Road (W)										
P4 Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
All Pedestrians	263	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:29:57 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx



	ped/h	sec		ped	m		sec	m	m/sec	
South: Windsor Road (S)										
P1 Full	22	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82
East: Mile End Road (E)										
P2 Full	27	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82
North: Windsor Road (N)										
P3 Full	53	63.3	LOS F	0.2	0.2	0.95	0.95	245.1	200.0	0.82
West: Rouse Road (W)										
P4 Full	53	63.3	LOS F	0.2	0.2	0.95	0.95	217.2	200.0	0.92
P4B Slip/ Bypass	53	32.7	LOS D	0.1	0.1	0.90	0.90	186.5	200.0	1.07
All Pedestrians	207	55.5	LOS E	0.2	0.2	0.94	0.94	223.1	200.0	0.90

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:29:57 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

 Site: [6.29.B.AM] 6. EXISTING Windsor Road / Schofields Road / Rouse Hill Drive (2029 Future (Hospital Opening Year) Base AM)

Network: [N.29.B.AM] 2029 Future Base AM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

TCS 3557

Site Category: NA

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140.0 seconds (Network User-Given Cycle Time)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed			
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ]			km/h			
			veh/h	%	veh/h	%		veh	m						
South: Windsor Road (S)															
1	L2	All MCs	483	5.7	483	5.7	0.247	24.0	LOS B	8.2	60.6	0.55	0.75	0.55	52.3
2	T1	All MCs	1384	6.1	1384	6.1	*0.734	45.0	LOS D	30.9	227.7	0.92	0.81	0.92	25.3
3	R2	All MCs	277	13.9	277	13.9	0.900	90.5	LOS F	10.9	85.1	1.00	0.99	1.36	19.2
Approach			2144	7.0	2144	7.0	0.900	46.2	LOS D	30.9	227.7	0.85	0.82	0.89	31.6
East: Rouse Hill Drive (E)															
4	L2	All MCs	229	4.2	229	4.2	0.693	54.8	LOS D	13.2	95.6	0.99	1.07	1.01	21.0
5	T1	All MCs	229	4.9	229	4.9	0.683	70.0	LOS E	8.0	58.2	1.00	0.84	1.07	32.5
6	R2	All MCs	136	4.3	136	4.3	*0.640	84.1	LOS F	3.6	25.9	1.00	0.79	1.08	10.2
Approach			594	4.5	594	4.5	0.693	67.4	LOS E	13.2	95.6	1.00	0.92	1.05	24.2
North: Windsor Road (N)															
7	L2	All MCs	128	3.6	118	3.6	0.136	24.2	LOS B	2.9	21.3	0.40	0.71	0.40	38.7
8	T1	All MCs	1839	8.0	1693	8.1	0.710	20.3	LOS B	25.5	191.2	0.66	0.59	0.66	51.9
9	R2	All MCs	393	5.7	361	5.7	0.597	70.3	LOS E	11.9	87.3	1.00	0.83	1.00	35.4
Approach			2360	7.4	2172	7.4	0.710	28.8	LOS C	25.5	191.2	0.70	0.64	0.70	44.9
West: Schofields Road (W)															
10	L2	All MCs	579	5.7	579	5.7	*0.900	56.9	LOS E	34.8	255.4	1.00	1.11	1.14	23.1
11	T1	All MCs	651	5.8	651	5.8	0.850	68.1	LOS E	23.3	171.4	1.00	0.97	1.14	33.4
12	R2	All MCs	392	5.7	392	5.7	0.699	68.6	LOS E	13.1	95.9	1.00	0.85	1.03	36.3
Approach			1622	5.7	1622	5.7	0.900	64.2	LOS E	34.8	255.4	1.00	0.99	1.12	30.1
All Vehicles			6720	6.6	6532	6.8	0.900	46.8	LOS D	34.8	255.4	0.85	0.81	0.90	33.4

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE	Prop. Qued	Eff. Stop	Travel Time	Travel Dist.	Aver. Speed	

	ped/h	sec		[ Ped ped	Dist ] m		Rate		sec	m	m/sec
South: Windsor Road (S)											
P1B Slip/ Bypass	26	65.2	LOS F	0.1	0.1	0.97	0.97	247.0	200.0	0.81	
East: Rouse Hill Drive (E)											
P2 Full	26	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82	
North: Windsor Road (N)											
P3 Full	26	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82	
West: Schofields Road (W)											
P4 Full	26	63.2	LOS F	0.1	0.1	0.95	0.95	217.1	200.0	0.92	
All Pedestrians	105	63.7	LOS F	0.1	0.1	0.95	0.95	238.5	200.0	0.84	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:29:57 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# QUEUE STORAGE RATIO (PERCENTILE)

Largest Ratio of the 95% Back of Queue Distance to the available queue storage distance for any lane on the approach

Network: [N.29.B.AM] 2029 Future Base AM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

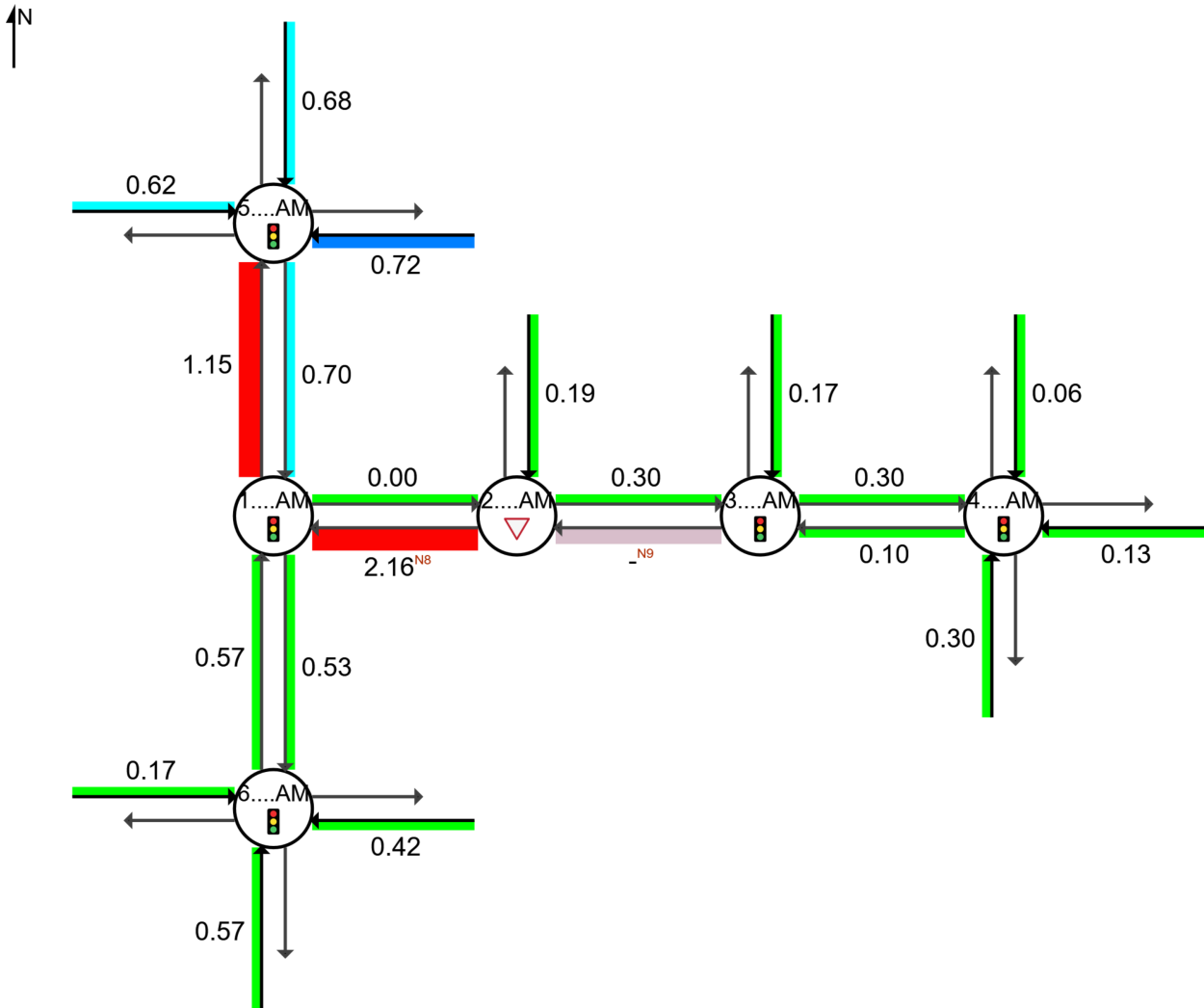
New Network

Network Category: (None)

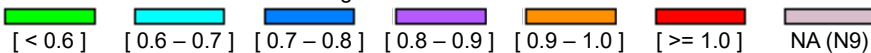
Network Cycle Time = 140.0 seconds (Network User-Given Cycle Time)

Network Scenario: 1 | Local Volumes

Short Lanes are not included in determining Queue Storage Ratios.



Colour code based on Queue Storage Ratio



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

**N8** The Percentile Back of Queue extends to upstream Site lanes.

**N9** Refer to the full Percentile Back of Queue value given for the queue formed at the originating downstream Site.

SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:29:57 AM  
 Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

 **Site: [1.29.B.PM] 1. EXISTING Windsor Road / Commercial Road (2029 Future (Hospital Opening Year) Base PM)**  
**Network: [N.29.B.PM] 2029 Future Base PM Peak (SSDA)**  
 Output produced by SIDRA INTERSECTION Version: 10.0.8.241

TCS 3788  
 Site Category: NA  
 Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140.0 seconds (Network User-Given Cycle Time)  
**Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed			
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ]			km/h			
			veh/h	%	veh/h	%		veh	m						
South: Windsor Road (S)															
2	T1	All MCs	1766	3.9	1766	3.9	0.570	1.3	LOS A	8.8	63.5	0.13	0.12	0.13	74.4
3	R2	All MCs	463	0.4	463	0.4	*0.826	79.2	LOS F	16.6	116.3	1.00	0.91	1.12	14.0
Approach			2229	3.1	2229	3.1	0.826	17.4	LOS B	16.6	116.3	0.31	0.28	0.33	39.2
East: Commercial Road (E)															
4	L2	All MCs	377	4.2	<b>358</b>	4.3	0.589	62.5	LOS E	16.3	118.2	0.81	1.24	0.81	8.0
6	R2	All MCs	509	3.7	<b>484</b>	3.9	*1.026	138.6	LOS F	29.9 <sup>N8</sup>	216.1 <sup>N8</sup>	1.00	1.26	1.64	3.1
Approach			886	3.9	<b>842</b>	4.0	1.026	106.3	LOS F	29.9 <sup>N8</sup>	216.1 <sup>N8</sup>	0.92	1.25	1.29	3.5
North: Windsor Road (N)															
7	L2	All MCs	363	0.5	363	0.5	0.227	32.3	LOS C	5.2	36.7	0.23	0.63	0.23	54.7
8	T1	All MCs	1839	4.7	1839	4.7	*0.826	46.6	LOS D	56.9	409.7	0.94	0.83	0.94	30.8
Approach			2202	4.0	2202	4.0	0.826	44.2	LOS D	56.9	409.7	0.82	0.79	0.82	26.0
All Vehicles			5317	3.6	<b>5273</b>	3.7	1.026	42.8	LOS D	56.9 <sup>N8</sup>	409.7 <sup>N8</sup>	0.62	0.65	0.69	22.2

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

<sup>N8</sup> The Percentile Back of Queue extends to upstream Site lanes.

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
			ped/h	sec		[ Ped ped	Dist ]		sec	m	m/sec
					ped	m					
South: Windsor Road (S)											
P1	Full	18	64.2	LOS F	0.1	0.1	0.96	0.96	246.0	200.0	0.81
East: Commercial Road (E)											
P2	Full	40	64.2	LOS F	0.2	0.2	0.96	0.96	246.1	200.0	0.81
All Pedestrians		58	64.2	LOS F	0.2	0.2	0.96	0.96	246.0	200.0	0.81

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

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:33:17 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

 Site: [2.29.B.PM] 2. EXISTING Commercial Road / The Fiddler  
 Access (2029 Future (Hospital Opening Year) Base PM)  
 Network: [N.29.B.PM] 2029 Future Base PM Peak (SSDA)  
 Output produced by SIDRA INTERSECTION Version: 10.0.8.241

New Site  
 Site Category: (None)  
 Give-Way (Two-Way)  
**Network Scenario: 1 | Local Volumes      Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed		
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ]			km/h		
			veh/h	%	veh/h	%		veh	m					
East: Commercial Road (E)														
5	T1	All MCs	809 4.5	809 4.5	0.381	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	0.00	49.6
6	R2	All MCs	105 0.0	105 0.0	0.238	11.4	LOS A	0.8	5.6	0.63	0.84	0.67	20.4	
Approach			915 4.0	915 4.0	0.381	1.3	NA	0.8	5.6	0.07	0.10	0.08	40.3	
North: The Fiddler Access (N)														
7	L2	All MCs	75 0.0	75 0.0	0.076	3.4	LOS A	0.3	2.2	0.39	0.46	0.39	19.6	
9	R2	All MCs	72 1.6	72 1.6	2.633	1542.1	LOS F	29.2	207.2	1.00	4.65	10.21	0.3	
Approach			147 0.8	147 0.8	2.633	756.0	LOS F	29.2	207.2	0.69	2.51	5.19	0.7	
West: Commercial Road (W)														
10	L2	All MCs	160 0.0	160 0.0	0.086	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	31.3	
11	T1	All MCs	666 0.5	666 0.5	0.172	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9	
Approach			826 0.4	826 0.4	0.172	0.9	NA	0.0	0.0	0.00	0.10	0.00	43.4	
All Vehicles			1889 2.2	1889 2.2	2.633	60.1	NA	29.2	207.2	0.09	0.29	0.44	10.9	

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:33:17 AM  
 Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

 Site: [3.29.B.PM] 3. EXISTING\_Commercial Road / Health Co Access (2029 Future (Hospital Opening Year) Base PM)

Network: [N.29.B.PM] 2029 Future Base PM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

TCS 4598

Site Category: NA

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90.0 seconds (Site User-Given Cycle Time)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed	
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ] m				km/h	
East: Commercial Road (E)														
5	T1	All MCs	749 4.8	749 4.8	0.261	3.1	LOS A	4.6	33.6	0.31	0.27	0.31	42.2	
6	R2	All MCs	116 0.0	116 0.0	*0.198	9.5	LOS A	1.7	12.0	0.43	1.01	0.43	21.0	
Approach			865 4.1	865 4.1	0.261	4.0	LOS A	4.6	33.6	0.32	0.37	0.32	36.1	
North: Health Co Access (N)														
7	L2	All MCs	114 0.0	114 0.0	0.106	1.7	LOS A	0.4	2.5	0.08	0.28	0.08	24.9	
9	R2	All MCs	167 0.7	167 0.7	*0.252	36.6	LOS C	3.2	22.7	0.90	0.73	0.90	7.0	
Approach			282 0.4	282 0.4	0.252	22.4	LOS B	3.2	22.7	0.56	0.55	0.56	9.9	
West: Commercial Road (W)														
10	L2	All MCs	128 0.0	128 0.0	0.091	4.8	LOS A	0.3	2.1	0.06	0.52	0.06	29.3	
11	T1	All MCs	603 0.6	603 0.6	*0.234	6.3	LOS A	5.2	36.3	0.42	0.37	0.42	25.9	
Approach			731 0.5	731 0.5	0.234	6.1	LOS A	5.2	36.3	0.36	0.39	0.36	26.8	
All Vehicles			1877 2.2	1877 2.2	0.261	7.5	LOS A	5.2	36.3	0.37	0.40	0.37	27.7	

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[ Ped ped	Dist ] m			sec	m	m/sec
East: Commercial Road (E)											
P2	Full	7	39.2	LOS D	0.0	0.0	0.93	0.93	221.0	200.0	0.90
North: Health Co Access (N)											
P3	Full	5	39.2	LOS D	0.0	0.0	0.93	0.93	221.0	200.0	0.90
West: Commercial Road (W)											
P4	Full	4	39.2	LOS D	0.0	0.0	0.93	0.93	221.0	200.0	0.90

All Pedestrians	17	39.2	LOS D	0.0	0.0	0.93	0.93	221.0	200.0	0.90
-----------------	----	------	-------	-----	-----	------	------	-------	-------	------

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:33:17 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

**Site:** [4.29.B.PM] 4. FUTURE Commercial Road / Greenhills Drive / Caddies Boulevard (2029 Future (Hospital Opening Year) Base PM)

**Network:** [N.29.B.PM] 2029 Future Base PM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

New Site TCS4598

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90.0 seconds (Site User-Given Cycle Time)

**Network Scenario: 1 | Local Volumes      Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number Rate to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]			v/c	sec		[ Veh. veh	Dist ]				km/h
South: Caddies Boulevard (S)															
1	L2	All MCs	406	3.9	406	3.9	0.560	19.1	LOS B	8.0	57.9	0.82	1.14	0.82	16.7
2	T1	All MCs	234	2.0	234	2.0	0.564	34.6	LOS C	9.4	66.7	0.94	0.78	0.94	30.8
3	R2	All MCs	109	3.8	109	3.8	0.697	51.8	LOS D	5.1	36.9	1.00	0.87	1.15	29.2
Approach			749	3.3	749	3.3	0.697	28.7	LOS C	9.4	66.7	0.89	0.99	0.91	24.8
East: Commercial Road (E)															
4	L2	All MCs	340	1.8	340	1.8	*0.714	18.5	LOS B	11.5	82.2	0.94	1.04	0.96	23.8
5	T1	All MCs	393	4.4	393	4.4	*0.714	34.9	LOS C	13.2	95.9	0.97	0.90	1.01	27.9
Approach			733	3.2	733	3.2	0.714	27.3	LOS B	13.2	95.9	0.96	0.96	0.99	25.6
North: Greenhills Drive (N)															
7	L2	All MCs	180	2.0	180	2.0	0.324	31.9	LOS C	6.1	43.7	0.82	0.77	0.82	37.0
8	T1	All MCs	94	2.0	94	2.0	*0.251	33.6	LOS C	3.5	25.3	0.89	0.70	0.89	31.2
9	R2	All MCs	66	2.0	66	2.0	0.543	52.1	LOS D	3.0	21.6	1.00	0.77	1.03	20.9
Approach			339	2.0	339	2.0	0.543	36.3	LOS C	6.1	43.7	0.87	0.75	0.88	33.1
West: Commercial Road (W)															
10	L2	All MCs	47	2.0	47	2.0	0.239	19.8	LOS B	5.2	36.5	0.72	0.64	0.72	34.6
11	T1	All MCs	492	0.2	492	0.2	0.493	23.1	LOS B	12.3	85.9	0.79	0.69	0.79	38.1
12	R2	All MCs	207	0.5	207	0.5	*0.753	27.7	LOS B	5.5	38.9	1.00	1.06	1.14	20.5
Approach			746	0.4	746	0.4	0.753	24.2	LOS B	12.3	85.9	0.84	0.79	0.88	33.4
All Vehicles			2568	2.3	2568	2.3	0.753	28.0	LOS B	13.2	95.9	0.89	0.89	0.92	28.5

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
					[ Ped	Dist ]					

	ped/h	sec		ped	m		sec	m	m/sec	
South: Caddies Boulevard (S)										
P1 Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
East: Commercial Road (E)										
P2 Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
P2B Slip/ Bypass	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
North: Greenhills Drive (N)										
P3 Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
West: Commercial Road (W)										
P4 Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
All Pedestrians	263	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.


