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Non-Network Policy Options for the Auckland Regional Land Transport Strategy

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This document supports the development of the Auckland Regional Land Transport Strategy 2010. It is the culmination of work developed by the Technical Advisory Committee (TAC) to support the Auckland Regional Transport Committee. The TAC includes representatives from all local territorial authorities, Auckland Regional Transport Authority, Auckland District Public Health Board and other technical experts.

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Auckland Regional Land Transport Strategy

Policy Options Paper

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Executive Summary

This paper considers non-network policy options (primarily types of demand management and non-transport type interventions) in terms of their likely impact on objectives and targets.

The purpose of the paper is to outline potential policy options for ARLTS development purposes.

The consideration of major capacity upgrade options for either the road network or the public transport system are not directly addressed in this paper.

However, the overall capacity of the transport system provides the background conditions for the consideration of policy options and how they might be applied.

It is important that network changes complement policy based options if they are to be successful. The paper discusses both non-priced and priced policy options.

The concluding discussion in the paper suggests:

- A wide selection of non-network policy options are potentially available.
- The effect of individual non-network policy options is typically small but collectively they can be significant especially if they are mutually reinforcing.
- Although the in transport terms the effect of options may be small, the impact on particular objectives or targets may be significant.
- Real progress towards objectives and targets can be made without pricing but it is likely to be easier (in technical terms) and faster to achieve with supportive pricing measures.
- It is important to consider the purpose behind each policy option and the way each option might be deployed. For example, some options (such as traffic management) could be applied to either increase or reduce vehicle throughput.
- Policy option combinations are important and this topic is discussed, but not analysed in detail, in the paper.
- The most useful combinations of options are likely to be those that are integrated in the sense of maximising synergy and minimising conflict.

All options require further evaluation and testing before further development or implementation.

Responses invited from (Technical Advisory Group) TAC:

- any general comments on the approach to considering policy options,

- suggestions for other options to be included,
- views on the outline assessment of impact, effects, feasibility and timeframe,
- identification of any options that could be modified or excluded from consideration,
- views on the development of combinations of options and how this could be organised and tested.

1 Context

1.1 Purpose

This paper considers policy options that are not reliant on network capacity changes (see project brief attached in Appendix 1)

The main policy options considered are demand management and non-transport type interventions. It is assumed that any network capacity changes would provide the background conditions for the consideration of policy options. It is also assumed that any network capacity changes would be “complementary to” or would not “conflict with” the policy options considered in this paper.

The paper identifies potential options and reviews them in terms of:

- Impact: with respect to regional objectives¹ and national targets² plus significant effects in transport terms (such as vehicle kilometres travelled).
- Feasibility: ease of implementation.
- Timing: short, medium or long term.

A concluding discussion is also provided which reviews the potential development of combinations of policy options.

1.2 Policy impact

The potential impact of policy options has been considered broadly, based on an understanding of current and probable future conditions (effectively “business as usual”) and the difference that policy options are likely to have in terms of regional objectives and national targets (see footnotes to this page).

Some overall questions that appear relevant to the consideration of policy option impacts are discussed as follows:

Questions	Discussion
Will current transport policy and transport planning practice achieve regional	It seems probable that progress towards some regional objectives and national targets will be made but few are likely to be

¹ As defined in the LTMAA, Schedule 7 (3) (a) (ii) the 5 NZTS objectives and as contained in TP3 Review of evaluation criterion and measures, 2nd draft, 28 July 2008.

² As defined in the LTMAA Schedule 7, (3) (b) re the GPS and the 2008 NZTS

Questions	Discussion
objectives and national targets?	fully achieved and in some cases trends are likely to move in the wrong direction.
How much do conventional ³ policy options represent variations on business as usual? If this is the case could this result (only) in improvements in relative terms (ie compared with business as usual) rather than making progress in absolute terms towards objectives and targets.	This is one of the reasons that regional objectives and national targets are unlikely to be fully achieved.
Are other (non-conventional) policy options available that could achieve objectives, targets and optimise value for money?	Yes, but this would require significant redirection of transport expenditure and changes in policy.
What general traffic growth (private car movements and HCV vehicle movements) has to be accommodated?	There may be a need to increase person throughput but it is difficult to see the imperative to increase vehicle throughput over current levels. A reduction in current vehicle throughput would be beneficial in environmental terms.
To what extent is it possible to decouple increased economic activity from increased general traffic growth; increased population growth from increased private car movements; industrial and commercial growth from increased heavy commercial vehicle movements?	Decoupling is possible and has been achieved elsewhere. Predictive models have shown that a 10-20 per cent reduction in BAU emissions are achievable (VTPI 1).
Can the rate of traffic growth be reduced significantly (relative to business as usual) and if so can social and economic opportunities be adequately maintained?	<p>It appears that traffic growth rates can be reduced without any major reduction in social and economic opportunities.</p> <p>There is also a level of suppressed demand now which appears to have a very limited effect on the economy. However, there could be harm to other aspects (for example to the environment) if a stimulation of transport demand was to result in more "induced" road vehicle traffic.</p> <p>A reduction in absolute traffic levels below current levels is more difficult to achieve, but again this has been demonstrated to be possible over limited periods or over the longer term in particular locations.</p>

³ For example, non-priced road pricing, PT network or TDM measures.

