

The background of the entire page is a photograph of a dark-colored car that has been severely damaged in a crash. The front end is crumpled, with the hood and engine compartment exposed. Debris is scattered on the ground around the vehicle. A large, semi-transparent blue triangle is overlaid on the bottom left of the image, containing the text.

# THE COST OF CRASHES

An analysis of lives lost  
and injuries on NSW roads

May 2017



## About the NRMA

Better road and transport infrastructure has been a core focus of the NRMA since 1920 when our founders lobbied for improvements to the condition of Parramatta Road in Sydney. Independent advocacy was the foundation activity of the organisation and remains critical to who we are as we approach our first centenary.

From humble beginnings, the NRMA has grown to represent over 2.4 million Australians principally from NSW and the ACT. The NRMA also provides motoring, mobility and tourism services to our Members and the community.

Today, the NRMA works with policy makers and industry leaders to advocate for increased investment in road infrastructure and transport solutions to make mobility safer, provide access for all and to deliver sustainable communities. By working together with all levels of government to deliver integrated transport options we can give motorists a real choice about how they get around. The NRMA believes that integrated transport networks, including efficient roads, high-quality public transport and improved facilities for cyclists and pedestrians, are essential to solve the challenge of growing congestion and provide for the future growth of our communities.

## Comments & Queries

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# Introduction



Keeping Australians safe on our roads is a key part of why the NRMA exists. Safe mobility is a core of focus of the NRMA. It is incorporated into every aspect of our business. We aim to protect vulnerable road users, encourage safer driving including the purchase of safer vehicles, and promote increased investment in road and public transport infrastructure.

As humans we sometimes make mistakes, even on our roads. The NRMA believes these mistakes should not result in the loss of life or serious injury. We want to ensure all Australians arrive safely at their destination whether it be at home, work or their holiday destination.

Over the past decade there has been a steady decline in the number of lives lost on NSW roads. This is a significant achievement, and the NRMA welcomes the NSW Government's target of reducing the annual road toll by 30 per cent by 2021.<sup>1</sup>

However, during 2015 and 2016 there has been an upward trend in the number of lives lost on NSW roads. This increase in the loss of life is unacceptable. We must collectively work together to reverse this trend.

It is important to understand the trends in road casualties including the impact fatalities and injuries have on our community.

This report contains an analysis of the number of lives lost and casualties on NSW roads, quantifying the cost by region and main arterial road.

During 2011-2015, 1,723 people lost their lives on NSW roads, costing the community \$12.4 billion. When considering all serious, moderate and minor injuries, the total cost of crashes equals \$35.7 billion.

While there has been a decrease in the number of lives lost between 2006-2010 and 2011-2015, the number of serious injuries has increased over the same period, with notable increases recorded in the Hunter and Illawarra regions. Between 2006-2010 and 2011-2015, there was a 4.0 per cent increase in the total number of serious injuries, costing local communities \$17.8 billion.

Both the Mitchell and Great Western Highways recorded increases in serious injuries over the 2011-15 period, while the Oxley Highway was the only arterial road to record an increase in fatalities, costing the community \$186.8 million over the five year period 2011-15.

Policy makers and local communities deserve to better understand the cost and impact of road crashes. More and better information is an important first step towards more effective infrastructure investment, road maintenance and public education campaigns.

1. Transport for NSW. (2012). *NSW Road Safety Strategy 2012 -2021*.

# The Cause for Concern

The NRMA supports the NSW Government’s target to reduce annual road deaths and serious injuries by at least 30 per cent by 2021.<sup>2</sup> The NSW road toll has been trending down for a number years with the 2014 road toll the lowest since 1923, as shown in Figure 1.

However, in 2016 the road toll rose for the second consecutive year. This upward trend is alarming, and if the current trend continues, NSW is in danger of failing to achieve its 2021 target of reducing annual road deaths and serious injuries (Figure 2).

There will never be an acceptable number of lives lost on our roads and industry, government and the community need to work together to continue to reduce the NSW road toll. The NRMA will continue to shoulder some of this responsibility, championing safer vehicles, road upgrades and education campaigns to ensure all road users arrive safely at their destination.

