APPENDIX I – LIST OF LARGE PROJECTS IN THE LTP. CONTRIBUTION TO NZTS AND LTMA OBJECTIVES

	Large Activies (2006/07)		Economic Development	Safety and Personal Security	Access & Mobility	Public Health	Environmental Sustainability	Alternatives Considered	Options Considered
Northland	Kamo Bypass Stage 2	Bypass	Reduces travel delay between economic nodes. Reduces congestion on heavily-trafficked corridors and at network pinch points. Improved travel time reliability. Vehicle operating costs (fuel) may decrease.	Reduces accidents caused by congestion and sub-standard alignment	Reduces congestion	Reduces noise, vibration and air pollution impacts by shifting through traffic away from existing communities	Provides improved levels of amenity to properties on the existing State highway route. Improved vehicle emission performance from reduced congestion.	Strategies to reduce traffic volumes and growth	Alternative realignment options, carriageway widening, bypass routes and various TDM options
	Akerama Curves Realignment & Sth Bd PL	Rural Realignment (Safety)	Reducing accidents: Reduces travel delay between economic nodes. Provides greater travel time reliability.	Reduces accidents caused by congestion and sub-standard alignment	*No significant contribution*	*No significant contribution*	*No significant contribution*	Strategies to reduce traffic volumes and growth	Alternative realignment options, carriageway widening and bypass routes
	Waitiki Landing to Cape Reinga Seal Ext Stage 2	Seal Extension	Reduces long term maintenance costs. Reduced travel time and delays. Reduced roughness reduces vehicle operating cost.	Improves safety from improved grip	Improves access to remote areas	Reduces air pollution impact by reducing dust. Reduces noise impact. Promotes walking and cycling by reducing dust nuisance.	Dust reduction improves local air quality	Strategies to reduce traffic volumes and growth	More extensive realignment and carriageway reconstruction
Auckland	Warkworth Stage 1	Additional Lanes	Reduces travel delay between economic nodes. Reduces congestion on heavily-trafficked corridors and at network pinch points. Improved travel time reliability. Vehicle operating costs (fuel) may decrease.	Reduces accidents caused by congestion and sub-standard alignment	Reduces congestion	Improved air pollution impacts via reduced congestion and therefore emissions	Improved vehicle emission performance from reduced congestion	Strategies to reduce traffic volumes and growth	Bypass routes, and various TDM options
	Kopuku Realignment								
	Vic Park Tunnel								
	Newmarket Viaduct								
	Manukau Harbour Crossing	Auckland Western Ring Route	Reduces congestion and delay through central Auckland by providing a real alternative to SH1 between Albany and Manukau City. Improved travel times/access between all four cities and from the west to the airport. Travel time reliability is improved. Vehicle operating costs (fuel) may decrease.	Reduces accidents caused by congestion	Reduces congestion	Improved air pollution impacts via reduced congestion and therefore emissions	Improved vehicle emission performance from reduced congestion	Strategies to reduce traffic volumes and growth	Bypass routes, and various TDM options
	Te Atatu – Royal 6L								
	Waterview Connection								
	Hobsonville Deviation								
	AHB Moveable Lane Barrier	Barriers	*No significant contribution*	Reduces head-on accidents	*No significant contribution*	*No significant contribution*	*No significant contribution*	Strategies to reduce traffic volumes and growth	Alternative engineering options, and carriageway widening
	Punganui Stream Bridge Replacement	Bridge Renewals	Avoids the economic costs of road closures. Preserves valuable public assets. Avoids bridge load restrictions which could impact on freight movements.	Avoids potential structural failure	Preserves current level of access	*No significant contribution*	*No significant contribution*	Provision of alternative routes	Alternative engineering options
	Northwestern Motorway TDM	Travel Demand Management	Reduces travel delay between economic nodes. Provides greater travel time reliability. Reduces congestion on heavily-trafficked corridors.	*No significant contribution*	Reduces congestion	Improved air pollution impacts via reduced congestion and therefore emissions	Improved vehicle emission performance from reduced congestion	Do nothing	Alternative TDM strategies and options
	Northern Motorway TDM								
	AHB Storm Water Upgrade	Water	*No significant contribution*	*No significant contribution*	*No significant contribution*	Reduces pollutants entering bodies of water that may be used by the public	Reduces pollutant contamination of waterbodies	Do nothing	Alternative stormwater treatment systems
Waikato	Church to Avalon Drive 4L	Additional Lanes	Reduces travel delay between economic nodes. Reduces congestion on heavily-trafficked corridors and at network pinch points. Improved travel time reliability. Vehicle operating costs (fuel) may decrease.	Reduces accidents caused by congestion and sub-standard alignment	Reduces congestion	Improved air pollution impacts via reduced congestion and therefore emissions	Improved vehicle emission performance from reduced congestion	Strategies to reduce traffic volumes and growth	Bypass routes, and various TDM options
