

# Understanding Road Safety Risk On New Zealand's Local Road Network

## KiwiRAP Reports — for New Zealand's State Highway Network

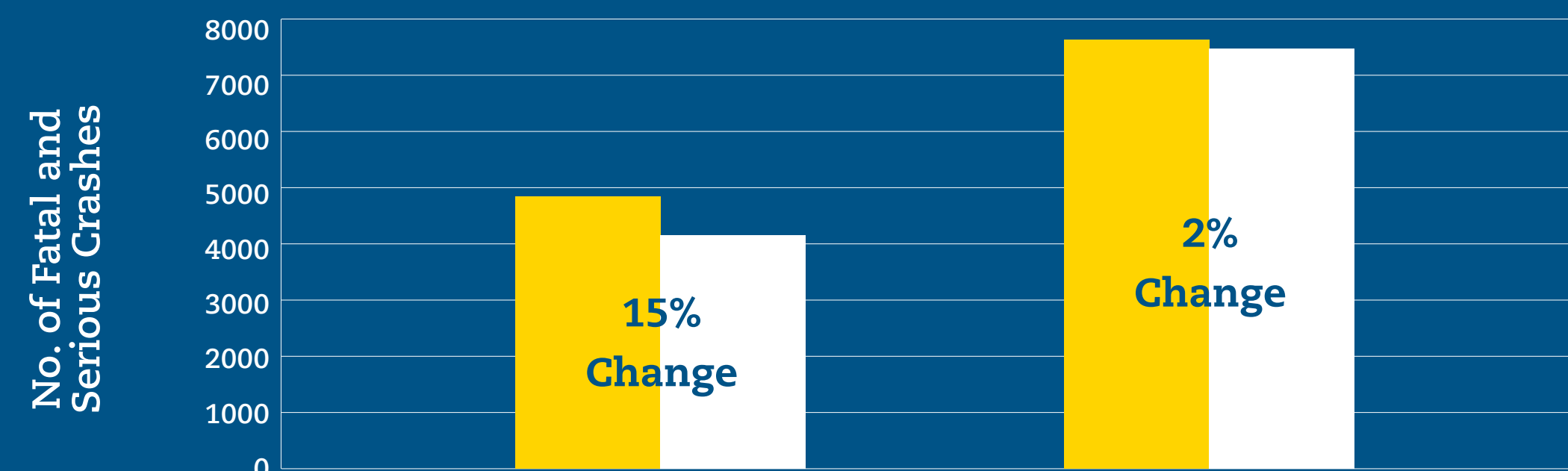
 <p><b>2008</b></p> <p><b>Risk Mapping</b></p> <p>Uses historical traffic and crash data to produce colour-coded maps illustrating relative level of risk on sections of the road network.</p>	 <p><b>2010</b></p> <p><b>Star Rating</b></p> <p>Road inspections look at engineering features of a road and award between 1 and 5 stars to road links depending on the safety that is 'built-in' to the road.</p>	 <p><b>2012</b></p> <p><b>Performance Tracking</b></p> <p>A comparison of crash rates over time to establish if more or fewer people have been killed or injured and to determine if countermeasures have been effective.</p>
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**51% reduction in length of High Risk Corridors on State Highways (2002 - 2006 & 2007 - 2011)**

