GISBORNE AND HAWKE'S BAY

Regional results 2012

KiwiRAP
NEW ZEALAND ROAD ASSESSMENT PROGRAMME

WHAT IS KIWIRAP?

KiwiRAP analyses the road safety ratings of New Zealand's (80+km/h) rural state highway network.

KiwiRAP is part of an international family of Road Assessment Programmes (RAP) under the umbrella of the International Road Assessment Programme (iRAP). iRAP now works in partnership with government and non-government organisations in 70 countries. From its findings, iRAP recommends design improvements that need to be implemented in order to save lives and reduce the number of serious injuries on the world's roads.

The objectives of KiwiRAP are:

- To reduce deaths and injuries on New Zealand's roads by systematically assessing risk and identifying safety shortcomings that can be addressed with practical road improvement measures
- To have risk assessment as a key factor in strategic decisions on road improvements, crash protection and standards of road management
- To provide meaningful information on where the greatest levels of risk are faced, and in turn, to influence driver and rider behaviour

HOW DOES A ROAD ASSESSMENT PROGRAMME WORK?

KiwiRAP consists of three 'protocols':

- **Risk Mapping** - uses historical traffic and crash data to produce colour-coded maps illustrating the relative level of risk on sections of the road network
- **Performance Tracking** – involves a comparison of crash rates over time to establish whether fewer – or more – people are being killed or seriously injured; and to determine if countermeasures have been effective
- **Star Rating** – road inspections look at the engineering features of a road (such as lane and shoulder width or presence of safety barriers). Between 1- and 5-Stars are awarded to road links, depending on the level of safety 'built-in' to the road (the higher the star, the better the road).

The first KiwiRAP Risk Maps were produced in 2008, followed by Star Ratings in 2010. This brochure shows results for Risk Mapping and Performance Tracking, comparing crash data for 2007-2011 to that from 2002-2006.

PERFORMANCE TRACKING

Performance tracking is the comparison of crash rates over time to establish whether fewer – or more – people are being killed or seriously injured on various road sections; and to determine how effective any countermeasures have been.

Performance tracking in this report compares 2007-2011 data to 2002-2006 data and is New Zealand's first opportunity to track the safety performance of the state highway network using KiwiRAP methods.

For the purpose of comparing the level of risk of crashes between different parts of the network, KiwiRAP has broken the 10,849km of the assessed state highway network into 168 road sections (known as 'links').

The same links that were developed and used for the first Risk Maps (released in 2008) have been used, where possible, in these results.

2012 RISK MAPS

For the purposes of displaying the safety risk of the state highway network, KiwiRAP looks at two different measures of risk: Collective Risk and Personal Risk. The focus of both is on crashes where people have been killed or seriously injured. The crash statistics used for the calculations are for the five-year period between 2007-2011.

The roads highlighted as being of higher risk than others are likely to have specific reasons why. The road, the vehicle, the speed and the driver/rider each contribute to risk.

Collective Risk (or Crash Density)
Collective Risk is a measure of the total number of fatal and serious injury crashes per kilometre over a section of road.

KiwiRAP is a road safety partnership between the NZ Automobile Association, the NZ Transport Agency, the Ministry of Transport, ACC and NZ Police.

Because Collective Risk is measured in terms of the number of crashes per kilometre of state highway, you would generally expect that those with higher traffic volumes would have a higher Collective Risk.

Personal Risk
Personal Risk is a measure of the risk to each individual using the state highway being assessed. Unlike Collective Risk, Personal Risk takes into account the traffic volumes on each section of state highway.