	Avalon Drive Bypass	Bypass	Reduces travel delay between economic nodes. Reduces congestion on heavily-trafficked corridors and at network pinch points. Improved travel time reliability. Vehicle operating costs (fuel) may decrease.	Reduces accidents caused by congestion and sub-standard alignment	Reduces congestion	Reduces noise, vibration and air pollution impacts by shifting through traffic away from existing communities	Provides improved levels of amenity to properties on the existing State highway route. Improved vehicle emission performance from reduced congestion.	Strategies to reduce traffic volumes and growth	Alternative realignment options, carriageway widening, bypass routes and various TDM options
	Hamilton Southern Links								
	Ngaruawahia Bypass								
	East Taupo Arterial								
	Cambridge Bypass 2L								
	Rangiriri Bypass								
Bay of Plenty	Harbour Link	New Links	Reduces travel delay between economic nodes. Reduces congestion on heavily-trafficked corridors and at network pinch points. Travel time reliability is generally improved. Vehicle operating costs (fuel) may decrease.	Reduces accidents caused by congestion and sub-standard alignment	Reduces congestion	Improved air pollution impacts via reduced congestion and therefore emissions	Improved vehicle emission performance from reduced congestion	Strategies to reduce traffic volumes and growth	Alternative realignment options, and TDM options
	Tauranga Eastern Motorway								
	Tauranga Central Corridor TDM	Travel Demand Management	Reduces travel delay between economic nodes. Provides greater travel time reliability. Reduces congestion on heavily-trafficked corridors.	*No significant contribution*	Reduces congestion	Improved air pollution impacts via reduced congestion and therefore emissions	Improved vehicle emission performance from reduced congestion	Do nothing	Alternative TDM strategies and options
	Omokoroa Roundabout	Rural Realignment	Reducing accidents: Reduces travel delay between economic nodes. Provides greater travel time reliability.	Reduces accidents caused by congestion and sub-standard alignment	*No significant contribution*	*No significant contribution*	*No significant contribution*	Strategies to reduce traffic volumes and growth	Alternative realignment options, carriageway widening and bypass routes

APPENDIX I – LIST OF LARGE PROJECTS IN THE LTP. CONTRIBUTION TO NZTS AND LTMA OBJECTIVES

	Large Activies (2006/07)		Economic Development	Safety and Personal Security	Access & Mobility	Public Health	Environmental Sustainability	Alternatives Considered	Options Considered
Hawke's Bay	**HB Expressway Southern Extension**	Bypass	Reduces travel delay between economic nodes. Reduces congestion on heavily-trafficked corridors and at network pinch points. Improved travel time reliability. Vehicle operating costs (fuel) may decrease.	Reduces accidents caused by congestion and sub-standard alignment	Reduces congestion	Reduces noise, vibration and air pollution impacts by shifting through traffic away from existing communities	Provides improved levels of amenity to properties on the existing State highway route. Improved vehicle emission performance from reduced congestion.	Strategies to reduce traffic volumes and growth	Alternative realignment options, carriageway widening, bypass routes and various TDM options
	Matahorua Gorge Realignment	Rural Realignment (Time)	Reduces travel delay in rural regions. Reduces vehicle operating cost (fuel). Travel time reliability is generally improved.	Reduces accidents caused by congestion and sub-standard alignment	*No significant contribution*	*No significant contribution*	*No significant contribution*	Strategies to reduce traffic volumes and growth	Alternative realignment options, carriageway widening and bypass routes
Taranaki	**Bell Block Bypass (including Mangaone 4L)**	Additional Lanes & Bypass	Reduces travel delay between economic nodes. Reduces congestion on heavily-trafficked corridors and at network pinch points. Improved travel time reliability. Vehicle operating costs (fuel) may decrease.	Reduces accidents caused by congestion and sub-standard alignment	Reduces congestion	Reduces noise, vibration and air pollution impacts by shifting through traffic away from existing communities	Provides improved levels of amenity to properties on the existing State highway route. Improved vehicle emission performance from reduced congestion.	Strategies to reduce traffic volumes and growth	Bypass routes, and various TDM options
Wellington	**Kapiti Western Link Road – Stage 1**	Bypass	Reduces travel delay between economic nodes. Reduces congestion on heavily-trafficked corridors and at network pinch points. Improved travel time reliability. Vehicle operating costs (fuel) may decrease.	Reduces accidents caused by congestion and sub-standard alignment	Reduces congestion	Reduces noise, vibration and air pollution impacts by shifting through traffic away from existing communities	Provides improved levels of amenity to properties on the existing State highway route. Improved vehicle emission performance from reduced congestion.	Strategies to reduce traffic volumes and growth	Alternative realignment options, carriageway widening, bypass routes and various TDM options
