9. Summary of Consultation and Subsequent Changes to the Transport Model

There have been two phases of consultation for this study. Both phases have been reported on, with the process and outcomes being contained in the following reports.

1. Christchurch, Rolleston and Environs Transportation Study: Consultation Report – Part 1 (3 July 2002)
2. Consultation Report 2007, Christchurch, Rolleston and Environs Transportation Study

The second phase report which addresses the consultation on the Transport Strategy received 259 responses. Of the 259 responses, 63 were in support, 113 opposed and 83 unspecified. The submissions opposing, generally focused on two parts of the strategy and did not refer to the strategy as a whole. The greatest opposition was for Fountains Road being used as part of a arterial connection between Lincoln and the City. There was also significant concern expressed by residents in the rural residential subdivision of Claremont near State Highway 1 and Waterholes Road/Dawsons Road intersection about the proposed extension of the Southern Motorway Extension to State Highway 1 near their properties.

Concern from property owners to the south of Rolleston was also expressed regarding the positioning of the proposed collector road shown.

Overall the feedback was balanced and has provided the study team with a better understanding of both the areas of concern to the public and the solutions that are supported.

Several submissions related to the Urban Development Strategy (UDS) process. As must be appreciated the Christchurch Rolleston and Environs Transportation Study (CRETS) started prior to the UDS process. The latest UDS land use development pattern is incorporated into the sensitivity testing of the transport strategy, (refer Section 25) which is captured in the final reporting of the study.

The information gained from feedback on the Draft Transport Strategy has been considered. Recommended actions for finalising the Transport Strategy include:

- Review access at Rolleston to the BP service station, Tennyson Street and Brookside Road by providing a service lane adjacent to State Highway 1,
- Design issues to maintain access for businesses will be assessed for specific projects carried forward from the Transport Strategy,
- Design issues to provide for cycle routes will be assessed for specific projects carried forward from the Transport Strategy, (Selwyn District Council is currently undertaking a Walking and Cycling Strategy of which aspects gleaned from CRETS initiatives and consultation will be included),
- Investigate alternative route option via Whincops Road for arterial route to avoid the use of Fountains Road to provide the extension of Ellesmere Road to the City,
- Review Quaifes Road and Sabys Road realignment,
- Review access options between Rolleston Township and Rolleston industrial area,
- Recognise the level of feedback supporting public transport (including rail options) in the Transport Strategy,
- Provide a response to those persons and organisations that summarises the key changes from the Transport Strategy to completing the Transport Strategy and the likely process from this point forward.

Following consultation of the Draft Transport Strategy, the information gained from feedback was carefully considered. As a result the following changes to the network used to model the transport demands for the Transport Strategy were modified as follows:

1. Sockburn Roundabout – previously modelled with traffic signals, reverted back to existing roundabout, with proposed link to Haytons Road retained.

2. Rolleston
    a) Three laning on State Highway 1 (two southbound and one northbound) between Hoskyns Road and Rolleston Drive South changed to two lanes (one northbound and one southbound).
    b) Link between Rolleston Drive North and Hoskyns Road via a grade separation over State Highway 1 incorporated with roundabout at Jones Road/Hoskyns Road intersection, southbound service lane for BP service station and access to Tennyson Street and Brookside Road with Tennyson Street and Brookside Rd to be left in / left out, with Byron Street extended to create a link from Tennyson Street to Rolleston Drive North.
    c) Rolleston Drive South / State Highway 1 changed to left in / left out only. For clarification, this is what has been modelled for the 2021 network, however as far as Transit and Selwyn District Council are concerned, the intersection will remain a priority tee (currently being designed at the moment) until such time it proves to be unsafe, at which time it will revert to left in/left out.
    d) Hoskyns Road to become District Arterial, with Railway Road reverting back to a local road.
    e) District Arterial to be extended on Two Chain Road between Aylesbury Road and Walker Road. Walker Road to remain as a District Arterial.
3. New collector road southeast of Rolleston moved south to intersect through the intersection of East Maddisons and Goulds Road to avoid existing dwellings. Note this road is only likely to come about through future possible residential subdivision in this area and its alignment would evolve as part of this process in time. It is also noted that this area is currently unzoned.
4. Ellesmere Road changed from a Regional Arterial to a District Arterial.
5. Whincops Road changed to a District Arterial, with Fountains Road reverting back to a local road. Route north modified to use more of Wigram Road and less greenfield development.
6. Lincoln southern bypass modified to allow more access. Changed from Regional Arterial to collector.
7. Ellesmere Road / Edward Street / Lincoln Tai Tapu Road intersection, priority to remain with Edwards Street / Lincoln Tai Tapu Road.

The main reasons for changing the Ellesmere Road to Wigram Road route from using Fountains Road to Whincops Road include:

- Whincops Road is currently classified as a Collector Road in the Christchurch City Plan, where Fountains Road is classified as a local road,
- Whincops Road route uses more of the existing road network resulting in lower construction costs,
- Whincops Road route used less green fields, resulting in less land purchase and associated costs,
- The Whincops Road route supports the development of the Quaifes Road area, better than the Fountains Road route.

10. Transport Strategy

All works included in the Transport Strategy are listed below in three parts being, major works, minor works and CIA works. The works have been reported for each corridor and growth area individually, however, due to the nature of the study there is overlap between each of the corridors and growth areas.

The major works included in the Transport Strategy are:

- Hornby to Burnham Corridor – Four laning between north of Curraghs Road and Weedons Ross / Weedons Road retaining the passing lanes between Weedons Ross / Weedons Road and Hoskyns Road, new service lane for access to BP Service Station, Tennyson Street, and Brookside Road including intersection upgrades. New interchange at State Highway 1/Weedons Ross/Weedons Road intersection for access to Rolleston northern industrial areas and southern residential areas. Realign Pound Road at Barters and Waterloo Roads such that it has priority from State Highway 1 to State Highway 73 with associated intersection upgrades (note - this is also a part of the Hornby to Belfast Corridor). New separated grade access across State Highway 1 between Hoskyns Road / Jones Road intersection and Rolleston Drive North intersection with proposed Byrons Street extension,
- Christchurch Southern Access Corridor – Extension of a four lane motorway south west from Halswell Junction Road/Springs Road intersection to State Highway 1 south of Dawsons / Waterholes Road including intersection upgrades and closures. Note it is a given for this study that the Southern Motorway Duplication and Extension from Barrington Street to the Halswell Junction Road/Springs Road intersection will be completed,
- Belfast to Hornby Corridor (Western Corridor) – Four laning of Johns Road, Russley Road, Masham Road and Carmen Road between Main North Road and Main South Railway at Hornby including intersection upgrades and closures,`
- Christchurch to Lincoln Corridor incorporating Prebbleton – Promotion/development of a new route between Lincoln and Christchurch that uses an upgraded Ellesmere Road between Lincoln and Longstaffs Road, improvements to Longstaffs and Whincops Road, improvements to Wigram Road, grade separation at Southern Motorway and Curletts Road and an upgrading of Magdala Place, Birmingham Drive, Wrights Road and Matipo Street to Blenheim Road. Future south facing ramps to the Southern Motorway at Awatea / Dunbars Roads are also being considered,
- South Western Orbital Corridor – Promotion/development of a new route between State Highway 1 and State Highway 75 that uses Hamptons Road, Trices Road, a new link between Trices Road and Sabys Road, and Candys Road. Also assists in servicing additional residential growth to the south of Prebbleton.

The minor works included in the Transport Strategy are:

- Russley to Aylesbury Corridor – Standard Transit New Zealand practice of passing lanes, minor safety improvements, pavement maintenance,
- Christchurch to Tai Tapu Corridor – Standard Transit New Zealand practice of passing lanes, minor safety improvements, pavement maintenance,
- Rolleston to Lincoln Corridor – Promotion of the Rolleston Springston Road and Weedons Road route through cross section upgrades to 8.5m in rural areas and up to 14m in urban areas depending on incorporation of cycleways, parking etc, and modification of the intersections so the route has priority except at Lowes Road, Shands Road and Ellesmere Junction Road,
- Christchurch Outer Suburbs – Promotion of Amyes Road, Awatea Road and Dunbars Road as per the Do Minimum Network with the extension of Dunbars Road to the intersection of Hendersons Road and Sparks Road,
- Rolleston – Upgrade of the cross section of the Inner Ring Road (Rolleston Drive North) up to 16m between State Highway 1 and Masefield Drive, up to 14m for the remainder, and upgrade of the existing intersections to current standards for visibility, lane widths, etc. Upgrade of the cross section of the Outer Ring Road (Weedons Road, Levi Road, Lowes Road and Dunns Crossing Road) to 10m for rural portions (north of Masefield Drive), up to 14m for urban portions (the remainder), and upgrade of the existing intersections to current standards for visibility, lane widths, etc. Upgrade of the cross section of the Rolleston Industrial Park access route to 10m for the rural portions, up to 13m for the urban portions (Jones Road between Hoskyns Road and Railway Road), and upgrade of the existing intersections to current standards for visibility, lane widths, etc. Extend Byron Street between

Tennyson Street and Rolleston Drive as a collector road up to 14m wide. It should be noted that these are suggested widths and will depend on the incorporation of flush medians, cycleways, parking and landscaping. Identification of a new collector road to the south of Rolleston between Weedons Road and Dunns Crossing Road.

