Regional Land Transport Programme

Proposed Prioritisation Methodology

As at 1 December 2008

> "There is no one best way of doing this. There is only the agreed way."

Context

The options for helping achieve the vision of the Regional Land Transport Strategy (RLTS) are many and varied, but the resources available to implement them are limited. Despite significant increases in land transport funding made available to the region in recent years there is still not enough funding identified to undertake all the desired land transport improvements within 10 years. Therefore, there is a need to make choices in the sequencing of projects and packages. These choices in sequencing are known as prioritisation.

Statement of Priorities

Consistent with the policies of the Regional Land Transport Strategy (see Appendix 6) the first priority for available funds is for the operation and maintenance of the existing multi modal network. Example activities include road maintenance, bus and train operations. The second priority is for travel demand management initiatives such as the region's travel planning programme, support for walking and cycling initiatives and traffic management improvements. Finally, the third priority is for investments in infrastructure and services that increase the capacity and efficiency of the region's transport system. This includes upgrading and expanding the passenger transport system and providing safety and appropriate capacity improvements to the roading network.

Process Overview

In order to assist the prioritisation of third priority activities and ensure that the process is transparent, the following process has been developed by the Regional Transport Committee's Technical Working Group (TWG). One objective of the process is to ensure that funding is directed to those projects that address the desired RLTS (and New Zealand Transport Strategy) outcomes in the most efficient and effective manner. Another is to ensure that projects or packages scheduled for medium or longer term implementation are identified and continue to be prepared in readiness. The final objective of the process is to fulfil the requirements of the Land Transport Management Amendment Act 2003[1] for preparing a Regional Land Transport Programme (RLTP). This methodology has been updated to reflect new requirements such as taking account of the Government Policy Statement (GPS).

It should be noted that the RLTP has the potential to have a medium influence on the achievement of the strategic outcomes sought by the RLTS (see Appendix 4) as not all of the changes necessary to achieve the RLTS outcomes are influenced by the infrastructure investments. For example fuel prices are beyond the region's sphere of influence and these can have significant effects on the total use of and preference for particular modes of travel. Also, central government is responsible for vehicle fleet and enforcement standards.

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[1] As amended by the Land Transport Management Act 2008.

Due to the dynamic nature of the region, an assessment of a project or package made at one time does not stand for all time. As progress is made, projects get funded, completed and move out of the RLTP. Funding availability also changes over time. Each review of the RLTP can result in a different assessment for each project in response to these factors. Review and adjustment is scheduled three yearly by the Land Transport Management Act. Operational reviews will be ongoing and normally a matter dealt with between the New Zealand Transport Agency (NZTA) and the Approved Organisation unless a change triggers the significance policy, in which case the RTC will need to consult on the proposed variation prior to making a final recommendation to the NZTA.

The process for developing third priority proposals for the RLTP is intended for large projects or packages, i.e. capital costs over $4.5M. The following items are outside the scope of this process:

- Non discretionary activities (such as maintenance, safety, traffic management, and existing PT services) which have a "first call" on any available funding.

- Committed works that have had funding approved by all funding agencies.

- Small projects and packages costing less than $4.5M. Note that while funding allowance maybe made for these in the RLTP, prioritisation will be a matter left to the implementing agencies. Implementing agencies are encouraged to use a similar prioritisation process as for large projects to ensure consistency across both regional and local transport programmes.

The prioritisation part of the process ensures that resources are directed towards the realisation of the RLTS outcomes.

The frame of reference for the evaluation of projects and packages in the RLTP must always be at the project/package level as even the total ten-year programme will only have a small affect on region wide outcomes. This is because most of our transport system will not be affected by our relatively small investments. We believe that the sum of the positive effects of programme investments will, over time, contribute positively toward that achievement of the region's strategic objectives as set out in the RLTS.

Large projects are usually first identified through a corridor or implementation plan. During the identification process the project will be subject to testing and consultation that will inform the Stage 1 'consistency check' process. The outcome of the corridor or implementation plan process may see projects recommended for inclusion within the overall RLTP. However, determination of their priority within the RLTP is a separate process. Other large projects or packages can arise from the ongoing work of implementing agencies and the process allows this to happen.

