

Speed Limits in the Hoddle Grid

Recent History of speed limits

March 2013

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CITY OF MELBOURNE

Introduction

- Municipalities have power to Erect speed limit signs

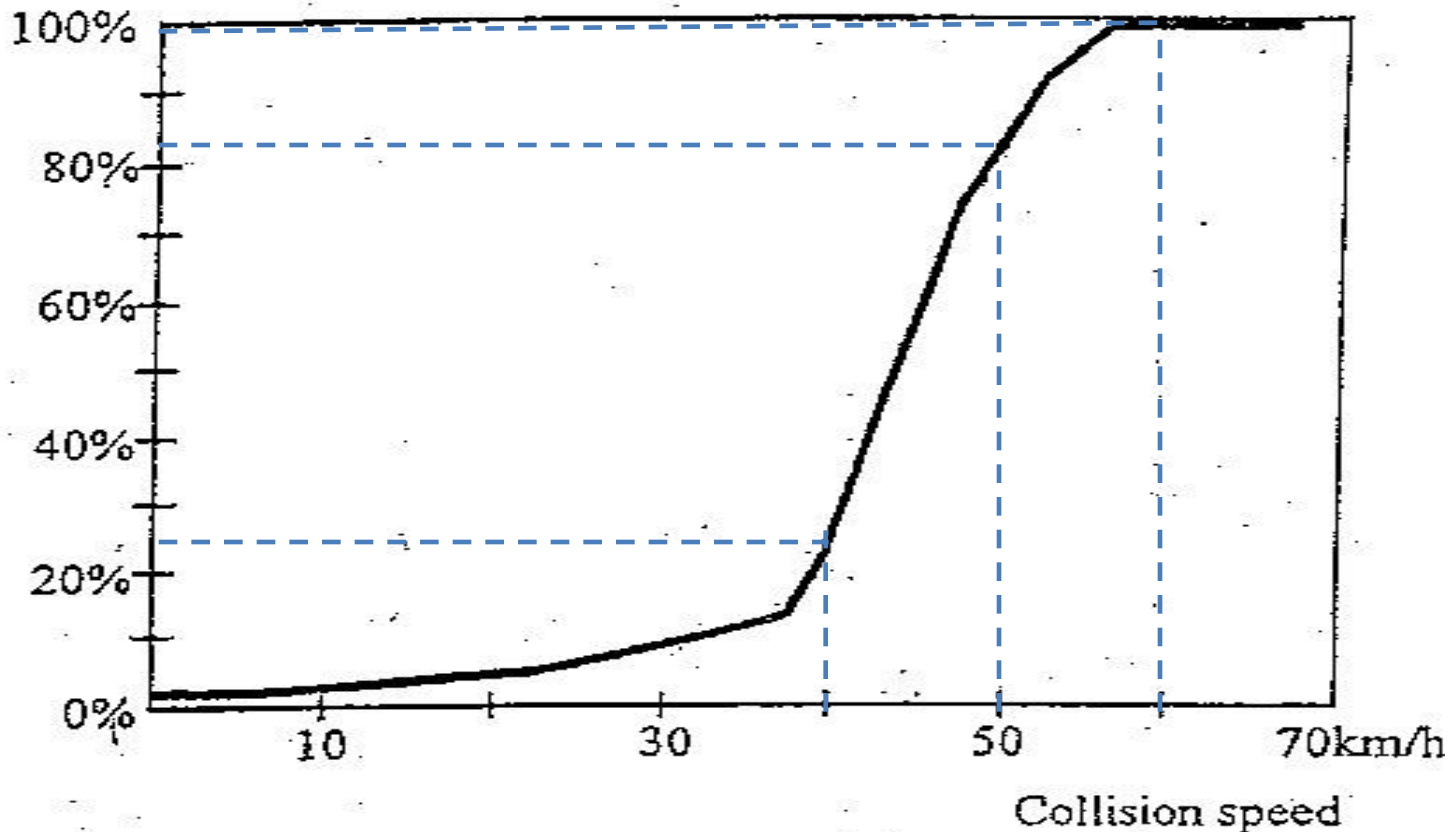
BUT

- Municipalities **DO NOT** have the power to approve speed limit changes
- Speed limit changes are a major traffic control item and require VicRoads approval as per Road Safety Act (Traffic Management Regulations) 2009 – Schedule 1.