- Lincoln – New bypass/collector road to the south of Lincoln. Local Area Traffic Management on existing main streets such as widening, pavement smoothing, speed control devices, installation of pedestrian and cycle facilities, etc.
- Springston – Local Area Traffic Management such as pavement smoothing, speed control devices, installation of pedestrian and cycle facilities, etc.

The CIA works included in the Transport Strategy are:

- Conversion of the roundabout at the intersection of Memorial Avenue and Russley Road to a full diamond interchange,
- Realignment of Ron Guthrey Road and Peter Leeming Road to form one signal controlled intersection with Memorial Avenue,
- Conversion of the roundabout at the intersection of Wairakei Road and Russley Road to a Left In / Left Out intersection on the city side and closing of the approach from the Airport side,
- Conversion of the intersection of McLeans Island Road and Johns Road to a Left In only intersection (from the southern approach of Johns Road), and the connection of McLeans Island Road to Sawyers Arms Road,
- Security controlled access to Capital A Road and Ron Guthrey Road i.e. no public access so the roads cannot be used as through roads,
- Closing of the intersection of Avonhead Road and Russley Road,
- Construction of a signalised half seagull at the intersection of Capital A Road and Russley Road so southbound traffic do not have to give way and there is no right hand turn into Capital A Road from the north.

For details of the major works alignments, cross sections, intersection forms and hierarchy associated with the Transport Strategy refer to the various appendices.

10.1 Transport Strategy Traffic Volumes

It has been found from modelling the major works that if the Transport Strategy was to be implemented, it would result in changes to the traffic volumes on various links. Figure 18 shows the predicted changes in traffic volumes compared to the revised Do Minimum Network for a 24 hour period in 2021, while Figure 19 shows the predicted changes in traffic volumes compared to the Draft Transport Strategy for Consultation. Figure 20 shows the predicted absolute traffic volumes for a 24 hour period in 2021. Table 20 contains the 24 hour period 2021 traffic volumes for a number of significant links.

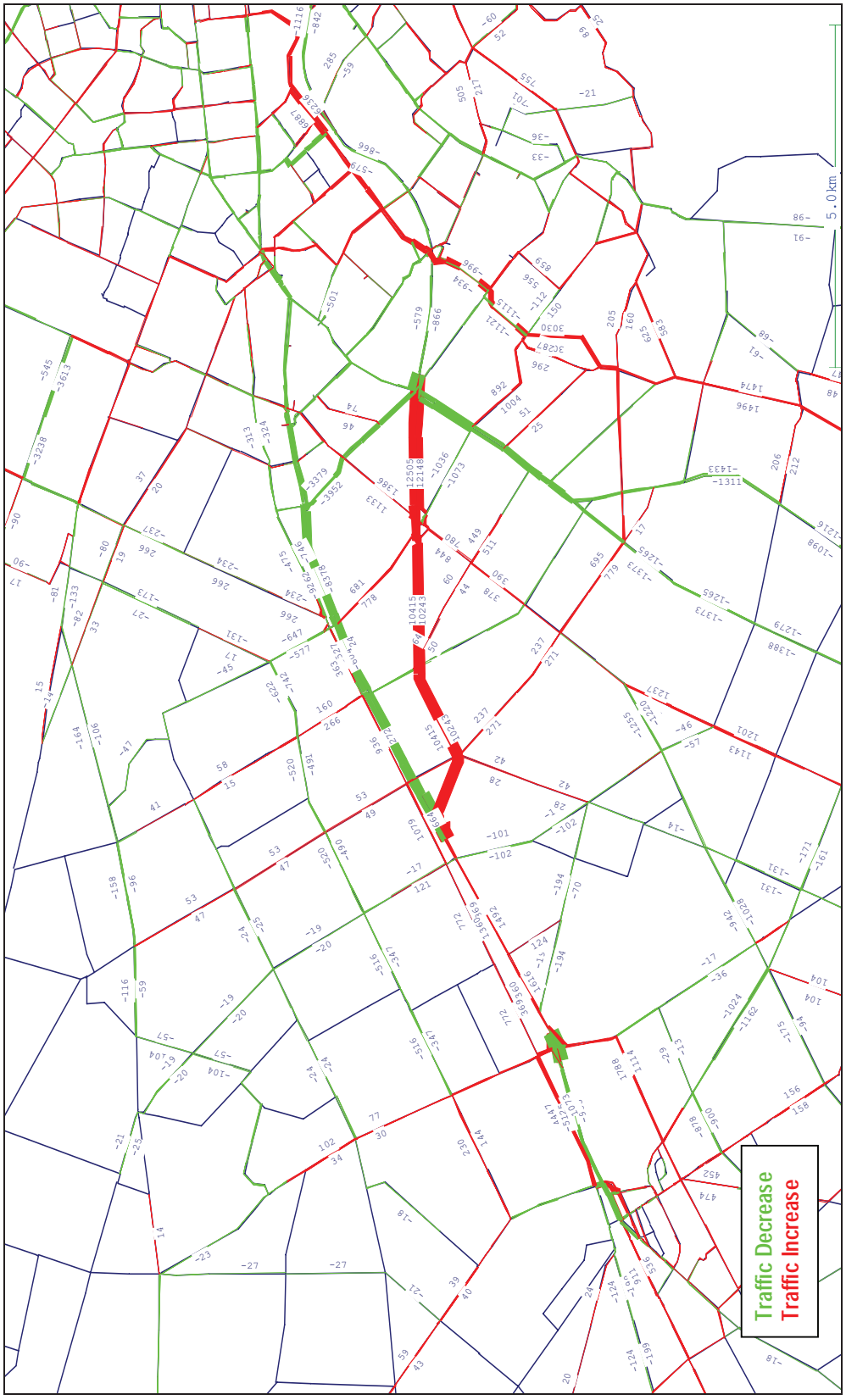

Figure 18

Transport Strategy– 24 Hour Traffic Volume Change Plot (Compared to Revised Do Minimum)

