

From: [Ben Grapes](#)
To: [Ben Grapes](#)
Subject: FW: SMP - SH5 technical review
Date: Tuesday, 8 February 2022 8:24:34 PM
Attachments: [image002.png](#)
[image005.png](#)
[image001.png](#)
[image008.png](#)

Ben Grapes

Safe System Lead, Road to Zero Speed and Infrastructure Programme

Te ara ki te ora | Transport Services

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From: Aaron Campion
Sent: Wednesday, 10 November 2021 2:28 pm
To: Adam Francis <Adam.Francis@nzta.govt.nz>
Cc: Margot Bawden <Margot.Bawden@nzta.govt.nz>; Helen Eschenbruch <Helen.Eschenbruch@nzta.govt.nz>
Subject: SMP - SH5 technical review

Hi Adam,

As discussed we have carried out the additional technical assessment for SH5 to support the response to the formal consultation process.

The immediate actions identified for me where;

- Revisit the time calculations for the proposal
- Further dissect the homogenous lengths and assess the SAAS
- Confirm the Crash Statistics (numbers of crashes / time period)
- Validate the personal and collective risk ratings
- Validate the DSI benefits

These actions were to provide confidence over the robustness of the technical assessment and confirm the appropriateness of the limit that was proposed.

Time Calculations

The original engagement material suggested that the time effects of the proposed speed changes were 41 seconds.

We have completed additional detailed speed data for the corridor, breaking the proposed length into 2km sections and reviewing the existing average and 85th speed profiles and assessing the likely impact of the proposal on actual speeds for each section.

The impact on the average observed speed profile is the lower band.

The impact on the 85th observed speed profile is the upper band.

The proposal is assessed as incurring between 4 minutes (lower band) and 11 minutes (upper band) (rounded to nearest minute).

Based on an end to end journey time, this is a journey time variance of between 4% - 12%.

-

SaAS

The 122km length was originally set out and assessed in 6 sections. This has been further refined into 15 sections. Section 1 (41km) does not form part of the proposal. All other 15 sections are now lengths less than 10km.

In summary we have completed the following;

- Section 4 split into Section 4A, 4B, 4C
- Section 5 split into Section 5A – 5H
- Updated map of homogeneous section lengths
- Reviewed PR and CR for the entire length, including new sections
- Reviewed and updated CAS data for the entire length, including new sections
- Reviewed 2020-2021 CAS crash data. (see below).

Overall, there are no major changes to the assessed safe and appropriate speeds. The IRR of the corridor is generally medium and this governs in most cases, resulting in a recommended SaAS of 80km/h (except section 3, as previously outlined).

Breaking sections 4 and 5 down further has resulted in a concentration of DSI's in some of the additional sections. This corresponds to a high PR, leading to an initial assessed SaAS of <80km/h (as per NZTA SMG). However, where PR or CR governs, it is important to prioritise safety improvements to those sections to meet the IRR and ONRC expectations. i.e. Speed limit reductions, to 60 km/h in this case, would be inconsistent with the surrounding sections and IRR of the corridor.

The 2010 – 2019 CAS period used for the SaAS had a total of 66 DSI crashes (11f & 55S)

The 2011 – 2021 CAS period would provide a total of 73 DSI crashes (14f & 59S)

The additional assessment confirms the appropriateness of the 80km/h speed proposal.

Attachments Include

- Updated internal engagement form
- SMP Technical Assessment (updated for the additional sections)
- Action register

Please review and make comment as appropriate.

Best regards

Aaron Campion

Road Safety Technical Support

Transport Services – System Design

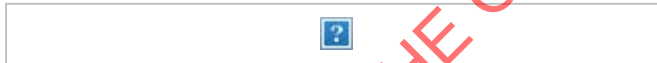
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From: section 9(2)(a) privacy @Urbanconnection.co.nz>

Date: Tuesday, 9 November 2021 at 12:44 PM

To: section 9(2)(a) privacy @Urbanconnection.co.nz>

Subject: SMP - SH5 technical review and additional sections

Hi section 9(2)(a) pr

I've reviewed the technical assessment as requested. Please see the link below.

[SMP Site 12 - SH5 Taupo to Bay View Technical Assessment_RevB.xlsx](#)

This includes the following:

- Section 4 split into Section 4A, 4B, 4C
- Section 5 split into Section 5A – 5H
- Updated map of homogeneous section lengths
- Reviewed PR and CR for the entire length, including new sections
- Reviewed and updated CAS data for the entire length, including new sections
- Reviewed 2020-2021 CAS crash data (see below). Appears consistent with 2010-2019

crash data, if not worse.

| Network Section No. | Total Crashes | Severity | | | | Total DSI Casualties |
|---------------------------|------------------|----------|---------|--------|-----------------|-------------------------|
| | | Fatal | Serious | Minor* | Non- Injury* | |
| 1 | 22 | 0 | 1 | 8 | 13 | 1 |
| 2 | 3 | 0 | 0 | 0 | 3 | 0 |
| 3 | 16 | 0 | 1 | 5 | 10 | 3 |
| 4A | 3 | 1 | 2 | 0 | 0 | 13 |
| 4B | 5 | 0 | 2 | 1 | 2 | 2 |
| 4C | 9 | 1 | 1 | 2 | 5 | 3 |
| 5A | 5 | 1 | 1 | 3 | 0 | 3 |
| 5B | 2 | 0 | 0 | 2 | 0 | 0 |
| 5C | 5 | 0 | 0 | 2 | 3 | 0 |
| 5D | 6 | 1 | 0 | 3 | 2 | 3 |
| 5E | 1 | 0 | 0 | 1 | 0 | 0 |
| 5F | 8 | 0 | 1 | 4 | 3 | 1 |
| 5G | 2 | 0 | 0 | 0 | 2 | 0 |
| 5H | 2 | 0 | 0 | 1 | 1 | 0 |
| 6 | 7 | 0 | 1 | 5 | 1 | 1 |
| Total | 96 | 4 | 10 | 37 | 45 | 30 |

I've also updated the internal engagement form with the updated information. Please see the link below.

[SMP Site 12 - SH5 Taupo to Bay View Internal Engagement Form_Rev2.xlsx](#)

Overall, there are no major changes to the assessed safe and appropriate speeds. The IRR of the corridor is generally medium and this governs in most cases, resulting in a recommended SaAS of 80km/h (except section 3, as previously outlined).

Breaking sections 4 and 5 down further has resulted in a concentration of DSI's in some of the additional sections. This corresponds to a high PR, leading to an initial assessed SaAS of <80km/h (as per NZTA SMG). However, where PR or CR governs, it is important to prioritise safety improvements to those sections to meet the IRR and ONRC expectations. Speed limit reductions, to 60 km/h in this case, would be inconsistent with the surrounding sections and IRR of the corridor. Speed reductions should be a last resort in these cases, and our recommendation should be to maintain 80km/h through these sections.

Kind regards,

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BE Civil (Hons), MEngNZ

Kaipūkaha / Transportation Engineer

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