

**To:** Safe Roads / NZ Transport Agency  
**Attn:** Liv Theunissen  
**Date:** 2 October 2018  
**Re:** ATP installation issues near SH6 Luggate-Wanaka-Hawea / SH8A Tarras

Quality Assurance Statement	
<i>This document has been prepared for the benefit of New Zealand Transport Agency and Safe Roads Alliance. No liability is accepted by ViaStrada Ltd, or any of its employees or sub-consultants with respect to its use by any other person.</i>	Prepared by: Glen Koorey
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## 1. Background

This memo summarises options for addressing concerns raised about some audio-tactile profiled (ATP) line-markings installed on SH6 between Luggate, Wanaka and Lake Hawea and on SH8A between Luggate and Tarras. These issues have been raised by cycling/triathlon groups in the Wanaka region in meetings with the Transport Agency and Safe Roads.

## 2. Review of each site

Each site has been reviewed by means of inspecting the available (pre-ATP installation) RoadRunner video footage of the site and comparing with the previously recommended sections for installing ATP and the notes provided by Challenge Wanaka (RPs estimated based on interpreting running distances and descriptions provided by them). We have focused on whether ATP should be removed or not, although there may be merit in some cases for shoulder repairs instead. All route positions indicated are approximate and may need to be confirmed on site.

### 2.1. Site 1: SH6 Albert Town – Lake Hawea decreasing direction (RP: 881/9.5 - 3.8 approx.)

This is a 100 km/h section of road that features a mixture of straights and winding elements in rolling terrain. AADT is approximately 2900 vehs/day. There are various sections of yellow (no overtaking) centreline, none with ATP installed on it. Cycling groups have noted three areas of concern for removing installed ATP; namely:

- RP 881/8.38-7.95 *“start hill section; remove ATP to top of hill”*
- RP 881/4.84 *“at start ATP; fix shoulder first 20 or so metres, then could stay left, or remove ATP first 20m”*
- RP 881/3.82-3.44 *“to top hill; gap required for downhill (if caught on LHS ATP)”*

ATP was originally recommended for exclusion in the following sections (*notes provided*):

- RP 881/9.20-8.52 *Camp ground; Steep Uphill; yellow lines; middling shoulder; cyclists riding edgeline; entry to Albert Town; One lane bridge approach*



- RP 881/8.28-7.91 *Steep Uphill; yellow lines*
- RP 881/7.22-6.61 *Steep Downhill / Steep uphill; Double yellow lines*
- RP 881/6.19-4.01 *Steep uphill; back to back curves; middling shldr; Dwelling exclusion (4.73 - 6.19)*
- RP 881/3.60-2.49 *Dwelling exclusion / Steep downhill Double Yellow Lines*

These locations would suggest that there should already be some overlap between what has been installed and what is requested. From inspection of the video data, we recommend further **removal of ATP** at the following locations:

- **RP 881/8.52-8.28 Slight vertical crest with middling shoulder**
- **RP 881/3.97-3.95 Shoulder needs repair and/or remove ATP**
- **RP 881/3.82-3.60 Slight rise and lefthand bend**

*Note that these locations should be adjacent to current gaps in ATP – adjust RPs if necessary*

## 2.2. Site 2: SH6 Lake Hawea – Wanaka increasing direction (RP: 881/2.9 - 3.8 approx.)

This is the same section as above, heading south towards Wanaka. Cycling groups have noted two areas of concern for removing installed ATP; namely:

- RP 881/~2.9 *“at start ATP; could stay left arrow if first 50m repaired, or remove ATP first 50m”*
- RP 881/~3.8 *“top of hill need cross-over gap for down hill”*

ATP was originally recommended for exclusion in the following sections (*notes provided*):

- RP 881/2.49-3.60 *Dwelling exclusion / Steep uphill Double Yellow Lines*
- RP 881/4.01-6.19 *Steep Downhill; back to back curves; middling shldr; Dwelling exclusion (4.73 - 6.19)*
- RP 881/6.61-7.22 *Steep Downhill / Steep uphill; Double yellow lines*
- RP 881/7.91-8.28 *Steep Downhill; yellow lines*
- RP 881/8.52-9.20 *Steep Downhill; yellow lines; middling shoulder; cyclists riding edgeline; entry to Albert Town; One lane bridge approach*