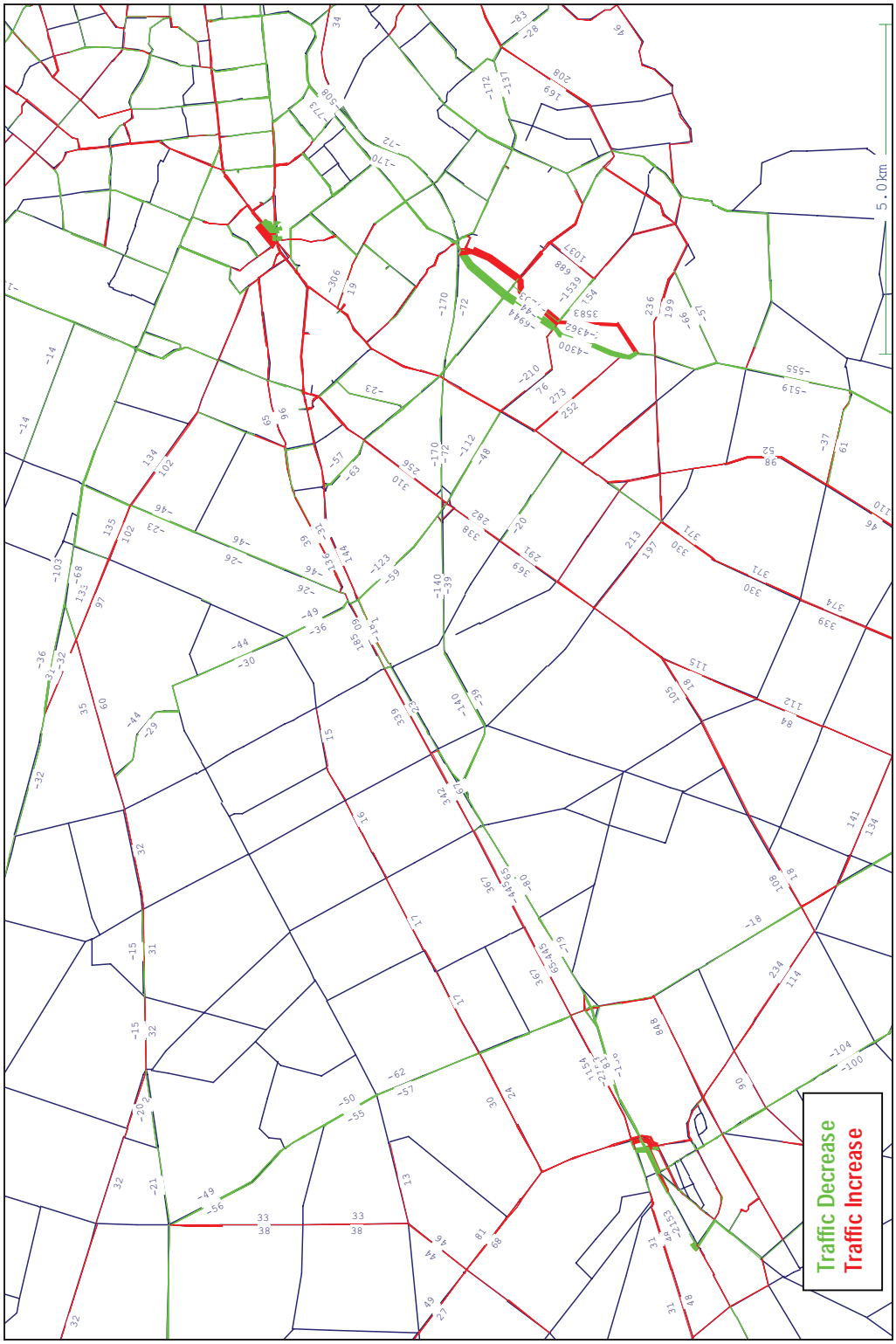

Figure 19

Transport Strategy – 24 Hour Traffic Volume Change Plot (Compared to Strategy for Consultation)

Figure 20
Transport Strategy – Traffic Volume Plot

ROUTE	DESCRIPTION	24 hour volumes Validation Network 2001	Do Min Network 2021	Growth Val to Do Min	Package of Options TS 2021	Growth Val to Pckge TS
SH1 - Hornby to Rolleston	SH1 Sth Carmen	16400	19200	17%	11000	-33%
	SH1 Sth HJR	15500	26600	72%	9000	-42%
	SH1 Sth Barters	15800	27300	73%	11400	-28%
	SH1 Sth Kirks	16300	29800	83%	12100	-26%
	SH1 Sth Dawsons	15700	29200	86%	11100	-29%
	SH1 Sth Curraghs	15300	28900	89%	31800	108%
	SH1 Sth Weedons	14700	25400	73%	19400	32%
Springs - Trents to Main South	Springs Sth Main South	18000	22400	24%	21100	17%
	Springs Sth Amyes	14600	16200	11%	15100	3%
	Springs Sth HJR	10300	27300	165%	10500	2%
	Springs Sth Marshs	10500	23200	121%	11300	8%
	Springs Sth Birchs	9200	21400	133%	10300	12%
	Springs Sth Toswilll	6500	15900	145%	6500	0%
	Springs Sth Hamptons	4500	8900	98%	6300	40%
Shands - Halswell Junction to Main South	Sth Main South	21100	26200	24%	27000	28%
	Sth Amyes	11400	11000	-4%	13700	20%
	Sth Seymour	12500	12100	-3%	14200	14%
Lincoln Connection	Birmingham Sth Vulcan	5700	6500	14%	14500	154%
	Wigram Sth Haytons	3500	8800	151%	16700	377%
	Dunbars to Halswell Junction			NA	12300	NA
	Halswell Junction to Marshs			NA	11000	NA
	Whincops Sth Quaifes	200	500	150%	7200	3500%
	Ellesmere Sth Leadleys	2800	2200	-21%	5200	86%
	Lincoln Southern Collector			NA	1400	NA
SH1 - Main South to Main North	Johns Wst Main North	12100	19800	64%	20000	65%
	Johns Wst Gardiners	11300	18700	65%	19300	71%
	Johns Wst of Sawyers Arms	17100	27300	60%	23100	35%
	Russley Sth Harewood	16500	21700	32%	20600	25%
	Russley Sth Wairakei	16900	22100	31%	22300	32%
	Russley Sth Memorial	22200	30800	39%	30300	36%
	Russley Sth Ryans	18000	23700	32%	26600	48%
	Masham Sth Yaldhurst	16100	23600	47%	23800	48%
	Carmen Sth Buchannans	16900	25400	50%	24900	47%
	Carmen Sth Waterloo	17100	23800	39%	24000	40%
CSM - Nash to Jerrold	Barrington Wst Selwyn	27300	43800	60%	42500	56%
	CSM Wst Barrington	24000	48500	102%	46500	94%
	CSM Wst Curletts		26100	NA	24700	NA
	CSM Wst Nash		26100	NA	24700	NA
	CSM Wst Awatea/Dunbars		26100	NA	24700	NA
	CSM Wst Springs			NA	24700	NA
	CSM Wst Shands			NA	20700	NA
Main South/Blenhiem - Springs to Curletts	Blenhiem Wst Curletts	40200	35500	-12%	31500	-22%
	Main South Wst Epsom	50200	54400	8%	52200	4%
	Main South Wst Lowther	43300	48000	11%	39200	-9%
	Main South Est Springs	44500	48700	9%	40400	-9%
Curletts - Blenhiem to Lincoln/Halswell	Curletts Sth Blenhiem	35500	37400	5%	33300	-6%
	Curletts Sth Parkhouse	35400	35100	-1%	35000	-1%
	Curletts Sth CSME	12000	11900	-1%	12100	1%
Amyes - Shands to Springs	Amyes Sth Shands	7700	16900	119%	14600	90%
	Amyes Nth Springs	10600	20500	93%	17900	69%
	Awatea Sth Springs	2600	18300	604%	15500	496%
	Awatea Nth Wigram	2400	10700	346%	9000	275%
	Dunbars Sth Wigram	5100	12000	135%	13000	155%
	Dunbars Nth Halswell	4700	9800	109%	9700	106%
Halswell Junction - Main Sth to Springs	HJR Nth Shands	1800	8200	356%	900	-50%
	HJR Nth Springs	7200	16900	135%	8300	15%
Halswell - Nicholls to Lincoln	Lincoln Sth Wrights	24400	30500	25%	27800	14%
	Halswell Sth Curletts	23500	27200	16%	24600	5%
	Halswell Sth Hendersons	18000	26100	45%	22400	24%
	Halswell Sth Aidenfield	18000	22100	23%	18600	3%
	Halswell Sth Dunbars	13600	17500	29%	14800	9%
Rolleston Drive	Rolleston Sth SH1	2400	5900	146%	9700	304%
	Rolleston Sth Tennyson	100	2300	2200%	2400	2300%

Table 20
Transport Strategy Major Works – Traffic Volumes

The data in Figure 18, Figure 19, Figure 20 and Table 20 indicates that the two most significant effects of the Transport Strategy are the shift of traffic from State Highway 1 north of the Christchurch Southern Motorway connection to the Southern Motorway Connection and the shift of traffic from Springs Road to the Lincoln connection. These effects are both related to the construction of new roads. The 24 hour period effects in 2021 of the Transport Strategy on the major works corridors and growth areas compared to the revised 2021 Do Minimum Network include:

- Hornby to Burnham Corridor – The extension of the Christchurch Southern Motorway to Main South Road from the intersection of Springs Road and Halswell Junction Road results in the traffic volumes on Main South Road through Templeton, Hornby and Sockburn decreasing to near the 2001 traffic volumes. The traffic volume on State Highway 1 between the Southern Motorway Extension and Weedons Road increase. The traffic volumes on State Highway 1 between Weedons Road and Rolleston Drive North decrease whilst the traffic volumes between Rolleston Drive North and Rolleston Drive South increase. The traffic volumes on the parallel routes of Shands/Selwyn Roads decrease while the traffic volumes on Jones Road south of Weedons Road increase,
- Christchurch Southern Access Corridor – The extension of the Christchurch Southern Motorway to Main South Road (State Highway 1) from the intersection of Springs Road and Halswell Junction Road, results in the traffic volumes on Halswell Junction Road decreasing. The traffic volumes on the Southern Motorway east of the intersection of Springs Road and Halswell Junction Road decrease, however it appears this is due to traffic from Prebbleton and Lincoln not being able to access the motorway. The traffic volumes on other routes such as Halswell Road, Springs Road (north of Halswell Junction Road), Main South Road and Blenheim Road all decrease. The traffic volumes on Main South Road and Blenheim Road generally decrease by 10% or greater lower level than 2001 volumes,
- Belfast to Hornby Corridor (Western Corridor) – Refer to the CIA works details below,
- Christchurch to Lincoln Corridor incorporating Prebbleton – The upgrade of Wigram Road to connect with the intersection of Halswell Junction Road and Whincops Road, and upgrade of roads to the south (Ellesmere Road Route) results in the traffic volumes on Springs Road through Prebbleton decreasing to near 2001 traffic volumes,
- South Western Connection Corridor – Upgrade of Hamptons Road and Trices Road along with extension of Trices Road to the intersection of Sabys Road and Candys Road increases traffic along the route whilst reducing traffic volumes on adjacent parallel routes. However, the changes are minor.