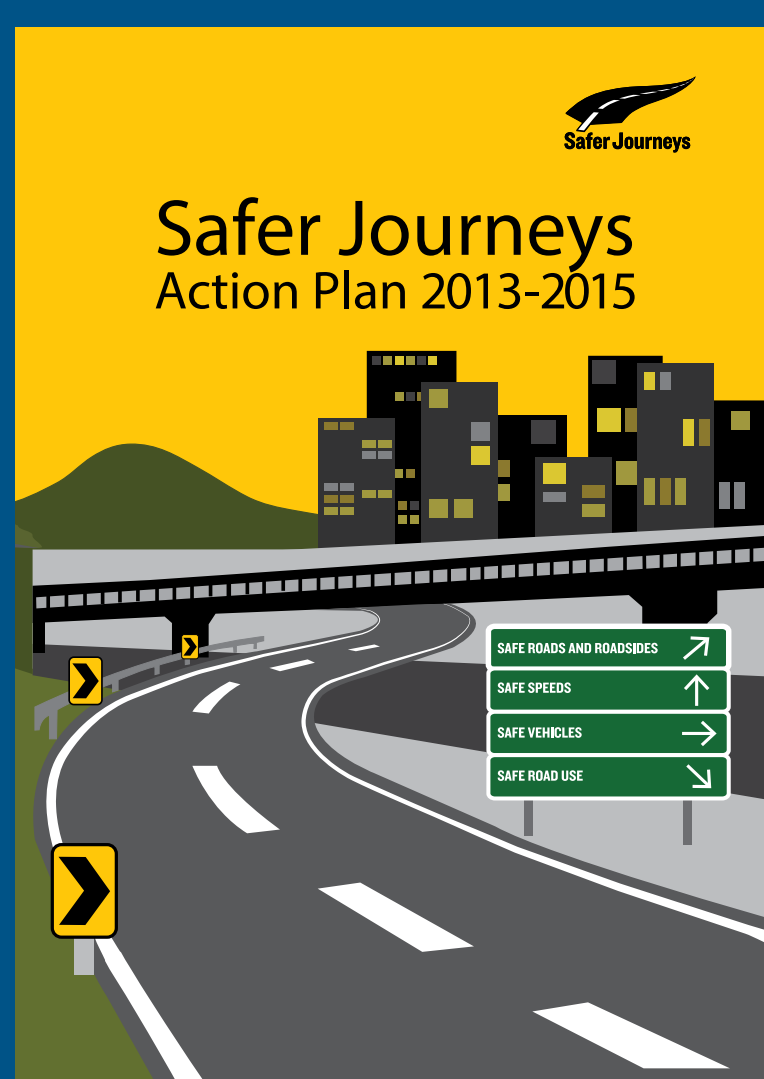


**State Highway vs Local Road Comparison**


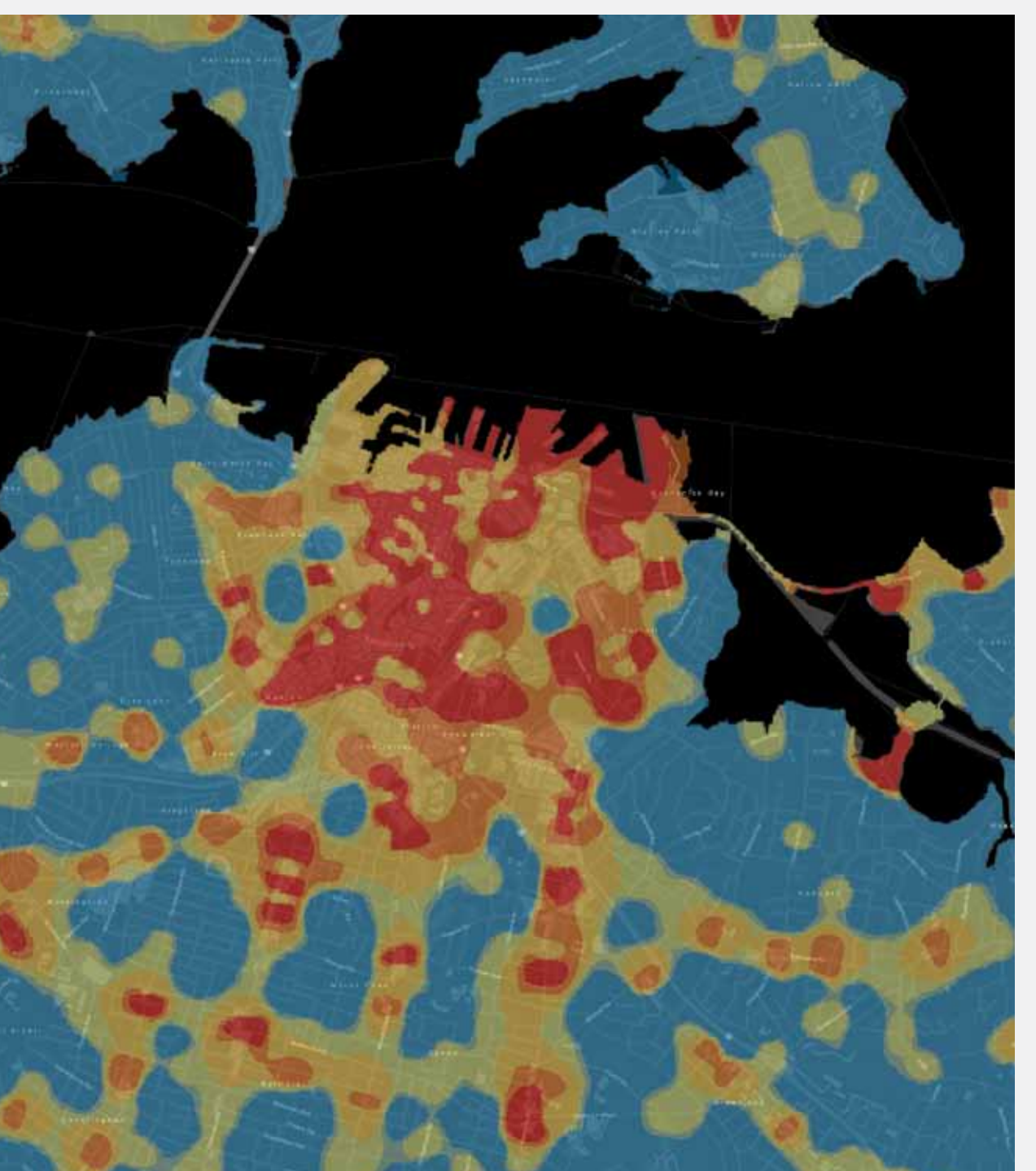

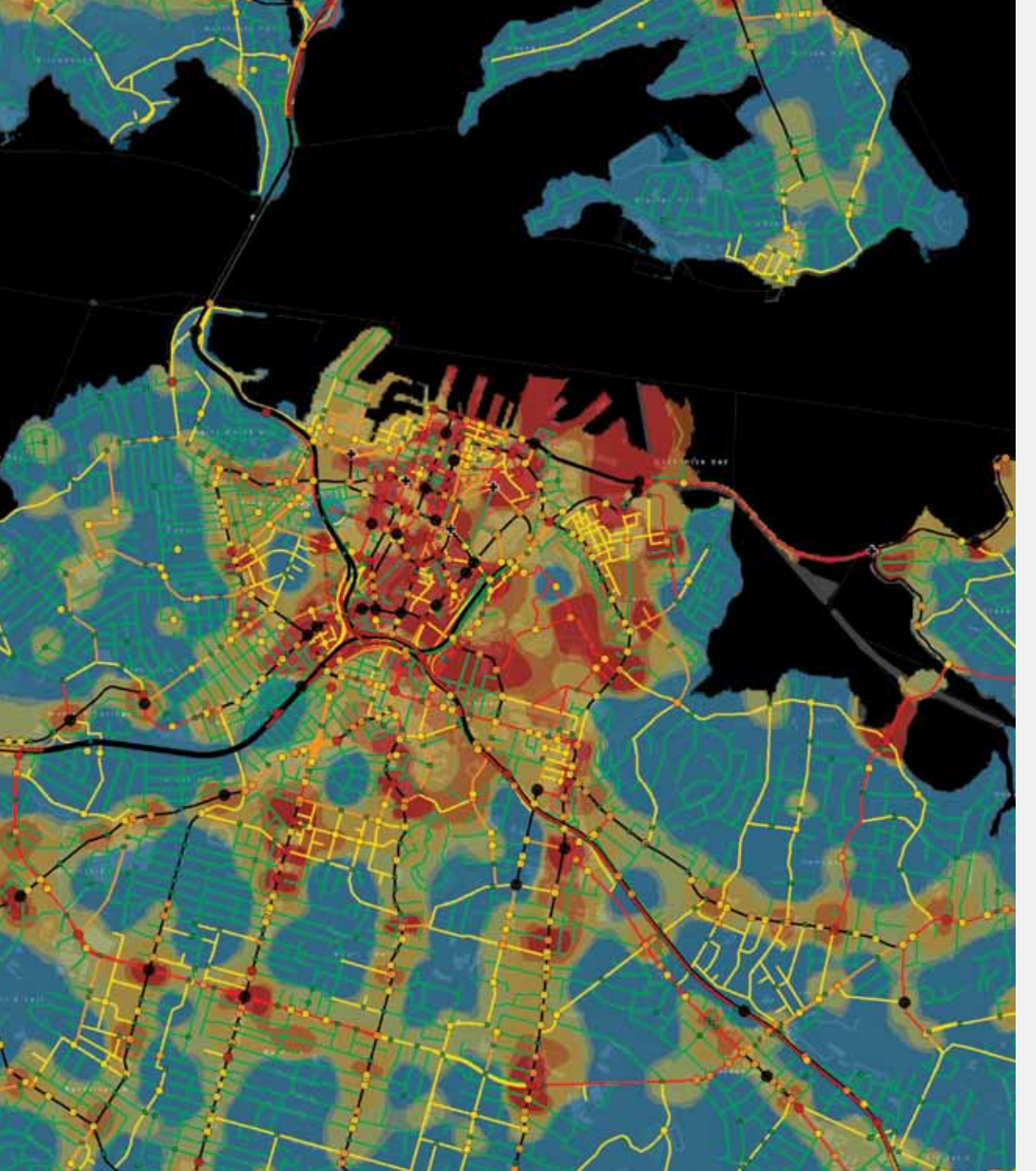
The significant safety gains achieved on the State Highway network prompted the New Zealand Transport Agency to carry out a retrospective analysis to ascertain whether the improvements in safety performance on the State Highway network were also achieved on roads managed by local Councils. They found a highly disparate performance between the State Highway network and Local Roads. While State Highways experienced fatal and serious crash reductions of 15%, fatal and serious crashes only reduced by 2% on local road networks during the same period. These findings resulted in the 2013-15 Safer Journeys Action Plan directing the establishment of a new KiwiRAP technical committee charged with overseeing and directing the risk assessment process for local roads with an emphasis on the urban network. This risk targeting programme was referred to as 'Urban KiwiRAP' even though some local Councils have significant rural road components.



