Purpose

This note documents how an initial list of investment scenarios was developed. In this context, "scenarios" can be thought of as outline programme options that address each of the problem statements to a greater or lesser extent.

The process used to develop the investment scenarios is summarised at Appendix 1. One page summaries of the resulting investment scenarios are attached at Appendix 2.

The scenarios will now be assessed and further refined, including the development of blended scenarios. Once a finalised list of investment scenarios is agreed, the scenarios will be developed into programme options.

Compiling Potential Interventions

Interventions Workshop

The source of an initial long list of over 250 possible interventions was a workshop attended by some 25 officials/officers representing the three alliance partners, together with two members of the LGWM team and two consultants. The interventions were not assessed at the workshop, as the aim was to maximise possible ideas for later consideration. Following the workshop, all of the ideas were assembled in a simple database, with duplicates removed.

Ideas from Public Engagement

A further set of potential interventions was added to the workshop list. The additional set came from the LGWM web feedback, the LGWM phone survey, the GWRC/WCC research panel survey, and the NZTA record of stakeholder comments (Darzin), and had been collated by GWRC staff.

Collation – Grouping and Assessment of Interventions

The second stage in processing the set of ideas was to group them by categories. The categories were simple groupings of the ideas by common characteristics – for example, bringing together all of the ideas related to public transport.

The collected list of possible interventions was subsequently assessed by a transport planning and evaluation group to determine which interventions should be candidates to be included in possible scenarios and programme options and which, for a range of reasons, should not be considered further within this context.

These processes related to the intervention long list are documented in Note 1.

Developing Investment Scenarios

Scenario development began by considering the qualitative gap in level of service for each mode, for each of the four problem statement areas, Reliability and Economic Productivity, Liveability, Safety, and Resilience. Different scenarios that focused on each of the four problem areas were then created by considering the relative scale of different types of intervention that might achieve desired outcomes for the emphasised problem area. This process is shown in Appendix 1.

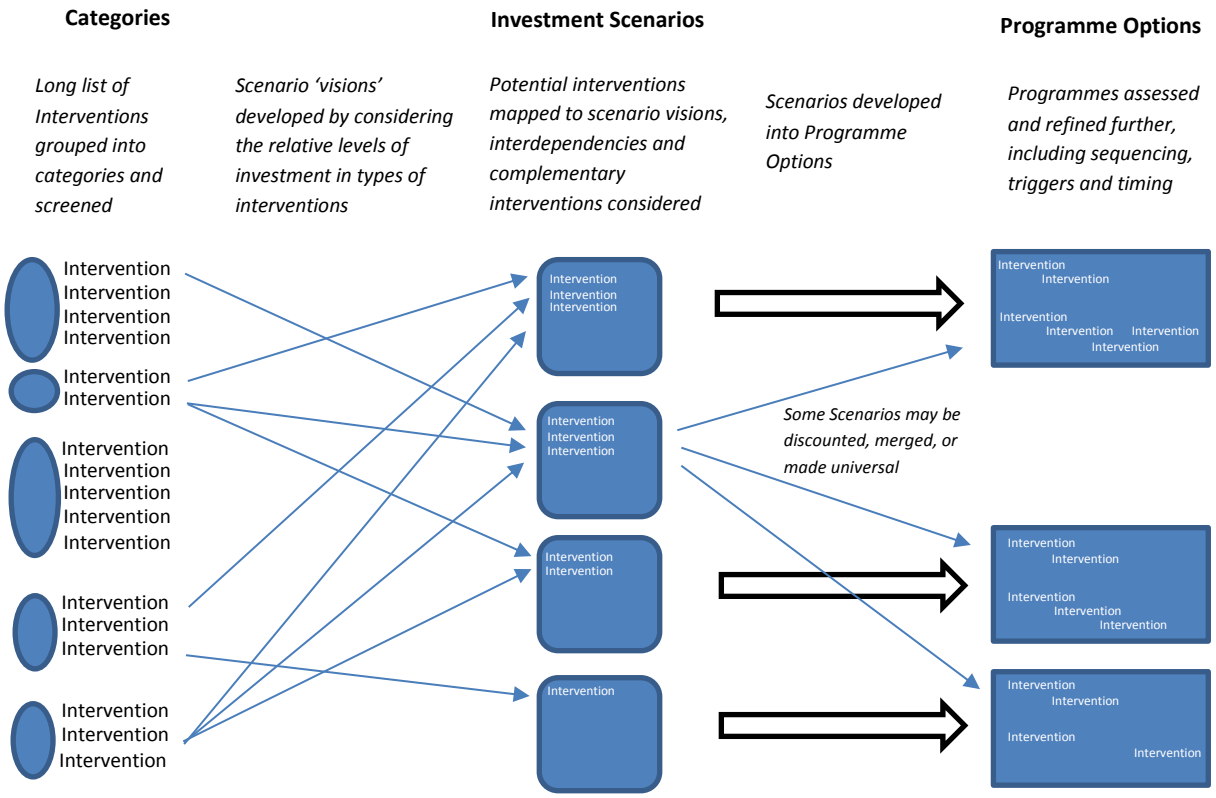
The four levels of investment/effort were:

