

30 August 2018

Emily Ireland
emily.norman@age.co.nz

REF: OIA-3970

Dear Emily

Request made under the Official Information Act 1982

Thank you for your email of 11 July 2018 requesting following information relating to maintenance under the Official Information Act 1982 (the Act). You have requested:

...information on the annual highway network condition monitoring, as well as the annual maintenance spend on SH2 & SH 53 between and including South Wairarapa and Masterton over a 10-year period (ie Mt Bruce through to Remutaka Summit on SH 2 & SH 53).

Mark Owen mentioned a change in contracting model, could you please include comment on this in your response, and further information on the network condition testing process – it sounds super interesting.

I'd also like to know which companies were contracted to do the works in each year (if available) and what projects were undertaken, and whether there has been a change in method or materials used to do certain works.

We have provided you with information based on our understanding of your request. However, if we have overlooked or interpreted any part of your request incorrectly please contact Mark Owen, Manager, System Management, on 021 669 584, or by email to mark.owen@nzta.govt.nz.

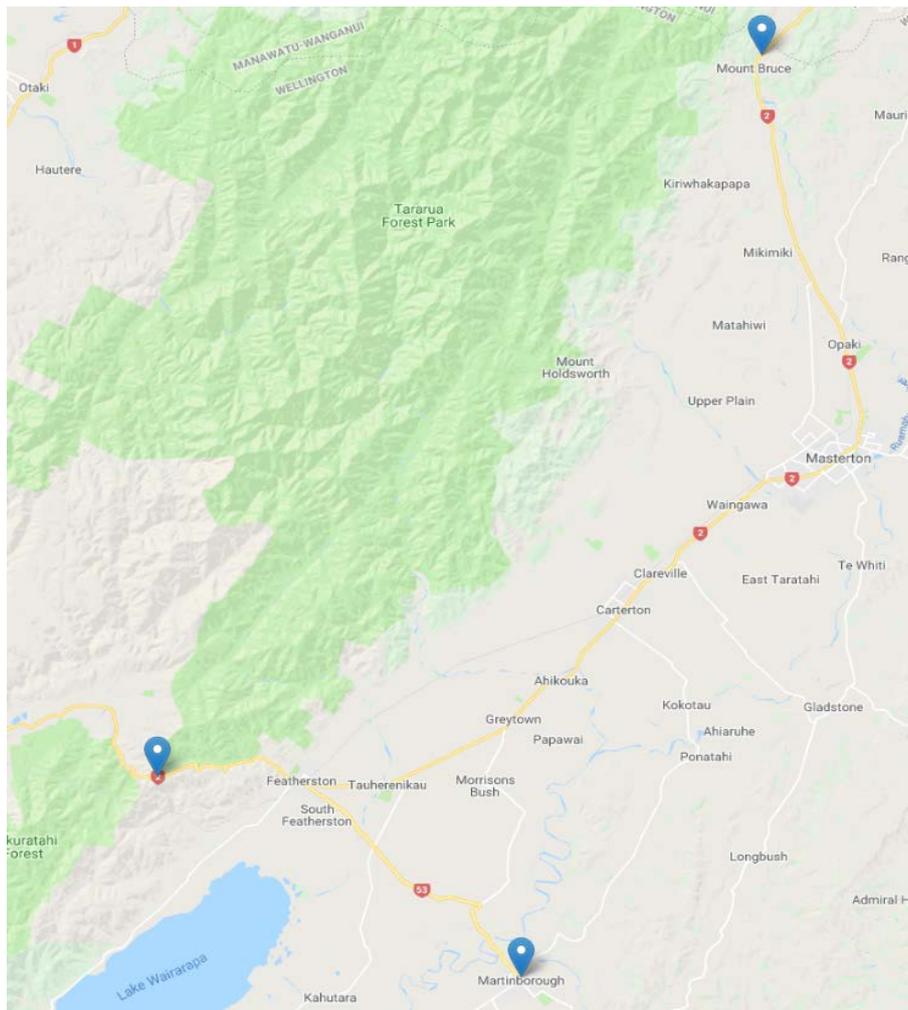
- 1. Maintenance costs for SH2 and SH53, within the Masterton, Carterton and South Wairarapa District Council boundaries. This includes SH2 Pukaha/Mt Bruce to Remutaka Pass and all of SH53 Featherston to Martinborough. This information has been extracted from our Annual Plans, Annual Network Statements and financial management system (SAP).**

Under the Network Outcomes (Maintenance) Contract, many of the maintenance costs for the Wellington region are recorded as lump sums. Therefore, we are unable to separate some maintenance costs for the Wairarapa area from the rest of the region. However, for the purposes of this request we have allocated general maintenance costs based on a 'proportional basis' using lane kilometres (lane/km), i.e. 177.63 lane/km from a network total of 686 lane/km.

