Waitakere City Council
Te Taiao o Waitakere

Cost allocation and cost recovery methodology: Transport

This document supports the draft development contributions and financial contributions policy
April 2009
Supporting information: Document B05

Summary

Waitakere City Council uses development contributions and financial contributions to fund some of the costs it incurs because of growth. This document is part of the supporting information behind the development contributions and financial contributions policy.

This document is the cost allocation and cost recovery methodology for the Transport activity. It sets out:

- The approach to cost allocation (identifying the cost of growth);
- The approach to cost recovery (identifying how the cost of growth should best be shared);
- The way that the guidelines identified in the framework have been reflected in decisions about cost allocation and cost recovery, and included in this methodology.

The guidelines in the framework document come from the key factors to be considered as part of putting a development contributions policy in place, including elements of the legislative framework; growth; economic efficiency; asset management; equity; operations; and risk management.

For Transport, these factors have generated a methodology in which:

- Relevant growth related projects are individually analysed, under a range of growth-related programmes;
- The base cost allocation methodology is used, taking demand as arising from residential and non-residential land uses, and also considering network and specific infrastructure measures, consistent with the level of service statements.

As set out in this document, the methodology complies with the requirements of the Local Government Act 2002.

This document should be read in conjunction with the other documents in the supporting information pack.

Contents

1.0 Introduction

1.1 Use of development contributions

Development contributions are a funding tool provided to the council under the Local Government Act 2002 (LGA 2002). They allow the council to recover some of the capital costs it faces arising in connection with growth of the city. Development contributions can be charged when the council grants resource consents and building consents.

1.2 Purpose of this document

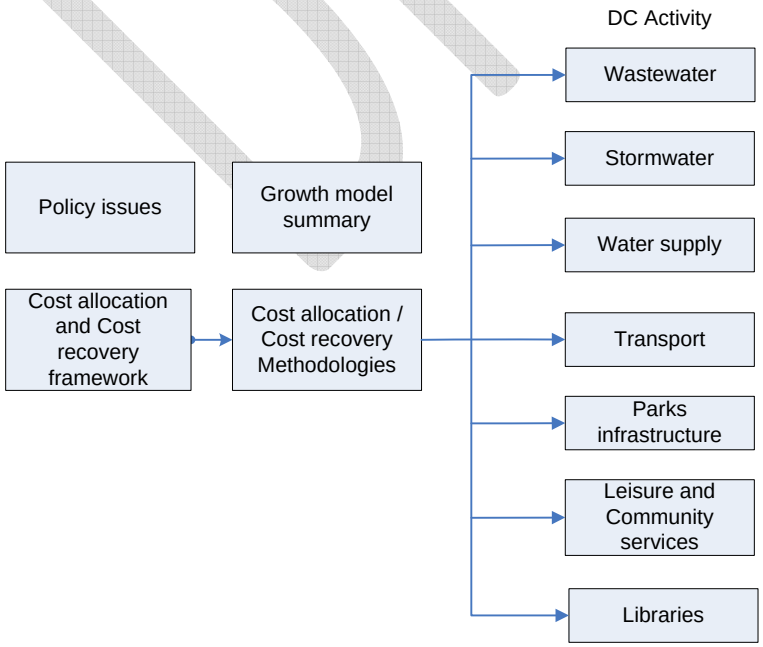
This document sets out the approach the council has taken to cost allocation and cost recovery for transport. It therefore:

- Sets out the way in which the cost of growth was arrived at;
- Explains why the chosen units of demand were selected;
- Shows how these decisions comply with the requirements for a development contributions policy;
- Fulfils part of the council's obligation to make the development contributions methodology available publicly.

1.3 Supporting information

A set of other documents also helps support the development contributions and financial contributions policy. The relationship of these to this methodology document is illustrated in Figure 1 below.

Figure 1: Outline of supporting document set



2.0 The Transport activity

2.1 Definition of the activity and its assets

The transport activity includes managing the transport infrastructure network and overseeing the implementation of transport programmes and projects. This includes implementation of the Council's Transport Strategy[1] and capital works programmes to provide integrated transport citywide. The Transport Assets group works in partnership with the New Zealand Transport Agency (NZTA, formerly LTNZ) and the Auckland Regional Transport Authority (ARTA) which provide funding in the form of subsidies. The Transport Assets' Road Safety team also works closely with the New Zealand Police and the Land Transport Safety Authority (LTSA) regarding the safe design and safe use of roads, and community road safety.

