BEFORE INDEPENDENT HEARINGS COMMISSIONERS APPOINTED BY SELWYN DISTRICT COUNCIL

UNDER the Resource Management Act 1991

AND

IN THE MATTER OF Applications by Kevler Development Ltd for subdivision consent to establish a 266 lot subdivision on Springston Rolleston Road, Rolleston

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STATEMENT OF EVIDENCE OF ANDREW ALAN METHERELL ON BEHALF OF KEVLER DEVELOPMENT LIMITED

Transport

Dated 10 July 2023

Christchurch
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1 INTRODUCTION

1.1 My full name is Andrew Alan Metherell. I am a Chartered Professional Engineer, a Chartered Member of Engineering New Zealand, and am included on the International Professional Engineers Register. I hold a Bachelor of Engineering (Civil) with Honours degree from the University of Canterbury. I am also an Associate Member of the New Zealand Planning Institute.

1.2 I have twenty-five years' experience, practising as a traffic engineering and transportation planning specialist based in Christchurch. I am currently employed as the Christchurch Traffic Engineering Team Leader at Stantec New Zealand (Stantec), a global multi-disciplinary engineering consultancy. In this role I am responsible for providing transport engineering advice, assessment and design for a wide range of activities.

1.3 I have had extensive experience providing transportation engineering advice and assessment for land development projects in the greater Christchurch area. Relevant to this project I am regularly involved in the planning, assessment and design of the transport networks for residential, commercial and industrial growth areas. An example is the large Wigram Skies mixed use development which I was involved with from master-planning through to detailed engineering design.

1.4 I have carried out transportation assessment and transport design for many land development projects in and around Rolleston including:

(a) transport evidence for submitters seeking rezoning of land on Lincoln Rolleston Road as part of the Selwyn District Plan Review to enable approximately 24 ha of residential land[1], and 7ha of Large Format Retail Zone[2];

(b) the Special Housing Area subdivision (now Acland Park) on the eastern side of Springston Rolleston Road,

(c) the Foster Park Notice of Requirement, and Selwyn Aquatic Centre adjacent to the northern part of Springston Rolleston Road, and

(d) various residential subdivisions throughout Rolleston including Falcons Landing, Levi Park, and Devon Park;

(e) preparation of transportation assessments for several Selwyn District Plan residential plan changes in Rolleston and surrounding townships including PC2, PC3, PC8&9, PC59, PC67, PC75, and PC82;

(f) peer review of Outline Plan amendments for the Christchurch Southern Motorway.

[1] Selwyn District Plan Variation 1 Rolleston Rezoning Submitter V1-0025 YourSection Ltd
[2] Selwyn District Plan Variation 1 Rolleston Rezoning Submitter V1-0111 Foodstuffs South Island Ltd and Foodstuffs (South Island) Properties Ltd

1.5 I have extensive experience with development and application of traffic models at both large and small scales for the purpose of assessing large scale landuse change associated with Plan Changes, through to assessing localised transport effects of development proposals and integration of development. This has included regional transport models such as the Christchurch Transport Model, localised transport network models, and intersection models.

1.6 I am regularly involved in transport infrastructure design and safety assessment of transport infrastructure. Examples include the Little River (City End) Major Cycleway scheme design, road design particularly in new subdivisions throughout Christchurch and the Selwyn District, and arterial road upgrades and roundabout designs around Wigram to integrate development with the transport network. I have also led various roundabout and signalised intersection designs.

1.7 I prepared a brief of evidence for the Proposed District Plan submission by Kevler Development Ltd (Kevler) seeking residential rezoning of the site. That evidence accompanied the subdivision application. I have since provided some further detail associated with the subdivision stage, which has been included in request for information (RFI) responses.

2 CODE OF CONDUCT

2.1 Although this is not an Environment Court hearing, I note that in preparing my evidence I have reviewed the Code of Conduct for Expert Witnesses contained in Part 9 of the Environment Court Practice Note 2023. I have complied with it in preparing my evidence. I confirm that the issues addressed in this statement of evidence are within my area of expertise, except where relying on the opinion or evidence of other witnesses. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

3 SCOPE OF EVIDENCE

3.1 Kevler seeks to subdivide 15.9ha of rural land for residential purposes, providing approximately 266 residential allotments. The land is zoned Rural Inner Plains in the Operative District Plan (Rural volume), and as such is deemed a Non-Complying Activity. I have been requested by Kevler to prepare expert transportation engineering evidence.

3.2 In preparing the evidence I present now, I have reviewed and considered the following:

(a) The Kevler subdivision application documents including my earlier evidence and responses to information requests;

(b) The proposed District Plan Variation 1 section 32 reports that propose zoning the land subject to this application as a future development area with MDRZ;

(c) The section 42a report dated 3 July 2023 by Mr Richard Bigsby supported by transport evidence from Mr Matt Collins of Aecom (and formerly Flow Transportation Consultants),

(d) The evidence of other experts for Kevler,

(e) submissions on the notified Subdivision Consent Application.

3.3 My evidence briefly summarises the transport assessment elements of the subdivision from my earlier Proposed District Plan (PDP) evidence and Council RFI responses.

3.4 My views have not changed from those expressed in my earlier evidence attached to the Application and within the RFI responses, except where I have specified within my evidence. In my opinion the site can integrate with the transport network to support travel by a range of travel modes, and provides consolidation of the existing urban area from a transport perspective.

3.5 In response to transport related submissions, I consider that the wider area transport network effects raised are already addressed by the assessments undertaken, or will be addressed by the Applicant's additional undertakings related to construction management and subdivision design amendments.

3.6 The focus of my evidence is on matters that remain in disagreement with Council officers from a transport perspective. The Officer's Section 42a Report by Mr Richard Bigsby recommends declining the subdivision. I understand that recommendation is contributed to by transportation network effects concerns raised by the Council officer transport assessment prepared by Mr Mat Collins.

3.7 Mr Collins considered that there are potentially significant adverse effects on the land transport network in the short to medium term. My evidence addresses this issue, and my opinion differs from Council's in that I consider wider area transport network effects will be no more than minor in the short to medium term.

4 SUMMARY

4.1 The transport network supporting future development of land at the Application site is well planned. There is already substantial residential development completed in each direction from the site, with roading connections planned or constructed to the site boundary.

4.2 The site was identified for future residential development in the Rolleston Structure Plan (2009). Council has developed transport models that have assessed full development of enabled and potential development in the south of Rolleston. From that modelling, a suite of supporting transport projects on the arterial road network have been included in the Long Term Plan, or in Waka Kotahi future plans. Those projects have been relied on when

considering integration of development within other possible development areas in the southern part of Rolleston.

4.3 The consistent approach taken by Council has been to identify that the projects have been planned, and where an adjoining development can facilitate a project requiring additional land, land has been vested. For other developments, I understand Council has taken responsibility for the delivery of the intersection improvement projects.

4.4 The Long Term Plan has set how the intersections will be funded through a combination of development contributions, rates, and Waka Kotahi funding. In my opinion that supports an equitable approach to development addressing arterial road enhancements, and timing can be managed through the Annual Plan and Long Term Plan processes.

4.5 There are existing bus services along Springston Rolleston Road. Public transport routes evolve over time in response to demand, as indicated by Regional Council Public Transport policy. The location of the land close to the arterial road network affords the opportunity for the land to be conveniently accessed by bus services in the future.

4.6 The site includes provision for shared cycle and pedestrian paths on key road links, and along the Springston Rolleston Road boundary. This will contribute to the site being integrated with the surrounding road network to support walking and cycling, including to nearby schools.

