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  - CITI
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  - DSRC safety benefits
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CITI - Cooperative Intelligent Transport Initiative

A connected freight route SW Sydney to Port Kembla

CITI - Objectives

- Establish Australia’s first CITS test bed
- Establish early partnerships with the freight industry
- Develop projects to quantify the efficiency and environmental benefits of CITS
- Trial V2V, V2I and V2X applications and hardware
- Expand to include light vehicles and the city CBD

Acknowledgement & further information:
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ISA Trail in Illawarra, NSW

Quick trial stats
- Largest ISA trial in the world outside Sweden
- Largest vehicle road safety technology trial in Australia
- First & largest connected vehicle trial in Australia
- 114 private vehicles
- Mix of private & business

Connected Devices
- Live speed zone change updates
- Software updated via wireless network
- Display vehicle location & status
- Display speed zone compliance
- Supplier selected - Smart Car Technologies (Speed AlertTM)
ISA - network stats

- 2,500 km of road speed limits mapped
- Over 4,000 signs located & mapped
- 932 speed zones mapped
- 452 curve advisory signs mapped

ISA Results – speed reduction

Number of vehicles, percentage increase or decrease in speeding with ISA fitted

- Median reduction in probability of speeding = 33.6%

ISA Results – reduction in speeding

Number of vehicles, percentage of time speeding, before, during and after ISA

- 94 out of 106 vehicles (89%) reduced the amount of time they spent exceeding the speed limit, compared to before the ISA devices were fitted.
- Eighty seven of the 101 vehicles (86%) spent more time driving above the speed limit, after the device was removed, than while it was fitted.

ISA Results – Gender and Age

Age group | Drivers speeding less? | % of Drivers Reducing Time Spent Speeding
--- | --- | ---
25 or less | 22 | 7 | 30 | 77%
over 25 years | 67 | 5 | 72 | 93%
Total | 90 | 12 | 102 | 88%

- No significant difference between males and females (0.05 level)
- Significant difference between younger and older drivers (p< 0.04)

ISA Results – Road Safety Effects Modelling*

(All vehicles fitted with Advisory ISA)

- Illawarra trauma reduction:
  - 8.4% reduction in fatalities
  - 5.9% reduction in injured road users

- NSW wide reduction:
  - (only if similar to Illawarra)
  - 35 lives per year
  - 1,455 injured road users

*Based on Elvik's 2009 power estimate
**DSRC - Projected Safety Benefits**

Monash University Accident Research Centre (MUARC), Austroads Project NS1415
- V2V & V-I
- Warnings only:
  - 80 – 90% response
  - 65 – 80% collisions avoided
  - 52 – 72% success rate overall
- Collision avoidance likely for 4 crash types

**DSRC - Key findings**
- 7,000 to 10,000 serious casualties avoided each year
- $2.4 – $3.3 billion saving pa

**Railway Level Crossing Trial**
- Latrobe University
- 100 cars, 1 Metro train two level crossings
- The largest-known rail crossing rail of its kind
- $5.5M 3 year series of trials
- Metro & rural sites

**Railway Level Crossing Trial – how it works**
- Six levels of warning, graduating in urgency and volume.
- The lowest level warning advises of the presence of the crossing ("there is a crossing ahead"),
- Subsequent warning levels advising of a train in the vicinity in a similar way to conventional flashing light warnings.
- Finally, when a collision is imminent, an emergency train horn sound and image which conveys "STOP" is used.
ITS Australia
Fostering Industry Development

Policy
- Federal ITS Policy Framework released in Nov 2011
- ITS Industry Strategy – Draft released for Comment
- A member of the Transport Reform Network – leading the debate on transport funding reform

Australian Traveler and Traffic Info Forum
- Project Management of Traffic Management Consortium (TMC) Location Tables

C-ITS
- ITS Australia as Chair of proposed CRC for Cooperative, Safe and Sustainable Transport
- Facilitator of the ITS Research Roundtable

Facilitator of the C-ITS Industry Reference Group, advising government on the industry agenda
- National ITS Awards, November 2012
- Nominations now open

ITS Australia
Connecting industry, government and researchers

ITS Australia Linked In Discussion Forum

New web site
Monthly newsletter
www.its-Australia.com.au
Susan.harris@ITS–Australia.com.au