The 24 hour period effects 2021 of the Transport Strategy on the minor works corridors and remaining growth areas include:

- Russley to Aylesbury Corridor – As a result of the major works, the traffic volumes on State Highway 73 decrease slightly, however, the change is minor. There is a slight increase in traffic travelling across to State Highway 1 and then using the State Highway 1 or the Christchurch Southern Motorway to access Christchurch,
- Christchurch to Tai Tapu Corridor – As a result of the major works the traffic volumes on State Highway 75 decrease slightly, however, the change is minor,
- Rolleston to Lincoln Corridor – As a result of the minor works the traffic volumes on the Rolleston Springston Road and Weedons Road route increase slightly and there is a small decrease in traffic volumes on the Lincoln Rolleston Road and Boundary Road route,
- Christchurch Outer Suburbs – As a result of the major works, specifically the extension of the Christchurch Southern Motorway to State Highway 1, and the new Christchurch to Lincoln Connection, the traffic volumes on most other roads in the outer suburbs decrease slightly. The connection of Haytons Road to the Sockburn Roundabout results in an increase in the traffic volumes on Haytons Road and other roads providing access to the Haytons Road extension. There is a decrease in the traffic volumes on Treffers Road due to the limiting of movements at its intersection with Wigram Road,
- Rolleston – As a result of the major works, specifically the upgrade of State Highway 1 the traffic volumes on Levi Road Lowes Road, Jones Road, Weedons/Weedons Ross Road, Rolleston Drive North of the Byron Street Extension, Rolleston Drive South of Brookside Road and Byron Street increases. Most other roads have minor changes in traffic volume with the exception of Brookside Road north of Rolleston Drive North,
- Lincoln – As a result of the major works, specifically the construction of a new bypass/collector road to the south of Lincoln and the promotion of the new Christchurch to Lincoln connection the traffic volumes on most roads in Lincoln decrease. However, the traffic volume on the roads connecting to the new collector road increase slightly,
- Springston – The traffic volumes in and around Springston do not significantly change.

It has been found from modelling of the CIA works that if the Transport Strategy was to be implemented it would result in changes to the traffic volumes on various links. Figure 21 shows the predicted changes in 24 hour 2021 traffic volumes around the airport compared to the revised Do Minimum Network and Figure 22 shows the predicted absolute traffic volumes around that airport for a 24 hour period in 2021. Table 21 contains the 24 hour period 2021 traffic volumes for a number of significant links around the airport.

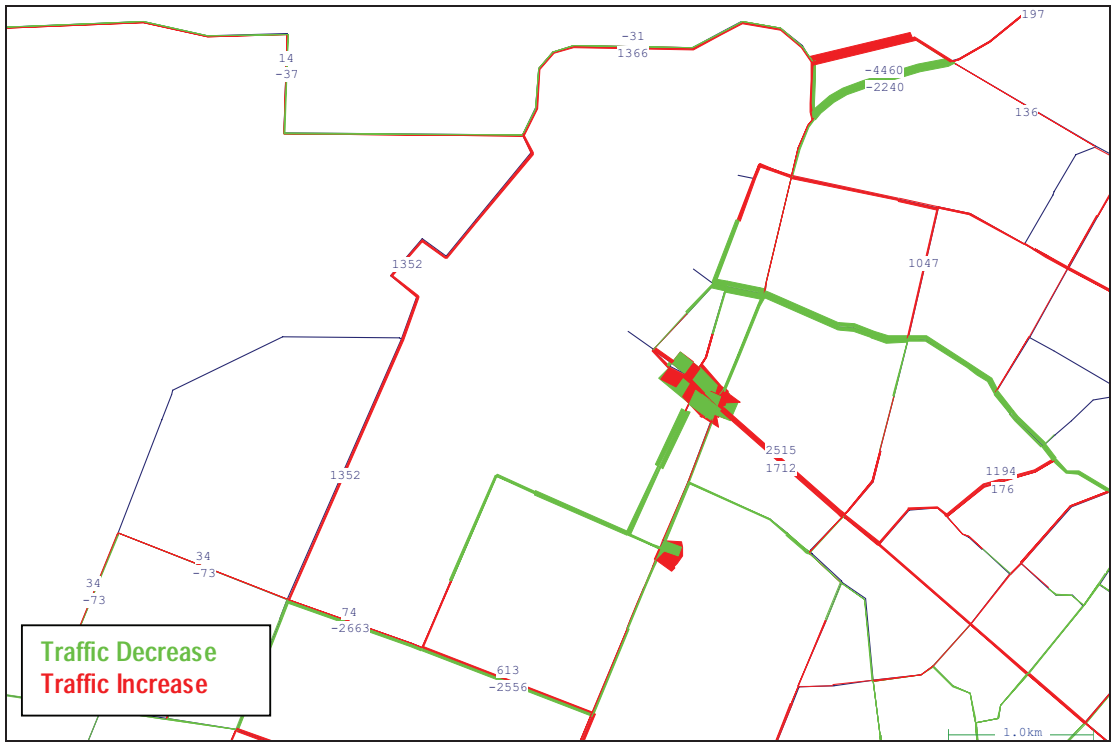

Figure 21

Transport Strategy CIA Works – Traffic Volume Change Plot (Compared to Do Minimum)

Figure 22

Transport Strategy CIA Works – Traffic Volume Plot

ROUTE	DESCRIPTION	24 hour volumes				
		Validation Network 2004	Do Min Network 2021	Growth Val to Do Min	Package of Options TS 2021	Growth Val to Pckge TS
SH1 - Main South to Main North	Johns Wst Gardiners	11200	17500	56%	17900	60%
	Johns Wst of Sawyers Arms	19200	31100	62%	24400	27%
	Russley Sth Harewood	18800	25600	36%	25700	37%
	Russley Sth Wairakei	19800	27800	40%	26200	32%
	Russley Sth Memorial	22800	29500	29%	28900	27%
	Russley Sth Ryans	18000	25500	42%	27900	55%
Ryans Road	Ryans Est Pound	3500	7100	103%	4500	29%
	Ryans Est Greys	3800	7000	84%	5000	32%
Capital A Road	Capital A Wst Russley		4600	NA	3100	NA
Memorial Avene	Memorial Est Orchard EB	6100	9400	54%	11900	95%
	Memorial Est Orchard WB	5900	10500	78%	12200	107%
	Memorial Wst Russley EB	7000	11400	63%	14300	104%
	Memorial Wst Russley WB	6800	12400	82%	15000	121%
	Memorial Est Russley	13800	21900	59%	26200	90%
Wairakei Road	Wairakei Wst Russley	4200	8500	102%		-100%
	Wairakei Est Russley	5600	9800	75%	3900	-30%
Harewood Road	Harewood Wst Russley	7500	12400	65%	14200	89%
	Harewood Est Russley	6800	9900	46%	11900	75%
Mcleans Island Road	Mcleans Wst Johns	900	3400	278%	2700	200%
Sawyers Arms Road	Sawyers Wst Johns	6300	14000	122%	15200	141%
	Sawyers Est Johns	9500	16300	72%	16400	73%
Pound Road	Pound Sth Mcleans	400	2700	575%	4000	900%
	Pound Sth Ryans	3700	9600	159%	8100	119%
Orchard Road	Orchard Sth Harewood	5900	11100	88%	12900	119%
	Orchard Sth Wairakei	7700	14200	84%	12800	66%

Table 21

Transport Strategy CIA Works – Traffic Volumes

The 24 hour period effects in 2021 of the Transport Strategy for the CIA works includes:

- A minor shift of traffic from State Highway 1 to McLeans Island Road / Pound Road,
- A shift of traffic from Wairakei Road to Harewood Road and Memorial Avenue,
- Access only to Capital A Road and Ron Guthrey Road and the banning of through traffic results in a decrease in traffic volume,
- A shift of traffic travelling south from the Ryans Road/Pound Road route to the Russley Road/State Highway 73 route.