4.7 The existing transport network and landuse development in Rolleston is evolving. My review of current traffic volumes at the Selwyn Road arterial[3] intersections with Springston Rolleston Road, Lincoln Rolleston Road, and Weedons Road indicates they are carrying about half of the traffic volume that has been forecast in the longer term by traffic modelling that I set out in my earlier evidence accompanying the Application. There is a period in the short-medium term where residual capacity exists before congestion related issues could result (which in turn could increase safety concerns) ahead of intersection upgrades.

4.8 The specific locations of concern identified by the latest Council reporting are two arterial road v arterial road intersections in the wider road network, being Selwyn Road / Springston Rolleston Road and Selwyn Road / Lincoln Rolleston Road. Those intersections are planned by Council and Waka Kotahi for safety upgrades, and Council's concern is that development traffic adding to the intersections ahead of the upgrades will cause additional adverse road safety effects.

[3] The Proposed District Plan defines Springston Rolleston Road, Selwyn Road, Lincoln Rolleston Road, and Weedons Road as "Arterial Roads". The Operative District Plan defines Springston Rolleston Road, Selwyn Road east of Lincoln Rolleston Road, Lincoln Rolleston Road and Weedons Road as "Arterial Roads". Selwyn Road west of Lincoln Rolleston Road is a "Local" Road in the Operative District Plan.

4.9 The intersection of Selwyn Road / Weedons Road was previously described as an intersection of concern in the Flow reporting that contributed to the s95 report. It has not been discussed in Mr Collins evidence, however for completeness I have provided further assessment and do not consider it an intersection that the Kevler Development has an adverse effect on in the short-medium term.

4.10 I have provided further assessment of the safety and efficiency effects of subdivision on the performance of the intersections in the short-medium term. Based on my recent traffic counts and observations, the intersections still have spare traffic carrying capacity and the incremental change in performance in the short term is negligible from both a safety and capacity perspective. Forecasting forward approximately five years to when the upgrades are planned to have been carried out, the intersections will in my opinion still be operating at a level that is acceptable for the short period that those conditions will exist ahead of upgrade. My assessment is that the incremental safety effect is not significant and will not alter the timing, or form of Council planned upgrades.

4.11 Based on my assessment, I am of the opinion that the short to medium term effects of subdivision ahead of the upgrades will be no more than minor on the wider area arterial intersections.

4.12 Mr Collins has suggested the possibility of an infrastructure funding agreement to enable direct funding contribution to the intersection upgrades. The upgrades are planned regardless of this development, as recorded in the Council reporting. The upgrades are also intended to support existing and future growth development over large parts of southern Rolleston. That growth has included thousands of households.

4.13 In my opinion the contribution of traffic from the proposed development is not of a scale to warrant a specific need for a private developer agreement to the intersection upgrades. Instead, I consider development contributions provide the fair and equitable method to contribute to the upgrades, which I understand is the same as all other development that has occurred in the south of Rolleston.

4.14 I consider that the subdivision application can be supported from a transportation perspective.

5 EXISTING TRANSPORT ENVIRONMENT

5.1 My PDP evidence included with the Application described the location of the land, and existing transport environment surrounding the land (as it existed in 2021-22). **Figure 1** shows the location of the site in the context of the wider area transport network, and also shows the three intersections in the wider area transport network that Council officers have raised concerns about in their s42A report.

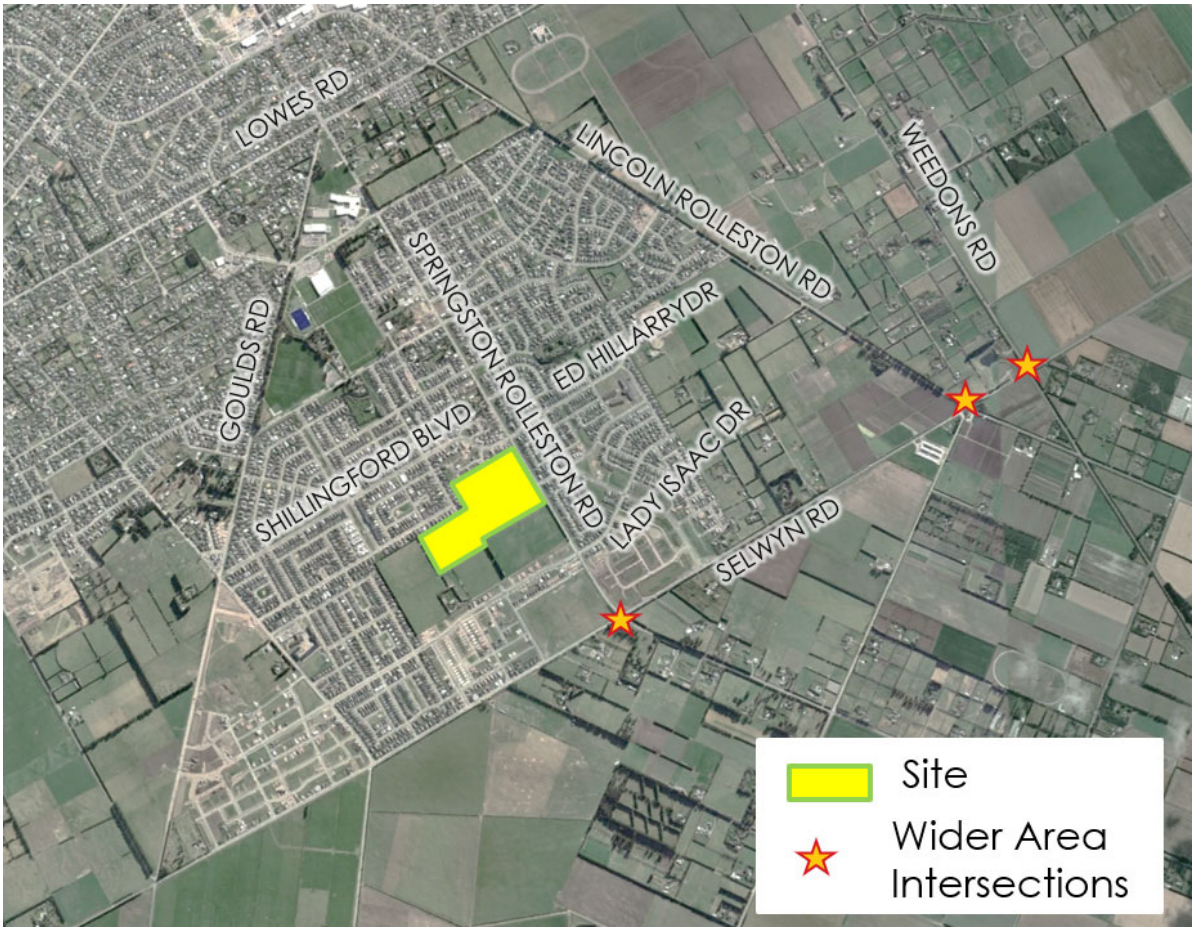


Figure 1 – Site Location in Road Network

5.2 Springston Rolleston Road is an arterial road fronting the proposed subdivision. Currently the road carries a modest 5,000 vehicles per day, and is progressively being urbanised as development occurs. Speed limits have changed over recent years from 100km/h, to 80km/h and are currently 60km/h.

5.3 Springston Rolleston Road currently has a rural road formation on the site side of the road, and the eastern side has been urbanised with a landscaped corridor including a shared path for pedestrians and cyclists. There are sections both north and south of the site that have been urbanised on the western side Springston Rolleston Road.

