Moving Towards Safer Speed

A New Direction in Speed Management in Queensland, Australia

By Peta Peterson

Queensland Government
Australia

Queensland Government values

Customers first

Unleash potential

Be courageous

Ideas into action

Empower people

diversity

inspire create innovate

Queensland Government Strategic Plan

About us

Creating a single integrated transport network accessible to everyone

We manage:

33,353 km
state-controlled roads

3078
bridges

20
ports

There were:

3.6m
drivers licensed

5.1m
vehicles registered

3259
taxis licensed

232,901
recreational boat registrations

866,194
recreational boat licences

We serve:

3.39m
customers served face-to-face at
59
Customer Service Centres

Our customers conducted
7.2m
online services

Services provided:

178m
in SEQ

11.9m
outside SEQ

trips taken annually on bus, rail, ferry and light rail

2.6m
go cards in use

Over 485,000
passengers travel on the SEQ network on average each day

Statistics sourced from the Department of Transport and Main Roads Annual Report 2016–17

Queensland in Context

Region	Population	Land Area (km^2)	Population Density	Road Fatalities per 100,000 persons (2015)
Queensland	4,883,700	1,723,936	2.83/km^2	5.08
Australia	22,992,654	7,682,300	2.99/km^2	5.18
New Zealand	4,474,549	264,537	16.91/km^2	5.65
United States	332,995,528	9,147,593	36.40/km^2	9.83
United Kingdom	64,430,428	241,930	266.32/km^2	2.75
Canada	35,362,905	9,093,507	3.89/km^2	5.87
Sweden	9,880,604	410,335	24.08/km^2	2.63
Netherlands	17,016,967	33,893	502.08/km^2	3.35
India	1,266,883,598	2,973,193	426.10/km^2	10.86