Prioritisation Methodology

Figure one shows the prioritisation methodology developed but the Technical working Group. It is described in more detail below.
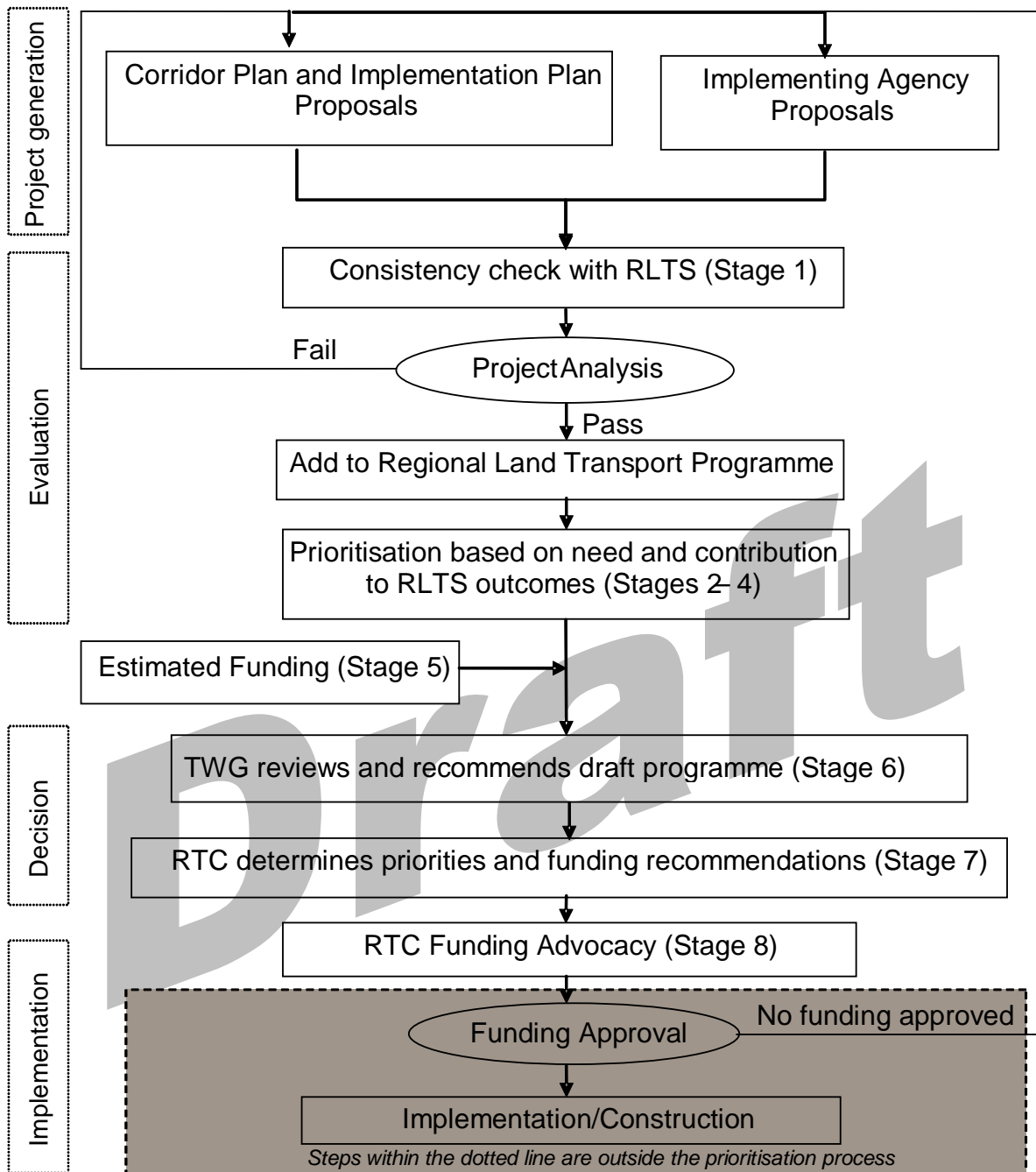
Figure 1 – Development of third priority proposals for the RLTP

Stage 1   Policy Fit

The agency proposing a project for inclusion in the RLTP must undertake an initial check of the proposal using the RLTS/GPS Policy Consistency Check Template found in Appendix 1a. Note that several RLTS policies and outcomes for this process are not represented in the project/package recording template due to them overlapping or being unrelated to the RLTP process. If inconsistencies with the established policy framework are identified, the agency will need to justify why the project should proceed.

Stage 2   Project/Package Scoring

The relevant lead agency scores all proposals using the detailed methodology which is aligned with national assessment criteria contained in the NZTA's Planning, Programming and Funding Manual. These scores will be reviewed by the TWG. Scores (from 0 to 100) at the project/package outcome level are determined using the scoring template (Appendix 1b). A mix of subjective and objective analysis utilising transportation model outputs, standard economic evaluation methods, relevant studies and officers' knowledge of the region's land transport system is used to inform the score for each proposal.

The scoring assessment is undertaken under three main criteria in the following order to ensure consideration of the significance of problem or opportunity before the consideration of the benefits of the proposed solution:

- Seriousness and urgency
- Effectiveness
- Efficiency.

Seriousness and Urgency

- *Seriousness*: The magnitude and significance of the transport problem to which the project or package responds.
- *Urgency*: Consideration of any external factors that influence the timing of project/package implementation. The seriousness score should take into consideration the objectives of the NZTS:
  - Ensuring environmental sustainability
  - Assisting economic development
  - Assisting safety and personal security
  - Improving access and mobility
  - Protecting and promoting public health.

Reference should be made to PPFM section G1.4 for more detailed guidance.

Effectiveness

The extent to which the package or project contributes to the broad policy objectives set out in the RLTS. An overall effectiveness score will be determined based on an assessment of the effectiveness of the project or package's to deliver against the outcomes sought by the RLTS.

Efficiency

Efficiency is a measure of value for money in achieving strategic outcomes. It uses a Benefit Cost Ratio (BCR) which is determined in accordance with the industry standard Economic Evaluation Manual. The affordability of the project or package is considered in stage 6 when the draft programme is assembled. The scoring for BCR is outlined in Appendix 5.

Weighting

When there are several criteria influencing a decision, the issue of what weight should be given to each criterion naturally arises. The default position is that each criterion has the same weight. However, weighting of some kind will be necessary to resolve the final programme.

Weighting is a subjective value judgement, indicating the importance placed on each outcome. Weightings may also be adjusted for criteria where different magnitude scoring scales or different ranges within those scales are apparent. As such, these adjustments cannot be undertaken until scoring has been completed.

Weighting applied in this process is transparent, and has been determined by the TWG with the assistance of Victoria University. Appendix 3 sets out discussion on weightings and the method the TWG is likely to use to determine the recommended weightings.

Stage 3   Draft Ranking

The projects and packages are ranked in the descending order based on their total weighted scores.

Stage 4   Draft Prioritisation

The TWG develops draft priorities for projects or packages. In doing so it:

- reviews the draft ranking

- after discussion, makes adjustments where considered necessary taking into account RLTS prioritisation policy and NZ Transport Agency (NZTA) assessment criteria.

Stage 5   Draft Allocations

This stage may happen in parallel with stage 3, but it is important to note it is a separate exercise. Greater Wellington officers receive estimates of available national (N), regional (R), crown (C), and local (L) funds and any supplementary funds from NZTA and relevant authorities, and prepare a draft funding allocation that conforms to the various rules of the various funds.

Stage 6   Draft Programme

This stage brings together draft priorities (from stage 4) and likely funding (from stage 5). The TWG reviews draft allocations and draft prioritising taking account of any GPS, records any adjustments it makes, and recommends the draft programme to the Regional Transport Committee (RTC).

Stage 7   Determination of Priorities and Allocations

The RTC considers the recommendations forwarded from the TWG. It takes account of any other factors considered appropriate. It adopts priorities and allocations, resulting in a draft RLTP. This draft is then subject to full public consultation before it is finalised and recommended to the Regional Council for forwarding to the NZTA.