Springston Rolleston Road / Selwyn Road Intersection

5.4 Approximately 0.65km south of the site Selwyn Road intersects with Springston Rolleston Road intersection at a Stop controlled intersection (**Figure 2**) within a 60km/h speed limit area. Both roads are arterial roads in the Proposed District Plan, whilst Selwyn Road has a lower Local Road classification east of Lincoln Rolleston Road. The Proposed District Plan Arterial Road classifications were established as an outcome of the 2007 Christchurch Rolleston and Environs Transport Study which recognised the role they would have in supporting travel into and around Rolleston.

Figure 2: Aerial Image of Springston Rolleston Road / Selwyn Road (Prior to Safety Improvements Source Canterbury Maps)

5.5 I arranged for intersection traffic counts to be carried out in late June 2023, and these are included in an analysis summary in **Attachment 1**. From these counts I have established that Springston Rolleston Road and Selwyn Road currently have approximate daily traffic volumes as follows:

Intersection		Daily Volume
Springston Rolleston Road	North of Selwyn Road	5,100vpd
	South of Selwyn Road	3,500vpd
Selwyn Road	East of Springston Rolleston Road	4,300vpd
	West of Springston Rolleston Road	3,500vpd

Table 1: Springston Rolleston Road / Selwyn Road Intersection

5.6 These traffic volumes are modest for the Proposed District Plan arterial road classification, whilst Selwyn Road is high for a local road classification under the Operative District Plan. High traffic growth would have occurred on the Selwyn Road side roads as the southern sections of the Faringdon subdivision have connected to Selwyn Road. Springston Rolleston Road would also have increased traffic volumes due to general growth in Rolleston. The changes made at the intersection include the reduction in speed limits from 100km/h to 60km/h, and improvements to side road visibility, particularly looking to the north as subdivision has cleared existing shelter belts.

5.7 My observation and analysis indicate that the intersection is accommodating the existing high turning and crossing traffic volumes with low delays. At the busiest times, some minor queuing typically of up to 4 to 5 vehicles can occur on the side roads which dissipates quickly.

5.8 In the last ten years 2013-2023 (as of June) there has been nine reported crashes, including a fatal crash, a serious crash, three minor injury crashes, and four non-injury crashes. Eight of the nine crashes involved vehicles crossing Selwyn Road and colliding with vehicles travelling through on Springston Rolleston Road. I note that none of the reported crashes involved vehicles turning between Springston Rolleston Road north and Selwyn Road east.

5.9 I have further investigated the operating characteristics of the intersection over time, and the relationship with the crashes that have occurred.

		Non Injury	Minor Injury	Serious Injury	Fatal	**Total**
2013	100km/h					**0**
2014	100km/h					**0**
2015	100km/h					**0**
2016	100km/h	1				**1**
2017	100km/h		1			**1**
2018	100km/h change to 80km/h		2			**2**
2019	80km/h	1		1		**2**
2020	80km/h	2			1	**3**
2021	traffic island on approach, advance signage and improved intersection signage, kerbing, improved visibility, 80km/h change to 60km/h					**0**
2022						**0**
2023 (part)						**0**

Table 2: Springston Rolleston Road / Selwyn Road Intersection Road Safety Record

5.10 It is apparent from Table 2 that as traffic volumes increased, and the existing intersection form stayed the same, crashes increased up until 2020. Since 2021 no crashes have been reported, reflective of a range of safety management improvements were made including, and as indicated in **Figure 3**:

(a) additional delineation of the intersection with islands, and kerbing,

(b) improving signage and lighting,

(c) improving visibility through removal of some of the adjacent shelter belts, and

(d) reduced the speed environment from a high-speed rural road environment to an urban speed environment (60km/h).

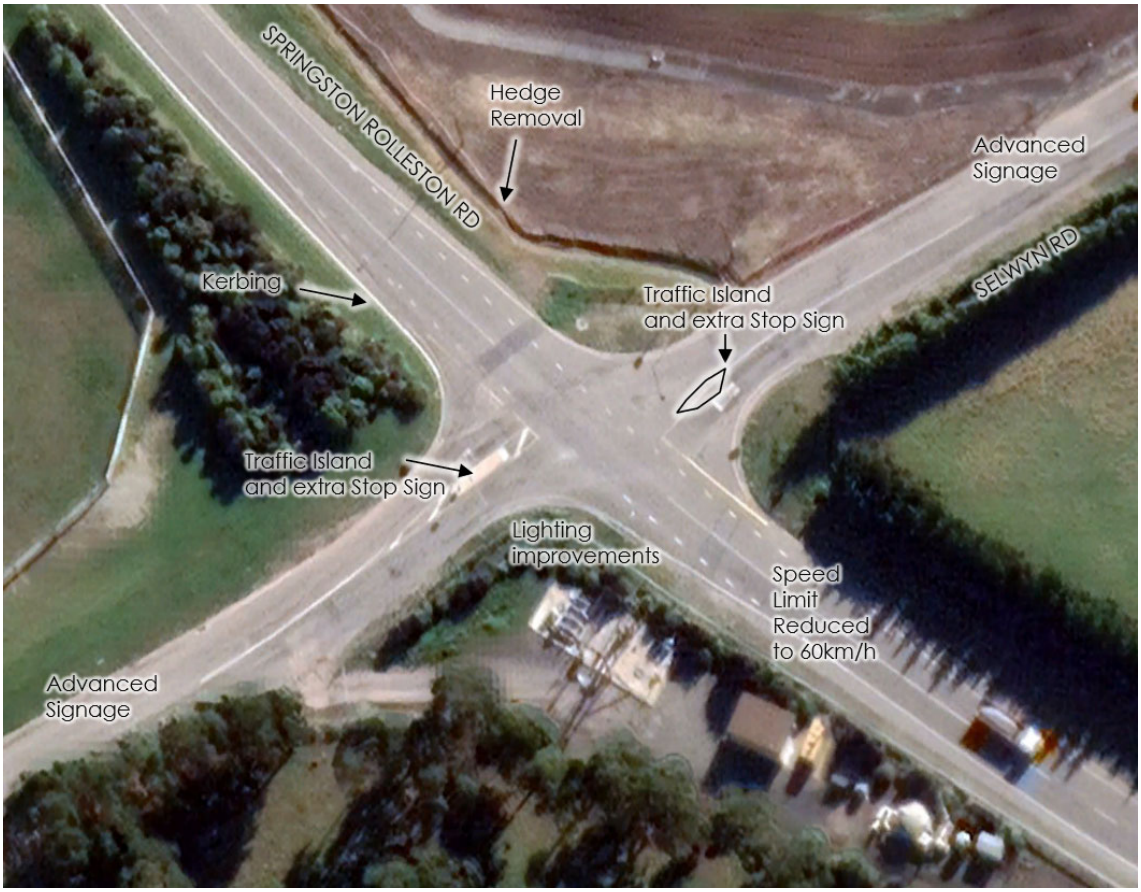


Figure 3: Summary of Changes Made at Springston Rolleston Road / Selwyn Road (Image Google Earth 2012)

5.11 Over time, as additional development occurs adjacent to Springston Rolleston Road, I expect there is a higher likelihood that the road will transition to a fully urban speed environment of 50km/h or less. Additional minor safety measures are still possible including improvements to the southern approach with the inclusion of a speed threshold.

5.12 Clearly the change to a more urban environment, and safety management responses already made at the intersection in the last few years are having good outcomes. The recent absence of reported crashes indicates the frequency and severity of crashes has significantly reduced, even though traffic volumes have been increasing as a result of ongoing development in Rolleston.

Lincoln Rolleston Road / Selwyn Road Intersection

5.13 Approximately 2.6km to the southeast of the site, the arterial Lincoln Rolleston Road intersects with Selwyn Road as shown in **Figure 4**. The intersection is give way controlled on Selwyn Road west, and is within a rural 80km/h speed limit area.

