

NORTHLAND TRANSPORT ALLIANCE



Meeting: Infrastructure Committee Meeting – 4th May 2022

Name of Item: Far North Bridge Programme Update

Author: Dawn Spence – NTA Asset Strategy and Management Lead

Date of Report: 1st April 2022

1 Purpose

The purpose of this paper is to provide Council with an update on the three-year 2021-24 bridge programme and a summary of the bridge strategy.

2 Background

Far North District bridge structures are classified as bridges and large culverts¹.

| Number of bridges in Far North District | | | |
|---|------------------|---------------|-----|
| | bridge structure | large culvert | |
| one-lane wide | 487 | 43 | 530 |
| two-lane wide | 62 | 140 | 202 |
| | 549 | 183 | |

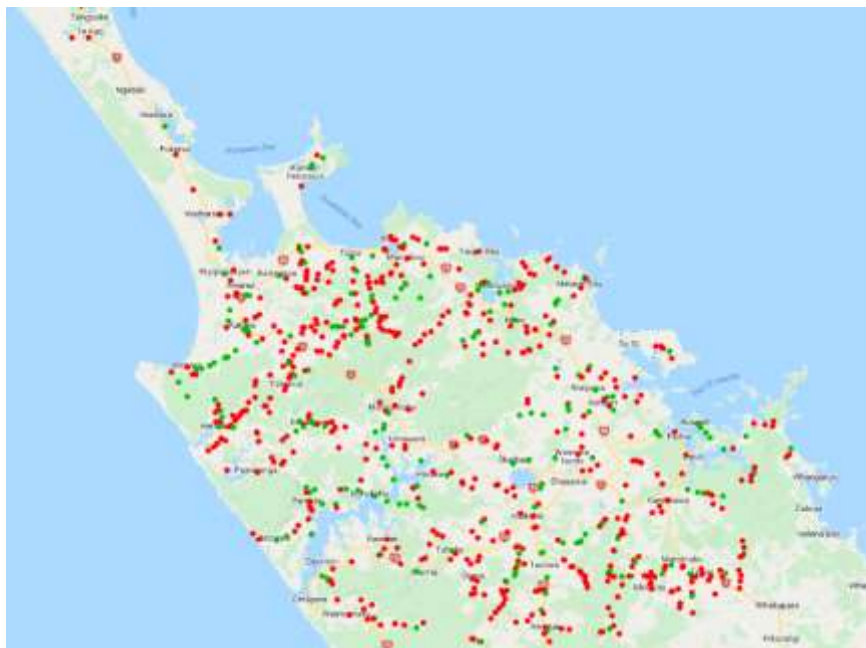


Figure 1 - Map of Bridges & Culverts

¹ Large culverts are defined as culverts and multiple culverts with a total waterway area greater than 3.4m²

Bridge structure inspections are conducted in line with the NZTA policy on inspections.² All structures are inspected every two-years and special inspections are conducted annually: posted bridges; vulnerable structure inspections (Level 4 or 5 classified structures) and structures with uncommon materials (timber decks or timber frames).

Following the annual inspections, the proposed programmes of works are updated. The works are separated into:

- Scour Protection Works (3-year programme)
- General Bridge Repairs (3-year programme)
- Bridge Structure Component Replacements (rolling 10-year programme)
- Bridge Renewals (rolling 10-year programme)

The Scour Protection works, and the General Bridge Repairs have been changed to three-year contracts as opposed to annual contracts to gain an economy of scale and achieve value for our budgets.

The Bridge Structure component replacement programme and the Bridge renewal programme are developed on economic evaluation to ensure the most cost-effective management strategy is adopted. Preliminary Present Value End of Life Analysis (PVEoLs) are prepared for each 3-year programme of works for approval by Waka Kotahi's Bridge Specialist. Attached are the approved PVEoL reports for the bridge structures within the 3-year programme of works.

3 Discussion

The status or progress on each of the various work components relating to the Bridge structures is given below.

3.1 Bridge Inspections

Bridge inspections are programmed by the NTA for the three Districts in Northland. The primary driver for priority of bridge inspections is due to their condition – poorer structures need to be inspected at a more favourable time. Wet/damp weather can sometimes hide defects, which is not a situation that we desire. The Far North bridge structures are inspected at the prime of summer, Kaipara bridge structures are inspected during autumn and Whangarei's bridge structures (which are in the best condition of the three districts at present) are inspected during the winter months.

Over the 2021-22 summer period 523 Far North bridge structures were inspected, which is 71% of the network.

The 10-year rolling programmes and scour protection works and general bridge repair lists were then generated based upon these inspections.

3.2 Scour Protection Works

The Scour Protection Works 2021-24 contract (7/21/215) year 1 commenced on 1st February 2022. A total of 72 of the planned 74 scheduled works have been completed by the end of February, 90% complete. The works are within budget and the forecast completion for year 1 is 29th April 2022.

3.3 General Bridge Repairs

The General Bridge Repairs 2021-24 contract (7/21/214) year 1 commenced on 10th January 2022. A total of 33 of the 77 planned sites are completed and a further 7 sites

² NZTA Bridges, geotechnical structures and other significant highway structures inspection policy (NZTA S6:2019)

are under construction. Overall, the work is 40% complete within 65% of the contract period, although Extensions of Time (EOT) have been submitted by the contractor for additional works. The works are currently within the budget and the forecast completion for year 1 is after the 29th of April 2022 (dependent on the extension of time awarded from the claims).

3.4 Bridge Structure Component replacement (WC215)

The Component replacements were based upon the December 2021 10-year programme, four bridges were proposed to be worked on during the 2021-22 period. Due to limited budgets and higher than anticipated tender sums, two bridges were deferred to 2022-23 year. The Bridges structure component replacement contract covers two bridge sites: Matai Bay Bridge (C03) and Hihi Road Bridge (F07). The works have been designed and tendered, but due to an additional funding request for the temporary access at Hihi the works are on hold pending a budget review.

3.5 Bridge renewals (WC216)

The Bridge renewals were based upon the December 2021 10-year programme, five bridge structures were proposed for replacement during the 2021-22 period. Due to limited budgets and higher than anticipated tender sums two bridges were deferred to 2022-23. The three remaining bridges were tendered under two contracts:

- Kaitaia-Awaroa (D41) and Kahikatoa Road (M35) culvert replacements contract (7/21/202) the project commenced on site on 16th March 2022 and is forecast for completion by 29th April 2022.
- Puhata Road Bridge (D50) upgrade contract (7/21/203), the project commenced on site 7th March 2022. The initial action is to relocate a power pole prior to the piling operation due May 2022. The forecast completion is end of June 2022.

4 Attachments

1. FNDC Bridging programme Dec 2021 - WC215³
2. FNDC Bridging programme Dec 2021 - WC216⁴
3. 2021-22 Structures PVEoL Analysis – Kahikatoa M35 (Approved)
4. 2021-22 Structures PVEoL Analysis – Puhata Rd D50 (Approved)
5. 2021-22 Structures PVEoL Analysis – Kaitaia-Awaroa D41 (Approved)

5 Report Approval

Approved by:



Calvin Thomas - NTA General Manager
04/04/2022

³ 10-year programme of Renewals updated once a year following inspections

⁴ 10-year programme of component replacement updated once a year following inspections