Stage 8   Advocacy

The RTC may advocate for processes such as NZTA's National Land Transport Programme or Councils' Long Term Council Community Plans to be consistent with the recommended RLTP.

Appendix 1: Project/Package Recording Template

Appendix 1a: RLTS and GPS policy consistency check

Please note that some policies have been removed due to them being adequately covered by other policies or if they are inappropriate for assessment as part of the Regional Transport Programme.

RLTS and GPS Policy	Yes	No	N/A	Comment
8.1 Network Management				
a	Ensure the critical role of the regional transport network in providing national and regional accessibility is protected.				
b	Ensure the regional transport network provides effective connections to Wellington's Port and International Airport.				
d	Ensure best use is made of network management techniques to optimise the performance of the transport network.				
e	Ensure continuous identification and mitigation of network security risks including, where appropriate, the development of alternative routes for use in emergencies.				
f	Ensure the role of the urban passenger rail network is maintained as the key long to medium distance and high volume service.				
g	Increase rail capacity and coverage in line with current and future demand, and complement rail services with bus services.				
h	Ensure a high level of service for passenger rail with regard to rolling stock and rail infrastructure reliability.				
i	Support enhanced accessibility to rail services including, where appropriate, new stations and extending electrification of commuter rail lines (in particular north of Paraparaumu and Upper Hutt).				
j	Support the ongoing development of new and existing park and ride facilities.				
k	Ensure the continuous review and improvement of bus services.				
l	Support the use of bus priority measures in congested areas.				

	RLTS and GPS Policy	Yes	No	N/A	Comment
m	Support trolley buses in Wellington City and their ongoing upgrade.				
n	Ensure the provision of public transport services and concessions that recognise the needs of the transport disadvantaged (e.g., people on low incomes and people with disabilities) to enhance equity.				
o	Support continuous development of the cycling network and integration with other modes.				
p	Support continuous development of the pedestrian network and integration with other modes.				
r	Ensure the proposed Transmission Gully Motorway is developed as the long term solution to address access reliability for State Highway 1 between Kapiti and Wellington.				
s	Ensure the existing State Highway 1, between MacKays Crossing in the north and Mungavin Interchange in the south, is managed in a way that is consistent with its long term purpose of a scenic access route once Transmission Gully Motorway is built.				
t	Support improved east-west transport links between the Western and Hutt Corridors.				
u	Encourage the separation of arterial and local road traffic where practicable.				
v	Ensure the transport network provides for freight and commercial needs.				
8.2	Travel demand management				
a	Ensure the availability of reliable information on the transport system and the choices available.				
b	Support reduced reliance on private motor vehicles, particularly single occupancy vehicle use (excluding motorcycles) and use for short trips.				
c	Support the increased use of passenger transport.				
d	Support the uptake of cycling and pedestrian travel, particularly for short trips.				
e	Encourage appropriately located land development and ensure integration with transport infrastructure.				

RLTS and GPS Policy		Yes	No	N/A	Comment
i	Support beneficial rail freight initiatives where net benefits exceed those of road freight.				
8.3	Safety				
a	Ensure continuous improvement of regional road safety based on a firmly established safety culture.				
b	Support improved safety (perceived and real) of pedestrians from risks posed by traffic, the physical environment and crime.				
c	Support improved safety of cyclists from risks posed by traffic and other hazards.				
d	Support improved safety and personal security (perceived and real) of passenger transport users.				
8.4	Environment and public health				
a	Support best practice in design, construction and maintenance of transport projects to avoid, to the extent reasonable in the circumstances, adverse impacts on the environment.				
b	Support continuous improvement in air quality through reduction in harmful vehicle emissions.				
c	Support the reduction of greenhouse gas emissions arising from the operation of the regional transport network.				
e	Ensure the transport network is developed in a way that minimises the use of non-renewable resources.				
f	Support the use of transport modes that are not dependent on fossil fuels, including active transport modes.				
g	Ensure location and design of new transport infrastructure enhance access, minimise community severance issues and take account of the special values of the local area including, but not limited to, environmental matters and community concerns.				
h	Support ongoing installation of stock truck effluent disposal sites at key localities in the region.				
8.5	Planning and integration				
a	Support the growth and land use aspirations of the Wellington Regional Strategy and the Regional Policy Statement, particularly in				

RLTS and GPS Policy		Yes	No	N/A	Comment
	relation to compact regional form, supporting a strong Wellington City CBD and regional centres, and densification around passenger transport nodes.				
b	Ensure new transport infrastructure is consistent with the region's urban design principles as set out in the Regional Policy Statement. The region's urban design principles are based on the seven design qualities described in the New Zealand Urban Design Protocol. In this regard the region's urban design principles seek to ensure that development gives consideration to the following design elements: • Context; • Character; • Choice; • Connections; • Creativity; • Custodianship; and • Collaboration.				
c	Support land use principles that minimise dependence on the private car.				
f	Ensure that land use and transport decisions take into account the diverse transport needs and views of the region's community.				
h	Ensure investment in national transport routes is coordinated with other regions.				
	GPS targets **Does the proposal contribute to:**				
1	reducing kilometres travelled by single occupant vehicles?				
2	increasing the mode share of transporting freight by coastal shipping and rail?				
3	there being no deterioration in travel and reliability on critical routes?				
4	reducing fatalities and hospitalisations from road crashes?				
5	increasing patronage on public transport?				
6	increasing walking and cycling trips?				

Appendix 1b: Project/Package Information Sheet

Project Name:

Brief Description:

Links to other projects:

Is the project consistent with the relevant policies of the RLTS (see Appendix 1a check list)? If not, explain why the project should be considered:

Estimated cost: **Authority:**

Scoring is completed for each proposal guided by the following table:

Seriousness and urgency score	0-33	34-66	67-100
Problem/issue/opportunity	Low regional significance	Moderate regional significance	High regional significance

Seriousness and urgency assessment	Score	Justification
Seriousness and urgency		Evidence
		Judgement

Effectiveness score	0	50	100
Programme Outcome	Strongly negative - has a detrimental influence on most desirable project outcomes	No significant benefits or overall neutral benefits	Strongly positive - has benefits to most project outcomes

Note: Scoring is not restricted to the point references above (0, 50, 100), but can be scored as any number across the range from 0 to 100.