Figure 4: Selwyn Road / Lincoln Rolleston Road Intersection (Image Canterbury Maps)

5.14 Currently Selwyn Road has a traffic volume of approximately 8,500vpd east of Lincoln Rolleston Road, and 5,500vpd west of Lincoln Rolleston Road. Lincoln Rolleston Road has a traffic volume of approximately 3,300vpd north of Selwyn Road.

5.15 There is heavy traffic flow between the eastern and western legs of Selwyn Road, with traffic accessing to and from the southern Rolleston residential areas. The traffic volume is somewhat inconsistent with the existing intersection priority, with a significant 60-65% of vehicles passing through the intersection required to turn.

5.16 My observation and analysis indicate that the intersection can accommodate the existing high turning traffic volumes with low delays, although the heavy left turn from Selwyn Road east into Selwyn Road west creates some difficulties with gap selection for those turning right from Selwyn Road west into Selwyn Road east.

5.17 In the last five years 2018-2022 there has been two minor injury crashes, and two non-injury crashes at the intersection. Three of these involved vehicle collisions whilst turning from Selwyn Road west. Whilst this is indicative of potential safety concerns, the crash history does not indicate a high safety risk[4] at the intersection.

Selwyn Road / Weedons Road

5.18 Approximately 3.0km to the southeast of the site, Selwyn Road then intersects with Weedons Road as a cross-road intersection within an 80km/h speed limit area, as shown in **Figure 5**. Weedons Road is an arterial road in the Proposed District Plan. It is controlled by Stop signs, and provides for an indirect movement route between Lincoln and the SH1 / Weedons Road interchange.

Figure 5: Selwyn Road /Weedons Road Intersection (Image Canterbury Maps)

[4] A high-risk intersection is often defined as having 3 or more serious/fatal injury crashes in 5 years. Waka Kotahi High Risk Intersections Guide https://www.nzta.govt.nz/assets/resources/high-risk-intersections-guide/docs/high-risk-intersections-guide.pdf.

5.19 Currently Selwyn Road has a traffic volume of approximately 7,500vpd east of Weedons Road. Weedons Road has a traffic volume of approximately 1,800vph north of Selwyn Road, and 2,400vph south of Selwyn Road.

5.20 My observation is that the intersection operates with modest delays. There is some complexity, particularly in the evening peak as vehicles crossing the intersection wait for gaps in traffic, often with vehicles side by side at the stop line.

5.21 In the last five years 2018-2022 there has been one injury crash, and seven non-injury crashes at the intersection. Three of these involved single vehicle loss of control whilst turning, and the other five involved crossing or turning movement collisions. Again, this is indicative of potential safety concerns particularly due to the high-speed 80km/h environment, although the single injury crash does not highlight a current record of high safety risk at the intersection.

6 FUTURE LANDUSE AND ROAD NETWORK IMPROVEMENTS

6.1 My observation as shown in **Figure 6** is that there has been significant residential land development in the south of Rolleston over the last five years. I understand that there is also District Plan or consent enabled development still to occur as indicated. The diagram highlights the relative scale of the proposed subdivision within the context of this recent and future development.

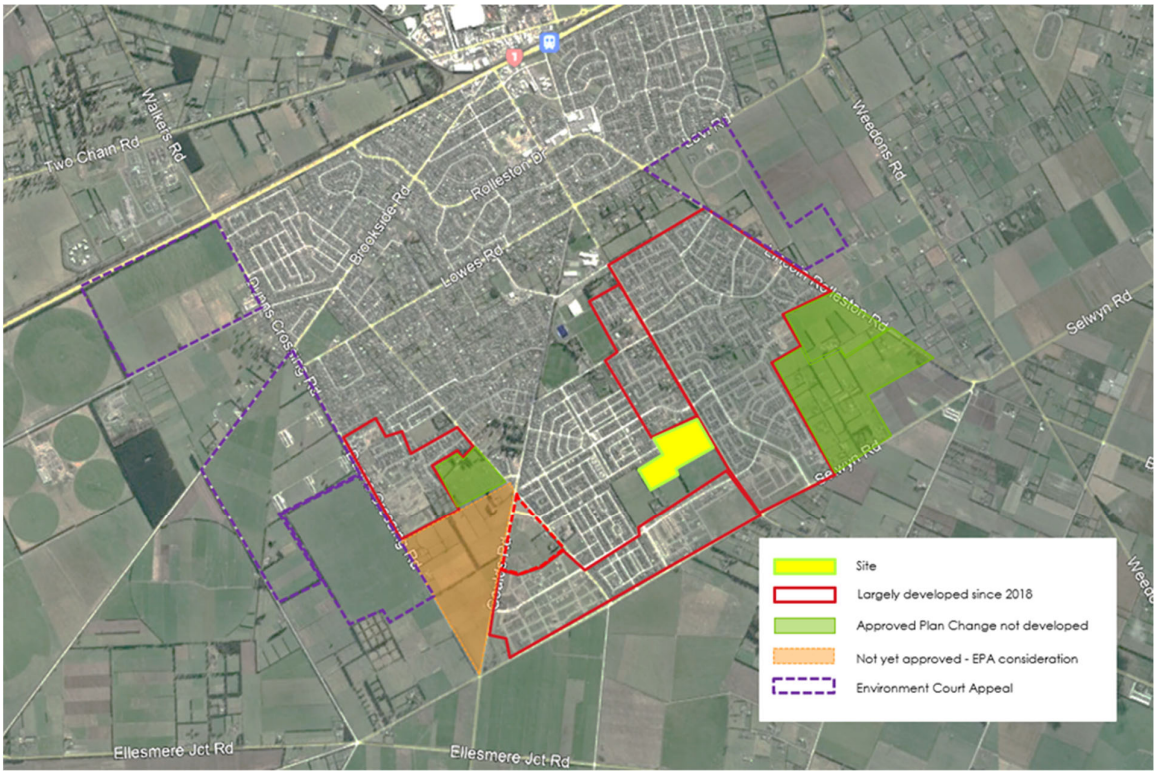


Figure 6: Indicative status of land development (Image from Google Earth August 2022)

6.2 To support the existing and proposed development in the south of Rolleston, the Selwyn District Council and Waka Kotahi plans to upgrade arterial v arterial intersections in the area. The planned improvements are set out in Table 1 of the evidence of Mr Collins, and I have highlighted the below the intersections of interest:

(a) Springston Rolleston Road / Selwyn Road Intersection upgrade (2024/27 under National Land Transport Programme (Waka Kotahi)

(b) Lincoln Rolleston Road / Selwyn Road Intersection Upgrade (LTP 2028/2029)

(c) Selwyn Road / Weedons Road Roundabout (LTP 2027/28)

6.3 It is apparent that Council has planned an arterial road network that will be able to accommodate the long term development expectations for the southern part of Rolleston, with a range of intersection improvements planned in the short to medium term through the Long Term Plan and other funding processes.

6.4 I understand the Long Term Plan is due to be updated next year for the following ten year period 2024-2034. That further affords the opportunity for Council to modify the timing of transport projects to reflect the development that has occurred since the last LTP update, to integrate with planned landuse, and assess the necessary extent of development contributions.

6.5 I understand that Council has established the need for and form of intersection upgrades based on long term traffic modelling assuming approval and development of areas subject to Plan Changes, as well as consideration of full development of Rolleston within its expected urban boundaries as previously anticipated by the Rolleston Structure Plan.

6.6 I am not aware of any approved areas highlighted in Figure 1 that have been required to stage development until after the major upgrade of the three intersections that Council has highlighted as being necessary for this subdivision.

