Long Term Plan 2018-28
Service Plan for Traffic Safety and Efficiency

As at February 2018

Christchurch City Council

Approvals		
Role	**Name**	**Date of sign-off**
Activity Manager	Richard Osborne	
Finance Manager	Peter Langbein	Approved February 2018
General Manager(s)	David Adamson	

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What does the overall Group of Activities do and why do we do it?

Christchurch City Council plans, manages and operates the local transport network in Christchurch. Many of the Council's activities in this role are undertaken in close collaboration with the New Zealand Transport Agency and Environment Canterbury.

The streets we manage provide a safe and efficient network that connect communities and facilitate the movement of people and goods around the District and to the adjoining region. These network facilities provide for choice in travel mode, promotion of active travel for healthy lifestyles and attractive, functional streetscapes. Council implements these services for the community in a number of ways, including network planning, day to day operations, asset maintenance, renewal of life expired infrastructure and improvements to the network.

For decision making clarity these elements are categorised into the following Service Plans: Roads and Footpaths, Active Travel, Parking, Public Transport and Traffic Safety & Efficiency. The objective for this group of Activities is to manage the network to ensure that it is safe, connected, integrated, affordable, sustainable, and is responsive to the needs of customers.

1. What does this activity deliver?

The objective of this Activity is to ensure that the roading network is safe and efficient. This is delivered in the following ways:

- Operational interventions, which are day to day tasks undertaken by staff, including;
  - Monitoring of the performance of the transport network and response to incidents
  - Control of temporary traffic management activities
  - Operation of the traffic signal network
  - Operation of intelligent traffic systems
  - Communication of traveller information
  - Managing technology challenges and changes
- Education and travel choice programmes, to inform customers and influence their behaviour (travel demand management), including;
  - Community based road safety education programmes, such as Crash Bash students safety programmes tour and Kick Start for motorcyclists.
  - School safety education and travel planning, promoting safety at the school gate and increased use of public transport, cycling and walking to school
  - Cycle skills training

- o Support to work place travel planning to encourage use of all modes or combinations of modes in line with transport as a service model.
- Network improvements, to physically change how the network operates, including;
  - o Route improvements to encourage and respond to growth throughout the city
  - o Intersection improvements to increase efficiency and productivity
  - o Safety improvements to intersections and other high risk locations
  - o School safety improvements

2. Why do we deliver this activity?

This Service Plan focuses on the road operations, transport education and road network improvement actions that Council undertakes. These are important to residents because the safety and efficiency of the transport network has a significant impact on the city's economy and wellbeing as well as providing the connection between communities. The estimated economic cost of congestion on the road network is $200M annually and the cost of road crashes is estimated to be $250M annually. This activity also impacts on climate change through vehicle emissions.

The Christchurch Transport Strategic Plan mandates the creation of safe, healthy and liveable communities. The Strategic Plan interprets this through an objective to create safer systems and safer speeds "a safer system that contributes to network efficiency, saves lives and reduces injuries". The Strategic Plan also sets out modal networks on which the different transport modes will be given priority. Achieving efficiency for all modes also enhances environmental outcomes by reducing greenhouse gas emissions and other negative environmental effects of the transport network. It also contributes to increased resilience by reducing dependence on fossil fuels.

Safety and efficiency is a key cornerstone to guide Council interventions on the transport network and address locations with high safety risks and corridors with localised congestion with highly variable journey times especially during the peak travel times in the morning and evening. Residents and businesses need to have confidence in the transport system. Human behaviour remains a key cause of many of the problems identified on the transport network related to safety and efficiency. Delays at key intersections where over 50% of all crashes occur, and on key corridors, can cause increased frustration and unsafe behaviours. These locations are prioritised through the Transport City Wide Business Case process. The aim of the planning and financial interventions in this space is to reduce the price paid for a mistake so that crashes don't result in loss of life or serious injuries. Vulnerable users such as cyclists and pedestrians require special attention and inclusion in all safety and efficiency interventions.

Travel Demand Management is a key intervention to achieve these priorities. The Travel Demand Management programme focuses on influencing how the network is used, resulting in a safer and efficient system. This is through engaging with citizens and addressing barriers in taking active, public and shared transport in addition to addressing high priority areas of safety risk that are behaviour-driven. A successful Travel Demand Management programme not only contributes to achieving goals in the short term, but through the enabling of sustained changes in demand it should ease supply issues in the network in a more cost-effective manner than addressing this through solely increasing physical interventions.

