



INVESTMENT AUDIT REPORT

Technical and Procedural Audits of Wellington City Council

Monitoring Investment Performance

Report of the investment audit carried out under Section 95(1)(e)(ii) of the Land Transport Management Act 2003.

TONY LANGE

GLENN MCGREGOR

30 JULY 2020

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| Approved Organisation (AO): | Wellington City Council |
| Waka Kotahi NZ Transport Agency Investment (2018 – 2021 NLTP): | \$113,519,500 (budgeted programme value) Financial assistance rate 51% |
| Date of Investment Audit: | 27- 30 July 2020 |
| Audit Team: | Tony Lange - Senior Investment Auditor (Lead) Matt Busch – Senior Investment Auditor Glenn McGregor – Senior Investment Auditor Jason Morgan – Senior Investment Advisor |
| Report No: | RATLT-2092 |

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EXECUTIVE SUMMARY

Wellington City Council's road network is generally in good condition, but needs closer attention paid to routine maintenance, notably road opening operations. While the network is predominately urban (92%) there are rural roads to maintain and ensure they are safe for all users. In-particular we noted a lack of consistency in the application of delineation against road classifications or national guidelines.

The network continues to be the most expensive when measured by dollars spent over network length for all Local Authorities. Some costs can be attributed to a high asset density, for example Wellington has a high number of retaining walls compared to other urban authorities. However, this does not fully explain the high cost of maintenance and renewal activities across all asset groups. Further analysis is required to demonstrate why the cost to maintain the network is so much higher than its peers.

The number of annual deaths and serious injuries (DSIs) on Wellington City's roads shows no decline in numbers over the last 5 years. This is a concern given the Government priority is to reduce the number of DSIs on the network. Of note, 59% of DSIs occurred on the Arterial network. This statistic dominates the other One Network Road Classification road classes for DSIs. The Arterial network accounts for 17% of the network length but carries 61% of traffic. We encourage Wellington city to review crash records and identify where improvements can be made to reduce the DSI count on Arterial roads.

Recording data that is complete, timely and accurate is well done. The Road Efficiency Group's report does note a few areas to improve data quality, though these are minimal.

There are good systems in place to ensure expenditure is categorised to appropriate work categories and good supporting information was available to assist the financial reconciliation process.

Council's procurement procedures are sound and comply with Waka Kotahi requirements and its Procurement Strategy. And appropriate processes are in place to ensure that it is getting value for money from its delivery of professional services.

Council personnel who assisted with the audit exhibited good knowledge and awareness of the challenges facing the network.

AUDIT RATING ASSESSMENT

| Subject Areas | Rating Assessment* |
|----------------------------------|--------------------------------|
| Previous Audit Issues | N/A |
| Financial Processes | Effective |
| Procurement Procedures | Effective |
| Network Condition and Management | Some Improvement Needed |
| Activity Management Planning | Effective |
| Data quality | Effective |
| Road Safety | Significant Improvement Needed |
| Professional Services | Effective |
| Overall Rating | Some Improvement Needed |

* Please see Introduction for Rating Assessment Classification Definitions

RECOMMENDATIONS

The table below captures the audit recommendations. Agreed dates are provided for the implementation of recommendations by the approved organisation.

| We recommend that Wellington City Council: | | Implementation Date |
|--|--|---------------------|
| R4.1 | Ensures that reinstatement of all road openings complies with Council's engineering standards | End 2020/21 |
| R4.2 | Reviews the quantity of asphalt surfacing undertaken by investigating the option to use alternative materials. | End 2020/21 |
| R4.3 | Review the preferred option for the pavement rehabilitation project planned for Normanby Road | January 2021 |
| R5.1 | Investigates and identifies the cause of the high cost of network maintenance. | End 2020/21 |
| R5.2 | Investigates and trials new engineering solutions to reduce the whole of life costs to maintain the network while meeting current levels of service targets | End 2020/21 |
| R5.3 | Ensure that all project elements, including finance, are included in the AMP improvement plan. | End 2020/21 |
| R6.1 | Investigates, identifies and implements a data improvement plan to address data gaps identified in the REG Data Quality report | End 2020/21 |
| R7.1 | Undertakes a safety review to identify where immediate low-cost engineering solutions can be introduced to reduce the incidence and severity of road crashes on the arterial network | Completed |
| R7.2 | Ensure the maintenance contractor maintains delineation devices in accordance with the Traffic Control Devices manual. | Ongoing |

Prior to this report being approved, Wellington City was invited to comment on the auditors' findings, recommendations and suggestions. Council's comments are included in the body of the report.

1.0 INTRODUCTION

1.1. Audit Objective

The objective of this audit is to provide assurance that the Waka Kotahi NZ Transport Agency's (hereafter Waka Kotahi) investment in Council's land transport programme is being well managed and delivering value for money. We also seek assurance that the Council is appropriately managing risk associated with Waka Kotahi investment. We recommend improvements where appropriate.

1.2. Assessment Ratings Definitions

| | Effective | Some Improvement Needed | Significant Improvement Needed | Unsatisfactory |
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| Investment management | Effective systems, processes and management practices used. | Acceptable systems, processes and management practices but opportunities for improvement. | Systems, processes and management practices require improvement. | Inadequate systems, processes and management practices. |
| Compliance | Waka Kotahi and legislative requirements met. | Some omissions with Waka Kotahi requirements. No known breaches of legislative requirements. | Significant breaches of Waka Kotahi and/or legislative requirements. | Multiple and/or serious breaches of Waka Kotahi or legislative requirements. |
| Findings/ deficiencies | Opportunities for improvement may be identified for consideration. | Error and omission issues identified which need to be addressed. | Issues and/or breaches must be addressed, or on-going Waka Kotahi funding may be at risk. | Systemic and/or serious issues must be urgently addressed, or on-going Waka Kotahi funding will be at risk. |

2.0 ASSESSMENT FINDINGS

Our findings relating to each subject area are presented in the tables below. Where necessary, we have included recommendations and/or suggestions.

1. Previous Audit Issues

The last Technical audit of Wellington City was undertaken in 2015. There were 6 recommendations made.

1. That Wellington City Council ensures the Transport Assets Team are involved in the development of transport capital improvement projects
2. That Wellington City Council undertakes a detailed check of its RAMM data, identifies the issues and develops a plan to rectify the problem.
3. That Wellington City Council ensures that utility operators comply with the National Code of Practice for Utility Operator's access to transport corridors.
4. That Wellington City Council:
 - a. Investigates the change of angle parking to parallel parking on Thorndon Quay as a cycle safety initiative;
 - b. Repairs the pavement fault at Courtney Place bus stop No. 5516 for pedestrian safety when crossing the road; and
 - c. Ensures that its delineation on rural roads complies with the 'Manual of Traffic Signs and Markings'.

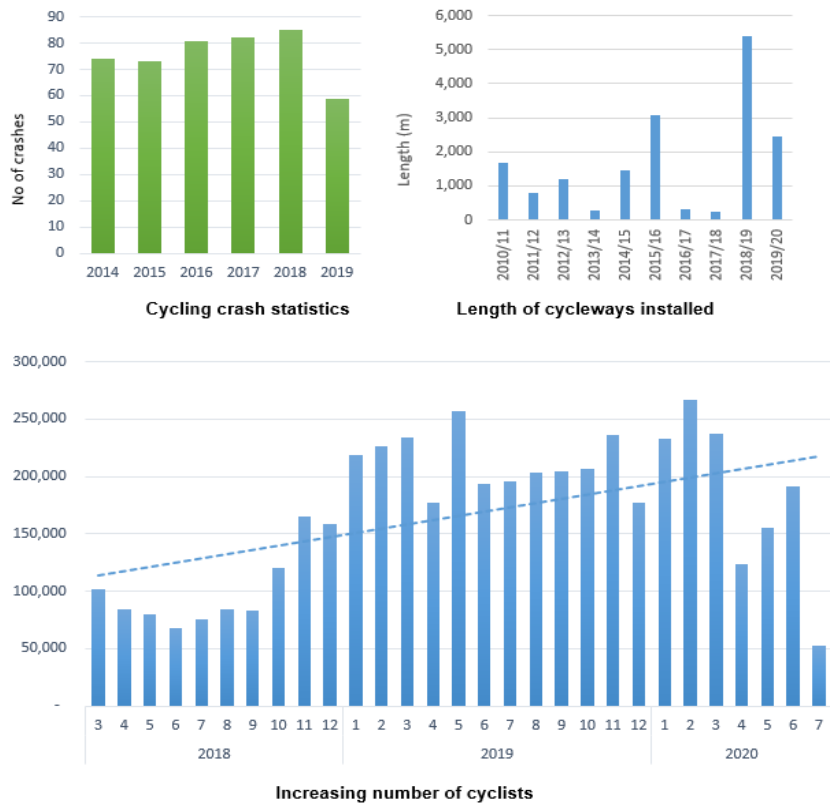
Wellington City have addressed Recommendations 1, 2 and 4 b to our satisfaction. However, during this audit we found little evidence of improvement for the remaining recommendations. We discuss these outstanding recommendations in the relevant sections below.

