

**LISBOA 2010**  
MAY 25/28  
**16th World Meeting**

# Roma Taroom Road

Advancing design and construction practice for low volume roads

Peter Evans  
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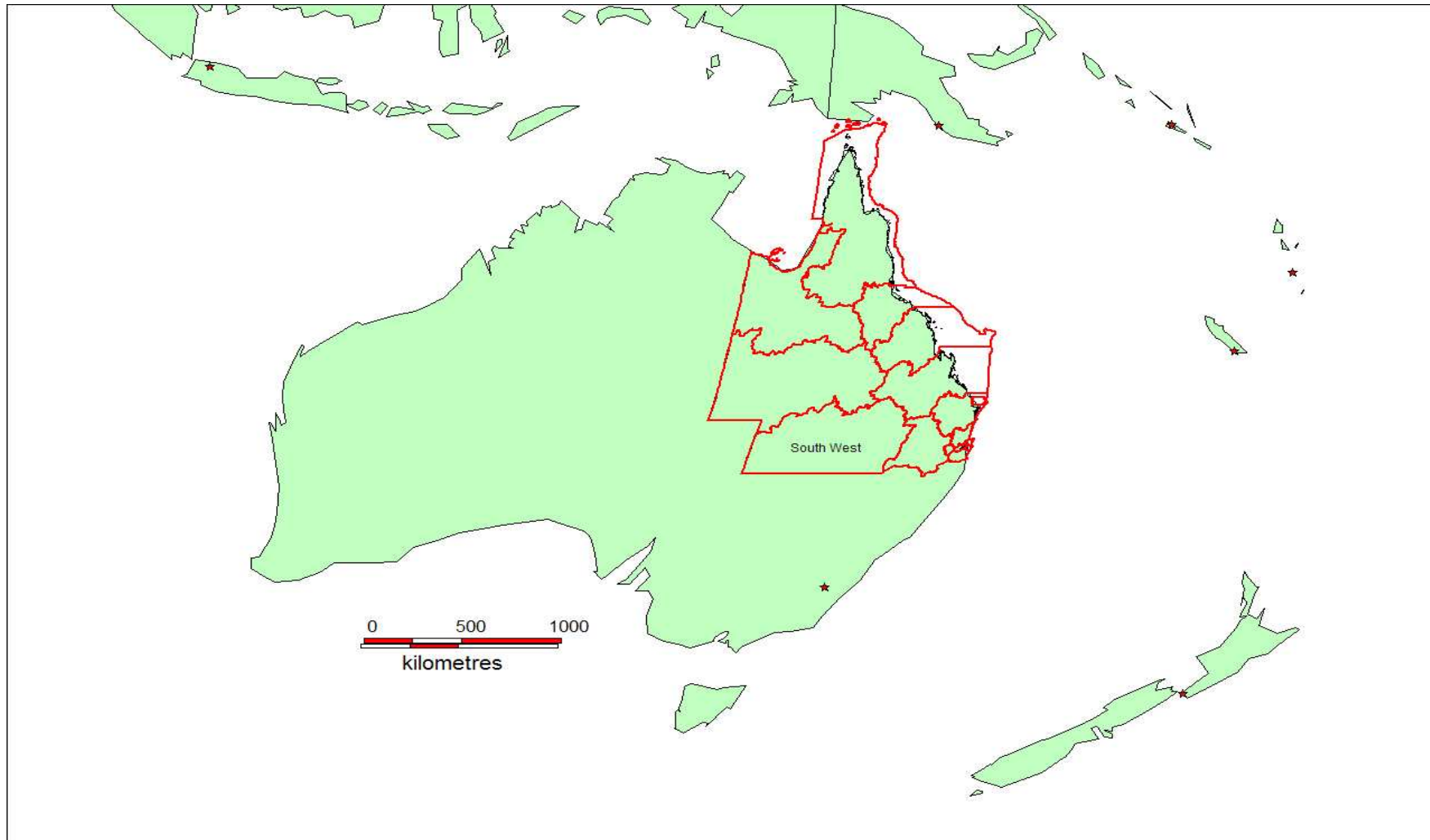
[www.irf2010.com](http://www.irf2010.com)



