



**Methodology – Activity 3 – Aquatics & Recreation**

No historic capital expenditure made in anticipation of growth is recognised. The Community Plan provision for additional gym equipment will be recovered from user charges. The pools in Stokes Valley, Wainuiomata and Eastbourne currently have some spare capacity, however Huia & Naenae are at full capacity. The capital expenditure in the Community Plan is for increased level of service for existing residents, such as poolside shade structures & seating.

Historic capital expenditure					
				<b>Total</b>	<b>Total growth</b>
				\$	\$
					0
Community Plan capital expenditure 2006 – 2016 (2006 dollar terms)					
Maintenance total	Maintenance growth	New assets total	New assets growth	Total	Total growth
\$	\$	\$	\$	\$	\$
2,987,000	0	1,100,000	0	4,087,000	0
TOTAL historic and Community Plan capital expenditure for growth					0
					HEUs
					0
					Fee/HEU
					0

**Methodology – Activity 4 – Parks, Reserves, Beaches, Sports Grounds & Cemeteries**

The current collection of a 7.5% reserves contribution fee under the RMA/district plan will continue. No Community Plan based fees are assessed.

No historic capital expenditure made in anticipation of growth is recognised. New and improved assets totalling \$3.9m are provided in the Community Plan.

Historic capital expenditure					
				<b>Total</b>	<b>Total growth</b>
				\$	\$
					0
Community Plan capital expenditure 2006-2016 (2006 dollar terms)					
Maintenance total	Maintenance growth	New assets total	New assets growth	Total	Total growth
\$	\$	\$	\$	\$	\$
4,980,000	0	3,879,200		8,859,200	0
TOTAL historic and Community Plan capital expenditure for growth					0
					HEUs
					0
					Fee/HEU
					0

**Methodology – Activities 5 and 6 – Community Support and Property**

*Community Support*

No historic capital expenditure made in anticipation of growth is recognised and there is no capital expenditure in the 10 year Community Plan for this activity.

*Property*

No historic capital expenditure made in anticipation of growth is recognised. This activity includes the buildings for Community Halls & Libraries. All capital expenditure is considered by asset managers to be level of service improvements for existing residents.

Historic capital expenditure					
				<b>Total</b>	<b>Total growth</b>
				\$	\$
					0
Community Plan capital expenditure 2006-2016 (2006 dollar terms)					
<b>Maintenance total</b>	<b>Maintenance growth</b>	<b>New assets total</b>	<b>New assets growth</b>	<b>Total</b>	<b>Total growth</b>
\$	\$	\$	\$	\$	\$
5,115,750	0	1,684,380	0	6,800,130	0
TOTAL historic and Community Plan capital expenditure for growth					
					0
				HEUs	0
				Fee/HEU	0

**Methodology – Activity 7 – Roading & Traffic**

No historic capital expenditure made in anticipation of growth is recognised.

When planning road projects, growth is considered especially in terms of heavy weight limits arising from the increased numbers of commercial vehicles using the roads. Roads are strengthened in anticipation of traffic growth, however this traffic growth could be from a mix of increased propensity to travel and true growth. Land Transport NZ allows a 2% compounding traffic growth mainly as a result of increased propensity to travel.

Projects discussed but not included in the 10-year plan include the Cross Valley Link, Valley Floor Connector, and the Melling Bridge. These would increase network efficiency and provide more capacity for the city-wide network however they cannot be subject to a development contribution as they are not in the Community Plan.

New, improved and some maintenance assets (growth portion of reseals) totalling \$41m after allowance for Land Transport NZ subsidies are provided for in the Community Plan. On an average cost allocation basis, 5% of the total capital expenditure is allocated to growth and 1% in the case of reseals.

**Calculation of HEUs**

Each new household is assumed to generate 10 vehicle movements per day, and this is therefore the HEU for the activity.

Non-residential HEU equivalents are assessed as:

- Commercial 2 HEU per 100 square metres of gross floor area;
- Retail 4 HEU per 100 square metres of gross floor area;
- Industrial 0.3 HEU per 100 square metres of gross floor area.

New residential HEUs are assumed to total 2000 in ten years. New non-residential HEUs are calculated as shown in the table below, using the HEU conversion rates calculated above.

