Driver Comprehension of Overtaking Legality for Wide Centre Line Treatments

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Wide Centre Line Treatment with Audio Tactile Line Marking on Dukes Highway, South Australia
Wide Centre Line Treatment with Median Wire Rope Safety Barrier in Victoria
Objectives

- Evaluating how road users respond to the use of WCLT
- Identifying whether the current line marking treatments are appropriate
- Comparing the effectiveness of different line marking options, with comparisons between:
  - width of the centre line treatment
  - visibility of audio-tactile line markings
  - the thickness of the line markings
  - diagrammatic roadside signage and WA roadside signage
<table>
<thead>
<tr>
<th>Theme</th>
<th>Quotes</th>
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<tbody>
<tr>
<td>Centre Line Spacing</td>
<td>“Sections are 10 m [seal] on 11 m [formation] with 1 m WCL [WCLT] gap.”</td>
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<td>“It’s 1.2 m in South Australia.”</td>
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<td>“Width is important.”</td>
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<td>“In QLD, it’s 1 m and is related to the speed limit of the route.”</td>
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<td>“If the WCL [WCLT] is too wide, it can be interpreted as a passing lane.”</td>
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<td>“The current treatment taken from QLD.”</td>
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<td>“Perhaps the WCL [WCLT] is too wide.”</td>
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<td>“Look at narrowing.”</td>
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<td>Signage</td>
<td>“Signage still needs to be there to inform of new approach.”</td>
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<td>“When something is new it needs to be signed.”</td>
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<td>“Signs could be less in size as it can divert attention.”</td>
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<td>“All signs eventually come down after an education period.”</td>
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<td>“Simulations need to have with and without signs.”</td>
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<td>“Must educate people that do not drive this section a lot, like tourists.”</td>
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<td>“Important to know how much confusion WCL [WCLT] will cause and more so with the signs.”</td>
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<td>Audio Tactile Line Marking</td>
<td>“Lines should be full width but use tactile markers.”</td>
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<td>“If on lines, at 250 metres they blur into one.”</td>
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<td>“Offset tactile markers off the lines and same colour as road.”</td>
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| Shoulders  | “Need wider shoulders – WCLT should not rob shoulder width.”  
“Perhaps vary shoulder widths.”  
“Driver feels safer with wider shoulders.”  
“Make sure there are no barriers to impede Over Size Over Mass.” |
| Paint      | “New Zealand has a colour differentiation (yellow). Could be related to snow.”  
“What about filling the width with paint?”  
“Must be mindful of the cost to paint infill. Is slippery for motorcycles.”  
“Add the fill in option in the test.” |
| Miscellaneous | “What is the purpose? Is it about head on crashes?”  
“People understand the line markings even if they are widened by WCL [WCLT].”  
“Have a hierarchy of treatments.”  
“Seeking optimal version.”  
“PR will create the scenarios and distribute to the group.” |
Treatment Options:

- Wide centre line spacing (800mm and 1000mm)
- ATLM (present and absent)
- Line width (100mm, 150mm and 250 mm)
- Signage (West Australian, diagrammatic and none)
WA proposed signage

Diagrammatic signage

No signage
INSTRUCTIONS

The current experiment includes images of a typical highway in Sydney, Australia. Before you start, please read the first image on the top left of the interface.

You will initially be presented with a statement, each statement is either TRUE or FALSE. Next, you will be presented with a figure. Hit the space bar in the centre of the screen, followed by the target image.

The target image will only be presented very briefly. You will then answer "TRUE" or "FALSE" to the statement. For example, if the statement reads 'There is an intersection ahead', you will only have 1 second to decide whether it is TRUE or FALSE. You will then have 1 second to press the space bar in the centre of the screen, followed by the target image. You will then have 1 second to decide whether it is TRUE or FALSE.

Please press ANY key to continue.

There is an intersection ahead

Overtaking is allowed

END OF PRACTICE TRIAL

Will now

Please press ANY key to continue.
Number of Incorrect Responses to Signage Options

- Standard Australian: 40 responses
- Diagrammatic: 30 responses
- None: 60 responses
Reaction Time Scores for Line Width Options

- 100mm: 1,400 ms
- 150mm: 1,360 ms
- 250mm: 1,330 ms

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Summary

• Diagrammatic signage was comprehended best
• ATLM interfered with comprehension*
• Thicker line widths comprehended best*
• 800mm CL spacing was comprehended best*

Recommendations for GNH

• Install Diagrammatic signage
• Apply black ATLM
• Apply wider lines
• Apply 1000mm CL
• Conduct more research
References


• Carlson, P., & Wagner, J. (2012). An evaluation of the effectiveness of wider edge line pavement markings. College Station, Texas: Texas Transportation Institute


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