Why Speed Limits in Hoddle Grid are Important?

- Risk of death in accident involving a pedestrian significantly reduces when collision speed is 40km/h or below.

Death risk



Why Speed Limits in Hoddle Grid are Important? (cont)

Occupies only
0.001% of
Victoria (Area)

BUT

Experiences 4.9%
of all of Victoria's
Fatal/Serious
Pedestrian
Accidents

**City of Melbourne
Hoddle Grid**

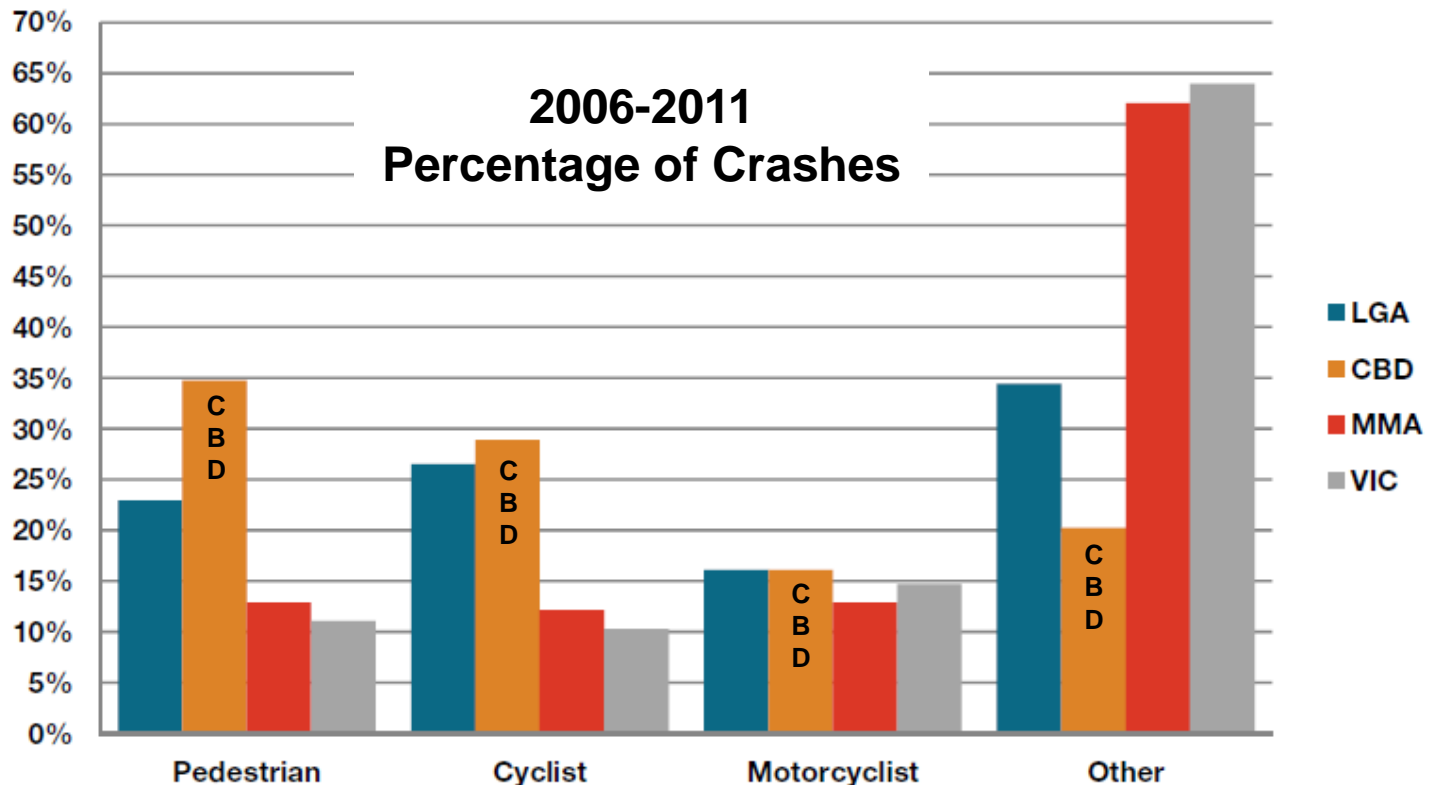
A map of the City of Melbourne showing the Hoddle Grid, which is highlighted in a bright green color. The grid consists of a dense network of streets, including major thoroughfares like Collins Street, Flinders Street, and La Trobe Street. The surrounding area is shown in a light grey color, with various streets and landmarks visible.