It's not quite clear whether the suggested route positions align precisely with the actual ATP installation locations. From inspection of the video data, we recommend further **removal of ATP** at the following locations:

- **RP 881/2.99-3.06 Shoulder needs repair and/or remove ATP if present**
- **RP 881/3.60-3.65 Flat straight between horizontal curves**

*Note that these locations should be adjacent to current gaps in ATP – adjust RPs if necessary*

## 2.3. Site 3a: SH8A Tarras – Red Bridge decreasing direction (RP: 15/3.9 – 0/0 approx.)

This 100 km/h section of road mostly comprises a series of long straights connected by tighter curves in flat to rolling terrain. AADT is approximately 1000 vehs/day. There are a few sections of yellow (no overtaking) centreline, none with ATP installed on it. Cycling groups have noted four areas of concern for removing installed ATP; namely:

- RP 15/2.99 *“remove ATP on LH corner”*
- RP 0/10.28 *“need gap to avoid section (if cyclist caught LHS ATP)”*
- RP 0/9.42 *“gap required (at farm entrance) (if caught LHS ATP)”*



- RP 0/4.71-4.20 “remove ATP on LH corner till opp Maori Pt Rd”

ATP was originally recommended for exclusion in the following sections (*notes provided*):

- RP 15/3.02-2.72 left curve
- RP 15/2.51 leave gap transition to lane
- RP 15/2.18 leave gap transition to lane
- RP 0/12.48-12.27 left curve
- RP 0/4.58-4.06 left curve

The first and last locations of concern appear to already reflect where ATP should have been installed; the other two are new. From inspection of the video data, we recommend further **removal of ATP** at the following locations:

- **RP 15/3.04-2.69 Confirm ATP already removed from here?**
- **RP 0/10.30-10.26 Shoulder needs minor repair and/or remove ATP**
- **RP 0/9.48-9.40 Shoulder adjacent to gravel driveway**
- **RP 0/4.71-4.30 Lefthand curve; extend existing ATP removal**

*Note that these locations should be adjacent to current gaps in ATP – adjust RPs if necessary*

#### **2.4. Site 3b: SH8A Red Bridge - Tarras increasing direction (RP: 15/4.9 approx.)**

This 100 km/h section of road features a left-hand bend near the top of an uphill slope; immediately afterwards the highway turns off to the right at a T-intersection. AADT is approximately 1200 vehs/day. Cycling groups have noted one area of concern for removing installed ATP; namely:

- RP 15/4.19 “at start ATP; remove ATP on LH corner to hill top”

ATP was originally recommended for exclusion in the following sections (*notes provided*):

- RP 15/3.39-3.59 left curve
- RP 15/4.30-4.42 left curve

These locations do not appear to overlap with what is requested. From inspection of the video data, we recommend further **removal of ATP** at the following location:

- **RP 15/4.07-4.30 Uphill grade into lefthand bend and then T-intersection to right**

*Note that this location should be adjacent to the current gap in ATP – adjust RPs if necessary*

#### **2.5. Site 4: SH6 Luggate - Wanaka decreasing direction (RP: 901/0 – 893/7.1 approx)**

This 100 km/h section of road starts near the SH8A intersection and involves a climb up to a plateau with a left-hand bend at the top; a slow vehicle bay starts on the slope and finishes when the road levels out. AADT is approximately 4800 vehs/day. Yellow (no overtaking) centreline is installed for much of the section, none with ATP installed on it. Cycling groups have noted two areas of concern for removing installed ATP; namely:

- RP 901/0 “At Short Cut Rd intersection; need gap for choice LHS or RHS of ATP”
- RP 893/7.53 “At top of hill (known locally as the Airport Hill); gap at top for LH ATP cyclists to be able to go RHS”

ATP was originally recommended for exclusion in the following sections (*notes provided*):

- RP 901/0.26-0.24 shdr narrows



- RP 893/8.42-7.40 *Steep uphill; yellow lines; Slow vehicle bay; LH curve; middling shoulder*

