

The demand forecasts have been developed using the best available data and adopting robust methodologies.

The proposed forecasts reflect the effects of a growing population and economic development.

This chapter identifies the primary drivers of demand for waterways and drainage services provided by Melbourne Water and outlines the methodologies, assumptions and data used to develop the proposed demand forecasts.

6.1 Waterways and drainage

Guidance provided by the Commission¹ notes that any methodology used to prepare demand forecasts for water services should:

- Be statistically unbiased
- Recognise and reflect key drivers of demand and supply
- Be based on reasonable assumptions using the best available information
- Be consistent with other existing forecasts and methodologies
- Use the most recent data available, as well as historic data that can identify trends in demand
- Take account of current demand and economic conditions and reasonable prospects for future market development.

The Commission also notes that businesses should exercise discretion and match the level of detail contained in their demand forecasts with the materiality of the demand information (and hence revenue impacts) captured. In addition, the proposed forecasts are required to be consistent with relevant plans such as Victoria in the Future 2004.

The Commission has requested information on:

- Growth in properties consistent with metropolitan retail water business forecasts
- The expected level of property development activity subject to developer charges
- Tabular information that summarises the forecasts and provides relevant historical information on demand.

6.1.1 Drivers of demand

Estimating demand for waterways and drainage services differs from water and sewerage services, as it is not based directly on volumes.

Property development is the key driver of future demand for drainage infrastructure that meets legislative requirements for flood protection and offsets the impact on water quality of run-off from development. Developer charges fund 100% of capital infrastructure required for new developments. Customer charges fund ongoing operating expenses and asset renewals of drainage and waterway assets.

¹ ESC 2008 Water Price Review – Guidance on Water Plans, September 2006

There are three sources of revenue growth linked to demand:

- Customer charges – property rates
- Developer charges – cash contributions
- Developer contributed assets.

6.1.2 Customer charges

Forecasting methodology

The retail water businesses are contracted to provide billing and collection services on behalf of Melbourne Water. This includes maintenance of the customer database and assistance with revenue forecasts, based on expected property growth in the respective retail operating areas.

The growth forecasts provided by the retail water businesses are based on estimates of development activity using the Department of Sustainability and Environment's Victoria in the Future 2004 property forecasts. This is compared with historical rates of growth and known development in each retail area consistent with guidance received from the Commission.

Melbourne Water assessed the reasonableness of the property growth forecasts provided by the metropolitan retail water businesses by:

- Checking for any significant changes from historical growth
- Comparing the forecast against Victoria in the Future 2004 projections
- Comparing with Melbourne Water forecasts of developer charges as a reasonableness test, however, this is based on an estimate of lots developed².

Growth forecasts for development activity in Melbourne Water's extended service areas are based on estimates developed by an independent consultant using Victoria in the Future 2004 property forecasts. Independent forecasts were required while Melbourne Water works with retail water businesses to provide billing and collection services in the extended areas.

Assumptions and data input

It is assumed that growth for waterways and drainage customers is consistent with growth in water customers. There is a slight difference in the number of properties as waterways and drainage charges only apply to rateable properties, while water charges apply to metered properties. There are approximately 15,000 non-rateable properties in Melbourne Water's operating area.

There can also be a slight difference in property count for multi-unit developments because individual units may be separately metered for water use but are not rated separately for waterways and drainage if they are not individually owned.

These differences are not considered material for the purposes of revenue forecasts and therefore no adjustments have been made to retail water business forecasts of property growth.

The waterways and drainage revenue forecast is derived from the supplied property growth estimates for the end of each period.

² Whilst property development is the common driver for developer charges and growth in rateable properties, direct comparisons of forecasts are limited. Developer charges are based on a per hectare rate that varies for drainage schemes and development densities. Number of lots can be estimated, however, the correlation between sub-division and growth in rateable properties is weakened by a lag that varies between three months and two years, depending on the nature of development.

Melbourne Water's revenue forecast applies the mid-point for new properties in each year to take account of partial rates as new properties become rateable throughout the year.

