Network Statement - Sample Work Categories

KEY MESSAGE

In order for our overall investment proposal for the state highways network to be robust, we must clearly demonstrate the value proposition for all the activities (physical works, network management and asset management) covered by the Network Statement. In general terms, this means that we are able to give confidence to our funder that:

- (i) the level of funding is appropriate in order to deliver the required levels of service to our customers, and
- (ii) once the funding is secured, these levels of service will be delivered efficiently

Opening commentary:

Following the latest guidance from Planning & Investment, it is expected that the following **themes** be considered and focused on when developing and writing the investment proposal for the NLTP:

- Based on solid evidence ("first principle")
- Linkage to One Road Network Classification (ONRC)
- Customer Focus
- Value for money

The expectation is that the Network Managers and their team will aim to explain / demonstrate how the various themes have been considered and satisfied for the various work categories (including the lump sum items). We accept that this is not always easily achieved for certain work categories.

This document provides an example for some work categories. It is a guide that gives Network Managers and their teams ideas on how to develop and write a Network Statement to support their funding bid.

Review of Network Statement submissions

Once submitted, the Network Statement will be carefully reviewed by the Outcome Delivery team (supported by the Structures team for the Structures section). The key aspects that will be evaluated during the assessment of the Network Statements are:

- Funding level request
- What is being delivered/achieved ("what do we get for it?")
- Why is this of value? What are the benefits to our customers?
- How do we know that the price is right? ("the value for money proposition")
- Linkage to ONRC (different levels of service for different classifications) and ONRC performance measures where applicable
- Key risks (both general and network specific) what are they and how are these managed?

General quidelines

You are encouraged to use the ONRC performance measures and reporting tool where relevant. Where there are no specific ONRC performance measures that can be used to support the "story" for a particular line item, there will often be Operational Performance Measures (OPMs) from the Network Outcomes Contract that can be used to inform or support the "story".

When using OPMs, it is important to ensure that the data used is relevant to the story being told. Clear explanation will be required to link the data to the story.

When trying to describe the effort put into a work category or specific line item, consider using RAMM data (which should contain all the maintenance activities delivered on the network).

Benchmark data comparing networks across different work categories can be used to support these statements. Comparison between similar networks is particularly useful.

When trying to describe financial performance, it is best to use SAP actuals.

Data quality reports (issued monthly) can potentially be a good source of information too, in trying to compare level of activity, effort put in, and how they trend over time.

SAMPLE

WC 111 - Sealed Pavement Maintenance

17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
1	2	3	4	5	6	7	8	9	10	11
\$1.67M	\$1.57M	\$1.57M	\$1.57M	\$1.55M						

LS - Pavement Maintenance

17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
1	2	3	4	5	6	7	8	9	10	11
\$1.4M										

Commentary:

For this Lump Sum item, the network manager is expected to document the fact that the level of investment for this set of activities is appropriate in order to deliver the required levels of service for our customers, now and in the foreseeable future, and in order to maintain the network to a sustainable level. Also, the network manager needs to give us confidence that the supplier will deliver these levels of service and make the network sustainable for the funding level stated. The below gives some examples of what can be included.

We predict that the pavement and surfacing LS will remain unchanged for the duration of the contract. Beyond this the only changes we predict (other than the normal uncertainties around tender pricing) will relate to asset growth which is separately covered.

This activity provides for the routine care and maintenance of our pavements and surfacing assets to keep them in a safe and appropriate condition. Typical activities include regular network inspections, planning and delivering a full range of pavement and surfacing repairs, completing all necessary pre-seal repairs in advance of our resurfacing programmes.

Levels of service in line with ONRC criteria are specified in the contract and monitored monthly to demonstrate that these are being achieved. These are measured via a range of Operational Performance Measures (OPMs).

Evidence of this achievement is included in Appendix X with a graph showing the OPM scores. Overall, the data demonstrate a satisfactory level of compliance over 90% of the time for the majority of the OPMs.