Sharing the road

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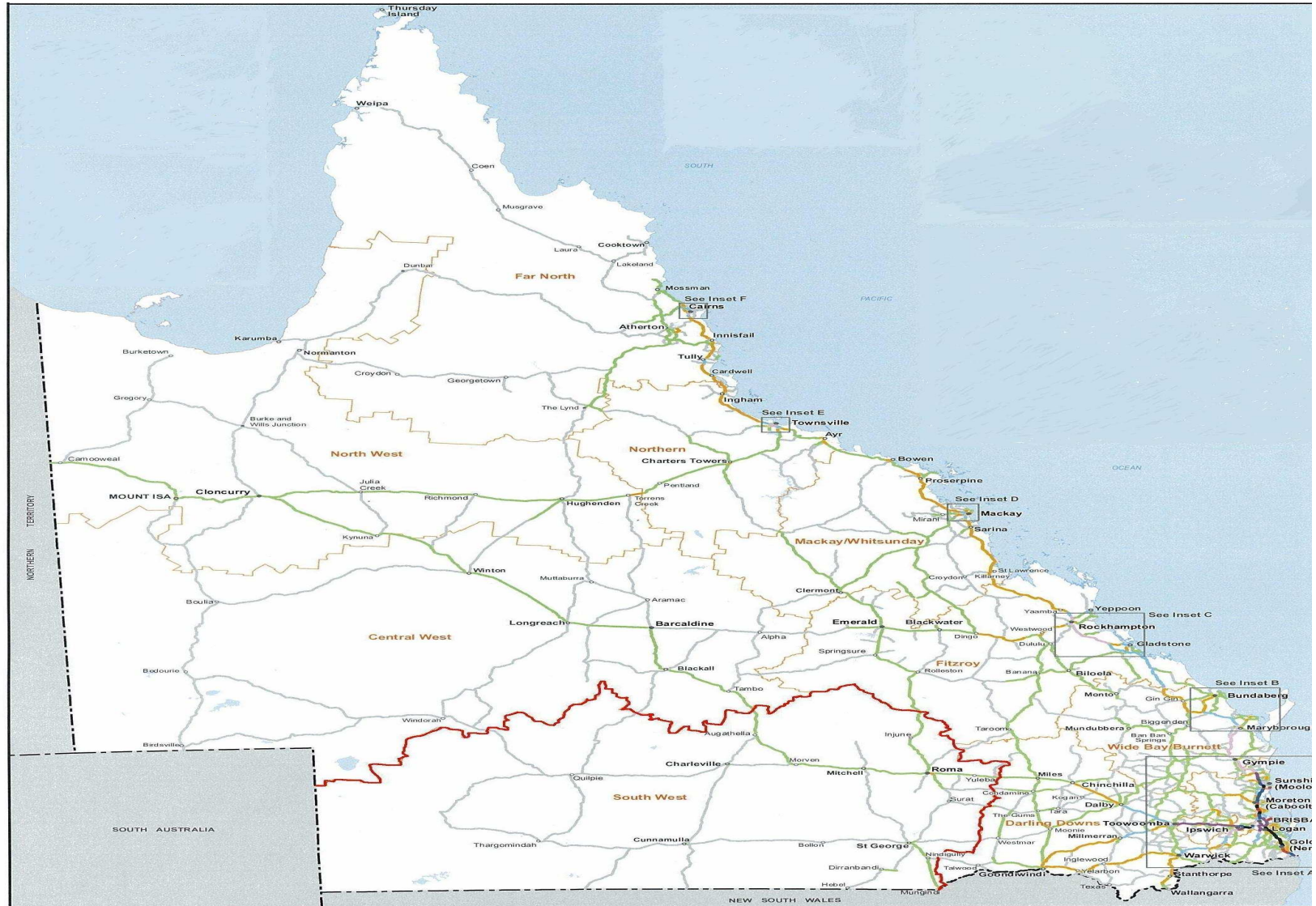
# Australia