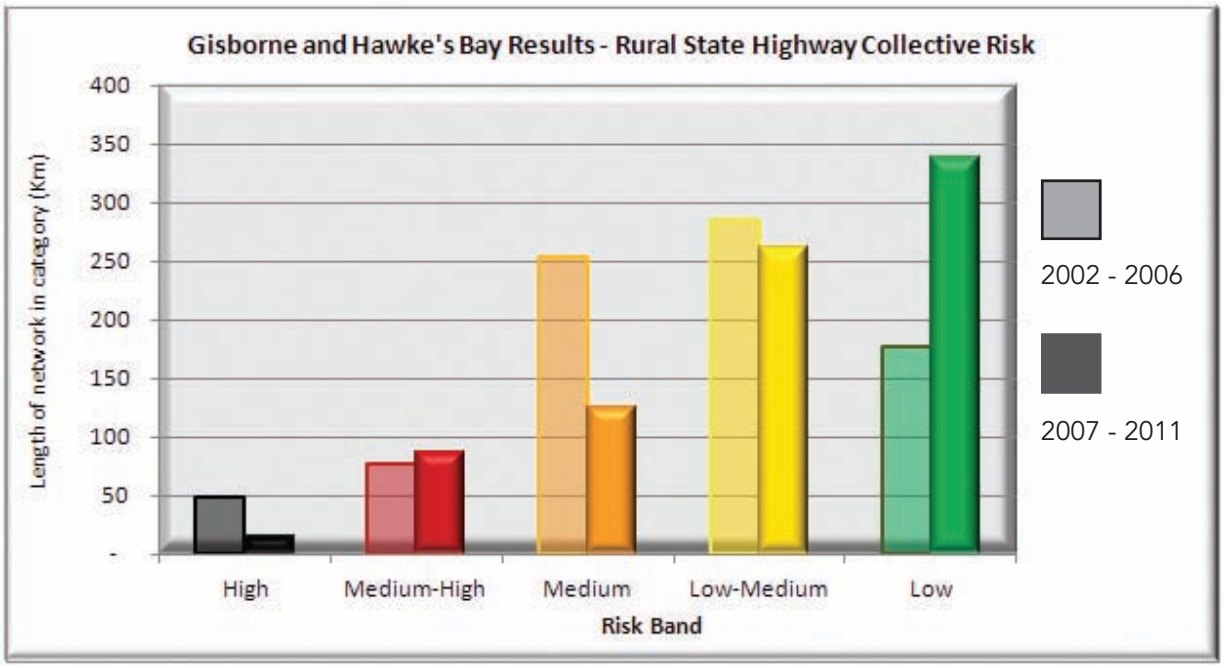
RISK RATING	COLLECTIVE RISK Average annual fatal and serious injury crashes per km	PERSONAL RISK Average annual fatal and serious injury crashes per 100 million vehicle-km	COLOUR
Low	≤0.039	<4	
Low-medium	0.04≤0.069	4≤4.9	
Medium	0.07≤0.10	5≤6.9	
Medium-high	0.11≤0.189	7≤8.9	
High	0.19+	9+	

The risk thresholds for the bands have remained the same in order for comparisons to be made between the 2008 Risk Maps (covering crashes in the 2002-2006 period) and the Risk Maps in this report for the 2007-2011 period.

PERFORMANCE TRACKING FOR GISBORNE AND HAWKE'S BAY REGION

Collective Risk
The percentage of kilometres of state highway in the Gisborne and Hawke's Bay region in the high collective risk band has decreased from 6% to 2% over the two time periods while the percentage in the medium-high category has increased from 9% to 11%. The low risk band has almost doubled from 21% of the network in 2002-2006 through to 41% in the 2007-2011 time period.

Changes in Collective Risk in the Gisborne and Hawke's Bay Region (comparing 2002-2006 data with 2007-2011)