There are several key Acts of Parliament that determine Councils legal role in Transport. These include the Local Government Act 2002 and the Land Transport Management Act 2003. There are also a number of policies such as the Government Policy Statement for Transport and the Regional Land Transport Plan that guide regional priorities.

These are taken account of as part of Council's Community Outcomes process whereby Council identifies and measures what is important to the local community through a process of consultation, planning and reporting.

Under this framework there are three Community Outcomes that relate directly to Transport and this Service Plan:
- Liveable City - A well connected and accessible city.
- Strong Communities – Safe & healthy communities.

Healthy environment –Sustainable use of resource. Council also has in place a number of strategic priorities, which relate directly to this Service Plan:
- Increasing active, public and shared transport
- Climate Change leadership

3. Specify Levels of Service

Performance Standards Levels of Service		Results	Method of Measurement	Current Performance	Benchmarks	Future Performance			
						Year 1	Year 2	Year 3	Year 10
#	Description					2018/19	2019/20	2020/21	2027/28
Journey times are reliable									
10.0.1	Maintain journey reliability on strategic routes		Average journey time on 22 strategic routes, at peak, during day and overnight as measured by CTOC	16/17 Peak 25min Day 15 min Night 10 min		Peak 25m Day 15m Night 10m	Peak 25m Day 15m Night 10m	Peak 25m Day 15m Night 10m	Peak 25m Day 15m Night 10m
Maintain the number of private vehicle trips at current levels									
new	Maintain the number of private vehicle trips at current levels:	Increasing active, public and shared transport	Change in citywide commuter trips as recorded by traffic count data	2013/14 survey: 56 million commuter trips per annum.		54 million to 58 million (less than) +/-3%	54 million to 58 million (less than) +/-3%	54 million to 58 million (less than) +/-3%	54 million to 58 million (less than) +/-3%
new	Maintain the number of private vehicle trips at current levels:		Change in citywide in all-purpose trips as recorded by traffic count data	2013/14 survey 289 million all-purpose trips per annum.		280 million to 298 million (less than +/-3%	280 million to 298 million (less than +/-3%	280 million to 298 million (less than +/-3%	280 million to 298 million (less than +/-3%
Journeys are safe									
10.0.6	Reduce the number of casualties on the road network		The number of deaths or serious injuries from all crashes on the local road network per calendar year. Reported from CAS.	2017 134 deaths and serious injuries (DSI)		≤129 (reduce by 5 or more per year)	≤124 (reduce by 5 or more per year)	≤119 (reduce by 5 or more per year)	≤100 (reduce by 5 or more per year)

Note that in addition to the above, the level of service 'Increase the numbers of people cycling into the central city' is shared from the 'Active Travel' Service Plan, reflecting the goals of the Travel Demand Management programme.

Note that Performance Measure 10.0.6 is a mandatory measure as per the 2010 amendment to the Local Government Act and the Department of Internal Affairs Non-Financial Performance Measures Rules 2013.

4. What levels of service do we propose to change from the current LTP and why?

The following is a summary of level of service changes.

Amended LTP 2016-25			LTP 2018-28			Rationale
LOS ID	LOS Description	Target (FY17/18)	LOS ID	LOS Description	Target (FY18/19)	
10.7.1 Non-LTP	Increase awareness of workplace Travel Choice options	≥6 new targeted organisations (workplace travel planning)	N/A	N/A	N/A	This Level of Service has been removed as part of the 2018-28 LTP.
10.7.2 Non-LTP	Increase awareness of school travel choice options	≥ 2000 staff or students (school travel planning)	N/A	N/A	N/A	This Level of Service has been removed as part of the 2018-28 LTP.
10.7.3 Non-LTP	Increase carpooling registrations	≥500 registrations	N/A	N/A	N/A	This Level of Service has been removed as part of the 2018-28 LTP.
10.7.4 LTP	Mode shift: Contribute to overall increase in percentage of trips made by alternative transport modes	≥17.4% walking	N/A	N/A	N/A	This Level of Service has been removed as part of the 2018-28 LTP.
		≥3.5% cycling			N/A	This Level of Service has been removed as part of the 2018-28 LTP.
		≥3.6% PT			N/A	This Level of Service has been removed as part of the 2018-28 LTP.
10.7.5 LTP	Provide road user safety education programmes	≥5 campaigns per year	N/A	N/A	N/A	This Level of Service has been removed as part of the 2018-28 LTP.
10.7.6 LTP	Provide school 'Cycle Safe' education programme	≥3,000 students per year	N/A	N/A	N/A	This Level of Service has been removed as part of the 2018-28 LTP.