10.2 Transport Strategy Levels of Service

Table 22 and Table 23 contain the predicted link and intersection levels of service in 2021 for the Transport Strategy. The locations included in the tables are those identified as being under pressure in the Do Minimum plus other sites that have been identified using a Performance Level Analysis of the Transport Strategy.

ROUTE	DESCRIPTION	Link Type	FWD Dir	Link Lanes	24 hour volume	AM Peak (1 hour equivalent volumes)				PM Peak (1 hour equivalent volumes)			
						FWD Vol	BAK Vol	FWD LOS	BAK LOS	FWD Vol	BAK Vol	FWD LOS	BAK LOS
SH1 - Hornby to Rolleston	SH1 Sth Carmen	Urbm	Sth	2	**11000**	251	596	Urban Link		709	433	Urban Link	
	SH1 Sth HJR	R2L	Sth	1	**9000**	224	438	C		515	380	C	
	SH1 Sth Barters	Urb	Sth	1	**11000**	421	741	Urban Link		818	560	Urban Link	
	SH1 Sth Kirks	R2LP	Sth	2	**12000**	421	616	Passing Lanes		730	568	Passing Lanes	
	SH1 Sth Dawsons	R2L	Sth	1	**11000**	390	558	D		691	539	D	
	SH1 Sth Weedons	Mtw	Sth	2	**19000**	820	761	A	A	1394	778	B	A
	SH1 Sth Rolleston	Mtw	Sth	1	**14000**	546	761	A	B	670	778	B	B
Springs - Trents to Main South	Springs Sth Main South	Urb	Sth	1	**21000**	771	1079	Urban Link		1211	953	Urban Link	
	Springs Sth Amyes	Urb	Sth	1	**15000**	875	736	Urban Link		838	945	Urban Link	
	Springs Sth HJR	R2L	Sth	1	**11000**	513	607	D		687	711	D	
	Springs Sth Marshs	R2L	Sth	1	**11000**	573	598	D		753	705	D	
	Springs Sth Birchs	Urbm	Sth	1	**10000**	531	573	Urban Link		670	666	Urban Link	
	Springs Sth Toswilll	Urbm	Sth	1	**7000**	466	306	Urban Link		357	523	Urban Link	
Shands - Halswell Junction to Main South	Sth Main South	Urb	Sth	2	**27000**	1113	1104	Urban Link		1369	1394	Urban Link	
	Sth Amyes	Urb	Sth	1	**14000**	508	500	Urban Link		677	615	Urban Link	
	Sth Seymour	Urb	Sth	1	**14000**	574	525	Urban Link		674	713	Urban Link	
SH1 - Main South to Main North	Johns Wst Main North	Mtw	Wst	2	**20000**	1539	665	B	A	874	1454	A	B
	Masham Sth Yaldhurst	Urb	Sth	2	**24000**	1129	1311	Urban Link		1246	1602	Urban Link	
	Carmen Sth Buchannans	Urb	Sth	2	**25000**	1278	1077	Urban Link		1485	1389	Urban Link	
	Carmen Sth Waterloo	Urb	Sth	2	**24000**	1167	1122	Urban Link		1313	1616	Urban Link	
CSM - Nash to Jerrold	CSM Wst Barrington	Mtw	Wst	2	**47000**	2318	2876	C	D	3110	2664	D	C
	CSM Wst Curletts	Mtw	Wst	2	**25000**	929	1888	A	C	1836	1351	C	B
	CSM Wst Nash	Mtw	Wst	2	**25000**	929	1888	A	C	1836	1351	C	B
	CSM Wst Awatea/Dunbars	Mtw	Wst	2	**25000**	929	1888	A	C	1836	1351	C	B
	CSM Wst Springs	Mtw	Wst	2	**25000**	929	1888	A	C	1836	1351	C	B
	CSM Wst Shands	Mtw	Wst	2	**21000**	696	1309	A	B	1343	904	B	A
Main South/Blenhiem - Springs to Curletts	Blenhiem Wst Curletts	Urbm	Wst	2	**32000**	1119	1311	Urban Link		1463	1275	Urban Link	
	Main South Wst Epsom	Urbm	Wst	2	**52000**	1891	2218	Urban Link		2528	2159	Urban Link	
	Main South Wst Lowther	Urbm	Wst	2	**39000**	1294	1483	Urban Link		1885	1504	Urban Link	
	Main South Est Springs	Urbm	Wst	2	**40000**	1273	1738	Urban Link		2073	1588	Urban Link	
Curletts - Blenhiem to Lincoln/Halswell	Curletts Sth Blenhiem	Urbm	Sth	2	**33000**	1519	1389	Urban Link		1645	1676	Urban Link	
	Curletts Sth Parkhouse	Urbm	Sth	2	**35000**	1800	1829	Urban Link		2094	2063	Urban Link	
	Curletts Sth CSME	Urb	Sth	1	**12000**	429	671	Urban Link		964	497	Urban Link	
Amyes - Shands to Springs	Amyes Sth Shands	Urb	Sth	1	**15000**	568	699	Urban Link		844	774	Urban Link	
	Amyes Nth Springs	Urb	Sth	1	**18000**	777	771	Urban Link		1025	974	Urban Link	
	Awatea Sth Springs	Urb	Sth	1	**16000**	552	751	Urban Link		954	719	Urban Link	
	Awatea Nth Wigram	Urb	Sth	1	**9000**	419	473	Urban Link		666	540	Urban Link	
	Awatea Sth Wigram	Urb	Sth	1	**9000**	419	473	Urban Link		666	540	Urban Link	
	Dunbars Sth Wigram	Urb	Sth	1	**13000**	411	835	Urban Link		964	650	Urban Link	
	Dunbars Nth Halswell	Urb	Sth	1	**10000**	461	451	Urban Link		693	554	Urban Link	
	Dunbrs/Hndsns Est Halwell	Urb	Est	1	**15000**	518	953	Urban Link		1088	753	Urban Link	
Halswell Junction - Main Sth to Springs	HJR Nth Shands	Urb	Sth	1	**1000**	68	29	Urban Link		39	77	Urban Link	
	HJR Nth Springs	Urb	Sth	1	**8000**	259	713	Urban Link		677	420	Urban Link	
Halswell - Nicholls to Lincoln	Lincoln Sth Wrights	Urbm	Sth	2	**28000**	688	1642	Urban Link		1682	1154	Urban Link	
	Halswell Sth Curletts	Urb	Sth	2	**25000**	536	1499	Urban Link		1609	906	Urban Link	
	Halswell Sth Aidenfield	Urb	Sth	2	**19000**	286	1225	Urban Link		1082	744	Urban Link	
	Halswell Sth Aidenfield	Urb	Sth	2	**19000**	286	1225	Urban Link		1082	744	Urban Link	
	Halswell Sth Dunbars	Urb	Sth	1	**15000**	346	841	Urban Link		811	670	Urban Link	
Wigram - Birmingham to Halwell Junction	Wigram Extn Sth Brmghm	Urb	Sth	1	**13000**	336	1014	Urban Link		987	654	Urban Link	
	Wigram Sth Treffers	Urb	Sth	1	**13000**	300	991	Urban Link		961	614	Urban Link	
	Wigram Sth Haytons	Urb	Sth	1	**17000**	326	1180	Urban Link		1264	660	Urban Link	
	Wigram Sth Nash	Urb	Sth	1	**12000**	316	843	Urban Link		905	540	Urban Link	
	Wigram Dev Sth Awatea	Urb	Sth	1	**11000**	269	674	Urban Link		663	639	Urban Link	
Hayton - Blenheim to Washbornes	Hayton De Sth Blenheim	Urb	Sth	1	**6000**	464	610	Urban Link		574	469	Urban Link	
SH1 - Main South to Main North	Johns Wst Gardiners	Mtw	Wst	2	**18000**	1398	638	B	A	764	1224	A	B
	Johns Wst of Sawyers Arms	Mtw	Wst	2	**24000**	1923	728	C	A	989	1403	A	B
	Russley Sth Harewood	Mtw	Sth	2	**26000**	1736	972	B	A	1159	1549	A	B
	Russley Sth Wairakei	Mtw	Sth	2	**26000**	1834	972	C	A	1343	1549	B	B
	Russley Sth Memorial	Mtw	Sth	2	**29000**	1623	1452	B	B	1588	1561	B	B
	Russley Sth Ryans	Mtw	Sth	2	**28000**	1676	1266	B	B	1708	1434	B	B
Memorial Avene	Memorial Est Orchard EB	Urb	Est	2	**12000**	646		Urban Link		1248		Urban Link	
	Memorial Est Orchard WB	Urb	Est		**12000**		1296	Urban Link			678	Urban Link	
	Memorial Wst Russley EB	Urb	Est	2	**14000**	593		Urban Link		1416		Urban Link	
	Memorial Wst Russley WB	Urb	Est	2	**15000**		1524	Urban Link			668	Urban Link	
	Memorial Est Russley	Urb	Est	2	**26000**	1033	1273	Urban Link		1361	846	Urban Link	
Wairakei Road	Wairakei Est Russley	Urb	Est	1	**4000**	147	244	Urban Link		112	296	Urban Link	
Harewood Road	Harewood Wst Russley	Urb	Est	1	**14000**	316	731	Urban Link		716	414	Urban Link	
	Harewood Est Russley	Urb	Est	1	**12000**	417	577	Urban Link		555	627	Urban Link	
Pound Road	Pound Sth Mcleans	R2L	Sth	1	**4000**	322	298	C		316	306	C	
	Pound Sth Ryans	R2L	Sth	1	**8000**	372	627	D		363	532	C	
Orchard Road	Orchard Sth Harewood	Urb	Sth	1	**13000**	664	292	Urban Link		356	623	Urban Link	
	Orchard Sth Wairakei	Urb	Sth	1	**13000**	585	508	Urban Link		528	550	Urban Link	