Vulnerable Road Users Crash History

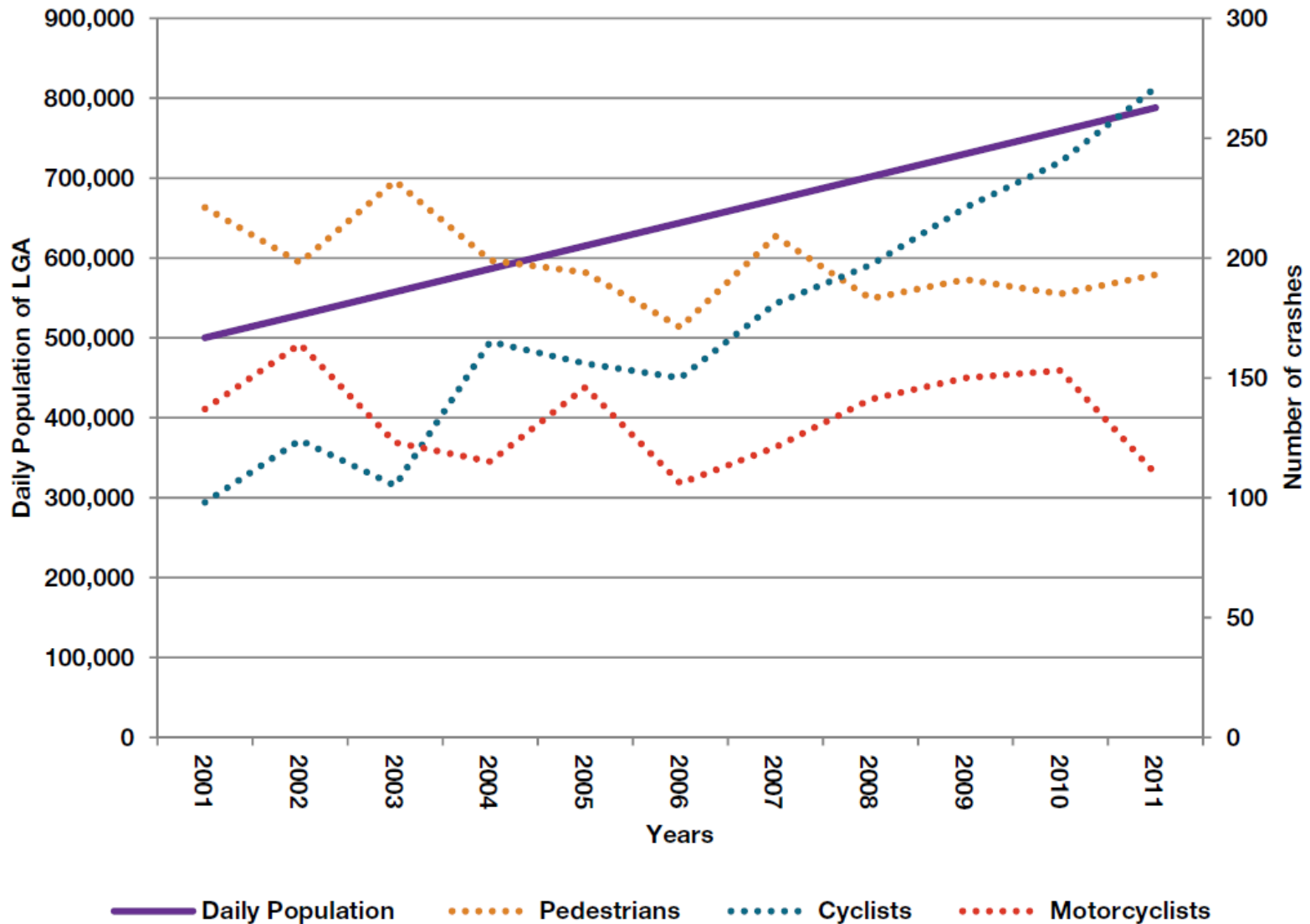
- **CBD**

1997-2002: 36% of crashes involved pedestrians, cyclists and motorbikes

2006-2011: 80% of crashes involved pedestrians, cyclists and motorbikes



Vulnerable Road User Trends



Vulnerable Road User Trends

Crashes per 100,000 trips

Road Users	2001	2011	Change
Pedestrians	16	5	-66%
Cyclists	77	45	-42%
Motorcyclists	637	188	-71%

Default Speed Limit Reduced Statewide to 50km/h

- **Jan 2001:** Default speed limit of unsigned roadways reduced from 60km/h to 50km/h (*primarily applies to local streets*)
- VicRoads original position was that default 50km/h speed limit would apply to most streets in Hoddle Grid. However, King Street and Spencer Street (as Arterial Roads) would retain 60km/h speed limit.
- **BEFORE (Nov 2000):** City of Melbourne held discussions with VicRoads which resulted in a more rationale “blanket” 50km/h speed limit throughout the Hoddle Grid to improve consistency and reduce driver confusion.

Default Speed Limit Reduced Statewide to 50km/h

- **Post Surveys:**

- Initial abuse of 50km/h speed limit (ie: illegal speeding).
- Over some time speeds did reduce with limited assistance from the installation of repeater signs and 'gated' sign treatments.

- **Swanston Street:**

- Retained 30km/h speed limit due to limited access for public
- Police enforcement of 'night-time only' public access period was very effective in discouraging use of Swanston Street during day-time periods.

Other measures taken to reduce crashes

- Fully controlled right turns
- Electronic advisory hook turn signs
- Reduced traffic signal cycle times
- Mid-block pedestrian crossings
- Facilitated platform tram stops
- Separated and safer on-road bicycle paths
- Shared Zones (10km/h)
- Widened footpaths
- Pedestrian Refuges and Medians