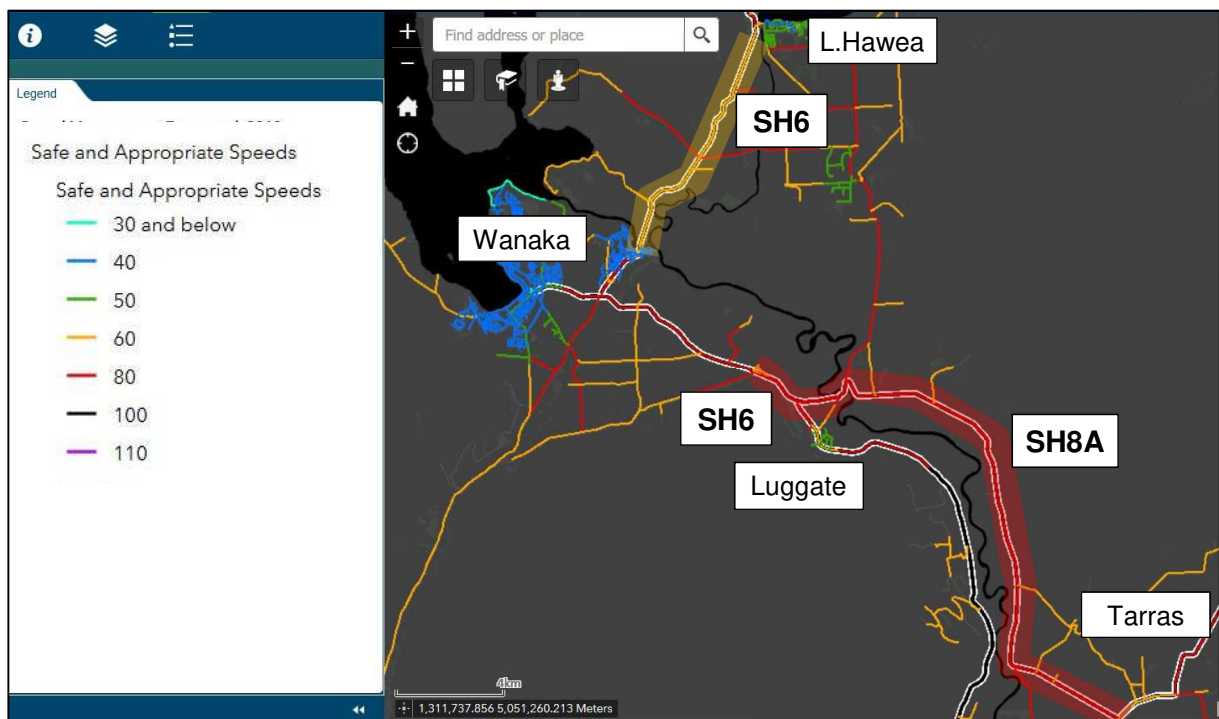
These two locations of concern appear to be immediately adjacent to where ATP has been installed (indeed, overlapping for the second case). From inspection of the video data, we recommend further **removal of ATP** at the following locations:

- **RP 901/0.24-893/8.42 Lefthand curve at intersection with middling shoulder**
- **RP 893/7.55-7.38 Lefthand curve at top of hill with middling shoulder**

*Note that these locations should be adjacent to current gaps in ATP – adjust RPs if necessary*

### 3. General treatments

In all cases investigated, **reducing the speed limit** to no more than 80 km/h would be very effective to reduce the likelihood and severity of cycle crashes with motor vehicles. The calculated “safe & appropriate speed” for the roads investigated in this report (from NZTA Risk Assessment maps) is 80 km/h or less (e.g. see extract below).



The Transport Agency is also drafting a new *Specification for Design, Construction and Maintenance of State Highway Walking and Cycling Facilities*. This document will guide the standards required for those sections of the network that are designated part of the State Highway cycling network (expected to comprise about 2000 km, including parts of NZ Cycle Trail and Heartland Rides, popular sports cycling routes, and strategic urban routes).

While removal of problematic ATP removes the restriction for anyone cycling, it doesn't address the lack of shoulder space and hence overall cycle safety.

For low-volume rural roads (i.e. 1000-5000 AADT), the target shoulder widths are expected to be 0.75 – 1.0 m, which will require some considerable investment in many areas. Of the sections investigated above, most would probably fall under the SH cycling network as potential/current Heartland Rides, so it is likely that some seal widening is warranted in the long term.

**Recommended treatment:** *lower speed limits to 80 km/h on sections of concern*



Regards,



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