There are no outstanding recommendations arising from the September 2017 Procedural audit. The one recommendation from this audit, relating to quality assurance system requirements, has been addressed.

Wellington City Council's comment

Responses for the outstanding recommendations:

- We recognise that for recommendation 3 we have not made significant inroads in the last three years. The main reason for this has been the turnover of staff within the Customer & Compliance team. We now have a fully resourced team who are getting trained on effective trench management and the code of practice. We have also engaged central labs to undertake a review of all existing trenches across our network. Further discussed in R4.1
- Our cycling safety records show that even though we are having a relatively steady number of cycling crashes over the years, the number of cycling trips have increased dramatically. This has occurred in conjunction with an increase in the km of new cycleways built. We are continuing to work hard on improving cyclist safety across the city. Our change of speed limits to 30km/hr across the central CBD will assist with this.



- We agree with the position that cyclists and pedestrians are disproportionately represented in death and serious injuries and that more work is needed to improve safety for active users on our road network. Furthermore, we recognise that Thorndon Quay poses a safety risk to cyclists due to the high number of users and current road design that is inherently unsafe for cyclists. WCC officers have made multiple attempts over the past 20 years to improve safety at Thorndon Quay for cyclists, but for several reasons, largely the resistance from local retailers to a loss of parking, these have ultimately been unsuccessful. The history is outlined in the table below. The current traffic resolutions process set out in the Wellington Consolidated Bylaw 2008, and required by law, means that changes to parking restrictions must be made by a Council vote rather than through delegation to Council officers so any changes to parking on Thorndon Quay will be contingent on Councillor agreement. We have clarified timeframes with Let's Get Wellington moving and have been advised that works are currently scheduled to start late 2022 or early 2023. As such we will be taking a paper to Council in the first half of 2021 recommending that we change from angle to parallel parking in order to address the safety concerns raised in the audit. The recommendation to Councillors will be that the work take place in financial year 2021/2022 to align with budget capacity.

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| 2001/02 | A proposal to alter angle parking on one side of Thorndon Quay to parallel parking to free up 2-3m of carriageway that could then be allocated to a marked traffic side cycle lane was rejected by Committee following severe opposition from retailers |
| 2010 | In order to address the increasing number of crashes involving people riding bikes on Thorndon Quay a morning peak city bound clearway was approved and installed |

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| | 2015 | The Urban Cycleway Fund approved \$9.5M total expenditure to complete a cycleway connection for both Thorndon Quay and Hutt Road. It was anticipated that this would be allocated evenly between the two roads. |
| | 2017 | <p>The Thorndon Quay project commenced with significant community engagement, good community support but concerns from the business community.</p> <p>A community working group was established to work through the optioneering, this group was made up of cycling advocates, local residents, users, property owners, retailers, Greater Wellington and NZTA officers.</p> <p>The shortlisting of options concluded that the preferred options based on the groups own evaluation criteria all resulted in a loss of short stay parking.</p> <p>Questions were asked as to why the route couldn't be accommodated on Aotea Quay as part of Centreports earthquake rebuild.</p> <p>In late 2017 before wider community consultation could take place, Council made the call to halt the project in light of retailer opposition.</p> |
| | 2018 | <p>Council agreed to consult on an interim scheme that would make marginal improvements for those on bikes. The scheme between Tinakori Road and the Motorway overbridges was again halted before the agreed consultation could take place. The interim scheme between Davis and Moore Streets did go to consultation and was subsequently approved by Committee, this scheme proposed to replace the all-day angle parking with short stay parallel parking and to repaint the road with traffic side cycle lanes. Advice received from NZTA is that this fell well short of the expectations set in the UCP agreement and would not be funded. As a result the project has not been implemented. NZTA agreed that the allocation of UCP funding could be fully realised on Hutt Road as it was clear Thorndon Quay was not going to proceed.</p> |
| | 2019 | <p>In May 2019 Minister Twyford announced that the Government had endorsed the Let's Get Wellington Moving indicative package. This package includes improvements to Thorndon Quay for both buses and bike.</p> <p>In late 2019 a contract to develop a business case, including consultation was awarded. The project team are nearing the end of their optioneering and are preparing to consult on a range of options later this year. Subject to approval construction is expected to commence next year and is scheduled to take 2-3 years.</p> |
| <p>Recommendation 4c was implemented in 2018 but the delineation was removed by the residents. We will be looking at alternative options to delineate this rural section with an aim of resolving it by end of 2020/21. Further discussed in R7.2</p> | | |

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| 2. Financial Processes | Effective |
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Claims for financial assistance for the two financial years to 30 June 2019 were successfully reconciled to Council’s General ledger records. Transaction testing was also successful. All invoices selected for review, were eligible for financial assistance and appropriately coded to Council’s subsidised accounts. Activity on a sample of retentions was validated to the contract retentions account. There were no old or excessive amounts being withheld. The account is monitored regularly and is being well managed. There are good systems in place to ensure expenditure is categorised to appropriate work categories and good supporting information was available to assist the reconciliation process.

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| Wellington City Council’s comment | We are pleased to note the effectiveness of our financial systems and will continue to work on ensuring that these remain robust whilst making small improvements. |
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| 3. Procurement Procedures | Effective |
| <p>We reviewed five physical works and three professional services contracts for compliance with Waka Kotahi approved procurement procedures and Council’s endorsed procurement strategy (refer appendix B). There was good documentation showing tender evaluations and approvals. All contracts examined complied with the Agency’s requirements and were consistent with Council’s procurement strategy. No issues were identified.</p> <p>Council uses an in-house team to determine and carry out road safety audits for projects with a value of less than \$200,000. Examples were seen of this process for three financial years to 30 June 2019. The process appears to work well.</p> <p>Council has a Waka Kotahi endorsed Procurement Strategy that expires in March 2023.</p> | |
| Wellington City Council’s comment | We are pleased to note the effectiveness of our procurement procedures and will continue to work on ensuring that these remain robust whilst making small improvements. |

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| 4. Network Condition and Management | Some Improvement Needed |
| <p>Wellington City Council’s road network is generally in good condition, but needs closer attention paid to routine maintenance, notably road opening operations. While the network is predominately urban (92%) there are rural roads to maintain and ensure they are safe for all users. In-particular we noted a lack of consistency in the application of delineation against road classifications or national guidelines.</p> <p>Wellington City Council has good processes in place to manage and monitor the delivery of Waka Kotahi financially assisted projects. Examples of meeting minutes with contractors were provided that clearly showed the close involvement by Council staff in overseeing agreed land transport activities. 50% of all work is inspected by sample, evaluated and Opportunities for Improvement notices are issued to the applicable contractor when required.</p> <p>Trench reinstatement (road openings) continues to be an issue for Council. We noted many instances where ride quality of recent work was rougher than the adjacent surface and that over time trench failures were the primary cause for renewal. This was evident on Normanby Road (Figure 1), a proposed rehabilitation site and Houghton Bay Road (Figure 2).</p> <p>Council is aware of this issue as noted in the 2017 dTIMS report which stated;</p> | |

“there is extensive trenching undertaken on the Wellington roading network due to the compact nature of the city, particularly the CBD. Recently there has been trenching associated with installation of the broadband fibre across the city. Post 2016 earthquake, we are experiencing more failures of water mains and other underground services which require trenching for repairs or replacement of the services.