- High: a level of intervention to deliver the desired outcome at the high end of what is practicable, having regard to engineering feasibility, public acceptability, and cost;
- Medium: a moderate level of intervention that has the potential to deliver the desired outcomes if applied in conjunction with other interventions;
- Base (BAU): sometimes referred to as 'Business As Usual', continuation of current level of intervention[1]; and
- Less than BAU, a reduction from the current level of intervention in the outcome area.

A vision was developed to describe the logic of each investment scenario and how it would impact on outcomes for Wellington City. These scenarios were then developed further, with typical interventions applied to the different intervention areas, adding additional detail behind each scenario vision. This began to reveal some of the key risks and dependencies that each of the scenarios present.

Next Steps

The following figure demonstrates the intended process, in translating the long list of Interventions into a refined list of Programme Options. The programme options will include more detailed descriptions of the interventions involved, timescales for implementation, trigger points, and orders of cost.



[1] A summary of the investment baseline, based on the 2015-18 NLTP, is shown in Appendix 3.

Appendix 1

Scenario Development Spreadsheet

Appendix 2

Scenario Summary Sheets

Appendix 3

LGWM Investment Baseline

LGWM investment baseline

Purpose

This note defines the do-minimum, business as usual baseline for the project.

Basis of information

The information for the baseline has been taken from the National Land Transport Programme 2015-18 and considers committed and approved improvement activities.

Baseline Programme ($million)

Activity	2015-2018	After 2018
Walking		
Cycling		
WCC cycle network	37.5	TBC
Public transport		
GW Real time passenger information	1.1	
GW Hutt line reliability improvement	2.3	
GW PT minor improvements	8.8	
GW RS1 carparks	0.4	
GW Integrated fares and ticketing		TBC
WCC Bus priority	1.1	TBC
WCC BRT infrastructure		TBC (60)
Commuter and though roads		
Safety retrofit	1.2	
Terrace Tunnel safety	6.1	
Ngauranga-Aotea smart motorway	34	
Mt Victoria duplication		TBC
Tunnel to tunnel		TBC
Terrace Tunnel duplication		TBC
Local roads		
WCC Adelaide Rd improvements		29.4
Hard TDM		
Soft TDM		
Education and enforcement		
GW safety promotion	0.5	
WCC safety promotion	0.7	
NZTA safety promotion	1.6	

Design Workstream – Note 1 - Intervention Longlist Screen

Purpose

This note explains how potential interventions that might be candidates for inclusion in the Let's Get Wellington Moving (LGWM) scenarios and programme options were initially generated, included in categories of similar interventions and screened.

In this context, "interventions" means possible ways to improve transport in the study area, ranging from detailed modifications to the network to strategic transport infrastructure and policy or land-use changes.