The strategic direction of the transport activity is primarily concerned with safety, maintenance of existing assets, and operation of transport systems. This is achieved through a balance between infrastructure spending on roads (including capacity improvements), footpaths, walking and cycling initiatives and traffic demand management measures. There is also a commitment to the integration of different modes of transport (as supported, for example, by Park n Ride facilities).

Identifying the activity at this level aligns with the council's wider organisational and reporting framework. It is considered an appropriate balance between transparency and prudent financial management, and cost-effectiveness for those wider systems.

Sustainable transport solutions are required in order to achieve the city and lifestyle that people want. The Council strategy aims to provide benefits both in the short and the long term.

The main asset types for the transport activity are:

- Roads and bridges;
- Footpaths and cycleways;
- Other road infrastructure such as street signs, traffic signs, traffic signals, traffic islands and drainage;
- Passenger transport infrastructure.

The capital programme includes the following major transport capital programmes:

- Network improvements;
- Town centres;
- NorSGA (works within the Northern Sector Growth Agreement area);
- Public transport;
- Street lighting;
- Land purchase;
- Facilities improvements;

[1] Waitakere City Transport Strategy 2006-2016 (accessed from the council website, March 2009).

- Historic projects.

The council applies for NZTA subsidies for projects within these programmes, as appropriate. NZTA provide a subsidy of up to 53% of the capital cost of qualifying projects. Their main assessment criteria are:

- An analysis of the benefit / cost ratio (BCR), where costs relate to the capital cost, and benefits relate primarily to quantifiable (economic) benefits such as time savings, trip-duration reliability and accident reduction.
- Contribution towards the aims of the Land Transport Management Act 2003, which are directed at achieving an affordable, integrated, safe, responsive, and sustainable land transport system. This includes improving the operation of passenger transport.
- The seriousness or urgency of the project.

NZTA generally funds projects with a benefit cost ratio (BCR) of at least 4, or at least 2 where the project makes a significant contribution toward wider aims.

2.2 Purpose and Community outcomes

The Council's vision for transport is expressed in the Transport Strategy as:

"A sustainable multi-modal transport system that is integrated with land use and contributes to Waitakere City being an eco city."

This vision supports a change from single-occupancy vehicle use to more sustainable modes of travel. That shift is necessary to enhance the quality of life in the City, to create dynamic town centres and liveable communities, and to protect the natural environment. To cope with expected growth, without a corresponding increase in vehicles on the road, Waitakere City needs to make the transition to a more compact city which maximises the benefits of the rail line and its three main town centres. Such a shift will contribute towards lowering the annual increase in vehicle trips on the roading network.

This activity primarily contributes to the following community outcomes:

- Green Network - He tuituitanga kakariki;
- Strong Communities - He iwi kaha;
- Strong Economy - He tupuranga kaha ihi wana;
- Sustainable and Integrated Transport - Kauneke Tauwhiro me te Whakaurunga Waka;
- Sustainable Environment - Kauneke Tauwhiro Taiao;
- Toiora - Healthy Lifestyles;
- Urban and Rural Villages - Nga kainga taone, tuawhenua.

Consultation ensures that work is prioritised to improve and maintain the agreed levels of service for the City's transport network.

2.3 Activity plan and level of service

The 2009 development contributions and financial contributions policy is based on the draft 2009 activity plan, "Transport Activity Plan 2009-2019". It is anticipated that this activity plan will be finalised and adopted in calendar 2009.

The Council strategy to achieve the city's transport vision and objectives is to reduce congestion in parts of the network and to encourage more people to walk, cycle, use passenger transport and car pool as the city grows. The flow of goods and people is vital to the economy and the functioning of the city.

Significant spending is proposed for road capacity enhancements, including road widening and intersection upgrades. These types of road projects generally provide for improvements in safety, walking, cycling, or bus movement. Upgrades of arterial roads are required to enable bus priority measures, to encourage ride-sharing (high occupancy vehicles), to improve cycle access with cycle lanes and to increase the traffic efficiency of the network. While such projects are generally not directed primarily at increasing capacity for private cars, they often create some improvement for all modes.

Other types of roading projects include those for new roads in NORSGA (which provide capacity for the new growth areas), and those which alter capacities in order to redirect traffic from a town centre.

The council's approach to traffic flow Level of service recognises the A-F grading given in the Highway Capacity Manual (US Transportation Research Board). LOS D is considered to represent congested roads. Targets include that:

- Major routes should be free of severe congestion;
- The planning, development, maintenance and management of the transport network is carried out in an effective and efficient manner;
- There is appropriate use of traffic controls to effectively manage traffic.

Managing congestion will be through targeted investments in transport infrastructure, and a range of travel demand management measures including increasing road connections in town centres and disconnected neighbourhoods and improving passenger transport, walkways and cycle ways. These also help to support moves to a compact city form.