Questions	Discussion
<p>What sort of policy discrimination could be made between different user types, based on occupancies, loadings, groups, purpose or other characteristics?</p>	<p>There is a lot of scope for priority measures, subject to justification, workability and enforcement issues.</p> <p>For example, prioritisation (say through the more effective reallocation of road space, single priority or other facilities) could be used to increase: public transport, walking and cycling and the proportion of high occupancy vehicles.</p> <p>It is also feasible to give price based incentives (say, through fares policy and/or concessionary travel facilities) to certain groups, senior citizens, children, residents, and mobility impaired users, transport disadvantaged users, subject to the type of facility or service involved.</p> <p>It may also be possible to target journey purpose and other aspects of travel/transport such as HCV loadings through prioritisation measures.</p>
<p>Are the regional objectives and national targets (in combination) achievable, or should some weighting be ascribed to some objectives or targets?</p>	<p>It is important for assessment frameworks to be balanced, and weighting is generally not helpful in achieving this.</p> <p>However, the number and ambition of the objectives and targets may mean that (in the short to medium term) they are unlikely to be fully achievable in their totality.</p> <p>Some of the objectives and targets, for example environmental sustainability (CO²) and SOV per cent, appear to require particular focus if they are to be achieved.</p>

Note: The primary focus is on the achievement of regional objectives and national targets, although for some policy options, comments are also included in the paper relating to potential "transportation effects" where these are likely to be significant.

1.3 Feasibility

Policy option development needs to take account of a number of potential feasibility constraints, including those discussed below:

Policy constraint	Discussion
Policy based restrictions on travel demand or road vehicle traffic (through pricing or other measures).	No such policy imposed constraint, no such policy currently in place.
Road capacity (physical limitations in vehicle throughput capacity especially in peak periods).	<p>This is the case on many parts of the network, especially in peak periods where congestion, delay or low speed can act as a restraint on travel times, mode choice, trip destination choice and trip length.</p> <p>The effects of this limitation (where demand for travel is increasing) include increased pollution, increased emissions and the slowing of un-segregated public transport.</p> <p>Other effects include limiting traffic growth (suppressed demand), to increase the relative attractiveness of segregated public transport and the limitation of total VKT.</p>
Public transport capacity (limitations in carrying capacity, especially in key corridors and termini).	<p>This is the case on parts of the system in peak periods where limitations on capacity act to restrain patronage growth.</p> <p>Given the need to increase mode share, and the current low base level of patronage and mode split, capacity constraints on PT are highly undesirable.</p>
Distribution of land use, population and activities (affecting trip length and the need to travel).	The decentralisation and dispersal of activities limits the potential to develop a more sustainable transport system.
Access to the transport system (mode choice and convenience).	The network coverage of frequent and fast passenger transport is limited.
Severance (delays and deterrence to movement).	Development of high speed, high capacity networks can act as a barrier within communities and as a deterrent to movement on local networks.
Technical and physical constraints.	Some policy options may require high technology support (which may only be partly proven) or significant land requirements.
Deliverability (law, policy, institutions).	Some policy options may not be proscribed or not otherwise permitted.

Policy constraint	Discussion
Acceptability (political, public, etc).	Some policy options may not win sufficient support through consultative or political processes, in order to proceed.
Funding (availability, eligibility, cost affordability).	Some policy options may not be supported with central government resources.
Value (assessment, evaluation, economic appraisal).	Minimum value thresholds may need to be achieved in order to deliver efficient policy options.

1.4 Timescale

Timeframe	Discussion
Short-term	2015: consistent with GPS requirements and equivalent to the end of the detailed specification requirements for RLTPs (ie up to year 6).
Medium-term	2025: an intermediate year (between 2015 and 2040) being used for NZTA regional target assessment work.
Long-term	2040: consistent with the 2008 NZTS planning horizon.

1.5 Policy options - preamble

A brief listing of policy options is provided below, in terms of non-pricing options (section 3) and pricing options (section 4) although in a sense, all options can be regarded as priced (on the basis of current or anticipated future conditions)

Furthermore, the performance of all options is potentially affected by the nature of the underlying price assumptions adopted. This raises the issue of the need to optimise transport systems in economic terms (for example through pricing marginal social cost pricing⁴) However, this is primarily a national issue and it is not proposed to discuss this in detail. Rather this paper attempts to outline the broad dimensions of policy options that could be considered through regional actions. Some options will require complementary national actions as not all polices can be fully delivered at the regional level.

⁴ This does raise the issue of what basis should be used for the evaluation of proposals, for example using a background assumption of the future introduction of "first best" marginal social cost pricing.

One requirement is to consider what each option may contribute in terms of “impact” in achieving regional objectives and national targets. For this reason, it is important that policy options are (eventually and prior to adoption) reviewed using a balanced, quantified and comprehensive assessment framework, incorporating regional objectives and taking account of national targets.

With the above qualifications, potential options are listed and discussed below, for initial consideration.

2 Non-priced Options

Non-pricing options are taken to be those that do not explicitly target changes in transport pricing through measures that would directly accrue additional revenues.