One problem area has proven challenging for us to reliably deliver to the required level of service. Edge break on three of the lower classification highways are constantly on the verge of non-compliance (and on two occasions outside acceptable levels). This is a major concern for the contractor from a cost perspective and for our customers from a safety perspective. It is the result of very narrow sealed carriageways. These are well under an acceptable width for a highway of that classification (5.9 m compared with desirably 7.0 m min). Repairs tend to be short lived as traffic constantly drives on or over the seal edge. The effort and cost going into this activity (refer to appendix s) does not appear to represent good value for money, nor is it satisfying customers' needs particularly well. It is interesting to note that we get very few complaints and these are typically informal from freight operators we liaise with during the year.

We are currently preparing a business case to find some additional funding to address the worst problem areas by way of a seal widening programme. If this proves unsuccessful there is a risk that prices for this activity could be somewhat higher beyond the term of this contract now that the scale and cost of compliance is well understood by our supplier.

A graph showing the nature and number of all complaints on the network is included in appendix y showing where edge break sits in relation to other items. Of note on this graph is that there are very

few complaints about pavement and surfacing matters. This provides further evidence that on balance our supplier is performing very satisfactorily in delivering on the activities covered under this Lump Sum.

We have also analysed a number of condition trends (see appendix z) and measures in the ONRC reporting tool (see appendix w)

These show that we are sitting in close alignment to three other similar networks that we have selected to benchmark ourselves against.

One concerning aspect that we have identified is an increasing roughness trend on the section of national strategic highway between Town A and Town B. We believe this relates to a general deterioration in the pavement rather than anything within the Lump Sum that is not being attended to. This will be discussed further under our roughness item below and within the rehabilitation programme.

We have also analysed the last three years of maintenance actives recorded in RAMM (refer appendix s). This has not revealed anything of concern, but we do note an increase in the number of stabi and dig out repairs in the last 12 months. This may be due to the fact that we had a particularly wet winter, or it could relate to the on-going tension around resurfacing renewals.

The table below gives a summary of the quantities achieved for the various activities under WC111 over the last 2.5 years (since the beginning of the current contract). More detailed data is provided in the table provided in appendix s.

	Activity	Fault	Units	2014/15	2015/16	2016/17 (part)
Pavement	Digouts (all pavements)		(m2)	58	423	82
	In situ stabilisation		(m2)	2,291	1,397	197
	Minor levelling		(m2)	902	1,462	8,407
	Pot-hole repairs	Pot-holes	(each)	1,436	1,885	1,091
	Rip and Remake		(m2)	148	804	174
Shoulder	Shoulder maintenance	Edge break	(m)	10,026	16,200	7,069
Surfacing	Re-chip surfacing		(m2)		5,931	118
	Seal cracks		(m2)	1,960	6,796	158
	Surfacing defect repairs		(m2)	4,479	4,474	320

We also noted that there have been far fewer tasks tagged as reworks. This is a good sign that the contractors focus on delivering good quality repairs is working. However we are not seeing many tasks that could be considered Preventative Maintenance. It is unclear if this is a significant concern or not yet, but this is an important element to extend asset lives. We will continue to monitor the level of activity around rework and preventative maintenance.

Finally, we have compared ourselves to other network for this work category (using the benchmarking spread sheet supplied by National Office) and this confirms that we are maintaining the pavement for a reasonable low funding level as our "indicative rates" as amongst the lowest across all the networks. Considering that nearly all the levels of service are satisfactorily and consistently met, this demonstrates that we are delivering value for money for this work category.

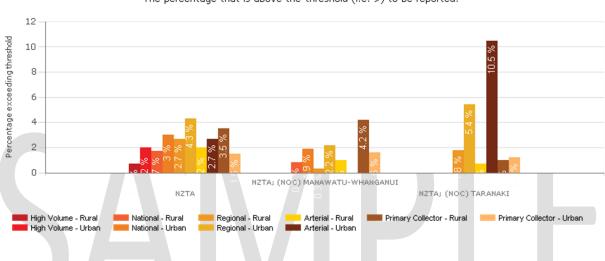
Roughness and Rutting

17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
1	2	3	4	5	6	7	8	9	10	11
\$150k										

The contractor submitted 30 roughness and 15 rutting sites. By considering Road Transportation Association data, customer complaints, nationally available tools (including ONRC online reporting tool) and reports, previous submissions and network data these have been reduced to the most urgent sites – 12 roughness and 6 rutting.