---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:33:17 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

 Site: [5.29.B.PM] 5. EXISTING Windsor Road / Rouse Road / Mile End Road (2029 Future (Hospital Opening Year) Base PM)  
 Network: [N.29.B.PM] 2029 Future Base PM Peak (SSDA)  
 Output produced by SIDRA INTERSECTION Version: 10.0.8.241

TCS 3789

Site Category: NA

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140.0 seconds (Network User-Given Cycle Time)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed		
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ]			km/h		
South: Windsor Road (S)														
1	L2	All MCs	229 2.0	<b>225</b> 2.1	0.158	16.0	LOS B	1.2	8.3	0.14	1.01	0.14	43.7	
2	T1	All MCs	1661 3.1	<b>1634</b> 3.1	0.857	33.4	LOS C	42.0	300.8	0.80	0.75	0.82	60.7	
3	R2	All MCs	295 5.4	<b>290</b> 5.4	1.444	487.8	LOS F	25.6	187.7	1.00	1.50	3.05	5.3	
Approach			2185 3.3	<b>2149</b> 3.3	1.444	92.9	LOS F	42.0	300.8	0.76	0.87	1.05	35.4	
East: Mile End Road (E)														
4	L2	All MCs	258 5.1	258 5.1	0.343	36.5	LOS C	11.1	80.9	0.72	1.21	0.72	8.5	
5	T1	All MCs	275 2.7	275 2.7	0.661	74.5	LOS F	10.7	76.5	0.99	0.81	1.00	22.1	
6	R2	All MCs	240 2.7	240 2.7	* 1.492	541.6	LOS F	44.1	315.8	1.00	2.14	3.21	10.2	
Approach			773 3.5	773 3.5	1.492	206.7	LOS F	44.1	315.8	0.90	1.35	1.59	11.7	
North: Windsor Road (N)														
7	L2	All MCs	54 2.7	54 2.7	0.048	38.0	LOS C	1.4	10.1	0.42	0.70	0.42	57.1	
8	T1	All MCs	1702 3.5	1702 3.5	* 0.900	63.7	LOS E	59.4	424.8	0.99	0.97	1.07	43.6	
9	R2	All MCs	155 2.0	155 2.0	* 1.492	549.0	LOS F	28.6	203.9	1.00	1.56	3.23	13.0	
Approach			1911 3.4	1911 3.4	1.492	102.3	LOS F	59.4	424.8	0.98	1.01	1.23	30.1	
West: Rouse Road (W)														
10	L2	All MCs	182 2.5	182 2.5	0.362	49.1	LOS D	10.0	71.1	0.85	0.79	0.85	44.2	
11	T1	All MCs	381 2.4	381 2.4	* 1.153	228.3	LOS F	46.4	331.9	1.00	1.63	2.06	9.5	
12	R2	All MCs	242 2.3	242 2.3	1.001	127.0	LOS F	22.4	159.7	1.00	1.16	1.55	13.0	
Approach			806 2.4	806 2.4	1.153	157.3	LOS F	46.4	331.9	0.97	1.30	1.63	15.2	
All Vehicles			5675 3.2	<b>5638</b> 3.3	1.492	120.9	LOS F	59.4	424.8	0.88	1.05	1.27	26.1	

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE	Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed	
					[ Ped Dist ]						

	ped/h	sec		ped	m		sec	m	m/sec	
South: Windsor Road (S)										
P1 Full	22	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82
East: Mile End Road (E)										
P2 Full	27	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82
North: Windsor Road (N)										
P3 Full	53	63.3	LOS F	0.2	0.2	0.95	0.95	245.1	200.0	0.82
West: Rouse Road (W)										
P4 Full	53	63.3	LOS F	0.2	0.2	0.95	0.95	217.2	200.0	0.92
P4B Slip/ Bypass	53	63.3	LOS F	0.2	0.2	0.95	0.95	217.2	200.0	0.92
All Pedestrians	207	63.3	LOS F	0.2	0.2	0.95	0.95	230.9	200.0	0.87

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:33:17 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

 Site: [6.29.B.PM] 6. EXISTING Windsor Road / Schofields Road / Rouse Hill Drive (2029 Future (Hospital Opening Year) Base PM)

Network: [N.29.B.PM] 2029 Future Base PM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

TCS 3557

Site Category: NA

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140.0 seconds (Network User-Given Cycle Time)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed		
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	[ Dist ] m			km/h		
South: Windsor Road (S)														
1	L2	All MCs	772 2.7	772 2.7	0.398	27.5	LOS B	15.2	108.9	0.63	0.78	0.63	50.6	
2	T1	All MCs	1496 2.9	1496 2.9	*0.839	51.9	LOS D	37.2	266.9	0.97	0.89	1.01	22.7	
3	R2	All MCs	65 47.8	65 47.8	0.377	80.1	LOS F	2.3	22.2	0.99	0.74	0.99	21.0	
Approach			2332 4.0	2332 4.0	0.839	44.6	LOS D	37.2	266.9	0.86	0.85	0.89	34.2	
East: Rouse Hill Drive (E)														
4	L2	All MCs	313 2.1	313 2.1	0.861	62.5	LOS E	20.3	144.8	1.00	1.12	1.17	19.0	
5	T1	All MCs	405 2.4	405 2.4	*0.900	89.6	LOS F	15.7	112.5	1.00	1.06	1.31	30.6	
6	R2	All MCs	274 2.2	274 2.2	0.702	83.0	LOS F	7.0	49.7	1.00	0.83	1.07	10.8	
Approach			992 2.3	992 2.3	0.900	79.3	LOS F	20.3	144.8	1.00	1.02	1.20	22.0	
North: Windsor Road (N)														
7	L2	All MCs	157 1.8	156 1.8	0.172	43.9	LOS D	6.6	46.7	0.67	0.76	0.67	32.7	
8	T1	All MCs	1592 4.7	1579 4.7	0.733	61.2	LOS E	37.1	270.0	1.00	0.86	1.00	32.1	
9	R2	All MCs	472 2.6	468 2.6	*0.839	86.6	LOS F	16.8	120.5	1.00	0.93	1.10	32.3	
Approach			2222 4.0	2203 4.1	0.839	65.4	LOS E	37.1	270.0	0.98	0.87	1.00	29.9	
West: Schofields Road (W)														
10	L2	All MCs	460 2.4	460 2.4	0.702	38.5	LOS C	23.4	167.4	0.92	1.05	0.92	29.2	
11	T1	All MCs	429 2.4	429 2.4	0.511	55.0	LOS D	12.9	92.2	0.93	0.80	0.93	36.9	
12	R2	All MCs	548 1.8	548 1.8	*0.900	82.0	LOS F	21.1	149.6	1.00	1.02	1.26	33.4	
Approach			1437 2.1	1437 2.1	0.900	60.0	LOS E	23.4	167.4	0.95	0.96	1.05	33.1	
All Vehicles			6983 3.4	6964 3.4	0.900	59.3	LOS E	37.2	270.0	0.94	0.90	1.00	30.4	

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE	Prop. Qued	Eff. Stop	Travel Time	Travel Dist.	Aver. Speed	

	ped/h	sec		[ Ped ped	Dist ] m		Rate		sec	m	m/sec
South: Windsor Road (S)											
P1B Slip/ Bypass	26	65.2	LOS F	0.1	0.1	0.97	0.97	247.0	200.0	0.81	
East: Rouse Hill Drive (E)											
P2 Full	26	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82	
North: Windsor Road (N)											
P3 Full	26	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82	
West: Schofields Road (W)											
P4 Full	26	63.2	LOS F	0.1	0.1	0.95	0.95	217.1	200.0	0.92	
All Pedestrians	105	63.7	LOS F	0.1	0.1	0.95	0.95	238.5	200.0	0.84	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:33:17 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# QUEUE STORAGE RATIO (PERCENTILE)

Largest Ratio of the 95% Back of Queue Distance to the available queue storage distance for any lane on the approach

Network: [N.29.B.PM] 2029 Future Base PM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

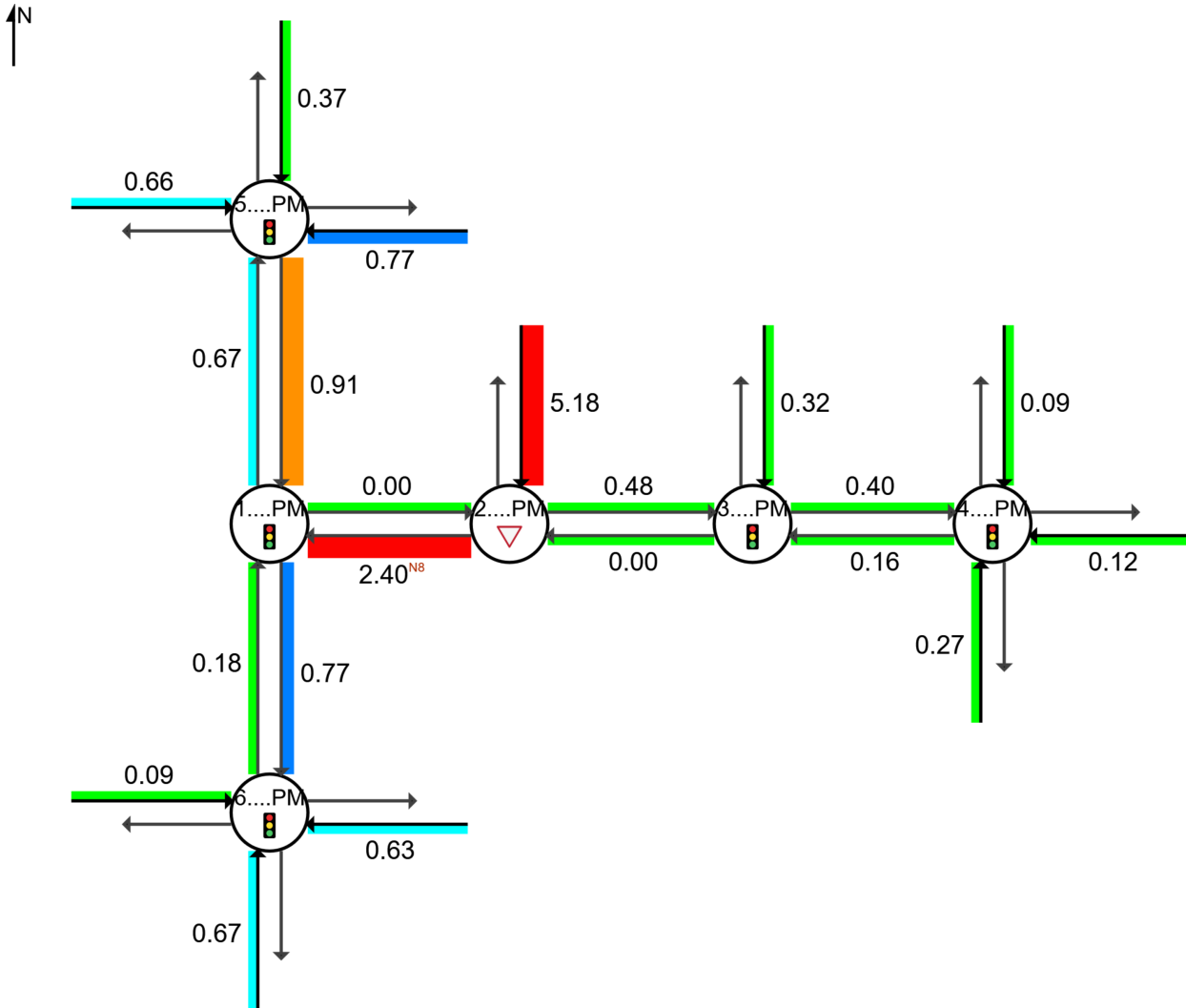
New Network

Network Category: (None)

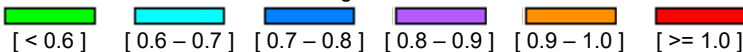
Network Cycle Time = 140.0 seconds (Network User-Given Cycle Time)

Network Scenario: 1 | Local Volumes

Short Lanes are not included in determining Queue Storage Ratios.



Colour code based on Queue Storage Ratio



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

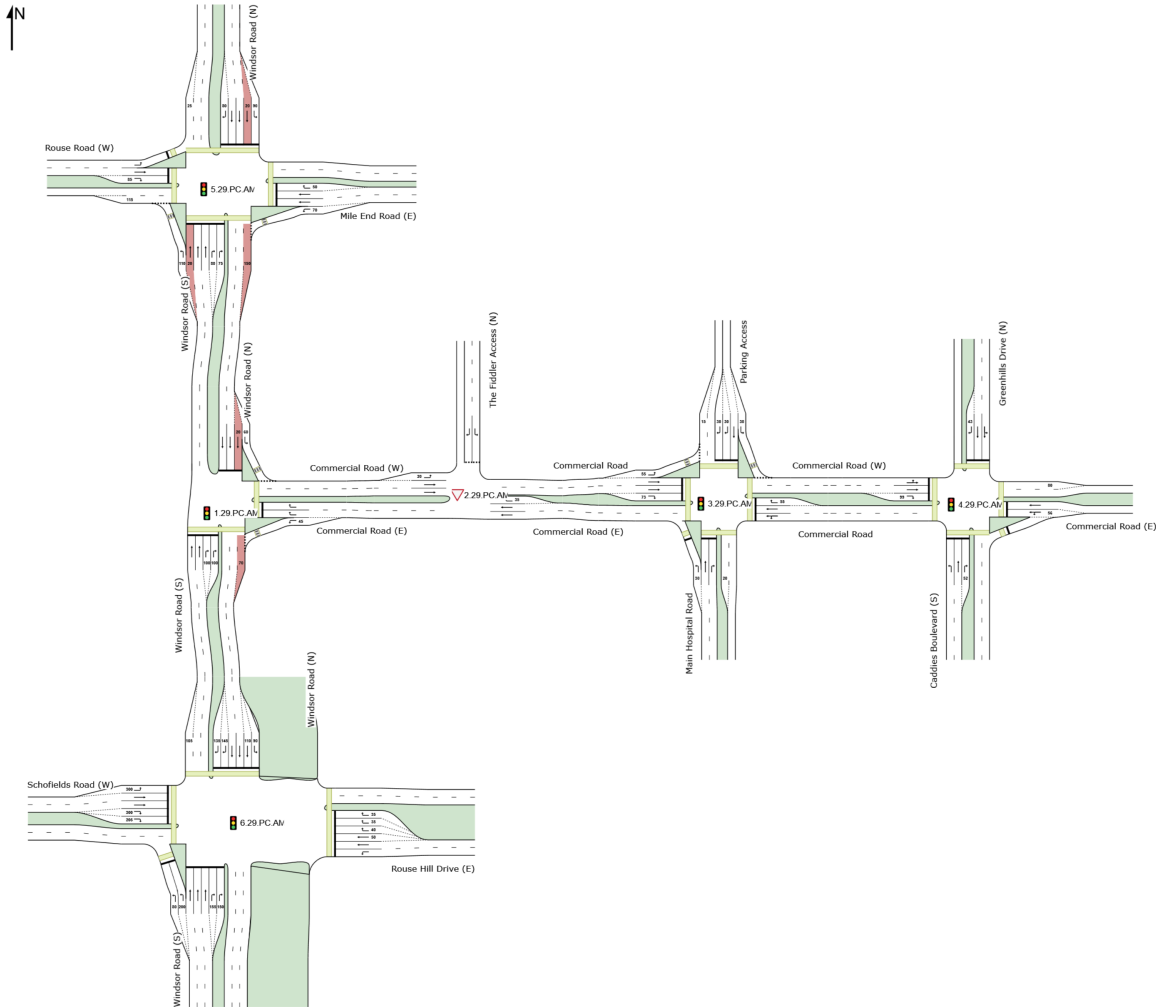
**N8** The Percentile Back of Queue extends to upstream Site lanes.

# NETWORK LAYOUT

Network: [N.29.PC.AM] 2029 Future with Hospital AM Peak (SSDA)

New Network  
 Network Category: (None)  
 Network Scenario: 1 | Local Volumes

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




SITES IN NETWORK		
Site ID	CCG ID	Site Name
1.29.PC.AM	NA	1. EXISTING Windsor Road / Commercial Road
2.29.PC.AM	NA	2. EXISTING Commercial Road / The Fiddler Access
3.29.PC.AM	NA	3. FUTURE Commercial Road / Main Hospital Road / Health Co Access
4.29.PC.AM	NA	4. FUTURE Commercial Road / Greenhills Drive / Caddies Boulevard
5.29.PC.AM	NA	5. EXISTING Windsor Road / Rouse Road / Mile End Road
6.29.PC.AM	NA	6. EXISTING Windsor Road / Schofields Road / Rouse Hill Drive

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Created: Friday, 30 January 2026 5:36:45 PM  
Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

 **Site: [1.29.PC.AM] 1. EXISTING Windsor Road / Commercial Road (2029 Future (Hospital Opening Year) with Hospital AM)**  
**Network: [N.29.PC.AM] 2029 Future with Hospital AM Peak (SSDA)**

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

TCS 3788

Site Category: NA

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140.0 seconds (Network User-Given Cycle Time)

**Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed			
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ]			km/h			
			veh/h	%	veh/h	%		veh	m						
South: Windsor Road (S)															
2	T1	All MCs	1670	9.3	1670	9.3	0.706	6.2	LOS A	25.6	193.4	0.45	0.42	0.45	58.3
3	R2	All MCs	524	1.3	524	1.3	*0.864	71.3	LOS F	18.7	132.6	1.00	0.92	1.16	15.3
Approach			2194	7.4	2194	7.4	0.864	21.8	LOS B	25.6	193.4	0.58	0.53	0.62	34.8
East: Commercial Road (E)															
4	L2	All MCs	427	3.4	427	3.4	0.327	12.5	LOS A	10.1	72.8	0.38	0.77	0.38	18.9
6	R2	All MCs	438	7.9	438	7.9	*0.902	82.3	LOS F	19.7 <sup>N8</sup>	147.0 <sup>N8</sup>	1.00	1.05	1.31	4.7
Approach			865	5.7	865	5.7	0.902	47.8	LOS D	19.7 <sup>N8</sup>	147.0 <sup>N8</sup>	0.70	0.91	0.85	7.4
North: Windsor Road (N)															
7	L2	All MCs	332	3.2	<b>296</b>	3.2	0.185	18.0	LOS B	0.9	6.4	0.05	0.63	0.05	58.5
8	T1	All MCs	1945	7.9	<b>1737</b>	8.1	*0.864	24.0	LOS B	37.9	279.8	0.64	0.60	0.66	51.0
Approach			2277	7.2	<b>2032</b>	7.4	0.864	23.1	LOS B	37.9	279.8	0.56	0.61	0.57	38.7
All Vehicles			5336	7.1	<b>5091</b>	7.4	0.902	26.7	LOS B	37.9 <sup>N8</sup>	279.8 <sup>N8</sup>	0.59	0.63	0.64	30.3

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

<sup>N8</sup> The Percentile Back of Queue extends to upstream Site lanes.

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[ Ped ped	Dist ]			sec	m	m/sec
					ped	m					
South: Windsor Road (S)											
P1	Full	22	64.2	LOS F	0.1	0.1	0.96	0.96	246.0	200.0	0.81
East: Commercial Road (E)											
P2	Full	27	64.2	LOS F	0.1	0.1	0.96	0.96	246.0	200.0	0.81
All Pedestrians		49	64.2	LOS F	0.1	0.1	0.96	0.96	246.0	200.0	0.81

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

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:42:29 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

Site: [2.29.PC.AM] 2. EXISTING Commercial Road / The Fiddler Access (2029 Future (Hospital Opening Year) with Hospital AM)

Network: [N.29.PC.AM] 2029 Future with Hospital AM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

New Site TCS NA

Site Category: (None)

Give-Way (Two-Way)

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh ]	[ Dist ]		Rate		km/h
			veh/h	%	veh/h	%				veh	m				
East: Commercial Road (E)															
5	T1	All MCs	834	5.8	834	5.8	0.262	0.0	LOS A	-N7	-N7	0.00	0.00	0.00	49.9
6	R2	All MCs	17	6.7	17	6.7	0.042	11.1	LOS A	0.1	0.8	0.60	0.77	0.60	20.5
Approach			851	5.8	851	5.8	0.262	0.2	NA	-N7	-N7	0.01	0.02	0.01	47.8
North: The Fiddler Access (N)															
7	L2	All MCs	8	14.3	8	14.3	0.009	3.9	LOS A	0.0	0.3	0.42	0.43	0.42	19.0
9	R2	All MCs	20	5.6	20	5.6	0.581	62.2	LOS E	0.8	6.0	0.96	1.05	1.15	3.1
Approach			28	8.0	28	8.0	0.581	46.0	LOS D	0.8	6.0	0.81	0.88	0.95	4.0
West: Commercial Road (W)															
10	L2	All MCs	35	6.5	33	6.4	0.019	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	31.1
11	T1	All MCs	805	2.2	772	2.2	0.202	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach			840	2.4	805	2.4	0.202	0.2	NA	0.0	0.0	0.00	0.02	0.00	48.2
All Vehicles			1719	4.2	1684	4.3	0.581	1.0	NA	-N7	-N7	0.02	0.03	0.02	43.1

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

**N7** The capacity reduction has been determined from the queue blockage probability based on the Percentile Back of Queue values of a Site further downstream.

SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:42:29 AM  
 Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

**Site: [3.29.PC.AM] 3. FUTURE Commercial Road / Main Hospital Road / Health Co Access (2029 Future (Hospital Opening Year) with Hospital AM)**

**Network: [N.29.PC.AM] 2029 Future with Hospital AM Peak (SSDA)**

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

TCS 4598

Site Category: NA

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90.0 seconds (Site User-Given Cycle Time)

**Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue Prop.		Eff. Stop of Cycles	Number Rate to Depart	Aver. Speed	
			[ Total HV ]	[ Total HV ]			v/c	sec		[ Veh. veh	Dist ] m			km/h	
South: Main Hospital Road															
1	L2	All MCs	18	1.9	18	1.9	0.025	22.5	LOS B	0.5	3.4	0.63	0.66	0.63	12.0
2	T1	All MCs	32	0.0	32	0.0	*0.072	29.8	LOS C	1.1	7.7	0.82	0.60	0.82	14.7
3	R2	All MCs	18	1.9	18	1.9	0.146	50.1	LOS D	0.8	5.5	0.97	0.69	0.97	5.9
Approach			67	1.0	67	1.0	0.146	33.2	LOS C	1.1	7.7	0.81	0.64	0.81	11.0
East: Commercial Road															
4	L2	All MCs	141	1.9	141	1.9	0.746	28.9	LOS C	18.8	137.0	0.95	0.87	0.99	20.9
5	T1	All MCs	765	6.4	765	6.4	*0.746	34.6	LOS C	18.8	137.0	0.95	0.86	0.99	19.0
6	R2	All MCs	113	0.0	113	0.0	0.601	55.8	LOS D	5.1	35.5	1.00	0.80	1.04	15.5
Approach			1019	5.1	1019	5.1	0.746	36.2	LOS C	18.8	137.0	0.95	0.86	1.00	17.6
North: Parking Access															
7	L2	All MCs	34	0.0	34	0.0	0.026	5.3	LOS A	0.2	1.1	0.11	0.69	0.11	25.0
8	T1	All MCs	32	0.0	32	0.0	0.072	29.6	LOS C	1.1	7.7	0.82	0.60	0.82	14.7
9	R2	All MCs	78	1.4	78	1.4	*0.321	50.9	LOS D	1.8	12.5	0.99	0.73	0.99	5.7
Approach			144	0.8	144	0.8	0.321	35.4	LOS C	1.8	12.5	0.74	0.69	0.74	8.9
West: Commercial Road															
10	L2	All MCs	154	0.7	<b>148</b>	0.7	0.101	5.5	LOS A	0.4	2.7	0.06	0.58	0.06	32.7
11	T1	All MCs	530	2.6	<b>508</b>	2.6	0.394	24.5	LOS B	8.5	61.2	0.81	0.68	0.81	11.6
12	R2	All MCs	144	1.9	<b>138</b>	1.9	*0.746	52.2	LOS D	6.5	46.0	1.00	0.89	1.18	9.3
Approach			828	2.1	<b>794</b>	2.1	0.746	25.8	LOS B	8.5	61.2	0.70	0.70	0.74	12.9
All Vehicles			2058	3.4	<b>2024</b>	3.5	0.746	32.0	LOS C	18.8	137.0	0.84	0.78	0.87	15.4

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

Pedestrian Movement Performance										
Mov	Dem.	Aver.	Level of	AVERAGE BACK OF	Prop.	Eff.	Travel	Travel	Aver.	