Workshop and Attendees

The source of an initial list of over 250 possible interventions was a workshop attended by some 25 officials/officers representing the three alliance partners, together with two members of the LGWM team and two consultants. The alliance participants were drawn from the organisations' professional disciplines covering transport strategy, transport traffic management, public transport planning, active mode specialists, urban planners, engineers and communication specialists.

The brief of the participants was to generate as wide a set of potential interventions as possible ("blue sky") to address the problems established through the project Investment Logic Map (refer to Appendix 1). The interventions were not assessed at the workshop, as the aim was to maximise possible ideas for later consideration.

Problems

The problems which the interventions needed to respond to were identified by the project ILM[1]. These were:

- Severe congestion leads to unreliable and increased journey times suppressing economic productivity
- Too many vehicles and competing demands undermine central city liveability and competitiveness
- Conflict between users in limited corridor spaces erodes safety and service levels
- Lack of system resilience result in disproportionate vulnerability to disruption and change

To ensure that all participants had a common understanding of the problems, the early part of the workshop was used to examine their components and to review the evidence behind the problems at a high level. Specialists within the group contributed their knowledge to amplify the evidence where required.

Following the workshop, all of the ideas were assembled in a simple database, with duplicates removed.

Categories

The second stage in processing the set of ideas was to group them by categories. The categories were simple groupings of the ideas by common characteristics – for example, bringing together all of the ideas related to public transport.

The set of categories adopted was:

- Land-use Intensification
- Land-use Dispersal
- Manage Demand: Financial
- Manage Demand: Non-financial

[1] It is noted that the problem statements and their interpretation are yet to be confirmed in the LGWM interim report.

- Enhance Supply: High investment in road capacity
- Enhance Supply: High investment in public transport
- Incremental Improvements: Road network
- Incremental Improvements: Public Transport network
- Enhance Interventions to motor vehicle use
- Resilience-specific

Evaluation of Interventions

The collected list of possible interventions was subsequently assessed by a transport planning and evaluation group to determine which interventions should be candidates to be included in possible scenarios and programme options and which, for a range of reasons, should not be considered further within this context. The large majority were classified as 'keep' i.e. candidates for inclusion in the scenarios and long-list programme options.

The possible reasons not to consider an idea further were:

- **Fatal Flaw** – An idea would not be considered further as there was some characteristic of the idea that meant that, in the professional judgment of the evaluators, it could not contribute to a possible option. Such reasons included expected cost being disproportionate to possible benefits, impracticality, or the concept having been tried previously without worthwhile results.
- **Exclude** – Outside the project scope or not an intervention that could be influenced by the project.
- **Given** – An intervention that had already been committed.

The scope document summary is shown in Appendix 2. Some of the givens and out of scope matters were:

Givens:

- Recognition of the Wellington CBD as the regional growth engine
- Implementation of Wellington public transport network in 2018
- Provision of high capacity buses on the Golden Mile
- Provision of integrated public transport ticketing
- Better public transport in the short to medium term will rely on BRT
- Urban cycleways programme
- One Network Road Classification hierarchy

Out of scope:

- Laneways projects
- PT fleet motive power and fare review

Additional Interventions

Following the classification of the workshop ideas, a further set of potential interventions was considered and any different ideas were assessed and added to the workshop list, with the appropriate classification. The additional set came from the LGWM web feedback, the LGWM phone survey, the GWRC/WCC research panel survey, and the NZTA record of stakeholder comments (Darzin), and had been collated by GWRC staff.

The current draft list of possible interventions, by category, is shown in Appendix 3. Additional interventions are anticipated to become available for crosscheck and inclusion as the LGWM engagement workstream progresses.