	Transmission Gully								
	Dowse to Petone I/C	Intersection Improvement	Reduces travel delay between economic nodes. Reduces congestion on heavily-trafficked corridors and at network pinch points. Travel time reliability is generally improved.	Potential reduction in intersection crashes	Reduces congestion at key intersections	*No significant contribution*	*No significant contribution*	Strategies to reduce traffic volumes and growth	Alternative interchange upgrade options
	Basin Reserve Improvements								
	Rimutaka Corner Easing (Muldoon's)	Rural Realignment (Safety)	Reducing accidents: Reduces travel delay between economic nodes. Provides greater travel time reliability.	Reduces accidents caused by congestion and sub-standard alignment	*No significant contribution*	*No significant contribution*	*No significant contribution*	Strategies to reduce traffic volumes and growth	Alternative realignment options, carriageway widening and bypass routes
Nelson/M/T	**Ruby Bay Bypass**	Bypass	Reduces travel delay between economic nodes. Reduces congestion on heavily-trafficked corridors and at network pinch points. Improved travel time reliability. Vehicle operating costs (fuel) may decrease.	Reduces accidents caused by congestion and sub-standard alignment	Reduces congestion	Reduces noise, vibration and air pollution impacts by shifting through traffic away from existing communities	Provides improved levels of amenity to properties on the existing State highway route. Improved vehicle emission performance from reduced congestion.	Strategies to reduce traffic volumes and growth	Alternative realignment options, carriageway widening, bypass routes and various TDM options
	Whangamoa South Realignment	Rural Realignment (Time)	Reduces travel delay in rural regions. Reduces vehicle operating cost (fuel). Travel time reliability is generally improved.	Reduces accidents caused by congestion and sub-standard alignment	*No significant contribution*	*No significant contribution*	*No significant contribution*	Strategies to reduce traffic volumes and growth	Alternative realignment options, carriageway widening and bypass routes
	Hope Saddle Realignment								
Canterbury	**Christchurch Southern Motorway Extension**	New Links	Reduces travel delay between economic nodes. Reduces congestion on heavily-trafficked corridors and at network pinch points. Travel time reliability is generally improved. Vehicle operating costs (fuel) may decrease.	Reduces accidents caused by congestion and sub-standard alignment	Reduces congestion	Improved air pollution impacts via reduced congestion and therefore emissions	Improved vehicle emission performance from reduced congestion	Strategies to reduce traffic volumes and growth	Alternative realignment options, and TDM options
	Christchurch Northern Arterial Rural								
	Christchurch TDM Implementation	Travel Demand Management	Reduces travel delay between economic nodes. Provides greater travel time reliability. Reduces congestion on heavily-trafficked corridors.	*No significant contribution*	Reduces congestion	Improved air pollution impacts via reduced congestion and therefore emissions	Improved vehicle emission performance from reduced congestion	Do nothing	Alternative TDM strategies and options
West Coast	**Arahura Bridge Replacement**	Bridge Renewals	Avoids the economic costs of road closures. Preserves valuable public assets. Avoids bridge load restrictions which could impact on freight movements.	Avoids potential structural failure	Preserves current level of access	*No significant contribution*	*No significant contribution*	Provision of alternative routes	Alternative engineering options
Otago	**Caversham 4L**	Additional Lanes	Reduces travel delay between economic nodes. Reduces congestion on heavily-trafficked corridors and at network pinch points. Improved travel time reliability. Vehicle operating costs (fuel) may decrease.	Reduces accidents caused by congestion and sub-standard alignment	Reduces congestion	Improved air pollution impacts via reduced congestion and therefore emissions	Improved vehicle emission performance from reduced congestion	Strategies to reduce traffic volumes and growth	Bypass routes, and various TDM options
	East Taieri Bypass	Bypass	Reduces travel delay between economic nodes. Reduces congestion on heavily-trafficked corridors and at network pinch points. Improved travel time reliability. Vehicle operating costs (fuel) may decrease.	Reduces accidents caused by congestion and sub-standard alignment	Reduces congestion	Reduces noise, vibration and air pollution impacts by shifting through traffic away from existing communities	Provides improved levels of amenity to properties on the existing State highway route. Improved vehicle emission performance from reduced congestion.	Strategies to reduce traffic volumes and growth	Bypass routes, and various TDM options
National	**Toll Systems Project Stage 1**	Travel Demand Management	Reduces travel delay between economic nodes. Provides greater travel time reliability. Reduces congestion on heavily-trafficked corridors.	*No significant contribution*	Reduces congestion	Improved air pollution impacts via reduced congestion and therefore emissions	Improved vehicle emission performance from reduced congestion	Do nothing	Alternative TDM strategies and options