The minimum charge for residential, non-residential and rural customers in each retail water business area is multiplied by the number of properties. An average charge has been used for residential and non-residential customers paying above the minimum charge in each retail area. The average charge used to forecast revenue varies between retail water businesses due to underlying property values (e.g. high central business district property values in City West Water's retail area result in a higher average non-residential charge than other retail water businesses).

Forecasts

The results of applying the above methodology and assumptions are provided in Table 6.1 for the period 2007/08 to 2012/13, compared to actual growth for the period 2004/05 to 2006/07 for each retail water business. The expected increase in rateable waterways and drainage properties is 126,000 over the 2008 regulatory period, representing an average annual growth rate of 1.6%. This varies for retail water business areas due to different rates of development activity.

Table 6.1: Annual property forecasts for existing retail water business areas ('000 properties)

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
City West Water									
Residential	250.8	260.6	269.7	277.2	283.7	290.5	297.2	303.3	308.8
Minimum charge	155.3	161.3	167.0	171.6	190.3	205.2	222.8	234.9	308.8
Above minimum	95.5	99.2	102.7	105.6	93.5	85.3	74.3	68.4	-
Non-residential	30.6	32.2	33.8	34.7	35.6	36.4	37.2	38.0	38.7
Minimum charge	4.9	5.2	5.4	5.6	8.6	9.5	10.3	11.0	11.8
Above minimum	25.7	27.1	28.4	29.1	26.9	26.9	26.9	26.9	26.9
Rural¹	0.3	0.3	0.3	0.4	0.6	0.6	0.6	0.6	0.6
Total	281.7	293.1	303.9	312.3	319.9	327.5	335.0	341.8	348.1
South East Water									
Residential	474.5	481.5	489.3	498.7	509.2	518.5	528.0	537.6	547.3
Minimum charge	294.9	299.2	304.1	309.9	337.1	359.4	386.3	404.9	545.9
Above minimum	179.6	182.3	185.2	188.7	172.0	159.0	141.7	132.7	1.4
Non-residential	41.9	41.9	41.9	42.6	43.3	44.0	44.6	45.3	46.0
Minimum charge	5.7	5.7	5.7	5.8	9.9	10.6	11.3	12.0	12.6
Above minimum	36.2	36.2	36.2	36.8	33.4	33.4	33.4	33.4	33.4
Rural¹	19.3	19.5	19.7	20.1	20.5	20.9	21.2	21.6	22.0
Total	535.7	542.9	551.0	561.4	572.9	583.3	593.9	604.5	615.3

¹ Refers to properties located outside of the Urban Growth Boundary (see Chapter 12 for further discussion)

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Yarra Valley Water									
Residential	549.4	556.3	563.7	569.6	575.3	581.4	587.5	593.7	599.9
Minimum charge	311.4	315.3	319.5	322.8	354.7	379.9	412.2	431.4	599.9
Above minimum	238.0	241.0	244.2	246.7	220.5	201.4	175.3	162.3	-
Non-residential	39.3	40.2	40.7	41.1	41.6	41.9	42.3	42.7	43.1
Minimum charge	4.5	4.6	4.6	4.7	8.6	9.0	9.4	9.8	10.2
Above minimum	34.8	35.7	36.1	36.5	32.9	32.9	32.9	32.9	32.9
Rural¹	25.8	26.2	26.5	26.8	30.1	30.3	30.6	30.9	31.2
Total	614.5	622.7	631.0	637.5	646.9	653.6	660.5	667.4	674.3
Total - Metropolitan	1,432.0	1,458.7	1,485.8	1,511.1	1,539.7	1,564.4	1,589.3	1,613.7	1,637.7

The results of applying the forecasting methodology and assumptions for Melbourne Water's extended service areas are provided in Table 6.2. Growth forecasts have been applied to the estimated number of rateable properties in the extended areas from 2006/07. Actual property numbers can only be ascertained by taking up property data from local government. Melbourne Water expects that this information will be made available to the Commission prior to making its final price determination.

The expected increase in rateable waterways and drainage properties is 30,000 over the 2008 regulatory period, representing an average annual growth rate of 4.0%. The higher annual growth rate is due to a larger number of growth corridors in the extended areas compared to the existing retail water business areas.

Melbourne Water proposes to introduce fixed waterways and drainage charges for extended area properties and therefore there is no need to distinguish between properties paying minimum and above minimum charges.