Appendix 1

Investment Logic Map

Appendix 2

Scope

Appendix 3

Draft List of Possible Interventions

Purpose

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Crosscheck against other scenario lists Placeholder

Crosscheck against master list of interventions Placeholder

Blended Scenario Placeholder

Placeholder for assessment against Principles/Problems

Placeholder for mapping Scenarios using NOF operating gaps

Next Steps

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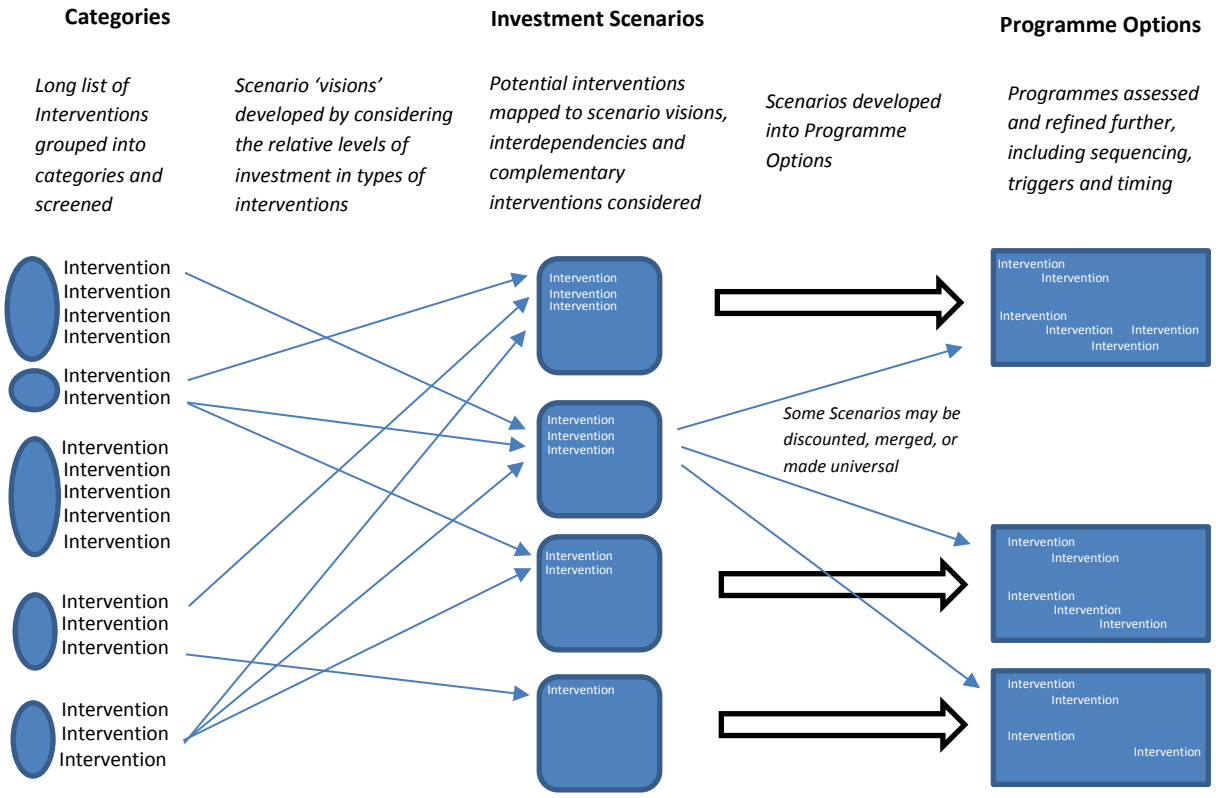

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To be populated once complete

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Getting Wellington Moving between Ngauranga and the Airport