ID	Crossing	Flow	Delay	Service	QUEUE		Qued	Stop Rate	Time	Dist.	Speed
		ped/h	sec		[ Ped ped	Dist ] m					
South: Main Hospital Road											
P1	Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
P1B	Slip/ Bypass	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
East: Commercial Road											
P2	Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
North: Parking Access											
P3	Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
West: Commercial Road											
P4	Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
All Pedestrians		263	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:42:29 AM  
Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

 Site: [4.29.PC.AM] 4. FUTURE Commercial Road / Greenhills Drive / Caddies Boulevard (2029 Future (Hospital Opening Year) with Hospital AM)

Network: [N.29.PC.AM] 2029 Future with Hospital AM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

New Site TCS4598

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90.0 seconds (Site User-Given Cycle Time)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number Rate to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]			v/c	sec		[ Veh. veh	[ Dist ] m				km/h
South: Caddies Boulevard (S)															
1	L2	All MCs	315	9.4	315	9.4	0.526	29.7	LOS C	11.1	83.8	0.85	0.81	0.85	19.6
2	T1	All MCs	88	2.0	88	2.0	0.243	34.0	LOS C	3.4	23.9	0.89	0.70	0.89	31.0
3	R2	All MCs	149	4.6	149	4.6	*0.792	52.7	LOS D	7.2	52.0	1.00	0.94	1.25	28.9
Approach			553	6.9	553	6.9	0.792	36.6	LOS C	11.1	83.8	0.89	0.83	0.96	26.0
East: Commercial Road (E)															
4	L2	All MCs	387	1.1	387	1.1	0.770	28.3	LOS B	21.9	156.1	0.89	0.86	0.93	36.7
5	T1	All MCs	576	3.6	576	3.6	0.770	38.4	LOS C	21.9	156.1	0.94	0.89	1.02	32.3
Approach			963	2.6	963	2.6	0.770	34.3	LOS C	21.9	156.1	0.92	0.88	0.98	32.4
North: Greenhills Drive (N)															
7	L2	All MCs	86	2.0	86	2.0	*0.316	12.0	LOS A	3.7	26.0	0.84	1.05	0.84	32.1
8	T1	All MCs	191	2.0	191	2.0	*0.316	31.0	LOS C	4.5	32.3	0.88	0.84	0.88	29.0
9	R2	All MCs	96	2.0	96	2.0	0.471	47.0	LOS D	4.1	29.5	0.98	0.77	0.98	22.2
Approach			373	2.0	373	2.0	0.471	30.7	LOS C	4.5	32.3	0.90	0.87	0.90	28.6
West: Commercial Road (W)															
10	L2	All MCs	36	2.0	<b>34</b>	2.0	0.326	13.7	LOS A	4.3	30.8	0.84	1.02	0.84	30.1
11	T1	All MCs	369	3.1	<b>356</b>	3.1	*0.674	31.9	LOS C	9.5	68.6	0.93	0.91	0.96	33.1
12	R2	All MCs	188	0.6	<b>182</b>	0.6	*0.792	51.1	LOS D	8.6	60.4	1.00	0.94	1.22	20.0
Approach			594	2.3	<b>572</b>	2.2	0.792	36.9	LOS C	9.5	68.6	0.95	0.93	1.03	29.3
All Vehicles			2482	3.4	<b>2461</b>	3.4	0.792	34.9	LOS C	21.9	156.1	0.92	0.88	0.98	29.9

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

Pedestrian Movement Performance										
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE	Prop. Qued	Eff. Stop	Travel Time	Travel Dist.	Aver. Speed

	ped/h	sec		[ Ped ped	Dist ] m		Rate		sec	m	m/sec
South: Caddies Boulevard (S)											
P1 Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90	
East: Commercial Road (E)											
P2 Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90	
P2B Slip/ Bypass	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90	
North: Greenhills Drive (N)											
P3 Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90	
West: Commercial Road (W)											
P4 Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90	
All Pedestrians	263	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:42:29 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

 Site: [5.29.PC.AM] 5. EXISTING Windsor Road / Rouse Road / Mile End Road (2029 Future (Hospital Opening Year) with Hospital AM)

Network: [N.29.PC.AM] 2029 Future with Hospital AM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

TCS 3789

Site Category: NA

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140.0 seconds (Network User-Given Cycle Time)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed		
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ]			km/h		
			veh/h	%	veh/h	%		veh	m					
South: Windsor Road (S)														
1	L2	All MCs	349 4.8	349 4.8	0.242	23.8	LOS B	3.1	22.4	0.22	1.12	0.22	40.7	
2	T1	All MCs	1441 6.7	1441 6.7	1.036	131.2	LOS F	71.5	525.5	0.99	1.33	1.45	31.7	
3	R2	All MCs	325 8.4	325 8.4	* 1.161	237.1	LOS F	19.7	147.8	1.00	1.25	2.06	8.7	
Approach			2115 6.6	2115 6.6	1.161	129.8	LOS F	71.5	525.5	0.87	1.29	1.34	25.1	
East: Mile End Road (E)														
4	L2	All MCs	229 8.0	229 8.0	0.359	39.7	LOS C	9.9	73.8	0.77	1.21	0.77	8.1	
5	T1	All MCs	256 5.1	256 5.1	0.630	63.5	LOS E	9.9	72.1	0.99	0.79	0.99	22.1	
6	R2	All MCs	211 5.3	211 5.3	* 1.068	138.6	LOS F	17.2	125.7	1.00	1.49	1.80	16.6	
Approach			696 6.1	696 6.1	1.068	78.5	LOS F	17.2	125.7	0.92	1.14	1.17	17.0	
North: Windsor Road (N)														
7	L2	All MCs	26 5.9	26 5.9	0.027	44.4	LOS D	0.5	3.3	0.48	1.17	0.48	39.0	
8	T1	All MCs	1796 7.1	1796 7.1	* 1.161	231.7	LOS F	111.8	821.4	1.00	1.74	1.99	17.6	
9	R2	All MCs	88 3.2	88 3.2	0.597	107.1	LOS F	6.1	43.7	1.00	0.79	1.02	37.1	
Approach			1909 6.9	1909 6.9	1.161	223.5	LOS F	111.8	821.4	0.99	1.69	1.92	16.3	
West: Rouse Road (W)														
10	L2	All MCs	161 5.2	161 5.2	0.351	36.5	LOS C	7.1	52.2	0.86	1.08	0.86	39.0	
11	T1	All MCs	364 5.2	364 5.2	* 1.134	211.4	LOS F	43.0	314.1	1.00	1.58	1.99	10.0	
12	R2	All MCs	255 4.6	255 4.6	0.727	75.1	LOS F	16.8	122.0	0.99	0.86	1.03	19.9	
Approach			780 5.0	780 5.0	1.134	130.8	LOS F	43.0	314.1	0.97	1.24	1.44	16.4	
All Vehicles			5501 6.4	5501 6.4	1.161	156.0	LOS F	111.8	821.4	0.93	1.40	1.54	19.5	

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

Pedestrian Movement Performance										
Mov	Dem.	Aver.	Level of	AVERAGE BACK OF	Prop.	Eff.	Travel	Travel	Aver.	

ID	Crossing	Flow ped/h	Delay sec	Service	QUEUE		Qued	Stop Rate	Time sec	Dist. m	Speed m/sec
					[ Ped ped	Dist ] m					
South: Windsor Road (S)											
P1	Full	22	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82
East: Mile End Road (E)											
P2	Full	27	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82
North: Windsor Road (N)											
P3	Full	53	63.3	LOS F	0.2	0.2	0.95	0.95	245.1	200.0	0.82
West: Rouse Road (W)											
P4	Full	53	63.3	LOS F	0.2	0.2	0.95	0.95	217.2	200.0	0.92
P4B	Slip/ Bypass	53	32.7	LOS D	0.1	0.1	0.90	0.90	186.5	200.0	1.07
All Pedestrians		207	55.5	LOS E	0.2	0.2	0.94	0.94	223.1	200.0	0.90

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:42:29 AM  
Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

 Site: [6.29.PC.AM] 6. EXISTING Windsor Road / Schofields Road / Rouse Hill Drive (2029 Future (Hospital Opening Year) with Hospital AM)

Network: [N.29.PC.AM] 2029 Future with Hospital AM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

TCS 3557

Site Category: NA

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140.0 seconds (Network User-Given Cycle Time)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed			
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ]			km/h			
			veh/h	%	veh/h	%		veh	m						
South: Windsor Road (S)															
1	L2	All MCs	483	5.7	483	5.7	0.254	25.2	LOS B	8.5	62.7	0.56	0.75	0.56	51.7
2	T1	All MCs	1452	5.9	1452	5.9	*0.810	51.5	LOS D	34.8	255.7	0.96	0.86	0.98	23.6
3	R2	All MCs	277	13.9	277	13.9	0.900	90.5	LOS F	10.9	85.1	1.00	0.99	1.36	19.2
Approach			2212	6.9	2212	6.9	0.900	50.6	LOS D	34.8	255.7	0.88	0.85	0.94	30.2
East: Rouse Hill Drive (E)															
4	L2	All MCs	229	4.2	229	4.2	0.685	54.1	LOS D	13.1	95.3	0.99	1.06	1.00	21.2
5	T1	All MCs	229	4.9	229	4.9	0.666	69.3	LOS E	7.9	57.8	1.00	0.83	1.05	32.6
6	R2	All MCs	136	4.3	136	4.3	*0.642	86.5	LOS F	3.6	25.9	1.00	0.79	1.08	10.2
Approach			594	4.5	594	4.5	0.685	67.4	LOS E	13.1	95.3	1.00	0.91	1.04	24.3
North: Windsor Road (N)															
7	L2	All MCs	128	3.6	116	3.6	0.135	21.1	LOS B	2.7	19.6	0.37	0.70	0.37	39.3
8	T1	All MCs	1848	7.9	1686	8.1	0.708	15.9	LOS B	23.6	176.6	0.59	0.53	0.59	55.6
9	R2	All MCs	396	5.7	361	5.6	0.555	66.8	LOS E	11.6	84.9	0.98	0.82	0.98	36.3
Approach			2372	7.3	2163	7.4	0.708	24.7	LOS B	23.6	176.6	0.64	0.59	0.64	47.7
West: Schofields Road (W)															
10	L2	All MCs	607	5.5	607	5.5	*0.900	55.3	LOS D	35.8	262.8	1.00	1.11	1.14	23.4
11	T1	All MCs	651	5.8	651	5.8	0.832	65.9	LOS E	22.9	167.9	1.00	0.95	1.12	34.0
12	R2	All MCs	392	5.7	392	5.7	0.689	68.0	LOS E	13.0	95.3	1.00	0.84	1.02	36.4
Approach			1651	5.7	1651	5.7	0.900	62.5	LOS E	35.8	262.8	1.00	0.98	1.10	30.4
All Vehicles			6828	6.5	6620	6.7	0.900	46.6	LOS D	35.8	262.8	0.84	0.80	0.89	33.6

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

Pedestrian Movement Performance										
Mov	Dem.	Aver.	Level of	AVERAGE BACK OF	Prop.	Eff.	Travel	Travel	Aver.	

ID	Crossing	Flow	Delay	Service	QUEUE		Qued	Stop Rate	Time	Dist.	Speed
		ped/h	sec		[ Ped ped	Dist ] m					
South: Windsor Road (S)											
P1B Slip/ Bypass		26	65.2	LOS F	0.1	0.1	0.97	0.97	247.0	200.0	0.81
East: Rouse Hill Drive (E)											
P2 Full		26	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82
North: Windsor Road (N)											
P3 Full		26	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82
West: Schofields Road (W)											
P4 Full		26	63.2	LOS F	0.1	0.1	0.95	0.95	217.1	200.0	0.92
All Pedestrians		105	63.7	LOS F	0.1	0.1	0.95	0.95	238.5	200.0	0.84

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:42:29 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# QUEUE STORAGE RATIO (PERCENTILE)

Largest Ratio of the 95% Back of Queue Distance to the available queue storage distance for any lane on the approach

Network: [N.29.PC.AM] 2029 Future with Hospital AM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

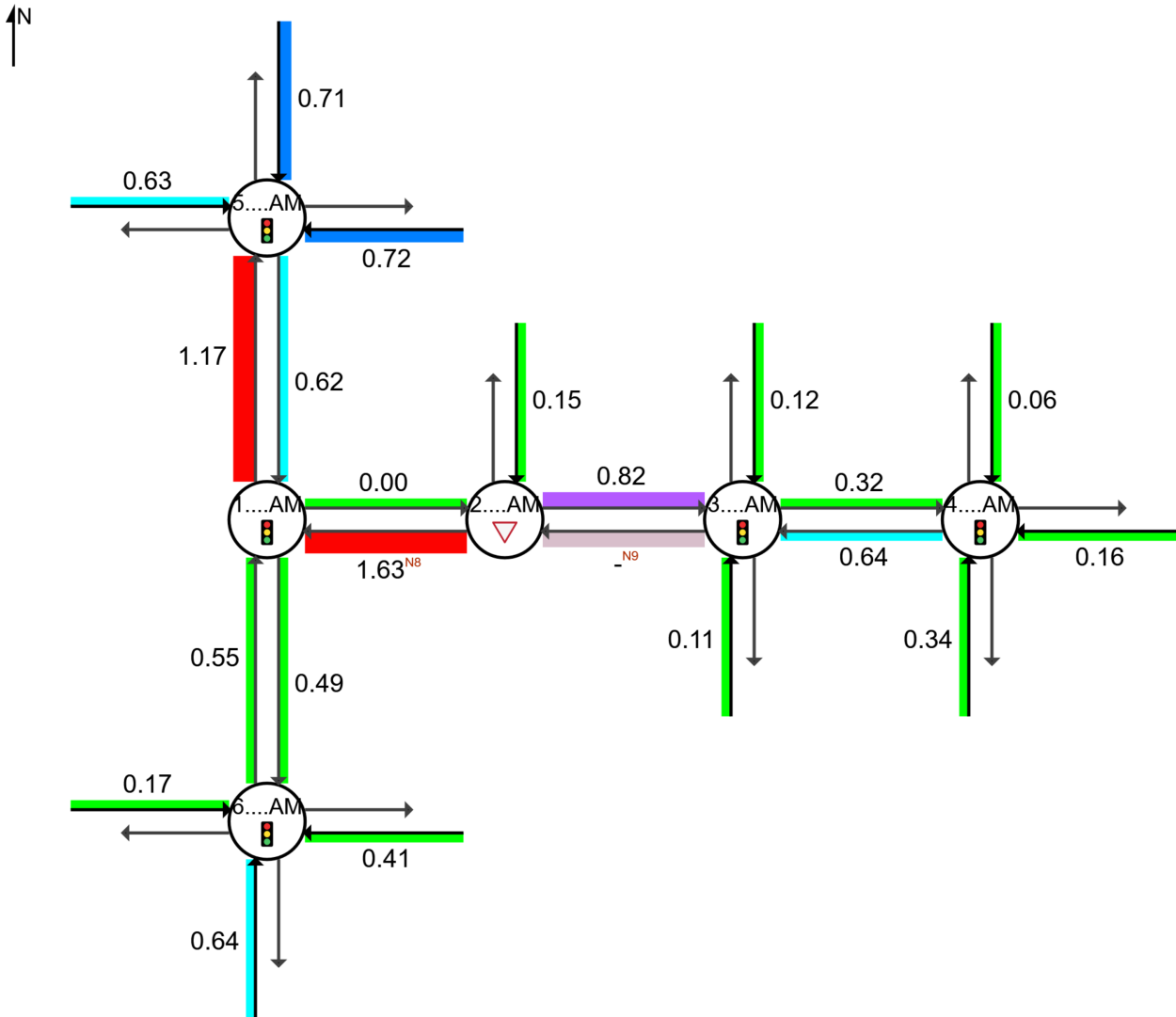
New Network

Network Category: (None)

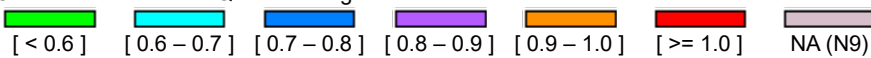
Network Cycle Time = 140.0 seconds (Network User-Given Cycle Time)

Network Scenario: 1 | Local Volumes

Short Lanes are not included in determining Queue Storage Ratios.



Colour code based on Queue Storage Ratio



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

**N8** The Percentile Back of Queue extends to upstream Site lanes.

**N9** Refer to the full Percentile Back of Queue value given for the queue formed at the originating downstream Site.

SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:42:29 AM  
 Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

 Site: [1.29.PC.PM] 1. EXISTING Windsor Road / Commercial Road (2029 Future (Hospital Opening Year) with Hospital PM)

Network: [N.29.PC.PM] 2029 Future with Hospital PM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

TCS 3788

Site Category: NA

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140.0 seconds (Network User-Given Cycle Time)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed			
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ]			km/h			
			veh/h	%	veh/h	%		veh	m						
South: Windsor Road (S)															
2	T1	All MCs	1766	3.9	1766	3.9	0.619	0.5	LOS A	3.0	21.6	0.06	0.05	0.06	77.6
3	R2	All MCs	486	0.4	486	0.4	*0.900	84.4	LOS F	18.4	128.9	1.00	0.96	1.23	13.3
Approach			2252	3.1	2252	3.1	0.900	18.6	LOS B	18.4	128.9	0.26	0.25	0.31	37.9
East: Commercial Road (E)															
4	L2	All MCs	461	3.4	441	3.5	0.672	62.5	LOS E	21.8 <sup>N8</sup>	157.5 <sup>N8</sup>	0.83	1.20	0.83	8.0
6	R2	All MCs	613	3.3	586	3.4	*1.001	121.7	LOS F	38.0 <sup>N8</sup>	273.8 <sup>N8</sup>	1.00	1.22	1.52	3.5
Approach			1074	3.3	1028	3.4	1.001	96.3	LOS F	38.0 <sup>N8</sup>	273.8 <sup>N8</sup>	0.93	1.21	1.23	3.8
North: Windsor Road (N)															
7	L2	All MCs	391	0.6	383	0.6	0.243	33.8	LOS C	7.5	53.0	0.32	0.60	0.32	52.8
8	T1	All MCs	1839	4.7	1803	4.8	*0.900	65.5	LOS E	63.4	456.7	0.99	0.95	1.05	23.5
Approach			2229	4.0	2186	4.0	0.900	59.9	LOS E	63.4	456.7	0.87	0.89	0.92	21.0
All Vehicles			5556	3.5	5467	3.6	1.001	49.7	LOS D	63.4 <sup>N8</sup>	456.7 <sup>N8</sup>	0.63	0.69	0.73	19.5

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

<sup>N8</sup> The Percentile Back of Queue extends to upstream Site lanes.

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[ Ped ped	Dist ]			sec	m	m/sec
					ped	m					
South: Windsor Road (S)											
P1	Full	18	64.2	LOS F	0.1	0.1	0.96	0.96	246.0	200.0	0.81
East: Commercial Road (E)											
P2	Full	40	64.2	LOS F	0.2	0.2	0.96	0.96	246.1	200.0	0.81
All Pedestrians		58	64.2	LOS F	0.2	0.2	0.96	0.96	246.0	200.0	0.81

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

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:47:52 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

Site: [2.29.PC.PM] 2. EXISTING Commercial Road / The Fiddler Access (2029 Future (Hospital Opening Year) with Hospital PM)

Network: [N.29.PC.PM] 2029 Future with Hospital PM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

New Site TCS NA

Site Category: (None)

Give-Way (Two-Way)

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance													
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ]				km/h
			veh/h	%	veh/h	%			m				
East: Commercial Road (E)													
5	T1	All MCs	997 3.8	997 3.8	0.531	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.2
6	R2	All MCs	105 0.0	105 0.0	0.249	11.9	LOS A	0.8	5.5	0.66	0.85	0.70	19.9
Approach			1102 3.4	1102 3.4	0.531	1.2	NA	0.8	5.5	0.06	0.08	0.07	41.1
North: The Fiddler Access (N)													
7	L2	All MCs	75 0.0	75 0.0	0.084	3.6	LOS A	0.3	2.2	0.41	0.47	0.41	19.5
9	R2	All MCs	72 1.6	72 1.6	2.780	1677.8	LOS F	30.1	213.5	1.00	4.56	9.98	0.3
Approach			147 0.8	147 0.8	2.780	822.5	LOS F	30.1	213.5	0.70	2.47	5.09	0.6
West: Commercial Road (W)													
10	L2	All MCs	160 0.0	159 0.0	0.085	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	31.3
11	T1	All MCs	719 0.6	713 0.6	0.198	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach			879 0.5	871 0.5	0.198	0.8	NA	0.0	0.0	0.00	0.10	0.00	43.7
All Vehicles			2128 2.0	2121 2.0	2.780	58.2	NA	30.1	213.5	0.08	0.25	0.39	11.5

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:47:52 AM  
 Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

 Site: [3.29.PC.PM] 3. FUTURE Commercial Road / Main Hospital Road / Health Co Access (2029 Future (Hospital Opening Year) with Hospital PM)

Network: [N.29.PC.PM] 2029 Future with Hospital PM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

TCS 4598

Site Category: NA

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90.0 seconds (Site User-Given Cycle Time)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [ Total HV ]	Arrival Flows [ Total HV ]	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue [ Veh. ]	Prop. Queued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed			
			veh/h	%	veh/h	%	v/c	sec	LOS	veh	m	km/h			
South: Main Hospital Road															
1	L2	All MCs	188	0.7	188	0.7	0.268	25.5	LOS B	5.7	40.0	0.73	0.75	0.73	10.8
2	T1	All MCs	32	0.0	32	0.0	*0.072	29.8	LOS C	1.1	7.7	0.82	0.60	0.82	14.7
3	R2	All MCs	150	0.7	150	0.7	*0.709	49.7	LOS D	6.9	48.4	1.00	0.87	1.12	6.0
Approach			370	0.6	370	0.6	0.709	35.7	LOS C	6.9	48.4	0.85	0.79	0.90	8.5
East: Commercial Road															
4	L2	All MCs	41	0.8	41	0.8	0.710	25.2	LOS B	16.1	116.6	0.95	0.84	0.97	21.1
5	T1	All MCs	749	4.8	749	4.8	*0.710	33.3	LOS C	16.1	116.6	0.95	0.84	0.97	18.8
6	R2	All MCs	116	0.0	116	0.0	*0.709	56.2	LOS D	5.4	37.8	1.00	0.86	1.15	14.9
Approach			907	4.0	907	4.0	0.710	35.8	LOS C	16.1	116.6	0.95	0.84	0.99	17.5
North: Parking Access															
7	L2	All MCs	114	0.0	114	0.0	0.103	5.9	LOS A	0.7	5.2	0.24	0.87	0.24	20.2
8	T1	All MCs	32	0.0	32	0.0	0.072	29.6	LOS C	1.1	7.7	0.82	0.60	0.82	14.7
9	R2	All MCs	167	0.7	167	0.7	0.394	46.2	LOS D	3.6	25.1	0.97	0.77	0.97	6.2
Approach			313	0.4	313	0.4	0.394	29.8	LOS C	3.6	25.1	0.69	0.79	0.69	9.2
West: Commercial Road															
10	L2	All MCs	128	0.0	<b>127</b>	0.0	0.086	5.4	LOS A	0.3	1.8	0.05	0.57	0.05	33.2
11	T1	All MCs	603	0.6	<b>598</b>	0.6	0.507	28.0	LOS B	10.9	76.7	0.87	0.74	0.87	10.4
12	R2	All MCs	51	0.7	51	0.7	0.315	48.9	LOS D	2.2	15.7	0.97	0.74	0.97	9.8
Approach			782	0.5	<b>776</b>	0.5	0.507	25.6	LOS B	10.9	76.7	0.75	0.71	0.75	12.4
All Vehicles			2372	1.8	<b>2366</b>	1.8	0.710	31.7	LOS C	16.1	116.6	0.83	0.78	0.86	13.8

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

Pedestrian Movement Performance										
Mov	Dem.	Aver.	Level of	AVERAGE BACK OF	Prop.	Eff.	Travel	Travel	Aver.	