Amended LTP 2016-25			LTP 2018-28			Rationale
LOS ID	**LOS Description**	**Target (FY17/18)**	**LOS ID**	**LOS Description**	**Target (FY18/19)**	
10.7.7 Non-LTP	Maintain a high level of satisfaction with school 'Cycle Safe' education programme	≥95% satisfied	N/A	N/A	N/A	This Level of Service has been removed as part of the 2018-28 LTP.
16.0.18 Non-LTP	Work Programming coordinated with other organisations	TBA once baseline established	N/A	N/A	N/A	This Level of Service has been removed as part of the 2018-28 LTP.
10.0.6 LTP	Improve Road Safety: Reduce the number of reported crashes on the network by 5% per year (Department of Internal Affairs mandatory non-financial performance measure number 1)	Report the change in number of fatalities and serious injury crashes on the local road network (from the previous financial year, expressed as a number).	N/A	N/A	N/A	This Level of Service has been removed as part of the 2018-28 LTP.
10.0.6 LTP	Improve Road Safety: Reduce the number of reported crashes on the network by 5% per year (Department of Internal Affairs mandatory non-financial performance measure number 1)	≥5% Reduction from previous yr	10.0.6	Reduce the number of casualties on the road network	≤129 (reduce by 5 or more per year)	To align with the medium modified capital scenario
10.0.37 Non-LTP	Protect vulnerable users – minimise the number of fatal crashes involving pedestrians and cyclists	0	N/A	N/A	N/A	This Level of Service has been removed as part of the 2018-28 LTP.
10.0.33 Non-LTP	Reduce risk to customers using the network via a targeted programme of safety improvements at high risk locations	At least five sites reduced to a low or moderate risk	N/A	N/A	N/A	This Level of Service has been removed as part of the 2018-28 LTP.
10.0.34 Non-LTP	Reduce risk to cyclists using the network via a targeted programme of safety improvements at high risk locations	At least five sites reduced to a low or moderate risk	N/A	N/A	N/A	This Level of Service has been removed as part of the 2018-28 LTP.
10.0.1 LTP	Provide journey reliability on specific strategic routes	25 mins peak 15 mins inter peak 10 mins off peak	10.0.1	Maintain journey reliability on strategic routes	Peak 25m Day 15m Night 10m	

Amended LTP 2016-25			LTP 2018-28			Rationale
LOS ID	LOS Description	Target (FY17/18)	LOS ID	LOS Description	Target (FY18/19)	
10.0.35 Non-LTP	Promote modal shift Increase the percentage share of walking trips	≥17.4%	N/A	N/A	N/A	This Level of Service has been removed as part of the 2018-28 LTP.
10.0.36 Non-LTP	Promote modal shift Increase the percentage share of cycling trips	≥3.5%	N/A	N/A	N/A	This Level of Service has been removed as part of the 2018-28 LTP.
10.0.37 Non-LTP	Promote modal shift Contribute to increasing the percentage share of public transport trips	≥3.6%	N/A	N/A	N/A	This Level of Service has been removed as part of the 2018-28 LTP.
10.0.2 LTP	Promote modal shift Decrease the percentage share of car trips	≤75.5%	N/A	N/A	N/A	This Level of Service has been removed as part of the 2018-28 LTP.
10.0.22 Non-LTP	The temporary traffic management system supports the city rebuild whilst minimising impact on the transport network	>95%	N/A	N/A	N/A	This Level of Service has been removed as part of the 2018-28 LTP.
10.0.27 LTP	Traveller information is sufficient and delivered in a timely fashion to allow travellers to make travel choices	<= 5 minutes for Unplanned events: > 95%	N/A	N/A	N/A	This Level of Service has been removed as part of the 2018-28 LTP.
		>= 1 week for planned events: > 95%			N/A	This Level of Service has been removed as part of the 2018-28 LTP.
N/A	N/A	N/A	TBC	Maintain the number of private vehicle trips at current levels:	Change in citywide commuter trips as recorded by traffic count data: 54 million to 58 million (less than) +/-3%	
					Change in citywide in all-purpose trips as recorded by traffic count data: 280 million to 298 million (less than +/-3%	

To ensure that Council delivers this for the Community the Level of Service statements have been re-written to be more customer focused:

- Journey times are reliable
- Journeys are safe
- Journeys are comfortable
- Council is responsive
- Customers have choices

This process has resulted in a whole-scale change to the 2015 LTP Levels of Service.