Table 22

2021 Link level of service for Transport Strategy

Intersection	Control	AM Peak (seconds of delay) Worst App	Max App Del	Flw Wgt Del	LOS	PM Peak (seconds of delay) Worst App	Max App Del	Flw Wgt Del	LOS
SH1/Slip Lane/Tennyson St	P	Slip Lane onto SH1	15.3	15.30	C	Slip Lane onto SH1	15.6	15.60	C
SH1/Weedons Rd South Bound On Ramp	P	Sth Bnd On Ramp	16.5	0.14	C	Sth Bnd On Ramp	17.1	0.13	C
SH1/Weedons Rd North Bound On Ramp	P	Nth Bnd On Ramp	17.9	7.45	C	Nth Bnd On Ramp	17.2	4.11	C
Weedons Ross Rd/SH1 Ramps	P	Weedons Ross Nth	15.8	11.76	C	Weedons Ross Nth	13.1	9.19	B
Weedons Rd/SH1 Ramps	P	Off Ramp (sth bnd)	14.7	4.47	B	Off Ramp (sth bnd)	14.6	9.48	B
SH1/Dawsons Rd	P	Waterholes	16.1	3.06	C	Waterholes	18.4	2.89	C
SH1/Kirk Rd	P	Trents	15.3	5.09	C	Trents	18.4	5.64	C
SH1/Yaldhurst	S	Yaldhurst Est	84.3	23.97	C	Yaldhurst Est	78.9	37.12	D
SH1/Barters Rd	S	SH1 Nth	21.2	18.18	B	SH1 Nth	28	21.03	C
SH1/Gardiners Rd	P	Gardiners	11.3	0.70	B	Gardiners	11.3	0.33	B
Main South Rd/Symes	P	Symes	15.6	0.42	C	Symes	23	1.20	C
Sockburn Roundabout	R	Main South Wst	21.1	19.40	B	Blenhiem	46.7	30.50	C
Blenhiem Rd/Curletts Rd	S	Curletts Sth	49.8	47.07	D	Curletts Sth	59	56.49	E
Parkhouse Rd/Treffers Rd	P	Parkhouse Sth	0.3	0.14	A	Parkhouse Sth	0.4	0.21	A
Curletts Rd/CSME Sth Bnd Offramp	S	Curletts West	0.7	0.30	A	Curletts West	1.5	1.09	A
Springs Rd/ Amyes Rd	P	Springs Sth	4.6	3.34	A	Springs Sth	9.2	6.52	A
Springs Rd/HJR/CSME	R	HJR Est	14.6	11.29	B	HJR Est	15	10.71	B
Springs Rd/ Marshes Rd	P	Marshs Est	20.7	6.52	C	Marshs Wst	25.1	7.32	D
Springs Rd/Hodgens Rd	P	Hodgens	19.6	0.72	C	Hodgens	21.8	0.73	C
Springs Rd/Toswill Rd	P	Toswill	12.9	1.98	B	Toswill	13.7	2.01	B
Shand Rd/Marshs Rd	P	Marshs Wst	24.9	6.45	C	Marshs Est	32.3	8.72	D
Lincoln Connection/Halswell Junction Road	P	Lincoln Conection Sth	19.8	18.19	C	Lincoln Conection Sth	19.3	17.46	C
Halswell Rd/Curletts Rd	S	Curletts Est	33	28.27	C	Curletts Wst	31	29.20	C
Halswell Rd/Hendersons Rd	S	Aidenfield Nth	47.6	16.28	B	Aidenfield Nth	31.7	26.09	C
Halswell Rd/Nash Rd	S	Nash Wst	10.1	3.48	A	Nash Wst	9.7	4.41	A
Halswell Rd/Dunbars Rd	S	Halswell Sth	41.2	27.47	C	Halswell Nth	31.4	28.75	C
Wigram Rd/Treffers Rd	P	Treffers Wst	9.1	0.55	A	Treffers Wst	8.9	0.39	A
Wigram Rd/Haytons Rd	R	Haytons Wst	20.5	13.54	B	Wigram Nth	53.2	33.26	C
Wigram Rd/Nash Rd	P	Nash Est	19.6	9.22	C	Nash Wst	24.5	10.21	C
SH1/Memorial Ave South Bound On Ramp	P	Sth Bnd On Ramp	19.4	1.96	C	Sth Bnd On Ramp	19.4	3.29	C
SH1/Memorial Ave North Bound On Ramp	P	Nth Bnd On Ramp	19	1.44	C	Nth Bnd On Ramp	19.4	2.53	C
SH1/Memorial Ave North Bound Off Ramp Left	P	Off Ramp (nth bnd)	13.4	2.29	B	Off Ramp (nth bnd)	12.6	1.15	B
SH1/Memorial Ave North Bound Off Ramp Right	S	Off Ramp (sth bnd)	41.8	16.91	B	Off Ramp (sth bnd)	86.6	14.58	B
SH1/Memorial Ave South Bound Off Ramp Left	P	Off Ramp (sth bnd)	13.3	2.08	B	Off Ramp (sth bnd)	13.5	1.23	B
SH1/Memorial Ave South Bound Off Ramp Right	S	Off Ramp (nth bnd)	62.4	8.11	A	Off Ramp (nth bnd)	66.2	5.23	A
SH1/Harewood Rd	R	SH1 Nth	27.5	23.49	C	SH1 Sth	23.5	21.46	C
SH1/Sawyers Arms Rd	R	SH1 Nth	43.2	28.56	C	SH1 Sth	26.9	22.19	C

Table 23

2021 Intersection level of service for Transport Strategy

Table 24 contains a comparison of the routes and intersections listed in Table 22 and Table 23 with the lowest desirable levels of service for this study as defined in Table 11. Only the lowest LOS for any portion of the route has been reported. This, however, does not mean that the whole route is operating at this LOS, refer to Table 22 and Table 23 for more detailed LOS information.

