Methodology for Determining Development Contribution Charges

Christchurch City Council

March 2006

Prepared for

Christchurch City Council

by

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File:	Cost Allocation Method.doc
Printed	26/05/2006 11:18:00 am
Status	Final

Table of Contents

1 Background

Christchurch City Council has introduced a Development Contributions Policy under the provisions of the Local Government Act 2002 (LGA 2002) with the purpose of ensuring the incoming community, which places demands to expand current infrastructure supports the cost of providing that infrastructure. This support will be in the form of a Development Contribution charge on new developments.

This document describes in detail the analysis process that has been adopted to determine the Development Contribution charge.

The principle steps in the process include:

- Adoption of capital expenditure requirements to support implementation of the community's levels of service through the Long Term Council Community Plan (LTCCP). This capital expenditure is presented as programmes of service delivery based on planned and completed projects.
- A cost allocation methodology to determine the shares of project costs into renewal, backlog and growth.
- A growth model presenting projected growth in the community by contributing catchment and service type. The model takes into account the differing demands in services between the residential and business communities.
- A funding model to determine the Development Contribution charges taking account of the cost of growth, timing of expenditure, growth of demand forecasts, interest costs and funding periods.

2 Cost Allocation Methodology

The cost allocation methodology adopted has been developed to support the implementation of a development contributions policy and complies with the requirements of the LGA 2002. The outputs of the analysis are presented in a manner that will meet the requirements of Section 106 in respect of the level and detail of information that should be made available for review. The cost allocation methodology allocates the project costs into the primary expenditure components of Renewal, Backlog and Growth.

A worked example has been included in the method description following to clarify the steps.

All analysis of planned projects is undertaken in the dollars of the year of the current Long Term Council Community Plan (LTCCP). All historic projects costs are the actual completed project costs in the dollars of the years in which they were completed.

No allowance is made for inflation or indexation of construction costs.

2.1 Definitions

To provide clarity key definitions are necessary to ensure the terminology of the cost allocation process is fully understood.

Cost of Backlog	The portion of a planned (or completed) capital project that is required to rectify a shortfall in service capacity to meet existing community demand at the current agreed levels of service.
Cost of Growth	The portion of a planned (or completed) capital project providing capacity in excess of existing community demand at the current agreed levels of service.
Cost of Renewal	The gross cost of replacing an existing asset with a modern equivalent asset to the same function and capacity at the end of its life. Note renewal is about the “money put aside” in anticipation of the cost for replacing the asset at some future time. This should not be confused with the asset replacement activity. The asset replacement activity (or rehabilitation work) draws on the knowledge that an asset is reaching the end of its life and is the work planned to ensure that the integrity of the service is maintained. The rehabilitation work may also include elements of backlog and growth to ensure the integrity of the service for some time into the future
Existing Community	This is the community existing at the current year of the LTCCP.

2.2 Step 1 – Identification of the Project

Information is recorded from the current Asset Management Plan relating to the detail of individual projects.

- Project number, title and brief description
- Project location

- File references
- Brief schedule of estimated (or actual if past project) project costs
- Schedule of planned (or actual) expenditure in each year
- Third party funding available or provided to support the project

Note the project costs include all capitalised expenditure related to the project; pre-design, design, consent, construction, supervision, administration, interest during construction etc. The project costs will not include pre-feasibility, catchment planning, or strategic planning that gave rise to the project. Should the project include works that should be classified as OPEX then those costs are excluded from the analysis.

Example:

• Project cost	
• Design and investigation	$10,000
• Consent	$5,000
• Construction	$80,000
• Supervision	$3,000
• Administration	$2,000
• Project Total	$100,000

• Split into years of planned expenditure	
• 2007 – project development	$15,000
• 2008 – project implementation	$85,000

External Funding

Where the project is anticipated to be supported by external funding then it is necessary to deduct the amount of external funding from the project total before proceeding with the analysis.

Typical sources of external funding include Land Transport New Zealand for transport activities, however would also include grants from charitable agencies (Banks, Lotteries Commission) or community raised funds (independent of rating) to support implementation of community facilities.

