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# Characteristics of Motorcycle Riders in NSW A population based survey

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# Overview

## **BACKGROUND**

Crash research identifies contributing factors, but prevalence unknown in rider population

## **METHOD**

Population-based survey of currently active NSW riders

## **RESULTS**

Key results – age, experience, exposure, history of crashes & violations

## **CONCLUSIONS**

Findings provide basis for policy decisions and priorities for motorcycle safety interventions

# Background

## INCREASING NUMBERS OF MOTORCYCLE/SCOOTERS

In Australian since 2002:

- ❖ MC registrations increased 93% (cars 30%)
- ❖ Proportion of serious motorcycle road crash injuries increased from 20% to 27%

# Countermeasures

## LIMITED BY METHODOLOGICAL ISSUES

- ❖ Little known about population at risk
- ❖ Licence data (over estimates)
- ❖ Registration numbers (under/over estimate?)
- ❖ Exposure measures (distance, frequency & type of riding)
- ❖ Crash studies identify contributing factors, but prevalence unknown

# Aim

To establish:

- ❖ Prevalence of key rider characteristics
- ❖ Measures of exposure

to provide baselines for crash countermeasures

# Method

## **SURVEY POPULATION**

- ❖ Owners of registered motorcycle/scooter – proxy for riding population
- ❖ Customers attending Motor Registry office (June/July 2012)