The life of the pavement can be reduced by 30% for each trench due to factors such as

- reduced strength of the existing pavement structure at the undisturbed site adjacent to the trench
- risk of inadequate compaction on reinstatement of the trench
- risk of water infiltration at the seal join
- increased pavement loading due to bumps from high & low trench patches

By keeping the surface watertight with adequate resurfacing, we remove the risk of pavement failure due to the water getting into the clay sub-base. We find this to be a cost-effective solution for Wellington.’

The Customer Compliance and Service team are responsible for the management and quality assurance of road openings. However, in discussion, this team is heavily focused on Traffic Management Plans and on-site safety and not compliance with Council’s Standard Specifications for construction.

In addition, comments were made that the National Code of Practice for Utility Operators prevented Council from setting conditions. This is not the case; the code of practice allows Council as corridor manager to place reasonable conditions on operators to ensure the performance and longevity of the utility service and the transport corridor.

An example of a condition that would lead to less porous and smoother roads is to specify asphalt surfacing to be laid using a mechanical paver. Ultra-small pavers exist today that offer improved productivity and quality in a range of sizes. Machines available now can be used for urban street repairs, paving cycle paths or pedestrian walkways for example. These machines feature compact vibrating screeds to reduce segregation in the asphalt mix and provide primary compaction.

Council need to ensure that each contractor achieves the required standards and quality of reinstatement and all results are recorded for future reference. Failure to achieve the standards will lead to premature failures, shorten the asset life of the adjacent road and negatively impact Council’s renewal programme by bringing forward work on assets that did not achieve the design life.



Figure 1; Normanby Road



Figure 2; Houghton Bay Road

Renewals on the network are focused on surfacing and retaining walls. Pavement renewals account for 3% of programme expenditure compared to 20% and 12% respectively for surface and wall renewals. Condition indicators show the pavement network as being structurally sound and hence the low rate of pavement renewal. While the surfacing programme is at a higher rate, and the most expensive of its urban peer group, pavement renewals are the least expensive of the urban peer group. As identified in the 2017 dTIMS report Wellington City explain this as a strategic response to mitigate the high cost of pavement renewals. By maintaining surface integrity, costs are considerably less per square metre compared to the cost for pavement rehabilitation work.

It is good to see that the quantity of resurfacing work is in decline (Figure 3). This correlates well with the Surface condition index which shows a gradual improvement (Figure 6).

We note that the quantity of asphalt surfacing as a percentage of the total surfacing programme is consistently high and well above that of the peer group. And that the median age for asphalt is 10.53 years, just less than 2 coat chipseal at 10.91 years. Overall asphalt covers half of the network at 51%. (Figure 5) This is high compared to peers and does explain the quantity of asphalt renewed annually. The high quantity of asphalt surfacing explains the high cost of work compared to Council’s urban peers (Figure 4) with asphalt costing 6 times the price per square metre compared to chipseal. More cost-effective surface treatments are available that deliver similar properties.

Slurry and Cape Seals have attributes like asphalt that minimise road noise, provide a smooth texture, cope with high traffic stress and in the case of a polymer slurry, bridge weaker pavements. We would encourage Council to investigate and trial other surface options to reduce the quantity and cost of asphalt renewed annually.

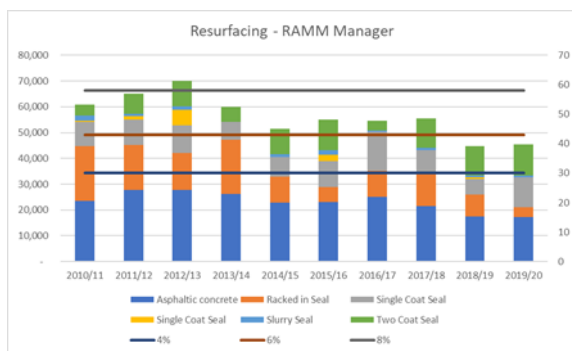


Figure 3 Surface renewal data

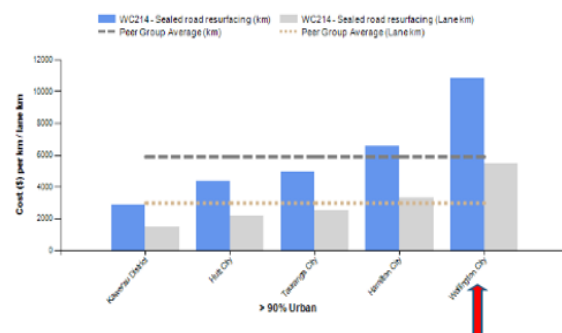


Figure 4; WC 212 peer comparison

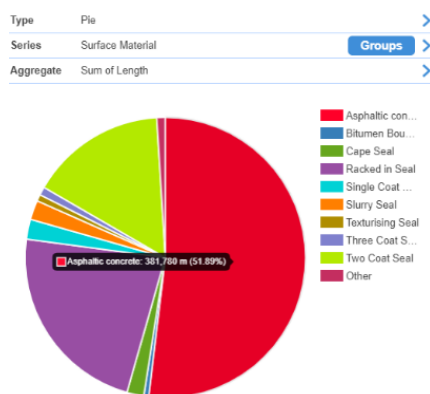


Figure 5; Surface composition (RAMM)

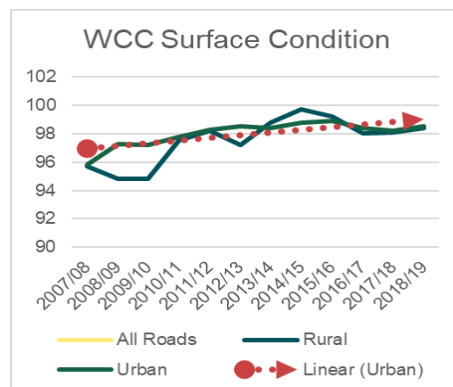


Figure 6; Improving Surface Condition

We visited two proposed pavement renewal sites, Normanby Road and Hungerford Road. Our immediate comments on both sites was the poor quality of prior work that contributed to the need for renewal at both sites. For Normanby Road trench failures were a primary cause and for Hungerford Road the installation of a new kerb and channel and the poor reinstatement of the pavement between the channel and the existing pavement was a key factor for the proposed renewal. Of the two sites, condition information supports the renewal project for Hungerford Road but not Normanby Road. Based on our observation and data for Normanby Road we suggest Council investigate other options to restore surface integrity.

Wellington, due to its difference in topography and geology has a significantly higher number of structures on the network compared to its peers. Due to condition many of these structures are either near, or due for renewal. Council has made significant progress to identify and condition rate it’s stock of retaining walls and associated structures since the issue was identified in 2008. Council has developed a detailed database of these structures and has embarked on a programme of remedial work. This programme of

work, which includes maintenance and renewals, accounts for 15% of expenditure for the entire 2018-21 programme.

In comparison, Auckland Transport and Hamilton City will expend approximately 3 – 5% of expenditure on maintenance and renewal of structures. This disparity between programmes can be explained by a difference in asset density between peers. Asset density is the number of units per kilometre, where a unit can represent any asset group. For example, the asset density of retaining walls for Council is 4.95 units per km (2018-19 asset count) while Auckland Transport has 0.62 units per km (2014-15 asset count). Asset density can explain some differences in asset expenditure but not all.