2.3 Step 2 – Define the Level of Service Drivers

The Levels of Service (LoS) that define the need for and extent of the project are identified and recorded. Primary and secondary (if appropriate) project drivers are identified and listed. It is important that the levels of service are clearly defined in a manner that relates to the capacity of the infrastructure to deliver the service. For the purposes of this cost allocation methodology the service levels adopted relate to the measures used to define the extent of the project.

Information recorded includes:

- Primary and secondary Levels of Service drivers
- A discussion as to how those statements have been applied to this project
- A record of file references, usually asset management plan, where the Level of Service statements have been developed
- A statement of the capacity measures together with a commentary

2.4 Step 3 – Define the Capacities Relating to the Project

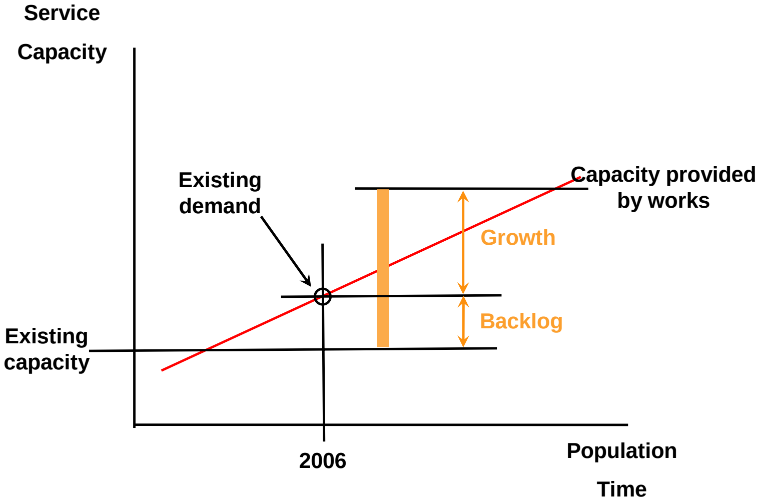
This is the critical Step in the process.

Based on the defined level of service the measures that describe the existing capacity, existing demand and total capacity provided by the project are reported. Note that the capacity measures will vary from project to project while still delivering the Level of Service. For example some projects may be designed to support the average daily flows, others the peak flows.

Note the capacity and demand calculations are to be based on the year of analysis which is the year of the current LTCCP.

Information recorded includes:

- The measures adopted to define the capacity
- A commentary confirming the type of measure (average daily measure, peak measure, etc.)
- Identification of the existing capacity of the current infrastructure
- Identification of the existing demand for service from the existing community
- Identification of the total capacity provided by the existing infrastructure plus the capacity added by the planned works
- Identification of the year the total capacity will be reached based on demand projections made at the time of writing the Asset Management Plan.
- Identification of the year the planned works will be replaced – the physical life of the project



The capacity and demand measures are used to divide the New Works Cost Share into Backlog and Growth Cost Shares in the manner described in the figure.

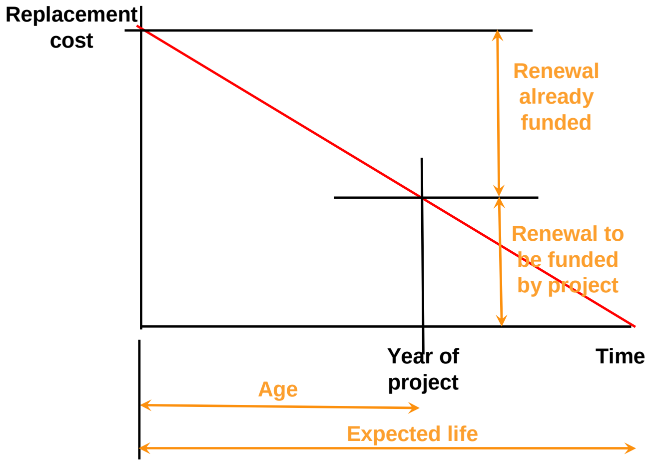
Continuing the earlier example as follows:

• Capacity of existing infrastructure	200 units
• Existing demand for infrastructure	220 units
• Total capacity of infrastructure after implementation of the works	250 units
• Capacity provided by the new work	50 units
• Capacity provided to meet backlog	20 units
• Capacity provided for growth	30 units
• Backlog proportion of new work	40%
• Growth proportion of new work	60%
• Year the total capacity will be reached based on demand projections	2030
• Year the planned works will be replaced	2090

2.5 Step 4 – Asset Renewal

Most new projects will include the replacement of existing assets. Most asset replacement projects will be sized to replace the original capacity of the aged asset plus some additional capacity for anticipated future growth.