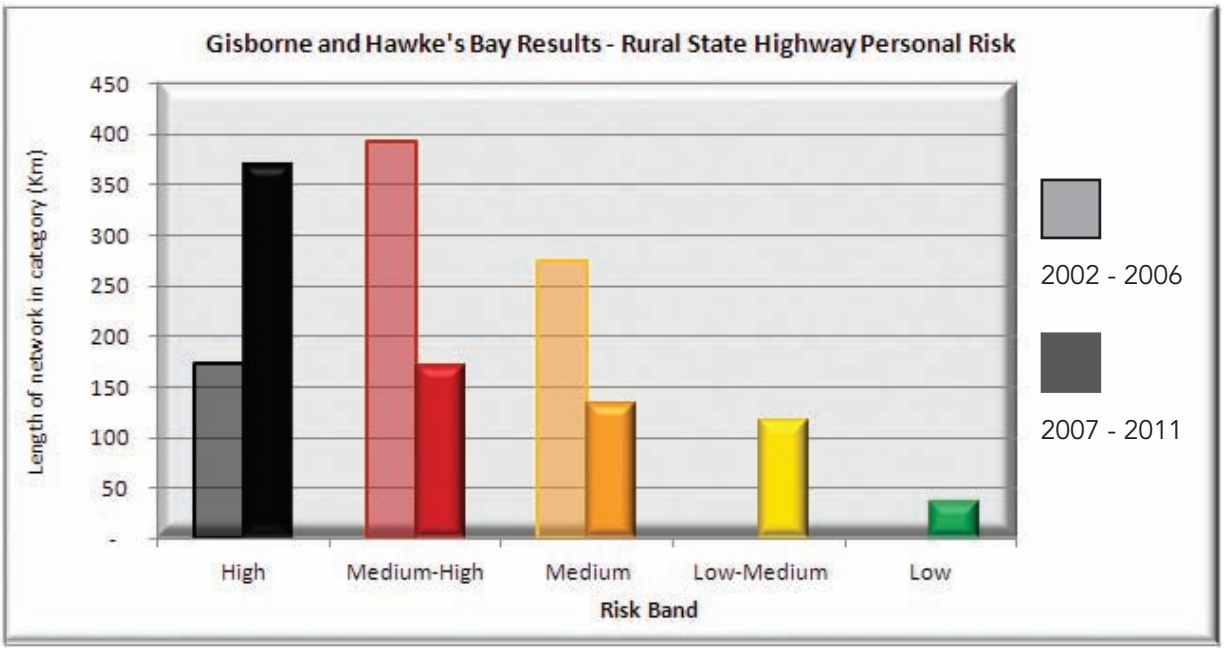
Period		High	Medium-High	Medium	Low-Medium	Low	Total
2002-2006	Percentage	6%	9%	30%	34%	21%	100%
	Length (km)	**48**	**77**	**254**	**285**	**177**	**840**
2007-2011	Percentage	2%	11%	15%	32%	41%	100%
	Length (km)	**14**	**87**	**125**	**262**	**339**	**828**

Note: percentages may not add to 100% due to rounding

Personal Risk

The percentage of the state highway network in the Gisborne and Hawke's Bay region in the high personal risk band more than doubled from 21% in the 2002-2006 period to 45% in 2007-2011. The percentage of network in the medium-high band fell by more than half from 47% to 21% over the same time period. The percentage of network in the low-medium and low risk bands increased.

Changes in Personal Risk in the Gisborne and Hawke's Bay Region (comparing 2002-2006 data with 2007-2011)



Period		High	Medium-High	Medium	Low-Medium	Low	Total
2002-2006	Percentage	21%	47%	33%	0%	0%	100%
	Length (km)	**174**	**392**	**274**	**-**	**-**	**840**
2007-2011	Percentage	45%	21%	16%	14%	4%	100%
	Length (km)	**370**	**171**	**133**	**117**	**37**	**828**

Note: percentages may not add to 100% due to rounding

The table below details how the risk categories of the links in the Gisborne and Hawke's Bay region have changed between the two time periods.