ID	Crossing	Flow	Delay	Service	QUEUE		Qued	Stop Rate	Time	Dist.	Speed
		ped/h	sec		[ Ped ped	Dist ] m					
South: Main Hospital Road											
P1	Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
P1B	Slip/ Bypass	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
East: Commercial Road											
P2	Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
North: Parking Access											
P3	Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
West: Commercial Road											
P4	Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
All Pedestrians		263	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:47:52 AM  
Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

 Site: [4.29.PC.PM] 4. FUTURE Commercial Road / Greenhills Drive / Caddies Boulevard (2029 Future (Hospital Opening Year) with Hospital PM)

Network: [N.29.PC.PM] 2029 Future with Hospital PM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

New Site TCS4598

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90.0 seconds (Site User-Given Cycle Time)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop of Cycles	Number Rate to Depart	Aver. Speed			
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ]			km/h			
			veh/h	%	veh/h	%		veh	m						
South: Caddies Boulevard (S)															
1	L2	All MCs	424	3.7	424	3.7	0.556	16.6	LOS B	8.3	59.8	0.81	1.12	0.81	17.6
2	T1	All MCs	233	2.0	233	2.0	0.576	35.1	LOS C	9.4	67.0	0.95	0.79	0.95	30.6
3	R2	All MCs	109	3.4	109	3.4	0.733	52.9	LOS D	5.2	37.2	1.00	0.89	1.20	28.9
Approach			766	3.1	766	3.1	0.733	27.4	LOS B	9.4	67.0	0.88	0.99	0.90	25.1
East: Commercial Road (E)															
4	L2	All MCs	340	1.8	340	1.8	*0.796	22.1	LOS B	13.2	94.3	0.98	1.06	1.09	23.2
5	T1	All MCs	413	4.2	413	4.2	*0.796	39.3	LOS C	14.6	105.7	1.00	0.98	1.13	26.5
Approach			753	3.1	753	3.1	0.796	31.5	LOS C	14.6	105.7	0.99	1.02	1.11	24.7
North: Greenhills Drive (N)															
7	L2	All MCs	179	2.0	179	2.0	0.315	31.5	LOS C	6.0	43.1	0.81	0.77	0.81	37.2
8	T1	All MCs	94	2.0	94	2.0	*0.251	33.6	LOS C	3.6	25.3	0.89	0.70	0.89	31.2
9	R2	All MCs	69	1.9	69	1.9	0.572	52.3	LOS D	3.2	22.9	1.00	0.79	1.06	20.8
Approach			343	2.0	343	2.0	0.572	36.3	LOS C	6.0	43.1	0.87	0.75	0.88	33.0
West: Commercial Road (W)															
10	L2	All MCs	60	1.7	<b>59</b>	1.7	0.277	20.4	LOS B	6.1	42.9	0.74	0.66	0.74	34.3
11	T1	All MCs	564	0.3	<b>561</b>	0.3	0.572	24.1	LOS B	14.7	103.1	0.82	0.72	0.82	37.7
12	R2	All MCs	272	0.6	<b>271</b>	0.6	*0.845	32.5	LOS C	8.1	56.7	1.00	1.14	1.26	19.4
Approach			896	0.5	<b>891</b>	0.5	0.845	26.4	LOS B	14.7	103.1	0.87	0.84	0.95	32.1
All Vehicles			2757	2.1	<b>2752</b>	2.1	0.845	29.3	LOS C	14.7	105.7	0.90	0.92	0.97	28.1

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

Pedestrian Movement Performance										
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE	Prop. Qued	Eff. Stop	Travel Time	Travel Dist.	Aver. Speed

	ped/h	sec		[ Ped ped	Dist ] m		Rate		sec	m	m/sec
South: Caddies Boulevard (S)											
P1 Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90	
East: Commercial Road (E)											
P2 Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90	
P2B Slip/ Bypass	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90	
North: Greenhills Drive (N)											
P3 Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90	
West: Commercial Road (W)											
P4 Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90	
All Pedestrians	263	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:47:52 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

 Site: [5.29.PC.PM] 5. EXISTING Windsor Road / Rouse Road / Mile End Road (2029 Future (Hospital Opening Year) with Hospital PM)

Network: [N.29.PC.PM] 2029 Future with Hospital PM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

TCS 3789

Site Category: NA

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140.0 seconds (Network User-Given Cycle Time)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number Rate to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
South: Windsor Road (S)															
1	L2	All MCs	260	1.9	<b>257</b>	1.9	0.176	19.3	LOS B	1.0	7.2	0.10	0.90	0.10	46.5
2	T1	All MCs	1733	3.0	<b>1714</b>	3.0	0.889	51.3	LOS D	56.6	404.8	0.93	0.90	0.99	53.5
3	R2	All MCs	295	5.4	<b>292</b>	5.4	1.689	714.1	LOS F	30.7	224.9	1.00	1.64	3.68	4.3
Approach			2288	3.2	<b>2262</b>	3.2	1.689	133.1	LOS F	56.6	404.8	0.85	1.00	1.24	30.4
East: Mile End Road (E)															
4	L2	All MCs	258	5.1	258	5.1	0.343	37.0	LOS C	11.1	81.2	0.72	1.21	0.72	8.4
5	T1	All MCs	275	2.7	275	2.7	0.661	75.0	LOS F	10.7	76.5	0.99	0.81	1.00	22.1
6	R2	All MCs	240	2.7	240	2.7	* 1.735	760.8	LOS F	51.6	369.7	1.00	2.36	3.78	8.6
Approach			773	3.5	773	3.5	1.735	275.3	LOS F	51.6	369.7	0.90	1.42	1.77	10.3
North: Windsor Road (N)															
7	L2	All MCs	54	2.7	54	2.7	0.048	37.0	LOS C	1.4	9.9	0.41	0.69	0.41	57.4
8	T1	All MCs	1723	3.5	1723	3.5	* 0.900	60.9	LOS E	61.0	436.0	0.98	0.97	1.06	44.3
9	R2	All MCs	155	2.0	155	2.0	* 1.735	765.4	LOS F	33.5	238.4	1.00	1.68	3.79	11.1
Approach			1931	3.4	1931	3.4	1.735	116.8	LOS F	61.0	436.0	0.97	1.02	1.26	29.4
West: Rouse Road (W)															
10	L2	All MCs	182	2.5	182	2.5	0.373	50.2	LOS D	10.1	72.0	0.86	0.79	0.86	43.9
11	T1	All MCs	381	2.4	381	2.4	* 1.157	231.2	LOS F	46.7	334.0	1.00	1.64	2.07	9.4
12	R2	All MCs	251	2.2	251	2.2	1.209	284.4	LOS F	33.6	239.5	1.00	1.54	2.32	7.0
Approach			814	2.4	814	2.4	1.209	207.1	LOS F	46.7	334.0	0.97	1.42	1.88	12.6
All Vehicles			5807	3.2	<b>5781</b>	3.2	1.735	157.1	LOS F	61.0	436.0	0.91	1.12	1.41	23.3

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

Pedestrian Movement Performance										
Mov	Dem.	Aver.	Level of	AVERAGE BACK OF	Prop.	Eff.	Travel	Travel	Aver.	

ID	Crossing	Flow ped/h	Delay sec	Service	QUEUE		Qued	Stop Rate	Time sec	Dist. m	Speed m/sec
					[ Ped ped	Dist ] m					
South: Windsor Road (S)											
P1	Full	22	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82
East: Mile End Road (E)											
P2	Full	27	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82
North: Windsor Road (N)											
P3	Full	53	63.3	LOS F	0.2	0.2	0.95	0.95	245.1	200.0	0.82
West: Rouse Road (W)											
P4	Full	53	63.3	LOS F	0.2	0.2	0.95	0.95	217.2	200.0	0.92
P4B	Slip/ Bypass	53	63.3	LOS F	0.2	0.2	0.95	0.95	217.2	200.0	0.92
All Pedestrians		207	63.3	LOS F	0.2	0.2	0.95	0.95	230.9	200.0	0.87

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:47:52 AM  
Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

 Site: [6.29.PC.PM] 6. EXISTING Windsor Road / Schofields Road / Rouse Hill Drive (2029 Future (Hospital Opening Year) with Hospital PM)

Network: [N.29.PC.PM] 2029 Future with Hospital PM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

TCS 3557

Site Category: NA

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140.0 seconds (Network User-Given Cycle Time)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop of Rate	Number of Cycles to Depart	Aver. Speed			
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ]			km/h			
			veh/h	%	veh/h	%		veh	m						
South: Windsor Road (S)															
1	L2	All MCs	772	2.7	772	2.7	0.479	23.4	LOS B	12.2	87.2	0.76	1.15	0.76	43.7
2	T1	All MCs	1512	2.9	1512	2.9	*0.900	60.2	LOS E	41.5	297.7	0.98	0.96	1.09	20.3
3	R2	All MCs	64	47.9	64	47.9	0.436	82.3	LOS F	2.3	22.7	1.00	0.74	1.00	20.6
Approach			2348	4.0	2348	4.0	0.900	48.7	LOS D	41.5	297.7	0.91	1.02	0.98	30.2
East: Rouse Hill Drive (E)															
4	L2	All MCs	313	2.1	313	2.1	0.897	68.0	LOS E	21.4	152.4	1.00	1.15	1.23	18.0
5	T1	All MCs	405	2.4	405	2.4	0.890	87.9	LOS F	15.6	111.5	1.00	1.05	1.29	30.9
6	R2	All MCs	274	2.2	274	2.2	0.358	69.5	LOS E	6.1	43.6	0.94	0.76	0.94	12.6
Approach			992	2.3	992	2.3	0.897	76.5	LOS F	21.4	152.4	0.98	1.00	1.17	22.4
North: Windsor Road (N)															
7	L2	All MCs	157	1.8	154	1.8	0.142	30.7	LOS C	4.5	31.6	0.46	0.73	0.46	39.2
8	T1	All MCs	1652	4.5	1612	4.6	0.690	46.3	LOS D	33.0	240.1	0.94	0.82	0.94	37.0
9	R2	All MCs	498	2.5	486	2.5	0.947	59.5	LOS E	12.0	86.1	1.00	1.13	1.33	32.1
Approach			2307	3.9	2252	4.0	0.947	48.1	LOS D	33.0	240.1	0.92	0.88	0.99	33.6
West: Schofields Road (W)															
10	L2	All MCs	467	2.3	467	2.3	*0.988	80.9	LOS F	28.9	206.5	1.00	1.25	1.41	14.5
11	T1	All MCs	429	2.4	429	2.4	0.853	75.5	LOS F	15.7	112.4	1.00	0.96	1.20	31.7
12	R2	All MCs	549	1.8	549	1.8	*0.994	111.5	LOS F	25.0	177.8	1.00	1.18	1.51	28.1
Approach			1444	2.1	1444	2.1	0.994	90.9	LOS F	28.9	206.5	1.00	1.14	1.34	23.3
All Vehicles			7091	3.4	7036	3.4	0.994	61.1	LOS E	41.5	297.7	0.94	1.00	1.09	27.6

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

Pedestrian Movement Performance										
Mov	Dem.	Aver.	Level of	AVERAGE BACK OF	Prop.	Eff.	Travel	Travel	Aver.	

ID	Crossing	Flow ped/h	Delay sec	Service	QUEUE		Qued	Stop Rate	Time sec	Dist. m	Speed m/sec
					[ Ped ped	Dist ] m					
South: Windsor Road (S)											
P1B	Slip/ Bypass	26	30.6	LOS D	0.1	0.1	0.93	0.93	212.4	200.0	0.94
East: Rouse Hill Drive (E)											
P2	Full	26	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82
North: Windsor Road (N)											
P3	Full	26	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82
West: Schofields Road (W)											
P4	Full	26	63.2	LOS F	0.1	0.1	0.95	0.95	217.1	200.0	0.92
All Pedestrians		105	55.1	LOS E	0.1	0.1	0.95	0.95	229.9	200.0	0.87

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:47:52 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# QUEUE STORAGE RATIO (PERCENTILE)

Largest Ratio of the 95% Back of Queue Distance to the available queue storage distance for any lane on the approach

Network: [N.29.PC.PM] 2029 Future with Hospital PM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

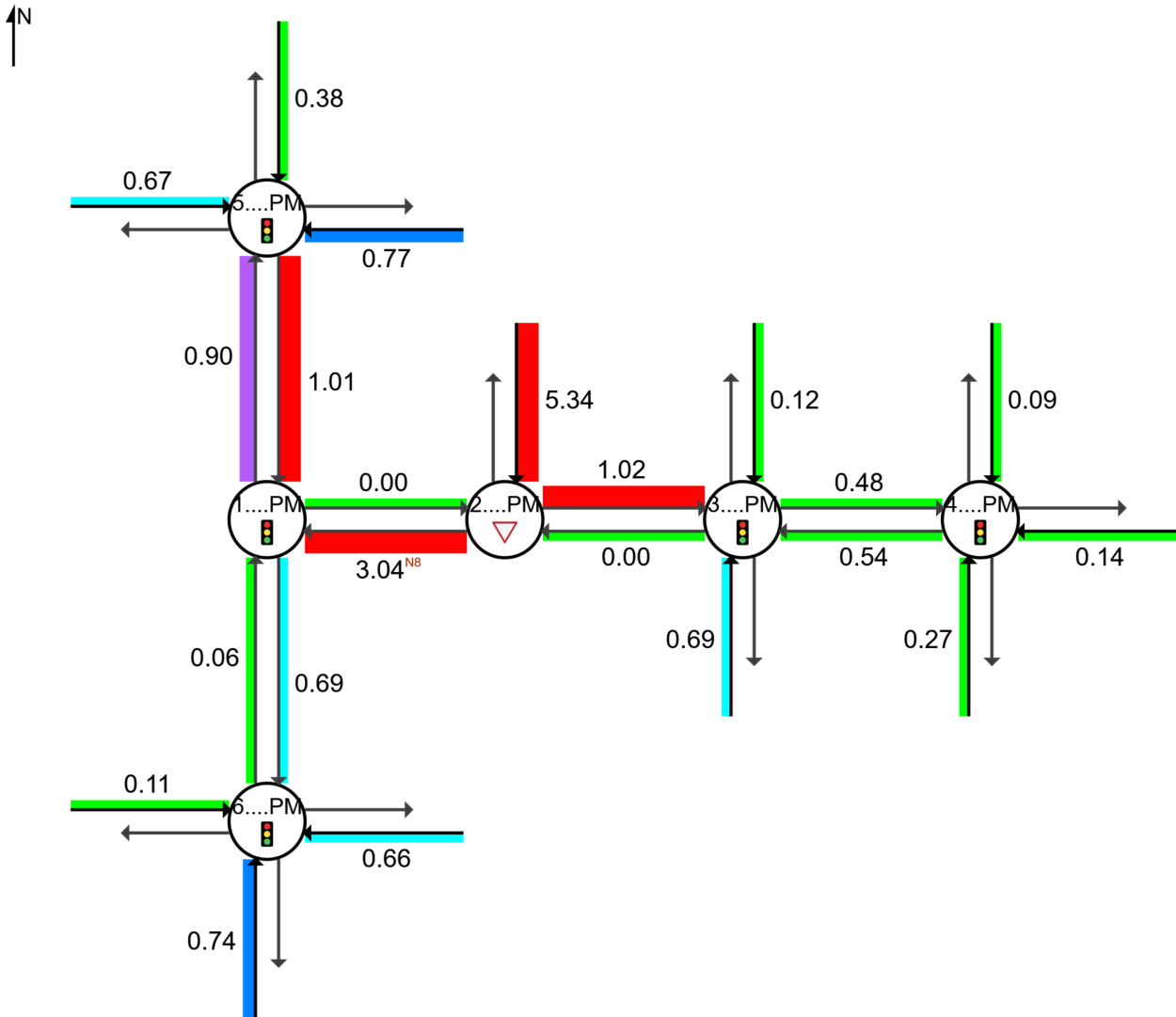
New Network

Network Category: (None)

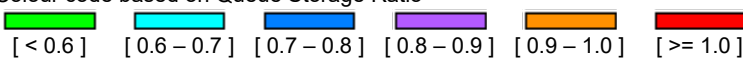
Network Cycle Time = 140.0 seconds (Network User-Given Cycle Time)

Network Scenario: 1 | Local Volumes

Short Lanes are not included in determining Queue Storage Ratios.



Colour code based on Queue Storage Ratio



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

<sup>NB</sup> The Percentile Back of Queue extends to upstream Site lanes.

SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:47:52 AM  
 Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# NETWORK LAYOUT

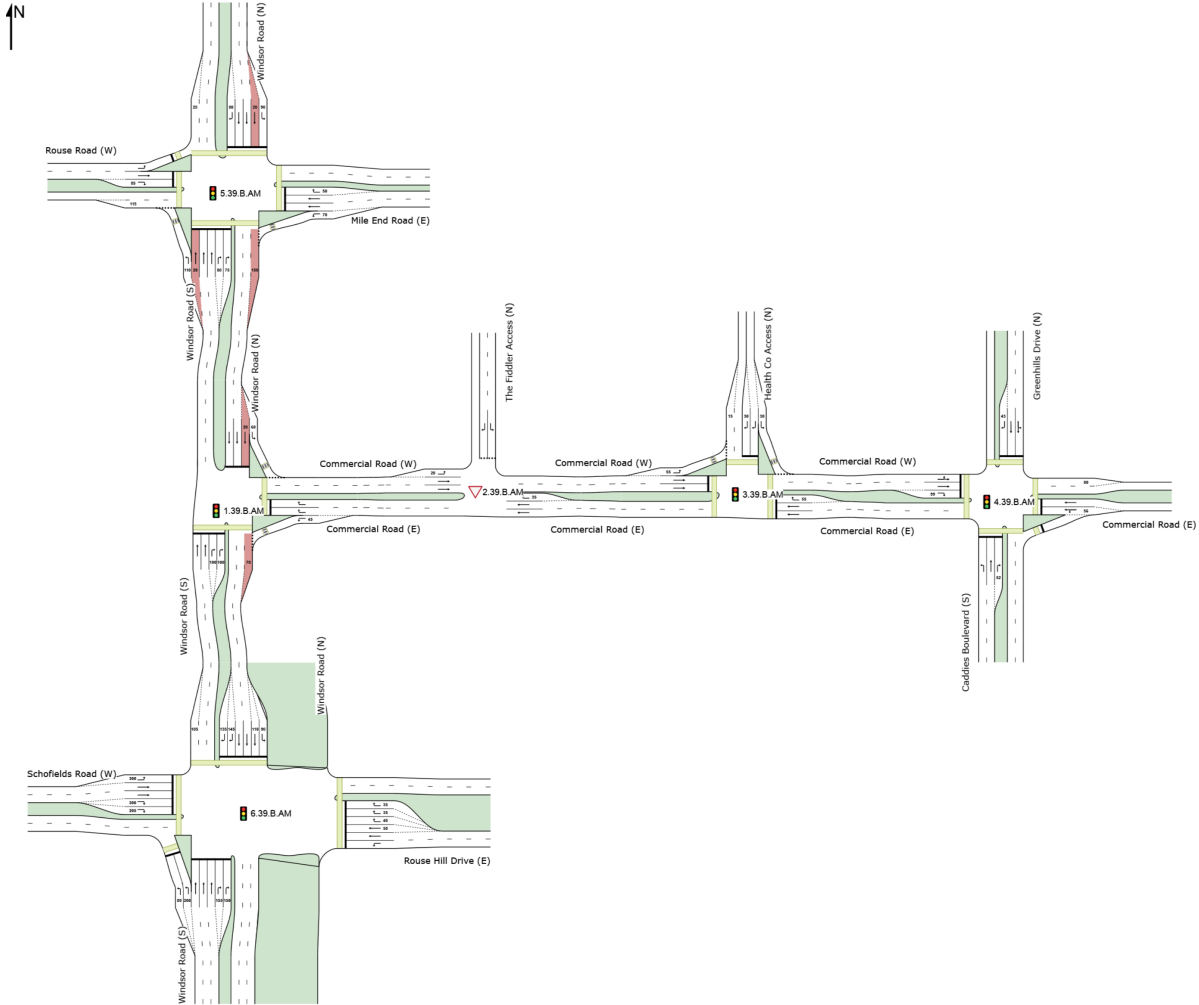
Network: [N.39.B.AM] 2039 Future Base AM Peak (SSDA)

New Network

Network Category: (None)

Network Scenario: 1 | Local Volumes

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



SITES IN NETWORK		
Site ID	CCG ID	Site Name
1 1.39.B.AM	NA	1. EXISTING Windsor Road / Commercial Road
2 2.39.B.AM	NA	2. EXISTING Commercial Road / The Fiddler Access
3 3.39.B.AM	NA	3. EXISTING Commercial Road / Health Co Access
4 4.39.B.AM	NA	4. FUTURE Commercial Road / Greenhills Drive / Caddies Boulevard
5 5.39.B.AM	NA	5. EXISTING Windsor Road / Rouse Road / Mile End Road
6 6.39.B.AM	NA	6. EXISTING Windsor Road / Schofields Road / Rouse Hill Drive

# MOVEMENT SUMMARY

 Site: [1.39.B.AM] 1. EXISTING Windsor Road / Commercial Road (2039 Future (+10 Years) Base AM)

Network: [N.39.B.AM] 2039 Future Base AM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

TCS 3788

Site Category: NA

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140.0 seconds (Network User-Given Cycle Time)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed		
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ]				km/h		
South: Windsor Road (S)															
2	T1	All MCs	1865	9.3	<b>1830</b>	9.3	0.900	14.7	LOS B	47.2	356.9	0.65	0.66	0.71	42.7
3	R2	All MCs	573	1.3	<b>562</b>	1.3	*0.900	66.7	LOS E	20.1	142.0	1.00	0.92	1.15	16.1
Approach			2438	7.4	<b>2392</b>	7.4	0.900	26.9	LOS B	47.2	356.9	0.73	0.72	0.81	30.7
East: Commercial Road (E)															
4	L2	All MCs	5204	92.0	<b>5161</b>	92.7	14.791	16235.3	LOS F	1977.6 <sup>N8</sup>	24839.4 <sup>N8</sup>	1.00	4.23	6.99	0.4
6	R2	All MCs	544	7.0	<b>494</b>	7.3	*1.296	355.5	LOS F	44.2 <sup>N8</sup>	328.7 <sup>N8</sup>	1.00	1.83	2.63	1.4
Approach			5749	83.9	<b>5656</b>	85.2	14.791	14847.1	LOS F	1977.6 <sup>N8</sup>	24839.4 <sup>N8</sup>	1.00	4.02	6.61	0.5
North: Windsor Road (N)															
7	L2	All MCs	405	2.9	<b>334</b>	3.1	0.218	22.7	LOS B	1.5	11.1	0.08	0.64	0.08	57.9
8	T1	All MCs	2207	7.7	<b>1829</b>	8.1	*0.900	32.2	LOS C	50.1	370.7	0.77	0.74	0.80	43.5
Approach			2611	7.0	<b>2163</b>	7.3	0.900	30.8	LOS C	50.1	370.7	0.66	0.72	0.69	33.2
All Vehicles			10797	48.0	<b>10210</b>	50.8	14.791	8236.5	LOS F	1977.6 <sup>N8</sup>	24839.4 <sup>N8</sup>	0.87	2.55	4.00	1.8

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

N8 The Percentile Back of Queue extends to upstream Site lanes.