Current information indicates that this level of investment will continue to meet performance requirements for the entire period, especially given the low classification of highways on this network.

Our performance for peak roughness is shown in the graph below, together with a comparison against our neighbouring network.



The percentage that is above the threshold (i.e. >) to be reported.

The arterial urban road is showing a high roughness above the threshold of 10.5% due to an NZTA network decision to extend the life of the pavement towards the port. This figure has been skewed by a short length above the threshold on a short length of highway.

Heavy Maintenance

17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
1	2	3	4	5	6	7	8	9	10	11
\$100k	\$0k									

There are two heavy maintenance sites which were approved during the RAPT process. Future heavy maintenance costs are covered by programmed AWT sites which do not pass NPV.

Client Risk

17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
1	2	3	4	5	6	7	8	9	10	11
\$20k	\$20k	\$20k	\$20k	\$0k						

This amount covers underslip pavement and surfacing repairs and addressing accessibility issues. These are typically small works and tend to be reactive and customer driven.

WC 113 - Drainage Maintenance

Total

17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
1	2	3	4	5	6	7	8	9	10	11
\$363k	\$403k	\$408k	\$353k	\$403k						

LS - Drainage Maintenance

17	7/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
	1	2	3	4	5	6	7	8	9	10	11
\$1	143K	\$143K									

Not covered in this document - refer back to WC111 for an example of a Lump Sum item.

High Lip Removal (M&V)

17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
1	2	3	4	5	6	7	8	9	10	11
\$45k	\$45k	\$30k	\$30k	\$80k	\$100k	\$100k	\$70k	\$70k	\$80k	\$80k

Commentary:

(Note: this commentary applies for the next 2 line items as well, "Reform Side Drain" and "Reform Unlined Surface Water Channel")

The Network Manager must clearly explain how the \$ are derived; it is either

- (i) the quantity (within + or 5%, say) for this year and the next 10 years at the rate prescribed in the NOC. The NM must explain why this quantity is (/isn't) expected to significantly increase/decrease after the NOC ends, or
- (ii) The quantities (and therefore the \$) put forward are different from the contract quantities (by more than 20% over the duration of the NOC period) the NM must clearly justify why the quantities put forward (and therefore the funding request) is higher/lower than the contract quantities what are the benefits? Linkage to customers, levels of service, ONRC, etc.....

Evidence that the MMP has been robustly and consistently followed is required. If not, why not and what assumptions have been made, what alternative process has been used.

The NOC contractor is following the processes of the approved MMP to develop a detailed forward works programme (with individual sites listed). The Network Manager has reviewed the proposed programme against the BPQs – for the duration of the NOC period.

In the first two years of the NOC period, 60% of the BPQs have been consumed as part of a deliberate strategy to intervene early and target a large number of sites with a view to improve drainage and improve preservation of the pavement. The remainder of the quantities are being spread over the next 4 years.

The BPQs are considered to be low and insufficient going forward for the following reasons:

• xyz (list reasons).

Therefore the funding request for future years (after the current NOC period ends) is higher – \$80k (which represents approximately 40kms per year). The benefits for this are:

- Improved pavement performance
- Improved safety due to reduction in surface water pooling during heavy weather events.

Reform Side drains

17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
1	2	3	4	5	6	7	8	9	10	11
\$95k	\$135k	\$190k	\$190K	\$135K						

Appendix 6.2 of the NOC for the clearing and grading of side drains is based on 5% of 70km of total side drain length, which is 3.5km of side drains. The actual length of side drains on this network is 100km.