2.1 Planning

(Needs to be done in conjunction with other non-transport interventions especially associated RMA procedures/provisions)

Policy option	Comment	Regional objectives ⁵	National targets ⁶
Transit oriented development through comprehensive urban design, centred on rapid transit nodes.	Impact: The current growth node intensification strategy has not been as effective as expected and is currently being revised. However, there is potential for TOD type planning to have a moderate effect on objectives and targets.	2 Access & mobility	2 PT
	Feasibility: Difficult to implement in established areas, which may require comprehensive redevelopment powers (difficult in terms of affordability, community and politics).	3	
	Timescale: Medium-term	2	
Comprehensive activity and accessibility planning, connecting the location of activities and transport system accessibility criteria. For	Impact: Limited evidence that this works in isolation but good evidence it works in combination with restraint of some form. Potentially moderate effect on objectives and targets.	2 Access & mobility	2 PT

⁵ Key: Primary impact, 1 large, 2 moderate, 3 minor.

⁶ Key: Primary impact, 1 large, 2 moderate, 3 minor.

Policy option	Comment	Regional objectives ⁵	National targets ⁶
example, Dutch ABC system, incorporating higher urban densities, mixed use, etc.	Feasibility: Established techniques exist but implementation issues arise when circumstances change.	2	
	Timescale: Short-term plan development – long term implementation.	3	

2.2 Travel behaviour change

Policy option	Comment	Regional objectives	National targets
User prioritisation (ie defining network priorities, for example bus, freight, cycle pedestrians - on different parts of network.	Impact: Limited if done incrementally, but potentially very effective if done comprehensively.	2 Access & mobility	2 PT
	Feasibility: Careful analysis, public relations and management needed to successfully implement.	2	
	Timescale: Short-term.	1	
Innovative low-density transport planning using demand responsive transit, para-transit (ie non conventional).	Impact: Significant impact on affected groups (often disadvantaged in some way) but relatively minor in terms of overall demand management. Low impact on overall objectives and targets.	3 Access & mobility	3 PT
	Feasibility: Tends to be relatively costly to implement compared with conventional transport provision.	2	
	Timescale: Medium-term.	2	
Attitudinal change education to increase respect for other road users.	Impact: Significant on objectives and targets if achieved (likely to be especially important to vulnerable road users).	1 Safety	2 Safety
	Feasibility: Very difficult to influence ingrained attitudes and behaviour patterns.	3	

Policy option	Comment	Regional objectives	National targets
	Timescale: Medium-term.	2	

2.3 Safety (Needs MoT Road Safety to 2020 target input)

Policy options	Comment	Regional objectives	National targets
<p>Wide area traffic calming and low speed zones and networks and corridor speed management. Has potential to maximise dollar impact on safety and to use regional resources effectively.</p> <p>Engineering measures could potentially have a target of zero crashes due to defective roads. Opportunity with new regional programmes to improve the assessment and co-ordination of safety initiatives.</p>	<p>Impact: Potentially high, to assist the achievement of 2020 safety targets plus positive impacts on other targets and objectives. Most safety improvements are due to reductions in average traffic speeds.</p> <p>Effects: Speeds may be reduced by (approximately) 15 per cent in affected areas. Reduced private car use is also likely to result in small VKT decreases, due to suppressed traffic effects and mode change, in the order of up to 2 per cent decrease in VKT on affected network. Better ambiance for community activities and liveability. May also increase congestion slightly and possible small increases in emissions and localised noise and air pollution.</p>	1 Safety	2 Safety
	<p>Feasibility: Speed reduction requires careful analysis, public relations and management.</p>	2	
	<p>Timescale: Short-term.</p>	1	
<p>Financial incentives, for example, cost allocation when injury caused to other road users.</p>	<p>Impact: Potentially significant in influencing behaviour and recovering costs. Moderate impact in outcome and target terms.</p>	2 Safety	2 Safety
	<p>Feasibility: National policy and legislative changes needed (for example compulsory insurance).</p>	2	
	<p>Timescale: Short-term.</p>	1	

Policy options	Comment	Regional objectives	National targets
Presumption of vehicle's drivers being in the wrong (with associated penalties and liability) if they hit pedestrians or cyclists.	Impact: Potentially significant in influencing behaviour and on objectives and targets.	2 Safety	2 Safety
	Feasibility: National policy and legislative changes needed – for example with respect to safety rules and police procedures.	2	
	Timescale: Short-term research – long-term implementation.	3	

2.4 Environmental approaches

Policy options	Comment	Regional objectives	National targets
Transitional regional or local strategies to move towards carbon neutrality. For example, to reduce CO ² , raise compensatory revenue, contribute to carbon sinks, integrate with planning system and introduce operator accreditation processes.	Impact: Potentially significant on objectives and targets if adopted for appropriate areas by relevant authorities.	2 Environmental Sustainability	2 CO ²
	Feasibility: More effective if supported by national policy and legislation.	2	
	Timescale: Short-term adoption of strategies – but long term delivery and implementation.	3	
Air quality based management, via queue relocation techniques (ie to less sensitive locations) and supportive management techniques to monitor and control air pollution (for example through major traffic reduction measures in response to conditions using variable bollards, or rules limiting the number of car trips into sensitive areas through number plate control and monitoring).	Impact: Potentially significant on objectives and targets if adopted and applied for appropriate areas by relevant authorities.	2 Environmental Sustainability	2 Air Quality
	Feasibility: Good analysis and responsive management required together with consistent policy direction.	2	
	Timescale: Medium term.	2	