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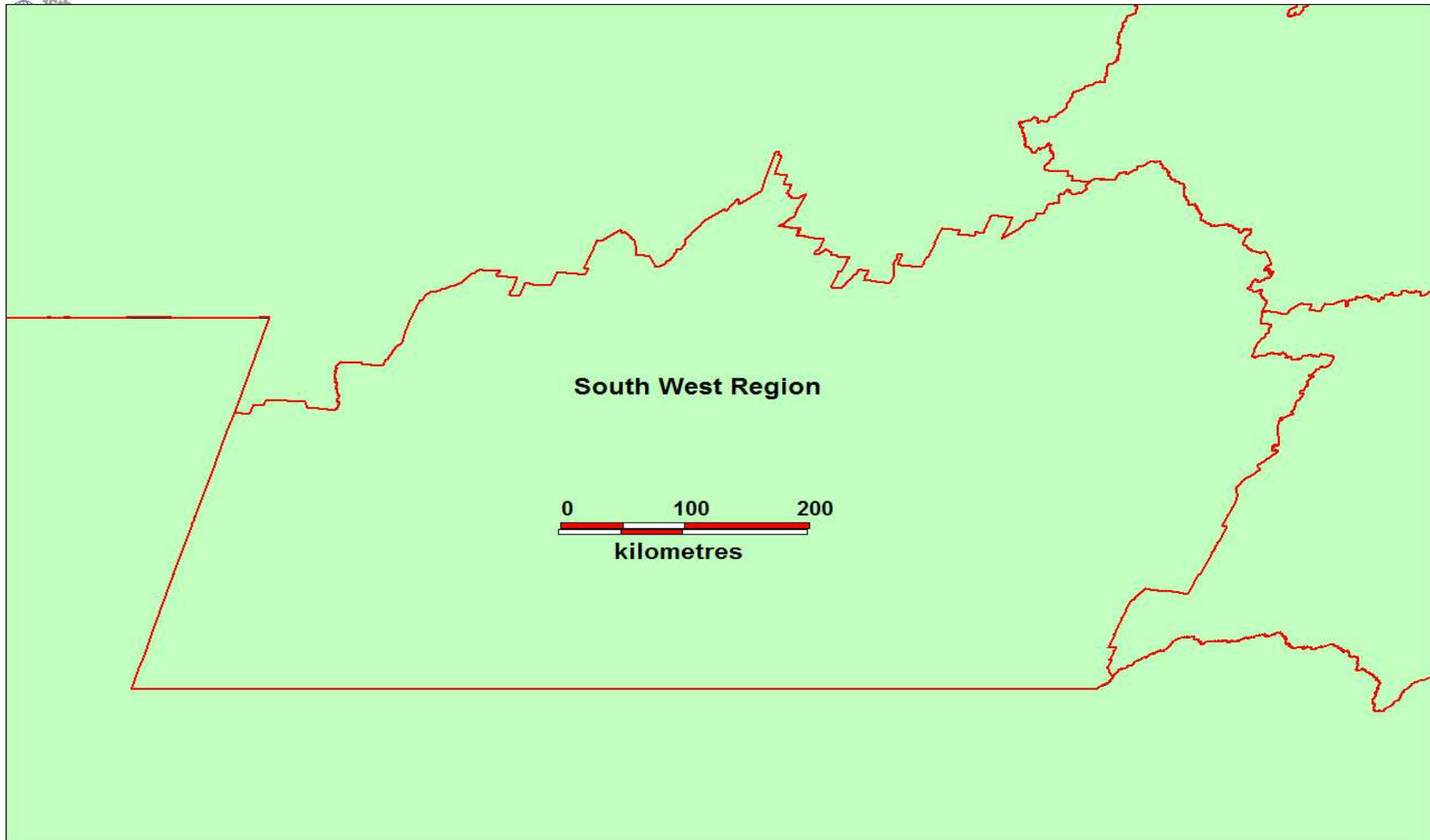
# Queensland





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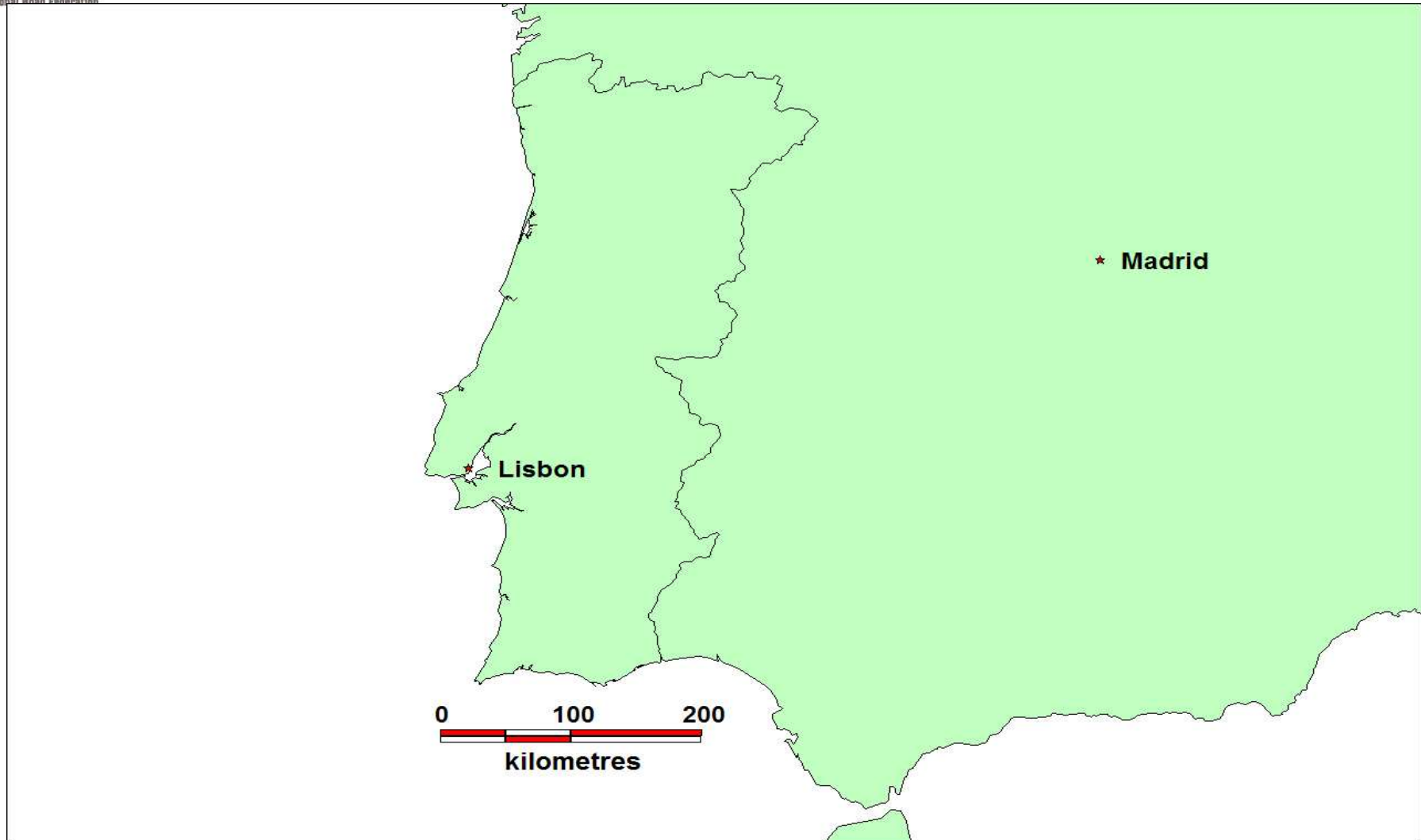
# South West Region Map