Figure 1. Number of lives lost on NSW roads from January to December 2000 to 2016.<sup>3</sup>

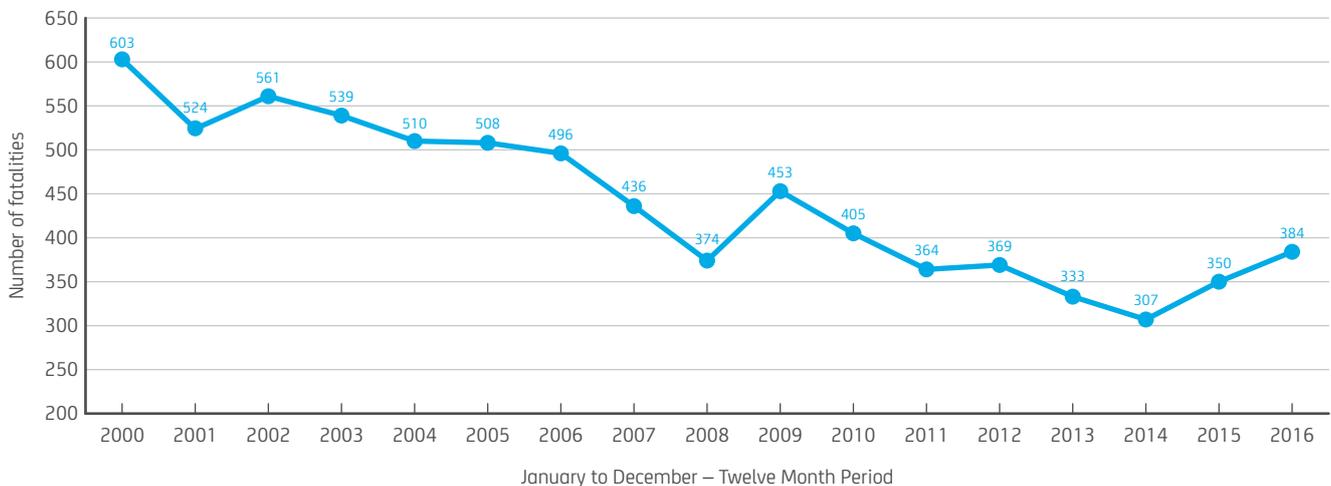
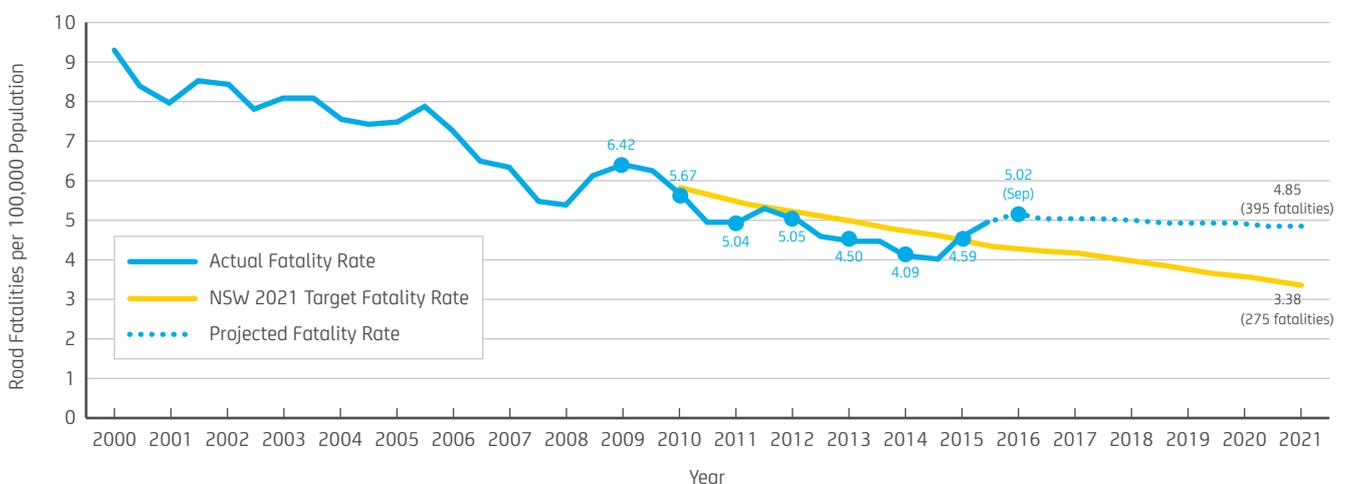


Figure 2. Actual and projected NSW road fatality rates from 2000 to 2021.