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
			ped/h	sec	[ Ped ped	Dist ]			sec	m	m/sec
South: Windsor Road (S)											
P1	Full	22	64.2	LOS F	0.1	0.1	0.96	0.96	246.0	200.0	0.81
East: Commercial Road (E)											
P2	Full	27	64.2	LOS F	0.1	0.1	0.96	0.96	246.0	200.0	0.81

All Pedestrians	49	64.2	LOS F	0.1	0.1	0.96	0.96	246.0	200.0	0.81
-----------------	----	------	-------	-----	-----	------	------	-------	-------	------

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 1:23:31 PM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

Site: [2.39.B.AM] 2. EXISTING Commercial Road / The Fiddler Access (2039 Future (+10 Years) Base AM)

Network: [N.39.B.AM] 2039 Future Base AM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

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

Network Scenario: 1 | Local Volumes      Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Queued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed			
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ]			km/h			
			veh/h	%	veh/h	%		veh	m						
East: Commercial Road (E)															
5	T1	All MCs	946	5.5	<b>853</b>	5.4	0.231	0.0	LOS A	-N9	-N9	0.00	0.00	0.00	49.9
6	R2	All MCs	17	6.7	<b>16</b>	6.6	0.043	12.2	LOS A	0.1	0.9	0.64	0.81	0.64	19.5
Approach			964	5.5	<b>869</b>	5.4	0.231	0.2	NA	-N9	-N9	0.01	0.01	0.01	47.9
North: The Fiddler Access (N)															
7	L2	All MCs	8	14.3	8	14.3	0.010	4.2	LOS A	0.0	0.3	0.44	0.45	0.44	18.6
9	R2	All MCs	21	5.6	21	5.6	1.071	218.1	LOS F	2.3	17.0	1.00	1.57	2.44	1.0
Approach			29	8.1	29	8.1	1.071	156.6	LOS F	2.3	17.0	0.84	1.25	1.86	1.3
West: Commercial Road (W)															
10	L2	All MCs	37	6.5	<b>34</b>	6.4	0.020	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	31.1
11	T1	All MCs	924	2.2	<b>847</b>	2.2	0.222	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach			961	2.4	<b>881</b>	2.4	0.222	0.2	NA	0.0	0.0	0.00	0.02	0.00	48.3
All Vehicles			1953	4.0	<b>1779</b>	4.4	1.071	2.8	NA	-N9	-N9	0.02	0.04	0.04	35.7

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

N9 Refer to the full Percentile Back of Queue value given for the queue formed at the originating downstream Site.

SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 1:23:31 PM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

 Site: [3.39.B.AM] 3. EXISTING\_Commercial Road / Health Co Access (2039 Future (+10 Years) Base AM)

Network: [N.39.B.AM] 2039 Future Base AM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

TCS 4598

Site Category: NA

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90.0 seconds (Site User-Given Cycle Time)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows	Aver. Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop	Number of Cycles to Depart	Aver. Speed	
			[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh ]	[ Dist ] m				km/h	
East: Commercial Road (E)															
5	T1	All MCs	893	5.8	<b>796</b>	5.8	*0.500	1.6	LOS A	-N9	-N9	0.26	0.23	0.26	45.7
6	R2	All MCs	115	0.0	<b>103</b>	0.0	0.189	6.9	LOS A	1.0	7.3	0.32	1.07	0.32	19.9
Approach			1008	5.1	<b>899</b>	5.1	0.500	2.2	LOS A	-N9	-N9	0.26	0.33	0.26	38.5
North: Health Co Access (N)															
7	L2	All MCs	35	0.0	35	0.0	0.039	1.6	LOS A	0.1	0.6	0.06	0.27	0.06	25.6
9	R2	All MCs	80	1.4	80	1.4	*0.500	49.0	LOS D	-N7	-N7	0.99	0.77	1.03	5.5
Approach			114	1.0	114	1.0	0.500	34.7	LOS C	-N7	-N7	0.71	0.62	0.74	7.3
West: Commercial Road (W)															
10	L2	All MCs	164	0.7	<b>151</b>	0.7	0.108	4.7	LOS A	0.2	1.7	0.04	0.50	0.04	29.7
11	T1	All MCs	785	2.4	<b>722</b>	2.4	0.271	2.8	LOS A	4.8	34.1	0.29	0.26	0.29	35.4
Approach			949	2.1	<b>873</b>	2.1	0.271	3.2	LOS A	4.8	34.1	0.25	0.30	0.25	33.6
All Vehicles			2072	3.5	<b>1886</b>	3.9	0.500	4.6	LOS A	-N9	-N9	0.29	0.33	0.29	32.5

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

N7 The capacity reduction has been determined from the queue blockage probability based on the Percentile Back of Queue values of a Site further downstream.

N9 Refer to the full Percentile Back of Queue value given for the queue formed at the originating downstream Site.

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[ Ped ped ]	[ Dist ] m			sec	m	m/sec
East: Commercial Road (E)											
P2	Full	6	39.2	LOS D	0.0	0.0	0.93	0.93	221.0	200.0	0.90
North: Health Co Access (N)											
P3	Full	2	39.2	LOS D	0.0	0.0	0.93	0.93	221.0	200.0	0.90

West: Commercial Road (W)											
P4 Full	4	39.2	LOS D	0.0	0.0	0.93	0.93	221.0	200.0	0.90	
All Pedestrians	13	39.2	LOS D	0.0	0.0	0.93	0.93	221.0	200.0	0.90	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 1:23:31 PM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

**Site:** [4.39.B.AM] 4. FUTURE Commercial Road / Greenhills Drive / Caddies Boulevard (2039 Future (+10 Years) Base AM)  
**Network:** [N.39.B.AM] 2039 Future Base AM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

New Site TCS4598

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90.0 seconds (Site User-Given Cycle Time)

**Network Scenario: 1 | Local Volumes**      **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed			
			[ Total HV ]	[ Total HV ]		sec		[ Veh. ]				km/h			
			veh/h	%	veh/h	%	v/c	veh	m						
South: Caddies Boulevard (S)															
1	L2	All MCs	455	8.9	455	8.9	* 1.132	177.0	LOS F	-N7	-N7	1.00	1.68	2.51	5.1
2	T1	All MCs	101	2.0	101	2.0	0.216	29.4	LOS C	3.6	25.4	0.84	0.66	0.84	32.7
3	R2	All MCs	231	4.6	231	4.6	1.120	170.3	LOS F	21.1	153.4	1.00	1.61	2.50	15.7
Approach			786	6.8	786	6.8	1.132	156.1	LOS F	-N7	-N7	0.98	1.53	2.29	10.6
East: Commercial Road (E)															
4	L2	All MCs	603	0.8	603	0.8	1.152	199.9	LOS F	-N7	-N7	1.00	1.85	2.56	15.0
5	T1	All MCs	462	3.9	462	3.9	* 1.152	204.1	LOS F	-N7	-N7	1.00	2.00	2.61	12.3
Approach			1065	2.2	1065	2.2	1.152	201.7	LOS F	-N7	-N7	1.00	1.92	2.59	13.2
North: Greenhills Drive (N)															
7	L2	All MCs	103	2.0	103	2.0	0.454	30.1	LOS C	6.9	49.4	0.92	0.78	0.92	35.3
8	T1	All MCs	243	2.0	243	2.0	0.454	39.1	LOS C	6.9	49.4	0.93	0.76	0.93	30.4
9	R2	All MCs	60	2.0	60	2.0	* 0.494	51.7	LOS D	2.7	19.5	1.00	0.75	1.00	21.0
Approach			406	2.0	406	2.0	0.494	38.7	LOS C	6.9	49.4	0.94	0.77	0.94	30.8
West: Commercial Road (W)															
10	L2	All MCs	86	2.0	<b>79</b>	2.0	0.280	30.8	LOS C	4.6	33.1	0.85	0.73	0.85	30.3
11	T1	All MCs	329	3.2	<b>305</b>	3.2	0.578	34.0	LOS C	10.1	72.9	0.92	0.78	0.92	34.2
12	R2	All MCs	419	1.1	<b>387</b>	1.1	1.120	167.9	LOS F	35.7	252.0	1.00	1.64	2.42	8.9
Approach			834	2.0	<b>771</b>	2.0	1.120	100.9	LOS F	35.7	252.0	0.95	1.21	1.67	17.2
All Vehicles			3092	3.3	<b>3029</b>	3.3	1.152	142.3	LOS F	-N7	-N7	0.97	1.48	2.06	14.6

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

N7 The capacity reduction has been determined from the queue blockage probability based on the Percentile Back of Queue values of a Site further downstream.

Pedestrian Movement Performance										
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE	Prop. Qued	Eff. Stop	Travel Time	Travel Dist.	Aver. Speed

	ped/h	sec		[ Ped ped	Dist ] m		Rate		sec	m	m/sec
South: Caddies Boulevard (S)											
P1 Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90	
East: Commercial Road (E)											
P2 Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90	
P2B Slip/ Bypass	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90	
North: Greenhills Drive (N)											
P3 Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90	
West: Commercial Road (W)											
P4 Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90	
All Pedestrians	263	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 1:23:31 PM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx



	ped/h	sec		ped	m		sec	m	m/sec	
South: Windsor Road (S)										
P1 Full	22	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82
East: Mile End Road (E)										
P2 Full	27	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82
North: Windsor Road (N)										
P3 Full	53	63.3	LOS F	0.2	0.2	0.95	0.95	245.1	200.0	0.82
West: Rouse Road (W)										
P4 Full	53	63.3	LOS F	0.2	0.2	0.95	0.95	217.2	200.0	0.92
P4B Slip/ Bypass	53	32.7	LOS D	0.1	0.1	0.90	0.90	186.5	200.0	1.07
All Pedestrians	207	55.5	LOS E	0.2	0.2	0.94	0.94	223.1	200.0	0.90

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.


---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 1:23:31 PM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

 Site: [6.39.B.AM] 6. EXISTING Windsor Road / Schofields Road / Rouse Hill Drive (2039 Future (+10 Years) Base AM)  
 Network: [N.39.B.AM] 2039 Future Base AM Peak (SSDA)  
 Output produced by SIDRA INTERSECTION Version: 10.0.8.241

TCS 3557

Site Category: NA

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140.0 seconds (Network User-Given Cycle Time)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed		
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ]			km/h		
South: Windsor Road (S)														
1	L2	All MCs	589 4.7	589 4.7	0.299	24.8	LOS B	10.5	76.3	0.57	0.76	0.57	51.9	
2	T1	All MCs	1649 5.2	1649 5.2	*0.900	91.2	LOS F	45.4	331.8	0.97	0.95	1.07	21.4	
3	R2	All MCs	394 10.3	394 10.3	0.900	55.7	LOS D	8.9	67.5	1.00	1.11	1.31	20.5	
Approach			2632 5.8	2632 5.8	0.900	71.0	LOS F	45.4	331.8	0.88	0.93	0.99	28.7	
East: Rouse Hill Drive (E)														
4	L2	All MCs	299 3.2	299 3.2	0.718	32.3	LOS C	9.9	71.3	0.98	1.06	0.99	20.6	
5	T1	All MCs	321 3.5	321 3.5	0.851	78.0	LOS F	12.0	86.6	1.00	0.99	1.24	31.3	
6	R2	All MCs	149 3.9	149 3.9	*0.717	124.7	LOS F	4.1	29.3	1.00	0.82	1.14	10.1	
Approach			769 3.5	769 3.5	0.851	69.3	LOS E	12.0	86.6	0.99	0.98	1.12	24.0	
North: Windsor Road (N)														
7	L2	All MCs	145 3.2	98 0.4	0.163	19.3	LOS B	2.1	14.8	0.46	1.11	0.46	31.9	
8	T1	All MCs	2051 7.2	1366 2.9	0.719	23.3	LOS B	20.9	150.0	0.72	0.63	0.72	48.1	
9	R2	All MCs	447 5.1	298 0.7	0.492	66.2	LOS E	9.4	66.2	0.96	0.80	0.96	36.6	
Approach			2643 6.6	1762 2.4	0.719	30.4	LOS C	20.9	150.0	0.75	0.69	0.75	43.6	
West: Schofields Road (W)														
10	L2	All MCs	643 5.1	643 5.1	*1.073	140.8	LOS F	59.0	431.4	1.00	1.31	1.68	12.7	
11	T1	All MCs	797 4.7	797 4.7	0.988	100.9	LOS F	36.0	262.1	1.00	1.21	1.43	27.0	
12	R2	All MCs	476 4.7	476 4.7	0.851	77.0	LOS F	17.4	126.8	1.00	0.97	1.19	34.3	
Approach			1915 4.9	1915 4.9	1.073	108.3	LOS F	59.0	431.4	1.00	1.18	1.45	21.7	
All Vehicles			7959 5.6	7078 6.3	1.073	70.8	LOS F	59.0	431.4	0.89	0.94	1.07	27.1	

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE	Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed	
					[ Ped Dist ]						

	ped/h	sec		ped	m		sec	m	m/sec	
South: Windsor Road (S)										
P1B Slip/ Bypass	26	65.2	LOS F	0.1	0.1	0.97	0.97	247.0	200.0	0.81
East: Rouse Hill Drive (E)										
P2 Full	26	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82
North: Windsor Road (N)										
P3 Full	26	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82
West: Schofields Road (W)										
P4 Full	26	63.2	LOS F	0.1	0.1	0.95	0.95	217.1	200.0	0.92
All Pedestrians	105	63.7	LOS F	0.1	0.1	0.95	0.95	238.5	200.0	0.84

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 1:23:31 PM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# QUEUE STORAGE RATIO (PERCENTILE)

Largest Ratio of the 95% Back of Queue Distance to the available queue storage distance for any lane on the approach

Network: [N.39.B.AM] 2039 Future Base AM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

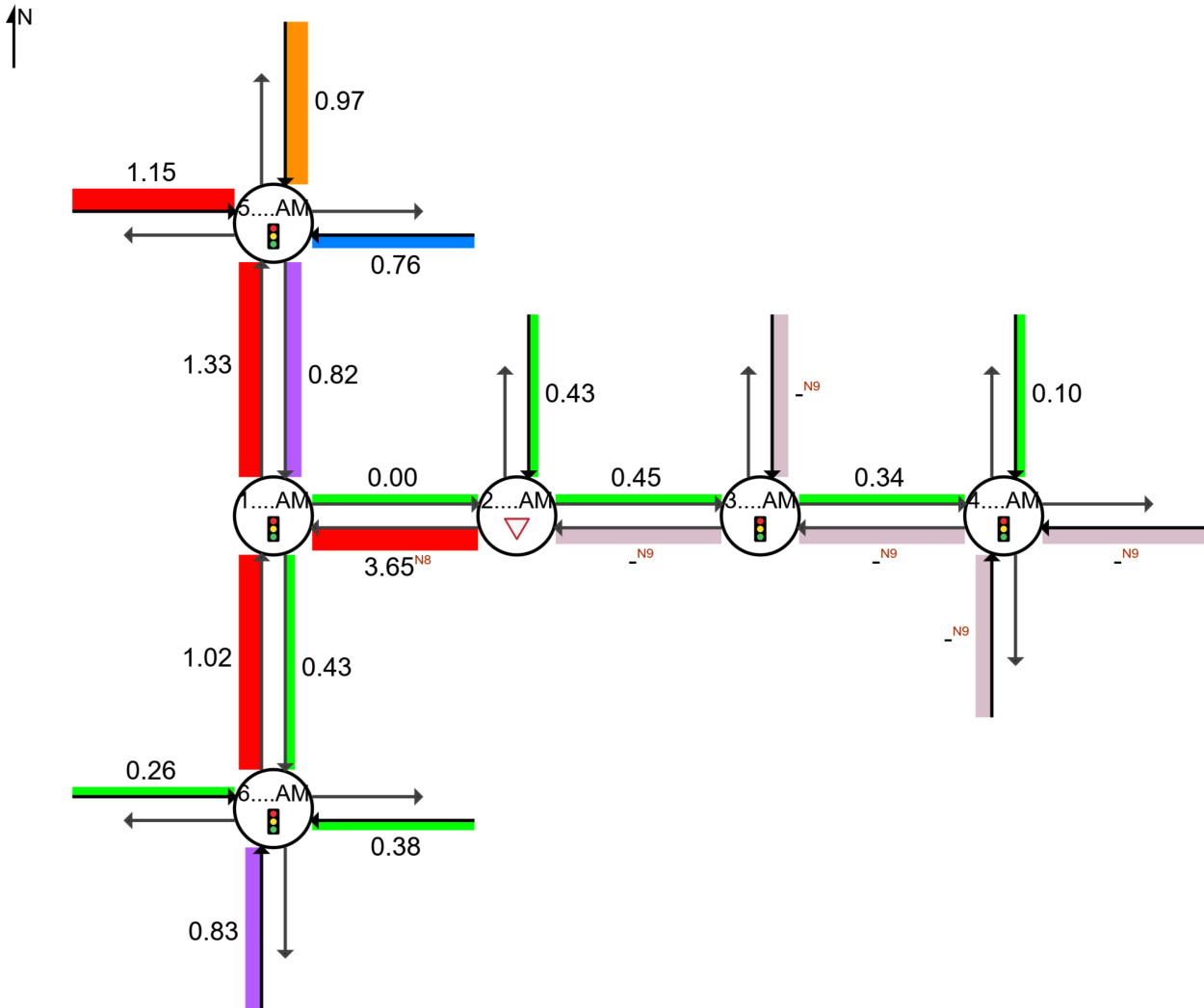
New Network

Network Category: (None)

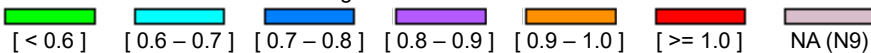
Network Cycle Time = 140.0 seconds (Network User-Given Cycle Time)

Network Scenario: 1 | Local Volumes

Short Lanes are not included in determining Queue Storage Ratios.



Colour code based on Queue Storage Ratio



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

<sup>N8</sup> The Percentile Back of Queue extends to upstream Site lanes.

<sup>N9</sup> Refer to the full Percentile Back of Queue value given for the queue formed at the originating downstream Site.

SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 1:23:31 PM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

 Site: [1.39.B.PM] 1. EXISTING Windsor Road / Commercial Road (2039 Future (+10 Years) Base PM)

Network: [N.39.B.PM] 2039 Future Base PM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

TCS 3788

Site Category: NA

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140.0 seconds (Network User-Given Cycle Time)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed			
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ]			km/h			
			veh/h	%	veh/h	%		veh	m						
South: Windsor Road (S)															
2	T1	All MCs	1962	3.8	<b>1926</b>	3.9	*0.899	12.1	LOS A	47.7	345.3	0.59	0.60	0.64	46.5
3	R2	All MCs	567	0.5	<b>557</b>	0.5	0.873	81.4	LOS F	20.1	141.4	1.00	0.93	1.12	13.7
Approach			2529	3.1	<b>2483</b>	3.1	0.899	27.6	LOS B	47.7	345.3	0.68	0.67	0.74	30.2
East: Commercial Road (E)															
4	L2	All MCs	476	3.8	<b>447</b>	3.9	0.906	103.7	LOS F	34.0 <sup>N8</sup>	246.0 <sup>N8</sup>	1.00	1.25	1.22	4.7
6	R2	All MCs	755	2.9	<b>709</b>	3.0	*2.051	1036.0	LOS F	91.0 <sup>N8</sup>	653.5 <sup>N8</sup>	1.00	2.77	4.33	0.8
Approach			1231	3.3	<b>1157</b>	3.4	2.051	675.5	LOS F	91.0 <sup>N8</sup>	653.5 <sup>N8</sup>	1.00	2.18	3.13	1.0
North: Windsor Road (N)															
7	L2	All MCs	479	0.7	<b>439</b>	0.8	0.274	31.7	LOS C	8.2	58.1	0.31	0.62	0.31	52.6
8	T1	All MCs	2084	4.6	<b>1914</b>	4.8	0.873	34.9	LOS C	51.7	372.9	0.82	0.77	0.84	40.7
Approach			2563	3.8	<b>2353</b>	4.0	0.873	34.3	LOS C	51.7	372.9	0.73	0.75	0.74	30.8
All Vehicles			6323	3.4	<b>5993</b>	3.6	2.051	155.3	LOS F	91.0 <sup>N8</sup>	653.5 <sup>N8</sup>	0.76	0.99	1.20	11.1

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

<sup>N8</sup> The Percentile Back of Queue extends to upstream Site lanes.