General structures (such as bridges and culverts) costs have also been allocated pro-rata (18%), based on 25 structures in the Wairarapa area from a Wellington network total of 135 structures. Where available, we have used the end of financial year outturn costs, but some costs are based on the planned programme of works as the final costs are not recorded separately.

We have provided the annual total maintenance allocation for the Wellington network going back to the 2007/08 financial year, with a detailed breakdown for the Wairarapa area over the past three financial years. Changes to our funding procedures has resulted in more detailed information being available for recent years.

The following map shows the sections of state highway covered by your request.



The following tables provide the maintenance costs as described above, for the areas shown in the map:

Wellington Region – Annual Maintenance Allocations for the highways in Wellington region

Financial Year	Allocation (\$M)
2007/08	\$20.41
2008/09	\$22.35
2009/10	\$21.05
2010/11	\$25.70
2011/12	\$25.33
2012/13	\$24.23
2013/14	\$28.59
2014/15	\$29.59
2015/16	\$32.31
2016/17	\$36.51
2017/18	\$34.14

Pro rata costs for Wairarapa – last 3 years

Financial Year 2015/16			
Maintenance Costs			
General Maintenance	177.63 lane/km at \$18,509/km		\$3,287,754
High Lip Removal			\$28,997*
Structures 25	18% of \$906,027		\$163,085*
Abbotts Creek Maintenance			\$23,242
Lower Tauherenikau River Bridge Scour			\$147,994
SH53 Handrail Repair			\$1,200
Waterway Management			\$38,800
Winter Maintenance			\$367,047
		Sub-Total	\$4,058,119
Renewals Costs			
Resurfacing			\$1,885,270*
Structures	18% of \$594,000		\$106,920*
		Sub-Total	\$1,992,190
		Total	\$6,020,309

Financial Year 2016/17			
Maintenance Costs			
General Maintenance	177.63 lane/km at \$19,275/km		\$3,423,818
Pavement - Roughness			\$18,693*
Pavement - Rutting			\$11,896*
Unlined Surface Water Channels			\$11,904*
Clear and Regrade Side Drains			\$4,577*
High Lip Removal			\$9,851*
Structures 25	18% of \$906,027		\$163,085*
Remutaka Bridge No. 4 Joints			\$10,837
Remutaka Underslip			\$49,021
Remutaka Underslip			\$118,314
Abbotts Creek Maintenance			\$15,550
Flood Debris			\$14,124
Waitohu Stream Bridge – Gravel Shifting			\$24,351
Winter Maintenance			\$80,612
		Sub-Total	\$3,956,633
Renewals			
Resurfacing			\$1,670,990*
SCRIM ¹			\$160,574*
Structures	18% of \$525,000		\$94,500*
Large Signs			\$6,840*
High Performance Road Markings			\$27,700*
Audio Tactile Paving			\$29,908*
		Sub-Total	\$1,990,512
		Total	\$5,947,145

¹ SCRIM – used to measure road surface skid resistance and other pavement condition factors.