Using the formula that was used in the tender document, the base levels should be increased to 5km (5% of the 100km of side drains) as a start.

We have condition rated the side drains as per the MMP and have found that there was in excess of 20km of side drains on this network that have a deficient grade and cross section to carry the normal water flows. This is significantly more than what was assumed at tender time in compiling table 6.2. As a result the quantities to cater for this in the NOC are inadequate and will not enable the water to effectively drain the water from the road corridor. This is demonstrated by the number of customer complaints that we have received through CRMS relating to flooding of neighbouring properties. There is no level of service requirement however we are legally required to remove the impediment that is causing the flooding to adjacent properties.

As a result, we recommend a significant increase of $1.5 \, \text{km}$ per year based on the incorrect quantities and a further increase of $2 \, \text{km}$ per year in years 19/20 and 20/21 to start clearing the back log of unacceptable flooding conditions.

Reform Unlined SWC

17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
1	2	3	4	5	6	7	8	9	10	11
\$40k										

The graph in appendix b shows the poor condition of the side drains on this network. There is also a large amount of left wheel path rutting and flushing on this network (see graph in appendix c and photos in appendix d). We believe this amount will clear the backlog of work with a target to address the worst sites each year for the foreseeable future. An increase to this amount would allow faster clearance of this backlog which would result in better pavement preservation.

Other

17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
1	2	3	4	5	6	7	8	9	10	11
\$40k	\$40k	\$5k								

For the first time we now have a full condition rating and a comprehensive list of a significant number of drainage defects relating to our drainage assets. We have prioritised these based on classification, risk to resilience, safety, and pavement performance and have determined that 20% justifies intervention. There a number of sites with broken kerb and channel and culvert ends which have broken off (see attached photos in appendix a). We would like to get these sites fixed over the next 2 years.

Beyond that we expect to be on top of these failures and would only require a nominal amount to sort these issues each year. The effect of not fixing these sites will be increased pavement deterioration and a higher chance of culverts blocking and overflowing the highway – both leading to an increase in maintenance costs.

WC 151 Network and Asset Management

	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
	1	2	3	4	5	6	7	8	9	10	11
Ī	\$2.12M	\$2.06M	\$2.06M	\$2.06M	\$2.05M						

Commentary (this applies to the following 3 Lump Sum items)

The key aspects that will be evaluated during the assessment of the Network Statements are:

- Funding level request
- What is being delivered/achieved ("what do we get for it?")
- Why is this of value? What are the benefits to our customers?
- How do we know that the price is right? ("the value for money proposition")
- Key risks (both general and network specific) what are they and how are these managed?

LS Management and Supervision of Physical Works - \$750k

17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
1	2	3	4	5	6	7	8	9	10	11
\$750k										

The following items could be included:

- No. of supervisors
- No. of inspectors
- No. of cyclic crews
- Response times on various parts of network
- No. of crashes on network
- Network inspection frequency
- Time spent on auditing functions/reporting
- Percentage spent on sub-contractors
- Expectation of Lump Sum amount beyond contract period (rough indication if known of whether amount might change during next contract).

LS Network Management Professional Services - \$700k

17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
1	2	3	4	5	6	7	8	9	10	11
\$700k										

The following items could be included:

• Table 5.3.1 what has been done in regards to number of calls and hours spent. Include an 'other' category.

Activity	No. of calls	Hours spent	Comment
Customer and stakeholder relations			
Obstructions, partial closures and full closures			
Congestion			
Temp. traffic management and safety of work sites			
Corridor access management			
Unauthorised works			
Network and adjacent landowner related issues			
Monitoring of Consent Activities (LUDs)			
Environmental Consent Compliance Management			
Other			

- RAMM data performance OPM 1 achievement.
- Expectation of Lump Sum amount beyond contract period (rough indication if known of whether amount might change during next contract).

LS Contractor's Facility Running Costs - \$100k

1	L7/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
	1	2	3	4	5	6	7	8	9	10	11
	\$100k										

The following items could be included:

- · How many depots contractor runs.
- How many winter maintenance depots contractor runs.
- · What operating systems are used.
- Expectation of Lump Sum amount beyond contract period (rough indication if known of whether amount might change during next contract).