The Cost Allocation Methodology recognises that from the time the asset to be replaced was new until the time of the planned works, depreciation (or decline in service potential) was collected to fund its eventual replacement. This money collected is "available" to assist in meeting the project cost and is acknowledged in the methodology as described in the figure.



The replacement cost is derived from the valuation and will be the Gross Replacement Cost of the Modern Equivalent Asset.

Example:

• Gross Replacement Cost of assets renewed as part of the project	
• The Stand Alone Renewal Project	$22,000
• Age of existing assets	25 years
• Expected life of existing assets (Valuation)	40 years
• Proportion of renewal funded by past depreciation	62.5%
• Proportion of renewal to be funded by the project	37.5%
• Amount of renewal funded by past depreciation (62.5 % of $22,000)	$13,750

2.6 Step 5 – Cost Efficiency

The Cost Allocation Methodology recognises that had the renewal component and provision of new capacity been undertaken as stand alone projects it is probable that these two (theoretical) projects may total to a greater cost that the planned project as the following example shows.

The <u>Stand Alone Renewal Project</u> is defined in Section 0.

The <u>Stand Alone New Work Project</u> is a theoretical project to undertake only the works necessary to provide for:

- The catch-up of any Backlog (including the change to any Level of Service to serve existing population & business demands); and
- Additional capacity to cater for Growth (at the new, if changed, Level of Service)

Note it is important to confirm that the theoretical project being costed is a Stand Alone New Work rather than a marginal scope or cost. The Stand Alone New Works project will be located in the environment of the proposed works, however it will be Stand Alone, i.e. it will not make use of any existing infrastructure

Example

• Planned project includes renewing parts of the existing infrastructure as well as providing new capacity to meet shortfalls in existing demand and to provide capacity for the future.	
• This is the project cost defined in Step 1	$100,000
• Stand Alone Renewal Project (see above) to independently replace the components of exiting infrastructure renewed. A theoretical project with cost based on the gross replacement cost of modern equivalent assets defined in the current valuation	
• This project has been determined in Step 4	$22,000
• Determine the Stand Alone New Works Project to independently of the existing infrastructure provide the new capacity required – the capacity difference between total capacity of the works and the capacity of the existing infrastructure.	$88,000
• Capacity provided by this stand alone new work project is calculated in Step 3 above – 50 units.	
• Sum of the stand alone projects	$110,000
• Therefore the proportion of the actual project costs that is renewal is (22/110)	20%
• And the proportion of the actual projects costs that relates to the provision of new capacity is (88/110)	80%
• Apportioned Renewal Cost (20% of project cost)	$20,000
• Proportion of renewal funded by past depreciation	62.5%
• Renewal Cost Share	$12,500
• Confirm this is not greater than the amount in Step 4 ($13,750)	
• Apportioned New Works Cost (80% of project cost)	$80,000
• Plus balance of Renewal to be funded by project (37.5% of $20,000)	$7,500
• New Works Cost Share	$87,500

2.7 Step 6 – Determine Cost Shares

Now the cost shares of the project can be determined.

Example

• Planned project includes renewing parts of the existing infrastructure as well as providing new capacity to meet shortfalls in existing demand and to provide capacity for the future.	
• This is the project cost defined in Step 1	$100,000
• Renewal Cost Share – Step 5	$12,500
• New Works Cost Share – Step 5	$87,500
• Backlog proportion of new work – Step 3	40%
• Growth proportion of new work – Step 3	60%
Calculate from the New Works Cost Share	
• Backlog Cost Share	$35,000

• Growth Cost Share	$52,500

2.8 Step 7 – Check Growth Cost Share

The analysis above has split the project cost into the three cost share components of Renewal, Backlog and Growth. As it is anticipated a third party will provide the funds to meet the Growth Cost Share it is important to ensure that the third party is not disadvantaged by the analysis. To ensure they are not disadvantaged an assessment is made of the Stand Alone Growth Project a green-fields project the third party could install to meet the just the growth capacity of the proposed works. It is noted that (except for underground assets) the third party would need to place this project on land that otherwise could be sold and therefore the opportunity cost of that land is included in the assessment of the Stand Alone Growth Project. Recognising that it may not be prudent for a community to be provided with a plethora of stand alone projects a "system efficiency premium" is applied; this is currently accepted to be 10%. The Growth Cost Share calculated above is then compared with the Stand Alone Growth Project cost. Where the Stand Alone Growth Project cost (including the system efficiency premium) is assessed as less than the calculated Growth Cost Share the Growth Cost Share is adjusted downwards to the Stand Alone Growth Project cost and the difference is added to the Backlog Cost Share.