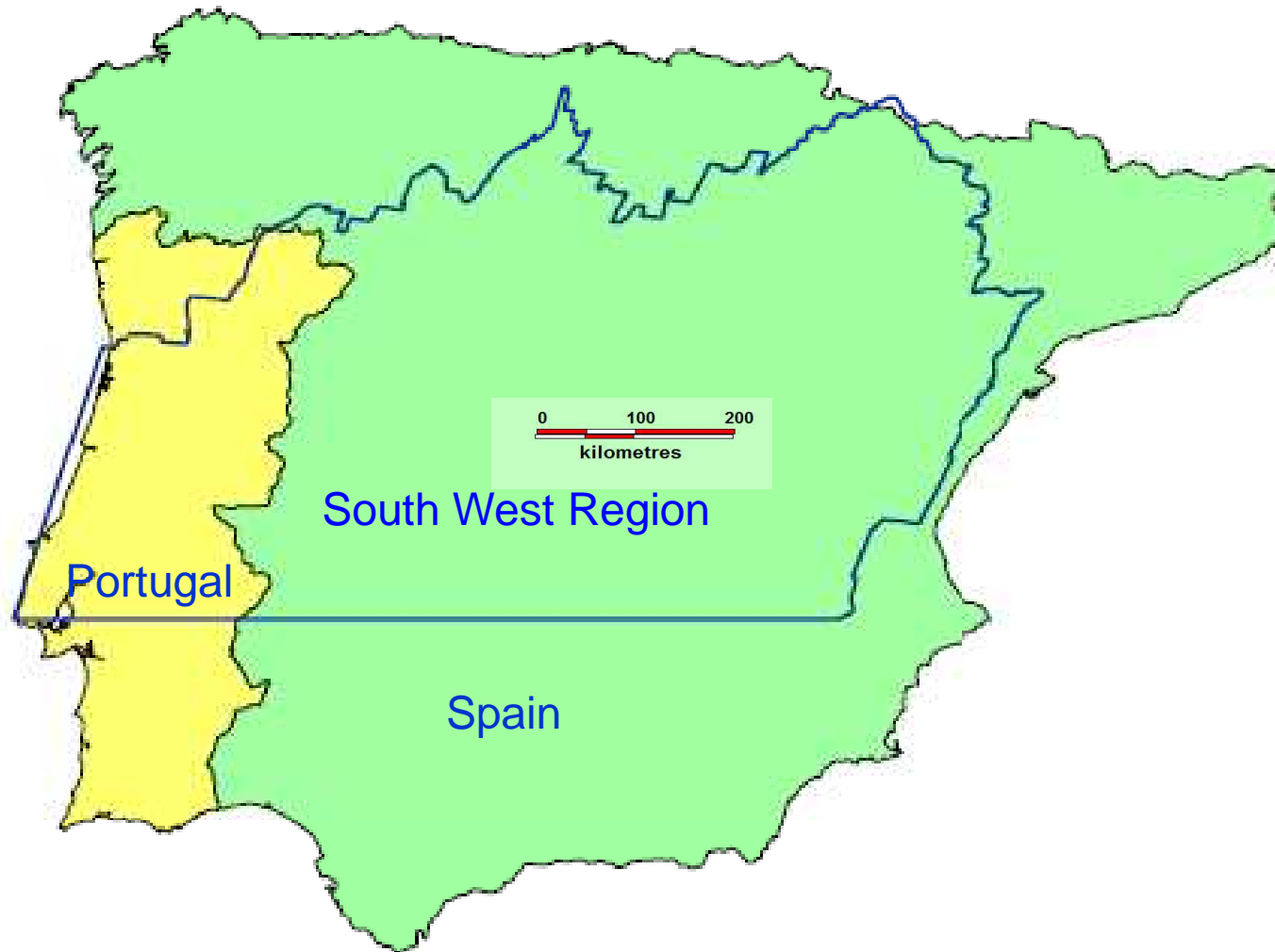


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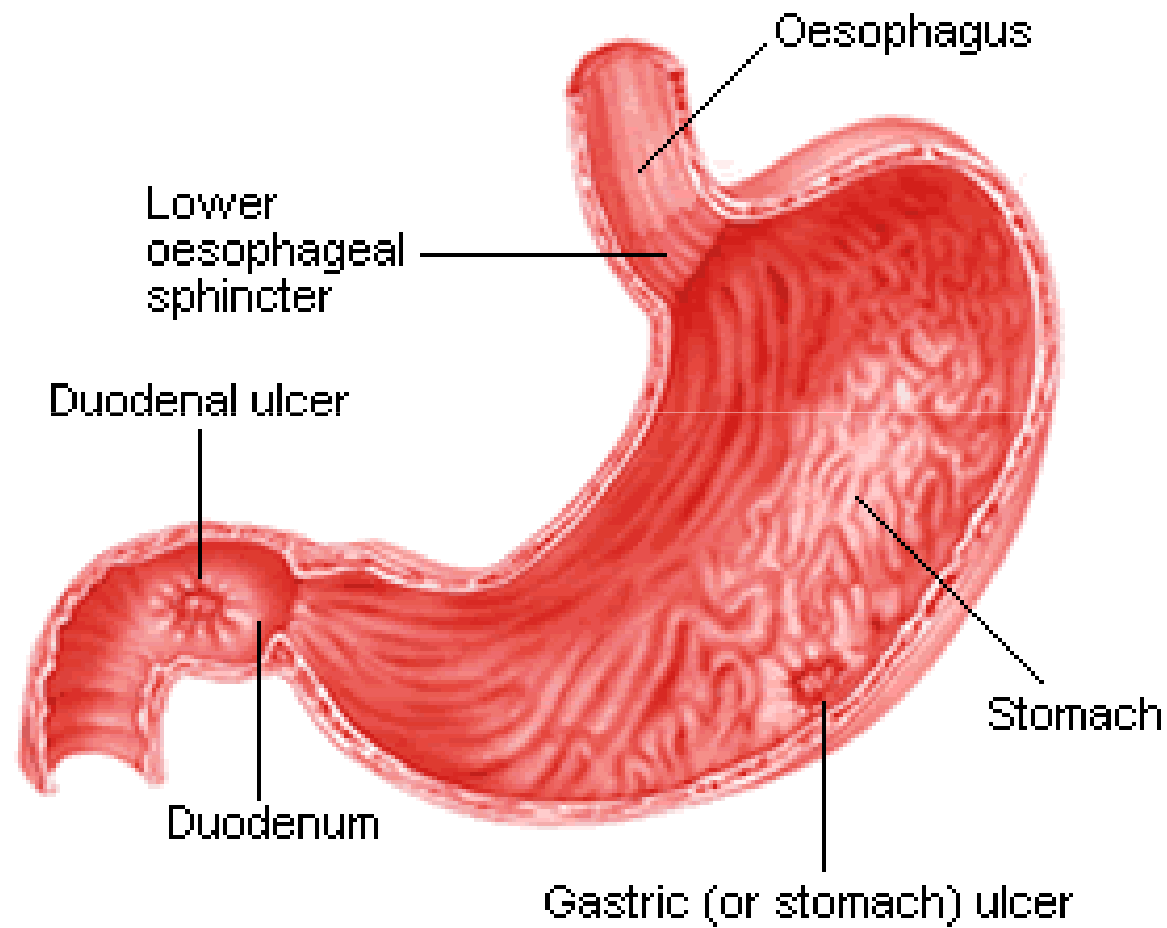
# Portugal



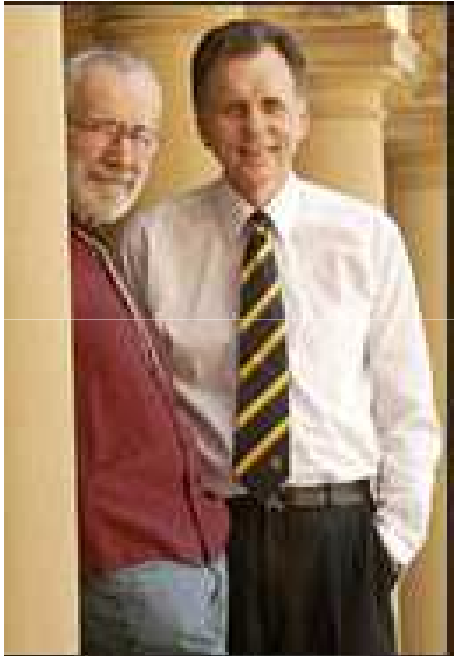
# Comparison Portugal & South West Region



