

# Traffic Systems, Signs and Marking ACMP Summary

## Network overview

### Traffic systems

- Signalised intersections 624
- Signalised pedestrian crossings 141
- CCVT sites 187
- Electronic signs 701

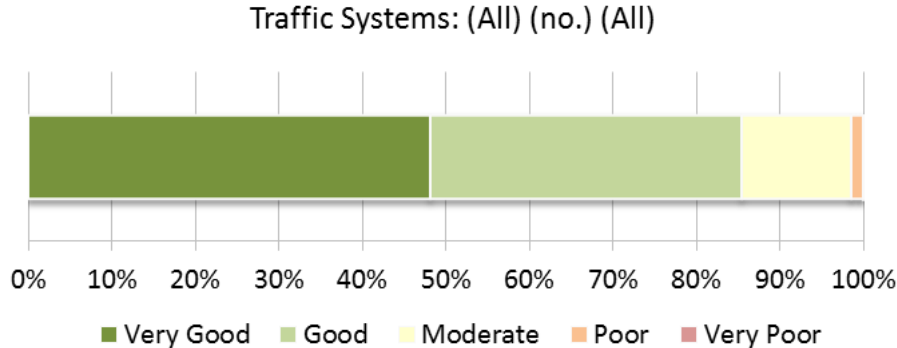
### Signs

- Regulatory and warning signs 94,978
- Advanced destination signs 1,733
- General advisory signs 40,247

	Current value	Replacement cost
Traffic systems	\$58 million	\$106 million
Signs	\$21 million	\$38 million
Markings	\$1 million	\$2million (thermoplastic)

Markings include all traffic markings on roads, cycle ways, and shared spaces.

## Condition profile



Data source: RAMM (October 2014)

Note: The condition of road markings is unknown.

Asset data status	Traffic systems	Signs	Marking
Age data	Reliable	Moderate	N/A
Condition data	Reliable	Unreliable	N/A

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## Traffic Systems level of service

Outcome:	Quality		
LOS statement:	Assets are maintained in good condition		
Performance measure	Current Performance	Target Performance	Target Date
% of traffic control systems in moderate condition (grade 3) or better	99%	95%*	ongoing

Outcome:	Efficiency		
LOS statement:	On time delivery against work programmes		
Performance measure	Current Performance	Target Performance	Target Date
% completion of signals renewals and upgrades programme	96%	100%*	ongoing
% completion of Route Optimisation Programme	10%	100%*	ongoing
LOS statement:	Improved capacity on key routes		
Regional traffic surveys show that capacity has improved on specified routes	New Measure	TBD	

Outcome:	Sustainable		
LOS statement:	Provide assets and services at least whole of life costs		
Performance measure	Current Performance	Target Performance	Target Date
% of network fitted with energy efficient lamps (LED lamps)	New Measure	15% (TBC)	ongoing

Outcome:	Reliability		
LOS statement:	Improve or maintain road travel time reliability		
Performance measure	Current Performance	Target Performance	Target Date
% response time to signal outages within standard timeframes	88%	90%	ongoing
% of signal uptime	99%	98%	ongoing
% of faults responded to within service level timeframes	97%	90%	ongoing
% of the corridor productivity ideal (19,000 person km/hour/lane) to be achieved for Airport to CBD (via Manukau Rd)	50%	52%	ongoing
% of the corridor productivity ideal (19,000 person km/hour/lane) to be achieved for St Lukes to St Johns via St Lukes; Rd/Greenlane/Remuera Rd	50%	52%	ongoing
% of the corridor productivity ideal (19,000 person km/hour/lane) to be achieved for Albany to Birkenhead (via Glenfield Rd)	50%	52%	ongoing