Category	2002-06	2007-11	Change
State Highways	~4500	~3800	15% Change
Local Roads	~7500	~7300	2% Change



## Outputs — Risk Maps and Heat Maps

<p><b>Corridor Risk</b></p> 	<p><b>Active User Risk</b></p> 
<p><b>Intersection Risk</b></p> 	<p><b>Combined Risk</b></p> 

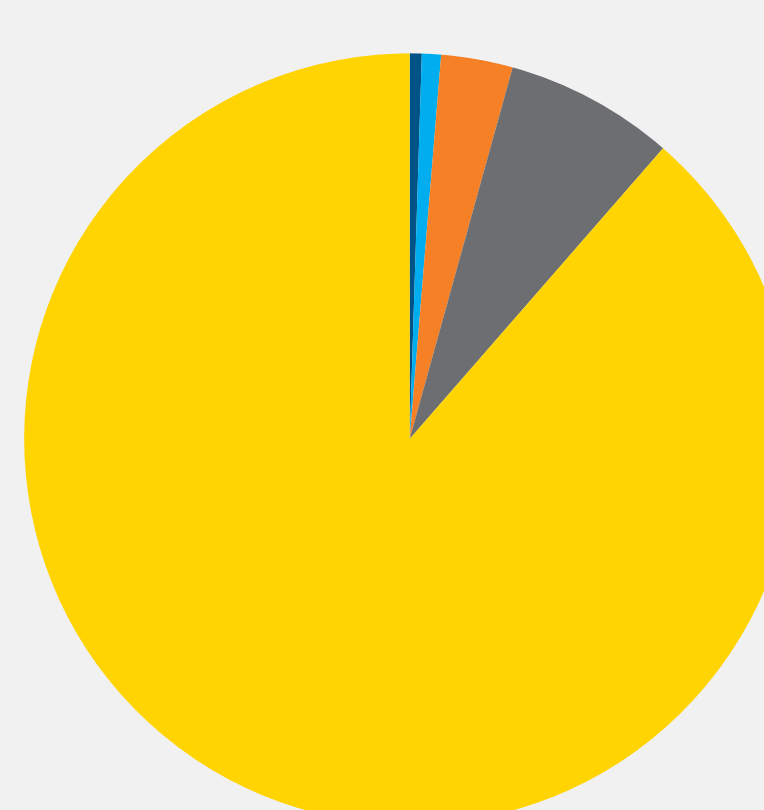
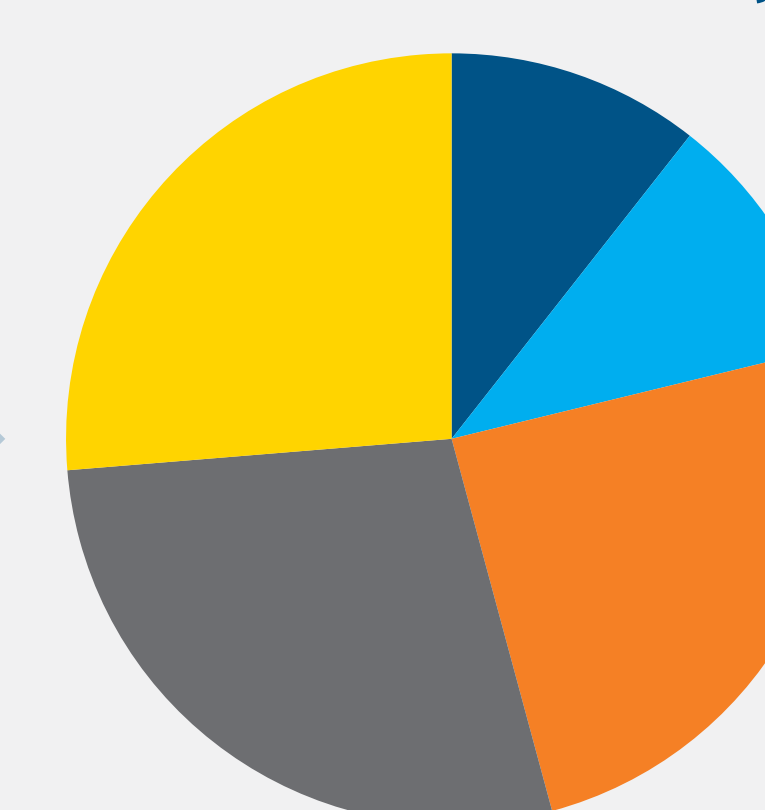
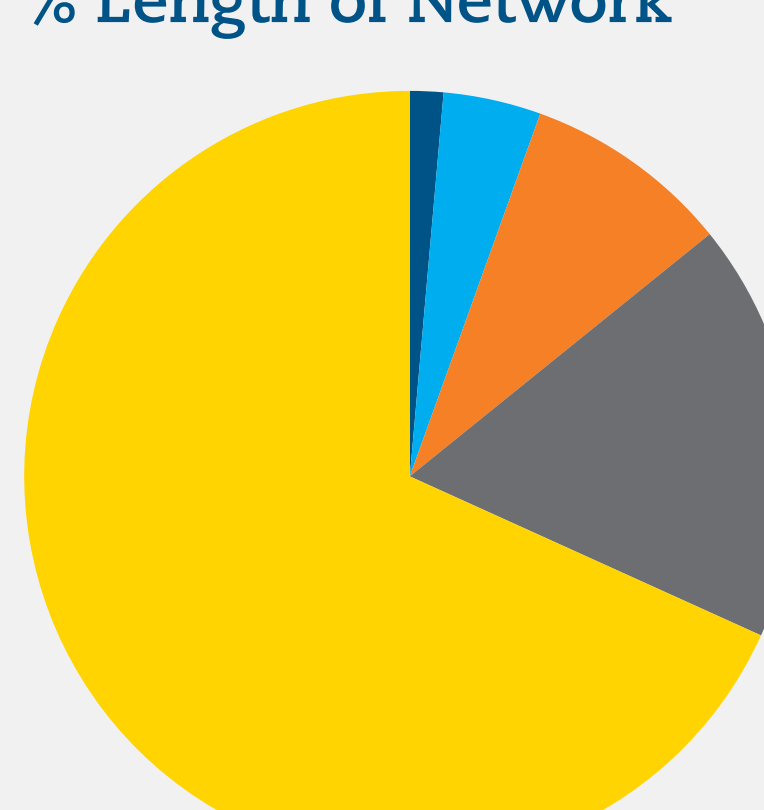
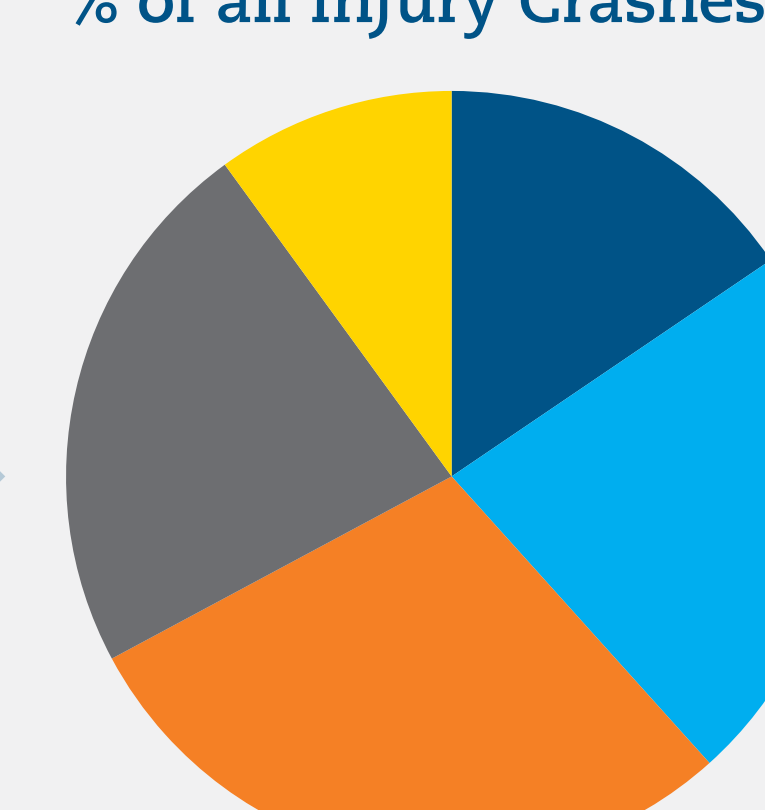
**Uses**