APPENDIX 2 – GENERIC LIST OF PROJECT TYPES. CONTRIBUTION TO NZTS AND LTMA OBJECTIVES

	Economic Development	Safety and Personal Security	Access & Mobility	Public Health	Environmental Sustainability	Alternatives Considered	Options Considered
Additional Lanes	Reduces travel delay between economic nodes. Reduces congestion on heavily-trafficked corridors and at network pinch points. Improved travel time reliability. Vehicle operating costs (fuel) may decrease.	Reduces accidents caused by congestion and sub-standard alignment	Reduces congestion	Improved air pollution impacts via reduced congestion and therefore emissions	Improved vehicle emission performance from reduced congestion	Strategies to reduce traffic volumes and growth	Bypass routes, and various TDM options
Additional Lanes & Bypass	Reduces travel delay between economic nodes. Reduces congestion on heavily-trafficked corridors and at network pinch points. Improved travel time reliability. Vehicle operating costs (fuel) may decrease.	Reduces accidents caused by congestion and sub-standard alignment	Reduces congestion	Reduces noise, vibration and air pollution impacts by shifting through traffic away from existing communities	Provides improved levels of amenity to properties on the existing State highway route. Improved vehicle emission performance from reduced congestion.	Strategies to reduce traffic volumes and growth	Bypass routes, and various TDM options
Auckland Western Ring Route	Reduces congestion and delay through central Auckland by providing a real alternative to SH1 between Albany and Manukau City. Improved travel times/access between all four cities and from the west to the airport. Travel time reliability is improved. Vehicle operating costs (fuel) may decrease.	Reduces accidents caused by congestion	Reduces congestion	Improved air pollution impacts via reduced congestion and therefore emissions	Improved vehicle emission performance from reduced congestion	Strategies to reduce traffic volumes and growth	Bypass routes, and various TDM options
Barriers	*No significant contribution*	Reduces head-on accidents	*No significant contribution*	*No significant contribution*	*No significant contribution*	Strategies to reduce traffic volumes and growth	Alternative engineering options, and carriageway widening
Biodiversity					Supports biodiversity through planting and/or habitat creation		
Bridge Renewals	Avoids the economic costs of road closures. Preserves valuable public assets. Avoids bridge load restrictions which could impact on freight movements.	Avoids potential structural failure	Preserves current level of access	*No significant contribution*	*No significant contribution*	Provision of alternative routes	Alternative engineering options
Bypass	Reduces travel delay between economic nodes. Reduces congestion on heavily-trafficked corridors and at network pinch points. Improved travel time reliability. Vehicle operating costs (fuel) may decrease.	Reduces accidents caused by congestion and sub-standard alignment	Reduces congestion	Reduces noise, vibration and air pollution impacts by shifting through traffic away from existing communities	Provides improved levels of amenity to properties on the existing State highway route. Improved vehicle emission performance from reduced congestion.	Strategies to reduce traffic volumes and growth	Alternative realignment options, carriageway widening, bypass routes and various TDM options
Crash Reduction Studies	Resulting strategies may reduce accidents, which would: Reduce travel delay between economic nodes. Provide greater travel time reliability.	Resulting strategies may reduce accident rates	*No significant contribution*	*No significant contribution*	*No significant contribution*		
Intersection Improvement	Reduces travel delay between economic nodes Reduces congestion on heavily-trafficked corridors and at network pinch points. Travel time reliability is generally improved.	Potential reduction in intersection crashes	Reduces congestion at key intersections	*No significant contribution*	*No significant contribution*	Strategies to reduce traffic volumes and growth	Alternative interchange upgrade options
Landscaped					Improved ecological and amenity quality through landscaping		
Minor Safety Projects	*No significant contribution*	Reduces accidents	*No significant contribution*	*No significant contribution*	*No significant contribution*	Strategies to reduce traffic volumes and growth	Alternative engineering options, and carriageway widening
New Links	Reduces travel delay between economic nodes. Reduces congestion on heavily-trafficked corridors and at network pinch points. Travel time reliability is generally improved. Vehicle operating costs (fuel) may decrease.	Reduces accidents caused by congestion and sub-standard alignment	Reduces congestion	Improved air pollution impacts via reduced congestion and therefore emissions	Improved vehicle emission performance from reduced congestion	Strategies to reduce traffic volumes and growth	Alternative realignment options, and TDM options
Noise				Noise Mitigation provided to protect public			