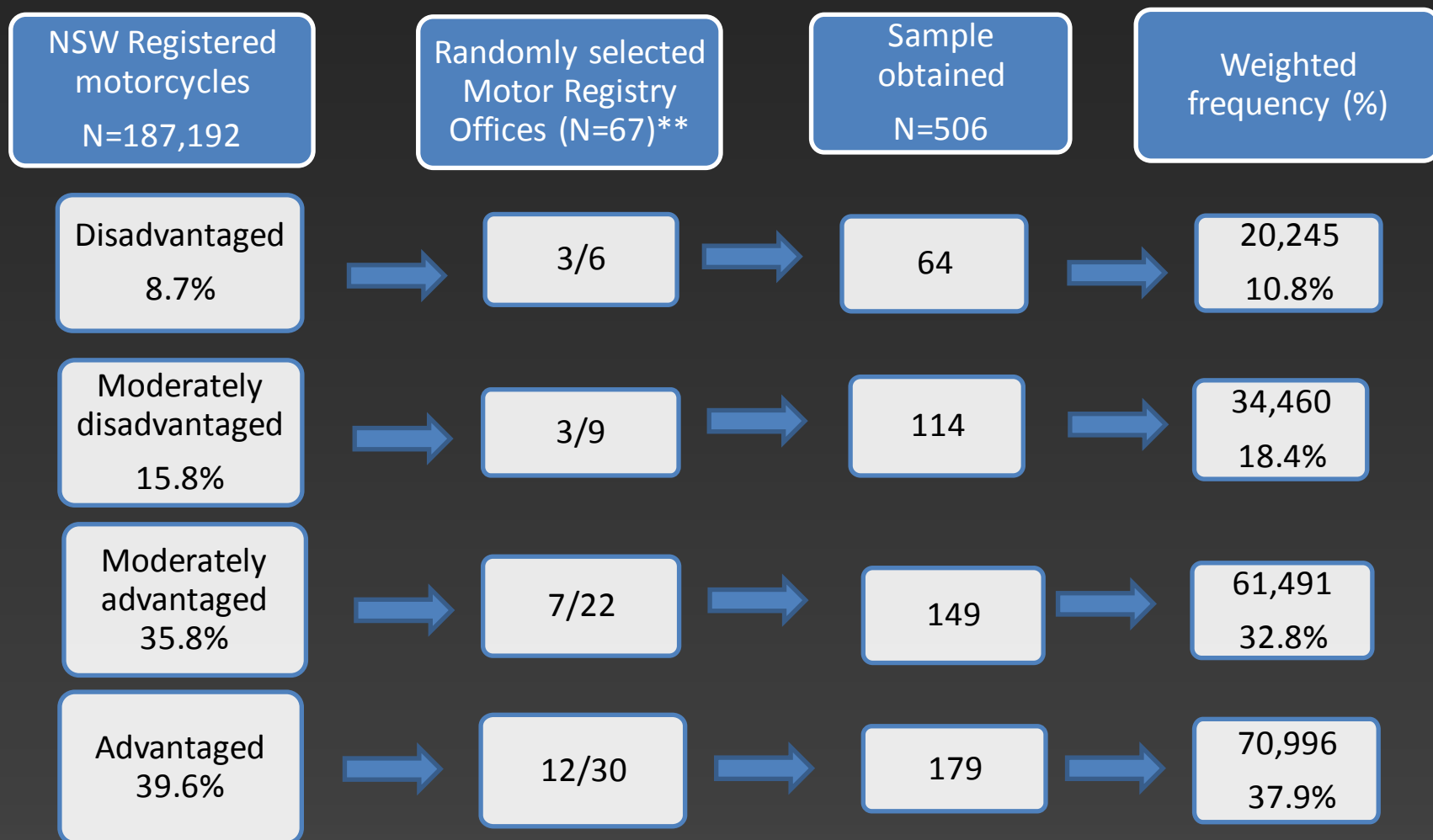
## **SURVEY OPTIONS**

20 minutes – 68 questions

- ❖ Paper questionnaire completed on site
- ❖ On-line version

# Stratified Random Sampling Plan

SIEFA Quartiles\*



\*SIEFA = Australian Index of Socio-economic Advantage/Disadvantage

\*\* Motor registries with < 20 MC Licence renewals pw excluded.

# Recruitment

## SCREENING

Customers approached	13,897
Eligible*	1,073
Declined to participate	275 (25.6%)

## PARTICIPANTS

Agreed to complete		Completed
Survey on-line	376 (35.0%)	103 (27.4)
Survey on-site	469 (43.3%)	403 (85.9%)
Participated		506 (47.2%)

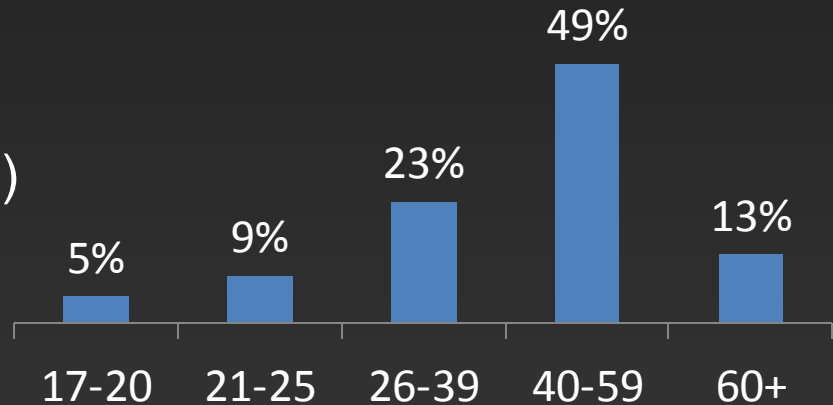
\* Owner of registered motorcycle



# Weighted estimates of NSW rider population\*

## DEMOGRAPHICS

- ❖ Male 87%
- ❖ Age (Average 43.2years)



## LEARNER

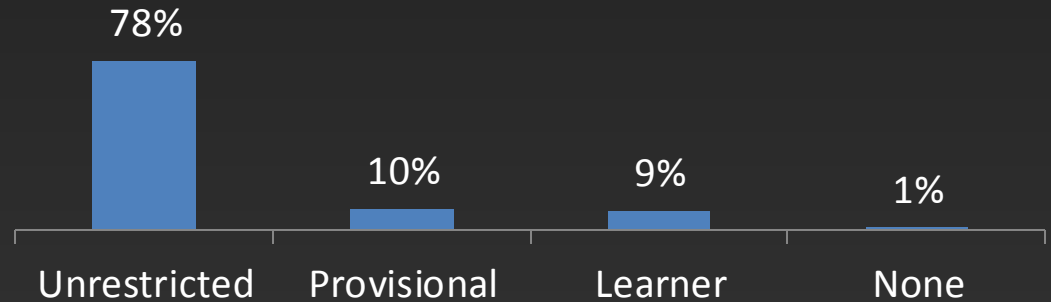
- ❖ Average age - 30 years
- ❖ 29% aged 17-20 years