Table 6.2: Annual property forecasts for total extended area ('000 properties)

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Residential	108.7	113.2	118.3	123.6	128.7	133.5	138.1
Non-residential	4.8	5.0	5.2	5.4	5.7	5.9	6.1
Rural ¹	49.8	51.8	54.1	56.6	58.9	61.1	63.2
Total– Extended area	163.3	170.0	177.6	185.6	193.3	200.5	207.4

¹ Refers to properties located outside of the Urban Growth Boundary

6.1.3 Developer charges

Developer charges are made up of:

- Cash contributions – based on a contribution rate calculated for the development service scheme or stormwater quality offset charge
- Contributed assets – assets constructed by the developer that are transferred to Melbourne Water to operate and maintain.

Chapter 12 and Appendix 5 describe the principles and methodology used by Melbourne Water to calculate developer charges and stormwater quality offset charges. Sections 6.1.4 and 6.1.5 describe the process for forecasting growth.

6.1.4 Cash contributions

Forecasting methodology

Development services schemes consist of detailed plans that identify and cost drainage related works required to be provided for urban expansion within a defined catchment or area. There are currently approximately ninety-four active schemes, and they are funded by financial contributions from land developers who contribute on the basis of land area and development density. This results in a unique contribution rate for each individual scheme.

Melbourne Water prepares two different types of development services schemes that are consistent with the State Government's Melbourne 2030 growth strategy. Greenfield schemes are designed to service new development on the urban fringe. Redevelopment schemes preserve existing levels of flood protection in established areas and charges apply to the increased stormwater run-off generated by redevelopment based on a calculated change in impervious surface area.

Forecasting developer contributions for greenfield and redevelopment schemes is informed by detailed planning and expected development rates sourced from the land development industry. While this is useful for pricing individual schemes, there is a tendency for the development industry to be overly optimistic in relation to aggregate rates of development. Melbourne Water, therefore, takes forecasts prepared by a housing industry economist, and converts these to annual growth rates which are applied to actual rates of demand for various development densities. Government land development activity forecasts are also taken into account.

Assumptions and data input

Developer contributions for schemes are based on an average per hectare contribution charge applied to various development categories (low, medium, high density) which are sourced from the development activity forecasts referred to above. Assumptions have been made on the timing of activity in the domestic housing construction sector and the future trend of industrial estate development.

Forecast

Table 6.3 shows forecast cash contributions from developer charges for the 2008 regulatory period. The annual forecasts include cash contributions of \$4.0 million from developer charges in the extended areas.

Table 6.3: Forecast cash contributions (\$ million)

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Greenfield	28.9	30.2	34.6	34.5	32.7	38.1	39.4	41.4	40.2
Redevelopment	0.2	0.3	0.5	2.1	3.0	4.3	5.9	7.7	9.9
Corridor	2.2	corridor charges removed	-	-	-	-	-	-	-
Water quality offset charges	-	0.9	1.1	1.5	1.6	1.3	1.2	1.1	1.0
Total	31.3	31.4	36.2	38.3	37.3	43.7	46.5	50.2	51.1

6.1.5 Contributed assets

It is difficult to accurately forecast contributed assets as Melbourne Water does not plan for the construction of these assets. Contributed assets are received when:

- Developers construct assets additional to the scheme design (e.g. larger diameter or longer drains, additional landscaping, water quality works in non-scheme areas)
- A single development is of significant size, representing the majority of the scheme, (e.g. Pakenham West (Delfin)). In these cases the developer constructs all of the works and hands them over to Melbourne Water to manage in lieu of paying contributions
- Significant freeway works are undertaken (e.g. EastLink).

The value of contributed assets can vary significantly from year to year if there are abnormally large gifted assets. This has occurred in recent years with contributions from large single developments.

The forecasts set out in Table 6.4 are based on underlying trends with additional income incorporated in anticipation of the receipt of assets associated with the construction of the Mitcham-Frankston Freeway. Extended areas are expected to contribute \$2.4 million over the regulatory period.

Table 6.4: Forecast contributed assets (\$ million)

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Contributed assets	4.7	8.8	10.6	10.5	9.3	7.6	6.0	5.2	4.9