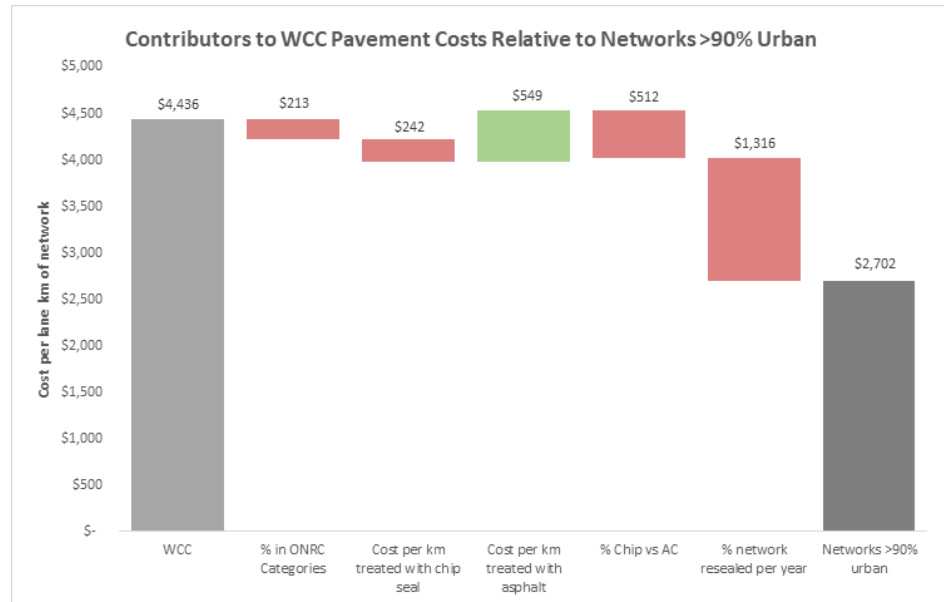
Council has recently let the maintenance contracts for all three regions, North, South and Central Business District. It was noted that the number of tenderers was low due in-part to the high number of contracts in the region for a limited workforce. We acknowledge a lack of supply (contractors) coupled with a high demand for work can lead to an above estimate cost pressure on Council.

The new road maintenance contracts have a greater emphasis on collaboration, customer focus, performance and governance. A new feature of the contracts is the “Opportunity for Improvement (OFI)” scheme. The aim of the OFI is to incentivise and measure performance over the life of the contract. Features of the model are that performance criteria are set for both parties, e.g. Council are required to supply the draft forward work programme by a certain time while contractors need to meet level of service response times. Another enhancement is the closer working relationship between client and contractor with the contractor able to work within the Council office. We are encouraged by the efforts of Council to enhance contract management practices and performance management with the introduction of the new OFI model and performance criteria.

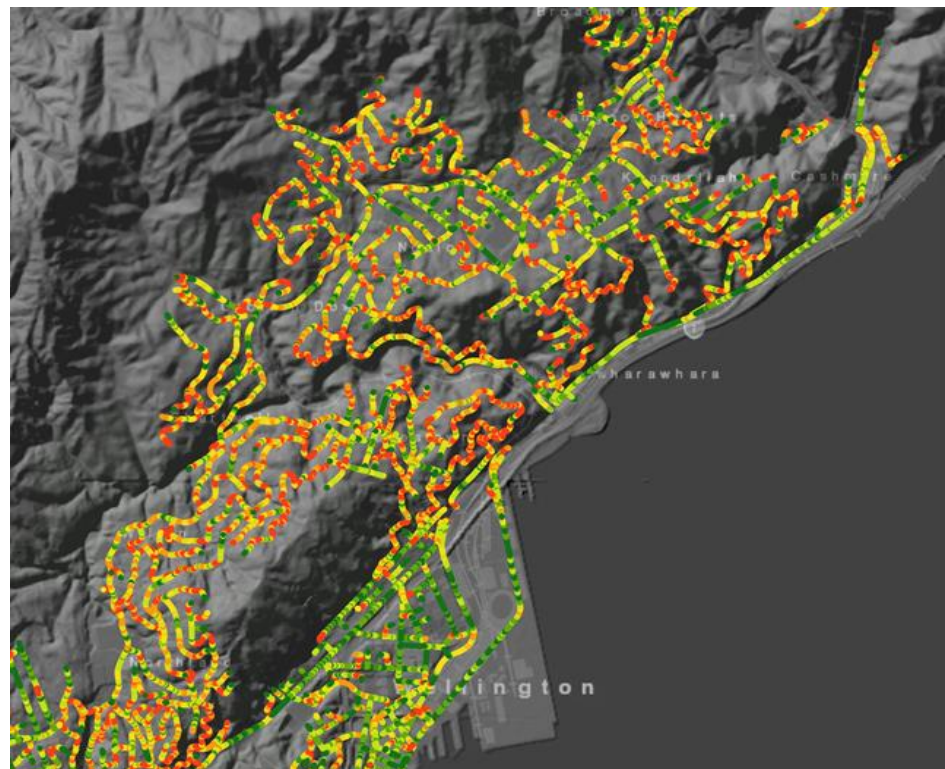
For the Low Cost / Low Risk programme Council has developed a comprehensive “Minor Works Project Lifecycle” check list that clearly describes the process for the development of a Low Cost / Low Risk project. The proposed programme is then given to a Governance Group for further development, procurement and delivery. This process has enabled Council to meet its planned commitments for the Low Cost / Low Risk Programme.

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| Recommendations | <p>We recommend that Council:</p> <p>R4.1 Ensures that reinstatement of all road openings complies with Council’s engineering standards</p> <p>R4.2 Reviews the quantity of asphalt surfacing undertaken by investigating the option to use alternative materials.</p> <p>R4.3 Review the preferred option for the pavement rehabilitation project planned for Normanby Road</p> |
| Suggestions | <p>We suggest that Council:</p> <p>S4.1 Considers setting new performance standards for road openings to maintain surface integrity and ride quality for all road opening operations</p> |
| Wellington City Council’s comment | <p>R4.1 We are undertaking a full review of our current code of practice for working on our roads with a view on including our own local conditions on operators to ensure the performance and longevity of the utility service and the transport corridor. Our Customer & Compliance Team has now been fully resourced, and we are training our team on effective road opening compliance in line with the code of practice. We have also engaged with Central Labs to build a best practice trench audit process for council officers to use. This will be developed based on researching other RCAs and industries standards. We will also be engaging them to deliver onsite audits.</p> |

R4.2 We are undertaking a review of our treatment selection policy in line with our 2021 AMP with a view to evaluating the use of alternative treatment types. We have undertaken an evaluation of the differences between the cost/km for resurfacing in Wellington vs. our peer group (>90% urban). The results do show that our costs are mainly driven by the % of network we are resurfacing each year and the % of asphalt that we are delivering. Our % of network resurfaced is driven by the average surface lives that we attain which is in the order of 8 to 10 years regardless of surface type.



These lives are largely driven by the topography and sinuosity of the Wellington network. The heat map below shows this by demonstrating tight corners in red, straight roads in green, and a colour ramp between.



Our network is relatively old when compared with peer networks and has not been built to the optimum road carriageway widths (58 % of roads are over 4m

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| | <p>width deficient). Our terrain is steep which means that roads are also steep and winding. The nature of the network causes our road surfaces to deteriorate faster than expected due to:</p> <ul style="list-style-type: none"> • Steep terrain which results in more grip on the road by vehicle tyres which results in additional wear on the pavement surface. • Narrow, width deficient roads which limit travel space and result in greater wear on surfaces due to limited wheel tracks. • Roads with tight corners result in more aggressive braking and accelerating by vehicle users which results in greater wear on surfaces. <p>We have engaged with our councillors to review our treatment selection policy with a view to increase the percentage of chipseal we use. We have previously made use of slurry seals on the network which have proven to be a very cost effective and technically viable solution that provides a comparable surface life to asphalt. This treatment is no longer provided in by contractors in the Wellington region. We have gone so far as to try and source slurry from the South Island but even this has been unsuccessful. We are now exploring alternative treatment types with our contractors and have a few trail sites set aside for this year’s surfacing programme.</p> <p>We anticipate that by effectively looking at increasing the amount of chipseal we use whilst exploring other treatment options, we will be able to reduce our cost/km for resurfacing.</p> <p>R4.3 – The treatment solution for Normanby Road is currently under review and we will make a final decision on whether this pavement will be rehabilitated.</p> |
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| 5. Activity Management Planning | Effective |
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| <p>Standing out for Council is the high cost per kilometre spent on the network. Relatively, the cost for Council is the highest of any Local Authority (Figure 7).</p> <p>In section 4 we discussed asset density. This can explain the differences in cost by measuring the number of assets in a kilometre and comparing this ratio with others. Asset density can explain why costs can vary amongst peers, i.e. streetlights and culverts, however we do not see asset density as relative for surface and pavement materials.</p> <p>Council have identified a strategy to maintain the integrity of the top surface with the aim to reduce the quantity of rehabilitation carried out. This is a worthy strategy to ensure the underlying pavements are kept dry and minimise whole of life costs. However, we note that 51% of the current top surface is asphalt and that the cost to replace this asset is 6 times more expensive than chipseal. More so Council’s 2019 dTIMS report indicates on average 65% of all resurfacing will be asphalt. Renewal of such a large volume of asphalt and with a median age of 10.53 years will cost Council more to maintain than a similar sized chipseal network. To reduce costs Council can consider using alternative but less expensive treatments than asphalt, e.g. slurry seals or cape seals.</p> | |

The relationship of poor trench reinstatement and need for asphalt renewal is strong. Data (Figure 8) shows that a major reason for renewal is cracking and associated roughness. Poor trench reinstatement, where quality of work is not audited, exhibits enhanced roughness and a porous surface not like the adjacent surface. An enhanced audit practice, to ensure construction standards are met, and the introduction of mechanical laying of asphalt surfacing will extend the life of the reinstatement and benefit the life of the surrounding pavement. This relationship needs to be broken or costs will continue to rise.