	New Floor Area (m <sup>2</sup> per annum)	Total New Floor Area to 2016 (m <sup>2</sup> )	HEUs/100m <sup>2</sup>	Total HEUs
Commercial	1,000	10,000	2	200
Retail	2,000	20,000	4	180
Industrial	6,000	60,000	0.3	800
Residential				2,000
<b>Total</b>				<b>3,180</b>

Historic capital expenditure					
				<b>Total</b>	<b>Total growth</b>
				\$	\$
					0
Community Plan capital expenditure 2006-2016 (2006 dollar terms)					
<b>Maintenance total</b>	<b>Maintenance growth</b>	<b>New assets total</b>	<b>New assets growth</b>	<b>Total</b>	<b>Total growth</b>
\$	\$	\$	\$	\$	\$
34,248,500	234,500	17,881,530	893,525	52,130,030	1,128,025
TOTAL historic and Community Plan capital expenditure for growth					
					1,128,000
				HEUs	3,180
				Fee/HEU	355



**Methodology – Activity 8 – Water Supply**

No historic capital expenditure made in anticipation of growth is recognised.

While maintenance capital expenditure can make a marginal provision for growth (e.g. replacement of pipe with a larger capacity pipe) this is not considered to be a material expense. Capital expenditure in the improving services classification includes building new water reservoirs to increase the existing storage capacity, upgrading pipelines to improve water pressure and flows, and shutoff valves to isolate the water supply in case of an earthquake (extending the life of the asset) and is improving the level of service for existing users.

It is assumed that the new assets on average provide for the assumed 5% ten-year city growth over both residential and non-residential sectors. On an average cost allocation basis, 5% of the total capital expenditure is allocated to growth.

*Calculation of Residential HEUs*

The average daily water supply to Hutt City is 38.2 million litres, or 38,200 cubic metres (m<sup>3</sup>), and wastewater flows excluding trade waste average around 27,000 m<sup>3</sup>. This suggests 70.5% of water supplied is discharged as wastewater. Given a residential HEU of 675 litres per day for wastewater (see Activity 9 – Wastewater for calculation), this implies a water HEU of  $675 / .705 = 957$  litres per day.

*Calculation of Non-residential HEUs*

Using the HEU of 957 litres per day, and household numbers of 34,662, total water supplied to the residential sector per day is 33,172 m<sup>3</sup>. Water supplied to the non-residential sector is therefore 5,028 m<sup>3</sup>. Dividing this flow by 957 litres suggests that there are 5,254 HEUs in the non-residential sector. Given estimated total gross floor area of 20.057 million square metres (m<sup>2</sup>), this equates to 0.26 HEU per 100 m<sup>2</sup> of gross floor area.

*Growth in HEUs*

Growth of 2,000 HEUs is assumed for the residential sector during the period 2006 – 2016. New non-residential HEUs are calculated as shown in the table below, using the HEU conversion rate calculated above.

	New Floor Area (m <sup>2</sup> per annum)	Total New Floor Area to 2016 (m <sup>2</sup> )	HEUs/ 100m <sup>2</sup>	Total HEUs
Commercial/Retail	3,000	30,000	0.26	77
Industrial	6,000	60,000	0.26	154
Residential				2,000
<b>Total</b>				<b>2,231</b>

*Calculation of Development Contribution for Water*

<b>Historic capital expenditure</b>						
				<b>Total \$</b>	<b>Total growth \$</b>	
					0	
<b>Community Plan capital expenditure 2006 – 2016 (2006 dollar terms)</b>						
<b>Maintenance total \$</b>	<b>Maintenance growth \$</b>	<b>New assets total \$</b>	<b>New assets growth \$</b>	<b>Total \$</b>	<b>Total growth \$</b>	
15,270,000	0	5,445,000	272,250	20,715,000	272,250	
<b>TOTAL historic and Community Plan capital expenditure for growth</b>					<b>272,250</b>	
					HEUs	2,231
					Fee / HEU	122

Developments where there is no connection to water supply reticulation systems will not be required to pay water fees. If the Development is subsequently connected to the water reticulation system, the applicable contribution will be payable prior to connection.



