

Activity Summary: WATER

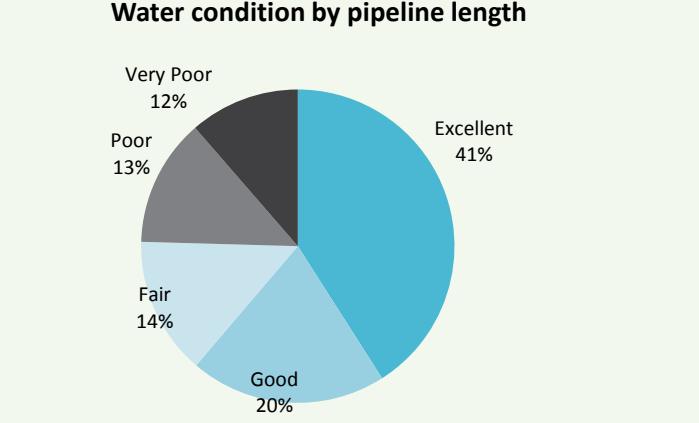


Activity Description	<p>What we do</p> <p>Our water supply network is very important as it allows us to provide high quality drinking water to everyone across our city. We also ensure that we have enough water to put out any fires in our city when we need to. To manage these functions we own and operate water reservoirs, pump stations and underground pipe networks. We also look after the management of water flow and make sure that it runs at an appropriate pressure out of our taps. To encourage water conservation, we run awareness programs and demand management techniques.</p>	<p>Why we do it</p> <p>Having a reliable and safe supply of water supports our community in many ways. It supports active and healthy lifestyles for our people, and ensures that we are prepared to fight fires. Our water supply network supports our households and businesses in our city and protects our natural environment. We work hard to manage and maintain this system and reduce any instances of failure and uncontrolled discharge of water.</p>	<p>Supported Strategic Priorities</p> <p>The water activity is a fundamental service for our community. It supports all of the strategic priorities but especially:</p> <ul style="list-style-type: none"> • A growing, prosperous and regionally connected city • A great village and city experience
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Levels of Service	<p>Desired Levels of service</p> <ul style="list-style-type: none"> • Drinking water is safe • Water demand is managed • We respond to faults within reasonable timeframes • Customers are satisfied with the networked reticulation system • The reticulation network is maintained 	<p>Performance measures</p> <ul style="list-style-type: none"> • Compliance with drinking water standards • Water interruptions, average drinking water consumption • Median response times for attendance and resolution of urgent and non-urgent callouts • Resident satisfaction with water supply services, complaints about drinking water issues • Percentage of real water loss from networked reticulation system
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Demand	<p>Growth and Development</p> <ul style="list-style-type: none"> • Population growth • Housing density/types • Transient population (commuters / tourism) • Development type and zoning/re-zoning • Regulatory requirements (water metering) • Network leakage • Water pressure 	<p>Demand issues</p> <ul style="list-style-type: none"> • Average summer demand is typically greater than that in winter and can vary widely. Usage on peak days can be almost 50% more than an average 'winter' day. The main cause of summer peaks is outdoor usage, e.g.; watering of gardens. • Very high daily peaks have occasionally come close to the supply capacity of treatment and distribution assets. Dry conditions and persistently high demand over several weeks, typically in mid-late summer, require the use of stored water, depleting reserves and increasing the likelihood of a water shortage. • These circumstances have been the primary focus of much demand management work over the last 20-plus years
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Asset Information	<p>Asset description</p> <p>18 reservoirs 328 km pipelines 13 pump stations</p> <p>Note: Water extraction, treatment and bulk transmission is carried out by Wellington Water on behalf of Greater Wellington.</p>	<p>Asset Value</p> <ul style="list-style-type: none"> • Replacement cost \$125 million • Depreciated replacement cost \$62 million • Annual depreciation \$1.8 million 	<p>Asset Condition and Performance</p> <ul style="list-style-type: none"> • 24% of network pipes in poor or very poor condition due to high proportion of asbestos cement pipes • Most reservoirs are at risk of failure in a large earthquake • Many reservoirs lack the capacity (storage volume) for current and future operational requirements
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	<i>What are the risks</i>	<i>What are we doing about them</i>
Risk	Contamination of the local supply at the local resevoir or network level	Ongoing inspections and monitoring programmes
	Additional demand placed on water supply by new developments will not be met	Additional storage (new reservoirs), demand management including community education
	Reservoirs may fail in earthquakes, meaning the population will be without treated water (affecting basic needs for sustaining life and sanitation)	Seismic strengthening, Approach to resilience improvement: Personal resilience, Operational response, long-term asset upgrades
	Poor network condition resulting in high leakage and service failures	Asset renewal programmes

Lifecycle Management Plan	<i>Operating and Maintenance highlights</i>	New initiatives or aspirational change				
		Year 1	Year 2	Year 3	> Year 3	
		Future Service Studies (incl. Sustainable Water Supply)	\$60K	\$50K	\$20K	\$120K 2022-2024
		Alliance partnership for network maintenance and operations	Subject to contract negotiations			
		Water supply monitoring and investigations	\$155K	\$155K	\$155K	\$465K 2022-2024

<i>Significant capital projects</i>	Issue	Response and Project	Cost (\$millions) and timing	
			Cost (\$millions)	Timing
	Meeting future growth and managing demand	New reservoir Whitby	\$2.1	2018–2020
	Providing networks that are resilient to shocks and stresses	New reservoirs Porirua LL Zone	\$20.9	2018–2029
	Providing reliable services to customers	Network & pump station renewals	\$16.6	2018–2037

These tables and graphs summarise the total operating and capital expenditure. They are for each year of the LTP (years 1 – 20) and then at 5 yearly averages for year 21-30 of the Infrastructure Strategy. Forecasts are in \$000's, and the base costs are uninflated.

	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
Operating	8,387	8,562	8,866	9,161	9,814	10,387	10,710	10,637	10,645	10,561	10,880
Growth	278	170	1770	820	20	20	20	44	44	44	44
Levels of service	2,216	50	1,000	1,000	7,000	5,450	1,250	0	0	0	3,175
Renewals	684	937	770	770	770	770	770	770	770	770	870

	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38-42	43-48
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
Operating	11,263	11,537	11,612	11,771	11,805	11,945	11,971	12,131	12,172	12,172	12,172
Growth	44	44	44	44	44	44	44	44	44	44	44
Levels of service	4,525	1,600	1,150	50	50	50	50	50	50	50	50
Renewals	1,170	1,170	1,170	1,170	1,170	1,170	1,170	1,170	1,170	1,170	1,170