Policy options	Comment	Regional objectives	National targets
Electric transport initiatives, (say) traffic management to favour selected vehicle types in central and sensitive locations.	<p>Impact: High impact in emission terms.</p> <p>Effects: It should be noted that unless private electric transport is priced at a higher level than the current pricing of fossil fuel transport modes and of public transport modes, that other issues may not be addressed, for example, congestion, safety, low vehicle occupancies and problems caused by the need for continued road building.</p>	1 Environmental Sustainability	1 CO ²
	<p>Feasibility: Difficult for private vehicles unless global fuel change occurs, as NZ populate its vehicle fleet from other countries. Potential for increased electric public transport and rail freight transport is considerable.</p>	3	
	<p>Timescale: Long-term.</p>	3	
Comprehensive freight strategy to manage HCVs in environmental terms (involving private operator co-ordination, environmental network management).	<p>Impact: High impact in localised terms / affected residential areas and for specific commodities.</p>	2 Environmental Sustainability	3 Noise
	<p>Feasibility: Complex in terms of analysis, liaison and consultation.</p>	2	
	<p>Timescale: Short-term.</p>	1	

2.5 Collective transport initiatives

Policy option	Comment	Regional objectives	National targets
Comprehensive HOV strategy, including: outer area car pooling schemes and facilities, dedicated lanes offering significant time savings, central area parking priority and central area PR (shuttle-type) support.	<p>Impact: If undertaken partially this is likely to be ineffective, however if comprehensive it can be more effective.</p>	3 Economic growth	2 SOV per cent

Policy option	Comment	Regional objectives	National targets
	<p>Effects: The primary effect is likely to be an increased person throughput in peak periods leading to the reduction of SOV per cent up to 3 percent.</p> <p>There may also be some slight adverse effects on congestion, of travel for non-HOV traffic.</p> <p>If the HOV lane is add-on there may be some slight induced VKT traffic effects. If HOV the lane is take-away there may be some slight VKT suppression.</p>		
	<p>Feasibility: This could require the re-engineering of existing roads and junctions.</p>	3	
	<p>Timescale: Short to medium-term.</p>	2	
Innovative mass transit, eg, guided bus, light rail, tram-trains, automated systems, people movers, etc. This could potentially reuse existing and relatively poorly utilised, existing road and PT system capacity (due to low occupancy private vehicles and "unattractive" PT modes).	<p>Impact: Very high if well designed and supported by appropriate measures.</p>	1 Access & mobility	1 PT
	<p>Feasibility: Difficult to implement but potentially much more efficient than the provision of additional road capacity.</p>	3	
	<p>Timescale: Medium-term.</p>	2	
Faster PT, through comprehensive treatment and re-engineering of existing bus routes, involving better and wider bus lanes (construction to develop network) introduction of comprehensive PT segregation and continuous priority through junctions, supportive traffic management, interchanges, off-bus ticketing, faster load and unload capacity (eg via one level bendy buses with multi-doors).	<p>Impact: If undertaken partially then likely to be ineffective – but if done comprehensively could be very effective.</p>	1 Access & mobility	1 PT
	<p>Feasibility: Good, making best use of current systems and methods.</p>	1	
	<p>Timescale: Short to medium-term.</p>	2	

Policy option	Comment	Regional objectives	National targets
Comprehensive park and ride strategy, involving purpose designed large scale facilities and also network wide provision of access to all stops and stations. Providing that the system does not result in an overall increase in VKT or a lowering of PT patronage.	Impact: Can be significant if well designed and implemented.	2 Access & mobility	2 PT
	Feasibility: Requires careful analysis and assessment.	2	
	Timescale: Short to medium term.	2	

2.6 Traffic demand management

Policy option	Comment	Regional objectives	National targets
Physical traffic reduction and calming strategies. Progressive reduction in parking areas and highway capacity supply in, and through, centres and residential areas, for general traffic, lowering speeds and limiting capacities.	Impact: High if supported by appropriate planning and PT to discourage further decentralisation and dispersal of activities.	1 Environmental Sustainability	1 PT
	Feasibility: Good.	1	
	Timescale: Medium-term.	2	
Better ramp metering, applying traffic restraint (rather than simply flow smoothing) along a corridor and over localised areas (rather than only using single signal-heads on ramps to control flow).	Impact: Has the potential to assist other strategies (for example TDM and priority measures).	3 Environmental Sustainability	1 Route time & reliability
	Feasibility: Careful planning design and management needed.	2	
	Timescale: Short-term.	1	
Corridor and area wide traffic control (Southampton Bittern Rd & London Red Route type approaches) taking a multi-objective and policy-driven approach to traffic management.	Impact: Has the potential to assist other strategies (for example PT service level improvements).	2 Access & mobility	1 Route time & reliability