Route/Location	Specific Portion	RLTS Class	AMP LOS	PMP LOS	Desirable Min Peak LOS	Issue
State Highway 1 Hornby to Rolleston	Rural	CO	D	D	C	Yes [1]
State Highway 1 Hornby to Rolleston	Intersections	CO	C	C	C	No
Springs Road, Trents Road to Main South Road	Rural and intersections	CO	D	D	C	Yes [2]
Shands Road, Halswell Junction Road to Main South Road	Intersections	CO	C	C	C	No
State Highway 1 Belfast to Hornby	Rural	CO	B	B	C	No
State Highway 1 Belfast to Hornby	Intersections	CO	C	C	C	Yes [3]
Christchurch Southern Motorway	Ring Road	SU	D	D	D	No
Christchurch Southern Motorway Extension	Non Ring Road	SU	C	C	D	No
Main South Road/Blenheim Road – Springs Road to Curletts Road	Intersections	CI	E (C)	E (C)	E	Yes [4]
Curletts Road – Blenheim to Lincoln	Ring Road Intersections	SU	C	D	D	No
Amyes Road – Shands to Springs	Intersections	CO	C	C	C	No
Halswell Junction – Shands to Springs	Intersections	CO	C	C	C	No
Halswell – Nicholls to Lincoln	Intersections	CO	C	C	C	No
Parkhouse	Intersections	CO	B	B	C	No
Wigram – Magdala to Halswell Junction	Intersections	CO	C	D (C)	C	Yes [5]

Table 24

2021 Links and intersections Transport Strategy LOS compared to desirable minimum LOS

Note 1 – The particular section of highway with level of service D, which is below the minimum desirable, is State Highway 1 South of Dawson Road. The predicted traffic volumes in the future at this location are approximately 11,000 vehicles per day. The current traffic volumes are approximately 15,000 vehicles per day. It is believed that the predicted volume of 11,000 vehicles per day is acceptable, hence, it is not considered necessary to develop works to address the low Level of Service.

Note 2 - The location of the level of service D that is below the minimum desirable is Springs Road between Halswell Junction Road and Marshs Road. The predicted traffic volumes in the future at this location are approximately 11,000 vehicles per day. The current traffic volumes are of a similar order of magnitude. It is believed that these volumes are acceptable hence it is not considered necessary to develop works to address the low Level of Service.

Note 3 – Calculated by specific analysis.

Note 4 – The location of the level of service E is the intersection of Blenheim Road and Curletts Road. Whilst this is not below the minimum desirable Level of Service as mentioned in Section 4.2.2, Level of Service E is rarely attained hence should not be planned for. This intersection has been investigated in greater detail and has been found that it will operate at a level of service of C in reality, which meets the desirable minimum Level of Service.

Note 5 – The location of the level of service D that is below the minimum desirable is the priority intersections of Wigram Road with Nash Road and Haytons Road. These intersection are just below (at worst approximately 3 seconds below) level of service C. It is felt that this is acceptable, hence it is not considered necessary to develop works to address low Level of Service

10.3 Transport Strategy – Social and Environmental Effects

Existing/potential land uses: The Transport Strategy affects existing roading corridors and also involves the creation of new roads. The existing roading corridors adjoin a range of different land uses from servicing townships and

schools, university and research institutions, quarrying, industrial and service activities, the Christchurch International Airport, residential and rural residential activities, recreation activities, and rural farming activities. The new roads outlined in the Transport Strategy principally affect rural and rural-residential land uses. The purchase of significant amounts of rural land will be necessary for these new roads. Some residential land will be required near Halswell and Lincoln. Recent rural-residential developments, such as the Claremont Subdivision near the intersection of State Highway 1 and Dawsons/Waterholes Road will require any new roads adjoining them to be aligned and constructed in a manner that minimises any adverse effects as much as practicable.

Designations: Designations will be required for new roads, road widening, and to upgrade intersections. There is an existing Christchurch City Council designation for the realignment of Wigram Road and designations for the widening of State Highway 1. Important new designations will be required to establish new roads for:

- Widening for a service lane for Whincops Road between Halswell Junction Road and Quaifes Road
- Southern Motorway extension from Halswell Junction Road to State Highway 1
- A link between Trices Road and Candys Road
- The Lincoln southern bypass/collector *
- Realignment of Pound Road at Barters/Waterloo Road
- State Highway 1 / Weedons Road Interchange
- Bryon Street Extension
- Hoskyns Road and Rolleston Drive connection and intersections
- Tennyson Street / Brookside Road connection with Service Lane

* Portions of this may occur through subdivision development over time not requiring designations to be put in place, as also expected for the proposed collector road south of Rolleston.

Property access severance: This will be an issue principally affecting State Highway 1 and Halswell / Lincoln Roads with the construction of a four-lane median divided road. Existing properties will join the highway in one direction and cross movement will be limited to the main intersections. For safety reasons, the LAR status will be extended so as to cover State Highway 1 from Dawsons/Waterholes Road to Rolleston and also the new section of the Southern Motorway extension. Changes to roading hierarchies may seek to consolidate access onto key arterial routes and avoid the creation of new access where possible.

Landscape characteristics/quality: The study area is flat terrain consisting predominantly of grassed open farmland, rural-residential allotments, scattered buildings, some shelterbelts and trees and Christchurch. The Transport Strategy involves widening existing roads, establishing new roads, and constructing new structures like grade separated interchanges and roundabouts that will create local adverse visual effects. Transport Strategy will also require the removal or relocation of existing landscape features such as trees and vegetation, fencing, lighting and power poles, as well as introducing them.

Mitigation of effects on landscape: To ensure that the roading will be integrated into the existing environment those sections of State Highways and local authority roading will be suitably landscaped where appropriate, as will the intersections that are proposed to be closed. Design and landscaping will assist in mitigating some of the adverse effects arising from the establishment of the new roads.

Geological/geotechnical considerations: There is the possibility of the presence of filled pits in the area between the Halswell Junction Road/Springs Road intersection and the Marshs Road/Shands Road intersection. This would require further detailed investigation. New roads, widening, and changes at intersections will require detailed geotechnical investigations during the design phase of roading improvements. This is particularly important when establishing new structures such as those at grade separated interchanges.

Drainage: The parts of the study area where drainage is a particularly important consideration include new roads or roading improvements that pass over or are near to the tributaries of the Halswell River and near to the Halswell River itself.

Noise: There will be temporary noise effects during the construction phase. New roads will introduce vehicle noise from high-volume traffic flows to some presently quiet areas, most notably in the case of the Southern Motorway extension. Other roading improvements will facilitate higher traffic volumes with a consequent rise in traffic-generated noise or increased noise levels at the notional boundaries of existing dwellings by bringing vehicle paths closer to existing dwellings. An increase in traffic-generated noise is to be expected, given existing roading designations, the purpose of which is to cater for growing traffic volumes. Increases in traffic-generated noise levels on the new portions of road can be mitigated in areas of higher density residential use through the employment of buffers or barriers.

Maori, archaeological, cultural and heritage sites: The Halswell River and its tributaries such as Knights Stream and the surrounding area are well known as significant sites/areas to Ngai Tahu. Therefore, it is recommended that further consultation with the relevant parties be undertaken at a more appropriate time such as at the scheme assessment stage. There are no known sites of Maori, cultural, historical or archaeological significance affected by the Transport Strategy.

Social severance and property severance: The Transport Strategy seeks to minimise social severance within settlements by ensuring existing links are maintained while new roads bypass settlements. At some intersections it is proposed that road links be closed to provide priority to key arterial routes. New roads will lead to the separation of land that is currently in the same ownership or otherwise provide a barrier between neighbours. This is particularly the case for rural and rural-residential properties to be separated by the Southern Motorway extension. There will be considerable adverse social effects for the affected owners and occupiers. There will be realignments at some intersections, Longstaffs Road/Whincops Road intersection will be closed, and Trents Road will be closed where the proposed Southern Motorway extension crosses it.

Public transport/cycle: The more efficient highway and roading network will enable public transportation to operate more efficiently. There will also be opportunities to provide for separate cycle lanes or at least improvements to the shoulders of existing carriageways to establish cycling routes between townships and also to Christchurch city.

10.4 Transport Strategy Economic Assessment

The economic assessment has been carried out using the procedures contained in the Land Transport New Zealand Economic Evaluation Manual. It is, however, acknowledged that the procedures have been adapted from the detailed project analysis procedures for use in this area wide study. It has been found that the benefits of any options considered are generally marginally more than the calculated values. Appendix B contains the estimated benefits, costs and benefit cost ratio for the Transport Strategy. These are summarised below in Table 25.

These are discounted costs for the major projects that amount to around $185M. Other road widening works add around $50M to the total construction costs. There are benefits for these works but they have not been represented in the approach used for this analysis. These projects will require specific analysis as they are developed further outside of this study.

Project Options	Transport Strategy	Do Minimum	Net Cost/Benefits
Costs	$165,000,000		$165,000,000
Benefits	*$7,208,000,000	*$7,410,000,000	$202,000,000
Tangible Benefit/Cost Ratio			1.2

Table 25

Benefits, cost and benefit/cost ratio for Transport Strategy

* These costs are nett present value network operation costs, from which the benefits are calculated from the difference of the two.