Queensland in Context

Default Speed Limit

50km/h in built up areas

100km/h outside built up areas

Compliance to Speed Limits

Objectives of the New Speed Management Process

1. Speed limits should be credible for motorists and result in an effective balance between safety and mobility.

2. Incorporate the safety risk in the speed limit setting process.

3. Better align speed management process with Safe System philosophy.

Speed Limit Review Process

Criteria to initiate Speed Limit Review

Identify Road Class and Typical Speed Limit

Adjust Typical Speed based on Road Risk Matrix

Analyse Speed Data

Develop Recommendation

Speed Limit Review Process

Step 1

Step 2

Step 3

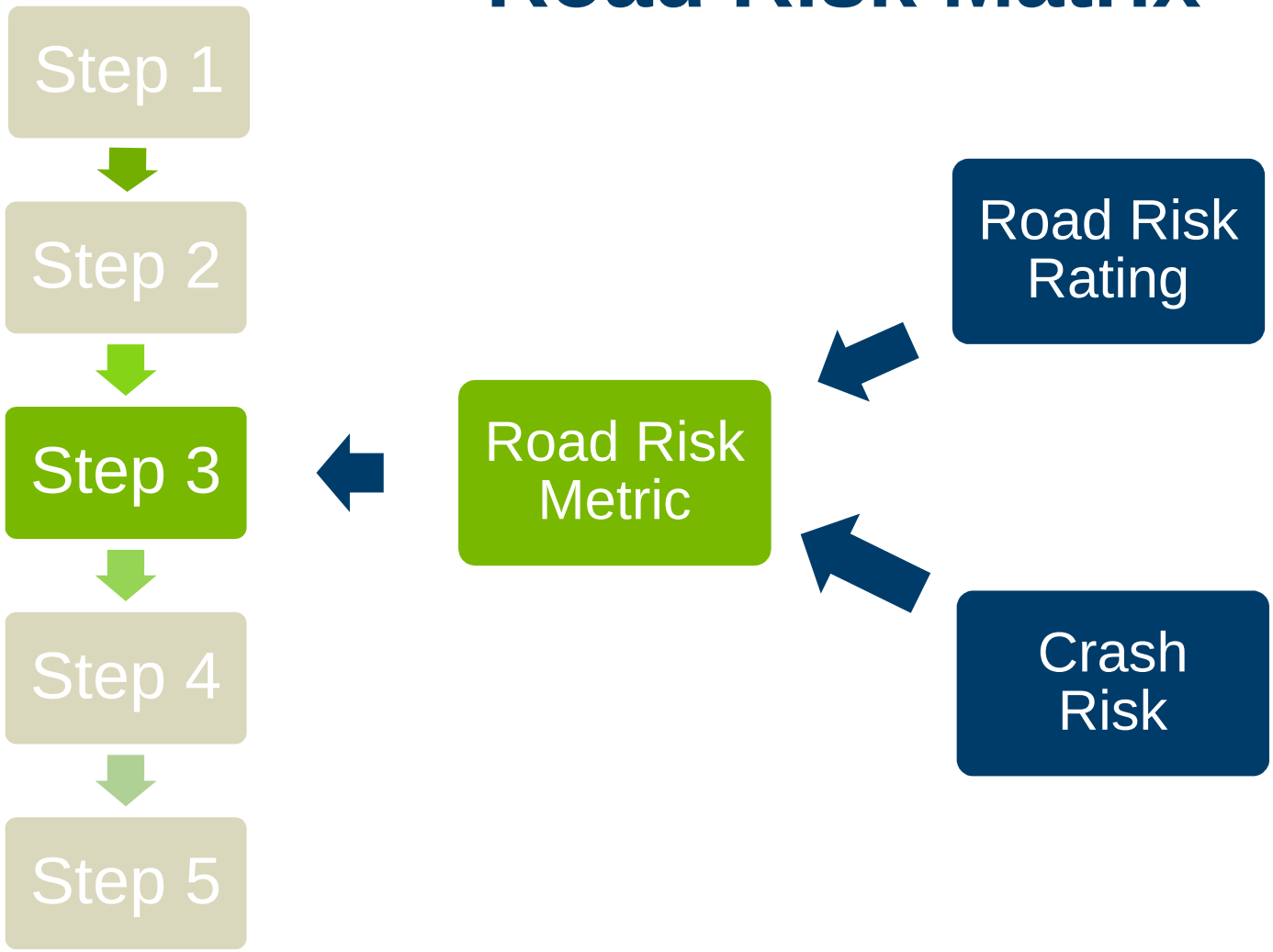
Step 4

Step 5

Identify Road Class and Typical Speed Limit

Roads in an Urban Context (Typical Speed Limit)	Roads in a Semi-urban Context (Typical Speed Limit)	Other (Typical Speed Limit)
Access or local street (50km/h)	Access or local street (50km/h)	Local or access roads (60km/h)
Collector street (50km/h)	Collector street (60km/h)	Collector Road (70km/h)
Trunk collector road (60km/h)	Trunk collector road (70km/h)	Trunk Collector road (80km/h)
Sub-arterial road / Arterial Road (70km/h)	N/A	Arterial road (100km/h)
Motorway/Freeway/Expressway (100km/h)	N/A	N/A

STEP 3: Adjust Typical Speed based on Road Risk Matrix



STEP 3
Crash Risk Rating

Crash Risk Rating	Proportion of TMR Network Length	Injury Crash Rate (per MVKT)	Proportion of Injury Crashes	FSI Crash Rate (per MVKT)	Proportion of FSI Crashes
High	10.7%	64.6	29.3%	34.9	27.3%
Medium	25.2%	27.8	34.6%	15.5	33.4%
Low	64.1%	9.0	36.1%	5.7	39.3%

Road Risk Rating Model Attributes

- Road Stereotype (i.e. divided / undivided, single / multi-lane, sealed / unsealed);
- Horizontal Alignment;
- Lane Width;
- Shoulder Width;
- Surrounding Lane Use;
- Traffic Volume;
- Intersection Density;
- Access Density; and,
- Roadside Hazard.

STEP 3 Adjust Typical Speed Limit based on Road Risk Metric

Road Risk Metric		Road Risk Rating		
		Low	Medium	High
Crash Risk Rating	High	High Risk	High Risk	High Risk
	Medium	Medium Risk	Medium Risk	High Risk
	Low	Low Risk	Medium Risk	High Risk

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Step 5 Develop Recommendations

Reducing speed from 100km/hr to 90km/hr results in an average reduction of FSI crashes of 26% and a reduction in the 85th percentile vehicle speeds of 7-12km/hr

Step 5 Develop Recommendations

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