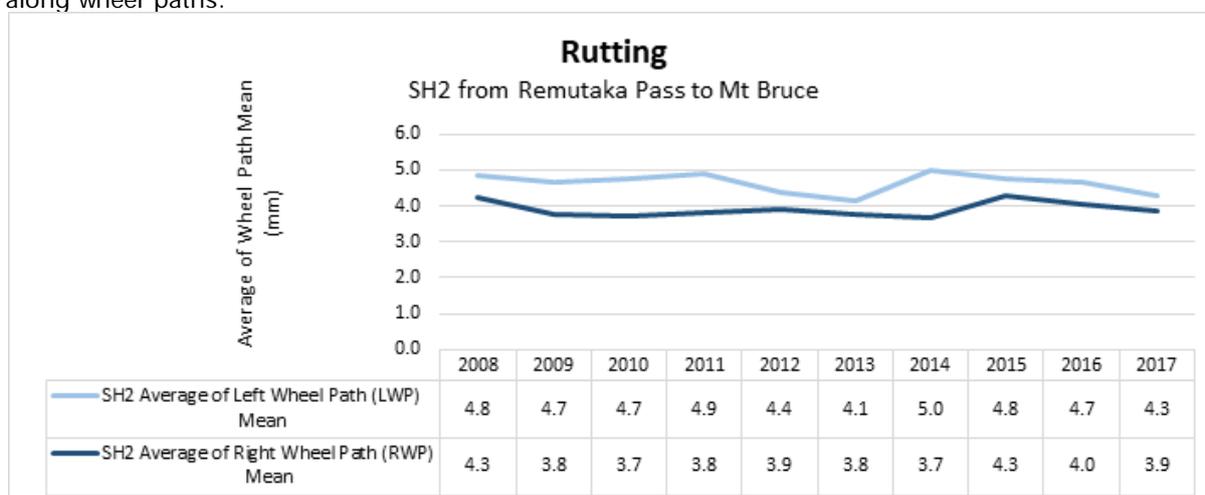
* based on the planned programme of works.

Financial Year 2017/18			
Maintenance Costs			
General Maintenance	177.63 lane/km at \$17,998/km		\$3,196,985
Pavement - Roughness			\$11,836
Pavement - Rutting			\$33,307*
Unlined Surface Water Channels Mtce			\$9,697*
Clear and Regrade Side Drains			\$21,800*
High Lip Removal			\$45,600*
Structures 25	18% of \$984,280		\$177,170*
Waterway Management			\$27,559
Lower Tauherenikau River Bridge			\$13,482
Winter Maintenance			\$105,227
		Sub-Total	\$3,642,663
Renewals			
Resurfacing			\$1,813,396*
SCRIM			\$160,574*
New Subsoil Drains			\$91,800*
Lined Water Channels			\$267,750*
Structures	18% of \$725,000		\$130,500*
Guardrail - Remutaka #7			\$300,000
Large Signs			\$4,990*
High Performance Road Markings			\$68,346*
Audio Tactile Paving			\$14,611*
		Sub-Total	\$2,851,967
		Total	\$6,494,630

2. Highway pavement condition data (extracted from our RAMM² database, using annual high speed data information, summarised in the attached graphs, for the various pavement condition rating factors, considered relevant)

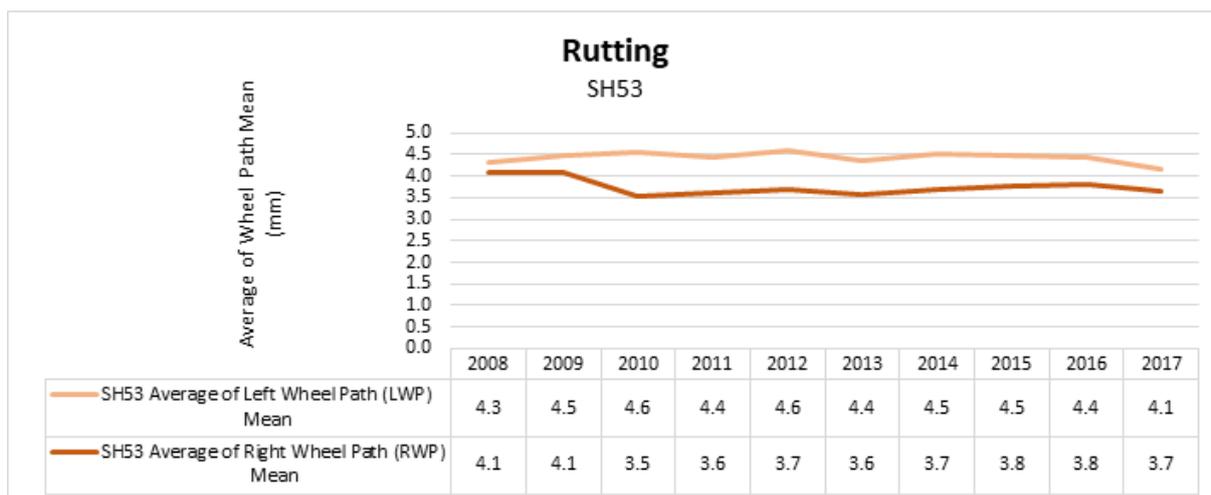
The following tables provide information about highway pavement condition monitoring for the last 10 years. A description of each of the rating factors is provided above each table.