7 PROPOSED DEVELOPMENT

7.1 The subdivision proposes 266 residential allotments over approximately 15.9ha of land. Key elements of the subdivision from a transport network perspective include:

(a) A road connection to Springston Rolleston Road opposite Kate Sheppard Drive to retain the option for a future roundabout if Council decide to carry that out in the long term;

(b) A local road connection to Hungerford Drive to the north;

(c) connections to adjacent land to the west, south and north; and

(d) Off-road pedestrian / cycle connections.

7.2 I understand that the form of the subdivision transport network is agreed between Council and the Applicant, and represents a well connected road network enabling integration with adjacent residential development to the north, to possible future development south and west, and to the arterial road network. It is also largely consistent with the Proposed District Plan Outline Development Plan for the area.

7.3 The walking and cycling connections provide opportunity for connections locally, and bus services are located near the site and within reasonable walking distance.

8 TRANSPORT NETWORK PERFROMANCE

Long Term Network Performance

8.1 My PDP evidence demonstrated through a transport modelling assessment of a long-term scenario that additional traffic generated by development of the site would be able to be accommodated on the wider road network including the planned intersection upgrades. Changes in performance identified in the long-term modelling were very small, representing a negligible effect on the wide area performance of the road network.

Traffic Distribution

8.2 To assist with understanding the contribution of the development to future traffic volumes, I have further summarised traffic patterns from the traffic modelling. I have carried out a "select link analysis" from the proposed development of the land which shows the distribution of the traffic generated by the development with the long term road network. This is included in Attachment 1 tables (266 houses), as well as diagrammatically in Attachment 2 for the AM and PM peak periods (for 200 houses).

8.3 My analysis indicates that approximately 40% of generated traffic is to/from the south in the peak hours. That traffic is then split further such that approximately 17% of all traffic generated by the subdivision uses Selwyn Road to/from the east. The development is not dependent on Selwyn Road, however it does support distribution of traffic to the wider arterial road network to and from Christchurch.

8.4 Of the remaining traffic generated, approximately 35% to 40% is to and from the north on Springston Rolleston Road, and the remainder is through the surrounding road network.

Changes in Traffic Volume and Performance

8.5 The traffic volume changes are relatively small on the arterial network (in the order of one vehicle movement per minute or less) when considered against future forecast traffic volumes using the intersections of interest, as indicated by Table 3 (which includes a calculation adjustment to allow for the 266 houses rather than 200 houses originally modelled).

Intersection	AM Peak	PM Peak
Springston Rolleston / Selwyn	5%	5%
Lincoln Rolleston / Selwyn	2%	2%
Selwyn / Weedons	2%	2%

Table 3: Long Term Contribution of Development to Future Intersection Volumes

8.6 Also of importance in considering these changes is the movements that the traffic volumes will be added to. At the Springston Rolleston Road / Selwyn Road intersection, the turning movement of particular interest is the right turn from Selwyn Road into Springston Rolleston Road, which has the largest change of approximately 40vph in the PM Peak hour (as commuters return home and are required to stop at the intersection).

8.7 At other times, or at other intersections, additional movements are typically to the priority movement or left turns, or represent small changes of less than 10vph, and would not be discernible.

Council and Developer Approach to Development Contributions and Staging

8.8 From my experience, the consistent assessment methodology for Plan Changes and subsequent subdivision in the southern part of Rolleston has been that the arterial v arterial intersection upgrades included in the Long Term Plan have been assumed to be implemented for the long term modelling assessment.

8.9 Interestingly, the traffic volumes in Attachment 1 indicate that the future traffic volumes being modelled in the Council model are more than twice existing traffic volumes at nearby intersections.

8.10 I understand it has generally been agreed the scenario modelled by Council is likely closer to a year 2040 scenario. The model outputs and assumptions of network infrastructure clearly represent a long-term view and are useful for informing the type of infrastructure required to support long term traffic volumes, rather than informing specific timing requirements for the infrastructure.

8.11 Potential cumulative effects were considered at a high level by assessing the proportion of total traffic that a specific development may contribute to long term traffic volumes at intersections. I consider it was clear from those assessments that growth in traffic volumes at arterial v arterial intersections are subject to traffic volume contribution from many landuse developments.

8.12 With the wide ranging development in the south of Rolleston, it was also clear that Council was taking responsibility to plan and integrate timing and nature of the improvements with landuse development. Notably, I understand that staging rules related to intersection upgrades at the arterial road intersections of interest were not sought by Council for either the nearby PC75 or PC78, or recent subdivisions such as the various staged Faringdon subdivisions to the west, or the Acland Park subdivision to the east. I also reviewed the draft conditions for Faringdon Oval fast track consent for approximately

1,100 houses and did not identify any requirement suggested by Council for upgrades to the intersections ahead of development. Where staging rules have been applied such as PC80 north of SH1, these have been for development outside of the planned urban area and with heavy reliance on SH1 intersection upgrades.

8.13 Rather I understand that it was implied by reporting officers that responsibility for arterial road intersection upgrades already planned were a matter for Council to address. They could do that through development contributions, and consideration of whether re-prioritisation in the Long Term Plan would be necessary. From the RFI meetings with Council staff, I initially understood that approach was also being taken for this subdivision.

8.14 Nevertheless, the Council officers have recommended declining in the absence of a staging approach related to intersection upgrades for this specific subdivision.

Potential Traffic Effects of Development Preceding Intersection Upgrades

8.15 Without a staging rule, I understand the development timing is likely to be close to coinciding with the timing of the arterial intersection projects, particularly the nearby Springston Rolleston Road / Selwyn Road intersection.

8.16 It is typical for it to take multiple years to construct, build, and result in the full traffic generation potential of the subdivision. Kevler have advised in this case there is the potential for the development to be fully occupied within approximately 2-3 years following subdivision consent, subject to market demand.

8.17 The arterial intersections are currently planned within approximately 2-5 years. It appears that at worst, there may be a two-to-three-year gap between a fully developed subdivision and the planned arterial upgrades.

8.18 To understand the potential scale of traffic effects if the subdivision was fully developed ahead of intersection upgrades in the short-medium term, I have considered a range of possible methodologies.

8.19 The traffic model used for the long term assessment of almost full development of Rolleston growth areas results in traffic volumes that are significantly higher than current volumes. Existing traffic volumes are between about 40% and 50% of the modelled long term volumes. It is therefore inappropriate to assess staging requirements based on that model.

8.20 I was advised by Council's traffic modelling consultant that a suitable short to medium term forecasting model is not available for assessing traffic effects of development in relation to the existing form of intersections ahead of upgrades.

8.21 In the absence of a full network model, I have considered the intersection data I collated for peak periods at the Selwyn Road intersections in April 2023 and June 2023.

8.22 I have analysed the intersections existing performance using SIDRA Intersection 9. I then added the development traffic to the existing traffic volumes to demonstrate the short term change in performance expected. I consider this assists in understanding the short term effect of development.

8.23 I have then broadly forecast forward by a nominal 20% increase in traffic volumes. I recognise this is a broad estimate of growth, and actual growth patterns may vary at individual intersections. However, this growth has been applied to all traffic movements, and then I have added development traffic on top of that. I have calculated that the NZ Statistics high growth projection of population growth in the south of Rolleston is also 20% between 2023 and 2028. The projected growth pattern is summarised in **Figure 7**.