CHANGES IN COLLECTIVE RISK		LINK	CHANGES IN PERSONAL RISK	
2002-2006 DATA	2007-2011 DATA		2002-2006 DATA	2007-2011 DATA
Medium	Low-Medium	SH 2 from Gisborne to Wairoa	Medium-High	High
High	High	SH 2 from Napier to Hastings	Medium-High	Low-Medium
Low-Medium	Low	SH 2 from Opotiki to Gisborne via Waioeka Gorge*	High	Medium-High
Medium-High	Medium-High	SH 2 from Takapau to Hastings	Medium	Medium
Medium-High	Medium	SH 2 from Takapau to Woodville*	Medium-High	Medium
Low-Medium	Medium	SH 2 from Wairoa to SH 5 Napier	Medium-High	High
Medium	Low-Medium	SH 5 from Tarawera to SH 2 Bay View (North of Napier)	Medium-High	Medium
Medium	Low-Medium	SH 5 from Taupo to Tarawera*	Medium	Low-Medium
Low	Low	SH 35 from Opotiki to Tokomaru Bay	Medium-High	High
Low-Medium	Low-Medium	SH 35 from Tokomaru Bay to Gisborne	Medium	Medium-High
Low	Low	SH 38 from Wairoa to Waikaremoana	Medium	High
High	Medium-High	SH 50 and SH 50A Taradale Rd to Pakipaki	Medium	Low
Medium	Low	SH 50 from Napier to Takapau	High	Low-Medium

*These links cross map boundaries, so will appear in more than one regional list.

Boxes highlighted green depict a decrease in risk between the 2002-2006 and 2007-2011 time periods; red depicts an increase in risk; no colour is no change in risk.

HOW SAFE ARE OUR ROADS?

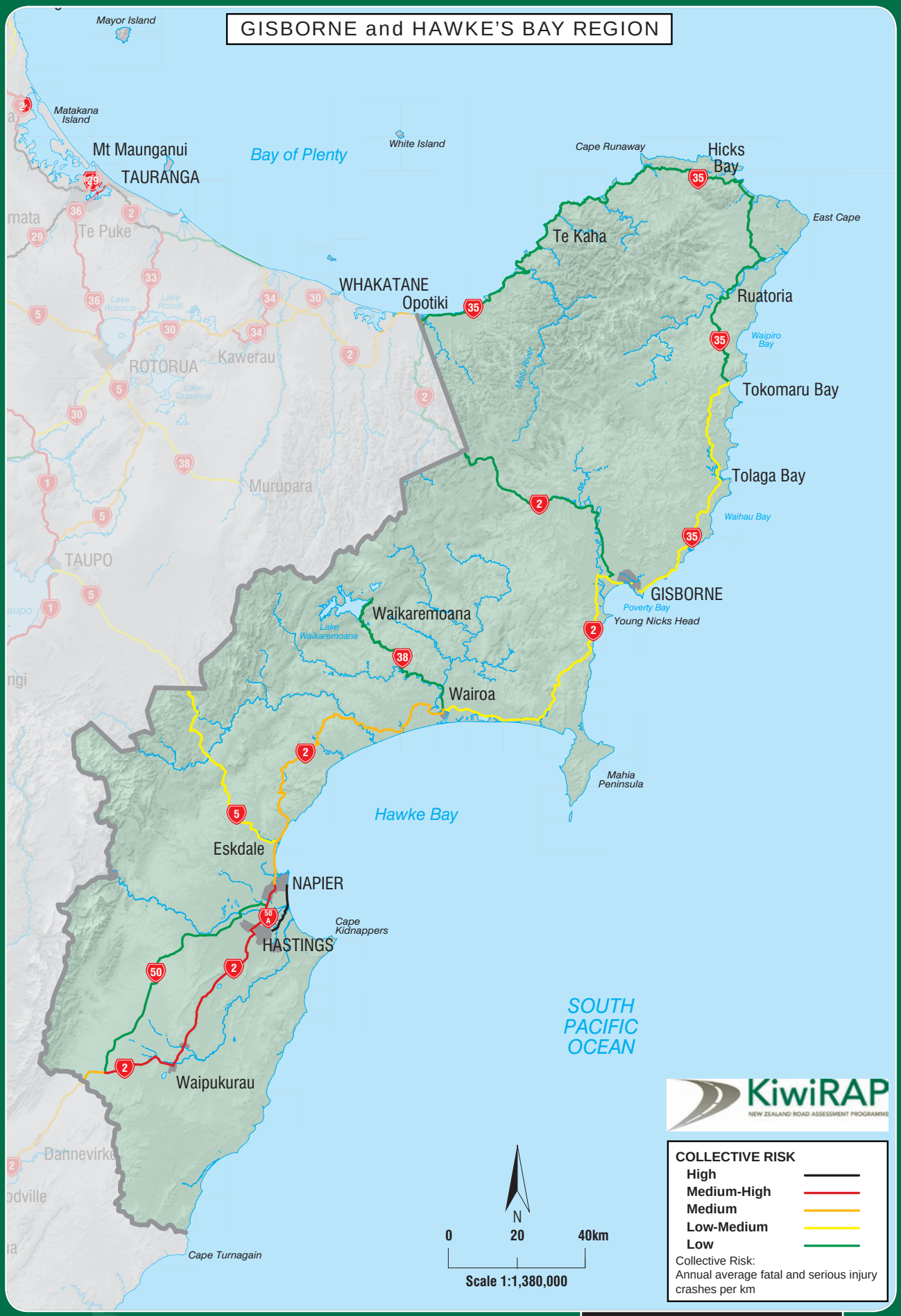
Tracking the safety performance of New Zealand's state highway network

