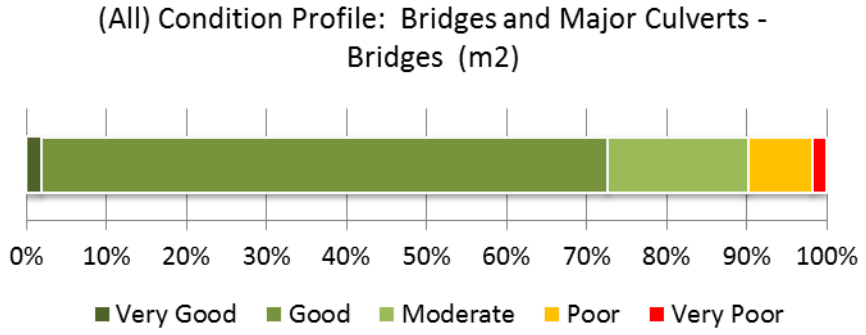
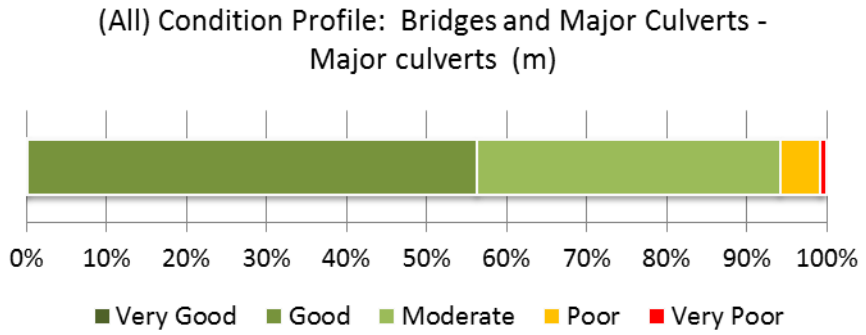
Bridges and Major Culverts ACMP Summary

Network overview

Bridges	590
Major culverts	358
Footbridges	49
Underpasses	14
Unknown	9
Total	1,020

Condition profile





Asset data status	Bridges	Major Culverts	Footbridges	Underpasses
Age data	Moderate	Moderate	TBC	TBC
Condition data	Reliable	Reliable	TBC	TBC
Data Currency	Reliable	Reliable	TBC	TBC

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Level of service

Outcome	The network is of suitable quality		
LOS statement	Assets are maintained in good condition		
Performance measure	**Current performance**	**Target performance**	**Target date**
Percentage of bridges and major culverts in backlog	8.0%	3.5%	2025
Percentage of bridges and major culverts on high-productivity motor vehicle lifeline routes with weight and speed restrictions	0%	0%	On-going Currently complying
Percentage of network closed due to bridge failure	0%	0%	On-going Currently complying

Outcome	The network is managed in the most cost-effective manner		
LOS statement	Bridges and major culverts are managed to least whole-of-life cost needed to maintain LOS		
Performance measure	**Current performance**	**Target performance**	**Target date**
Annual renewal cost measured against total m^2 of bridge deck and major culvert length in the Auckland region	$41	$128	2025

Outcome	The network minimises the potential for user death and trauma		
LOS statement	Bridges are compliant with seismic standards		
Performance measure	**Current performance**	**Target performance**	**Target date**
Percentage compliance of bridges and major culverts within seismic standards	TBC	100%	2025

Current (2015) backlog

Backlog: The financial value (quantity %) of assets in a “poor” or “very poor” condition.

Bridges	$52,273,076.60	10%
Major Culverts	$4,183,600.61	6%
Footbridges	TBC	TBC
Underpasses	TBc	TBC

Strategic approach

- Assets assessed and renewed dependant on severity when classified level 4 ‘poor’.
- Assets renewed immediately when level 5 ‘very poor’ condition is seen.
- Maintenance and services carried out at the most optimum time in the asset lifecycle.