The following Levels of Service have been deleted:

- 10.0.2   Promote modal shift: Decrease the percentage share of car trips
- 10.7.5   Provide road user safety education programmes
- 10.7.6   Provide school 'Cycle Safe' education programme
- 10.7.7   Maintain a high level of satisfaction with the 'Cycle Safe' education programme
- 10.0.32   Assess risks on the network
- 10.0.33   Reduce risk to customers using the network via a targeted programme of safety improvements at high risk locations
- 10.0.018   Work Programming coordinated with other organisations
- 10.7.1   Increase awareness of workplace travel choice options
- 10.7.2   Increase awareness of school travel choice options
- 10.7.3   Increase carpooling registrations
- 10.7.4   Mode Shift: Contribute to overall increase in percentage of trips made by alternative transport modes

5. How will the assets be managed to deliver the services?

The objective for Council is to manage the Transport network to ensure that it is safe, integrated, affordable, and sustainable, as well as being responsive to the needs of customers. Council staff undertake planning work to determine what is required by the Community, what the options are, how the works should be prioritised and what is the best what to deliver them.

Long term transport planning focuses on how the network will operate up to and including 2048. Citywide analysis is undertaken using the Christchurch Transport Model covering Greater Christchurch and the CAST Transport Model for Christchurch. Validation of the models is undertaken through the network monitoring programme. The development and maintenance of a Network Management Plan indicates where on the network certain mode priority such as public transport should occur. This is linked in with the road hierarchy within the District Plan and the One Network Road Classification, a National Standard. Safety and network performance and capability are the key areas of focus for the planning team, along with environment and health benefits. Reduced collective risk or crash density and reduced personal risk or crash rate are considered along with journey time reliability and improved awareness of travel choice and walking and cycling.

Operational activities are an important part of keeping the network functioning day to day. Council staff are responsible for maintaining an area specific awareness of transport issues affecting the network and ensuring that activities on the road network are safe and appropriate.
Further to this a number of Council staff are seconded to the Christchurch Transport Operations Centre (CTOC), which is a partnership between Christchurch City Council, the New Zealand Transport Agency and Environment Canterbury. CTOC is responsible for a daily network monitoring, temporary traffic management, operating intelligent traffic systems, and communicating traveller information.

Education programmes are planned for as part of Council's Travel Demand Management activities. These have been identified in the Christchurch Transport Strategic Plan and the associated business cases as a key element to ensure safety and efficiency goals for the Christchurch network are realised. Travel planning and cycle skills training are delivered by Council staff engaging directly with schools and businesses. Road safety programmes are planned and delivered in partnership with other agencies such as the New Zealand Transport Agency and the New Zealand Police. The programmes are prioritised each year, based on analysis of the main areas of incidence of death and serious injuries on Christchurch roads.

Staff plan for safety improvements by reviewing areas of high risk on the network. The Council uses its urban KiwiRap system to determine the potential for harm, or risk across its network and prioritises its safety activities at high risk elements of the transport system. High risk elements may include roads and roadsides; travel speeds; and gaps in driver skills, education and enforcement. Further to this growth and efficiency related improvements are planned for using the CAST model and the Network Operating Plan as a guide for how the city should operate, and what modes are prioritised and where.

All types of intervention are managed through the business case process and capital programme.

Major works programmes:

These are the programmes of work that are Council's principle means of achieving the strategic safety and efficiency outcomes described above.

- **Travel Demand Management:**
  - o School workplace engagement on travel options and safety, prioritised based on the availability of active, public and shared transport to citizens and the impact that journeys/commuting has on the efficiency on the network.
  - o Targeted safety programmes, based on the high-risk areas of death and serious injury within Christchurch, as prioritised by the cross agency Road Safety Action Plan (part of the national Safer Journeys framework).
  - o Cycle skills training, focused on schools with most opportunity to increase and maintain active transport levels.
  - o Targeted mode promotion, using proven methodology to create enhanced changes in behaviour, complementing wider engagement.