# Ulcer



# Australian research 1985 - 1987



- Professor Robin Warren and Barry Marshall
- Studied the use of antibiotics as treatment for peptic ulcer.
- Eradicated helicobacter pylori bacteria
- Awarded Nobel Prize
- Evidence based approach



# Application

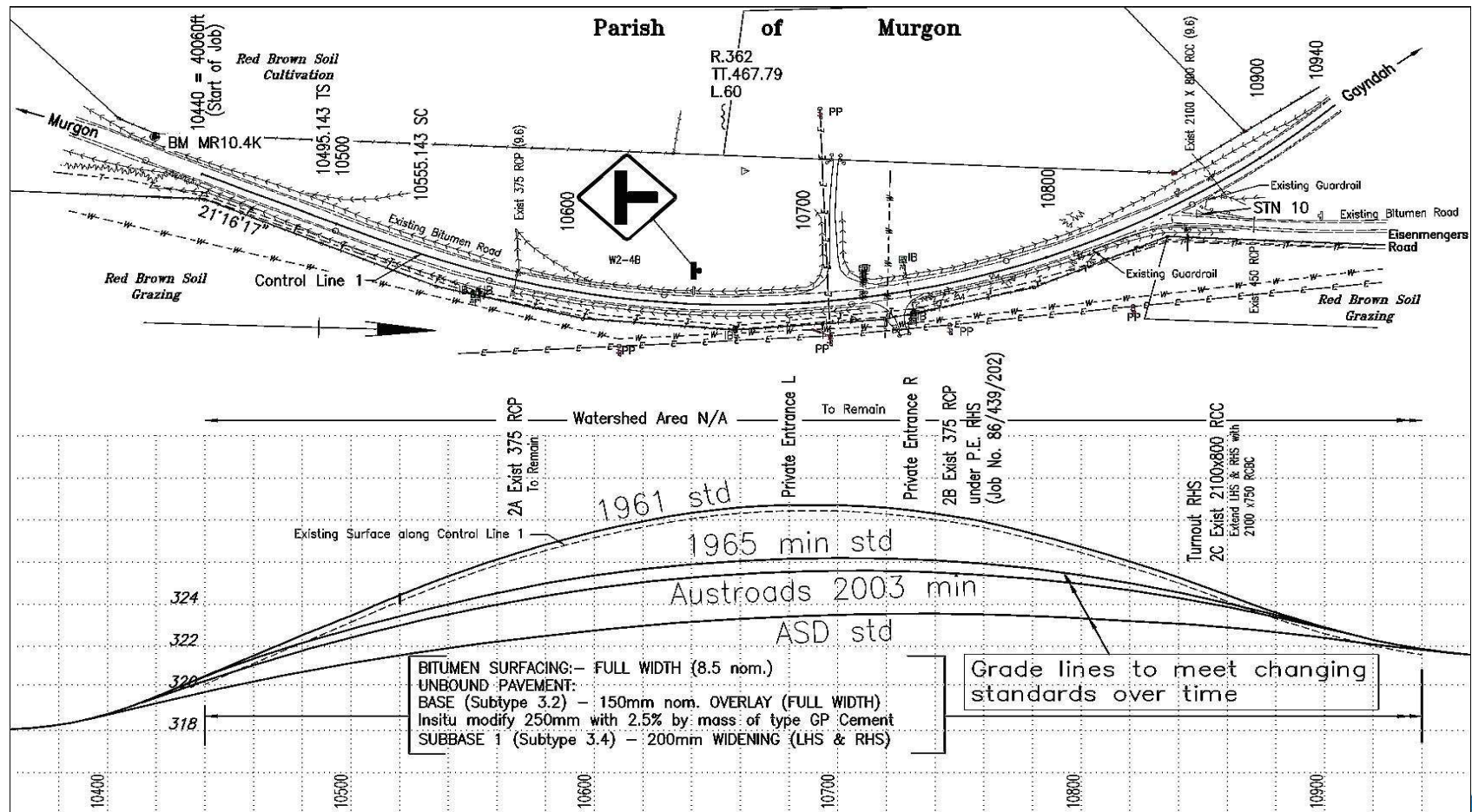
- Engineers can follow an “evidence based approach” - which is now accepted practice in medicine.
- However this may challenge our paradigms



