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Measuring Road Safety Performance




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Measuring Road Safety Performance




What information is ideally available?

- *Fatal and serious crashes, numbers of fatalities and serious injuries and detailed crash related information (e.g. time, date, location, cause etc)*

What information is often available in LMIC examples?


- *Fatal crashes and fatality numbers frequently significantly under reported*
- *Investigation and reporting practices make data unreliable*
- *Fatal and serious injury definitions are not standardised*

Summary: Monitoring road safety trends on the basis of 'reported' crash data presents difficulties – it is incomplete and inaccurate



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Provided breath testing equipment



What alternative options exist (proxy for road safety performance)?

- Effectively measuring 'Behavioural Outcomes' and 'Public Perceptions of Road Safety'

Rationale – If trends are showing improvement e.g. free travel speeds are reducing, drink drive rates are declining, more drivers believe they will be stopped by Police is not wearing a safety belt, road trauma will be reducing.

Four key risk factors are identified internationally for improving road safety...

- **Alcohol impaired driving**
- **Excess speed**
- **Seat belt and child restraint wearing rates**
- **Motor cycle helmet wearing rates**

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What is required for effective measurement?

Example 1 – Alcohol Impaired Driving

Identifying...

- 'High Alcohol Hours' Time and days of the week with the highest drink drive rates
- Random testing locations
- Standardised yearly testing time
- Sampling methodology

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Cultural interests variable (e.g. drink drive issues)



Defining when 'High Alcohol Hours' occur – Peak periods Friday/Saturday and Saturday/Sunday - 10pm to 2am (Survey in these time periods)

Alcohol related fatal/injury crashes					Greater than average (91)		
2008-12	Mon	Tue	Wed	Thu	Fri	Sat	Sun
12:00-1:59 am	64	48	80	124	161	319	327
2:00-3:59 am	31	32	54	68	130	256	295
4:00-5:59 am	22	15	34	48	62	180	215
6:00-7:59 am	19	15	22	35	45	104	132
8:00-9:59 am	15	17	12	22	26	45	51
10:00-11:59 am	10	12	22	23	20	41	37
12:00-1:59 pm	21	19	25	28	30	50	55
2:00-3:59 pm	33	47	43	46	57	80	66
4:00-5:59 pm	38	76	84	94	104	108	103
6:00-7:59 pm	73	86	108	101	182	183	135
8:00-9:59 pm	69	103	134	161	229	256	131
10:00-11:59 pm	65	121	158	200	291	299	96
Total	460	591	776	950	1337	1921	1643

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Example 2 – Free travel speed survey

- Free speeds are measured when vehicles are unimpeded by the presence of other vehicles or by environmental features (e.g. traffic lights, intersections, hills, corners)
- Unimpeded vehicles provides a measure of **driver choice of speed**.
- Speed surveys are conducted at randomly selected sites
- Vehicle speeds are measured by a surveyor, who surveys the site at the same time of day and day of the week as in previous years.
- Surveys are carried out in an unobtrusive manner to ensure that the speeds measured are minimally affected by the survey procedures.
- **Purpose - Provides information on the effectiveness of speed management measures**

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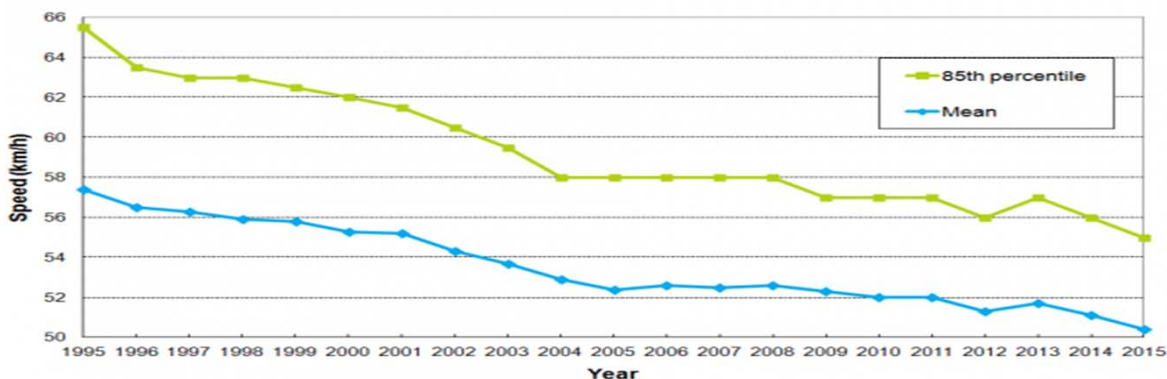


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Example 2 – Free travel speed survey

New Zealand Urban Speeds

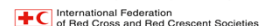


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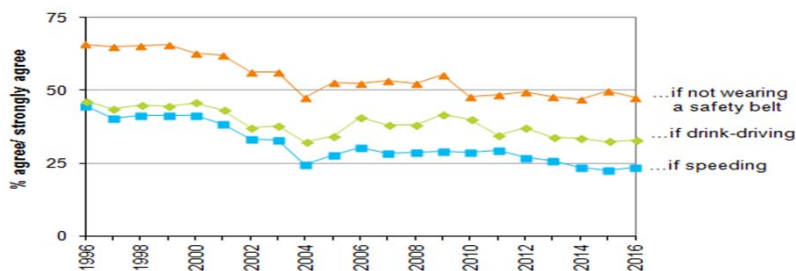


Example 3 – Public Attitudes to Road Safety

Figure 1: The risk of being caught is small (decreasing trend reflects improvement in safety attitudes)

- If not wearing a safety belt
- If drink driving
- If speeding

Slow movements in perceptions over 20 years



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