## ALL NOVICE RIDERS

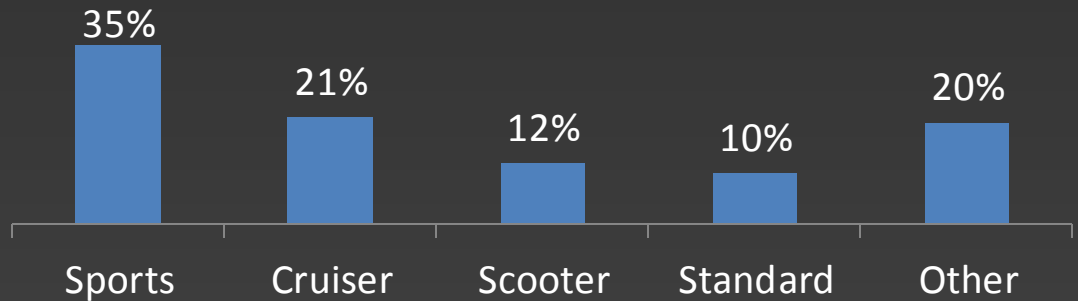
- ❖ 52% aged 17-25 years

# Some key features of the NSW rider population

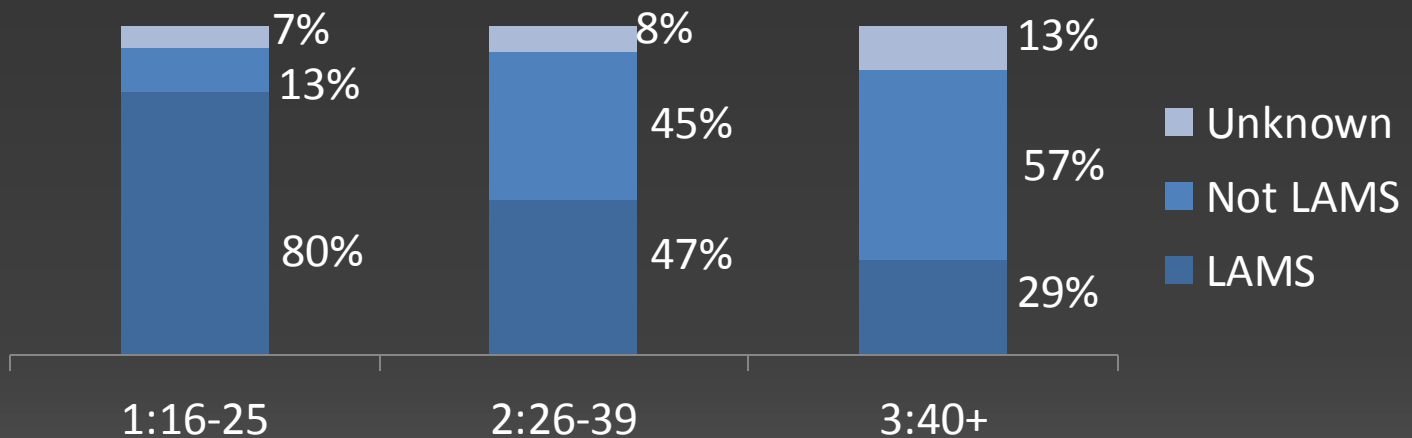
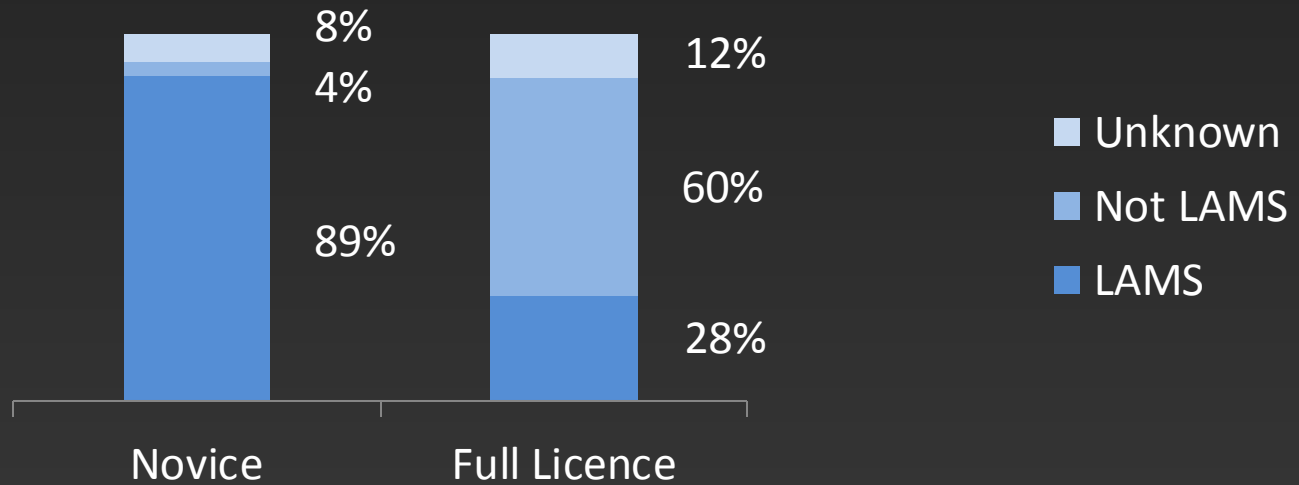
## MOTORCYCLE LICENCE