Policy option	Comment	Regional objectives	National targets
	Effects: Primary effect is to improve reliability for certain traffic types, for example for designated route or priority traffic through congested urban areas. Improved reliability, reflected in reduced delay (LOS E&F VKT) for designated traffic is likely to be significant (possibly - 30 per cent in comprehensively managed corridors).		
	Feasibility: Careful planning design and management needed.	2	
	Timescale: Short-term.	1	
Comprehensive road network speed management (consistency and compatibility on the basis of ambient standards) to manage demand, improve PT viability and improve safety.	Impact: Has the potential to assist other strategies (for example safety initiatives).	2 Environmental Sustainability	1 Route time & reliability
	Feasibility: Careful planning design and management needed, however all necessary techniques are currently known and available.	2	
	Timescale: Short-term.	1	
Other intelligent transport system (ITS) deployment of high technology (for example, in vehicle navigation, variable road signage and vehicle detection aids). Note: Better conventional regional signage would also assist in optimising route choice.	Impact: Likely to be high for those vehicles able to take advantage of the technology.	2 Access & mobility	2 Route reliability
	Feasibility: Much of the technology needed is already available.	2	
	Timescale: Planning and fitting requirements means that very short-timescale deployment may be problematic.	2	

2.7 Walking and cycling

Policy option	Comment	Regional objectives	National targets
Full cycle network development, incorporating much better cycle lane design (re-engineering where necessary), comprehensive segregated networks and associated facilities, bike parking, secure bike lockers and workplace showers.	Impact: High on objectives and targets when networks are completed and operational Effects: Comprehensive treatment of networks (in the absence of other supporting measures such as road pricing or wide area traffic calming, etc) may deliver very high proportionate increases in cycling.	1 Public health	1 Cycling
	Feasibility: Good using established methods.	1	
	Timescale: Short-term.	1	
Investment to reduce cycle travel-time through signal priority for cyclists.	Impact: Low on objectives and targets as this is only one aspect of cyclist travel time.	3 Public health	3 Cycling
	Feasibility: Subject to safety concerns.	2	
	Timescale: Short-term subject to equipment availability.	1	
Complete pedestrian networks, including: attractive and convenient footpaths, much better crossing facilities with lower delays, higher security via, reduced road widths in centres, more refuges, staggered crossing assistance at signals, low speed areas and speed tables. Such a policy would require better supply and demand side data on walking and cycling: for example, a database on walking and cycling infrastructure and count information.	Impact: High on objectives and targets when networks are completed and operational. Effects: Comprehensive treatment of networks (in the absence of other supporting measures such as road pricing or wide area traffic calming, etc) is likely to deliver significant increases in walking.	1 Public health	1 Walking
	Feasibility: Good using existing methods.	1	
	Timescale: Short-term.	1	

3 Pricing Options

Pricing options are taken to be “deliberate attempts to influence demand through price interventions, which would directly accrue additional revenues”.

Pricing options need to consider elasticities and also the relativity of price interventions between the modes and any associated cross-elasticities and diversions.

3.1 Roading

Policy option	Comment	Regional objectives	National targets
Full network charging (all movements, directions, and periods) possibly distance or time based. Best potential for revenue and overall effects providing equity is adequately addressed and alternatives are in place.	Impact: High on objectives and targets in terms of objectives and targets if based on a first bet marginal social cost basis. Effects: Likely to be good from a revenue and system management point of view.	1 Environmental Sustainability	1 CO ²
	Feasibility: Very difficult due to technology requirements and public and political acceptability issues.	3	
	Timescale: Medium to long term.	3	
Limited network charging (possibly varied by area or direction).	Impact: Positive in terms of objectives and targets.	2 Environmental sustainability	2 CO ²
	Feasibility: Difficult due to technology requirements and public and political acceptability issues.	3	
	Timescale: Medium-term.	2	
Time period charging (limited and simplified form of congestion and delay charging).		2 Environmental sustainability	2 CO ²

Policy option	Comment	Regional objectives	National targets
	Impact: Positive in terms of objectives, targets and revenue		
	Feasibility: Difficult due to public and political acceptability issues.	3	
	Timescale: Medium term.	2	
Area charging (limited and simplified form of congestion and delay charging).	Impact: Localised delivery of objectives, targets and revenue. Effects: Boundary effects can be significant.	3 Environmental sustainability	3 CO ²
	Feasibility: Difficult due to public and political acceptability issues.	2	
	Timescale: Short-term.	1	
Cordon and screen-line charging (limited and simplified form of congestion and delay charging).	Impact: Localised delivery of objectives, targets and revenue. Effects: Boundary effects can be significant.	3 Environmental sustainability	3 CO ²
	Feasibility: Difficult due to public and political acceptability issues.	2	
	Timescale: Short-term.	1	
Sub-network, link, junction tolling (very complex form of congestion and delay charging) Feasibility problems.	Impact: Potentially very high in terms of delivery of objectives and targets.	1 Environmental sustainability	1 CO ²
	Feasibility: Untested and very difficult due to technology requirements and public and political acceptability issues.	3	
	Timescale: Long-term.	3	