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[ Ped ped	Dist ]			sec	m	m/sec
					ped	m					
South: Windsor Road (S)											
P1	Full	18	64.2	LOS F	0.1	0.1	0.96	0.96	246.0	200.0	0.81
East: Commercial Road (E)											
P2	Full	40	64.2	LOS F	0.2	0.2	0.96	0.96	246.1	200.0	0.81
All Pedestrians		58	64.2	LOS F	0.2	0.2	0.96	0.96	246.0	200.0	0.81

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


---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:40:08 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

 Site: [2.39.B.PM] 2. EXISTING Commercial Road / The Fiddler  
 Access (2039 Future (+10 Years) Base PM)  
 Network: [N.39.B.PM] 2039 Future Base PM Peak (SSDA)  
 Output produced by SIDRA INTERSECTION Version: 10.0.8.241

New Site TCS NA  
 Site Category: (None)  
 Give-Way (Two-Way)  
**Network Scenario: 1 | Local Volumes      Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop of Rate	Number of Cycles to Depart	Aver. Speed			
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ]			km/h			
			veh/h	%	veh/h	%		veh	m						
East: Commercial Road (E)															
5	T1	All MCs	1145	4.1	1145	4.1	0.611	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.0
6	R2	All MCs	121	0.0	121	0.0	0.333	14.8	LOS B	1.2	8.6	0.73	0.93	0.89	17.8
Approach			1265	3.7	1265	3.7	0.611	1.5	NA	1.2	8.6	0.07	0.09	0.08	39.6
North: The Fiddler Access (N)															
7	L2	All MCs	85	0.0	85	0.0	0.093	3.9	LOS A	0.4	2.7	0.44	0.51	0.44	18.9
9	R2	All MCs	83	1.6	83	1.6	9.614	7934.8	LOS F	47.3	335.5	1.00	2.73	5.68	0.2
Approach			167	0.8	167	0.8	9.614	3924.2	LOS F	47.3	335.5	0.72	1.61	3.03	0.4
West: Commercial Road (W)															
10	L2	All MCs	180	0.0	171	0.0	0.092	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	31.3
11	T1	All MCs	868	0.7	827	0.7	0.214	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach			1048	0.6	998	0.6	0.214	0.8	NA	0.0	0.0	0.00	0.09	0.00	44.0
All Vehicles			2481	2.2	2431	2.2	9.614	271.3	NA	47.3	335.5	0.09	0.19	0.25	8.3

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

# MOVEMENT SUMMARY

 Site: [3.39.B.PM] 3. EXISTING\_Commercial Road / Health Co Access (2039 Future (+10 Years) Base PM)

Network: [N.39.B.PM] 2039 Future Base PM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

TCS 4598

Site Category: NA

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90.0 seconds (Site User-Given Cycle Time)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed			
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ]			km/h			
			veh/h	%	veh/h	%		veh	m						
East: Commercial Road (E)															
5	T1	All MCs	1077	4.2	1077	4.2	*0.357	2.5	LOS A	6.3	46.0	0.29	0.26	0.29	43.5
6	R2	All MCs	133	0.0	133	0.0	0.251	9.2	LOS A	2.0	13.7	0.43	1.00	0.43	21.5
Approach			1209	3.7	1209	3.7	0.357	3.3	LOS A	6.3	46.0	0.31	0.34	0.31	38.1
North: Health Co Access (N)															
7	L2	All MCs	131	0.0	131	0.0	0.138	1.8	LOS A	0.5	3.7	0.10	0.30	0.10	24.6
9	R2	All MCs	192	0.7	192	0.7	*0.357	40.2	LOS C	3.9	27.7	0.94	0.75	0.94	6.5
Approach			323	0.4	323	0.4	0.357	24.6	LOS B	3.9	27.7	0.60	0.57	0.60	9.3
West: Commercial Road (W)															
10	L2	All MCs	144	0.0	138	0.0	0.102	5.0	LOS A	0.4	3.1	0.08	0.53	0.08	29.2
11	T1	All MCs	796	0.8	761	0.8	0.285	5.7	LOS A	6.3	44.5	0.41	0.36	0.41	27.3
Approach			940	0.7	899	0.7	0.285	5.6	LOS A	6.3	44.5	0.36	0.39	0.36	27.8
All Vehicles			2472	2.1	2431	2.2	0.357	6.9	LOS A	6.3	46.0	0.37	0.39	0.37	29.2

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[ Ped ped	Dist ]			sec	m	m/sec
					ped	m					
East: Commercial Road (E)											
P2	Full	7	39.2	LOS D	0.0	0.0	0.93	0.93	221.0	200.0	0.90
North: Health Co Access (N)											
P3	Full	5	39.2	LOS D	0.0	0.0	0.93	0.93	221.0	200.0	0.90
West: Commercial Road (W)											
P4	Full	4	39.2	LOS D	0.0	0.0	0.93	0.93	221.0	200.0	0.90

All Pedestrians	17	39.2	LOS D	0.0	0.0	0.93	0.93	221.0	200.0	0.90
-----------------	----	------	-------	-----	-----	------	------	-------	-------	------

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:40:08 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

 Site: [4.39.B.PM] 4. FUTURE Commercial Road / Greenhills

Drive / Caddies Boulevard (2039 Future (+10 Years) Base PM)

Network: [N.39.B.PM] 2039 Future Base PM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

New Site TCS4598

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90.0 seconds (Site User-Given Cycle Time)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed			
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ]			km/h			
			veh/h	%	veh/h	%		veh	m						
South: Caddies Boulevard (S)															
1	L2	All MCs	709	3.6	709	3.6	0.846	33.3	LOS C	30.9	222.6	0.95	0.94	1.06	18.3
2	T1	All MCs	265	2.0	265	2.0	0.561	32.4	LOS C	10.4	73.8	0.93	0.78	0.93	31.6
3	R2	All MCs	237	4.1	237	4.1	* 1.014	94.3	LOS F	16.2	117.0	1.00	1.32	1.90	21.9
Approach			1212	3.4	1212	3.4	1.014	45.0	LOS D	30.9	222.6	0.95	0.98	1.19	22.8
East: Commercial Road (E)															
4	L2	All MCs	487	1.6	487	1.6	0.868	45.6	LOS D	27.1	192.9	0.98	0.99	1.17	32.3
5	T1	All MCs	418	4.2	418	4.2	0.868	54.9	LOS D	27.1	192.9	1.00	1.05	1.25	28.0
Approach			905	2.8	905	2.8	0.868	49.9	LOS D	27.1	192.9	0.99	1.02	1.21	28.4
North: Greenhills Drive (N)															
7	L2	All MCs	212	2.0	212	2.0	0.322	27.6	LOS B	6.9	48.8	0.76	0.76	0.76	38.4
8	T1	All MCs	127	2.0	127	2.0	* 0.322	34.5	LOS C	6.9	48.8	0.89	0.72	0.89	31.1
9	R2	All MCs	81	2.0	81	2.0	0.561	50.8	LOS D	3.7	26.2	1.00	0.78	1.03	21.2
Approach			420	2.0	420	2.0	0.561	34.2	LOS C	6.9	48.8	0.84	0.75	0.85	33.7
West: Commercial Road (W)															
10	L2	All MCs	50	2.0	48	2.0	0.436	29.8	LOS C	7.2	50.9	0.91	0.76	0.91	29.8
11	T1	All MCs	556	0.2	536	0.2	* 0.900	46.0	LOS D	20.4	143.3	0.98	1.03	1.21	30.8
12	R2	All MCs	351	0.7	338	0.7	* 1.014	93.2	LOS F	23.3	164.2	1.00	1.33	1.82	13.5
Approach			956	0.5	921	0.5	1.014	62.4	LOS E	23.3	164.2	0.98	1.12	1.42	23.9
All Vehicles			3493	2.3	3458	2.3	1.014	49.6	LOS D	30.9	222.6	0.96	1.00	1.22	26.1

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[ Ped ped	Dist ]			sec	m	m/sec
					ped	m					

South: Caddies Boulevard (S)											
P1	Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
East: Commercial Road (E)											
P2	Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
P2B	Slip/ Bypass	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
North: Greenhills Drive (N)											
P3	Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
West: Commercial Road (W)											
P4	Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
All Pedestrians		263	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:40:08 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx



	ped/h	sec		ped	m		sec	m	m/sec	
South: Windsor Road (S)										
P1 Full	22	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82
East: Mile End Road (E)										
P2 Full	27	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82
North: Windsor Road (N)										
P3 Full	53	63.3	LOS F	0.2	0.2	0.95	0.95	245.1	200.0	0.82
West: Rouse Road (W)										
P4 Full	53	63.3	LOS F	0.2	0.2	0.95	0.95	217.2	200.0	0.92
P4B Slip/ Bypass	53	40.0	LOS E	0.2	0.2	0.90	0.90	193.8	200.0	1.03
All Pedestrians	207	57.4	LOS E	0.2	0.2	0.94	0.94	225.0	200.0	0.89

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:40:08 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx



	ped/h	sec		ped	m		sec	m	m/sec	
South: Windsor Road (S)										
P1B Slip/ Bypass	26	65.2	LOS F	0.1	0.1	0.97	0.97	247.0	200.0	0.81
East: Rouse Hill Drive (E)										
P2 Full	26	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82
North: Windsor Road (N)										
P3 Full	26	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82
West: Schofields Road (W)										
P4 Full	26	63.2	LOS F	0.1	0.1	0.95	0.95	217.1	200.0	0.92
All Pedestrians	105	63.7	LOS F	0.1	0.1	0.95	0.95	238.5	200.0	0.84

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 12:40:08 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# QUEUE STORAGE RATIO (PERCENTILE)

Largest Ratio of the 95% Back of Queue Distance to the available queue storage distance for any lane on the approach

Network: [N.39.B.PM] 2039 Future Base PM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

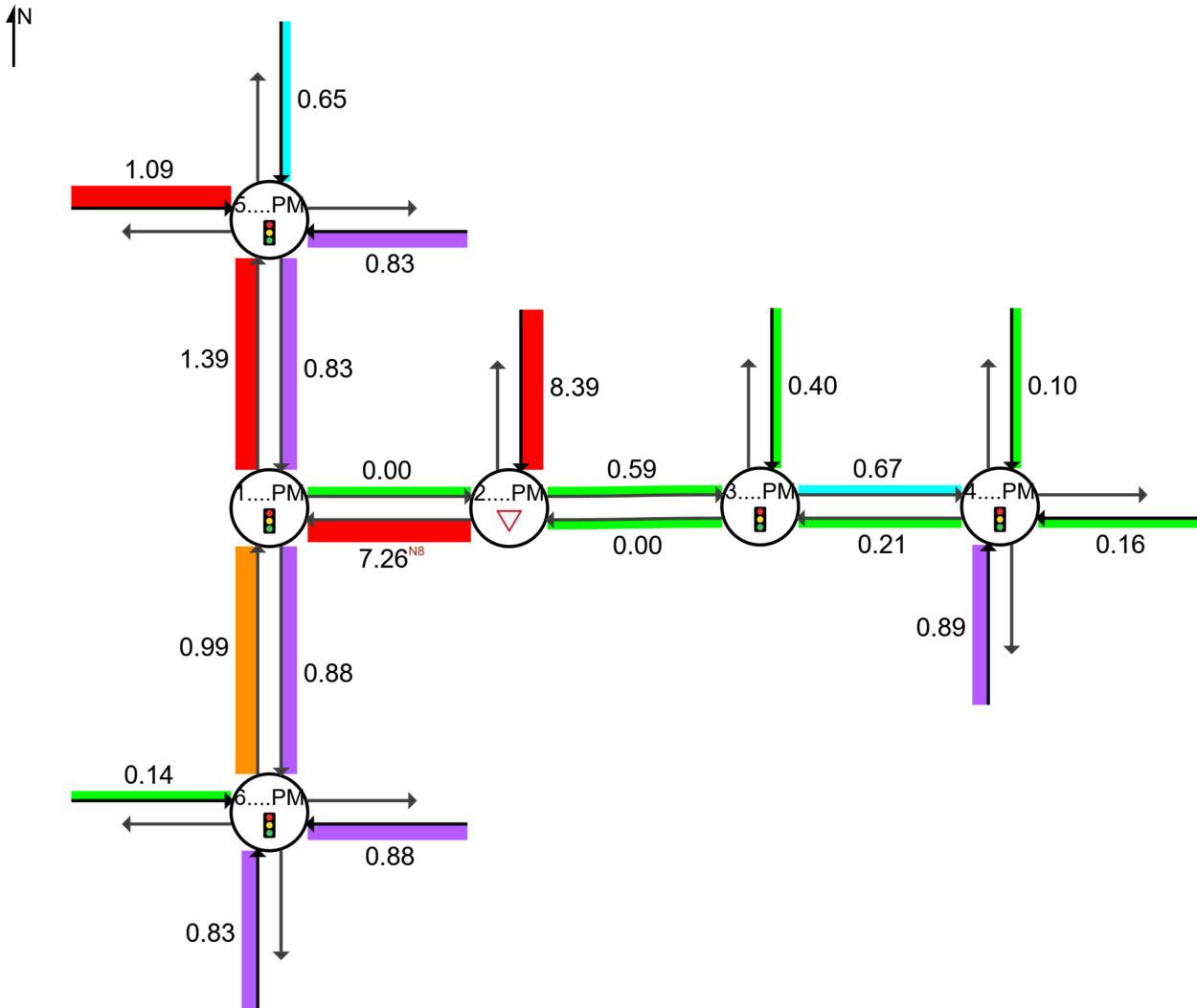
New Network

Network Category: (None)

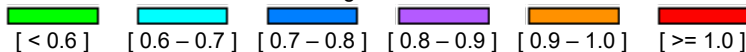
Network Cycle Time = 140.0 seconds (Network User-Given Cycle Time)

Network Scenario: 1 | Local Volumes

Short Lanes are not included in determining Queue Storage Ratios.



Colour code based on Queue Storage Ratio



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

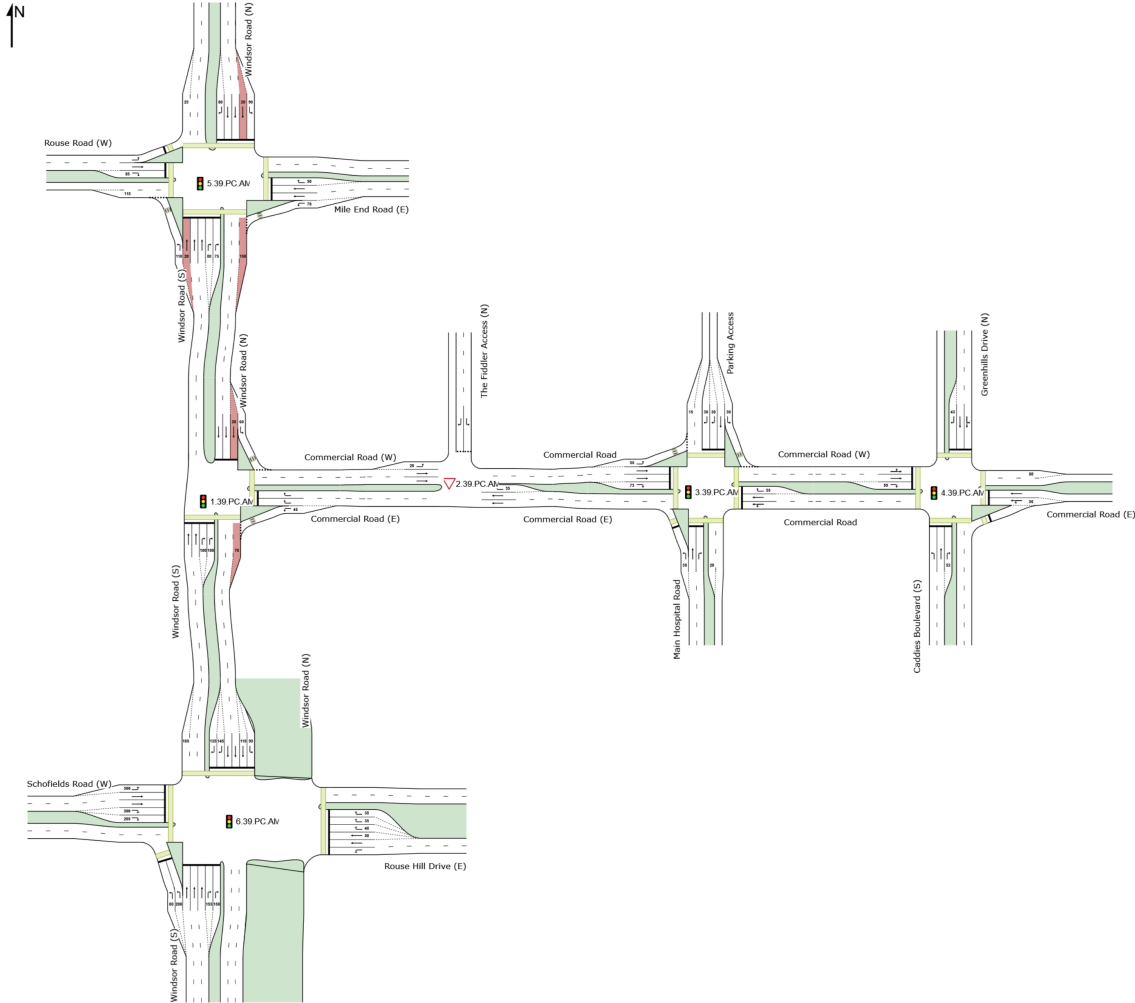
<sup>N8</sup> The Percentile Back of Queue extends to upstream Site lanes.

# NETWORK LAYOUT

**Network: [N.39.PC.AM] 2039 Future with Hospital AM Peak (SSDA)**

New Network  
 Network Category: (None)  
 Network Scenario: 1 | Local Volumes

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



SITES IN NETWORK		
Site ID	CCG ID	Site Name
1. 1.39.PC.AM	NA	1. EXISTING Windsor Road / Commercial Road
2. 2.39.PC.AM	NA	2. EXISTING Commercial Road / The Fiddler Access
3. 3.39.PC.AM	NA	3. FUTURE Commercial Road / Main Hospital Road / Health Co Access
4. 4.39.PC.AM	NA	4. FUTURE Commercial Road / Greenhills Drive / Caddies Boulevard
5. 5.39.PC.AM	NA	5. EXISTING Windsor Road / Rouse Road / Mile End Road
6. 6.39.PC.AM	NA	6. EXISTING Windsor Road / Schofields Road / Rouse Hill Drive

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Created: Friday, 30 January 2026 5:42:49 PM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

**Site:** [1.39.PC.AM] 1. EXISTING Windsor Road / Commercial Road (2039 Future (+10 Years) with Hospital AM)

**Network:** [N.39.PC.AM] 2039 Future with Hospital AM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

TCS 3788

Site Category: NA

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140.0 seconds (Network User-Given Cycle Time)

**Network Scenario: 1 | Local Volumes      Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn Class	Mov Class	Demand Flows [ Total HV ]	Arrival Flows [ Total HV ]	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue [ Veh. ]	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed			
			veh/h	%	v/c	sec		veh	Dist ]			km/h			
South: Windsor Road (S)															
2	T1	All MCs	1865	9.3	<b>1843</b>	9.3	0.865	8.2	LOS A	40.2	303.5	0.57	0.55	0.58	53.7
3	R2	All MCs	668	1.4	<b>660</b>	1.4	*0.900	77.5	LOS F	25.1	177.8	1.00	0.97	1.23	14.3
Approach			2533	7.2	<b>2503</b>	7.2	0.900	26.5	LOS B	40.2	303.5	0.68	0.66	0.75	31.0
East: Commercial Road (E)															
4	L2	All MCs	445	3.5	<b>410</b>	3.6	0.356	38.5	LOS C	11.9	86.2	0.47	1.07	0.47	16.4
6	R2	All MCs	551	6.9	<b>507</b>	7.0	*1.350	404.6	LOS F	42.5 <sup>N8</sup>	315.5 <sup>N8</sup>	1.00	1.96	2.81	1.3
Approach			996	5.4	<b>916</b>	5.5	1.350	241.0	LOS F	42.5 <sup>N8</sup>	315.5 <sup>N8</sup>	0.76	1.56	1.76	2.0
North: Windsor Road (N)															
7	L2	All MCs	453	2.8	<b>368</b>	2.9	0.238	22.7	LOS B	2.1	14.9	0.09	0.65	0.09	57.3
8	T1	All MCs	2207	7.7	<b>1801</b>	8.1	*0.900	32.2	LOS C	49.5	365.8	0.77	0.74	0.81	43.3
Approach			2659	6.9	<b>2170</b>	7.2	0.900	30.6	LOS C	49.5	365.8	0.65	0.72	0.68	33.1
All Vehicles			6188	6.8	<b>5589</b>	7.5	1.350	63.2	LOS E	49.5 <sup>N8</sup>	365.8 <sup>N8</sup>	0.68	0.83	0.89	18.0

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

<sup>N8</sup> The Percentile Back of Queue extends to upstream Site lanes.

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE [ Ped Dist ]		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		ped	m			sec	m	m/sec
South: Windsor Road (S)											
P1	Full	22	64.2	LOS F	0.1	0.1	0.96	0.96	246.0	200.0	0.81
East: Commercial Road (E)											
P2	Full	27	64.2	LOS F	0.1	0.1	0.96	0.96	246.0	200.0	0.81
All Pedestrians		49	64.2	LOS F	0.1	0.1	0.96	0.96	246.0	200.0	0.81

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

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 1:00:32 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

Site: [2.39.PC.AM] 2. EXISTING Commercial Road / The Fiddler Access (2039 Future (+10 Years) with Hospital AM)  
 Network: [N.39.PC.AM] 2039 Future with Hospital AM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

New Site TCS NA  
 Site Category: (None)  
 Give-Way (Two-Way)  
**Network Scenario: 1 | Local Volumes      Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number Rate to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	[ Dist ] m				km/h
East: Commercial Road (E)															
5	T1	All MCs	963	5.4	<b>852</b>	5.4	0.230	0.0	LOS A	-N9	-N9	0.00	0.00	0.00	49.9
6	R2	All MCs	17	6.7	<b>15</b>	6.6	0.053	15.2	LOS B	0.1	1.0	0.71	0.86	0.71	17.4
Approach			980	5.4	<b>867</b>	5.5	0.230	0.3	NA	-N9	-N9	0.01	0.02	0.01	47.6
North: The Fiddler Access (N)															
7	L2	All MCs	8	14.3	8	14.3	0.018	3.7	LOS A	0.0	0.3	0.40	0.43	0.40	19.4
9	R2	All MCs	21	5.6	21	5.6	0.964	157.7	LOS F	-N7	-N7	1.00	1.34	1.85	1.3
Approach			29	8.1	29	8.1	0.964	113.4	LOS F	-N7	-N7	0.82	1.08	1.43	1.7
West: Commercial Road (W)															
10	L2	All MCs	37	6.5	<b>34</b>	6.4	0.020	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	31.1
11	T1	All MCs	1068	2.1	<b>980</b>	2.1	0.354	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.7
Approach			1105	2.2	<b>1014</b>	2.2	0.354	0.2	NA	0.0	0.0	0.00	0.02	0.00	48.4
All Vehicles			2115	3.8	<b>1910</b>	4.2	0.964	2.0	NA	-N9	-N9	0.02	0.03	0.03	38.6

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

**N7** The capacity reduction has been determined from the queue blockage probability based on the Percentile Back of Queue values of a Site further downstream.