A unified transport approach to a more liveable Wellington

INVESTMENT LOGIC MAP

Program

PROBLEM	BENEFIT	STRATEGIC RESPONSE
Severe congestion leads to unreliable and increased journey times suppressing economic productivity 20%	Improve competiveness & economic productivity 35% KPI 1: Genuine progress indicator (GPI) KPI 2: Investment and visitor numbers KPI 3: # new buildings	Unify land use & transport strategies with a good measure of community support 20%
		Agree investment, delivery, implementation and engagement plans for the LGWM Alliance 10%
Too many vehicles and competing demands undermine central city liveability and competitiveness 40%	Wellington is healthy, attractive, vibrant, and easy to get around 30% KPI 1: Quality of life survey KPI 2: Sustainability measures	Optimise between productivity, demand management and capacity 30%
Conflict between users In limited corridor spaces erodes safety and service levels 20%	A safer and more efficient transport network for all 15% KPI 1: Improved value for money KPI 2: Customer satisfaction KPI 3: Corridor use optimized (people / hour)	Implement priorities of the Network Operating Framework 20%
Lack of system resilience * result in disproportionate vulnerability to disruption and change 20%	Wellington is more prepared for and adaptable to change and disruption 20% KPI 1: # hours network disrupted reduced KPI 2: Incr in investor confidence	Prioritise improvements to identified resilience risks 20%

Investor: Deb Hume on behalf of N2A Project Partners
Facilitator: Graham Spargo
Accredited: No

Version no 0.5
Initial Workshop:: 5/08/2016
Last modified by: Graham Spargo 5/08/2016
Template version: 5.0