- **Intersections**
  - o Plan intersection safety and efficiency improvements through risk identification and business case development to ensure benefits are realised and external funding is secured.
  - o Operate and maintain traffic control and intelligent traffic systems.
  - o Manage and control temporary traffic management due to increased road works and rebuild activities.
  - o Co-ordinate and manage traffic impacts for planned events and emergency events.
  - o Undertake minor operating and safety improvements.

- **Growth**
  - o Plan for growth and especially greenfield developments and take-up by ensuring new land changes follow the Outline Development Plans and all internal roads and connections to the existing network meet the required standards and safety audits.
  - o Include downstream effects from development such that mitigation of the potential effects can be undertaken.
  - o Integrate a one network approach with the State Highways improvement programme.

- **Network Improvements**
  - o Plan for prioritisation of routes for certain modes through the Network Management Plan.
  - o Operate monitoring programmes across the network to measure, gauge and predict future movements and numbers of all modes on the network.
  - o Design to "sweat the asset" within existing corridors and provide for mode shift by increasing journey time reliability for all modes.
  - o Undertake minor operating and safety improvements.

Minor Works Programmes:

The minor works programmes support the immediate needs of local communities and may provide an interim low cost improvement to strategic issues that are not able to be resolved in the short term. The following table summarises the minor safety and efficiency programmes and how priorities are determined.

Programme	Description / examples	How priorities are determined
New Signs, Road Markings and Miscellaneous	Parking restrictions, kerb alterations, traffic signs	Reactive to community needs
Road Safety	Speed management devices, intersection improvements, removal of road side hazards	High risk corridors and intersections
Transport Optimisation	Right turn phases, turn lane extensions, measures to improve traffic flow	Arterial roads, level of congestion, alignment with modal priorities (e.g. freight, traffic)
School safety	School speed zones, kea crossings	Number of pedestrians, safety risk, legislative requirements

6. What financial resources are needed?

The Transport Group of Activities equates to approximately 25% of Councils total expenditure. This covers planning and staff costs, operations, maintenance, renewals and improvements interventions.

What is this spend on?
The Transport Unit currently employs approximately 140 staff (permanent and contractors), and this equates to 120 full time equivalents. The budget for this is $10.6 million per year.
- Transport operations activities require $4.2M/year.
- Transport education activities require $1.6M/year.

What are the Options for Council?
The proposed programmes only address congestion on critical arterial routes. If there was a reduction in the proposed network improvements then congestion would increase and have an adverse impact on bus service reliability. Note that there is an assumption that a large part of the growth demand for travel will be catered for by a shift to other more efficient travel modes.

The proposed safety improvement programme only addresses the top priority safety sites with a proven crash history. This programme can be reduced or increased with an eventual direct correlation to crash statistics outcomes. The programme proposed is intended to align with the national road safety programme for the reduction of serious and fatal crashes.

Any decrease in the transport education programmes would be likely to ultimately lead to an increase in the incidence of injury and death on the roads. Reduction of the CTOC funding would lead to a reduction in operational staff available to respond to incidents and to operate and efficient traffic signal network. This would directly impact on the overall efficiency of the road network.

How is this Funded?
Council primarily funds these Activities from rates and borrowing. Around 30% of the funding is provided by The New Zealand Transport Agency via the National Land Transport Fund and National Land Transport Plan processes.

TRANSPORTATION- TRAFFIC SAFETY & EFFICIENCY	2017/18 Annual Plan	2018/19	2019/20	2020/21
		000's		
Operational Interventions	5,900	5,526	4,692	4,792
Education and Travel Choice Programmes	1,745	1,678	1,734	1,771
Activity Costs before Overheads	7,645	7,204	6,426	6,563
Corporate Overhead	448	409	383	352
Depreciation	2,292	1,793	1,875	1,939
Interest	206	159	184	243
Total Activity Cost	**10,591**	**9,566**	**8,868**	**9,097**
Funded By:				
Fees and Charges	826	1,241	1,266	1,293
Grants and Subsidies	3,041	3,206	3,296	3,357
Total Operational Revenue	**3,867**	**4,447**	**4,562**	**4,650**
Net Cost of Service	**6,725**	**5,118**	**4,306**	**4,447**
Funding Percentages:				
Rates	63.5%	53.5%	48.6%	48.9%
Fees and Charges	7.8%	13.0%	14.3%	14.2%
Grants and Subsidies	28.7%	33.5%	37.2%	36.9%

At the time of the draft there was capital expenditure planned for Roads and Footpaths that will now be planned in Traffic Safety and Efficiency. This change is reflected in the capital expenditure section below, but not yet reflected in the finance table above. This will be updated for the final version.