Effectiveness assessment	Score	Justification
PT accessibility, connectedness and competitiveness		Evidence
		Judgement
Walking and cycling accessibility, connectedness and competitiveness		Evidence
		Judgement
Strategic roading accessibility, connectedness and competitiveness		Evidence
		Judgement
Rail and sea freight accessibility, connectedness and competitiveness		Evidence
		Judgement
Safer system		Evidence
		Judgement
Improved Land Use/Transport Integration		Evidence
		Judgement
Reduced need to travel		Evidence
		Judgement

Efficiency score	0	20-100	100
BCR	Less than 1	Greater than or equal to 1 and less than or equal to 5 (using function of 20xBCR, which gives a 20 score to a BCR of 1.0, a 50 score to BCR 2.5, and 100 score to BCR 5.0)	Greater than 5

Note: Scoring is not restricted to the point references above (0, 50, 100), but can be scored as any number across the range from 0 to 100.

Efficiency assessment	Score	Justification
BCR		Evidence: EEM BCR =
		Judgement: intangible factors:
		●

NZ Transport Agency Profile	H./ M / L	
Seriousness and urgency		
Effectiveness		
Efficiency (BCR)		

Other Comments

Appendix 2: RLTP Decision Process

This section provides further guidance on the evaluation of 'seriousness and urgency' and 'effectiveness (outcomes)'.

Seriousness and urgency

The NZ Transport Agency provide the following guidance on assessing seriousness and urgency in their Planning, Programming and Funding manual.

The focus should be on the issue or problem:

- *What is the main issue or problem in relation to the LTMA 2003, NZTS and GPS that needs to be addressed?*

- *Is the issue or problem causing undesirable trends in the performance of the land transport system?*

- *How serious is the issue or problem?*

- *How urgent is the issue or problem?*

- *What it the level of confidence that the issue or problem is serious and urgent?*

By default, the serious and urgency score should be low. A package or project should only be given a medium or high score if it addresses at least one of the issues in the example tables below and if there is evidence that the issue is causing severely undesirable trends in the performance of the land transport system.

The table on the next page outlines the NZTZ guidance of what would be considered serious and urgent under each NZTS objective.

The following table shows what would be considered serious issues under various NZTS objectives.

Note: Items marked * are areas of land transport where, according to the GPS, funding is most likely to have the most positive impact.

Objective	Serious issues
Economic development	• Deterioration in travel times and reliability on critical routes* • Route security issues that endanger reliability of critical routes* • Deterioration in travel times and reliability that impact on freight, commercial traffic and inter-regional movements, and around areas with strong growth of business activity or tourism • Transport requirements of good urban growth strategies, including lead infrastructure and services
Safety and security	• High incidence of accidents, especially severe ones* • Demonstrated personal security risks • Safety and personal security issues of vulnerable users of transport • Preventive measures to minimise risks • Lack of integration between modes and between land use and transport
Public health	• People exposed to health-endangering noise levels from transport • People exposed to health-endangering concentrations of air pollution in locations where the impact of emissions arising from transport is significant • Promotion of walking and cycling to reduce obesity-related health problems
Environmental sustainability	• Emission of CO_2 due to high use of single-occupancy vehicles* • Opportunities for coastal shipping and rail for freight transport* • Pollution of protected areas (water catchments, vulnerable ecosystems) • Promotion of transport options that protect and enhance the quality of areas of special environmental interest

A score for seriousness and urgency is arrived at taking into consideration the objectives of the NZTS as described above. The table below illustrates how the regional objectives in the RLTS and the medium and long term targets identified in the Government Policy Statement and New Zealand Transport Strategy are covered in this assessment.

| | NZTS Objectives | | | | |
	Ensuring environmental sustainability	Assisting economic development	Assisting safety and personal security	Improving access and mobility	Protecting and promoting public health
RLTS objectives:					
Ensuring environmental sustainability	✓				
Assist economic and regional development		✓			
Assist safety and personal security			✓		
Improve access, mobility and reliability				✓	
Protect and promote public health					✓
Ensure RLTP is affordable for regional community		✓			
GPS targets:					
Reducing kilometres travelled by single occupant vehicles	✓			✓	✓
Increase the mode share of transporting freight by coastal shipping and rail	✓	✓			
No deterioration in travel and reliability on critical routes		✓		✓	
Reduce fatalities and hospitalisations from road crashes			✓		✓
Increase patronage on public transport	✓	✓	✓	✓	✓
Increase walking and cycling trips	✓			✓	✓
Other NZTS target areas:					
Reduce greenhouse gas emissions from domestic transport	✓				
Improved vehicle fleet efficiency	★				
Wide use of electric vehicles	★				
Increased vegetation cover of crown transport land	★				
Reduced health endangering noise levels from transport					✓
Reduced health endangering concentrations of air pollution					✓

✓   Objective or target covered/considered under scoring criteria

★   Objective or target primarily influenced at the Central Government level

Effectiveness

The following table shows the outcomes that can be achieved through intervention via the Regional Land Transport Programme. A hierarchy of outcomes has been identified as follows:

Strategic Outcome is the highest level system outcome sought by the policy framework documents (NZTS, GPS and RLTS).

> **Programme Outcome** is the deliverable that the RLTP is attempting to improve as a contribution to the achievement of the strategic outcome. It is the level at which RLTP prioritisation will be undertaken.
>
> > **Project Outcome** is specific benefits that each project or package is expected to deliver. The NZTA's Economic Evaluation Manual attempts to quantify benefits at this level. These are reported in the project's Benefit Cost Ratio (BCR). The BCR is one measure of worth of a project and is focussed on quantifiable economic considerations.

The overall strategic outcome for the Wellington RLTS is set out in the vision:

"To deliver, through significant achievements in each period, an integrated land transport system that supports the region's people and prosperity in a way that is economically, environmentally and socially sustainable."

Simply put we want a sustainable connected community. This translates to the following six Strategic Outcomes:

1. Increased PT peak and off peak trips
2. Increased Walking and Cycling peak and off-peak trips
3. Improved Strategic Road Network Efficiency (including road freight)
4. Improved Rail/Sea Freight Efficiency
5. Improved Safety
6. Transport infrastructure supports sustainable land use/growth.