3.0 Outline of Cost allocation approach

3.1 Outline of methodology

This activity uses the base cost allocation process, as set out in the framework document (A01). This methodology takes the planned cost of a proposed project and assigns it to various cost components including Renewal, Backlog, Growth and Unallocated.

There are several drivers identified regarding the transport activity. They are: safety, capacity, town centres, recreational use, network resilience, future proofing, quality improvements and programme developments. Relevant drivers are discussed further below.

Capacity
Capacity for roads relates to the amount of available space for traffic movement (not only the number of lanes, but also the level of "friction" with adjoining land-use) and also the loading capability of the pavement structure.

Transport modelling is used to assess the network in terms of congestion and the Highway Capacity Manual based levels of service (A to F), in conjunction with ARC's transport planning. This process takes into account current and projected land use patterns and traffic volumes, and assesses capacity shortfalls both at and between ("mid-block") intersections. This work is comprehensively detailed in the "Waitakere City Transport Strategy 2006-2016".

NorSGA projects are split into two components: Capacity – New Roads and Capacity – Upgrades (with some transport works also falling under "Town Centres"). This allows a more comprehensive cost allocation for projects in that greenfields area. Particular account is also taken of the new employment expected in that area as it develops, and the corresponding implications for improvements to transport flows right across the city.

Improvements in transport should provide people with better travel choices and improve access other than by private car.

Town Centre projects
Significant development is expected within Waitakere City in the areas covered by plan changes 13, 14, 15 and 17. In particular, a new town centre is planned for the area of plan change 15 (PC 15 – Massey North), and substantial upgrades are underway for the area of plan change 17 (PC 17 – New Lynn). The council is correspondingly planning for significant infrastructural investments in and around these areas.

The Massey North area in particular (together with the rest of the Northern Strategic Growth area (NorSGA)) represents a greenfields, strategic growth area. The development of this area will result in significant new employment for the city. Alongside that new employment (and other non-residential development), the city's residents will obtain significant benefits from new destinations and shorter trips (with consequent savings in travel costs).

The projects that facilitate those outcomes do however have some differences from the majority of the council's other growth-related transport projects. Roading patterns for a town centre have a wider range of drivers, and deliver a wider range of benefits arising partly from the increased capacity they deliver and partly from the changes in trip patterns they facilitate. A town centre is intended to be a destination attracting vehicles from across and even outside the city, and therefore those roads do more than provide "local capacity" that will be consumed by growth within the immediate area. Evaluation of the growth fraction of this spend involves considering available transport modelling to understand how the benefits from and sources of the need for the spend are distributed.

Recreational Use
Cycleways are implemented on the basis of their network benefits (noting NZTA will not subsidise cycleways that are for purely recreational use), however a proportion of cycle journeys are recreational. This driver is used to account for the portion of the service

delivery that is related to public amenity or recreation rather than to the transport capacity function.

A 90/10 (capacity / recreation) split is used for routes where the majority of use is likely to be travel rather than recreation. A 50/50 split is used for cycleways which are considered likely to have high level of recreational use (eg. Twin streams).

4.0 Outline of cost recovery approach

4.1 Basis of demand

Demand for transport comes from both residential and non-residential developments. For network or capacity projects (which are the most important for development contributions), the underlying measure of demand is daily trips.

Residential units will be allocated a value of one Household Equivalent Unit (HEU) for every Household Unit (HHU) generated. The unit of demand for non-residential developments will also be the HEU. Non-residential transport demands can be evaluated using standard transport modelling information, which provides a relationship between development size and type and expected trips (see also below).

4.2 Use of information from the growth model

The appropriate geographic basis for transport growth costs needs to be considered. It is recognised that each area of the city has its own characteristics and the transport network will never be equal across the city. For example, some areas naturally have better access to the north-western motorway or to routes through the southern isthmus. The city however has a roading network that includes strategic routes and roads lower in the hierarchy, and these collectively do provide access between all areas.

After review of these factors, a citywide catchment is used for this activity. This is also considered appropriate because of the nature of transport (ie. that it facilitates movement all across the city), and because the programme includes projects right across the city over time. In addition, each of the community outcomes related to transport is strongly connected with the city as a whole (rather than a smaller geographic area).

Each projected new household unit is treated as one HEU. This information is readily available from the growth model.

For non-residential demands, the Transport HEUs are based on trip figures from the Parking and Driveway guidelines:

- An expected trip rate of 9 trips per day for households;
- An expected daily trip rate of 7 trips per 100m² gross floor area (GFA) for “industrial” developments.