- Reduced radii at intersections (to minimise turning speeds)
- Road Humps

Hoddle Grid - 40km/h speed limit

Beginning of Investigation

- **Council Road Safety Plan 2005-2006**
 - Recommended the introduction of a 40km/h speed limit in Retail Core which is in centre of Hoddle Grid ([Russell-La Trobe-Queen-Flinders](#))
- **Council Transport Strategy 2006-2020**
 - Recommended the introduction of a 40km/h speed limit in the Hoddle Grid and Queen Victoria Market area.

VicRoads

- stated that they would prefer the 40km/h to be installed throughout the Hoddle Grid to increase consistency and driver awareness.
- requested a **business case** to evaluate the costs and benefits of the proposed 40km/h speed limit.

Hoddle Grid - 40km/h speed limit Business Case

- **Economic Evaluation Business Case Report prepared by a consultant in 2006**
 - 30 year economic evaluation period (used to calculate Cost Benefit Ratio)
 - Included Hoddle Grid and Queen Victoria Market environs
 - 5 years of crash data evaluated before and after introduction of 50km/h speed limit in Jan 2001. Used to estimate subsequent reduction of crashes which would occur with a 40km/h speed limit
 - Crash data evaluation examined crash types and removed streets where low speeds already exist and crashes which were not the result of speed (e.g. ped struck by vehicle at driveway, U-Turn hitting fixed object, reversing, ped struck by bike, bike manoeuvring, bike out of control)
 - Estimated annual reduction of fatal, serious injury and other injury accidents resulting from 'Pedestrian Accidents' and 'Non-Pedestrian Accidents'
 - Investigation of vehicle volume and speed data on many streets to estimate increased travel time for motorists

Hoddle Grid - 40km/h speed limit Business Case

- **Forecast Accident Reductions**

- Conservative analysis as pedestrian activity in study area significantly increased post-2001.