We assess projects for their contribution to the following seven Programme Outcomes by considering the project outcomes based on assessment, when available, and judgement:

1.1 Improved PT accessibility, connectedness and competitiveness

2.1 Improved walking and cycling accessibility, connectedness and competitiveness

3.1 Improved strategic roading accessibility, connectedness and competitiveness

4.1 Improved rail and sea freight accessibility, connectedness and competitiveness

5.1 Safer system

6.1 Improved Land Use/Transport Integration

6.2 Reduced Need to Travel.

Strategic Outcome	Programme Outcome (Prioritisation scoring level)	Project Outcome (Attributes considered to justify prioritisation score)	Example Packages and Projects
1. Increased PT peak and off peak trips	1.1 Improved PT accessibility, connectedness and competitiveness	Increased network coverage	Service expansion
		Improved affordability	More convenient fare products
		Improved reliability	Bus lanes, track/station capacity increases
		Improved journey times/service frequency	Track upgrades, separation of bus from car traffic
		Improved personal security	CCTV, lighting etc.
		Longer hours of operation	Real time information, maps, signage, website etc.
		Better information	Replacement rolling stock
		Integrated ticketing	Station/stop upgrade
		Improved vehicle quality	Synchronisation between rail and bus feeder services
		Improved infrastructure quality	
		Improved modal integration	
		Enables future improvements	
2. Increased Walking and Cycling peak and off peak trips	2.1 Improved Walking and Cycling accessibility, connectedness and competitiveness	Increased network coverage	Development of new cycle/walkways
		Improved journey times/route directness	Lighting, visibility, CCTV, panic phones
		Improved personal security	Maps, signage, marketing, education etc.
		Better information	Width, material, gradient etc.
		Improved infrastructure quality	Cycle lockers, cycles on trains/bus
		Improved modal integration	
		Enables future improvements	
3. Improved Strategic Road Network Efficiency (including road freight)	3.1 Improved Strategic Road Network accessibility, connectedness and competitiveness	Making best use of existing infrastructure	TDM, tidal flow lanes, HOV/HOT lanes, bottleneck improvements
		Increased vehicle occupancy	Congestion reduction
		Improved reliability	Congestion reduction, new direct strategic routes, road quality improvements
		Improved journey time/route directness	Appropriate alternative to existing route
		Improved resilience	ATMS, GPS, web traffic monitoring systems
		Better information	Park and ride
		Improved modal integration	
		Enables future improvements	
4. Improved Rail/Sea Freight Efficiency	4.1 Improved Rail/Sea Freight accessibility, connectedness and competitiveness	Making best use of existing infrastructure	Improvements in tunnels, changes in freight technology
		Improved reliability	

Strategic Outcome	Programme Outcome (Prioritisation scoring level)	Project Outcome (Attributes considered to justify prioritisation score)	Example Packages and Projects
		Improved journey time/route directness	Improvements in capacity
		Improved resilience	Enhancements in quality of infrastructure, new infrastructure to bring rail/sea freight closer to market
		Constraints removed	
		Improved modal integration	Feasible alternative routes
		Enables future improvements	Double-tracking, expanded port facilities
			Freight transfer facilities
5. Improved Safety	5.1 Safer System	Reduced severity and frequency of walking incidents	Education
		Reduced severity and frequency of cycling incidents	Enforcement
		Reduced severity and frequency of road incidents	Segregation of modes to reduce chance of conflicts
		Reduced severity and frequency of PT incidents	Engineering improvements
		Improved safety perceptions	
		Enables future improvements	
6. Transport infrastructure supports sustainable land use & regional growth, and community wellbeing	6.1 Improved Land Use/Transport Integration	Reduced community severance and improved connectivity	TOD
		Overall positive social & environmental impacts	Super station
		Facilitates local employment	TDM
		Facilitates population and employment along PT spines	TBhC
		Facilitates modal choice	
		Reduced need to travel	Broadband
	6.2 Reduced Need to Travel	Reduced travel distance	Technology
		Enables future improvements	Home delivery

Localised issues associated with minimising project specific environmental and social impacts are considerations primarily addressed later through the design and consenting processes.

A score for effectiveness is arrived at taking into consideration the desired outcomes of the RLTS as described above. The table below illustrates how the wider regional objectives in the RLTS and the medium and long term targets identified in the Government Policy Statement and New Zealand Transport Strategy are covered in this assessment.

	Programme Outcomes (derived from RLTS strategic outcomes)						
	PT accessibility, connectedness & competitiveness	Walking/cycling accessibility, connectedness & competitiveness	Strategic roading accessibility & connectedness	Rail/sea freight accessibility, connectedness & competitiveness	Safer system	Improved land use transport integration	Reduced need to travel
RLTS objectives:							
Ensuring environmental sustainability	✓	✓		✓		✓	✓
Assist economic and regional development	✓	✓	✓	✓		✓	
Assist safety and personal security	✓				✓		
Improve access, mobility and reliability	✓	✓	✓			✓	
Protect and promote public health	✓	✓					
Ensure RLTP is affordable	*Affordability of the RLTP for the regional community is a consideration later in the programme development process (stage 5 in process diagram)*						
GPS targets:							
Reducing kilometres travelled by single occupant vehicles	✓	✓				✓	✓
Increase the mode share of transporting freight by coastal shipping and rail				✓		✓	
No deterioration in travel and reliability on critical routes	✓		✓		✓		✓
Reduce fatalities and hospitalisations from road crashes	✓				✓		
Increase patronage on public transport	✓					✓	
Increase walking and cycling trips	✓	✓				✓	
Other NZTS target areas:							
Reduce greenhouse gas emissions from domestic transport	✓	✓		✓		✓	✓
Improved vehicle fleet efficiency	★						
Wide use of electric vehicles	★						
Increased vegetation on crown transport land	★						
Reduced health endangering noise levels from transport		✓					✓
Reduced health endangering concentrations of air pollution		✓					✓

✓   Objective or target covered/considered under scoring criteria
★   Objective or target primarily influenced at the Central Government level