Let's GET Wellington MOVING

	TRAVEL DEMAND	ACTIVE MODES	MASS TRANSIT	OPTIMISE NETWORK	INTEGRATION AND SEQUENCING	LIVEABILTY AND COMPETITIVENESS	STRATEGIC ROAD NETWORK
GIVENS	Study area: bottom of Ngauranga Gorge to Constable Street, and Town Belt west of SH1 to the Airport. Recognition and intensification of CBD as regional growth engine	Sustainable Transport Hierarchy in the Wellington Urban Growth Plan. The need to integrate the urban cycling programme with the wider transport network. Wellington City Council (WCC) is currently reviewing speed limits in the CBD.	New bus network 2018 High capacity buses on the Golden Mile Integrated bus ticketing 2018 (possibly including ferries and cable car). Followed by extension to to trains anf then all modes. Better Public Transport (Better PT) in the short and medium term will rely on Bus Rapid Transport (BRT). Procurement of new bus operational contracts by 2018	Wellinton Traffic Operations Centre (WTOC) and WCC Traffic Operations Centre (TOC) continue to work closely together. When the traffic model is complete, previously identified quick wins will be assessed and progressed according to modelling outputs.	This is a multi-modal transport network project involving both demand (and where necessary) supply interventions. Existing funding mechanisms remain.	Wellington 2040 and the Wellington Urban Growth Plan. The Basin Reserve as an international cricket venue, its development plans and the need to integrate these with any transport initiatives. Plans for boulevards in Victoria Street (implemented), Taranaki Street and a boulevard/ linear park for Kent and Cambridge Terraces. Increasing residential population density in the central area.	The current road hierarchy as determined by ONRC. We will achieve optimal utilisation of the existing network. We will establish a road use hierarchy using the NOF.
PROGRAMME QUESTIONS/ACTIONS TO INFORM SCENARIO DEVELOPMENT	Considering Stats NZ forecast growth, id forecast growth and a high growth scenario based on recent trends, what is the forecast growth in travel demand over the periods: • 2016 – 2026 • 2016 – 2036 • 2016 – 2046 What are the opportunities to accommodate as much of this growing demand as possible with active and mass transit modes? Based on international and NZ experience, quantify the achievable mode shift for both hard and soft Travel Demand Management (TDM) initiatives in the Wellington context. What interventions are available to move journeys to off-peak time and how to quantify the achievable shift? **Early work packages** Analysis of potential TDM options – due early September Scenario development – due early September	What are the current pedestrian flows in the study area? Using the Network Operating Framework (NOF) what is the desired pedestrian network hierarchy? Quantify predicted future pedestrian flows resulting from growth and TDM/Public Transport (PT) initiatives. Identify conflict areas on pedestrian corridors. Using the NOF, identify current and future operational gaps in levels of service. Identify options to improve pedestrian journey safety and experience (e.g. sequenced pedestrian crossing green-waves). Develop options to address conflicts and operational gaps. Using the NOF, assess intervention options for network fit. How best to accommodate cyclists in the central city and the associated network implications?	Review identified constraints and pinch-points along the identified spine and recommend solutions, including confirming the spine corridor. What does Better PT look like, in the short, medium and long term? How bold can we be with BRT within existing constraints? What constraints need to be addressed to deliver bolder BRT? What level of improvement is necessary at the Basin Reserve and/or of the Mt Victoria Tunnel, to be able to achieve bold BRT, and what are the interdependencies? Are any other corridor improvements required or desirable to deliver bold BRT? What are the impacts of BRT to urban amenity, other modes and the wider network? Should provision be made for future-proofing the spine corridor for later conversion to Light Rail Transport (LRT)? What are the implications of doing so or would an alternative route be preferable? If an alternative route is preferred how should it be protected? Identify other mode investments necessary to improve journey experience to drive up usage (e.g. park-and-ride, pedestrian weather protection). Identify other infrastructure improvements necessary to provide a high quality passenger experience (e.g. off-bus ticketing, improved accessibility, bus stops/interchanges and improved information). How will BRT integrate with other transport interventions? What, where and when are the interdependencies? The extent and timing for rolling out BRT? Develop a detailed business case for BRT **Early work packages** BRT design elements investigation – due early October	Using the NOF, identify operational gaps that can be addressed through network optimisation and other potential quick wins. Use the NOF to assess both mode and corridor priorities and time-of-day operational restrictions/interventions. How do we achieve a single operating model for Wellington transport operations? What are operational resource and capability requirements are needed to bring about the desired level of optimisation? What allocation of space in key roading corridors is desired, including to parking. **Early work packages** Highway capacity constraints - timing tbc	What monitoring programme do we need to ensure flexibility and adaptability to social, economic, behavioural and technological change? What are the interdependencies between interventions? What are the sequencing dependencies between interventions? What packages of work should be delivered by each agency? What funding sources are applicable to the various programme elements? What further investigations are required? **Early work packages** Assessment methodology - timing tbc	Can the current impacts of transport on urban form and amenity be managed long term? What is the impact of the state highway network on the local road network (e.g. impact of on/off-ramp on intersections and corridors) and can these be managed better? Where are the opportunities to unlock economic potential? On the Quays, how can the potential conflict between a transport corridor and CBD connection to the harbour be addressed? What opportunities to improve the urban amenity of Vivian Street exist? How can the legibility of the CBD be improved and what are the wider network implications of rationalising the number of one-way streets? Should a higher priority be granted to pedestrian movements over other road users along selected parts of the network (including temporal options) and if so what are the wider network implications?	CBD traffic split between traversing and access? What are the current traversing traffic routes and volumes and what is desired to achieve our urban amenity objectives? What is the most efficient way for traffic to access the CBD without compromising urban amenity and economic objectives? What is the desired split of traffic between SH1, the Quays and alternative routes (Thorndon Quay, Featherston St etc)? How do we ensure efficient access for freight to the port and inter-island ferries? Where are the conflicts and operational gaps in the network? Where and when do/will capacity constraints exist/arise on the network? What practicable options exist to address known and forecast constraints? When should we plan to address these constraints? What package of options is possible/optimal? How do we balance the benefits of a progressive, responsive and incremental delivery strategy with the need to give investment confidence to unlock economic opportunity? How do we protect land/routes for options that will be progressively delivered? Where are the opportunities to integrate transport and urban regeneration?
OUT OF SCOPE	Changes to 'Wellington 2040' and the 'Wellington Urban Growth Plan' Changes to schools' term dates and times	Urban cycling programme	PT fleet motive power and fare review			Laneways projects	

KEY

Accessible and safe · Better public transport · Clean and green · Compact city · Demand and supply · Future proof and resilient · Past, present, future · Predictable travel times · Set in nature · Growth · Travel choice · Wider view

NZ TRANSPORT AGENCY WAKA KOTAHI · greater WELLINGTON REGIONAL COUNCIL Te Pane Matua Taiao · Absolutely Positively Wellington City Council Me Heke Ki Pōneke