Auckland faces a Road Safety Crisis

AKLD deaths 78%
AKLD serious injuries 68%
AKLD travel growth est. 15%
Arterial road deaths and serious injuries have increased for people walking and motorcycling.
Walking, Cycling & Motorcycle

Difficult to predict VRU DSI on arterials with so many Unknowns??

- Number of people trips
- Movements & causation
- Sample size & clustering
- Under-reporting
- Reporting bias
- Repressed demand
- Land use etc

2018 AT ARTERIAL ROAD DEATHS & SERIOUS INJURIES

- People Walking: 56
- People on Bikes: 29
- People on Motorcycles: 54
- People Inside Vehicles: 73
Current Tools & Process

Brainstorm Needs
Current Tools & Process

Brainstorm Needs

Develop Process
Process

Current Tools & Process

Brainstorm Needs

Develop Process

Test / Refine / Deploy
Current Tools & Process

Brainstorm Needs

Develop Process

Test / Refine / Deploy

Peer Training
Current Tools & Process

Brainstorm Needs

Develop Process

Test / Refine / Deploy

Results & Tools

Field Evaluation
Refine Process

Peer Training
Process

Current Tools & Process

Brainstorm Needs

Develop Process

Test / Refine / Deploy

Develop Countermeasures

Results & Tools

Field Evaluation

Refine Process

Peer Training
MUAF
Multi-User Assessment Framework

AT Safe System Corridor Assessment Route Inspection Framework

<table>
<thead>
<tr>
<th>Road Name</th>
<th>RP (Start)</th>
<th>RP (end)</th>
<th>Side of Road</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Description of Problem

User Type
1. Pedestrian
2. Cyclist
3. Pedestrian / Cyclist Mix
4. Ped / Cycle = School
5. Mobility / Visual User Groups / Elderly

Risk Level
A. Low
B. Low / Medium
C. Medium
D. Medium / High
E. High
F. Extreme

MUAF: Poor grass verge maintenance in this location resulting in grass growing extensively across the footpath. This would greatly affect the ability for...
CRAF
Crash Risk Assessment Framework
Data Collection and Collation
## Section 6 7 8 9 10 11 12

### Score

<table>
<thead>
<tr>
<th>Section</th>
<th>6 Score</th>
<th>7 Score</th>
<th>8 Score</th>
<th>9 Score</th>
<th>10 Score</th>
<th>11 Score</th>
<th>12 Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>P1 - Vehicle Turning</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existing</td>
<td>6</td>
<td>24</td>
<td>12</td>
<td>24</td>
<td>16</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Option 1</td>
<td>4</td>
<td>12</td>
<td>6</td>
<td>12</td>
<td>12</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Option 2</td>
<td>4</td>
<td>12</td>
<td>6</td>
<td>12</td>
<td>12</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td><strong>P2 - Vehicle Straight</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existing</td>
<td>48</td>
<td>112</td>
<td>32</td>
<td>84</td>
<td>24</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>Option 1</td>
<td>16</td>
<td>16</td>
<td>8</td>
<td>6</td>
<td>12</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>Option 2</td>
<td>16</td>
<td>16</td>
<td>8</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>16</td>
</tr>
<tr>
<td><strong>C1 - Mid block SS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existing</td>
<td>16</td>
<td>32</td>
<td>16</td>
<td>32</td>
<td>16</td>
<td>16</td>
<td>24</td>
</tr>
<tr>
<td>Option 1</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>6</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>Option 2</td>
<td>8</td>
<td>8</td>
<td>12</td>
<td>8</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td><strong>C2 - Vehicle Turning</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existing</td>
<td>4</td>
<td>12</td>
<td>4</td>
<td>32</td>
<td>8</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Option 1</td>
<td>2</td>
<td>6</td>
<td>2</td>
<td>4</td>
<td>8</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Option 2</td>
<td>4</td>
<td>12</td>
<td>4</td>
<td>8</td>
<td>8</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td><strong>C3 - Side Swipe</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existing</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Option 1</td>
<td>8</td>
<td>4</td>
<td>4</td>
<td>8</td>
<td>12</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>Option 2</td>
<td>8</td>
<td>8</td>
<td>6</td>
<td>8</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
</tbody>
</table>

### Table 7-4: Economic Evaluation Summary

<table>
<thead>
<tr>
<th></th>
<th>Option 1a</th>
<th>Option 1b</th>
<th>Option 2</th>
<th>Option 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>PV Net Safety Benefits</td>
<td>$7.4 m</td>
<td>$7.5 m</td>
<td>$6.9 m</td>
<td>$7.0 m</td>
</tr>
<tr>
<td>PV Net Efficiency Benefits</td>
<td>-$32.2 m</td>
<td>-$40.3 m</td>
<td>-$32.2 m</td>
<td>-$40.3 m</td>
</tr>
<tr>
<td>PV Net Benefits (Safety + Efficiency)</td>
<td>-$23.5 m</td>
<td>-$31.5 m</td>
<td>-$24.3 m</td>
<td>-$32.2 m</td>
</tr>
<tr>
<td>Cost (inc. Design + Maintenance)</td>
<td>$4.6 m</td>
<td>$4.6 m</td>
<td>$3.8 m</td>
<td>$3.8 m</td>
</tr>
</tbody>
</table>

### Safety BCR

|                          | 1.6       | 1.6       | 1.8       | 1.8       |

### Safety & Efficiency BCR

|                          | Negative  | Negative  | Negative  | Negative  |
Where to from here!