Decision tree and VISA

Once scoring is completed, scores are processed in accordance with our decision tree as shown below. This process uses VISA software which allows weights to be tested as we progress through the decision making process. The TWG's recommended weights are yet to be developed as they require scoring to be undertaken (see Appendix 3).
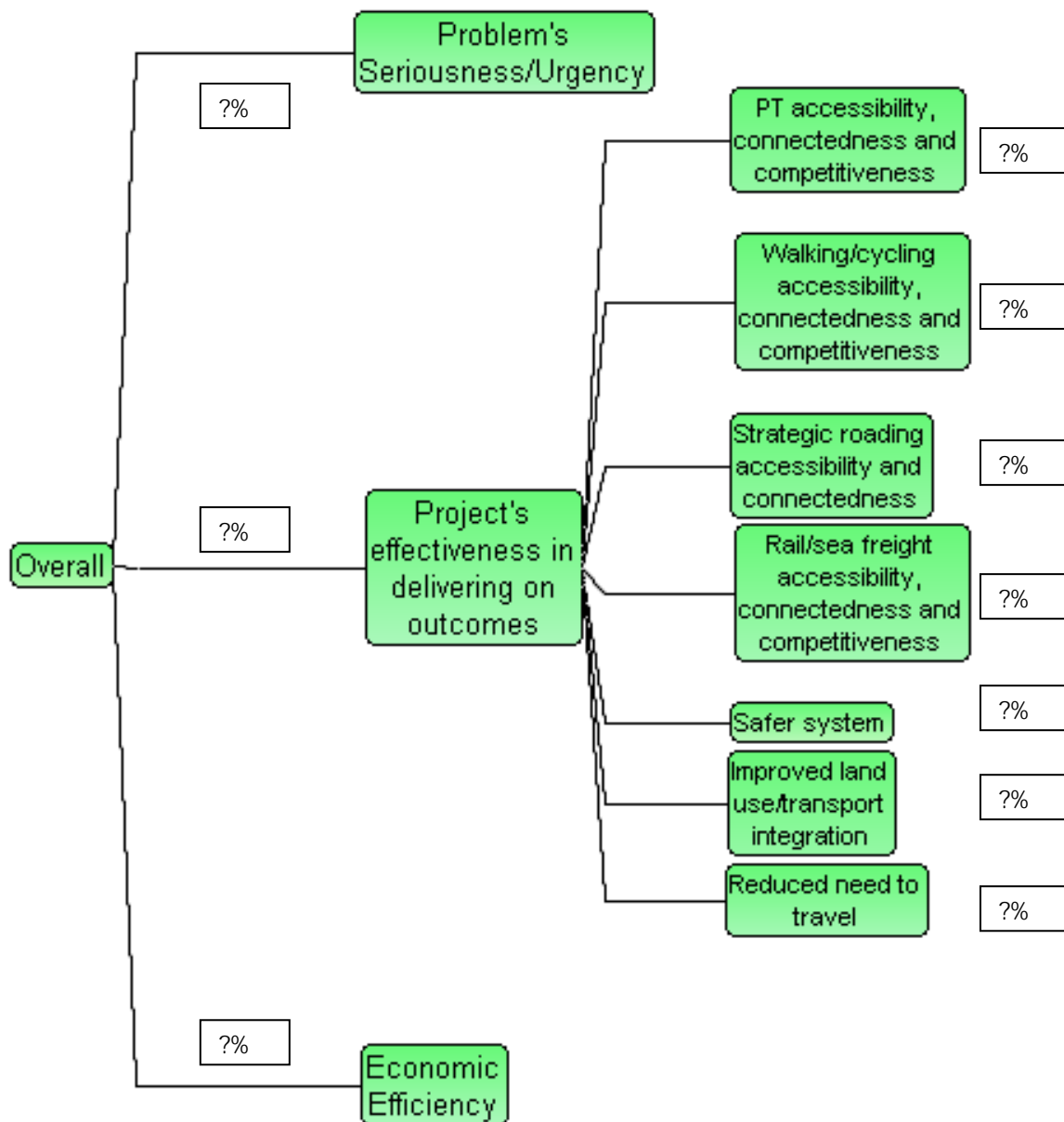
Decision Tree showing recommended weights

Appendix 3: Weights

To provide an overall score (and hence rank) to each project, outcomes need to be combined using a weighting system (proportions between 0 and 100% which sum up to 100%). Weights are applied at each level of the tree (see Appendix 2) and combined upwards to give an overall score.

It is important to note that the weights can only be determined **after** the scoring has been done. Whilet this may seem the wrong way around (if you know the scores you could modify the outcome by adjusting the weights), there are some very important reasons for this. The weights represent a number of factors:

- The relative importance that is place on that outcome (eg. Public transport competitiveness might be seen as more important than Rail/Sea freight competitiveness).

- Differences in the magnitude of scores for each outcome (eg. we might be comparing the scale of benefit cost ration (BCR) on one outcome against a measure of public transport competitiveness on another outcome which could be different orders of magnitude).

- Differences in the range of scores within each outcome (eg. a BCR might have more variability in terms of lowest and highest score than say a public transport score). To understand what the weighting means, the ranges of each outcome need to be understood (which project scores the lowest and which scores the highest – what do the scores actually mean!).

The first bullet point factor can be determined before the scoring is done, although it is useful for participants to be able to relate the minimum and maximum scores to actual project scores. The process for determining relative importance is likely to involve TWG members having to allocate 100 points between each of the outcomes, the average of which (or the median, or the average excluding the minimum and maximum outliers) will be used.

The last two points can only be addressed once scoring has been undertaken (scoring scales and ranges need to be understood). In terms of the concern around designing the weights to give a particular ranking; whilst this could be done with a small number of outcomes and small number of projects, with many outcomes and projects this is harder. Also, it is suggested that sensitivities are tested around the recommended weights to determine how the rankings are affected.

One process for determine the weights are as follows:

- Assign outcome 1 with a value of 100

- Looking at outcome 2, compare how important outcome 2 is relative to outcome 1 (say 25% more important)

- Compare the range in scores of outcome 2 to outcome 1 (outcome 1 might be a cost with range of $1000, outcome 2 might be on a scale of 0-100 with range of 70)

- Combine the weighting and relative ranges to give a relative overall weight as value(1)*relative weight*range(1)/range(2) - in this case is 100*1.25 * 1000/70= 1786

- Repeat for outcome 3 vs outcome 1 … etc.

