Vehicle Activated Signs: an emerging treatment at high risk rural intersections

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• Background
• Introduction
• Method
• Findings
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Background

- VicRoads Safer Road Infrastructure Program (SRIP)

- What is a vehicle activated sign (VAS)?
  - Alerts drivers
  - The alert is activated by a specific trigger
    - vehicle presence
Background
Key aims of VAS

• Improve safety via forewarning
• Increase awareness
• Reduce travel speed
Pre-treatment
Sites
(Source: Copyright Melway Publishing 2010, adapted from Melway Edition 38)

- Murgheboluc
- Fairhaven
- Cooriemungle
Site configuration
Method
Cooriemungle location

(Source: Copyright Melway Publishing 2010, adapted from Melway Edition 38)
Data collection

- Baseline data - May 2010
- Treatment installation - Dec 2010
- After treatment - Oct/Nov 2011
Comparisons

1. A standard static vs active (flashing lights) VAS:

2. A standard static vs inactive VAS (large static sign):
Comparisons

3. Inactive VAS (large static) vs active VAS:
Statistically significant findings - 1

1. A standard static vs active (flashing lights) VAS

Lower speeds - active VAS (4/6 sites)
- Fairhaven
- Murgheboluc
- Cooriemungle sites 3 & 6

Higher speed – active VAS
- Cooriemungle site 4
• 2. A standard static vs inactive VAS (large static sign)

• Lower speeds – inactive VAS (4/6 sites)
  - Murgheboluc
  - Cooriemungle Sites 3, 5, 6

• Higher speed – inactive VAS (1/6 sites)
  - Cooriemungle Site 4
3. Inactive VAS (large static) vs active VAS

• Lower speeds – active VAS (3/6 sites)
  - Fairhaven
  - Murgheboluc
  - Cooriemungle Site 3
Practical effect on speeds

- Standard static sign and active VAS
  - Speed reductions
    - 4.85 km/h mean speed average across 4 independent VAS sites (mean speeds)
Crash reduction factors (Elvik’s model)

- Potential to reduce:
  - fatal crashes by an average of 18%
  - serious injury crashes by an average of 12%
  - other injury crashes by an average of 8%
Limitations

• Differences between treatment and comparison sites

• Road maintenance activities unaccounted for

• Pneumatic tubes
  – accuracy
  – functionality with slow driver speeds
Conclusions

• Largest total speed reduction from standard to active VAS

• VAS most effective in ‘simpler’ environments
  - flatter grade
  - no nearby intersections (or dog-leg manoeuvers)

• Driver alertness
Thank you

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