High Visibility and Cycling - Balancing Safety and Culture

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Presentation Outline

- Cycling in NZ
- Risk and Cycling
- Coroner’s Inquests
  - Recommendations
  - Public Opinion
- High-Visibility Clothing
  - Evidence for wearing it
  - Practical Aspects
  - Potential Societal Implications

...with a bit of research along the way...
So you're from Australia, right?
The great New Zealand Image...
The great New Zealand Reality...
New Zealand

- 4.5 million people
  - Low population density
  - Very urbanised

- Typical Western Development
  - Motor Vehicles

- ~1.4% of Trips by Bike
  - ~3% commuting
Cycling Safety in New Zealand

- ~10 Cycling Fatalities/yr
  - ~1000 Reported Injuries/yr
- Widespread perception about "danger" of cycling

Sporadic cycling facilities
Isn't Cycling Unsafe?

"Peak hour urban traffic is dangerous for cyclists… The best protection for cyclists is prohibition from peak hour urban roads"

"Really, you must have a screw loose to want to ride a bike on today's roads, you just don't know what nutter is behind the wheel."
Risk of Cycle Crashes

- **Perceived** Risk influenced by:
  - Regular Negative Media
  - Lack of Familiarity with Cycling by many
  - Can't Control Behaviour of Other Road Users
  - Immediacy of Injury/Death

- **Actual** Calculated Risks in NZ:
  - 1 Cycling Death per **2.5 million hrs** cycled
  - 1 Serious Injury for every **20,000 hrs** cycled
  - Health benefits of cycling outweigh risks **20:1**
Bicycle travel per inhabitant per year (km) and Number of cyclists killed per billion km of bicycle travel

Today's Thesis:

Cycling is a NORMAL Activity
Schoolgirl hit amid cycle death spate

Last updated 10:50 18/11/2010

A Blenheim schoolgirl was **seriously injured when she was run over by a truck** while cycling this morning, as the cycling death toll in the past five days rose to five.

The cycling deaths have seen the Cycling Advocates Network renewing calls for drivers to undergo testing every 10 years.

The 12-year-old girl was riding with another girl when she was hit by the truck and trailer, which was carrying a tractor, on State Highway 1 just outside Blenheim about 8.20am.

Blenheim St John Ambulance operations team leader Pete Davidson said the girl suffered serious head, chest and abdomen injuries and was taken to Wairau Hospital.

**FIFTH CYCLE DEATH SINCE SUNDAY**

Kay Wolfe, the third cyclist hit by a car near Morrinsville on Sunday, has died in Waikato Hospital.

Wolfe, 45, of Gordonton, had been one of 10 cyclists from the Morrinsville Wheelers Cycling Club travelling in a group along the Morrinsville-Walton Rd when a car driven by a 23-year-old woman crossed the centreline on a corner and crashed into the group.
"Would it not be in the interests of the 1.3 million [New Zealanders] who do cycle, to have clothing that would increase the likelihood of them being seen? ...If you get the irresponsible ones off the road, wouldn't that be a good thing?"

Coroner Gordon Matenga, 21/07/2011
"Turning to the issue of high-vis clothing, it is in my view a no-brainer. It should be compulsory for cyclists to wear at all times when riding in public."

Coroner Ian Smith, 14/02/2013
"It's Just Obvious!"

Should it be compulsory for cyclists to wear high-visibility clothing?

- Yes - safety first: 574 votes, 53.6%
- Only at night: 103 votes, 9.6%
- No - it won't make a difference: 248 votes, 23.2%
- No - it can't be enforced: 105 votes, 9.8%
- I don't mind either way: 40 votes, 3.7%

Total 1070 votes

Stuff.co.nz Opinion Poll
And Still Making Headlines...

Cyclist death prompts high-vis warning

Yes, safety is paramount.
186 votes, 67.6%

No, it makes cyclists look silly. Instead motorists should learn to share the road.
80 votes, 29.1%

"I recommend that all cyclists when using public roads take all appropriate steps to make themselves more obvious to other road users... including the use of auxiliary lighting and the wearing of high-visibility clothing."