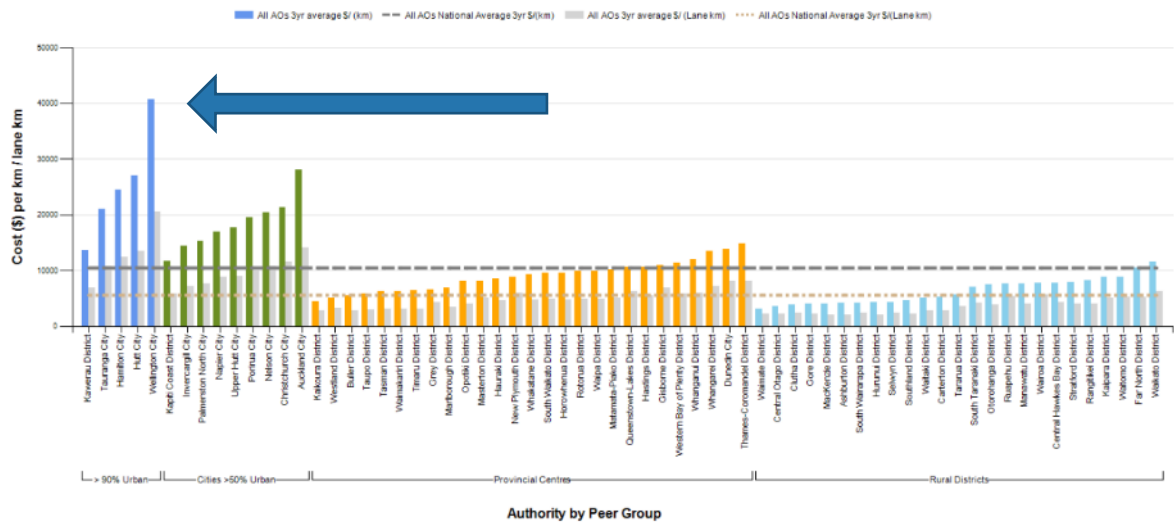


Figure 7; Maintenance cost comparison (Waka Kotahi)

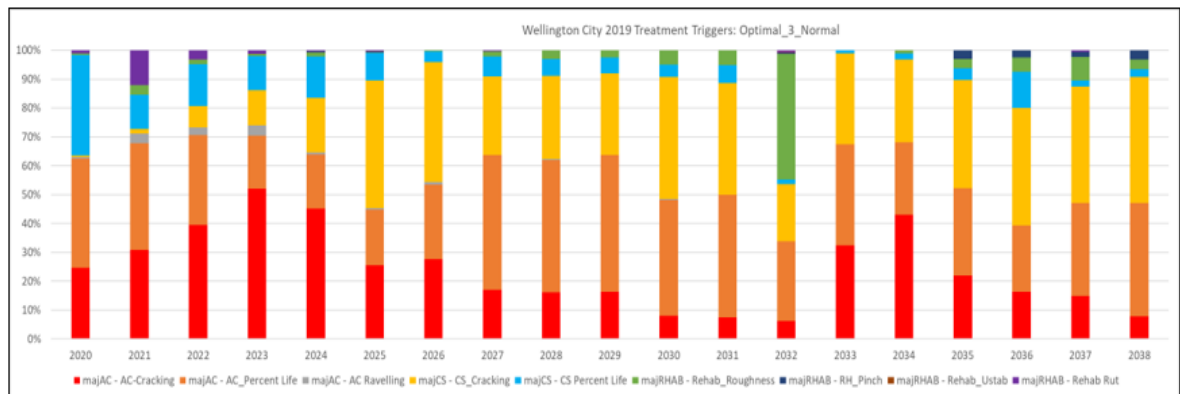


Figure 8; dTIMS 2019 reason for renewal

The REG Asset Management Assessment scored Council’s 2018-21 AMP at 2.04/3 while Waka Kotahi scored Council at 2.5/3. These scores represent a high level of maturity for asset management and for Waka Kotahi indicates strong alignment for the business case approach.

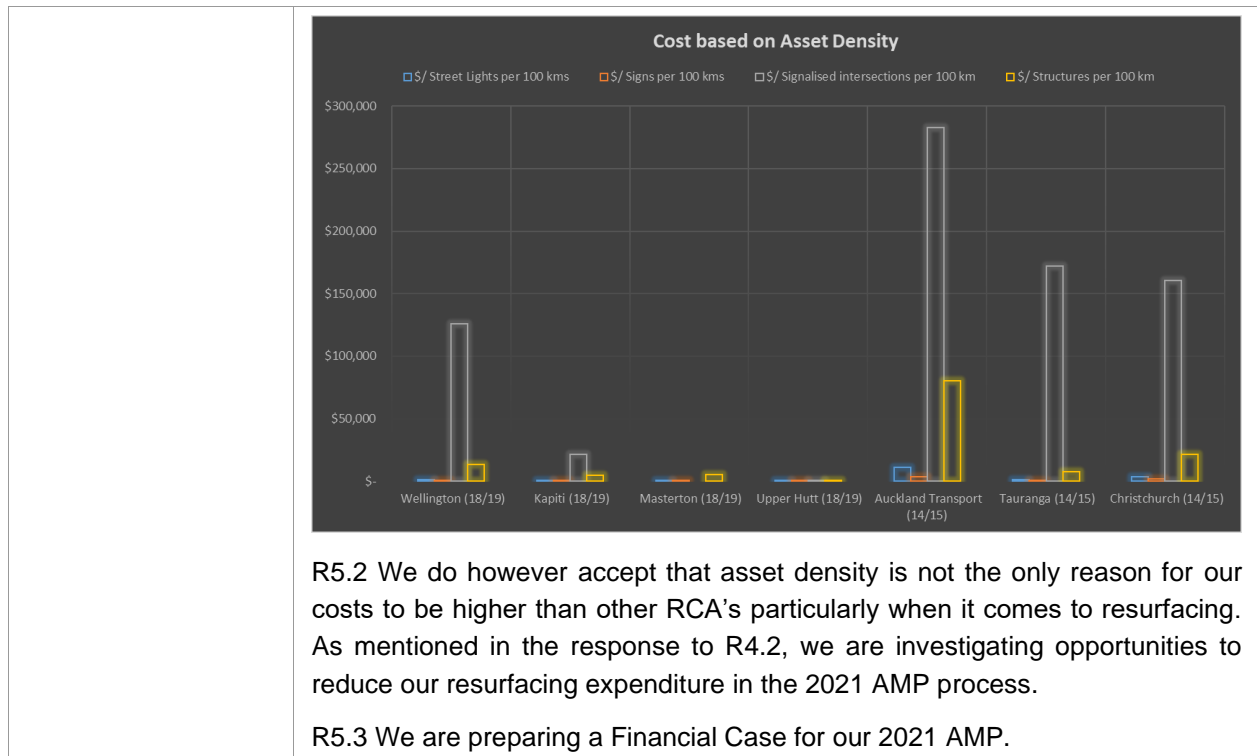
The AMP structure utilises both sound asset management principles and business case principles. The approach taken has been to develop separate strategic and programme case documents and an activity maintenance plan. While ok, it can display as repetition and lead to some conflicts between the documents. The REG assessor recommended Council “consider pulling the documents into an AMP that embeds the BCA principles. Also, look to build on the good foundation laid by the current documents. This includes extending the line of sight to the programme and service delivery, connecting the recommended programme (in the PBC) more directly to the activity and how they will be managed, expanding the use of the ONRC PM and LOS with gap assessment as well as assessments that can be used for differential LoS depending on road classification. Council could consider developing a more robust executive summary that provides a clear and cohesive picture of the investment case and the associated benefits and costs.”