ITS Australia GOLD Members

ITS Australia SILVER Members

Melbourne to host the 2016 ITS World Congress:
- 5 day event in October 2016
- 5,000+ delegates to attend from around the world

>> Enhancing Liveable Cities & Communities<<
Industry Strategy - outcomes

The National ITS Industry Strategy will:
1. Provide direction to the development and deployment of ITS solutions to optimise transport system performance
2. Define mechanisms for development of an ITS architecture for Australia
3. Overcome barriers to the deployment of ITS technologies and infrastructure
4. Enable stakeholders in ITS solutions to maximise the available benefits through open interfaces
5. Promote a strong, competitive market for ITS products and services
6. Maximise the value from investments in ITS by fostering ITS innovation, research and development in a targeted way

Role of ITS Australia

- ITS Australia - Established in 1992
- Incorporated, not-for-profit organisation
- Only Australian organisation focused on facilitating the development and deployment of advanced technologies across all modes of transport
- Single largest membership of private companies, government agencies and academic institutions
- ITS Australia – an association with a strong voice, the right contacts and the ability to influence future legislation, standards and regulation that impact the ITS Industry and Australia
- www.its-australia.com.au

ITS Initiatives
• The sixth annual NetC Industry Forum was held in May 2012.
• "Beyond Tolling"
• Five panel sessions with over 20 speakers from around the globe, including: Sweden, Norway, UK & Australia.
• Panel discussion on the "barriers to getting a central clearing house established in Australia"
• Guests were treated to one of Melbourne's top laneway restaurants & bars.

**national ITS awards**

- Melbourne November 28, 2012
- Recognises leaders in ITS through:
  - National ITS Award
  - Dr Max Lay Lifetime Achievement Award
  - Young Professionals Award
- Registrations opening soon

**CRC for Safe, Sustainable Transport**

**End-user & Societal Transport Needs**

**Australian Cooperative Intelligent Transport System, Technologies and Solutions**

**CRC in C-ITS**

**Integrating Australian Public & Private Sector Capabilities**

**Industry Strategy - vision**

<table>
<thead>
<tr>
<th>TARGET</th>
<th>SAFETY</th>
<th>MOBILITY</th>
<th>ENVIRONMENT</th>
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<tbody>
<tr>
<td>Zero harm</td>
<td>Zero avoidable congestion</td>
<td>Significant (50-70%) reduction in emissions</td>
<td></td>
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</table>

**CONTRIBUTION**

- In-vehicle, on-road and on-network collaborative systems will help:
  - Reduce the number of accidents where possible and minimize harm when they occur.
  - Provide an enabling platform for allowing increased information sharing and collaboration between road users and traffic management systems.
  - Reduce the environmental impact of transport.

**Cooperative ITS – 5.9GHz Spectrum**

- Austroads Cooperative ITS Steering Committee
  - The Austroads Cooperative ITS project will take a lead role in developing a regulatory framework and operating regime that will enable C-ITS applications to be licensed and deployed into the Australian market.

- Recently appointed Stuart Ballingall as Project Director to oversee spectrum management

- Some investigations being undertaken:
  - C-ITS Strategic Plan
  - Spectrum Management
  - Positioning
  - Interference
  - Regulatory Policy impacts
Results – Changes in mean & median speeds

<table>
<thead>
<tr>
<th>Speed limit (km/h)</th>
<th>Number of vehicles</th>
<th>Decrease in speed (km/h)</th>
<th>Percentage speeding less than speed limit</th>
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<tbody>
<tr>
<td>40 km/h</td>
<td>90</td>
<td>1.33</td>
<td>71%</td>
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<tr>
<td>50 km/h</td>
<td>106</td>
<td>0.91</td>
<td>91%</td>
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<td>60 km/h</td>
<td>105</td>
<td>1.07</td>
<td>84%</td>
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<td>90</td>
<td>1.84</td>
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<td>104</td>
<td>1.62</td>
<td>81%</td>
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<tr>
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<td>81</td>
<td>2.34</td>
<td>78%</td>
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<td>100 km/h</td>
<td>94</td>
<td>1.87</td>
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<tr>
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<td>47</td>
<td>3.22</td>
<td>78%</td>
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