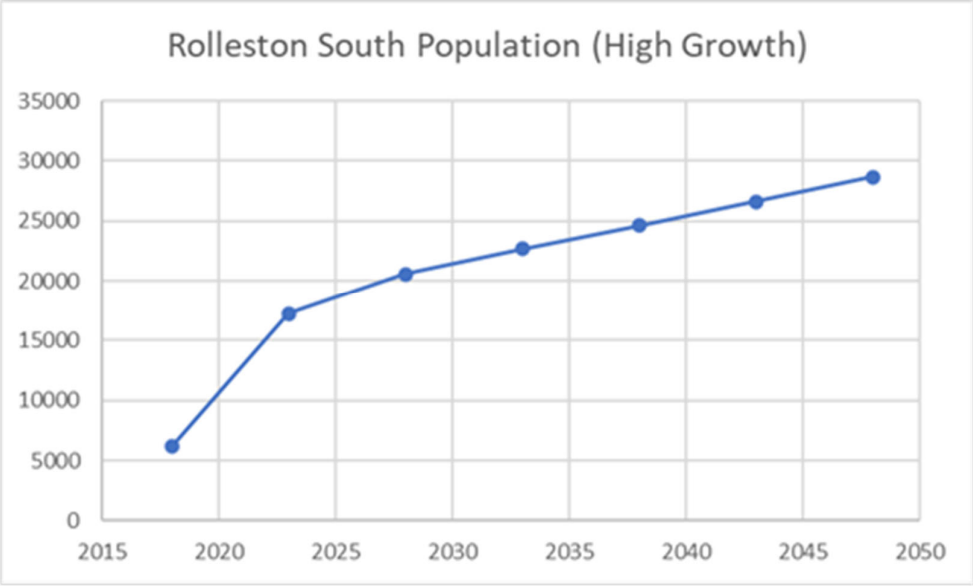


Figure 7: Stats NZ Population Projection for Area Units in South Rolleston

8.24 I consider this is useful for considering medium term point in time traffic effects aligned with the currently forecast implementation timeframes for intersection upgrades.

8.25 A summary of performance with existing intersection form is set out for the intersections in the tables below:

Table 4: Springston Rolleston / Selwyn Intersection Performance

Intersection	AM Peak		PM Peak	
	Selwyn W Approach	Selwyn E Approach	Selwyn W Approach	Selwyn E Approach
Current Year				
2023 Observed	11 (B)	11 (B)	11 (B)	14 (B)
2023 + Development	12 (B)	12 (B)	11 (B)	16 (C)
Indicative 2028				
2023 +20% growth	13 (B)	12 (B)	12 (B)	19 (C)
2023 + 20% growth + Development	14 (B)	14 (B)	13 (B)	26 (D)

Table 5: Intersection Performance

Intersection	Lincoln Rolleston / Selwyn (Selwyn W Approach)		Weedons/Selwyn (Weedons S Approach)	
	AM Peak	PM Peak	AM Peak	PM Peak
Current Year				
2023 Observed	14 (B)	18 (C)	15 (C)	19 (C)
2023 + Development	15 (C)	19 (C)	16 (C)	20 (C)
Indicative 2028				
2023 +20% growth	30 (D)	44 (E)	20 (C)	28 (D)
2023 + 20% growth + Development	52 (F)	68 (F)	22 (C)	32 (D)

8.26 The analysis demonstrates that change in performance at any of the intersections as a result of the level of development traffic would be negligible if that change was measured based on current traffic volumes.

8.27 As additional traffic growth is allowed for all intersections except Lincoln Rolleston Road / Selwyn Road continue to operate with good levels of service.

8.28 The intersection performance at Lincoln Rolleston Road / Selwyn Road comes closer to capacity and it is apparent that small changes in traffic volume start to have a greater impact on performance, a key reason why the improvements have been planned. In addition, the performance is because the existing priority requires the highest intersection turning movement to give way, which could be reconsidered if an interim improvement was necessary and existing patterns stayed the same.

8.29 I also note that this simplified analysis does not make allowance for the changes in road network that are likely in the next five years as PC75 results in the CRETS Collector Road connecting to Lincoln Rolleston Road, and PC78 providing the extension of Lady Isaac Drive to Lincoln Rolleston Road. Those new road connections will reduce reliance on the Selwyn Road / Lincoln Rolleston Road intersection.

Potential Road Safety Effects of Development Preceding Intersection Upgrades

9 As I have set out, the Selwyn Road / Springston Rolleston Road intersection existing intersections is operating with an improving road safety record as the surrounding road and landuse environment changes. The intersection has not had reported crashes since minor safety improvements have been made and speeds have been reduced to an urban speed limit even though there has been substantial increases in traffic generated by subdivisions in the area in that time.

9.1 I consider Council has further opportunities to support safe intersection movement in the interim such as including gated speed threshold signs and treatment on the southern Springston Rolleston Road approach, vehicle activated warning signs of the Stop control

ahead as is used on many other intersections in the District, and additional vegetation trimming on the southeast corner.

9.2 The changes in operational performance as a result of increased traffic is not significant, such that the overall performance of intersections from a safety perspective can also be expected to be relatively unchanged compared to a without development scenario.

9.3 A similar safety improvement outcome could be expected at the Selwyn Road / Lincoln Rolleston Road and Selwyn Road / Weedons Road intersections if speeds were managed differently at those urban fringe intersections currently operating with 80km/h speed limits. It is not possible for the Applicant to influence speed management, and as I have discussed previously, it is my opinion that Council has a leading role in managing changes to arterial road v arterial road intersections. Council could also carry out other interim measures at the Selwyn Road / Lincoln Rolleston Road intersection if safety unexpectedly deteriorated ahead of a major upgrade. For example, the left turn from the east could be separated from the through movement to enable easier gap taking for those turning right from the west.

9.4 The grid road network nature of Rolleston also provides a range of traffic route options to each destination. That affords a driver flexibility in route choice to minimise the use of particular intersections if they consider that a route has a perception of being less safe. I note that the Council has already installed some crash risk warning signs at Selwyn Road intersections. The modelled traffic routes primarily assumes that a driver will take the shortest route, and likely represents a high worst case in the usage of Selwyn Road.

10 SUBMISSIONS

10.1 I have read the four submissions related to transport matters that were received.

10.2 Tim Rundle was concerned that the surrounding residential streets will result in traffic congestion and block routes to school through Faringdon. In my opinion the expected level of traffic generation is similar to other residential areas, and the site provides additional connectivity in the road and transport network. If or when land to the south and west of the Kevler site also develops, the full connectivity in this part of Rolleston will further support efficient route choice from established areas of Faringdon, including Lemonwood Grove school. The road network has been suitably sized for the expected function of the roading links.

10.3 Michelle Kidson is concerned that the increase in traffic will add to existing congestion, and create concerns for those walking, scooting and cycling. My evidence and previous assessments have addressed the capacity and safety of the road network, and in my opinion the road network will accommodate the additional traffic safely and efficiently. The subdivision is planned with standard provisions for walking and cycling including shared paths on key routes, and further detail will be addressed in engineering design.

10.4 The Ministry of Education is concerned with the potential effects of subdivision construction on existing schools at Lemonwood Grove and Rolleston College. Firstly, there is no direct connection available from the site to the roads that connect to Lemonwood Grove, as there will still be a section of land that has not yet been subdivided. Given the short-term development intention of the Applicant, I consider it unlikely that there will be a traffic route passing the school for construction heavy traffic.

10.5 I understand that the primary access for construction is proposed via Springston Rolleston Road. As an arterial road, it is a road type that is expected to carry higher volumes of traffic, including heavy vehicles. Temporary construction access to the road network is a standard matter for consideration as part of a Temporary Traffic Management Plan that is subject to further (non-RMA) approval processes by Council to ensure access is safe.