Comments from Waka Kotahi Investment Advisors noted the AMP “business case supports the investment request. We recommend that WCC identify the improvements plan that ensures the BCA is fit for purpose to support scale of funds requested and aligns with agreed good practice”.

The AMP improvement plan is well documented with several projects to be undertaken within this 18-21 NLTP. Our only criticism of the plan is the lack of a financial case for each project.

In summary the 2018-21 AMP meets the needs of a business case. We concur with the advice to scale the business case to support the funding level. Further, we would advise Council to fully explore the concept of asset density to compare costs with peers. Currently there is little information to explain the high cost of the network, the cost components and importantly what options are available to provide a similar level of service for least cost.

| <p>Recommendations</p> | <p>We recommend that Council:</p> <p>R5.1 Investigates and identifies the cause of the high cost of network maintenance.</p> <p>R5.2 Investigates and trials new engineering solutions to reduce the whole of life costs to maintain the network while meeting current levels of service targets</p> <p>R5.3 Ensure that all project elements, including finance, are included in the AMP improvement plan.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|----------------|--------------------|--------------------|----------------------------|--------------------|----------------------------|------------------|----------------------|--------------------------|------|------|-----|------|------|------|-----|-------------------|------|------|-----|------|------|------|------|-------------------------------------|----|---|---|----|----|---|---|-----------------------|-----|----|----|-----|----|----|----|
| <p>Suggestions</p> | <p>We suggest that Council:</p> <p>S5.1 Considers</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Wellington City Council’s comment</p> | <p>R5.1 We have reviewed our costs/ km against our peer networks and have identified that our costs are being driven by two main factors. One factor (as has been identified by the audit team) is the significantly higher density of assets within Wellington compared to our peer networks. Looking at the costs based on asset density and comparing ourselves to other RCA’s has led us to the opinion is that our expenditure is appropriate for certain asset types.</p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="501 1332 943 1671"> <p>Low Density - Miramar</p> </div> <div data-bbox="967 1332 1409 1671"> <p>High Density - Wadestown</p> </div> </div> <table border="1" data-bbox="544 1686 1370 1794"> <thead> <tr> <th>Measure</th> <th>Wellington (18/19)</th> <th>Kapiti (18/19)</th> <th>Masterton (18/19)</th> <th>Upper Hutt (18/19)</th> <th>Auckland Transport (14/15)</th> <th>Tauranga (14/15)</th> <th>Christchurch (14/15)</th> </tr> </thead> <tbody> <tr> <td>Streetlights per 100 kms</td> <td>2643</td> <td>1117</td> <td>236</td> <td>1647</td> <td>1371</td> <td>2111</td> <td>832</td> </tr> <tr> <td>Signs per 100 kms</td> <td>3858</td> <td>1371</td> <td>576</td> <td>1850</td> <td>1656</td> <td>3053</td> <td>1248</td> </tr> <tr> <td>Signalised intersections per 100 km</td> <td>17</td> <td>1</td> <td>0</td> <td>87</td> <td>11</td> <td>4</td> <td>3</td> </tr> <tr> <td>Structures per 100 km</td> <td>495</td> <td>90</td> <td>41</td> <td>110</td> <td>62</td> <td>40</td> <td>24</td> </tr> </tbody> </table> | Measure | Wellington (18/19) | Kapiti (18/19) | Masterton (18/19) | Upper Hutt (18/19) | Auckland Transport (14/15) | Tauranga (14/15) | Christchurch (14/15) | Streetlights per 100 kms | 2643 | 1117 | 236 | 1647 | 1371 | 2111 | 832 | Signs per 100 kms | 3858 | 1371 | 576 | 1850 | 1656 | 3053 | 1248 | Signalised intersections per 100 km | 17 | 1 | 0 | 87 | 11 | 4 | 3 | Structures per 100 km | 495 | 90 | 41 | 110 | 62 | 40 | 24 |
| Measure | Wellington (18/19) | Kapiti (18/19) | Masterton (18/19) | Upper Hutt (18/19) | Auckland Transport (14/15) | Tauranga (14/15) | Christchurch (14/15) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Streetlights per 100 kms | 2643 | 1117 | 236 | 1647 | 1371 | 2111 | 832 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Signs per 100 kms | 3858 | 1371 | 576 | 1850 | 1656 | 3053 | 1248 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Signalised intersections per 100 km | 17 | 1 | 0 | 87 | 11 | 4 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Structures per 100 km | 495 | 90 | 41 | 110 | 62 | 40 | 24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



| 6. Data Quality | Effective |
|--|---|
| <p>Council complies with the rules set in Planning and Investment Knowledge base for collecting asset condition and recording maintenance activity.</p> <p>The REG data quality score for 2018-19 is 70/100. This is a good score with a general improvement in results from the previous year. However, asset inventory, maintenance activity and accuracy are areas to review and seek improvement, Guidance exists on the REG website to help Council identify where individual results are poor and discuss how to correct the faults. It is important that Council continue to review and improve the timeliness, accuracy and completeness of the data used for asset management. Doing so will ensure Council has the evidence it needs to support any future business case</p> | |
| Recommendations | <p>We recommend that Council:</p> <p>R6.1 Investigates, identifies and implements a data improvement plan to address data gaps identified in the REG Data Quality report</p> |
| Suggestions | <p>We suggest that Council:</p> <p>S6.1 Considers</p> |
| Wellington City Council's comment | <p>We are happy that our results are showing continued improvement on the data quality metrics. We accept that there are further improvements required in the update of treatment lengths and maintenance cost data. The asset inventory issues have already been resolved. A data improvement plan has been prepared and will be implemented in the second half of the 2020-21 financial year.</p> |

7. Road Safety

Significant Improvement Needed

Road safety results have shown little change in the last 9 years. This is a disappointing result given the key priority of Council is to reduce the number of people injured or killed on the network. Analysis indicates the primary concern lies with the Arterial network (Figure 9). Also, the number of cyclists and pedestrians injured or killed is overrepresented in crashes based on the number of active users (2018 Transport Activity Management Plan, page 124).

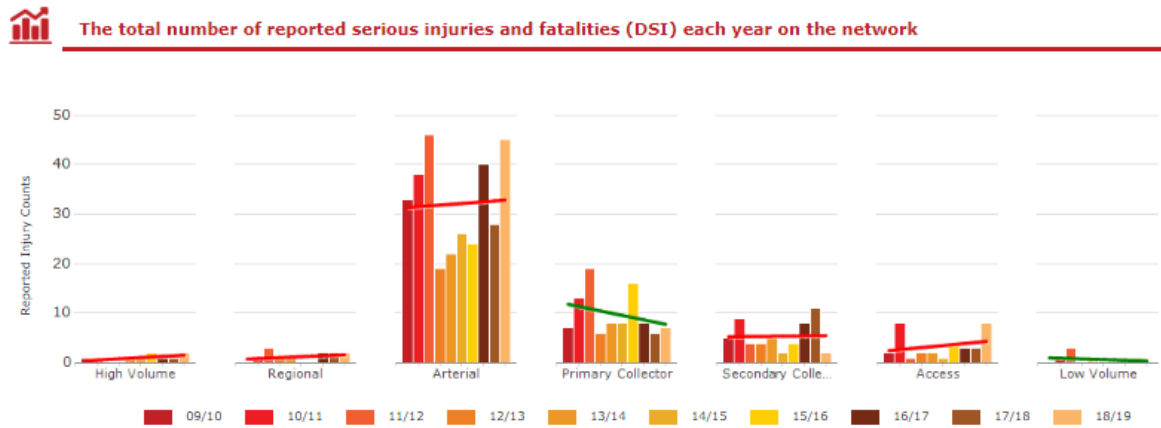


Figure 9: Serious and Fatal injuries (Source REG PMRT)

At the last audit in 2015, we commented about the crashes on Thorndon Road involving cyclists. On this audit, we observed that no recent improvements had been made to improve cycle safety on Thorndon Road. Council commented that improvements are being looked at to improve Thorndon Road, but these will be implemented as part of the “Lets’ Get Wellington Moving” programme. This work programme is in its infancy with physical work many years away. This is too long; Council needs to act now to implement an interim safety measure for cyclists. The major conflict on Thorndon Road is the conflict between cyclists and cars exiting the perpendicular car parks. A simple solution is to revise the parking orientation to all parallel car parks to mitigate the conflict. It is vital that Council prioritises first on safety and second on convenience in this situation.