Non-Pedestrian Accidents

- Assumed fatal accidents remain at zero
- Assumed no reduction in 'serious injury' accidents
- Assumed a reduction in 'other injury' accidents

Pedestrian Accidents

- Assumed no reduction in 'other injury' accidents
- Assumed that fatal accidents would reduce from 1 per year to zero and serious injury accidents would reduce by a factor of 4.

Hoddle Grid - 40km/h speed limit Business Case

- **Costs:**

- Signs (assumed 25 LED signs would be installed at cost of \$30,000 per sign and assumed annual maintenance cost)

- **Positive Benefits**

- Reduced crashes and subsequent trauma cost:
 - Estimated annual reduction of 1 fatal accident, 9 serious accidents and 25 other injury accidents
 - \$114 million Net Present Value benefit over 30 years

- **Negative Outcomes**

- Increased Travel Time for Motorists:
 - \$36 million Net Present Value negative benefit over 30 years

- **Overall Cost-Benefit Ratio Estimate: 60**

Hoddle Grid - 40km/h speed limit Implementation

- **2007:** Business Case report submitted to VicRoads in 2007
- **2012:** Council political support increased
Supported by VicRoads Officers and Police Officers
Approved by VicRoads and Minister for Roads (Hoddle Grid Only)
40km/h signs installed (approx 300 static signs)
VMS boards advertised reduced speed limit at all entry points
- **2013:** Department of Justice to adjust speed limit cameras

Hoddle Grid - 40km/h speed limit Review

- **Travel Time Surveys:** Before and After 40km/h speed limit along King Street, Spencer Street and Lonsdale Street
- **Traffic Volume and Speed Surveys:** Before and After automatic tube counts recorded data at ten (10) locations
- **Crash Data:** The City of Melbourne will continue to review crash data and will summarise findings when there is a sample size of accident data post 40km/h large enough to review.

Future Issues

- **1) Future Growth**

Future growth will increase overall demands on street network, particularly impacting vulnerable road users such as pedestrians and cyclists.

Future Issues

City of Melbourne – Population Predictions

	2009	2050 (projected)
Residents	100,000	225,000
Workers	485,000	875,000
Others	200,000	400,000
TOTAL	785,000	1,500,000

Future Issues

Trips Per Day to Municipality (from outside municipality)

	2009	2030 (projected)
Walking	3% (20,000)	8% (99,000)
Cycling	4% (32,000)	12% (148,000)
Private Car	47% (375,000)	20% (248,000)
Public Transport	46% (335,000)	60% (745,000)
TOTAL	762,000 trips	1,240,000 trips

Future Issues

- **2) Public Transport – to – Pedestrian Connections**
- Overcrowded clusters of pedestrians at entrance / exit to public transport interchanges such as Spencer Street Station, Flinders Street Station, Parliament Station and Federation Square Tram Stop.



Future Issues

- **3) Congested Footpaths and Bike Lanes**



- **4) Urban Renewal**

- Southbank – City Road
- E-Gate
- Arden Macaulay
- City North

Future Issues

- **5) Amenity**
- e.g. King Street: Long cycle times and high priority for arterial roads can lead to long delays and over-crowding to cross the arterials.



