Driver Distraction and Roadside Advertising Displays: an examination of driver attitudes and planning policies in Adelaide

Oral Presentation

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1.2 Non-Paper session: Impact, Measurement & Policy

Blaxland Room B

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INTRODUCTION

- Advertising is an important part of modern society, however, how intrusive should it be allowed to become on busy high speed urban arterial roads?

- Roadside advertising is controlled by the State Government (DPTI in Adelaide, South Australia). Schedule 8 of the Development Regulations requires referral to the Commissioner of Highways when certain criteria are met (i.e. within 100m of an intersection and that is internally lit with red, yellow or blue lighting or with a moving display or message or a flashing light.

- However, Local Councils generally take responsibility for managing roadside advertising through their Development Plans.

- The question arises, are current controls, standards and guidelines sufficient to minimize distraction to drivers?

- The following slides examine some examples of distracting roadside advertising and signage from around Adelaide, Australia.
Fig. 1  Portal neon flashing sign, Plaza, Holden Car Dealership, North East Rd., Adelaide
Source: A. Allan, October, 2015.
Fig. 3 Main North Road, Parafield Airport, Adelaide

Source: Google Earth
Fig. 4 Driver Information sign, city bound, North East Road, Adelaide

Source: Google Earth
Fig. 5 North East Road, Adelaide, Business Signs
Fig. 6 Distracting roadside exhibit, North East Rd. city bound, Adelaide

Source: Google Earth
Fig. 7 Planned visual restriction, Prospect Rd. city bound, Adelaide
Fig. 8 Distracting commercial exhibit, Scotty’s Inn, Main North Rd. and Nottage Tce, Adelaide
Fig. 9 Road signs and commercial signs, Main North Rd., city bound, (Menindie), Adelaide

Source: Google Earth
Fig. 10 High Impact Building mounted billboards, Anzac Hwy and West Tce, Adelaide

Source: Google Earth
Fig. 11 High Impact building mounted billboard, city centre, Adelaide

Source: Google Earth
OVERVIEW OF ISSUES

• Overloading a driver’s cognitive load at intersections.

• Possibility of confusing Advertising with Road Traffic signs.

• Roadside advertising that is sufficiently distracting to distract a driver’s attention from the driving task.

• Overly complex graphical and text based messaging in advertising that diverts driver attention for long periods.

• Flashing, dynamic or changing advertising that diverts driver attention for extended periods.

• Determining when visual clutter occurs for a road environment. Policy has little to say on this issue.

• Planning guidelines currently adopt the Queensland standard, but do they need standards revised for South Australia that are evidence based and consider the impacts of new technologies such as LEDs?

(Advertising Signs Assessment Guidelines for Road Safety (for South Australia), adopted in August 2014.)
METHODOLOGY

• Mixed methods approach conducted between June 2014 and September 2014.

• A qualitative component (i.e. 4 interviews with relevant stakeholders)

• A quantitative component (i.e. an online survey of 70 Adelaide drivers) using a ‘snowballing’ sampling technique. The sampled drivers ranged in age from 18-60 years of age.

• The stakeholder interviews under conditions of anonymity included a Traffic Engineer, a Planning Coordinator and a strategic Planner Team Leader from a local council in Adelaide, and a head researcher of an Automotive Safety Research Division in South Australia.

• An observational analysis was undertaken of a major Adelaide intersection (the Gallipoli Underpass at Anzac Highway and South Road), and a review undertaken of its accident history. The project was part of an honours undergraduate thesis in the field of urban and regional planning at the University of South Australia (Gallagher, 2014).
THE RESEARCH FINDINGS

• Case study of an intersection (The Gallipoli Underpass, Anzac Highway and South Road)

• Online survey results of 70 respondents.
Fig. 12 High impact building mounted billboard, Anzac Highway and South Rd., Adelaide

Source: Google Earth
Fig. 13 Gallipoli Underpass (Anzac Hwy and South Rd) with advertising display location.

Source: Google maps, 2014
<table>
<thead>
<tr>
<th>Crash Type</th>
<th>Anzac Highway - Northeast bound</th>
<th>South Road - North bound</th>
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<tbody>
<tr>
<td></td>
<td>Inattention (2010)</td>
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<td>Inattention (2011)</td>
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<td>Inattention (2011)</td>
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<td>Reverse without due care (2011)</td>
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<td>Follow too closely (2011)</td>
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<td>Inattention (2012)</td>
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<td>Follow too closely (2012)</td>
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<td></td>
<td>Follow too closely (2012)</td>
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<tr>
<td>Side Swipe</td>
<td>Change lanes to endanger (2012)</td>
<td></td>
</tr>
<tr>
<td>Right Angle</td>
<td>Disobey traffic lights (2011)</td>
<td>Failure to give way (2010)</td>
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<tr>
<td></td>
<td>Failure to give way (2012)</td>
<td></td>
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<tr>
<td>Right Turn</td>
<td>Failure to stand (2010)</td>
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<td>Failure to stand (2010)</td>
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<td>Failure to stand (2012)</td>
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</table>

Source: DPTI & GTA Consultants
Figure 14. Recall of Most Prevalent of Roadside Advertising (n=70)
Are you distracted by roadside advertising displays?

- Yes (53%)
- No (47%)

Figure 15. Respondents who are distracted by roadside advertising (n=70)
Figure 16. Type of Roadside Advertising resulting in a driver distraction (n=70)
Have you ever mistaken a roadside advertisement for a traffic signal or sign?

- Yes 8.1%
- No 91.89%

Figure 17. Confusing a roadside advertisement with a traffic signal or sign (n=70)
Has a roadside advertisement ever obstructed your line of sight whilst driving?

- Yes 24.32%
- No 75.68%

Figure 18. Roadside advertisement obstructing a driver’s line of sight (n=70)
Do you think drivers should take responsibility to ensure they are not distracted?

- Yes 37.84%
- No 62.16%

Figure 19. Responsibility for not being distracted
Figure 20. The value of roadside advertisements (n=70)
Figure 21. Reasons for why roadside advertisements were distracting (n=70)
Policy Implications

- The need for evidence based policy to remove inconsistent planning determinations.
- Eliminating confusion over what is distracting.
- The need to determine when visual clutter occurs from advertising, and set appropriate limits.
- Determining the basis for proponents of advertising to seek appeals.
- Maintaining consistent signage standards across the metropolitan road network.
• The skill set of planning assessors to determine the suitability of road-side advertising.

• The case study of the Gallipoli Underpass was inconclusive with regard to crash rates—other evidence based approaches are therefore needed.

• LED displays, despite being the most visually distracting, lend themselves most easily to regulation.

• A zero tolerance is needed for factors that are known to compromise driver safety.

• Inconclusive as to whether advertising positively contributes to a more stimulating driving environment that encourages driver engagement.
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CON'T...


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- Regan, M, Victor. T., 2013, Human Factors in Road and Rail Transport: Inattention and Distraction. Farnham, GBR


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