


NZ TRANSPORT AGENCY
Auckland Motorways

Motorcycles on Motorways

IPENZ Conference 2011




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New Zealand Government

Agenda

- Study Objective
- Background and Context
- Motorcycle Ownership Trends in NZ
- Motorcycle Crash Trends
- Possible Measures
- Recommendations
- Conclusions




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Study Objective

Objective of study are:

- to understand motorcycle crash patterns;
- to identify crash clusters and common crash types for treatment (i.e. blackspot and mass action programs); and
- to identify possible motorcycle safety measures that could be implemented on the motorway network.



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Motorcycle Crashes Background and Context

- Motorcyclists 16 times more likely than car drivers to be killed or seriously injured in a traffic crash in New Zealand.
- Increasing motorcycle crash problems in New Zealand – decreased in the 1990s but has increased since 2006.
- Very similar trends internationally – i.e. in the Europe and USA.
- Identified as one of the key priority areas in Safe Journeys, New Zealand’s 2010-2020 road safety strategy.

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Motorcycle Ownership Trends in Auckland

Licensed Vehicles in Auckland

Year	Licensed motorcycles	Motorcycle Annual Growth (%)	All Licensed Vehicles	All Licensed Vehicles Annual Growth (%)	Motorcycle %
2005	11,671	-	985,307	-	1.2%
2006	13,254	13.6%	1,005,709	2.1%	1.3%
2007	15,156	14.4%	1,032,609	2.7%	1.5%
2008	16,952	11.9%	1,047,652	1.5%	1.6%

Source: NZTA New Zealand Motor Vehicle Registration Statistics (2005 - 2008)

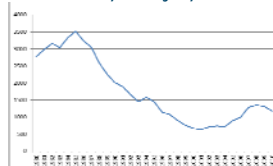
1.6% of total licensed vehicles are motorcycles.



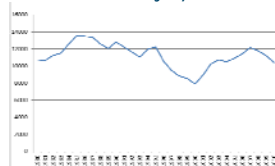
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New Zealand Crash Trends

NZ Motorcycle Injury Crashes

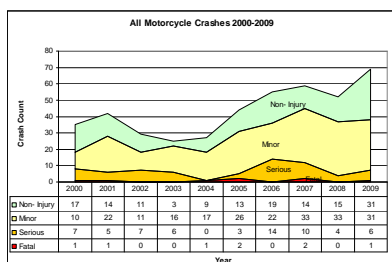


NZ Vehicle Injury Crashes



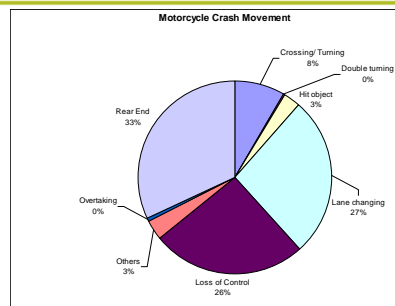
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AMA Motorcycle Crash Trend - by year



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AMA Motorcycle Crash Trend - by crash movement (2000 - 2009)



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AMA Motorcycle Crash Trend - by objects struck (2000 - 2009)

Objects Struck	Fatal	Serious	Minor	Non-injury	%
upright cliff or bank, retaining walls	0	0	3	1	6%
debris, boulder or object dropped from vehicle	0	0	2	1	5%
guard or guide rail (including median barriers)	3	3	4	15	40%
traffic island or median strip	0	0	1	4	8%
kerb, when directly contributing to incident	0	2	0	2	6%
parked motor vehicle	0	0	5	0	8%
utility pole, includes lighting columns	0	2	0	2	6%
broken down vehicle, workmen's vehicle, taxis picking up, etc	0	0	4	2	10%
traffic signs or signal bollards	0	0	1	0	2%
wild animal, stray or out of control animals	0	0	0	1	2%
objects thrown at or dropped onto vehicles	0	0	0	1	2%
Other	0	0	1	2	5%

AMA Motorcycle Trends - Other trends

Other Trends:

- Generally reported in peak periods, severe injury crashes are mainly reported during the afternoon and evening periods (and dark conditions).
- Motorcycles below 650cc rating increasingly involved, coinciding with increase of motorcycle crashes involving 17-25 year old motorcyclists.



Motorcycling Groups Discussion

- Direction and strength of wind i.e. Auckland Harbour Bridge flags act as wind socks.
- Motorcyclists more inclined to avoid the hazard in front of them rather than apply brakes as car users do.
- Novice drivers do not feel comfortable in wet conditions and therefore prefer to avoid riding in wet conditions.
- Lane splitting is used by motorcyclists to avoid long queues.
- Motorcyclists often ride on the right hand side of the lane to be in line with car drivers.
- Worst situation is to be in queue at dark.

Possible Actions

- Broad mass action programmes identified through both reactive (i.e. CRS) and proactive (i.e. RSA) approaches.
- Maintenance and routine roadway inspections.
- Road design practices
 - Wider sealed shoulders, clear zone
 - Seal lip joint
 - Barrier retrofit
- Hazard awareness systems

Motorcycle Proofing on Guardrail Systems



Stack Cushion on Flexfence 3 Rope TL4 system, Australia



Ingal rub rail on w-beam guardrail, Australia



Moto Tub from Sodirel Company, France



Moto Rail from Solosar Company, France

Recommendations

Engineering

- Treated through broad mass action programmes within Crash Reduction Studies and road safety audits.
- An investigation on provisions for wind-socks or variable message signs
- Ensure good riding surface (i.e. clear loose gravel, replace paint markings with poor wet skid resistance, address manhole covers/lids)
- Angled 'ghost' line marking be temporarily treated with closer traction properties compared to the adjacent pavement
- Investigate treatment for small gouges caused by vehicle incidents on the pavement.

Recommendations

Enforcement

- Point-to-point speed enforcement
- Continued police enforcement to target speed and alcohol related offences

Education

- Explore funding opportunities for behavioural campaigns and advertisements

Evaluation

- Motorcycle Crash Reduction Studies (CRS) be undertaken as part of AMA Annual CRS
- Annual motorcycle count surveys be undertaken at pre-determined locations on the AMA network

Summary

- Percentage of motorcycle crashes on the AMA network similar to the rest of region and country
- Increasing motorcycle crash trend on AMA consistent with the national and international trends
- Remedial measures aimed at either reducing the likelihood and severity of motorcycle crashes were recommended for the four E's of road safety
- Further motorcycle count surveys required to further understand the motorcycle travel patterns and trends.