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% of the corridor productivity ideal (19,000 person km/hour/lane) to be achieved for Henderson to CBD (via Gt North Rd)	50%	52%	ongoing
Travel times maintained for 85% of trips along 4 key freight routes - Neilson St from SH20 to SH1	16 mins	Maintain 16 mins travel time on 85 percentile	ongoing
Travel times maintained for 85% of trips along 4 key freight routes - Neilson St from SH1 to SH20	13 mins	Maintain 12 mins travel time on 85 percentile	ongoing
Travel times maintained for 85% of trips along 4 key freight routes - SEART from Sylvia Park to East Tamaki	11 mins	Maintain 11 mins travel time on 85 percentile	ongoing
Travel times maintained for 85% of trips along 4 key freight routes- SEART from East Tamaki to Sylvia Park	11 mins	Maintain 11 mins travel time on 85 percentile	ongoing
Travel times maintained for 85% of trips along 4 key freight routes- Wairau Rd from SH1 to SH18	8 mins	Maintain 8 mins travel time on 85 percentile	ongoing
Travel times maintained for 85% of trips along 4 key freight routes - Wairau Rd from SH18 to SH1	8 mins	Maintain 8 mins travel time on 85 percentile	ongoing
Travel times maintained for 85% of trips along 4 key freight routes - Harris Rd from East Tamaki to SH1 Highbrook	10 mins	Maintain 10 mins travel time on 85 percentile	ongoing
Travel times maintained for 85% of trips along 4 key freight routes - Harris Rd from SH1 Highbrook to East Tamaki	11 mins	Maintain 10 mins travel time on 85 percentile	ongoing

### Signs level of service

Outcome:	Quality		
LOS statement:	Assets are maintained in good condition		
Performance measure	Current Performance	Target Performance	Target Date
% of traffic signage in moderate condition (grade 3) or better	99%* (of known assets)	95%*	

Outcome:	Easy to use		
LOS statement:	Improve navigability across the transport network		
Performance measure	Current Performance	Target Performance	Target Date
% of clearly visible street name blades on all major intersections	80%	TBC%	TBC
% of arterial network with real time information available (for 2012 from Annual Report)	8%	8%	TBC
% primary destinations with way finding (e.g. ADS) signage	TBD	TBD	TBC
% user satisfaction with network signage and	63%	63%	TBC

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## Current (2015) backlog

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

	\$ value	% quantity
Traffic systems	\$1 million	(1%)
Signs	\$0	(0%)

## Strategic approach

Auckland Transport (AT) is committed to managing its traffic system, sign and marking assets to deliver the agreed level of service, manage risk and achieve greater value for money. AT’s traffic system, sign and marking work activities adhere to the key principles of:

- The right treatments
- In the right places
- At the right times
- For the right costs

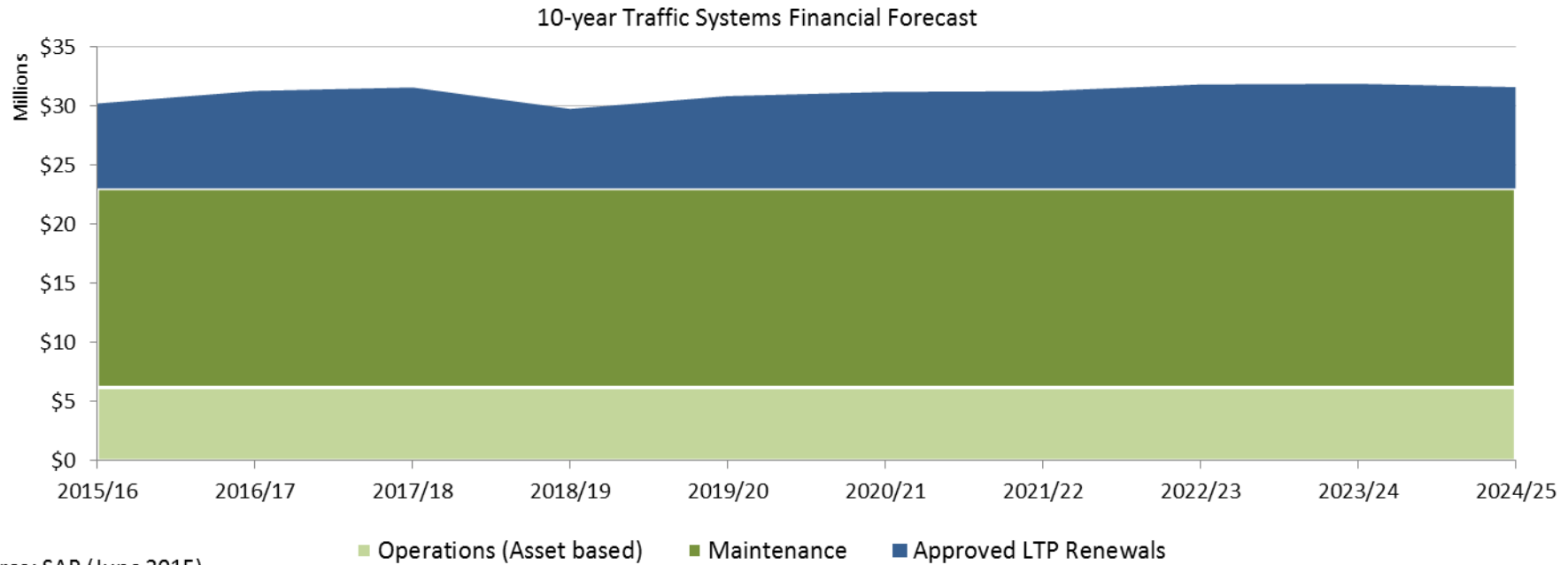
AT uses robust asset management tools to set appropriate levels of maintenance and renewal activities for its traffic system, sign and marking assets, to ensure that:

- Assets are maintained at the agreed level to continue to deliver optimal performance to the road users.
- Assets are programmed for renewal when they reach to ‘poor’ and ‘very poor’ condition.
- Assets are kept at the optimum condition level during their lives.

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## Renewal and Maintenance Costs (\$M)

\$millions	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	10-year total
Approved LTP Renewals (uninflated)		\$7.2	\$8.2	\$8.5	\$6.7	\$7.8	\$8.2	\$8.2	\$8.8	\$8.8	\$8.6	\$81.0
Renewal Investment Needs (uninflated)	\$4.7	\$8.0	\$14.0	\$11.6	\$16.6	\$14.7	\$14.0	\$14.3	\$14.4	\$14.1	\$14.1	\$135.7
Renewal shortfall		-\$0.8	-\$5.8	-\$3.0	-\$9.9	-\$6.9	-\$5.8	-\$6.0	-\$5.6	-\$5.2	-\$5.5	-\$54.7
Maintenance		\$16.8	\$16.8	\$16.8	\$16.8	\$16.8	\$16.8	\$16.8	\$16.8	\$16.8	\$16.8	\$168.4
Operations (Asset based)		\$6.2	\$6.2	\$6.2	\$6.2	\$6.2	\$6.2	\$6.2	\$6.2	\$6.2	\$6.2	\$61.9
Consequential OPEX shortfall		\$0.4	\$0.9	\$1.3	\$1.8	\$2.2	\$2.7	\$3.2	\$3.6	\$4.1	\$4.6	\$24.9
Depreciation	\$14.2	\$13.7	\$16.1	\$17.4	\$17.6	\$18.1	\$18.4	\$15.7	\$19.6	\$20.2	\$19.7	\$176.2



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## Consequences if asset needs cannot be afforded

- Target key performance measures not achieved
- Negative impacts on energy efficiency program
- Negative impacts on the traffic movements, travel time and road users safety

## Key issues

Traffic systems issues	Recommendations
Traffic congestion due to under resourcing at JTOC when manual intervention is required.	Improve infrastructure resilience by assessing what constitutes adequate resourcing for manual intervention.
Inefficient signals network due to significant gaps and aging in the AT/AC owned communications network	Work with utility companies to address poor condition of underground ducting in CBD. Improve the as built requirements for all future sites and upgrades.
Damage to traffic signal components adjacent to roadworks can cause signal failures	Respond to failures quickly by monitoring and maintaining traffic control equipment. Research for alternative methods of vehicle detection.
Higher LOS requirements for key pedestrian crossings and other road users	Addition of new and improved signalised intersections.
Signs issues	Recommendations
Insufficient ADS at intersections, regional and arterial roads.	Review long term plan for directing people and goods within strategic transport network with ADS signage.
Inadequate provision of street name plates in some areas (e.g. Orewa)	Undertake a missing sign needs survey as a pro-active contract renewal where forward programmes can be considered.
No inventory information for high performance markings in RAMM	Implement data capture for high performance markings.