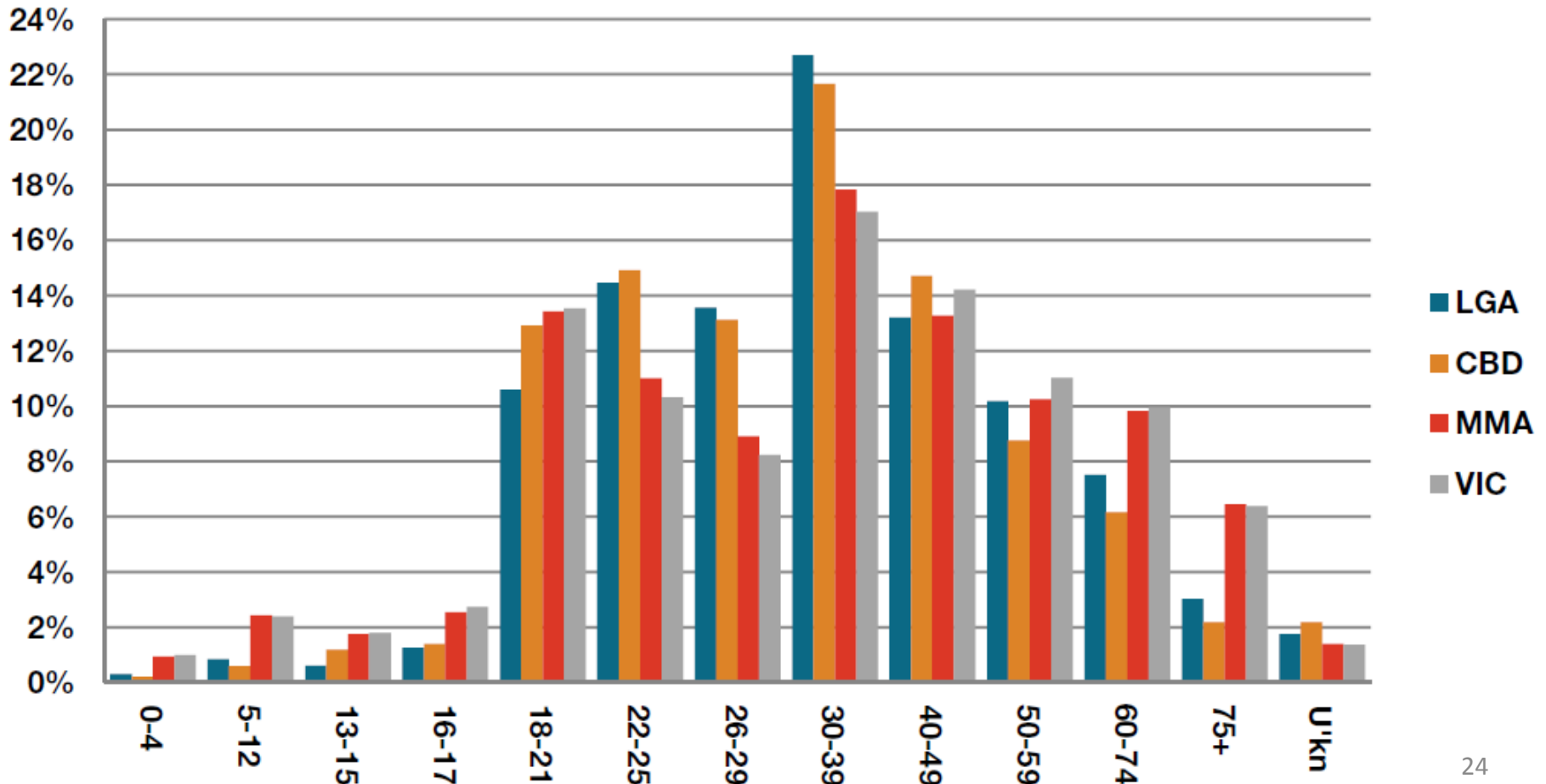
Future Issues

- **6) Gaps in Expanding Network**
- **Pedestrians:** Mid-block crossings are not always safe and convenient
- **Cyclists:** Continue to expand and improve on-road and off-road bike paths
Continue to improve safety on approach to intersections where separation from motorists may not be as good as the mid-block treatment (ie: Albert Street and La Trobe Street)