10.6 I do not consider the site construction will have more than a negligible effect on the Rolleston College, given it is also adjacent to a higher volume section of the arterial Springston Rolleston Road. The volume of traffic generated during construction will be less than during residential occupation of the subdivision, and my wider area assessment has not identified changes in traffic volumes of significance.

10.7 Fire and Emergency New Zealand seek a different right of way width to enable a fire engine to be fully accessed from within the right of way. I note that the District Plan at Appendix 13 Table 13.4 includes required widths for right of way, and these are complied with.

11 CONCLUSION

11.1 For the reasons I have set out, I consider that the proposed subdivision can be supported from a transportation perspective.

Andrew Metherell

10 July 2023

ATTACHMENT 1: TRAFFIC VOLUME AND ANALYSIS SUMMARIES

Springston Rolleston Road / Selwyn Road

		Counts		SDC Model Analysis				Growth Analysis		
Approach	Movement	AM 2016	AM 2023	AM Future (Base)	AM Future (Dev)	Dev (Select Link) Adjusted 266hh	Dev as % of Total	AM 2023 Dev	AM 2028	AM 2028 Dev
	Left	88	124	127	146	31		147	149	179
	Thru	60	172	284	296	19		186	206	225
Springtston Rolleston Rd (North)	Right	2	22	42	45	12		31	26	38
	Approach	150	318	452	487	61	12.6%	364	382	443
	Left	4	0	21	20	0		0	0	0
	Thru	20	90	178	186	0		90	108	108
Selwyn Rd (East)	Right	28	36	36	45	8		42	43	51
	Approach	52	126	234	251	8	3.2%	132	151	159
	Left	5	19	53	54	0		19	23	23
	Thru	48	96	135	137	4		99	115	119
Springston Rolleston Road (South)	Right	2	1	7	7	0		1	1	1
	Approach	55	116	195	197	4	2.0%	119	139	143
	Left	1	11	45	52	4		14	13	17
	Thru	41	146	407	401	0		146	175	175
Selwyn Rd (West)	Right	10	30	196	197	0		30	36	36
	Approach	52	187	647	650	4	0.6%	190	224	228
Intersection		309	747	1528	1585	77	4.9%	805	896	974

		Counts		SDC Model Analysis				Growth Analysis		
Approach	Movement	PM 2016	PM 2023	PM Future (Base)	With Dev	Dev (Select Link) Adjusted 266hh	Dev as % of Total	PM 2023 Dev	PM 2028	PM 2028 Dev
	Left	21	69	42	56	12		78	83	95
	Thru	69	146	243	251	16		158	175	191
Springtston Rolleston Rd (North)	Right	3	22	53	60	8		28	26	34
	Approach	93	237	337	366	36	9.8%	264	284	320
	Left	0	3	9	6	0		3	4	4
	Thru	38	175	419	408	0		175	210	210
Selwyn Rd (East)	Right	110	117	62	92	29		139	140	170
	Approach	148	295	489	506	29	5.8%	317	354	383
	Left	8	31	223	222	0		31	37	37
	Thru	95	223	330	344	16		235	268	284
Springston Rolleston Road (South)	Right	1	3	22	20	0		3	4	4
	Approach	104	257	574	586	16	2.7%	269	308	324
	Left	1	30	45	51	7		35	36	43
	Thru	16	76	184	188	0		76	91	91
Selwyn Rd (West)	Right	6	12	106	109	0		12	14	14
	Approach	23	118	334	347	7	1.9%	123	142	148
Intersection		368	907	1734	1805	88	4.9%	973	1088	1176

Lincoln Rolleston Road / Selwyn Road

		Counts		SDC Model Analysis				Growth Analysis		
Approach	Movement	AM 2016	AM 2023	AM Future (Base)	AM Future (Dev)	Dev (Select Link) Adjusted 266hh	Dev as % of Total	AM 2023 Dev	AM 2028	AM 2028 Dev
	Thru	374	161	890	900	7		166	193	200
Lincoln Rolleston Rd	Right	2	4	1	2	0		4	5	5
	Approach	376	165	890	902	7	0.7%	170	198	205
	Left	4	5	4	3	0		5	6	6
Selwyn Rd (West)	Right	136	422	627	639	31		445	506	537
	Approach	140	427	630	642	31	4.8%	450	512	543
	Left	49	167	207	214	7		172	200	207
Selwyn Rd (East)	Thru	174	104	341	332	0		104	125	125
	Approach	223	271	548	546	7	1.2%	276	325	332
INTERSECTION		739	863	2068	2090	44	2.1%	896	1036	1079

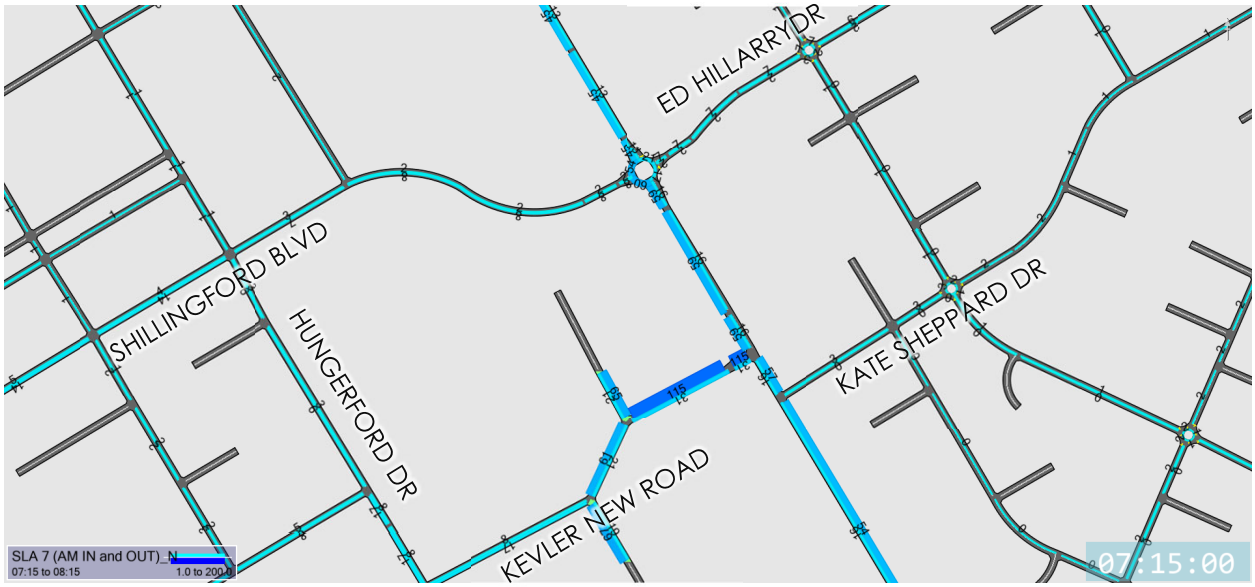
		Counts		SDC Model Analysis				Growth Analysis		
Approach	Movement	PM 2016	PM 2023	PM Future (Base)	PM Future (Dev)	Dev (Select Link) Adjusted 266hh	Dev as % of Total	PM 2023 Dev	PM 2028	PM 2028 Dev
	Thru	186	167	431	430	1		168	200	202
Lincoln Rolleston Rd	Right	5	15	1	2	0		15	18	18
	Approach	191	182	432	433	1	0.3%	183	218	220
	Left	0	12	2	2	0		12	14	14
Selwyn Rd (West)	Right	40	225	214	223	12		234	270	282
	Approach	40	237	216	225	12	5.3%	246	284	296
	Left	140	382	610	624	31		405	458	489
Selwyn Rd (East)	Thru	477	266	832	823	0		266	319	319
	Approach	617	648	1442	1447	31	2.1%	671	778	808
INTERSECTION		848	1067	2090	2104	44	2.1%	1100	1280	1324