KiwiRAP is a road safety partnership between the NZ Automobile Association, the NZ Transport Agency, the Ministry of Transport, ACC and NZ Police.

2012 RISK MAPS FOR GISBORNE AND HAWKE'S BAY REGION

Link	Length[1] (km)	Serious Injury Crashes 2007 to 2011	Fatal Crashes 2007 to 2011	Collective Risk Annual average fatal and serious injury crashes per km	Collective Risk Band	Personal Risk Annual average fatal and serious injury crashes per 100 million vehicle-km	Personal Risk Band
SH 2 from Gisborne to Wairoa	89.4	22	5	0.06	Low-Medium	9.5	High
SH 2 from Napier to Hastings	14.3	11	3	0.22	High	5.0	Low-Medium
SH 2 from Opotiki to Gisborne via Waioeka Gorge[2]	138.1	15	10	0.04	Low	7.3	Medium-High
SH 2 from SH 5 to Napier	13.1	4	1	0.10	Medium	2.9	Low
SH 2 from Takapau to Hastings[4]	63.7	29	10	0.14	Medium-High	6.1	Medium
SH 2 from Takapau to Woodville[2]	58.9	20	6	0.10	Medium	5.3	Medium
SH 2 from Wairoa to SH 5 Napier[3]	103.8	29	9	0.08	Medium	11.1	High
SH 5 from Taupo to Tarawera[2]	63.0	14	6	0.06	Low-Medium	4.8	Low-Medium
SH 5 from Tarawera to SH 2	61.6	16	3	0.06	Low-Medium	5.9	Medium
SH 35 from Opotiki to Tokomaru Bay[2]	236.4	24	8	0.03	Low	9.7	High
SH 35 from Tokomaru Bay to Gisborne[4]	90.1	18	4	0.05	Low-Medium	7.9	Medium-High
SH 38 from Wairoa to Waikaremoana	64.1	3	-	0.01	Low	9.0	High
SH 50 and SH 50A Taradale Rd to Pakipaki[3]	23.7	9	6	0.14	Medium-High	3.1	Low
SH 50 from Napier to Takapau	81.6	6	4	0.03	Low	4.3	Low-Medium

Note (Table above):
[1]The link length includes urban sections. However, the urban lengths and urban crashes have been excluded from the crash risk analysis.
[2]These links cross map boundaries, so will appear in more than one regional list.
[3]The crash data is for 4 years only due to significant change in 2011.
[4]The length of these links differs from that published in the 2008 Risk Map report due to realignments and/or changes to speed limit boundaries.
Symbol – : no data.



COLLECTIVE RISK MAP

HOW SAFE ARE OUR ROADS?

Tracking the safety performance of New Zealand's state highway network

KiwiRAP is a road safety partnership between the NZ Automobile Association, the NZ Transport Agency, the Ministry of Transport, ACC and NZ Police.

PERSONAL RISK MAP

HOW SAFE ARE OUR ROADS?

Tracking the safety performance of New Zealand's state highway network

KiwiRAP is a road safety partnership between the NZ Automobile Association, the NZ Transport Agency, the Ministry of Transport, ACC and NZ Police.