Rutting -Rutting is a form of deformation typically evident in flexible pavements, which is caused by the passage of loaded wheels over the pavement surface. It is manifested as a longitudinal depression along wheel paths.

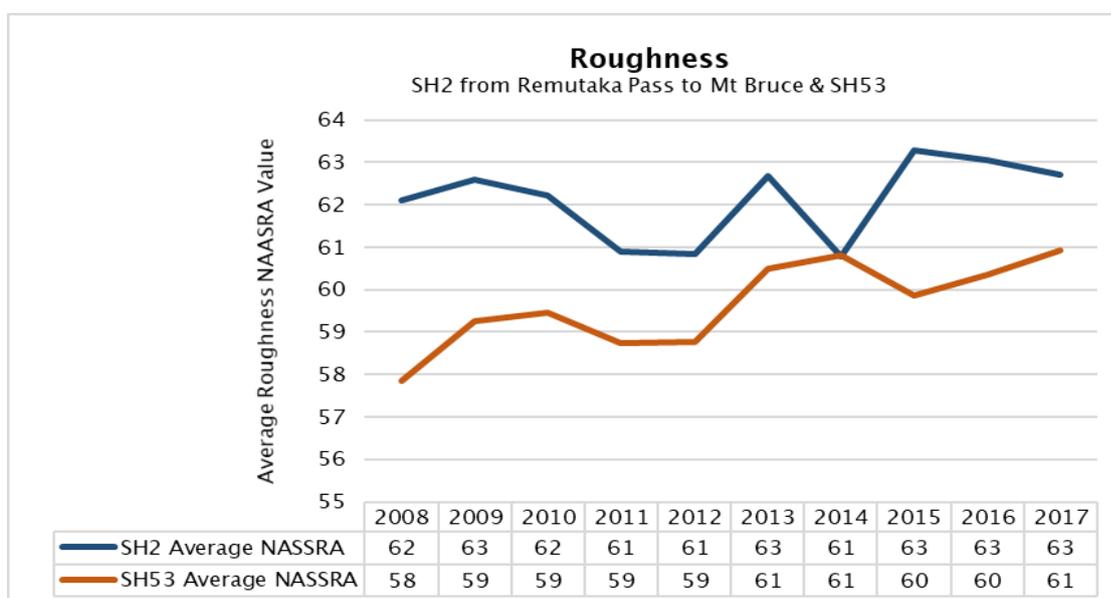


² RAMM = Road Assessment and Maintenance Management database

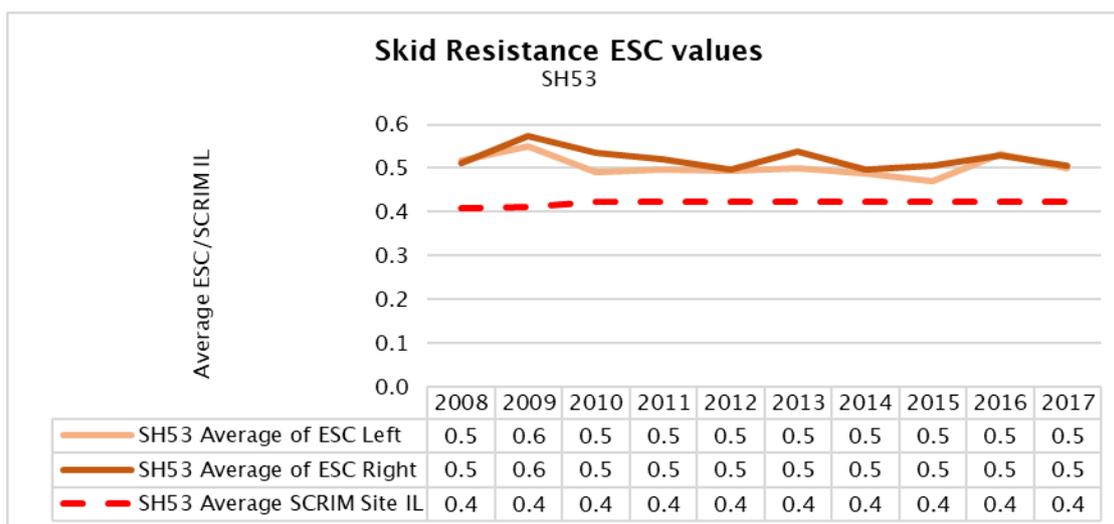
* based on the planned programme of works.