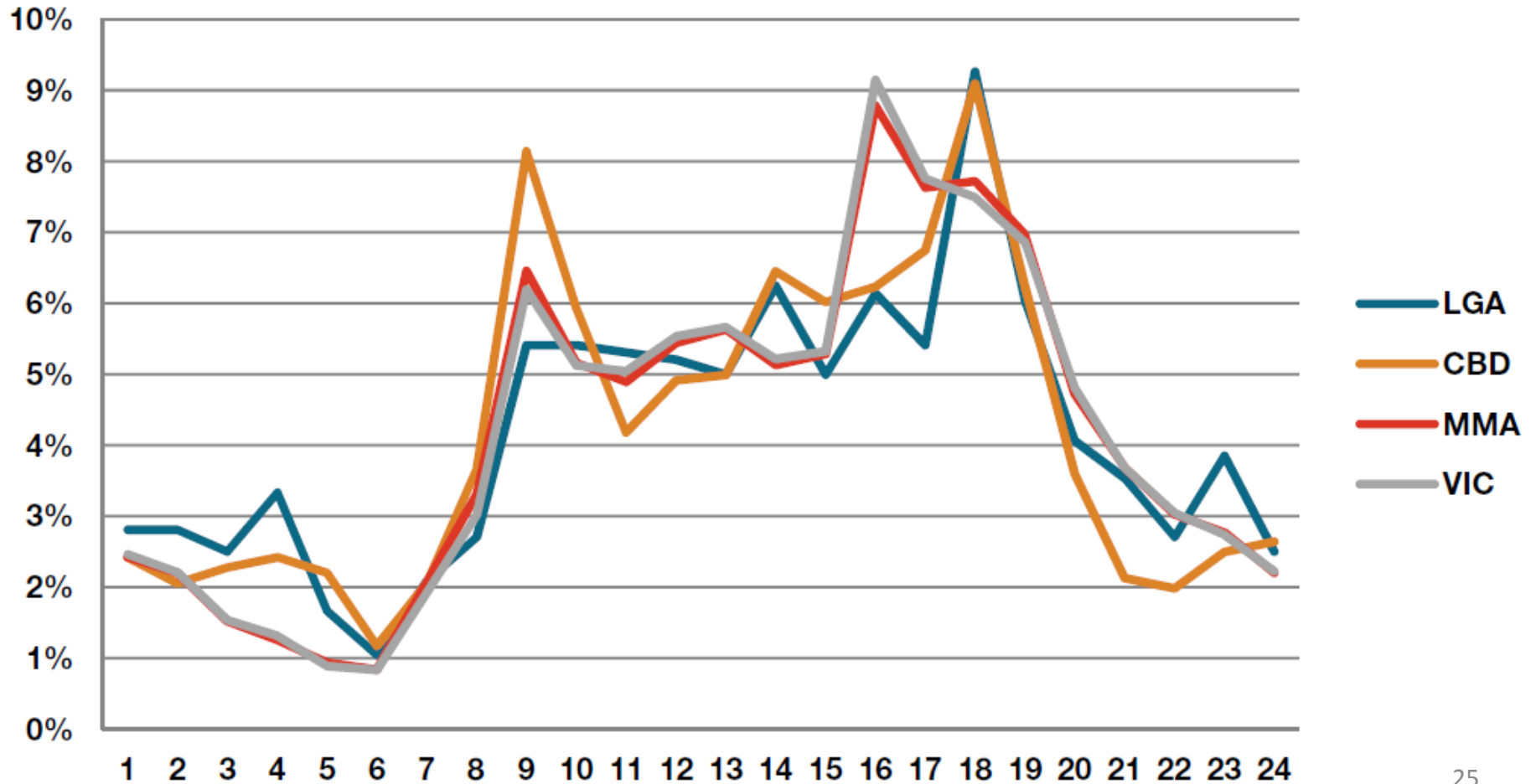
Interesting Crash Data

AGE PROFILE



Interesting Crash Data

TIME OF DAY



Interesting Crash Data

DAY OF WEEK