## MOTORCYCLE TYPE

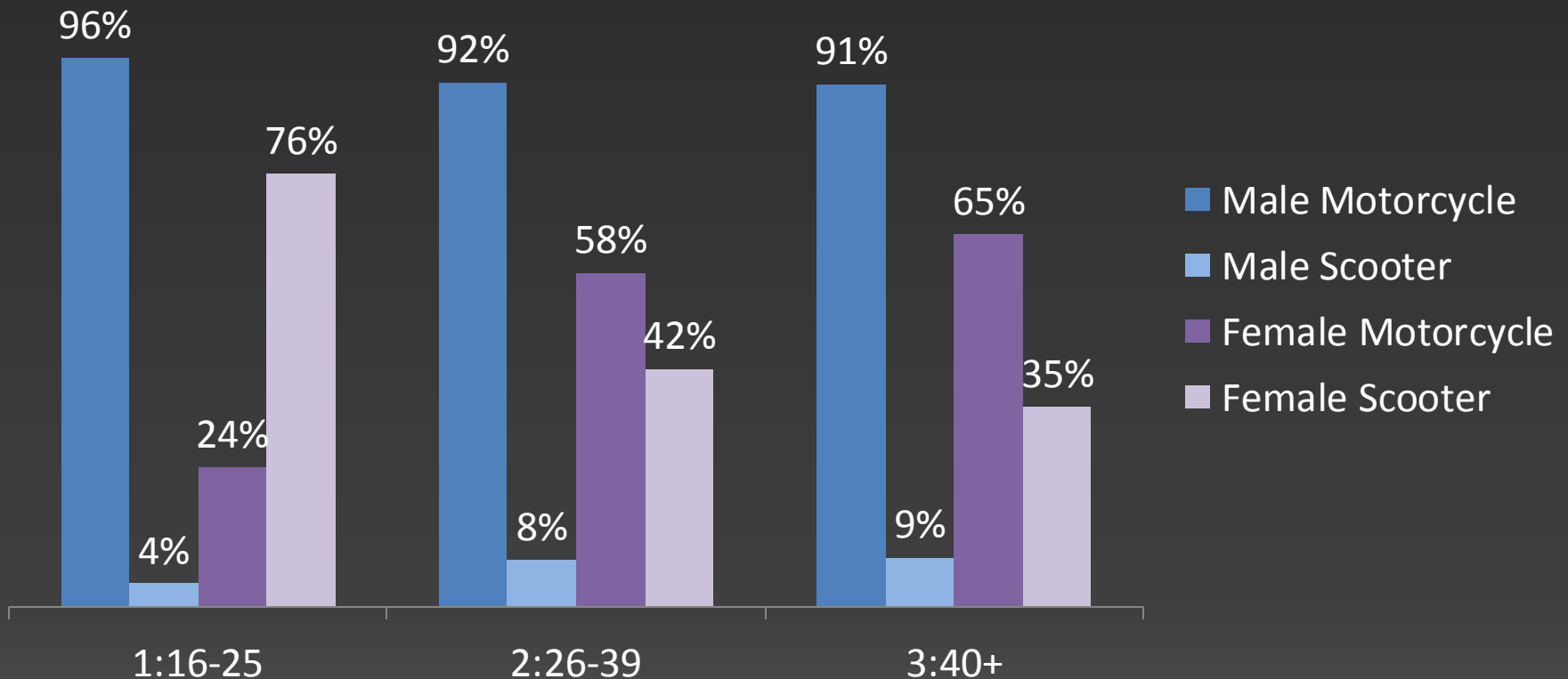


# Learner Approved Motorcycles (LAMS)



# Changing representation of females

- ❖ Females 13% all riders but 17-25 years 16% , 26-39 15%
- ❖ Scooter riders = 12% (43% female vs 8% male)



# Measures of exposure

## RIDING EXPERIENCE - YEARS

- ❖ Learner licence duration - Average 5.7 months