Rural secondary collector roads lack consistency in delineation. Again, for safety reasons it is Council’s responsibility to ensure the network is safe for all users. The Waka Kotahi “Research Report 618 Trialling best value delineation for rural roads” highlighted a benefit to safety by providing delineation on all rural roads. We acknowledge that Council’s secondary collector rural roads consist of tight curves and narrow seal widths and sometimes it can be difficult to install and maintain delineation. This report does describe the result of a trial to provide an appropriate level of service while consolidating devices, where two traditional devices may be replaced by a new single device. Another trial investigated how to improve delineation in rain, a cause where crashes are overrepresented. Ensuring that rural roads are delineated in accordance with Road and Traffic Series 5 or the Traffic Control Devices Manual will safeguard user safety on the network. However, to be effective all delineation needs to be regularly maintained.

Council is meeting the condition of funding for road safety audits.

| | |
|------------------------|--|
| <p>Recommendations</p> | <p>We recommend that Council:</p> <p>R7.1 Undertakes a safety review to identify where engineering solutions can be introduced to reduce the incidence and severity of road crashes on the arterial network</p> <p>R7.2 Ensure the maintenance contractor maintains delineation devices in accordance with the Traffic Control Devices manual.</p> |
|------------------------|--|

| <p>Suggestions</p> | <p>We suggest that Council:</p> <p>S7.1 Investigates new delineation devices for use on the rural network.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|--------------------|---------------|------|----|------|----|------|----|------|----|------|----|------|----|------|------------|---------|-------|---------|-----|---------|-------|---------|-----|---------|-------|---------|-------|---------|-----|---------|-----|---------|-------|---------|-------|------|-------|--------------------|------|---|---------|---|--------|---|--------|---|--------|---|--------|---|--------|---|--------|----|---------|----|---------|------|----|---------|---|---------|---|---------|---|---------|---|---------|---|---------|---|---------|---|---------|---|---------|---|---------|----|---------|----|---------|------|----|---------|---|---------|---|---------|---|---------|---|---------|---|---------|---|---------|---|--------|
| <p>Wellington City Council's comment</p> | <p>R7.1 We acknowledge there are significant safety issues particularly on arterial corridors. Most of these corridors are within the scope of the Let's Get Wellington (LGWM) programme and the Council expects that significant corridor transformations will occur under that programme and achieve safety improvements. In addition, the Council has adopted a risk-based approach to target safety interventions at high risk sites not covered by the LGWM programme. We have worked with Waka Kotahi to progress our initial programme through the Road to Zero programme and currently have 19 projects approved for inclusion in the NLTP1 period (2021/22-2023/24). The Council's cycleways programme has a primary objective of reducing safety risks on the corridors it is improving. We have developed draft programmes for improving walking and cycling safety and access to schools, train stations and major bus stops, and a speed management programme. These draft programmes are subject to funding through the upcoming long-term plan and National Land Transport Programme processes. Our cycling safety records show that even though we are having a relatively steady number of cycling crashes over the years, the number of cycling trips have increased dramatically. This has occurred in conjunction with an increase in the km of new cycleways built. This indicates that the work that we are doing is making it safer to cycle in Wellington.</p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="523 1025 874 1339"> <table border="1"> <caption>Cycling crash statistics</caption> <thead> <tr> <th>Year</th> <th>No of crashes</th> </tr> </thead> <tbody> <tr><td>2014</td><td>75</td></tr> <tr><td>2015</td><td>72</td></tr> <tr><td>2016</td><td>80</td></tr> <tr><td>2017</td><td>82</td></tr> <tr><td>2018</td><td>85</td></tr> <tr><td>2019</td><td>58</td></tr> </tbody> </table> </div> <div data-bbox="909 1025 1308 1339"> <table border="1"> <caption>Length of cycleways installed</caption> <thead> <tr> <th>Year</th> <th>Length (m)</th> </tr> </thead> <tbody> <tr><td>2010/11</td><td>1,500</td></tr> <tr><td>2011/12</td><td>800</td></tr> <tr><td>2012/13</td><td>1,100</td></tr> <tr><td>2013/14</td><td>300</td></tr> <tr><td>2014/15</td><td>1,300</td></tr> <tr><td>2015/16</td><td>3,000</td></tr> <tr><td>2016/17</td><td>400</td></tr> <tr><td>2017/18</td><td>300</td></tr> <tr><td>2018/19</td><td>5,300</td></tr> <tr><td>2019/20</td><td>2,400</td></tr> </tbody> </table> </div> </div> <div data-bbox="523 1366 1348 1825"> <table border="1"> <caption>Increasing number of cyclists</caption> <thead> <tr> <th>Year</th> <th>Month</th> <th>Number of cyclists</th> </tr> </thead> <tbody> <tr><td rowspan="9">2018</td><td>3</td><td>100,000</td></tr> <tr><td>4</td><td>80,000</td></tr> <tr><td>5</td><td>75,000</td></tr> <tr><td>6</td><td>65,000</td></tr> <tr><td>7</td><td>70,000</td></tr> <tr><td>8</td><td>80,000</td></tr> <tr><td>9</td><td>80,000</td></tr> <tr><td>10</td><td>120,000</td></tr> <tr><td>11</td><td>160,000</td></tr> <tr><td rowspan="12">2019</td><td>12</td><td>155,000</td></tr> <tr><td>1</td><td>220,000</td></tr> <tr><td>2</td><td>230,000</td></tr> <tr><td>3</td><td>235,000</td></tr> <tr><td>4</td><td>175,000</td></tr> <tr><td>5</td><td>255,000</td></tr> <tr><td>6</td><td>190,000</td></tr> <tr><td>7</td><td>195,000</td></tr> <tr><td>8</td><td>205,000</td></tr> <tr><td>9</td><td>205,000</td></tr> <tr><td>10</td><td>205,000</td></tr> <tr><td>11</td><td>235,000</td></tr> <tr><td rowspan="7">2020</td><td>12</td><td>175,000</td></tr> <tr><td>1</td><td>230,000</td></tr> <tr><td>2</td><td>270,000</td></tr> <tr><td>3</td><td>235,000</td></tr> <tr><td>4</td><td>125,000</td></tr> <tr><td>5</td><td>155,000</td></tr> <tr><td>6</td><td>190,000</td></tr> <tr><td>7</td><td>50,000</td></tr> </tbody> </table> </div> <p>R7.2 We will manage our maintenance contractor using our new OFI system and pay attention to delineation maintenance. In addition, we have commissioned a review of road marking and delineation on the rural roads in Wellington City. The review will undertake site drive-overs during both daytime and night-time to inspect and review the current road marking and delineation in</p> | Year | No of crashes | 2014 | 75 | 2015 | 72 | 2016 | 80 | 2017 | 82 | 2018 | 85 | 2019 | 58 | Year | Length (m) | 2010/11 | 1,500 | 2011/12 | 800 | 2012/13 | 1,100 | 2013/14 | 300 | 2014/15 | 1,300 | 2015/16 | 3,000 | 2016/17 | 400 | 2017/18 | 300 | 2018/19 | 5,300 | 2019/20 | 2,400 | Year | Month | Number of cyclists | 2018 | 3 | 100,000 | 4 | 80,000 | 5 | 75,000 | 6 | 65,000 | 7 | 70,000 | 8 | 80,000 | 9 | 80,000 | 10 | 120,000 | 11 | 160,000 | 2019 | 12 | 155,000 | 1 | 220,000 | 2 | 230,000 | 3 | 235,000 | 4 | 175,000 | 5 | 255,000 | 6 | 190,000 | 7 | 195,000 | 8 | 205,000 | 9 | 205,000 | 10 | 205,000 | 11 | 235,000 | 2020 | 12 | 175,000 | 1 | 230,000 | 2 | 270,000 | 3 | 235,000 | 4 | 125,000 | 5 | 155,000 | 6 | 190,000 | 7 | 50,000 |
| Year | No of crashes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | 75 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | 72 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | 80 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | 82 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | 85 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | 58 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Year | Length (m) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010/11 | 1,500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011/12 | 800 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012/13 | 1,100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013/14 | 300 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014/15 | 1,300 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015/16 | 3,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016/17 | 400 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017/18 | 300 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018/19 | 5,300 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019/20 | 2,400 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Year | Month | Number of cyclists | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | 3 | 100,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 4 | 80,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 5 | 75,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 6 | 65,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 7 | 70,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 8 | 80,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 9 | 80,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 10 | 120,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 11 | 160,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | 12 | 155,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1 | 220,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 2 | 230,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 3 | 235,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 4 | 175,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 5 | 255,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 6 | 190,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 7 | 195,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 8 | 205,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 9 | 205,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 10 | 205,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 11 | 235,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2020 | 12 | 175,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1 | 230,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 2 | 270,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 3 | 235,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 4 | 125,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 5 | 155,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 6 | 190,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 50,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| | the rural road network in Wellington City and provide recommendations on improvement opportunities for road marking and delineation. |
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| 8. Professional Services | Effective |
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| <p>Council has good processes in place to ensure that it is getting value for money from its delivery of professional services. There are good management processes in place for the monitoring of in-house professional services activities.</p> <p>For the 2018/19 financial year Council’s in-house Professional Business Unit had a net under-recovery of 4.2%. Council is reminded that Waka Kotahi encourages approved organisations to recover actual costs for in-house professional services. Contributing categories of expenditure to the Business Unit were all eligible for Waka Kotahi funding assistance.</p> | |
| Wellington City Council’s comment | We are pleased to note the effectiveness of our professional services and will continue to work on ensuring that these remain robust whilst making small improvements |