Policy option	Comment	Regional objectives	National targets
HOT ⁷ or FAIR ⁸ lanes (provision of priority for higher value traffic).	Impact: Limited in terms of improving mobility and efficiency only. Effects: Not intended to address general congestion and delay (per se).	3 Economic growth	1 SOV per cent
	Feasibility: Difficult due to public and political acceptability issues.	2	
	Timescale: Medium-term.	2	
Parking charges (limited and simplified form of congestion and delay charging).	Impact: Potentially high on objectives and targets in localised terms. Effects: Could induce 'through-traffic' in centres if associated traffic management not undertaken.	3 Environmental sustainability	3 CO ²
	Feasibility: Difficult due to public and political acceptability issues.	2	
	Timescale: Short-term.	1	

3.2 Public Transport

Policy option	Comment	Regional objectives	National targets
Fare level setting undertaken relative to private travel costs, to achieve clearly defined objectives on the basis of marginal social cost and with a "total economic value" approach.	Impact: High for elastic markets.	1 Access & mobility	1 PT
	Feasibility: Difficult on affordability grounds unless FAR is varied or if switching resources (in GPS category terms) becomes possible.	2	

⁷ Free high occupancy vehicle lane & toll lane for low occupancy vehicles.

⁸ A toll lane where the revenue collected from users is reallocated to the users of non-toll lanes.

Policy option	Comment	Regional objectives	National targets
	Timescale: Short-term.	1	
Concessionary travel, free travel for selected groups to deliver higher PT patronage, equity, accessibility and safety.	Impact: High on objectives and targets for elastic markets.	2 Access & mobility	1 PT
	Feasibility: Potentially difficult on affordability grounds unless a national concessionary fares policy is adopted or switching resources (in GPS category terms) becomes possible.	2	
	Timescale: Short-term.	1	
Interchange fare reduction, Singapore style high tech and smart card ticketing to promote ease of movement between PT services to increase utility and accessibility offered by the PT system.	Impact: Not especially high on objectives and targets in itself but adds to the overall offer of PT.	3 Access & mobility	2 PT
	Feasibility: Requires high technology but quite feasible.	2	
	Timescale: Short-term.	1	
Promotion of season passes and off-peak travel to increase use and provide a lifestyle option.	Impact: High in elastic markets and adds to the offer of PT.	2 Access & mobility	1 PT
	Effects: Potential for usage multiplier effects providing supporting services are available.		
	Feasibility: Good.	1	
	Timescale: short-term.	1	

3.3 Other

Policy option	Comment	Regional objectives	National targets
Bike stations to encourage sustainable travel and reduce car travel in central areas (see latest European initiatives)	Impact: Not especially high on objectives and targets in itself	2 Public health	1 Cycling

but adds to the offer of cycling as a mode.

Policy option	Comment	Regional objectives	National targets
	Effect: Can have a high proportionate effect on the scale of cycling undertaken within particular locations.		
	Feasibility: Requires high technology but quite feasible.	2	
	Timescale: Short-term.	1	
Increased free motorcycle parking (see latest UK latest policy) as an incentive for environmental and space saving reasons.	Impact: Not especially high in itself but would add to the offer of motor-cycling as a mode.	3 Environmental sustainability	3 CO ²
	Feasibility: Good.	1	
	Timescale: Short-term.	1	
Total mobility fare setting to increase access, equity and accessibility.	Impact: High to this group of users.	2 Access & mobility	1 PT
	Feasibility: Raises affordability issues.	2	
	Timescale: Short-term.	1	
Rail freight grants environmental incentives to achieve national targets.	Impact: Not especially high on objectives and targets in itself but adds to the offer of rail freight.	2 Environmental sustainability	1 Rail freight mode per cent
	Effects: Can have significant effects in particular corridors.		
	Feasibility: Good.	1	
	Timescale: Short-term.	1	
Coastal shipping grants environmental incentives to achieve national targets.	Impact: Not especially high on objectives and targets in itself but adds to the offer of coastal shipping.	2 Environmental sustainability	1 Coastal mode per cent
	Feasibility: Good.	1	
	Timescale: Short-term.	1	

Policy option	Comment	Regional objectives	National targets
Free or reduced HOV (say = or > +3) parking charges as an incentive to increase occupancies.	Impact: High on objectives and targets if part of a comprehensive HOV strategy.	2 Economic growth	1 SOV per cent
	Feasibility: Raises affordability issues.	2	
	Timescale: Short-term.	1	
Peak period taxi charges as a disincentive to low occupancy vehicle travel.	Impact: Not especially high on objectives and targets except in locations / corridors where taxi use is high.	3 Environmental sustainability	3 SOV per cent
	Feasibility: Medium – may require new technology.	2	
	Timescale: Medium-term.	2	
Car scrap page grants for vehicles (say) over a certain age, or on the basis of fuel efficiency and emissions.	Impact: Potentially high on objectives and targets for the worst vehicles in the fleet.	1 Environmental sustainability	1 CO ²
	Feasibility: Good.	1	
	Timescale: Short-term.	1	
Taking away revenue earning capacity, for example by removing parking capacity in central areas.	Impact: High on objectives and targets.	1 Environmental sustainability	1 PT
	Feasibility: Good.	1	
	Timescale: Short-term.	1	

4 Concluding discussion

This paper does not consider options to significantly increase the capacity of the road network or public transport system as these are being addressed elsewhere.