- ❖ 19% Learner licence in past 3 years
- ❖ 27% in first 5 years of riding
- ❖ 16 years average experience

# Measures of exposure

## EXPOSURE – HOURS/KILOMETRES

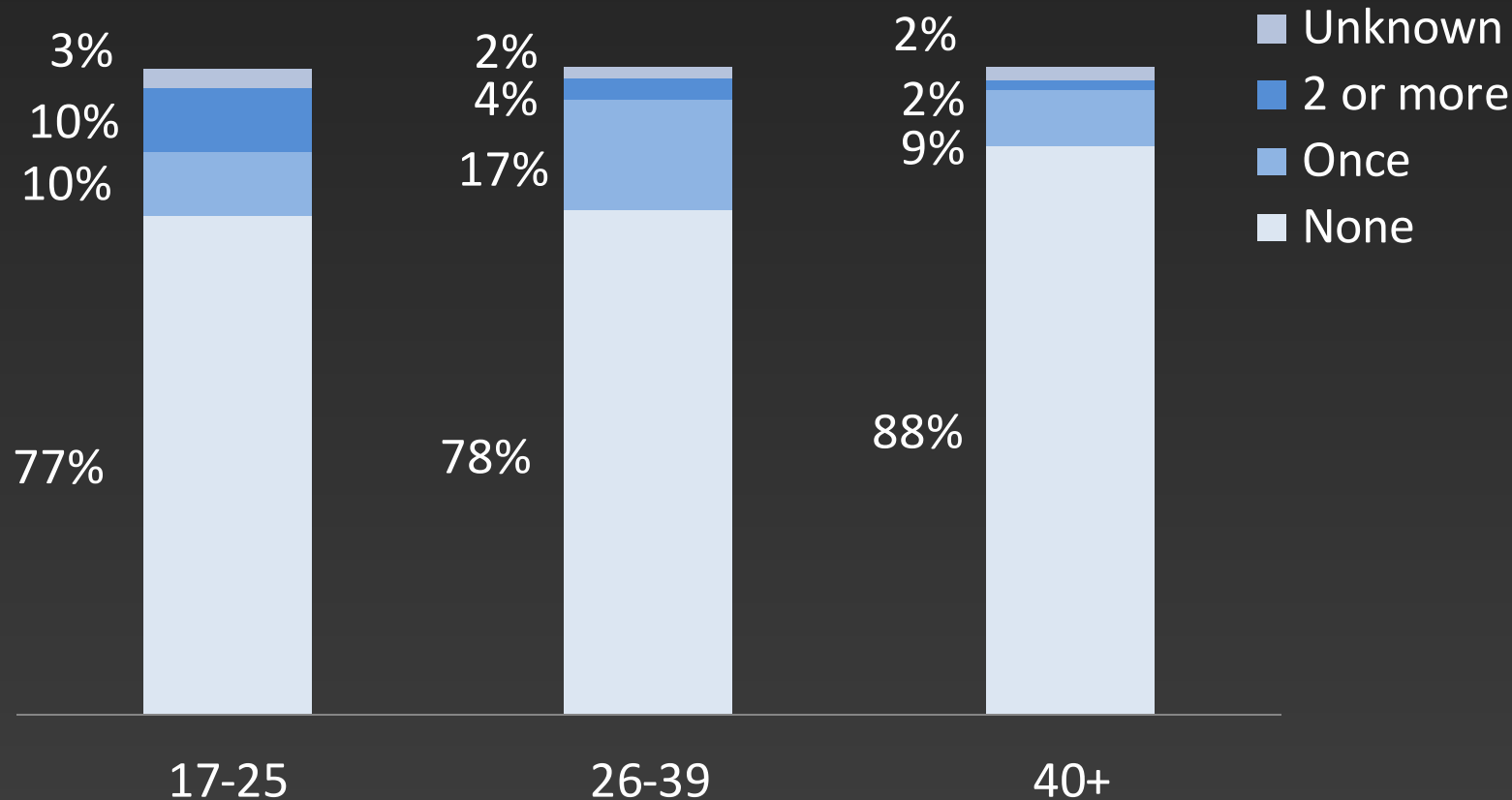
- ❖ Average 6.7 h/pw (43% 2-5 hours)
- ❖ Higher for Learners (8.3 h/pw) & Provisional (7.8 h/pw)
- ❖ 49% up to 100km pw - 22% over 300km pw
- ❖ 42% every day - 32% only weekends