The Stand Alone Growth Project is a theoretical project to undertake only the works necessary to provide for the incoming growth demands on a Stand Alone basis (i.e. they may not use any existing infrastructure). Note the Stand Alone Growth Project would be considered as if the growth / development community had established the new facility on their land to meet the Level of Service requirements of the growth community. If the asset would require land for its establishment the cost of that land must be included in the scope and cost of the Stand Alone Growth Project.

Example

Stand Alone Growth Project

• Capacity to be provided (refer Step 3)	30 units
• Stand Alone Growth Project cost to provide 30 units of capacity	$65,000
• Land cost	$15,000
• Stand Alone Growth Project Total	$80,000
• System Efficiency Premium	10%
• Cap on Growth Cost Share	$88,000
• Growth Cost Share (minimum of Cap on Growth Cost Share and Growth Cost Share (Step 6))	$52,500
• Unallocated Cost Share (Growth Cost Share (Step 6) – Cap on Growth Cost Share (Step 7))	$0

Note where the Cap on Growth Cost Share is less than the Growth Cost Share calculated in Step 6 then the difference is identified in the analysis as an Unallocated Cost Share.

2.9 Step 8 – Cost Allocation Outputs

The Project costs are reported by each year of planned expenditure as:

- Renewal Cost Share
- Backlog Cost Share
- Growth Cost Share

- Unallocated Cost Share

Example

	Total	2007	2008
• Renewal Cost Share – Step 5	$12,500	$1,875	$10,625
• Backlog Cost Share – Step 6	$35,000	$5,250	$29,750
• Growth Cost Share – Steps 6 and 7	$52,500	$7,785	$44,625
• Unallocated Cost Share – Step 7			
• Project Total	$100,000	$15,000	$85,000

3 Growth Model

A separate report has been prepared on the growth model preparation. The model has assessed increase in demand resulting from population increases, increased demand for employment expressed as increases in floor area and increases in impervious surfaces giving rise to increases in stormwater runoff.

The growth model presents growth as projected numbers of dwellings for residential growth and floor are for business growth in each year by planning units in the Community. A number of these planning units will make up the contributing catchments for Development Contributions charging purposes.

In the funding analysis the units of demand are expressed in Household Equivalent Units (HUE). The HUE recognises that the demands for service in the business community are different from the residential community. In determining the units of demand for the funding analysis the business floor areas are adjusted by "equivalences" which relate the business demands back to the common unit of demand expected from a typical residential unit (HUE). These equivalences are derived from known measures of demand for each service type.

4 Financial Analysis / Funding Model

The purpose of the funding model is to ensure an equitable assessment of the funding requirements to support the Development Contributions regime. The primary output of the funding model is an accurate assessment of the required development contributions charges.

The model is to take account of:

- The funding requirements to support the cost of growth infrastructure.
- Equitable application of those funding requirements to the incoming growth community.
- Recognition that the backlog components of the growth infrastructure are funded by the existing community. The rating charges applied to the existing community will also be applied to the incoming community as there is no differential rating process to exclude the incoming community from those rates charges. Therefore the resultant rating charge on the incoming community is to be offset against the development contribution charge.
- Interest on funds raised to implement growth infrastructure.
- Interest on contributions received in advance of provision of growth infrastructure.
- Recognition that money raised must meet the financial requirements of projects, therefore consideration will be given to the effects of inflation on both the costs and the income.

A project cannot be considered for development contributions unless it is an approved project in the LTCCP. The LTCCP will include schedules of planned projects and schedules of past projects with remaining capacity intended to support the new and future incoming community.