However, policy options and network and systems options must compliment each other if an optimum strategy is to be developed.

A wide selection of non-network policy options are potentially available.

The effect of individual non-network policy options is typically small but collectively they can be significant, especially if they are mutually reinforcing.

Non-network options have varying effects and although some may have a small impact in transport terms they may be very significant in the achievement of particular objectives or targets.

Real progress towards objectives and targets can be made without changes in transport pricing but it is likely to be easier (in technical terms) and faster to achieve with supportive pricing measures.

It is important to consider the purpose behind each policy option and the way each might be deployed. For example, travel demand management, traffic management or intelligent transport system techniques could be applied to either increase or reduce vehicle throughput.

Policy option combinations are very important and although not specifically analysed in the paper these are discussed in general terms below:

Integrated combinations of options are likely to be those that:

- maximise synergy (for example, introducing road pricing and introducing or increasing parking controls/charges whilst setting fares relatively attractively) will tend to support PT initiatives) and
- minimise conflict (for example, making private vehicle travel cheaper with respect to PT will tend to work against PT initiatives).

Combinations of options are likely to work best if they are based on a clear, explicit and well founded vision, or governing principle.

Combinations of options that contain significantly conflicting and contradictory measures may well achieve some transportation objectives (such as increasing peak period transport system trip carrying throughput) and some wider objectives (such as supporting growth) but are unlikely to fully achieve all regional objectives and national targets.

Combinations of policy options could be developed along particular themes, for example:

- sustainable mobility, growth & economy,
- demand management and system prioritisation (for objectives and targets),
- access, choice, inclusion & social welfare.

Combinations of options could also be grouped to reflect short, medium and long term timeframes.

It should be noted that these possible combinations are provided for illustrative purposes, exclude network options and should not therefore be regarded as scenarios for ARLTS development purposes.

All options are likely to have merit, in particular circumstances or localities and all options will require further analysis, evaluation and testing before being taken forward.

5 References

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- MoT, Auckland Road Pricing Evaluation Study, Preliminary Feasibility Assessment, July 2005.
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- Anable J, Bristow AL, Transport and Climate Change: Supporting Document to the CfIT (UK) Report, September 2007.
- Arlington County Virginia: Effectiveness of Traffic Calming Measures, June 2008.
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- VTPI 2, Transportation Elasticities: How Prices and Other Factors affect Travel Behaviour, April 2007.

6 Appendix 1: Working Brief: Auckland Regional Land Transport Strategy, 2008/09

Title	Policy Strategic Options (Regional Land Transport Strategy)
<p>Background</p>	<p>The Auckland Regional Land Transport Committee (RLTC) is required to prepare a Regional Land Transport Strategy for the region. Under current legislation the RLTS needs to be reviewed.</p> <p>Moving Forward – Regional Land Transport Strategy 2005</p> <p>The Regional Land Transport Strategy supports a multi-modal integrated, safe, sustainable transport network. The purpose of the RLTS is to contribute to achieving an integrated, safe, responsive and sustainable and transport system which:</p> <ul style="list-style-type: none"> • assists economic development, • assists safety and personal security, • improves access and mobility, • protects and promotes public health, • ensures environmental sustainability, • supports the Regional Growth Strategy, • achieves economic efficiency. <p>The first five of these objectives come from the New Zealand Transport Strategy and the final two were Auckland specific; all these objectives are discussed in Chapter 4 of the existing Regional Land Transport Strategy 2005.</p> <p>Review of the RLTS 2005 – “Strategic Options”</p> <p>Under the Land Transport Management Act and the Land Transport Management Amendment Bill (as currently drafted) in preparing RLTS</p>

<p>Title</p>	<p>Policy Strategic Options (Regional Land Transport Strategy)</p>
	<p>consideration of “strategic options” are required. These strategic options include land transport policy options as well as transport system improvement options.</p> <p>Land Transport NZ, Regional Land Transport Strategy Guidelines (2004) describes this further that:</p> <p style="padding-left: 40px;">...Regional land transport strategies need to be underpinned by land transport policies that address the underlying intent behind the future operation, management and development of the transport system.</p> <p style="padding-left: 40px;">An example of a policy might be to maintain service levels on a selected part of the transport system. There are a number of ways that this policy could be delivered through, for instance, demand management measures, improvements to the regional transport system, non-transport interventions, etc.</p> <p>Purpose of work</p> <p>To prepare a technical paper considering matters to achieve the objectives including:</p> <ul style="list-style-type: none"> • the scope for managing transport demand, • potential non-transport interventions. <p>This will be a supporting document for the preparation of the Auckland RLTS and provide the committee with matters to considerations to meet the transport objectives sought for the region. This report should identify specific policies to address Auckland transport issues.</p>
<p>Objective</p>	<p>To provide a report that documents the land transport policy options that could be considered for the Auckland region. This report will form a technical report to support the development of</p>

Title	Policy Strategic Options (Regional Land Transport Strategy)	
	the next Auckland RLTS.	
Estimated length	To be determined.	
Tasks/Deliverables		
1. Review of existing information and research additional information.	<ul style="list-style-type: none"> • review the existing information, • check for alternative information sources. 	
2. Produce skeleton framework.	<ul style="list-style-type: none"> • produce skeleton framework for the report, • provide this to be presented to the Technical Advisor Committee for the RLTS. 	
3. Prepare the draft report.		
4. Finalise report.		
Resources	Person/Title	Name/Responsibilities
	Project Sponsor	Don Houghton
	Project Leader	Casandra Smith
	Consultant	Don Wignall
Key Info Sources	Regional Land Transport Strategy Guidelines December 2004, Land Transport New Zealand. Auckland Regional Land Transport Strategy 2005.	