# Measures of exposure

## REASONS FOR RIDING

- ❖ 82% recreation
- ❖ 54% commuting
- ❖ 40% off road

# Crashes in past 3 years



$\chi^2=17.48, df=6, P=0.01$

\*No association with licence status when age was controlled



# Traffic violations in past 3 years

- ❖ 31% violations
- ❖ While driving a car 22%, riding motorcycle 11%

	Driver	Rider
Speeding	54%	26%
Mobile phone	3.9%	0.0
Alcohol	2.0	0.5
Red light	1.4	1.3
Not stop at sign/intersection	0.9	0.9
No Right hand Turn	0.7	2.6
Not display P/L -Plates	0.6	1.4

# Registrations and population estimate

## OWNERSHIP

- ❖ 81% own 1 machine
- ❖ 13% own 2 machines
- ❖ 5% own 3 or more

## BORROWED MACHINES

- ❖ 1% ride employer-owned machine
- ❖ 2% ride borrowed machine

Note: Of those riding employer or borrowed machines, 56% of also own their own machine.

# Population estimate

## ACTIVE RIDING POPULATION

- ❖ 187,181 registered vehicles - June 2012
- ❖ Over estimates by +15%, 95% CL 6%- 26%

Active riding population

163,000 (95%CL 148,827 – 177,336)

# Strengths and Limitations

## STRENGTHS

- ❖ Single sample linking demographic, risk factors, crashes & violations
- ❖ Robust sampling methodology for estimating population values (WHO)

## LIMITATIONS

- ❖ Excluded Motor Registries in rural/ remote areas (Lower SES)
- ❖ Non-participation bias – (mostly due to lack of time)
- ❖ Self report data - (potential bias in relation to violations/crash involvement)

# Conclusions

## PROFILE OF RIDER POPULATION

- ❖ Registration data base over estimates population by 15%
- ❖ Emerging cohort of young riders, female riders & scooter riders
- ❖ Average age of learner is 30 years
- ❖ Two thirds aged over 40 years
- ❖ LAMS ridden by 28% with unrestricted licensed

## EXPOSURE

- ❖ Average 7 hours riding per week
- ❖ Majority use cars for over half km travelled

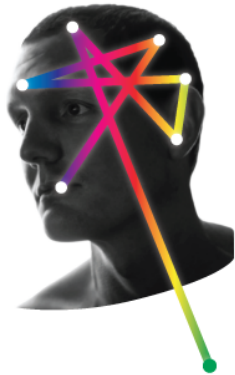
# Acknowledgements

## CO-AUTHORS

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