This gives a figure of 0.78 HEUs / 100m² GFA for non-residential development. This figure can be applied when assessing individual developments.

5.0 Evaluation in terms of the Cost allocation and Cost recovery guidelines

	Guideline	Comments
1	General and activity-specific information regarding all aspects of cost allocation and cost recovery for development contributions should be publicly accessible.	This methodology, the LTCCP and the activity plan make this information available.
2	The cost of growth to be recovered by development contributions may only include capital costs that the council expects to incur. Operating costs, such as maintenance, must be excluded.	The methodology provides that only capital costs are included in the cost of growth.
3	The cost of growth to be recovered by development contributions may only include expenditure to meet demand created by future growth.	The methodology excludes costs associated with past development from the cost of growth to be recovered through development contributions.
4	The cost of growth may not include costs that have been or will be funded from other sources.	This activity attracts significant subsidies from the New Zealand Transport Agency (NZTA). These subsidies, and other funding sources, are excluded as part of the methodology.
5	The unit of demand must reasonably relate to demand.	HHUs and HEUs are considered to reasonably relate to demand, as they are based on transport modelling information.
6	The cost of growth attributed to each unit of demand must be representative of the cost of meeting the demand that the unit generates.	Each HHU and HEU shares in the cost of growth.
7	The proposed approach should consider the overall impact on the well-being of the current and future community.	The overall impact of the proposed cost allocation is considered appropriate. This achieves a balance between the costs met by the existing community and the growth community.
8	The growth community should pay the full cost of a project that only meets an expected increase in demand driven by growth, and that delivers no material net benefits to the existing community.	Growth-only projects occur only rarely for this activity, however for such projects the methodology would determine a high growth fraction.
9	The minimum cost of a multi-product project that should be allocated to growth is the incremental cost of growth.	The methodology does not deliver an estimate of the incremental cost, so compliance with this guideline cannot be confirmed precisely. However, it is believed that this guideline will be met in most cases.
10	The maximum cost of a multi-product project that should be allocated to	As a transport network must provide a connection to each site, a true “stand-alone”

	growth is the stand-alone cost of growth.	project (that does not adversely impact on existing users) is generally either physically unfeasible or enormously expensive.
11	The cost of carrying additional capacity for growth (usually in the form of interest costs on borrowing) is considered part of the growth costs.	The cost of finance approach delivers this outcome. The activity plan process, and public consultation on proposed facilities and planned expenditure, ensure that asset planning is sound.
12	The methodology chosen for calculating the cost of growth should reflect asset planning, including the network nature of assets and services and the project, programme and catchment-based nature of planning for that activity. Development in a catchment should pay only for costs related to that catchment or to the city as a whole.	A citywide catchment is adopted, consistent with planning for and use of the underlying assets and services. The project based nature of planning is also recognised in the methodology.
13	When determining allocation of the costs of growth, due consideration must be given to both those who cause the costs of growth and those who will benefit from increased infrastructure capacity.	The provision of new and upgraded infrastructure is driven by growth and by other drivers (including improving access and usability for existing users). New and upgraded infrastructure will also usually provide benefits to the existing community (at least temporarily) as well as the growth community. Accordingly, costs should be shared by both of these groups. The methodology delivers this outcome.
14	The unit of demand for those activities that are charged on non-residential as well as residential developments must apply equally to both types of development.	The unit of demand is based on transport modelling information, ensuring it applies to both residential and non-residential developments.
15	The cost of growth should be apportioned across the years over which capacity generated by the investment is used up.	The methodology takes account of the appropriate recovery period for each project.
16	The cost of growth and cost recovery approaches must be clear, fair, meet activity specific requirements and reflect a cost effective use of resources.	The methodology is described in detail in the framework document, and takes account of the nature of this activity as described in this document. This activity typically has a large number of projects, each of which is evaluated individually.
17	The unit of demand should be simple to apply and able to be consistently applied to the various stages of both actual and proposed developments using readily available information and requiring minimal subjectivity.	Household units are a classic measure of the size or scale of a residential development. Non-residential HEUs are defined with reference to the size or scale of a development. In both cases, these use readily available information.
18	The cost of growth methodology	The methodology is largely based on

	should take a prudent approach to estimating the cost of growth. A conservative approach, such as aggregating or averaging, may be necessary in allocating costs, whether between the existing community and the growth community or between sectors of the growth community.	quantifiable information. Together with the use of a citywide catchment approach, this is considered to provide an appropriate outcome.
19	Development contributions methodologies should avoid incentives that may inadvertently affect development trends in an inappropriate way.	The methodology is not considered to introduce any inappropriate incentives for particular types of developments or development patterns.