Coroner David Crerar, 29/05/2014
So What's the Evidence on the Effect of Hi-Vis?

- Study of NZ fatalities 2006-14 (~100 people)
  - >Half have no data available on rider clothing

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<tr>
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<th>Seen by Driver</th>
<th>Not Seen / Too Late</th>
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<tbody>
<tr>
<td>Hi-Vis Worn</td>
<td>10</td>
<td>16</td>
</tr>
<tr>
<td>No Hi-Vis Worn</td>
<td>5</td>
<td>11</td>
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- No statistically significant effect of hi-vis on likelihood of being seen beforehand

(O/R = 0.194–2.722, Chi-Sq p=0.636)

### Other Studies

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<tr>
<th>Study</th>
<th>Findings</th>
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<tr>
<td>Thornley <em>et al</em> (2008)</td>
<td>Cyclists who &quot;always&quot; wore fluoro had 8x reduction in crash risk than those who &quot;never&quot;</td>
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<td>Kwan &amp; Mapstone (2009)</td>
<td>No studies on visibility aids vs ped'n/bike crash risk</td>
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<td>Wood <em>et al</em> (2009)</td>
<td>Fluorescent vests were not a significant improvement on black clothing at night</td>
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<td></td>
<td>Retro-reflective strips more effective when attached to knees/ankles than a jacket</td>
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<td>Washington <em>et al</em> (2011)</td>
<td>&quot;Never wearing bright coloured clothing&quot; correlated with increased crash risk</td>
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<td>Use of fluoro/reflective clothing had no effect</td>
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<td>Miller (2012)</td>
<td>A non-significant increase in the odds of a crash for users of conspicuity aids compared to non-users whilst cycling</td>
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<td>TinTin <em>et al</em> (2013)</td>
<td>No significant difference in hazard ratio when wearing reflective clothing in dark or fluoro colours</td>
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<td>Hagel <em>et al</em> (2014)</td>
<td>During dark conditions, reflective clothing were estimated to increase the odds of a MV collision</td>
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**No evidence worldwide with regards to the efficacy of a mandatory hi-vis clothing law**
"Sorry Mate, I Didn't Look for See You"

NZ Cycle Fatality Data:

- 25 motorists saw cyclist beforehand (37%)
- 9 saw them too late (13%)
- 33 never saw them (49%)
Is Cycling a Special Activity?
“Cyclists” vs “People Cycling”

Perceptions of Risk
What Counts as "Hi-Vis"?

Walker et al (2014): Different clothing worn had no effect on the proportion of "close" passes by motorists.
Something else to Blame?

Woman sues family of boy she killed in car accident

April 28, 2014

Rosa Prince

New York: A Canadian motorist who killed a 17-year-old cyclist in a late-night collision is suing his family for emotional distress, claiming he was to blame for the accident because he failed to wear a high-visibility vest.

In the lawsuit, Sharlene Simon says her "enjoyment of life has been irretrievably lessened" since the accident in which Brandon Majewski was killed and his friend Richard McLean, 16, seriously injured in October 2012.

She is now suing both teenagers, along with Jake Roberts, 16, who was also knocked off his bike in the collision near the town of Innisfil, Ontario, but was unhurt, for more than 1 million Canadian dollars ($976,000).
The Opportunity to Ride Anywhere, Any Time
Does Hi-Vis always Stand Out?
Try Telling My Kids to Wear Hi-Vis...
Talking Past Each Other...

Mandatory Hi-Vis is Not Great!

Wearing Hi-Vis is Great!
We've Had This Problem Before...

Mandatory Helmets are Not Great!

Wearing Helmets is Great!
What Jo Average Thinks...
What Rodney Roadrage Thinks...
What We Need To Think...
A Shameless Plug…

- www.cyclingchristchurch.co.nz

Cycling in Christchurch
Regular people riding bicycles

Continue the Conversation!
Thank You!

Any Questions?
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