3.0 APPENDICES

Appendix A

Audit Programme

1. Previous audit outcomes – September 2017 (Procedural) 2015 (Technical)
2. Land Transport Disbursement Account
3. Final claims 2017/18, 2018/19, 2019/20
4. Reconciliation between ledgers supporting final claim and the audited financial statements
5. Transactions (accounts payable) 2019/20
6. Retentions Account
7. Procurement Procedures
8. Network condition and management
9. Activity management planning
10. Data quality
11. Road safety
12. Professional Services
13. Other issues that may be raised during the audit
14. Close out meeting

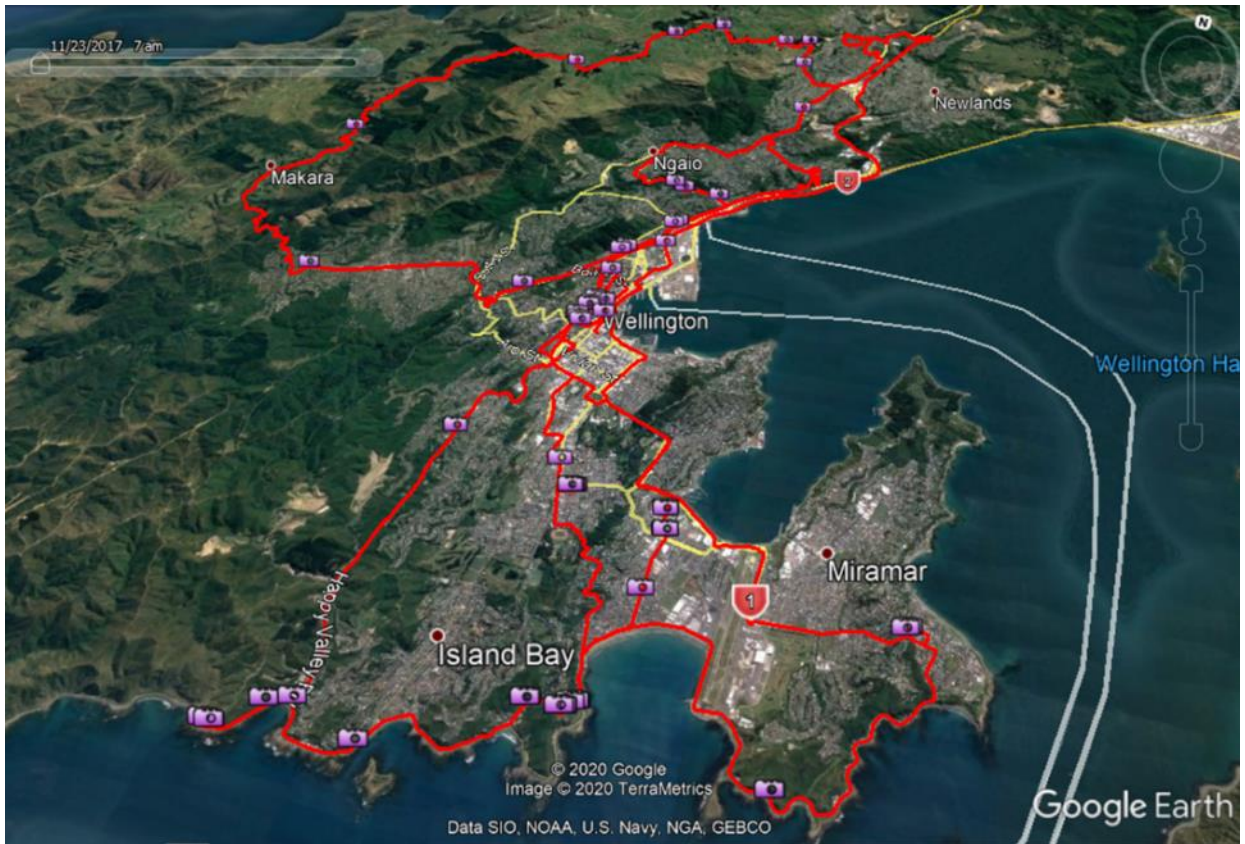
Appendix B

Contracts Audited

| Contract Number | Tenders Received | Date Let | Description | Contractor | | |
|-----------------|------------------|----------|---|-------------------------|-------------------------------------|---|
| | | | Physical Works | | | |
| 1140002 5-11 | 5 | Dec 2016 | Evans Bay Parade Cycleway- Stage 1 project | Downer | Estimate Let Price Final Cost | \$1,800,000 \$2,362,996 \$5,499,053 |
| 1140008 3 | 3 | Dec 2017 | Karaka Bay Rd Seawall upgrade strengthening SW31 | Juno | Estimate Let Price Final Cost | \$353,000 \$372,245 \$459,619 |
| 1140013 9 | 2 | Aug 2019 | Happy Valley Rd Bridge Deck and Walkway replacement | Fulton Hogan | Estimate Let Price Final Cost | \$437,370 \$470,017 \$632,487 |
| 1140014 9 | 2 | May 2019 | Seatoun Tunnel seismic strengthening | Construction Techniques | Estimate Let Price Final Cost | \$1,794,690 \$2,381,881 \$2,120,527 |
| 114150 | 5 | May 2019 | Streetlight Maintenance 2019-22 | Fulton Hogan | Estimate Let Price Final Cost | \$5,000,000 \$5,900,712 \$2,037,664 |
| | | | Professional Services | | | |
| 1140121 | 6 | Jul 2018 | Seatoun Tunnel Portal strengthening | Opus | Estimate Let Price Final Cost | \$100,000 \$99,200 \$193,796 |
| 1140154 | 7 | Feb 2019 | Ngio Gorge slope stabilisation improvements | Aecom | Estimate Let Price Final Cost | \$888,809 \$770,052 \$995,744 |
| 1140015 6 | 4 | May 2019 | Grafton Rd bank remediation | Aurecon | Let Price Final Cost | \$93,987 Ongoing |

Appendix C

Network Field Inspections



Appendix D

Sample of Audit Photos