Roughness -A condition parameter used to characterise deviations from the intended longitudinal profile of a road surface, with characteristic dimensions that affect vehicle dynamics (and hence road user costs) ride quality and dynamic pavement loading, reported in dimensionless units as either [International Roughness Index](#) (IRI, m/km) or [NAASRA](#) (National Association of Australian State Roads Authority) Roughness Meter counts ([NRM](#), counts/km) for the lane.



Texture -Texture depth is an indicator of the space through which water may escape from the interface between a tyre and the road surface. It is an important factor affecting skid resistance at high traffic speeds as without sufficient texture depth vehicle aquaplaning can occur. Texture depth also affects tyre – road interaction noise and surface spray. NZTA High Speed Data in term of Texture was measured as Mean Profile Depths (MPD).



3. Companies contracted to undertake the physical maintenance works and the relevant contract delivery model.

1 July 2007 – 30 Jun 2014 Wellington Hybrid Maintenance Contract

- Consultant – MWH Ltd
- Contractor – Fulton Hogan

1 July 2014 – 30 September 2014 Transitional (Hybrid extension)

- Consultant – MWH Ltd
- Contractor – Fulton Hogan

1 Oct 2014 – 30 Sept 2019 Wellington Network Outcome Contract – *Capital Journeys Joint Venture*

- Opus International Ltd (now WSP-Opus)
- Fulton Hogan

4. Other improvements projects from 2008 to 2018

SH2 (North to South)

- Wairarapa ATP (Audio Tactile Profile (Rumble Strips) Road Markings
- Safety – vegetation clearance for visibility
- Wire rope safety barrier
- Electronic speed warning sign for tight curve
- Safety – 'Stay Alert' etc. signs
- Masterton – Gateway signage
- Masterton – Cycle lanes
- Upgrade ADS (Advance Directional Sign) to include Castlepoint etc.
- SH2 Renall Street (Masterton) Roundabout Upgrade
- Wairarapa Pedestrian Crossings
- Intersection speed limit signage – East Taratahi/Wiltons Road
- Hughes Lane intersection upgrade
- Road widening adjacent to Clareville Bakery & Nursery
- Wairarapa SH2 Intersection Improvements
- Carterton Roundabout and Improvements
- Passing Lane Projects
- Construction of Waiohine Bridge
- Electronic Variable Message Signs
- Safety fence/barrier installations

Remutaka Hill

- Installation of safety fence/barriers
- Electronic Truck Warning Signs
- Corner Easing Project
- Remutaka slip and drop-out repairs, half bridge for guardrail

SH53

- Featherston - '50' Electronic speed warning sign
- Electronic road Open/Closed signs
- Electronic speed warning signs for bends

5. Examples of changes in methodology and materials

- Glenbrook melter aggregate (a by-product of steel production) to provide improved skid resistance surfaces
- Use of Calcium Magnesium Acetate as a de-icing agent
- Cold Applied Plastic (CAP) – new long life road marking product
- New style barriers/guardrails
- Electronic warning signs – intersection speeds, curves, trucks
- Use of polymers in bitumen binders
- Ultra-thin asphaltic concrete surfacing on Remutaka Hill
- High Speed road condition data assessment

If you would like to discuss this response further, please feel free to contact Jasmine Higginson, by email to jasmine.higginson@nzta.govt.nz.

Please note that we will also be publishing the response to this request on our website: <https://www.nzta.govt.nz/about-us/news-and-media/official-information-act/official-information-act-oia-responses/>

Thank you again for your request. I trust this information is of assistance to you.

Yours sincerely



Wayne Oldfield
Acting Senior Manager, System Management