Normally, outcome 2 would have a weight of 1.25 compared with outcome 1 (whose weighting is 1). But a 10% change in the value of outcome 1 will have a much larger impact on the overall score than a 10% change in outcome 2 without correcting for the scale. As such, a higher weighting for outcome 2 is used.

Example

Consider a situation with 5 outcomes; the first is $'000, the second to fourth are scores between 0 and 100, and the fifth is a dollar value. Further, outcome 2 is 25% more important than 1, 3 is 25% less important than 1, 3 is 40% less important than 1, and 5 is twice as important as 1.

Using the approach above, the following weights are obtained:

Outcome	Low	High	Range	Relative Importance	Weight	Scaled Weight
1	$5,000	$6,000	$1,000	1 (18%)	100	1.0%
2	20	90	70	1.25 (22%)	1786	17.3%
3	40	60	20	0.75 (13%)	3750	36.4%
4	10	100	90	0.6 (11%)	667	6.5%
5	$25	$75	$50	2.00 (36%)	4000	38.8%
Total				5.60 (100%)	10302	100%

The final scaled weights take into account the relative importance placed on each outcome, as well as different scoring scales and different levels of variation within those scoring scales (the impact can be seen through comparing the proportions in brackets under relative importance vs the scaled weight). As can be seen, the scaled weight applied to outcome 1 is significantly less than the other outcomes due to different in scale. Outcome 4 also has a lower scaled weight due to its larger variability and lower relative importance. Outcome 3 has a high scaled weight due to the very low level of variability. Outcome 5 has the highest scaled weight due to its high relative importance.

For the prioritisation work, the scales have already been set at between 0 and 100 for all objectives, so there shouldn't be any issues regarding different magnitude scales. There may well be different variability in scores for each outcome that will need to be addressed through the use of weightings. However, this cannot be determined until scoring is completed.

Appendix 4: The RLTP's potential to achieve strategic outcomes

The following assessment shows the likely influence that the Regional Land Transport Programme could have in relation to achieving the strategic outcomes and targets sought by the NZTS 2008, GPS and RLTS. The outcomes areas are likely to be influenced by a combination of projects in the programme, policy and advocacy work outside the programme, and other external influences (eg. land use policy under the Resource Management Act, high fuel price and volatility, fleet efficiency improvements, regulation and

enforcement, general economic conditions and population change). Key and related outcomes from the RLTS have been grouped together as 'outcome areas' for the purpose of this assessment. The 'key influences' have been identified and given an estimated percentage score in terms of its likely impact on that particular outcome. An asterisk identifies those key influences which the RLTP is likely to effect. A high, medium or low score is then given under the 'RLTP influence' column based on which of the key influences are affected by the programme.

Outcome area	Key influences (* affected by programme)	RLTP influence
Increased PT mode share	40% fuel price/vehicle operating cost (v.o.c) Vs PT cost (relative cost of modes) * 40% +ve for PT improvements Vs –ve for road improvements 20% land use policy	Medium
Increased active mode share	* 40% infrastructure improvements 30% land use policy 30% fuel price/v.o.c	Medium
Reduced severe congestion	* 40% traffic mgmt, infrastructure & PT improvements 30% fuel price/v.o.c 10% land use policy * 10% TDM	Medium
Improved land use integration	50% development market 30% land use policy 10% fuel price/v.o.c * 10% infrastructure development	Low
Improved freight efficiency	40% economy/industry efficiency * 30% infrastructure improvements 20% fuel price/v.o.c 10% land use policy	Low
Improved safety & security	* 40% engineering (infrastructure improvements) 30% enforcement/legislation 20% education 10% land use policy	Medium (High if education and enforcement become part of programme)
Reduced CO_2	*This outcome will be achieved as a result of contribution to other outcomes that the programme can influence such as PT use, active mode use and reduced severe congestion.*	Medium
Support for regional economic development	*This outcome will be achieved as a result of contribution to other outcomes that the programme can influence such as improved access, freight efficiency, reduced severe congestion and sustainable urban form.*	

Appendix 5: BCR Scoring

The NZTA approach for giving "scores" to benefit cost ratio (BCR) is to use a low/medium/high efficiency ranking based on the BCR ranges of less than 2 (low), between 2 and 4 (medium), and greater than 4 (high). BCR's that are less than 1 are currently not given a rating.

Converting this approach to a scoring system between 0 and 100 (as is being used for the prioritisation) gives Figure 1 below. As can be seen, project BCR that falls within the same range all get equal scores, allowing for little differentiation in scores. However, differentiation is required in order for MCDA to be effective. Further, a project that is just below a cut-off (say BCR 1.95) gets a substantially different value to a project that is just above the cut-off (BCR 2.05), when in reality there is little difference in the value for money the project delivers.
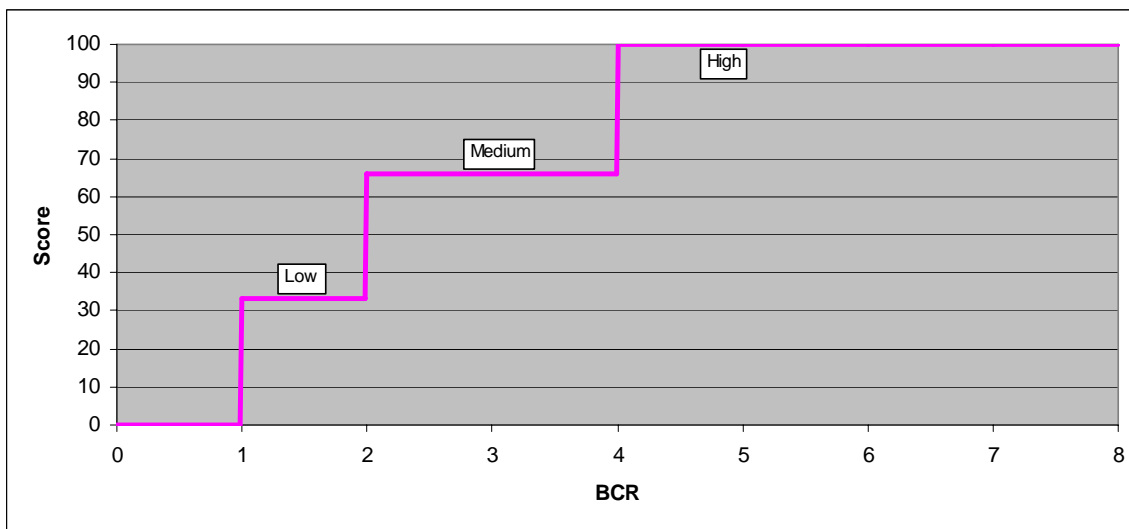
Figure 1: NZTA BCR Scoring