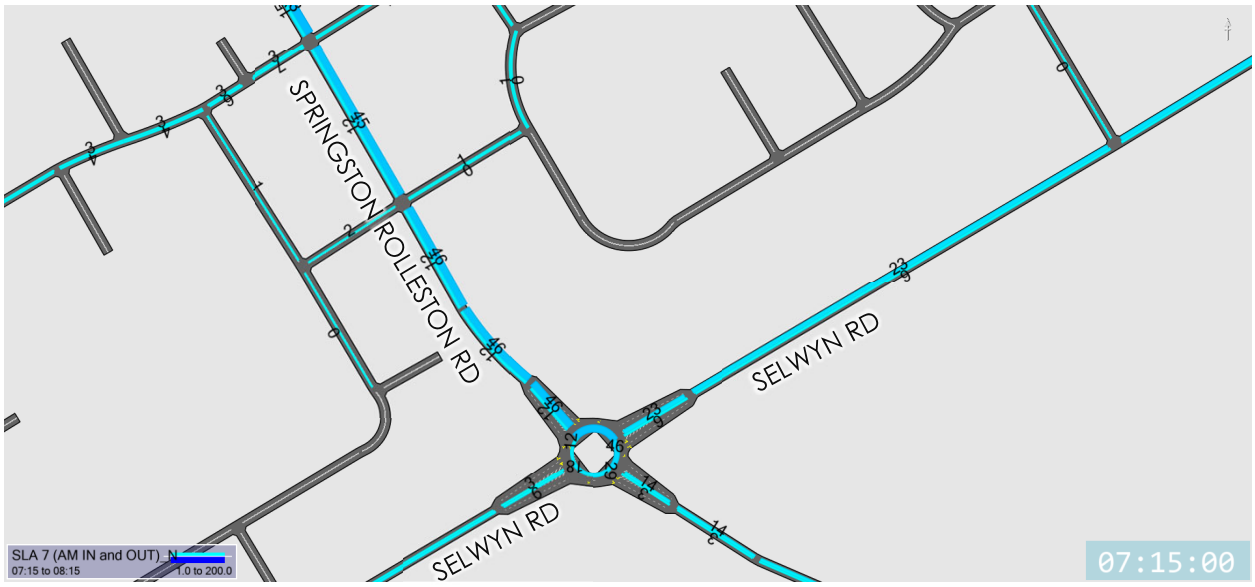
Selwyn Road / Weedons Road

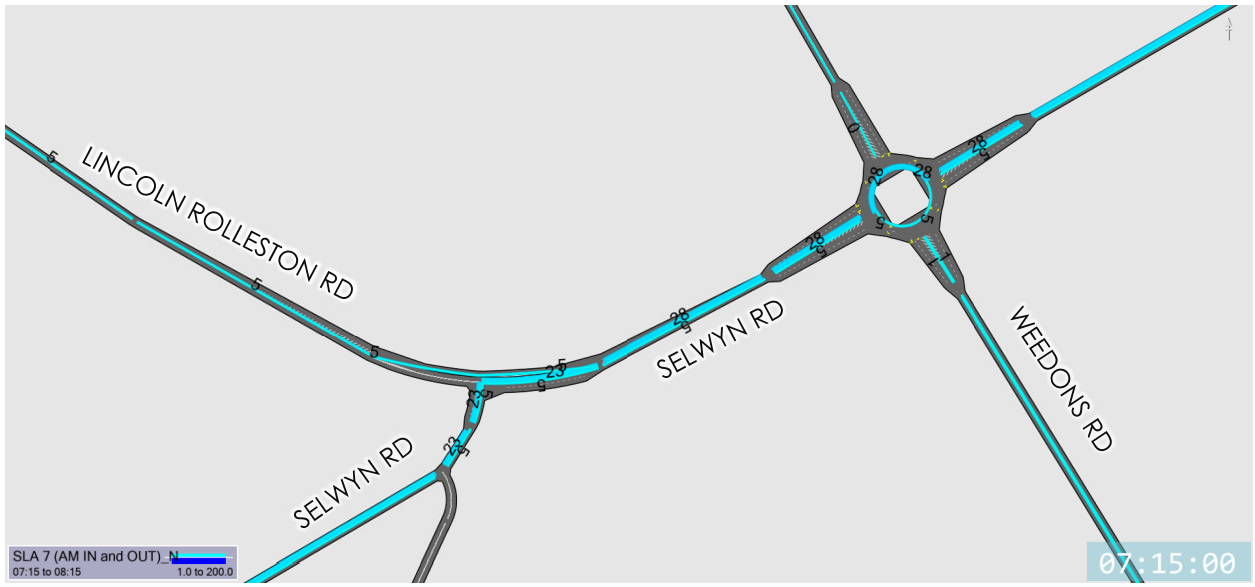
		Counts		SDC Model Analysis				Growth Analysis		
Approach	Movement	AM 2016 (Not Counted)	AM 2023	AM Future (Base)	AM Future (Dev)	Dev (Select Link) Adjusted 266hh	Dev as % of Total	AM 2023 Dev	AM 2028	AM 2028 Dev
	Left		1	0	0	0		1	1	1
	Thru		216	327	330	7		221	259	266
Selwyn Rd (East)	Right		8	5	4	0		8	10	10
	Approach		225	332	334	7	2.0%	230	270	277
	Left		46	192	198	1		47	55	57
	Thru		61	76	74	0		61	73	73
Weedons Rd (South)	Right		1	1	0	0		1	1	1
	Approach		108	269	272	1	0.5%	109	130	131
	Left		18	57	69	0		18	22	22
	Thru		524	1282	1294	37		552	629	666
Selwyn Rd (West)	Right		50	165	171	1		51	60	61
	Approach		592	1504	1534	39	2.5%	621	710	749
	Left		24	8	9	0		24	29	29
	Thru		57	66	64	0		57	68	68
Weedons Rd (North)	Right		6	16	17	0		6	7	7
	Approach		87	90	90	0	0.0%	87	104	104
Intersection			1012	2195	2230	47	2.1%	1047	1214	1261

		Counts		SDC Model Analysis				Growth Analysis		
Approach	Movement	PM 2016 (Not Counted)	PM 2023	PM Future (Base)	With Dev	Dev (Select Link) Adjusted 266hh	Dev as % of Total	PM 2023 Dev	PM 2028	PM 2028 Dev
	Left		1	1	1	0		1	1	1
	Thru		560	1160	1188	29		582	672	701
Selwyn Rd (East)	Right		13	9	10	0		13	16	16
	Approach		574	1170	1199	29	2.4%	596	689	718
	Left		67	207	198	0		67	80	80
	Thru		66	58	62	0		66	79	79
Weedons Rd (South)	Right		2	0	0	0		2	2	2
	Approach		135	265	260	0	0.0%	135	162	162
	Left		11	17	17	0		11	13	13
	Thru		296	459	475	12		305	355	367
Selwyn Rd (West)	Right		78	170	176	1		79	94	95
	Approach		385	646	668	13	2.0%	395	462	475
	Left		28	8	10	0		28	34	34
	Thru		93	82	83	0		93	112	112
Weedons Rd (North)	Right		12	75	70	0		12	14	14
	Approach		133	165	163	0	0.0%	133	160	160
Intersection			1227	2246	2290	43	1.9%	1259	1472	1515

Attachment 2A: AM Peak Select Link Analysis (Site Generated)
Long Term SDC Model (200 houses)







Attachment 2B : PM Peak Select Link Analysis (Site Generated)
Long Term SDC Model (200 houses)