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7. How much capital expenditure will be spent, on what category of asset, and what are the key capital projects for this activity?

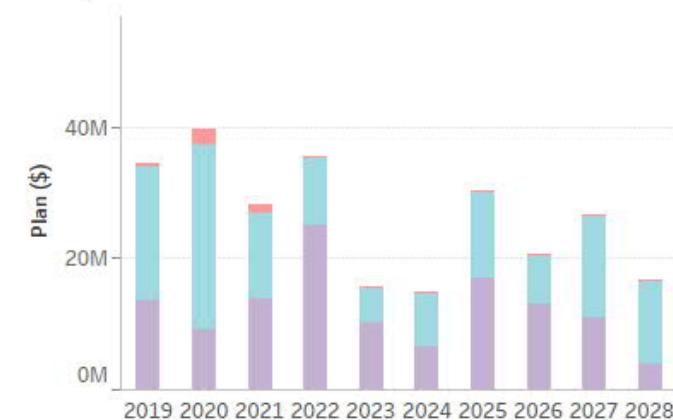**46 in Delivery**
297 in Planning

Prioritised by

- Business Case for Change,
- Prioritised intersections,
- Prioritised corridors

Legend

- New Service
- Improved level of Service
- Provision of infrastructure to support growth
- Infrastructure to meet backlog demand
- Renewal Of Assets

Plan by Financial Year

Key projects

- Safety and efficiency from the Business Case for Cluster 4 Moorhouse and links to Brougham,
- Cluster 6 Lincoln Rd/ Whiteleigh Ave/ Clarence St,
- Cluster 1 Papanui Rd , Main North Rd and Harewood Road,
- Cluster 3 Fitzgerald Ave and Stanmore Rd,
- Cluster 2 Bealey Ave,
- Cluster 8 Riccarton Rd,
- School safety projects,
- Safety intersections outside the clusters Cashmere Rd, Marshland Rd, Northcote Rd, Sawyers Arms Rd, Wairakei Rd,
- Safety improvements,
- New growth driven assets and RONS downstream upgrades,
- Northern Corridor Extension and Cranford St Upgrade,
- Rural development areas upgrades.

Changes to budgets from 2015-2025 LTP

Growth, reduction of $9.5M to 2025.

- Network Improvements, reduction of $89.9M to 2025.

Programme	3 Years Plan FY19-21 $'000,000	10 Years Plan FY19-28 $'000,000	Description	Drivers	Implications if delayed or not implemented
Intersections	9.4	25.9	Includes intersection safety, and intersection improvements	• Safety and efficiency	• Increased risk profile as Council would not be mitigating known accident black spots. • Potentially increased congestion
Growth	18.8	97.1	Includes new links to subdivisions and corridor upgrades	• Catering for growth	• Potentially increased congestion
Network improvements	74.3	139.9	Includes corridor safety, corridor improvements, RONS downstream, An Accessible City and rural upgrades	• Safety and efficiency	• Increased risk profile as Council would not be mitigating known accident black spots. • Potentially increased congestion

8. Are there any significant negative effects that this activity will create?

Effect	Mitigation
Safety improvements such as signalised pedestrian crossings and right turn arrows can affect general traffic flows with general traffic journey time increases.	Although more time given to these phases they are on routes that carry key pedestrian and cycling access and movements.
Some modes being given priority on certain routes such as public transport	Alternative routes provided in the road classification hierarchy for general traffic.
Increased bus priority measures will require the reallocation of road space. This will likely result in the removal of parking, or travel time delays to other motorists.	Significant bus priority infrastructure to target corridors that cater for all day, high frequency bus services. Minor bus priority measures to consider the impact to the localised area in which they are proposed.

9. Does this Service Plan need to change as a result of a service delivery review?

No changes required.