**Methodology – Activity 9 – Wastewater**

*Historic Capital Expenditure - Wastewater Treatment Plant*

LGA s199(2) enables Council to require a development contribution for capital expenditure already incurred in anticipation of development. The wastewater project completed in 2002 is the most significant historic investment of this type.

*Provision for growth*

The treatment plant was completed in 2002 at a cost of \$61 million (Source: Hutt City Annual Report 2001 / 2002). 70% of design capacity was allocated to Hutt, and 30% allocated to Upper Hutt at the time of construction. The plant was designed and built with 10% spare capacity for growth.

Of the total capital cost, Upper Hutt paid approximately \$16 million, or 26%, leaving a net cost to Hutt of \$45 million. Of the amount paid by Hutt, 10% or \$4.5 million was for growth.

*Calculation of HEUs – Residential*

A typical flow of wastewater per person per day in a household is 250 litres. Given an average of 2.7 people per household, this gives 675 litres per day. This figure equates to 1 HEU. Given 34,662 residential households (and, therefore, HEUs) in Hutt City, total residential flows per day =23.4 million litres, or 23,400m<sup>3</sup>.

*Calculation of HEUs – Non-residential*

The wastewater treatment has an average daily flow of 54,000 m<sup>3</sup> per day for both Hutt and Upper Hutt. In very dry months this can drop as low as 41,000 m<sup>3</sup> per day. This suggests an infiltration of stormwater into the sewerage system of around 30% of total flows.

Average total daily flows from Hutt City are around 40,000 m<sup>3</sup>. Given 30% infiltration, actual wastewater produced is around 30,800 m<sup>3</sup>. Given that 23,400 m<sup>3</sup> is residential, this leaves 7,400 m<sup>3</sup> of non-residential flows.

The average daily flow of trade waste from Hutt City is around 3,840 m<sup>3</sup>, leaving around 3,560 m<sup>3</sup>.

Converting the non-residential flows (excluding trade waste) to HEUs, using 675 litres as the HEU for wastewater, gives 5,274 HEUs in the non-residential sector.

Given a total commercial, retail and industrial Gross Floor Area of 2.057 million m<sup>2</sup> (as estimated by DTZ), this equates to 0.26 HEUs per 100 m<sup>2</sup> of GFA.

The total design number of HEUs is therefore 34,662 + 5,274 = 39,936. Spare capacity at 10% is 3994 HEU. The cost per HEU is therefore \$4.5 million / 3994 = \$1,127.

*Community Plan Capital Expenditure*

The Community Plan includes capex for new works and improvements of \$12.066 million net of subsidies. It is assumed that 5%, or \$603,357 of this capex caters for growth during the period covered by the Community Plan.

New residential HEUs are assumed to total 2000 in ten years. New non residential HEUs are calculated as shown in the table below, using the HEU conversion rate calculated above, and the estimated new gross floor area for each sector, as supplied by DTZ.

	New Floor Area (m <sup>2</sup> per annum)	Total New Floor Area to 2016 (m <sup>2</sup> )	HEUs/ 100m <sup>2</sup>	Total HEUs
Commercial/Retail	3,000	30,000	0.26	77
Industrial	6,000	60,000	0.26	154
Residential				2,000
<b>Total</b>				<b>2,231</b>

Most capital expenditure is required to reduce overflows of dilute wastewater to streams caused by inflow and infiltration of stormwater to the sewers during heavy rainfall. While these works are primarily providing an improved level of service to existing users, design capacities are on average over time assumed to allow for growth. It is assumed that the new assets on average provide for the assumed 5% ten-year city growth over both residential and non-residential sectors totalling 2,231 HEUs. On an average cost allocation basis, 5% of the total capital expenditure is allocated to growth.



Historic capital expenditure					
				<b>Total</b>	<b>Total</b>
				\$	\$
				45,000,000	4,500,000
				HEUs	3,994
				Fee/HEU	1,127
Community Plan capital expenditure 2006-2016 (2006 dollar terms)					
Maintenance total	Maintenance growth	New assets total	New assets growth	Total	Total
\$	\$	\$	\$	\$	\$
37,321,777	0	12,066,085	603,357	49,387,862	603,357
				HEUs	2,231
				Fee/HEU	270
				Total Fee/HEU	1,397

Developments where there is no connection to the wastewater reticulation system will not be required to pay wastewater fees. If the Development is subsequently connected to the wastewater reticulation system, the applicable contribution will be payable prior to connection.