7 Appendix 2: TAC Meeting 23 June 2008

7.1 Introductory comments

Auckland is in a major process of expansion in terms of population, the economy and the transport system.

It is in this context that policy options need to be considered.

The new national (UNZTS and GPS) targets are relevant to these policy options.

The main timeframes referred to in the national targets include 2015, 2020 & 2040.

Primary comparisons for national targets are with base year conditions as BAU represents an ever-changing horizon– ie with every major oil price change demand, the potential of alternative modes and the best approach to adopt may vary.

Some national targets are expressed in absolute terms, safety, travel time and reliability.

Some targets are expressed in per capita terms, SOV and CO².

Some targets are expressed in relative terms, PT, W&C, rail freight and coastal freight.

All the national targets are challenging and difficult but likely to be achievable providing they are given sufficient priority and efforts to achieve them are co-ordinated.

All the national targets generally move in the same direction, although there is some potential for conflict (particularly in terms of the treatment of critical road routes) that needs to be managed.

Conventional BAU packages (such as the 2005 ARLTS) whilst representing improvements and catching up on previous under-investment, will not achieve the national targets.

With this as a context, important questions in developing future policy options are:

- Should future traffic growth in Auckland Region be limited or managed in some way and if so how?
- Or should transport planning simply cater for demand and leave sustainability and targets for another day for another solution eg technology or fuels?

7.2 Result of initial discussion at TAC Meeting

Policy Option (non-priced)		Impact	Feasibility	Timing
Planning (TOD)		H	M	L
Planning (activity/accessibility)		M	H	M
Behaviour change	Space allocation.	M	M	S
	Demand responsive.	L	M	S
	education + travel planning.	H	H	S
Safety	Low speed zones/ speed m...	H	H	S
	Financial incentives.	L	L	M
	Enforcement.	H	L	S
Environmental	Transitional strategies.	H	H	L
	AU quality approach.	H(local)	L	S
	Electric transport initiatives.	H (local)	M	L
Comprehensive freight management		M	H	S
Collective transport initiatives	HOV strategy.	H	H	S
	Innovative mass transit.	M	L	L
	Faster PT.	H	M	M
	Ride strategy.	M	H	S (PT target not CO ²)
Traffic demand management	Physical reduction strategy.	/	/	/
	Ramp metering.	H/M	H	S (increase capacity)
	Corridor + area wide traffic control.	M	H	S (Conditional on other parties)
	Comprehensive road network speed management.	/	/	/
Walking + Cycling	Cycling network development + supporting infrastructure.	H/M	L	M
	Reduce cycle travel times at intersections.	H/M	M	M
	Pedestrian networks + infrastructure (in + around centres, business areas + RGS corridors.	H	H	S (funding issue)

7.3 Post-meeting comments

The key issue with assessing policy options is to be clear on what the objectives are that we are assessing against. Different people probably had different objectives in mind when

the policy options were discussed, and so the value of some of the scores obtained at the meeting may be questionable.

The view from the “centre” appears to be that the NZTS has been reviewed via the UNZTS and that the GPS has provided more definition and direction in a statutory sense (at least in the short term) and so if the GPS is satisfied, then the requirement to satisfy the objectives and principles of the NZTS 2008 will also be achieved.

There is also a view that if the national targets are just treated as part of assessments ie that can be traded off against other general objectives, that this could be a continuation of what has not worked in the past (see preamble to current Bill on recent reviews of land transport sector for example) and will also mean that the national targets will not be achieved.

This is not to say that there may be some regional objectives that need to be set as targets alongside the national targets, but these should (ideally) be very selective and specific, not overlap with the national targets, and be limited to as few as possible to avoid dilution of national targets.

The regional view is to take the UNZTS targets very seriously, but not to the extent that they do not take precedence over the purpose and objectives set down in the Act. Many of the UNZTS targets seem to have been determined by some work done for NEECS some time ago, and only loosely related to the NZTS or UNZTS. The GPS, which is a statutory document we are required to have regard to, is a 10 year document whereas the RLTS is a 30 year plus document. The short term emphasis could well have a different emphasis to long term objectives.

The RLTS won't be completed until late 2009 and will have a currency of six years. While the region certainly takes very strong notice of the views of the current government, as articulated in the UNZTS, and will incorporate the UNZTS targets, the region also has to tie its policies clearly to the Act.

Strategies can only achieve so much and progress would be made towards targets is really dependent on the funding system being more aligned with required policy direction.