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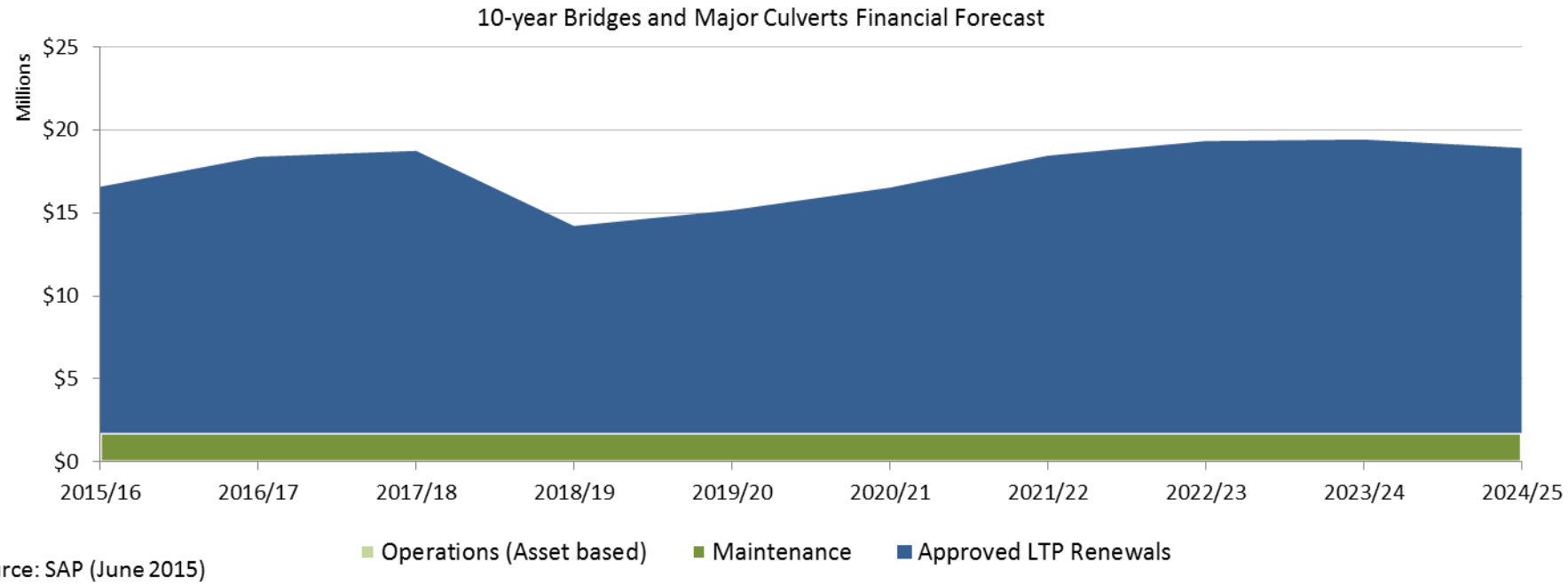
Renewal and Maintenance Costs ($M)

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	10-year total
Approved LTP Renewals (uninflated)		$14.8	$16.6	$17.0	$12.5	$13.4	$14.8	$16.7	$17.6	$17.7	$17.2	$158.3
Renewal Investment Needs (uninflated)		$9.5	$15.9	$17.0	$17.9	$18.6	$19.0	$19.3	$19.4	$19.4	$19.3	$175.2
Renewal shortfall		$5.3	$0.8	$0.0	-$5.4	-$5.1	-$4.2	-$2.6	-$1.8	-$1.7	-$2.1	-$16.9
Maintenance		$1.7	$1.7	$1.7	$1.7	$1.7	$1.7	$1.7	$1.7	$1.7	$1.7	$17.5
Operations (Asset based)		$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Consequential OPEX shorfall		$0.0	$0.0	$0.0	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.2	$0.9
Depreciation	$0.4	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0



Source: SAP (June 2015)

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Consequences if asset needs cannot be afforded

- The backlog will be estimated to increase by increase by $16.9m in the next 10 years.
- There will be an impact the current level of service being provided to AT's customers in terms of the appearance of the bridge structures.
- The current state of AT's asset network may deteriorate.
- Currently there is a small but acceptable risk of a road closure resulting from a culvert or bridge becoming unusable.

Key issues

Issue	Recommendation
The renewals funding for structures which include bridges, retaining walls and seawalls are aggregated. This split for renewals is to be 75%, 20% and 10% respectively for each structure.	Current expenditure will be analysed, and future expenditure needs forecast.
As above the OPEX funding for structures is also aggregated as 85%, 10% and 5% for bridges, retaining walls and seawalls respectively. For this issue and the renewals funding the current expenditure will be assessed, and future expenditure needs forecast.	Current expenditure will be analysed, and future expenditure needs forecast.
Ownership details are not known for all bridges and major culverts. This matter is addressed through AT's data improvement programme.	This is currently being addressed through Auckland Transport's data improvement programme.
ARMCO ® culverts (corrugated steel) built before 1980 are nearing the end of their useful life and will need replacing. Identifying these culverts and assessing the risk they pose to the public is vitally important.	These ARMCO ® culverts should identified and a register produced. They should then be prioritised for renewals or replacement. The number of ARMCO ® culverts should be reduced to zero over time.