Noise Seal				Road seal selected for reduced noise impact			
Pedestrian	Marginal reduction in congestion and travel delay by encouraging shorter and medium length trips to be undertaken by non-motorised means. Improved energy efficiency with a move away from the powered modes.	Dedicated and/or purpose-built facilities reduce the accident risk for the non-powered modes. Investments are targeted at vulnerable road users.	Provides alternative options for short trips	Health benefits of walking and cycling. Reduces noise, vibration and air pollution impacts by reducing motor vehicle short trips.	Reduced vehicle pollution from reduced dependency on motor vehicles	Do nothing	Alternative engineering options
Protection	Avoids the economic costs of road closures. Preserves valuable public assets.	Avoids potential risk during and after a seismic event	Preserves current level of access	*No significant contribution*	*No significant contribution*	Do nothing	Alternative bypass route and engineering options
Road Reconstruction	Reduces long term maintenance costs. Reduced travel time and delays. Avoids the economic costs of road closures. Preserves valuable public assets. Avoids load restrictions which could impact on freight movements.	Avoids potential structural failure	Preserves current level of access	*No significant contribution*	*No significant contribution*	Provision of alternative routes	Alternative engineering options
Rural Realignment (Safety)	Reducing accidents: Reduces travel delay between economic nodes. Provides greater travel time reliability.	Reduces accidents caused by congestion and sub-standard alignment	*No significant contribution*	*No significant contribution*	*No significant contribution*	Strategies to reduce traffic volumes and growth	Alternative realignment options, carriageway widening and bypass routes
Rural Realignment (Time)	Reduces travel delay in rural regions. Reduces vehicle operating cost (fuel). Travel time reliability is generally improved.	Reduces accidents caused by congestion and sub-standard alignment	*No significant contribution*	*No significant contribution*	*No significant contribution*	Strategies to reduce traffic volumes and growth	Alternative realignment options, carriageway widening and bypass routes
Seal Extension	Reduces long term maintenance costs. Reduced travel time and delays. Reduced roughness reduces vehicle operating cost.	Improves safety from improved grip	Improves access to remote areas	Reduces air pollution impact by reducing dust. Reduces noise impact. Promotes walking and cycling by reducing dust nuisance.	Dust reduction improves local air quality	Strategies to reduce traffic volumes and growth	More extensive realignment and carriageway reconstruction
Seal Widening	*No significant contribution*	Potentially reduces loss of control accidents	*No significant contribution*	*No significant contribution*	*No significant contribution*	Strategies to reduce traffic volumes and growth	More extensive realignment and carriageway reconstruction
Seismic Retrofitting	Protection of a valuable existing asset from seismic risk	Avoids potential risk during and after a seismic event	Preserves access after a seismic event	*No significant contribution*	*No significant contribution*	Do nothing	Do nothing
Stormwater				Stormwater treatment device reduces pollutants entering bodies of water that may be used by the public	Stormwater treatment device reduces pollutant contamination of waterbodies		
Strategic Studies	Resulting strategy may reduce congestion and improve safety along a corridor, which would: Reduce travel delay between two nodes. Provide greater travel time reliability. Reduce congestion on the heavily-trafficked corridor.	Resulting strategy may reduce accident rates along corridor	Resulting strategy may reduce congestion along corridor	Resulting strategy may improve air pollution impacts via reduced congestion and therefore emissions	Resulting strategy may improve vehicle emission performance from reduced congestion		
Toll	Contributes to demand management through tolling						
Transportation Studies	Resulting strategies may reduce congestion, which would: Reduce travel delay between economic nodes. Provide greater travel time reliability. Reduce congestion on heavily-trafficked corridors.	*No significant contribution*	Resulting strategies may reduce congestion	Resulting strategies may improve air pollution impacts via reduced congestion and therefore emissions	Resulting strategies may improve vehicle emission performance from reduced congestion		
Travel Demand Management	Reduces travel delay between economic nodes. Provides greater travel time reliability. Reduces congestion on heavily-trafficked corridors.	*No significant contribution*	Reduces congestion	Improved air pollution impacts via reduced congestion and therefore emissions	Improved vehicle emission performance from reduced congestion	Do nothing	Alternative TDM strategies and options
Water	*No significant contribution*	*No significant contribution*	*No significant contribution*	Reduces pollutants entering bodies of water that may be used by the public	Reduces pollutant contamination of waterbodies	Do nothing	Alternative stormwater treatment systems