# An evidence based approach

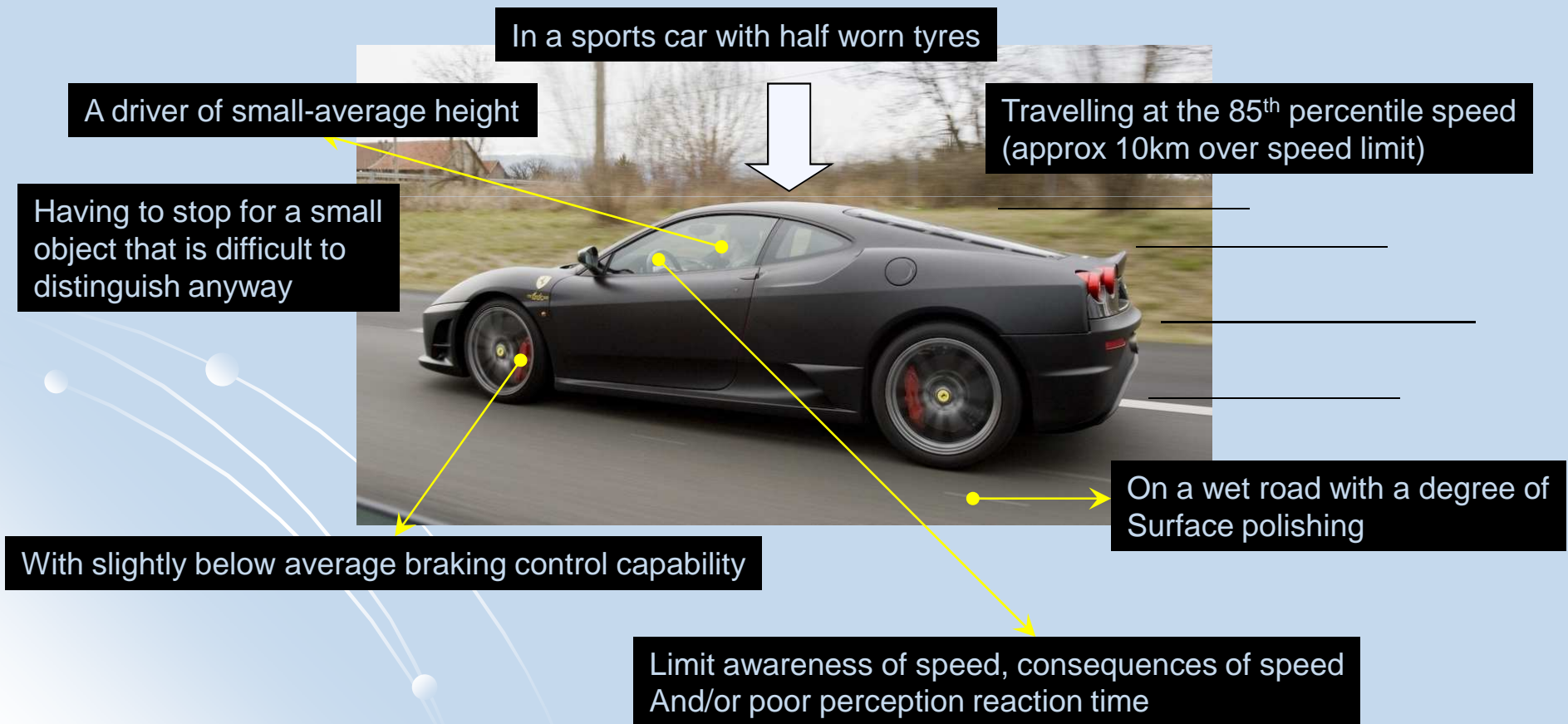
- We need an evidence approach for road design.
- Otherwise we risk over-investment in some design elements, at the expense of others
- This approach can optimize value for road users.

# Changing Crest standards over time



# Crest Design Standards Have Increased Over Time.

Current stopping sight methodology assumes that ALL of the following conditions apply:

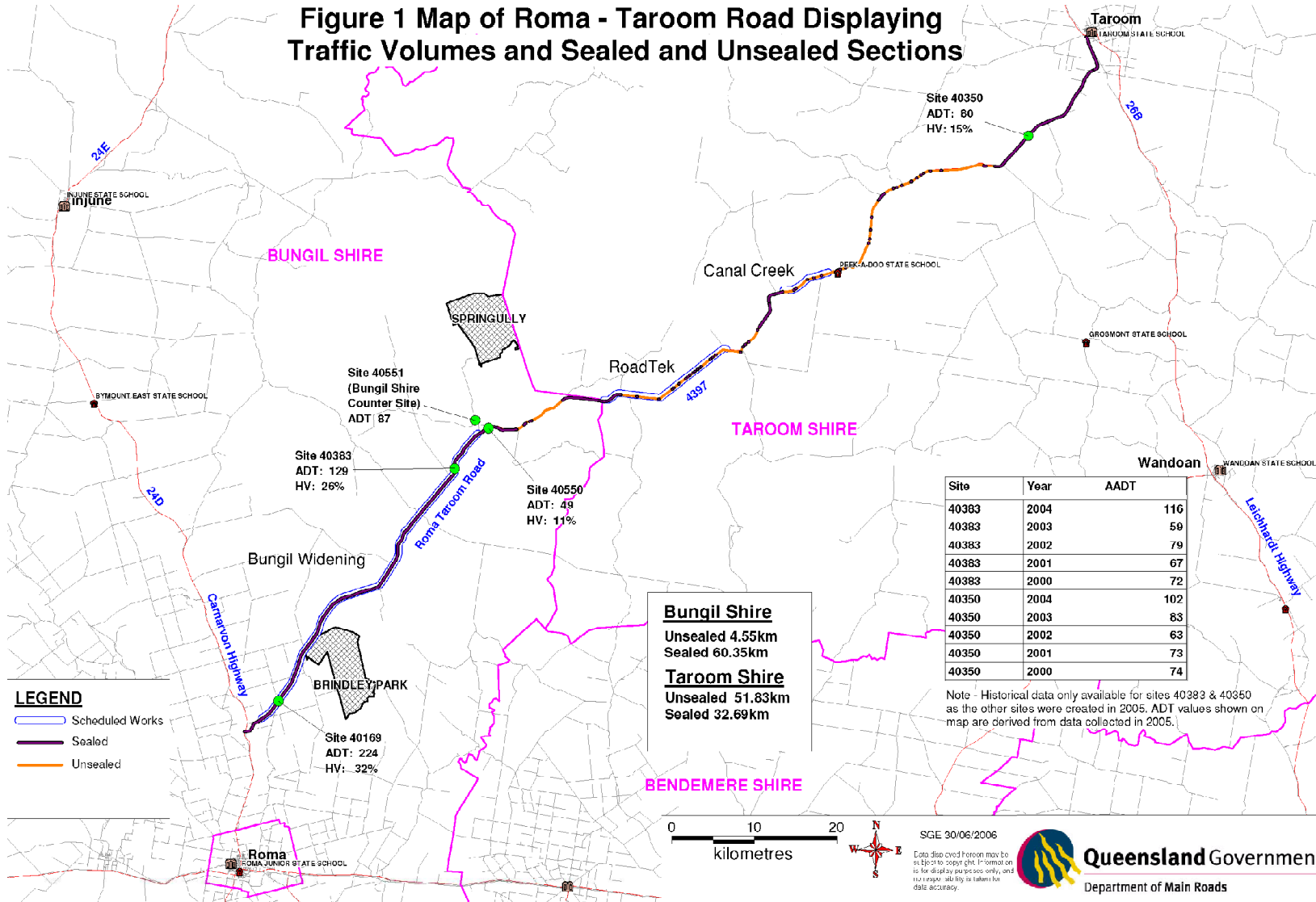


# Object Hazard

- Accidents involving small objects are extremely rare events and almost never results in injuries to vehicle occupants. (Fambro et al 1997 p 75)
- However designers must mitigate for unexpected hazards over crests.

# Sealed & unsealed sections 2005

Figure 1 Map of Roma - Taroom Road Displaying Traffic Volumes and Sealed and Unsealed Sections





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# Coal Seam Gas



# Background to new work

- Region allocated \$30M to provide access to proposed new power station.
- Value management workshop on how to spend money
- Scope changed to focus on sealing the link
- Strong desire to maximise sealed length
- Access for school children and to markets

# How to get the best outcome for \$30M?

- Focus on 8m seal to cater for double road-trains
- Adopt existing minimal drainage
- Adopt minimum standard for crests – subject to use of cut material as pavement



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# Result



# How did Roma - Taroom Advance Design & Construction?

- Helped advance / refine use of EDD –
  - Link like Roma – Taroom vs local road
  - Better appreciation of trade-off between depth of cut and formation / seal width for optimum combination of stopping & manoeuvring capability . .
  - Especially in sodic soil areas
  - EDD now recognised nationally as appropriate standard for initial seal projects
  - New national “greenfield” SD criteria [www.irf2010.com](http://www.irf2010.com)

# How did Roma - Taroom Advance Design & Construction?

- Reinforced what known in earlier era but largely lost –
  - Use of local materials e.g. pavement . . In turn gave better vertical alignment
  - Making optimum use of materials . . e.g. some crests cut down or widened more at minimal extra cost

# Conclusion

- Low volume roads have to be low cost roads
- Roma – Taroom shows low cost does not have to mean less safe
- The EDD sections will stand the test of time . . .
  - Lower standard but **Not** low standard
- Great learning experience for all parties
- Parties prepared to challenge each other and established thinking . . . Still doing so!