Economic Efficiency

- The benefit stream for this option increases approximately $17.7 million per annum from approximately $12.5 million in 2001 to $30.2 million in 2021.

- The benefit cost ratio for the Transport Strategy is 1.2.
- The First Year Rate of Return is 10%.

VKT and VMT

- The 2021 24-hour total Vehicle Kilometres Travelled on this package of work within the study area is 3,413,274 kilometres.
- The 2021 24-hour total Vehicle Kilometres Travelled on this the revised Do Minimum Network within the study area is 3,400,902 which is less than the VKT for this package of options.
- The 2021 24-hour total Vehicle Minutes of Travel on this package of work including intersection delays within the study area is 3,819,040 minutes.
- The 2021 24-hour total Vehicle Minutes Travelled on this, the Do Minimum Network within the study area is 3,969,843 which is greater than the VMT for this package of options.

As the benefit stream is increasing with time this option is sustainable in that it will continue to provide economic benefits into the future.

10.5 Transport Strategy Transportation Effectiveness

The analysis for 2021 shows that the Transport Strategy addresses the issues raised, resulting in the following:

Hornby to Burnham Corridor

- Decreased traffic volumes between Hornby and Curraghs Road from a predicted 27,300 (South of Barters) to 11,400 vehicles per day. Currently 15,800 vehicles per day,
- Reduced traffic volumes through townships of Templeton and Islington,
- Reduced traffic at Hornby Intersection on the Main South Road Link by approximately 8,200 vehicles per day through the intersection on Main South Road,
- Increased traffic volumes carried on a 4-lane median divided highway between Dawsons Road and Weedons Ross Road by approximately 2,900 vehicles per day with an estimated volume of 31,800 vehicles per day,
- Increased traffic on Jones Road between Kirk Road and Rolleston. For example, south of Weedons Ross Road volumes increase from approximately 3,100 vehicles per day to 8,600 vehicles per day,
- Increased safety as a result of lower traffic volumes on State Highway 1 in northern section and median divided four lane and intersection improvement on the southern section,
- Safer cross movements of State Highway 1 with a full diamond interchange at Weedons Ross Road/Weedons Road,
- Provides capacity (including through managed access) on links and at intersections, with reduced delay to through traffic meaning increased mobility,
- Access to industrial areas to the north of Rolleston is improved with the State Highway 1/Weedons Road interchange providing access via Weedons Ross Road and Jones Road, while access to the residential areas south of State Highway 1 from the interchange is provided by an outer ring road utilising Weedons Road, Levi Road and Lowes Road,
- Safety is improved with the closing of Elizabeth Street intersection with State Highway 1 and providing a service lane to provide left-in/left-out only access to the BP Service Station, Tennyson Street and Brookside Road,
- Access between Rolleston Township and the Industrial Park is improved with the connection of Rolleston Drive North to Jones/Hoskyns Road grade separated over State Highway 1,
- Access to Rolleston from the south is provided via Dunns Crossing Road and Rolleston Road South until such time that the increase in traffic on State Highway 1 requiring the ban of right turns at Rolleston Drive South and the conversion of the intersection to left turn in/out only.

Christchurch Southern Access Corridor

- Provides a key access corridor from the south, to Christchurch and Port of Lyttelton. Traffic volumes range from 20,700 vehicles per day (State Highway 1 to Shands), 24,700 vehicles per day (Shands to Curletts), and 46,500 (Curletts to Barrington),
- Relieves traffic volumes on the Hornby to Burnham corridor north Curraghs Road as noted above,
- Decreases traffic on Main South Road through Sockburn from a predicted 54,400 vehicles per day (west of roundabout) to 52,200 vehicles per day (50,200 in 2021) and from a predicted 35,500 on Blenheim Road (east of the roundabout) to 31,500 (39,200 in 2021),
- Provides capacity on the existing links and at intersections,
- Decreases traffic on Halswell Junction Road by approximately 8,600 vehicles per day to 8,300 vehicles per day west of Springs Road,
- Route only has two intermediate access points providing the corridor with a high degree of mobility.

Belfast to Hornby Corridor (Western Corridor) (also refer to CIAL work)

- Provides 4-lane median divided to cater for the increased traffic volumes in the order of 30% to 2021. Examples being south of Memorial Avenue predicted traffic 30,300 vehicles per day, south of Sawyers Arms Road 23,100 vehicles per day and south of Yaldhurst Road 23,800 vehicles per day,
- Rationalises intersections for mobility and safety.

Christchurch to Lincoln Corridor incorporating Prebbleton

- Decreases traffic on Springs Road through Prebbleton by 11,200 vehicles per day from 18,900 to 7,700 vehicles per day (currently 7,600), improving safety,
- Decreases traffic on Springs Road north of Prebbleton north of Marshs Road by 16,800 from 27,300 to 10,500 vehicles per day (currently 10,400),
- Increases traffic on Wigram, Whincops, Longstaffs and Ellesmere Roads due to the new connection to Christchurch via Wigram Road etc to Blenheim Road. Whincops Road increases from 500 to 7,200 vehicles per day, and Ellesmere 2,200 to 5,200 south of Leadleys Road,
- Reduced traffic through Prebbleton improving safety and severance issues,
- Improved access to both Prebbleton and Lincoln via new connections to Christchurch via Wigram Road to Blenheim Road and the Halswell area via Trices and Sabys Road.

South Western Orbital Corridor – State Highway 1 to State Highway 75

- Increased traffic on the route by 500 vehicles per day with an actual volume of 1,000 vehicles per day on Hamptons Road between Waterholes and Shands Road,
- Increased traffic on the route by 500 vehicles per day between Ellesmere Road and State Highway 75,
- Provides an alternative route as a south-western bypass of Christchurch near Halswell between State Highway 1 and State Highway 75 through the upgrade of existing and construction of a section of new road,
- Mobility improved through rationalising of property access.

Rolleston

- Access to the north and south of Rolleston improved with the State Highway 1/Weedons Ross Road/Weedons Road interchange as above for the Hornby to Burham Corridor,
- Access to Rolleston from the south is provided via Dunns Crossing Road and Rolleston Road South until such time that the increase in traffic on State Highway 1 requires the ban of right turns at Rolleston Road South and the conversion of the intersection to left turn in/out only,
- Access to the Rolleston Industrial Park provided via Jones Road/Weedons Ross Road/State Highway 1 to the north, Two Chain Road/Walkers Road/State Highway 1 to the south and to Rolleston Township via Rolleston Drive North extension to Jones Road/Hoskyns Road,
- Safety is improved with the closing of the Elizabeth Street intersection with State Highway 1, providing new service lane to provide left in/left out access to the BP Service Station, Tennyson Street and Brookside Road,

- Inner and outer ring roads, Rolleston Drive and Weedons Road/Levi Road/Lowes Road/Dunns Crossing Road respectively, established and upgraded to allow for better access to all areas of Rolleston,
- Cycling promoted by widening existing main roads and streets to include cycle lanes where appropriate, in particular on the inner and outer ring roads,
- Provision for future 'Park and Ride' facility.

Lincoln

- Southern bypass/collector road reduces traffic volumes on existing east west route through Lincoln by approximately 700 vehicles per day with an actual volume of 700 vehicles per day,
- Diverts heavy traffic to bypass, in particular agricultural vehicles and stock trucks away from the town centre,
- Provides alternative part of main orbital route connecting Burnham (State Highway 1) and Tai Tapu (State Highway 75) that does not rely on the use of the main street through Lincoln Township,
- Reduces noise and improves the amenity of the existing town centre,
- Provision for future 'Park and Ride' facility,
- Southern bypass can also act as a local collector road for future subdivisions to the south as identified in a recent Lincoln Structure Plan process undertaken by Selwyn District Council,
- Collector road for future subdivisions to the south.

Christchurch International Airport

- Access to the airport provided via three key access points, being Capital A road to the south for freight, Memorial Avenue for access to passenger terminal areas and Harewood Road for access to both the passenger terminal area from the north and access to the commercial and industrial areas to the north of the passenger terminal area,
- Provides an acceptable level of service at all intersections and links,
- Separation of freight vehicles from passenger vehicles by new Capital A road access off State Highway 1.

Hornby Bypass

- Bypass (north) of Hornby provided by upgrades to Yaldhurst and Pound Road that would carry approximately 5,700 vehicles per day and a reduction of approximately 1,000 vehicles per day on Carmen Road

Halswell Road – Curletts Road to Dunbars Road

- Corridor to be strengthened by four laning and median dividing for a passenger transport and cycling route.

Overall effectiveness of the Transport Strategy to address the issues is high.