4.1 Background Information

Key background information necessary to run the funding model:

- The growth and non-growth costs for each project (net of any external funding) derived using the cost allocation analysis (refer Section 0)
- Knowledge of the timing of expenditure for each project.
- Knowledge of contributing catchments (areas of demand)
- The growth model (refer Section 3), expressed in Household Equivalent Units (HUE) by catchment
- Treasury rules regarding the funding of debt, interest rates and funding periods.

Note the projects introduced into the funding model will be in two categories:

- Planned projects with planned capacity to support future growth. These are projects identified and adopted within the LTCCP. These relate to projects planned to be implemented over the next 10 years.
- Past projects with residual capacity for growth. These relate to infrastructure that was implemented by historic projects, which still has capacity to support future growth.

4.2 Inflation

All analysis is undertaken in current year dollars. Note for historic projects the actual project costs are used and these are not inflated to the current year.

4.3 Model Output – the Development Contribution

The development contribution is assessed for each service type and each catchment and will be charged to the incoming community based on the number of HUE's demanded by each incoming activity.

4.4 Terms and Definitions

• Year	Will be end year; i.e. 2005/06 will be listed as 2006
• Current year • Year 1	The Current Year is the year in which planning is underway to implement adjustments to the development contributions on 1 July in the next year. That is 1 July 2006 after planning through the year 2005/06. Therefore the current year is 2005/06 (called 2006) and year 1 of the analysis is 2006/07 (called 2007).
• Past growth • Past expenditure	Relates to the growth capacity and cost that has been provided by past expenditure. In terms of cost it relates to actual costs incurred in past years – including the current year. In terms of demand it relates to the provided capacity for the period between implementation and the current year.
• New growth • New expenditure	Relates to the growth demand and planned costs in the ten years from the current year. Starting in year 1 and ending in year 10; If the current year is 2006 this is the period 2006/07 – 2015/16.
• Treasury funding period	The typical period identified in the Council treasury policy for funding borrowing.
• Credit interest	The interest rate identified for lending in the current Council treasury policy
• Debt interest	The interest rate identified for borrowing in the current Council treasury policy
• First DC Schedule year	The year this project first was included in the determination of the Development Contributions Schedule
• Year of first project spend • Year of last project spend	The year in which actual spending on the project is planned to commence or the project is planned to be completed. For historic projects it is the year the project spending actually started or finished.
• Contributing Catchment	The area of demand identified in the Development Contributions Policy to which the growth or backlog charges for each project are assigned to determine the Development Contribution Charge.

4.5 Funding Periods for Analysis

Backlog Rating Charge Funding

First year for backlog funding = First year of project spend

Last year of backlog funding = Last year of project spend + Treasury funding period

Growth Charge Funding

First year for growth funding	=	Year of latest cost allocation. This is generally Year 1, however for an historic project this will generally be the year after project completion.
Last year of growth funding	=	minimum of • 'design capacity year' • 'life end year' with the proviso that • Never less than 'First DC Schedule year' + 10 years • Never greater than 'year of last spend + Treasury funding period

4.6 Backlog – Rating Charge

Backlog identified in the cost allocation analysis against the project is assessed as a rating charge to the existing community. The contributing catchment for the existing community will reflect the current general rating regime in the community – if general rates are based on a community-wide basis then the whole community served by that infrastructure will be included in determining the rating charge.

Note if current rating charges are not adjusted by the cost of providing this backlog – i.e. current rating regimes target the backlog costs to just the existing community then the backlog rating charge identified here will be zero.

4.7 Rating the Incoming Community

The model acknowledges there is no mechanism in the current rating policies managed by Council to differentiate rating between the existing and the incoming community. Therefore the model acknowledges the "backlog" rating charged to the incoming community as being effectively a charge to support the growth infrastructure. The cumulative impact of this rating charge on the incoming community is considered as a "backlog credit", reducing the capital requirement for that infrastructure.

4.8 Growth Charge

For each project the Development Contribution capital charge for each incoming HUE will be assessed as the growth cost divided by the number of incoming HUE's from year 1 to the end of the funding period for that project, including allowance for timing of expenditure, credit and debt interest, incoming population trends, etc. The "growth charge" will be determined based on the assumption that at the end of the funding period the remaining debt will be zero.

4.9 Development Contribution

The development contribution for each service group and each contributing catchment will be the sum of the "growth charges" for each project in the service group and contributing catchment less the sum of the "backlog credits" for each project in the service group in the backlog contributing catchment.