**N9** Refer to the full Percentile Back of Queue value given for the queue formed at the originating downstream Site.

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 1:00:32 AM  
 Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

**Site:** [3.39.PC.AM] 3. FUTURE Commercial Road / Main Hospital Road / Health Co Access (2039 Future (+10 Years) with Hospital AM)

**Network:** [N.39.PC.AM] 2039 Future with Hospital AM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

TCS 4598

Site Category: NA

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90.0 seconds (Site User-Given Cycle Time)

**Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number Rate to Depart	Aver. Speed
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh	Dist ]				km/h
			veh/h		veh/h					veh	m				
South: Main Hospital Road															
1	L2	All MCs	18	1.9	18	1.9	0.055	25.4	LOS B	0.5	3.8	0.68	0.68	0.68	10.8
2	T1	All MCs	32	0.0	32	0.0	*0.072	29.8	LOS C	1.1	7.7	0.82	0.60	0.82	14.7
3	R2	All MCs	18	1.9	18	1.9	0.244	52.5	LOS D	0.8	5.8	0.98	0.71	0.98	5.7
Approach			67	1.0	67	1.0	0.244	34.6	LOS C	1.1	7.7	0.82	0.65	0.82	10.7
East: Commercial Road															
4	L2	All MCs	141	1.9	<b>129</b>	1.9	* 1.293	305.0	LOS F	67.9 <sup>N8</sup>	495.2 <sup>N8</sup>	1.00	2.45	3.44	3.9
5	T1	All MCs	893	5.8	<b>819</b>	6.0	1.293	309.3	LOS F	67.9 <sup>N8</sup>	495.2 <sup>N8</sup>	1.00	2.41	3.44	3.1
6	R2	All MCs	115	0.0	<b>106</b>	0.0	0.854	59.1	LOS E	5.3	37.2	1.00	0.96	1.43	13.7
Approach			1149	4.8	<b>1053</b>	4.9	1.293	283.7	LOS F	67.9 <sup>N8</sup>	495.2 <sup>N8</sup>	1.00	2.27	3.24	3.6
North: Parking Access															
7	L2	All MCs	35	0.0	35	0.0	0.032	6.9	LOS A	0.3	2.3	0.24	0.84	0.24	20.8
8	T1	All MCs	32	0.0	32	0.0	0.072	29.6	LOS C	1.1	7.7	0.82	0.60	0.82	14.7
9	R2	All MCs	80	1.4	80	1.4	0.654	56.5	LOS E	2.0	14.2	1.00	0.83	1.23	5.1
Approach			146	0.8	146	0.8	0.654	38.9	LOS C	2.0	14.2	0.78	0.78	0.91	8.2
West: Commercial Road															
10	L2	All MCs	164	0.7	<b>151</b>	0.7	0.103	8.8	LOS A	0.4	3.1	0.07	0.82	0.07	24.1
11	T1	All MCs	785	2.4	<b>722</b>	2.4	0.660	27.8	LOS B	16.2	115.8	0.89	0.78	0.89	11.2
12	R2	All MCs	144	1.9	<b>132</b>	1.9	* 1.090	147.1	LOS F	11.0	78.3	1.00	1.34	2.41	3.9
Approach			1093	2.1	<b>1005</b>	2.1	1.090	40.6	LOS C	16.2	115.8	0.78	0.86	0.97	8.6
All Vehicles			2455	3.2	<b>2271</b>	3.5	1.293	153.0	LOS F	67.9 <sup>N8</sup>	495.2 <sup>N8</sup>	0.88	1.50	2.01	4.5

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

<sup>N8</sup> The Percentile Back of Queue extends to upstream Site lanes.

## Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
					[ Ped ped	Dist ] m					
		ped/h	sec						sec	m	m/sec
South: Main Hospital Road											
P1	Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
P1B	Slip/Bypass	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
East: Commercial Road											
P2	Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
North: Parking Access											
P3	Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
West: Commercial Road											
P4	Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
All Pedestrians		263	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 1:00:32 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

 Site: [4.39.PC.AM] 4. FUTURE Commercial Road / Greenhills Drive / Caddies Boulevard (2039 Future (+10 Years) with Hospital AM)

Network: [N.39.PC.AM] 2039 Future with Hospital AM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

New Site TCS4598

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90.0 seconds (Site User-Given Cycle Time)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance													
Mov ID	Turn	Mov Class	Demand Flows [ Total HV ]	Arrival Flows [ Total HV ]	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue [ Veh. ]	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed	
			veh/h %	veh/h %	v/c	sec		veh	Dist ] m			km/h	
South: Caddies Boulevard (S)													
1	L2	All MCs	485 7.7	485 7.7	1.034	105.8	LOS F	38.9	290.3	1.00	1.39	1.90	7.7
2	T1	All MCs	101 2.0	101 2.0	0.229	30.5	LOS C	3.7	26.0	0.85	0.67	0.85	32.3
3	R2	All MCs	231 3.9	231 3.9	1.256	287.6	LOS F	28.5	206.1	1.00	1.99	3.29	11.6
Approach			817 5.9	817 5.9	1.256	147.9	LOS F	38.9	290.3	0.98	1.47	2.16	11.2
East: Commercial Road (E)													
4	L2	All MCs	603 1.0	603 1.0	* 1.268	297.3	LOS F	91.1	645.3	1.00	2.29	3.26	11.9
5	T1	All MCs	543 3.6	543 3.6	1.268	304.2	LOS F	91.1	645.3	1.00	2.43	3.30	9.6
Approach			1146 2.3	1146 2.3	1.268	300.6	LOS F	91.1	645.3	1.00	2.35	3.28	10.4
North: Greenhills Drive (N)													
7	L2	All MCs	103 2.0	103 2.0	0.454	31.0	LOS C	6.9	49.3	0.92	0.78	0.92	35.3
8	T1	All MCs	243 2.0	243 2.0	* 0.454	38.6	LOS C	6.9	49.3	0.93	0.76	0.93	30.4
9	R2	All MCs	90 2.0	90 2.0	0.960	74.2	LOS F	5.3	37.7	1.00	1.14	1.85	16.8
Approach			436 2.0	436 2.0	0.960	44.2	LOS D	6.9	49.3	0.94	0.84	1.12	28.9
West: Commercial Road (W)													
10	L2	All MCs	89 2.0	<b>83</b> 2.0	0.254	28.3	LOS B	4.5	32.4	0.81	0.72	0.81	31.2
11	T1	All MCs	339 3.1	<b>314</b> 3.2	0.525	31.2	LOS C	10.0	72.2	0.89	0.75	0.89	35.1
12	R2	All MCs	423 1.4	<b>391</b> 1.4	* 1.267	294.1	LOS F	49.1	347.7	1.00	2.09	3.30	6.1
Approach			851 2.1	<b>788</b> 2.1	1.267	161.4	LOS F	49.1	347.7	0.94	1.41	2.08	13.5
All Vehicles			3251 3.1	<b>3188</b> 3.2	1.268	191.9	LOS F	91.1	645.3	0.97	1.69	2.40	12.4

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

Pedestrian Movement Performance										
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE	Prop. Qued	Eff. Stop	Travel Time	Travel Dist.	Aver. Speed

	ped/h	sec		[ Ped ped	Dist ] m		Rate		sec	m	m/sec
South: Caddies Boulevard (S)											
P1 Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90	
East: Commercial Road (E)											
P2 Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90	
P2B Slip/ Bypass	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90	
North: Greenhills Drive (N)											
P3 Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90	
West: Commercial Road (W)											
P4 Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90	
All Pedestrians	263	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 1:00:32 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

 Site: [5.39.PC.AM] 5. EXISTING Windsor Road / Rouse Road / Mile End Road (2039 Future (+10 Years) with Hospital AM)  
 Network: [N.39.PC.AM] 2039 Future with Hospital AM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

TCS 3789

Site Category: NA

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140.0 seconds (Network User-Given Cycle Time)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed			
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ]			km/h			
			veh/h	%	veh/h	%		veh	m						
South: Windsor Road (S)															
1	L2	All MCs	415	4.1	<b>382</b>	4.2	0.284	25.1	LOS B	3.7	26.5	0.25	1.47	0.25	29.0
2	T1	All MCs	1649	5.9	<b>1517</b>	6.0	1.075	158.9	LOS F	82.1	601.1	1.00	1.45	1.61	27.7
3	R2	All MCs	364	7.5	<b>334</b>	7.3	* 1.301	363.6	LOS F	25.3	188.1	1.00	1.42	2.59	6.4
Approach			2428	5.8	<b>2233</b>	5.9	1.301	166.7	LOS F	82.1	601.1	0.87	1.45	1.53	21.1
East: Mile End Road (E)															
4	L2	All MCs	266	6.9	266	6.9	0.420	42.9	LOS D	12.9	95.6	0.80	1.17	0.80	7.5
5	T1	All MCs	269	4.8	269	4.8	0.661	64.2	LOS E	10.5	76.4	0.99	0.81	1.00	22.0
6	R2	All MCs	245	4.5	245	4.5	* 1.231	273.8	LOS F	29.3	212.9	1.00	1.76	2.39	12.1
Approach			780	5.4	780	5.4	1.231	122.9	LOS F	29.3	212.9	0.93	1.23	1.37	13.6
North: Windsor Road (N)															
7	L2	All MCs	28	5.4	28	5.4	0.029	46.7	LOS D	0.5	3.6	0.47	1.17	0.47	39.1
8	T1	All MCs	2050	6.3	2050	6.3	* 1.301	353.0	LOS F	157.8	1153.7	1.00	2.17	2.53	13.3
9	R2	All MCs	118	2.4	118	2.4	0.876	119.8	LOS F	9.0	64.5	1.00	0.94	1.33	34.9
Approach			2196	6.1	2196	6.1	1.301	336.6	LOS F	157.8	1153.7	0.99	2.09	2.44	12.7
West: Rouse Road (W)															
10	L2	All MCs	204	4.1	204	4.1	0.453	38.2	LOS C	9.4	68.4	0.90	1.06	0.90	38.2
11	T1	All MCs	461	4.1	461	4.1	* 1.425	474.8	LOS F	79.8	578.5	1.00	2.28	3.00	5.9
12	R2	All MCs	353	3.6	353	3.6	1.081	185.0	LOS F	38.0	274.0	1.00	1.33	1.79	9.9
Approach			1017	3.9	1017	3.9	1.425	287.0	LOS F	79.8	578.5	0.98	1.71	2.16	10.0
All Vehicles			6422	5.6	<b>6228</b>	5.7	1.425	240.8	LOS F	157.8	1153.7	0.94	1.69	1.93	14.9

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE	Prop. Qued	Eff. Stop	Travel Time	Travel Dist.	Aver. Speed	

	ped/h	sec		[ Ped ped	Dist ] m		Rate		sec	m	m/sec
South: Windsor Road (S)											
P1 Full	22	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82	
East: Mile End Road (E)											
P2 Full	27	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82	
North: Windsor Road (N)											
P3 Full	53	63.3	LOS F	0.2	0.2	0.95	0.95	245.1	200.0	0.82	
West: Rouse Road (W)											
P4 Full	53	63.3	LOS F	0.2	0.2	0.95	0.95	217.2	200.0	0.92	
P4B Slip/ Bypass	53	32.7	LOS D	0.1	0.1	0.90	0.90	186.5	200.0	1.07	
All Pedestrians	207	55.5	LOS E	0.2	0.2	0.94	0.94	223.1	200.0	0.90	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 1:00:32 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

**Site:** [6.39.PC.AM] 6. EXISTING Windsor Road / Schofields Road / Rouse Hill Drive (2039 Future (+10 Years) with Hospital AM)  
**Network:** [N.39.PC.AM] 2039 Future with Hospital AM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

TCS 3557

Site Category: NA

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140.0 seconds (Network User-Given Cycle Time)

**Network Scenario: 1 | Local Volumes**      **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance													
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed	
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh ]	[ Dist ]			km/h	
South: Windsor Road (S)													
1	L2	All MCs	589 4.7	589 4.7	0.299	24.7	LOS B	10.5	76.2	0.57	0.76	0.57	52.0
2	T1	All MCs	1717 5.1	1717 5.1	*0.900	168.5	LOS F	63.6	464.6	0.97	0.95	1.06	21.6
3	R2	All MCs	394 10.3	394 10.3	0.900	89.0	LOS F	15.3	116.7	1.00	1.01	1.31	19.7
Approach			2700 5.7	2700 5.7	0.900	125.5	LOS F	63.6	464.6	0.89	0.92	0.99	28.5
East: Rouse Hill Drive (E)													
4	L2	All MCs	299 3.2	299 3.2	0.726	52.3	LOS D	16.5	118.4	0.98	1.11	1.00	21.5
5	T1	All MCs	321 3.5	321 3.5	0.872	80.1	LOS F	12.2	88.0	1.00	1.01	1.28	30.9
6	R2	All MCs	149 3.9	149 3.9	*0.698	212.2	LOS F	7.0	50.3	1.00	0.81	1.12	10.1
Approach			769 3.5	769 3.5	0.872	94.9	LOS F	16.5	118.4	0.99	1.01	1.14	24.1
North: Windsor Road (N)													
7	L2	All MCs	145 3.2	<b>121</b> 3.2	0.151	27.3	LOS B	2.8	20.2	0.37	0.70	0.37	38.9
8	T1	All MCs	2059 7.2	<b>1720</b> 7.5	0.856	28.6	LOS C	32.9	244.9	0.80	0.74	0.84	46.4
9	R2	All MCs	450 5.1	<b>375</b> 5.1	0.640	78.0	LOS F	12.9	94.4	1.00	0.87	1.00	33.6
Approach			2654 6.6	<b>2215</b> 6.9	0.856	36.9	LOS C	32.9	244.9	0.81	0.76	0.84	40.3
West: Schofields Road (W)													
10	L2	All MCs	671 5.0	671 5.0	*1.049	122.8	LOS F	57.7	421.4	1.00	1.28	1.57	13.5
11	T1	All MCs	797 4.7	797 4.7	1.017	116.3	LOS F	38.0	276.9	1.00	1.27	1.53	24.8
12	R2	All MCs	476 4.7	476 4.7	0.872	79.6	LOS F	17.8	129.5	1.00	0.99	1.23	33.8
Approach			1944 4.8	1944 4.8	1.049	109.6	LOS F	57.7	421.4	1.00	1.20	1.47	21.4
All Vehicles			8067 5.6	<b>7628</b> 5.9	1.049	92.6	LOS F	63.6	464.6	0.90	0.95	1.08	27.1

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

Pedestrian Movement Performance										
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE	Prop. Qued	Eff. Stop	Travel Time	Travel Dist.	Aver. Speed

	ped/h	sec		[ Ped ped	Dist ] m		Rate		sec	m	m/sec
South: Windsor Road (S)											
P1B Slip/ Bypass	26	65.2	LOS F	0.1	0.1	0.97	0.97	247.0	200.0	0.81	
East: Rouse Hill Drive (E)											
P2 Full	26	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82	
North: Windsor Road (N)											
P3 Full	26	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82	
West: Schofields Road (W)											
P4 Full	26	63.2	LOS F	0.1	0.1	0.95	0.95	217.1	200.0	0.92	
All Pedestrians	105	63.7	LOS F	0.1	0.1	0.95	0.95	238.5	200.0	0.84	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 1:00:32 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# QUEUE STORAGE RATIO (PERCENTILE)

Largest Ratio of the 95% Back of Queue Distance to the available queue storage distance for any lane on the approach

Network: [N.39.PC.AM] 2039 Future with Hospital AM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

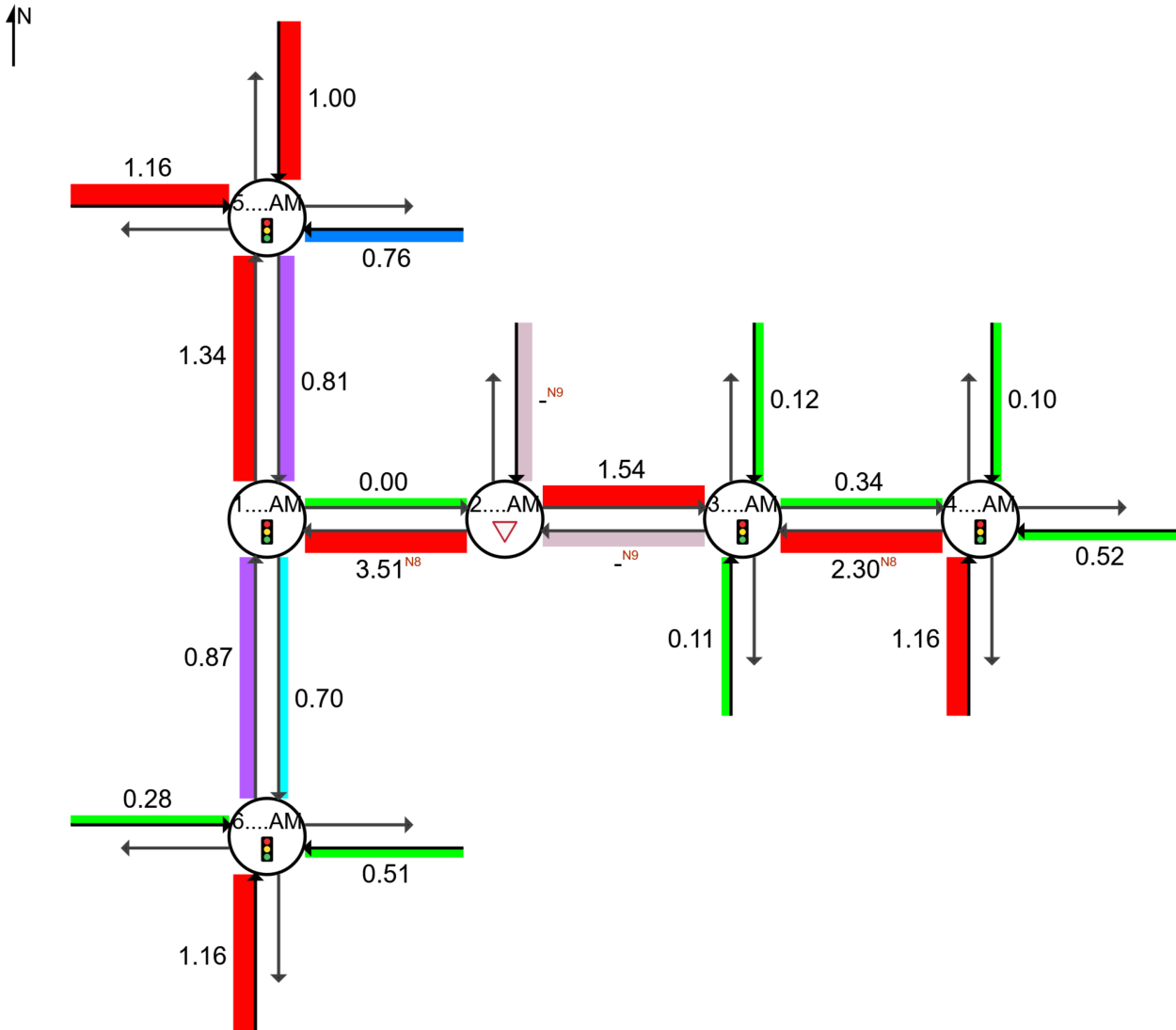
New Network

Network Category: (None)

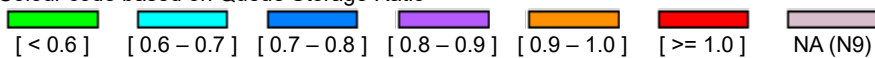
Network Cycle Time = 140.0 seconds (Network User-Given Cycle Time)

Network Scenario: 1 | Local Volumes

Short Lanes are not included in determining Queue Storage Ratios.



Colour code based on Queue Storage Ratio



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

**N8** The Percentile Back of Queue extends to upstream Site lanes.

**N9** Refer to the full Percentile Back of Queue value given for the queue formed at the originating downstream Site.

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 1:00:32 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

 Site: [1.39.PC.PM] 1. EXISTING Windsor Road / Commercial Road (2039 Future (+10 Years) with Hospital PM)

Network: [N.39.PC.PM] 2039 Future with Hospital PM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

TCS 3788

Site Category: NA

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140.0 seconds (Network User-Given Cycle Time)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed			
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ]			km/h			
			veh/h	%	veh/h	%		veh	m						
South: Windsor Road (S)															
2	T1	All MCs	1962	3.8	<b>1915</b>	3.9	0.776	5.5	LOS A	34.6	250.2	0.45	0.43	0.45	60.2
3	R2	All MCs	590	0.5	<b>576</b>	0.5	*0.900	85.4	LOS F	21.3	149.6	1.00	0.95	1.15	13.2
Approach			2552	3.1	<b>2491</b>	3.1	0.900	24.0	LOS B	34.6	250.2	0.58	0.55	0.61	32.9
East: Commercial Road (E)															
4	L2	All MCs	560	3.2	<b>464</b>	3.2	0.830	76.9	LOS F	29.2 <sup>N8</sup>	210.2 <sup>N8</sup>	0.94	1.18	1.02	6.2
6	R2	All MCs	858	2.7	<b>711</b>	2.7	*1.757	766.5	LOS F	90.1 <sup>N8</sup>	645.4 <sup>N8</sup>	1.00	2.49	3.82	0.9
Approach			1418	2.9	<b>1175</b>	2.9	1.757	494.1	LOS F	90.1 <sup>N8</sup>	645.4 <sup>N8</sup>	0.98	1.97	2.72	1.2
North: Windsor Road (N)															
7	L2	All MCs	508	0.7	<b>460</b>	0.8	0.303	34.4	LOS C	9.2	64.7	0.33	0.63	0.33	52.0
8	T1	All MCs	2085	4.6	<b>1891</b>	4.8	*0.900	61.7	LOS E	65.6	473.3	0.99	0.94	1.04	24.8
Approach			2592	3.8	<b>2351</b>	4.0	0.900	56.3	LOS D	65.6	473.3	0.86	0.88	0.90	22.0
All Vehicles			6563	3.3	<b>6017</b>	3.6	1.757	128.4	LOS F	90.1 <sup>N8</sup>	645.4 <sup>N8</sup>	0.77	0.96	1.14	11.5

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

N8 The Percentile Back of Queue extends to upstream Site lanes.