The production of Urban KiwiRAP risk maps provides local Councils with a greater appreciation of risk across their network. As a result, the risk maps are being used for a myriad of uses, including:

- Safety improvement prioritisations
- Business case development
- Land use planning
- Planning consents
- Public enquiries
- Cycle network planning
- Contractor Health and Safety planning
- Passenger transport route issues
- Targeted Police enforcement
- Safe routes to school planning

**Targeting to Risk**

The Urban KiwiRAP risk mapping results exceed the iRAP vision of identifying the worst 10% of roads based on risk where 50% of the risk exists

<p><b>% of all Intersections</b></p>  <ul style="list-style-type: none"> <li>0.5%</li> <li>0.8%</li> <li>3.0%</li> <li>7.1%</li> <li>88.5%</li> </ul>	<p><b>% of all Intersection Injury Crashes</b></p>  <ul style="list-style-type: none"> <li>10.6%</li> <li>10.6%</li> <li>24.6%</li> <li>27.9%</li> <li>26.3%</li> </ul>
<p>1.3% of High-Risk intersections account for 21.2% of all intersection injury crashes</p>	
<p><b>% Length of Network</b></p>  <ul style="list-style-type: none"> <li>1.4%</li> <li>4.1%</li> <li>8.7%</li> <li>17.6%</li> <li>68.3%</li> </ul>	<p><b>% of all Injury Crashes</b></p>  <ul style="list-style-type: none"> <li>15.5%</li> <li>22.8%</li> <li>28.8%</li> <li>22.8%</li> <li>10.0%</li> </ul>
<p>5.5% of High Risk corridors by length account for 38.3% of all injury crashes</p>	