**Methodology – Activity 10 – Stormwater**

No historic capital expenditure made in anticipation of growth is recognised.

The 2006-2016 LTCCP capital expenditure is required because of the change in climate and increasing strength or intensity of the storms. Recent flooding has demanded improved services and upgrades to the existing services. While these works are primarily providing an improved level of service to existing users, design capacities are on average over time assumed to allow for growth. It is assumed that the new assets on average provide for the assumed 5% ten-year city growth. On an average cost allocation basis, 5% of the total capital expenditure is allocated to growth.

*Calculation of HEUs*

A figure of 200 square metres of impervious surface area has been assumed for the average residential lot. This becomes the HEU for stormwater.

The figure of 200 m<sup>2</sup> of impervious surface area has also been applied to the non-residential sector. The charge would only apply to new impervious surface area.

Commercial development over the period 2006 – 2016 is expected to total 10,000 m<sup>2</sup> of gross floor area.. Assuming an average site coverage of 400% (i.e. a four storey development), this gives 2,500 m<sup>2</sup> of impervious surface area. For retail, at 20,000 m<sup>2</sup> of gross floor space, and an assumed site coverage of 150%, the impervious surface area would be 13,333 m<sup>2</sup>. Industrial development of 60,000 m<sup>2</sup> of gross floor space is assumed with 100% site coverage, giving 60,000 m<sup>2</sup> of impervious surface area.

This gives a total impervious surface area for non-residential developments of around 76,000 m<sup>2</sup>, or 380 HEU.

Historic capital expenditure					
				<b>Total</b>	<b>Total growth</b>
				\$	\$
					0
Community Plan capital expenditure 2006-2016 (2006 dollar terms)					
<b>Maintenance total</b>	<b>Maintenance growth</b>	<b>New assets total</b>	<b>New assets growth</b>	<b>Total</b>	<b>Total growth</b>
\$	\$	\$	\$	\$	\$
4,804,000	0	28,460,000	1,423,000	33,264,000	1,423,000
<b>TOTAL historic and Community Plan capital expenditure for growth</b>					<b>1,423,000</b>
HEUs					2,380
Fee/HEU					598

Development in non-urban areas where no stormwater systems are provided will not pay a stormwater fee.

**Methodology – Activity 11 – Solid Waste, Activity 12 – Environmental Management & Activity 13 – Emergency Management**

*Activity 11 – Solid Waste*

Capital expenditure totalling \$18,664,000 in the 2006-2016 Community Plan along with historic expenditure is covered by User Charges.

*Activity 12 – Environmental Management*

There is no capital expenditure in the 10 year Community Plan for this activity.

*Activity 13 – Emergency Management*

Capital expenditure of \$435,000 in the Community Plan is for level of service improvements. Any element of growth capital expenditure is not material.

**Methodology – Activity 14 – Local Urban Design**

No historic capital expenditure made in anticipation of growth is recognised.

In the 2006-2016 LTCCP, there is capital expenditure of \$4.0m for the CBD Masterplan and suburban shopping centre improvements. It is assumed that these assets on average provide for the assumed 5% ten-year city growth. On an average cost allocation basis, 5% of the total capital expenditure is allocated to growth.

*HEU Calculation*

New residential HEUs are assumed to total 2,000 in ten years. New non-residential HEUs are calculated on the same basis as for Activity 7 – Roading and Traffic, and total 1,180.

Historic capital expenditure					
				<b>Total</b>	<b>Total growth</b>
				\$	\$
					0
Community Plan capital expenditure 2006-2016 (2006 dollar terms)					
<b>Maintenance total</b>	<b>Maintenance growth</b>	<b>New assets total</b>	<b>New assets growth</b>	<b>Total</b>	<b>Total growth</b>
\$	\$	\$	\$	\$	\$
0	0	4,100,000	205,000	4,100,000	205,000
<b>TOTAL historic and Community Plan capital expenditure for growth</b>					<b>0</b>
HEUs					3,180
Fee/HEU					64