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[ Ped ped	Dist ]			sec	m	m/sec
					ped	m					
South: Windsor Road (S)											
P1	Full	18	64.2	LOS F	0.1	0.1	0.96	0.96	246.0	200.0	0.81
East: Commercial Road (E)											
P2	Full	40	64.2	LOS F	0.2	0.2	0.96	0.96	246.1	200.0	0.81
All Pedestrians		58	64.2	LOS F	0.2	0.2	0.96	0.96	246.0	200.0	0.81

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

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 1:04:45 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

Site: [2.39.PC.PM] 2. EXISTING Commercial Road / The Fiddler Access (2039 Future (+10 Years) with Hospital PM)  
 Network: [N.39.PC.PM] 2039 Future with Hospital PM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

New Site TCS NA  
 Site Category: (None)  
 Give-Way (Two-Way)  
**Network Scenario: 1 | Local Volumes      Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed			
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ]			km/h			
			veh/h	%	veh/h	%		veh	m						
East: Commercial Road (E)															
5	T1	All MCs	1332	3.6	<b>1158</b>	3.5	0.409	0.0	LOS A	-N9	-N9	0.00	0.00	0.00	49.7
6	R2	All MCs	121	0.0	<b>105</b>	0.0	0.311	15.3	LOS B	1.0	7.1	0.75	0.91	0.85	17.5
Approach			1452	3.3	<b>1263</b>	3.2	0.409	1.3	NA	-N9	-N9	0.06	0.08	0.07	40.8
North: The Fiddler Access (N)															
7	L2	All MCs	85	0.0	85	0.0	0.155	3.8	LOS A	0.4	2.7	0.44	0.51	0.44	19.2
9	R2	All MCs	83	1.6	83	1.6	6.851	5402.5	LOS F	45.2	320.4	1.00	3.33	7.14	0.2
Approach			167	0.8	167	0.8	6.851	2672.4	LOS F	45.2	320.4	0.72	1.90	3.75	0.5
West: Commercial Road (W)															
10	L2	All MCs	180	0.0	<b>170</b>	0.0	0.091	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	31.3
11	T1	All MCs	919	0.7	<b>867</b>	0.7	0.337	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.7
Approach			1099	0.6	<b>1036</b>	0.6	0.337	0.8	NA	0.0	0.0	0.00	0.09	0.00	44.1
All Vehicles			2719	2.0	<b>2467</b>	2.2	6.851	182.3	NA	-N9	-N9	0.08	0.20	0.29	9.1

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

N9 Refer to the full Percentile Back of Queue value given for the queue formed at the originating downstream Site.

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 1:04:45 AM  
 Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

**Site:** [3.39.PC.PM] 3. FUTURE Commercial Road / Main Hospital Road / Health Co Access (2039 Future (+10 Years) with Hospital PM)

**Network:** [N.39.PC.PM] 2039 Future with Hospital PM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

TCS 4598

Site Category: NA

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90.0 seconds (Site User-Given Cycle Time)

**Network Scenario: 1 | Local Volumes**      **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed			
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ]			km/h			
			veh/h	%	veh/h	%		veh	m						
South: Main Hospital Road															
1	L2	All MCs	188	0.7	188	0.7	0.284	27.0	LOS B	5.9	41.5	0.76	0.76	0.76	10.3
2	T1	All MCs	32	0.0	32	0.0	*0.072	29.8	LOS C	1.1	7.7	0.82	0.60	0.82	14.7
3	R2	All MCs	151	0.7	151	0.7	0.988	84.4	LOS F	9.7	68.2	1.00	1.20	1.87	3.7
Approach			370	0.7	370	0.7	0.988	50.6	LOS D	9.7	68.2	0.86	0.93	1.22	6.3
East: Commercial Road															
4	L2	All MCs	41	0.7	34	0.8	*0.988	63.7	LOS E	40.3	291.8	1.00	1.37	1.57	12.0
5	T1	All MCs	1077	4.2	886	4.2	0.988	75.1	LOS F	-N7	-N7	1.00	1.36	1.63	9.6
6	R2	All MCs	133	0.0	109	0.0	*0.881	60.9	LOS E	5.6	39.2	1.00	0.99	1.51	13.4
Approach			1251	3.6	1030	3.7	0.988	73.2	LOS F	-N7	-N7	1.00	1.32	1.62	10.1
North: Parking Access															
7	L2	All MCs	131	0.0	131	0.0	0.140	7.8	LOS A	1.5	10.5	0.40	1.11	0.40	16.8
8	T1	All MCs	32	0.0	32	0.0	0.072	29.6	LOS C	1.1	7.7	0.82	0.60	0.82	14.7
9	R2	All MCs	192	0.7	192	0.7	0.641	49.9	LOS D	-N7	-N7	1.00	0.83	1.10	5.8
Approach			355	0.4	355	0.4	0.641	32.5	LOS C	-N7	-N7	0.76	0.91	0.81	8.5
West: Commercial Road															
10	L2	All MCs	144	0.0	137	0.0	0.093	8.6	LOS A	0.4	2.8	0.07	0.82	0.07	24.1
11	T1	All MCs	796	0.8	754	0.8	0.685	30.3	LOS C	16.0	112.8	0.92	0.81	0.93	10.2
12	R2	All MCs	51	0.7	49	0.7	0.397	51.7	LOS D	2.2	15.6	1.00	0.74	1.00	9.4
Approach			991	0.7	940	0.7	0.685	28.3	LOS B	16.0	112.8	0.80	0.80	0.81	11.0
All Vehicles			2966	1.9	2694	2.1	0.988	49.1	LOS D	-N7	-N7	0.88	1.03	1.17	9.6

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

N7 The capacity reduction has been determined from the queue blockage probability based on the Percentile Back of Queue values of a Site further downstream.

## Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
					[ Ped ped	Dist ] m					
		ped/h	sec						sec	m	m/sec
South: Main Hospital Road											
P1	Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
P1B	Slip/Bypass	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
East: Commercial Road											
P2	Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
North: Parking Access											
P3	Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
West: Commercial Road											
P4	Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90
All Pedestrians		263	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 1:04:45 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

 Site: [4.39.PC.PM] 4. FUTURE Commercial Road / Greenhills Drive / Caddies Boulevard (2039 Future (+10 Years) with Hospital PM)

Network: [N.39.PC.PM] 2039 Future with Hospital PM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

New Site TCS4598

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90.0 seconds (Site User-Given Cycle Time)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop of Cycles	Number Rate to Depart	Aver. Speed			
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ]			km/h			
			veh/h	%	veh/h	%		veh	m						
South: Caddies Boulevard (S)															
1	L2	All MCs	727	3.5	727	3.5	* 1.248	267.6	LOS F	90.4	650.7	1.00	1.99	3.15	3.8
2	T1	All MCs	265	2.0	265	2.0	0.561	32.4	LOS C	10.4	73.8	0.93	0.78	0.93	31.6
3	R2	All MCs	237	4.1	237	4.1	1.124	173.9	LOS F	21.9	158.9	1.00	1.62	2.52	15.5
Approach			1229	3.3	1229	3.3	1.248	198.8	LOS F	90.4	650.7	0.98	1.66	2.55	8.8
East: Commercial Road (E)															
4	L2	All MCs	487	1.6	487	1.6	1.182	223.5	LOS F	67.5	481.2	1.00	2.01	2.76	14.0
5	T1	All MCs	436	4.1	436	4.1	* 1.182	231.2	LOS F	67.5	481.2	1.00	2.01	2.82	11.4
Approach			924	2.8	924	2.8	1.182	227.1	LOS F	67.5	481.2	1.00	2.01	2.79	12.2
North: Greenhills Drive (N)															
7	L2	All MCs	212	2.0	212	2.0	0.320	27.4	LOS B	6.8	48.7	0.75	0.76	0.75	38.5
8	T1	All MCs	127	2.0	127	2.0	0.320	34.6	LOS C	6.8	48.7	0.89	0.72	0.89	31.1
9	R2	All MCs	84	2.0	84	2.0	* 1.131	184.4	LOS F	8.1	57.5	1.00	1.41	2.74	9.0
Approach			423	2.0	423	2.0	1.131	60.7	LOS E	8.1	57.5	0.84	0.88	1.19	27.4
West: Commercial Road (W)															
10	L2	All MCs	62	1.8	60	1.8	0.496	31.2	LOS C	8.4	58.9	0.92	0.77	0.92	29.6
11	T1	All MCs	628	0.3	605	0.3	1.025	79.0	LOS F	32.2	225.6	0.98	1.33	1.59	24.1
12	R2	All MCs	417	0.7	401	0.7	1.124	171.4	LOS F	37.4	263.5	1.00	1.66	2.44	8.8
Approach			1107	0.5	1066	0.5	1.124	111.1	LOS F	37.4	263.5	0.98	1.42	1.88	17.3
All Vehicles			3684	2.2	3643	2.2	1.248	164.3	LOS F	90.4	650.7	0.97	1.59	2.25	13.3

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE	Prop. Qued	Eff. Stop	Travel Time	Travel Dist.	Aver. Speed	

	ped/h	sec		[ Ped ped	Dist ] m		Rate		sec	m	m/sec
South: Caddies Boulevard (S)											
P1 Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90	
East: Commercial Road (E)											
P2 Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90	
P2B Slip/ Bypass	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90	
North: Greenhills Drive (N)											
P3 Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90	
West: Commercial Road (W)											
P4 Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90	
All Pedestrians	263	39.3	LOS D	0.1	0.1	0.94	0.94	221.1	200.0	0.90	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 1:04:45 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

 Site: [5.39.PC.PM] 5. EXISTING Windsor Road / Rouse Road / Mile End Road (2039 Future (+10 Years) with Hospital PM)  
 Network: [N.39.PC.PM] 2039 Future with Hospital PM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

TCS 3789

Site Category: NA

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140.0 seconds (Network User-Given Cycle Time)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop of Cycle	Number of Cycles to Depart	Aver. Speed			
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ]			km/h			
			veh/h	%	veh/h	%		veh	m						
South: Windsor Road (S)															
1	L2	All MCs	391	1.4	<b>322</b>	1.6	0.245	20.1	LOS B	2.5	18.0	0.16	1.16	0.16	40.6
2	T1	All MCs	1997	2.7	<b>1642</b>	2.9	* 1.039	108.7	LOS F	79.0	564.8	0.97	1.26	1.43	36.3
3	R2	All MCs	345	4.6	<b>282</b>	4.2	* 1.855	868.3	LOS F	32.2	233.8	1.00	1.68	4.01	3.9
Approach			2733	2.8	<b>2246</b>	2.8	1.855	191.5	LOS F	79.0	564.8	0.86	1.30	1.57	23.5
East: Mile End Road (E)															
4	L2	All MCs	281	4.7	281	4.7	0.478	50.3	LOS D	14.7	107.0	0.85	1.16	0.85	7.0
5	T1	All MCs	295	2.5	295	2.5	0.708	78.9	LOS F	11.6	83.3	0.99	0.83	1.02	21.9
6	R2	All MCs	261	2.5	<b>261</b>	2.5	* 2.417	1381.0	LOS F	70.4	503.0	1.00	2.69	4.79	6.7
Approach			837	3.2	837	3.2	2.417	475.3	LOS F	70.4	503.0	0.95	1.52	2.14	8.4
North: Windsor Road (N)															
7	L2	All MCs	58	2.5	58	2.5	0.051	41.3	LOS C	1.5	10.5	0.40	0.69	0.40	57.7
8	T1	All MCs	1996	3.1	1996	3.1	1.052	132.2	LOS F	108.5	773.7	1.00	1.41	1.51	25.9
9	R2	All MCs	239	1.3	<b>239</b>	1.3	* 1.521	541.4	LOS F	40.2	284.6	1.00	1.69	3.29	11.5
Approach			2293	2.9	2293	2.9	1.521	172.6	LOS F	108.5	773.7	0.98	1.42	1.67	20.1
West: Rouse Road (W)															
10	L2	All MCs	217	2.1	217	2.1	0.389	38.2	LOS C	8.5	60.9	0.84	1.17	0.84	40.0
11	T1	All MCs	459	2.0	<b>459</b>	2.0	* 1.393	446.0	LOS F	77.1	549.0	1.00	2.20	2.90	6.2
12	R2	All MCs	320	1.9	<b>320</b>	1.9	1.826	843.4	LOS F	71.7	510.1	1.00	2.35	3.95	3.7
Approach			996	2.0	996	2.0	1.826	484.8	LOS F	77.1	549.0	0.96	2.02	2.79	7.7
All Vehicles			6859	2.7	<b>6372</b>	3.0	2.417	267.8	LOS F	108.5	773.7	0.93	1.48	1.87	16.4

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE	Prop. Qued	Eff. Stop	Travel Time	Travel Dist.	Aver. Speed	

	ped/h	sec		[ Ped ped	Dist ] m		Rate		sec	m	m/sec
South: Windsor Road (S)											
P1 Full	22	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82	
East: Mile End Road (E)											
P2 Full	27	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82	
North: Windsor Road (N)											
P3 Full	53	63.3	LOS F	0.2	0.2	0.95	0.95	245.1	200.0	0.82	
West: Rouse Road (W)											
P4 Full	53	63.3	LOS F	0.2	0.2	0.95	0.95	217.2	200.0	0.92	
P4B Slip/ Bypass	53	40.0	LOS E	0.2	0.2	0.90	0.90	193.8	200.0	1.03	
All Pedestrians	207	57.4	LOS E	0.2	0.2	0.94	0.94	225.0	200.0	0.89	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 1:04:45 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# MOVEMENT SUMMARY

 Site: [6.39.PC.PM] 6. EXISTING Windsor Road / Schofields Road / Rouse Hill Drive (2039 Future (+10 Years) with Hospital PM)  
 Network: [N.39.PC.PM] 2039 Future with Hospital PM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

TCS 3557

Site Category: NA

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140.0 seconds (Network User-Given Cycle Time)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed		
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ]			km/h		
			veh/h	%	veh/h	%		veh	m					
South: Windsor Road (S)														
1	L2	All MCs	867 2.4	867 2.4	0.447	28.3	LOS B	17.8	126.9	0.66	0.79	0.66	50.2	
2	T1	All MCs	1711 2.6	1711 2.6	*0.846	74.5	LOS F	42.0	300.5	0.96	0.88	1.00	24.0	
3	R2	All MCs	157 20.3	157 20.3	0.481	74.9	LOS F	5.2	43.1	0.99	0.78	0.99	22.1	
Approach			2736 3.5	2736 3.5	0.846	59.9	LOS E	42.0	300.5	0.87	0.85	0.89	34.3	
East: Rouse Hill Drive (E)														
4	L2	All MCs	423 1.6	423 1.6	0.899	63.8	LOS E	27.4	194.7	1.00	1.17	1.19	18.9	
5	T1	All MCs	548 1.8	548 1.8	*1.125	220.3	LOS F	33.4	237.1	1.00	1.58	1.99	18.0	
6	R2	All MCs	281 2.1	281 2.1	0.452	106.9	LOS F	6.5	46.7	0.97	0.78	0.97	11.9	
Approach			1252 1.8	1252 1.8	1.125	142.0	LOS F	33.4	237.1	0.99	1.26	1.49	16.3	
North: Windsor Road (N)														
7	L2	All MCs	201 1.4	179 1.4	0.177	37.1	LOS C	6.0	42.5	0.53	0.74	0.53	36.7	
8	T1	All MCs	1885 4.0	1681 4.2	0.774	56.8	LOS E	38.9	282.2	1.00	0.88	1.00	34.0	
9	R2	All MCs	569 2.3	507 2.4	1.025	130.2	LOS F	22.8	163.0	1.00	1.11	1.48	25.3	
Approach			2654 3.5	2367 3.6	1.025	71.0	LOS F	38.9	282.2	0.96	0.92	1.07	28.4	
West: Schofields Road (W)														
10	L2	All MCs	560 2.0	560 2.0	*1.124	185.3	LOS F	57.8	411.6	1.00	1.42	1.90	11.0	
11	T1	All MCs	532 1.9	532 1.9	0.925	84.0	LOS F	21.1	150.2	1.00	1.06	1.32	30.0	
12	R2	All MCs	503 1.9	503 1.9	*1.127	203.3	LOS F	29.2	207.7	1.00	1.39	2.00	19.7	
Approach			1595 1.9	1595 1.9	1.127	157.2	LOS F	57.8	411.6	1.00	1.29	1.74	17.8	
All Vehicles			8237 2.9	7950 3.0	1.127	95.6	LOS F	57.8	411.6	0.94	1.02	1.21	23.2	

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

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

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

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

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

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

\* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE	Prop. Qued	Eff. Stop	Travel Time	Travel Dist.	Aver. Speed	

	ped/h	sec		[ Ped ped	Dist ] m		Rate		sec	m	m/sec
South: Windsor Road (S)											
P1B Slip/ Bypass	26	65.2	LOS F	0.1	0.1	0.97	0.97	247.0	200.0	0.81	
East: Rouse Hill Drive (E)											
P2 Full	26	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82	
North: Windsor Road (N)											
P3 Full	26	63.2	LOS F	0.1	0.1	0.95	0.95	245.1	200.0	0.82	
West: Schofields Road (W)											
P4 Full	26	63.2	LOS F	0.1	0.1	0.95	0.95	217.1	200.0	0.92	
All Pedestrians	105	63.7	LOS F	0.1	0.1	0.95	0.95	238.5	200.0	0.84	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: ARUP AUSTRALIA SERVICES PTY LTD | Licence: NETWORK / FLOATING | Processed: Friday, 30 January 2026 1:04:45 AM

Project: J:\600000\603702\26 Rouse Hill Hospital\Work\Traffic\Modelling\2026\20260122 New FTE 1262\260130- RHH- Updated FTE v1.sipx

# QUEUE STORAGE RATIO (PERCENTILE)

Largest Ratio of the 95% Back of Queue Distance to the available queue storage distance for any lane on the approach

Network: [N.39.PC.PM] 2039 Future with Hospital PM Peak (SSDA)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

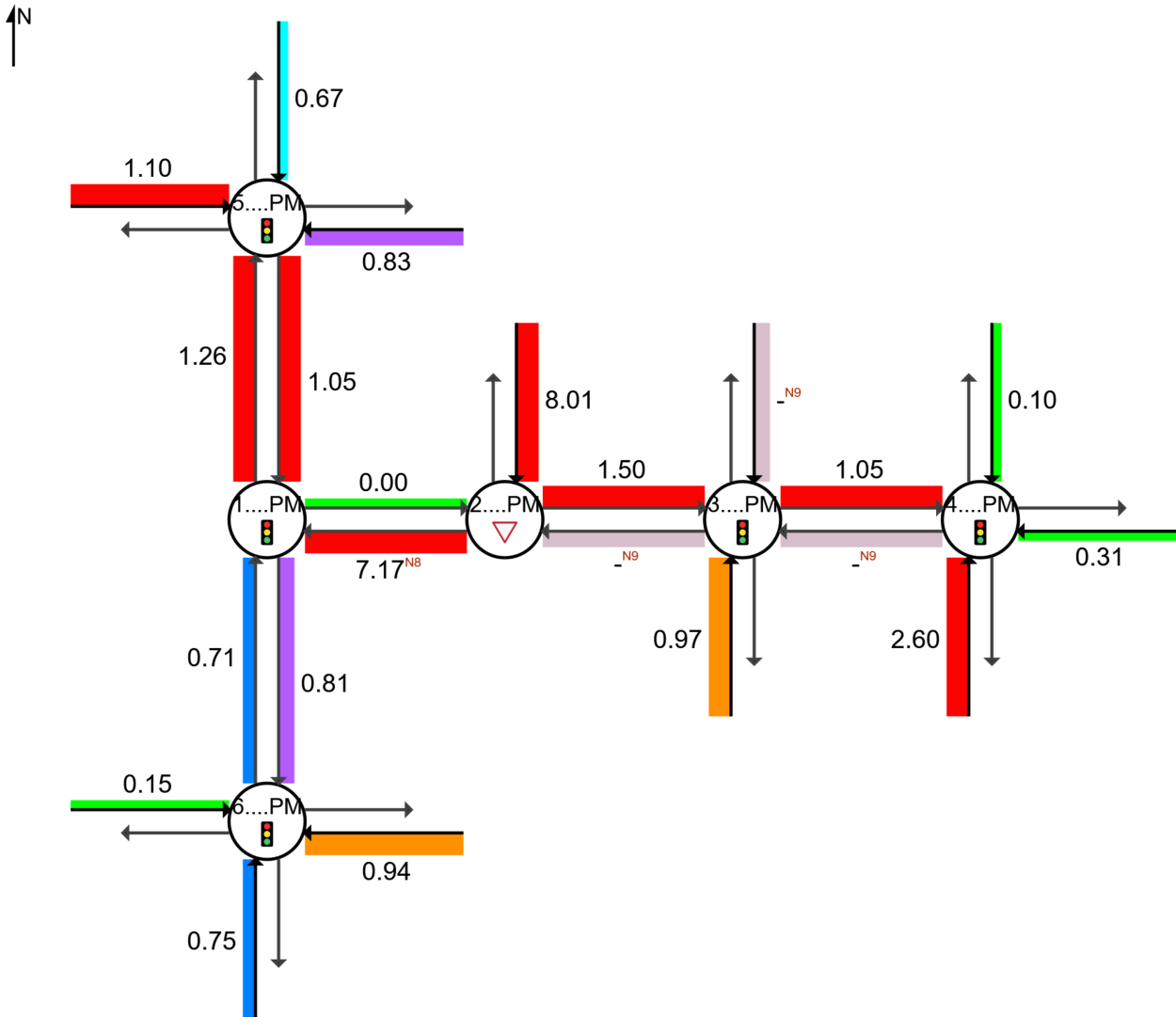
New Network

Network Category: (None)

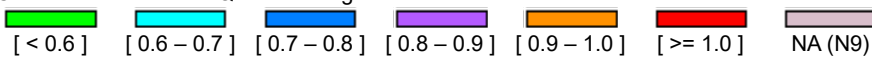
Network Cycle Time = 140.0 seconds (Network User-Given Cycle Time)

Network Scenario: 1 | Local Volumes

Short Lanes are not included in determining Queue Storage Ratios.



Colour code based on Queue Storage Ratio



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

N8 The Percentile Back of Queue extends to upstream Site lanes.

N9 Refer to the full Percentile Back of Queue value given for the queue formed at the originating downstream Site.