To overcome these short-coming of the NZTA approach, the function as shown in Figure 2 has been developed for the prioritisation work. It follows the same broad scoring system as the NZTA approach, but gives more variation and removes the cut-offs which can distort scoring. It still retains the BCR less than 1 cut-off, as we would hope all projects would be able to demonstrate value for money. Also, projects with very high BCR's are capped at a score of 100, so they do not distort the analysis – typically we would expect large capital projects to lie within the BCR 1.0-5.0 range. Within this expected range, the function is related purely to slope, ensuring that comparing a project with a BCR of 4 with a BCR of 2 (twice the value), gives a score of 80 vs 40 (also twice the value).

The function is as follows:

- Score is zero for BCR less than 1

- Score is 20 times BCR for BCR between 1 and 5
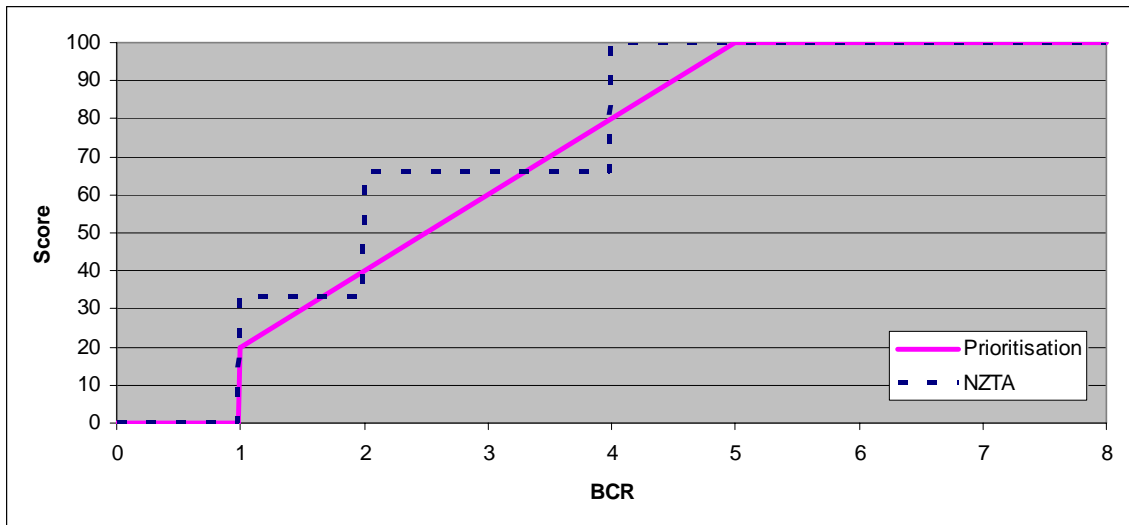
- Score is 100 for BCR greater than 5

Figure 2: Prioritisation BCR scoring function compared with NZTA approach

Appendix 6: RLTS Policies

Programme Prioritisation & Funding Policies

This group of RLTS policies (8.8) guide the regional transport programme prioritisation process.

a   Develop an agreed prioritisation process and methodology to be applied when carrying out review of the Regional Transport Programme.

b   Ensure that projects or packages that contribute significantly to key national or regional outcomes are given priority.

c   Ensure that prioritisation decisions in the Regional Land Transport Programme take account of a project or package's effectiveness, including its potential risks and its contribution towards the achievement of the Regional Land Transport Strategy's objectives and outcomes.

d   Ensure that prioritisation decisions for each project or package includes consideration of:

  • Seriousness: The relative magnitude and significance of the transport problem to which the project or package responds;

  • Urgency: The consideration of need to hasten project/package implementation;

  • Economic Efficiency: A rating of the economic returns on the funds invested as measured by a benefit cost ratio;

  • Volumes: The numbers of those people affected;

  • Affordability;

  • Practicality and readiness: The consideration of factors that may influence timely implementation;

- Perceived safety benefits.

e   Ensure that once a project or package is committed and construction or implementation has been approved, then that project or package's funding is deemed to be committed and will not be reallocated to another purpose unless significant new information comes to light.

f   Ensure that Western Corridor passenger rail infrastructure and other improvements are in place prior to the opening of the Transmission Gully Motorway.

g   Ensure the following applies to the allocation of Crown "C" funds:

> The use of "C" funds should be used early to maximise buying power as these funds are not indexed against inflation.
>
> The highest priority for the use of C funds for assisting local share will be passenger rail improvement projects.
>
> The Kapiti Western Link Road Stage 1 design and construction is the second priority for assistance with the local share.
>
> C1 and C2 funds will be used to achieve an effective FAR of 90% for passenger rail improvement projects.
>
> C1 funds will be used to achieve an effective FAR of 90% for Stage 1 of the Western Link Road, but will not be available to assist the local share of Stages 2 and 3 of this project.
>
> Up to $45 million of C1 funds are available to assist the local share of the Grenada to Gracefield Stage 1 project (assistance to the level of half the local share), noting that this project is still subject to further investigations.
>
> All C3 funds will be used to develop the proposed Transmission Gully Motorway as the long term solution to address access reliability for State Highway 1 between Kapiti and Wellington.

h   Ensure the following applies to the allocation of Regional "R" funds:

(i)   To accelerate otherwise unfunded projects or packages that bring an identified regional benefit;

(ii)   May be used to offset local financial assistance rates;

(iii) May be used for either passenger transport or roading projects or packages.