KRA

17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
1	2	3	4	5	6	7	8	9	10	11
\$200k										

Commentary:

For this item, the network manager is expected to reflect past performance of NOC contractor (i.e. for years to date) and any other relevant information to inform the likely performance of the NOC

contractor for the reminder of the NOC period. It is expected that the network manager makes a realistic assessment of the KRA payment for future years (at least for NOC that have been in place for more than one year).

Best practice has been achieved for this contract each year since its inception. This is expected to continue across the life of the contract.

PR Asset Information Management

17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
1	2	3	4	5	6	7	8	9	10	11
\$90k	\$40k	\$40k	\$40k	\$30k						

<u>Commentary:</u> (this applies to all the remaining line items for this work category)

The Network Manager must clearly explain how the \$ are derived:

- What activities are being undertaken?
- Why are these activities necessary? What are the benefits?
- Build-up of the \$ figure? (linking to work activities described in point above)
- Why are these activities "extra" / additional to LS items (either inside WC 151 or other relevant WCs)?
- Why are the quantities the same / higher / lower for future years?

Based on the data improvement plan we request these funds for:

- Staged CCTV inspection of culverts will be carried out to ascertain condition data for forward works of targeted culvert types (i.e. we have a lot of steel culvert flume failures) \$30k/annum. This amount would cover inspections of 30-40 culverts/year. The total amount of culverts in this network is over 3000 according to RAMM (the actual number is expected to be much higher). The more data we can attain on condition of assets, the more targeted and value for money forward works programme we can create.
- Test pits to investigate missing pavement strength information, 10 test pits/year until end of contract. Tests pits on average cost \$1000 (this includes all planning and traffic management costs). This request is above the lump sum amount for network management in this category. Whilst some test pits are covered in this amount, more tests pits would allow us to improve the pavement strength data and improve forward works planning.
- Validation of guardrail and sign assets, expected to cover 100% of network \$50k for first year only. This amount will cover a two week network drive over and then two weeks of data validation and loading. The current guardrail and sign data in RAMM for this network has proven to be very inaccurate.

PR Other Professional Services (under the NOC)

17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
1	2	3	4	5	6	7	8	9	10	11
\$40k										

We request funding to commission various professional services as required across the network, including:

- Peer reviews of reports, designs etc.
- Specialist reports and investigations as required e.g. ecology, archaeology, geotechnical studies

In the last annual plan round (16/17) we spent \$55k in this area. This included a peer review of all rehab designs (\$20k), two geotechnical studies of areas with unusual geology which have presented pavement issues in the past (\$10k/study) and a study on fish passages for a range of culverts on SHX as requested by the local council (\$15k). We expect that \$40k/year will be enough to meet the need of future such studies.

Other

17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
1	2	3	4	5	6	7	8	9	10	11
\$10k										

This amount is to cover minor professional services work as required, covering NOC schedule 7 items, and for funding further geotechnical studies on two potential resilience sites:

- Granite cliff rockfall site. SHX/12.6.
- Burrow stream scour/dropout site. SHX/124.

All non NOC

Legal Services

17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
1	2	3	4	5	6	7	8	9	10	11
\$100k										

We typically spend \$90-\$110k on legal services. This is based on actual SAP costs over the past 3 years. This item covers:

- Legal support for hearings
- Environmental consents
- Legal support for network issues i.e. property disputes and access issues on highway.

HPMV/50 MAX

17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
1	2	3	4	5	6	7	8	9	10	11
\$50k										

\$50k required for HPMV/50MAX permitting. This amount is based on historical spend over the past 3 years.

Traffic counting

17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
1	2	3	4	5	6	7	8	9	10	11
\$75k										

This amount covers our portion of the traffic counting contract we have with the local city council. This contract runs until 2019, but we would expect the contract to be renewed beyond this date at a similar cost to the agency.