2. Transport for NSW. (2012). NSW Road Safety Strategy 2012 -2021.

3. Note: 2016 is a provisional road toll figure.

# Calculating the Cost

The Willingness to Pay methodology has been used to calculate the cost of casualties on NSW roads for the five-year periods 2006-2010 and 2011-2015.

Casualty values were estimated based on the Willingness to Pay approach that uses a measure of the amount individuals are willing to pay for casualty prevention.<sup>4</sup> These values are derived from Stated Preference surveys where respondents are asked to choose hypothetical

scenarios that are systematically varied based on safety, travel time and cost metrics. Econometric models are specified and developed to statistically estimate the monetised valuation of safety. The Willingness to Pay approach is recommended by Transport for NSW for valuing road trauma.

Below are the Willingness to Pay values that represent the amount people are willing to pay to avoid death or injury.

**Table 1. Value per Person, Willingness to Pay Approach March 2016 (\$)**

|  | Urban       | Rural       | Average     |
|--|-------------|-------------|-------------|
| <b>WTP value per casualty</b>  |             |             |             |
| Value of fatality risk prevention  | \$6,810,073 | \$7,471,119 | \$7,116,982 |
| Value of serious injury risk prevention (requiring hospitalisation)      | \$245,674   | \$381,037   | \$292,895   |
| Value of moderate injury prevention (attendance at emergency department) | \$51,725    | \$69,878    | \$60,092    |
| Value of minor injury prevention   | \$51,725    | \$69,878    | \$60,092    |
| Value of unknown injury type prevention                                  | \$120,483   | \$171,432   | \$139,225   |

For the purposes of this report, urban Willingness to Pay rates have been applied to the Sydney Region and the Newcastle and Wollongong metropolitan areas. Rural rates applied to the rest of NSW.

## Note: 'Matched' and Unmatched Serious Injuries

Transport for NSW has identified the number of serious injuries from crashes on NSW public roads by linking data from NSW Health, the State Insurance Regulatory Authority (SIRA), icare (Insurance & Care NSW) and the NSW Police Force.<sup>5</sup>

Through the data linkage project, total serious injuries comprise both matched and unmatched data. Matched data indicates a hospitalisation has been verified and linked to a police report. Matched data represents 55 per cent of all incidents. For the purposes of this report and to allow for analysis at a regional level, serious injuries matched to police reports has been used only when calculating the cost of crashes at a regional level and by main arterial road. This means figures quoted are likely to be conservative estimates.

4. Transport for NSW. (2016). *Principles and Guidelines for Economic Appraisal of Transport Investment and Initiatives: Transport Economic Appraisal Guidelines*.

5. Transport for NSW. (2016). *Serious Injuries in NSW 2005 to 2015. Reporting on Methodology and Results*.

# The Cost of Road Crashes

## Trends in Casualty Numbers

During 2011-2015, 1,723 lives were lost and 129,320 people were injured on NSW roads. While the number of fatalities decreased 20.3 per cent over the period 2006-10 to 2011-15, the number of total serious injuries increased 4.6 per cent to 61,130. This was the only category that experienced an increase across the two five-year periods 2006-10 to 2011-2015.

Fatalities in regional NSW represent a disproportionate share of the NSW road toll, while serious, moderate, and minor injuries represent a larger proportion of casualties in the Sydney region. In 2011-15, 67.1 per cent of fatalities occurred in regional NSW. By comparison, 55 per cent of serious injuries in 2011-15 occurred in the Sydney region.

## Total Cost of Road Trauma

During 2011-15, the cost of trauma on NSW roads totalled \$35.7 billion. This includes both matched and unmatched serious injuries data (see: Calculating the Cost). While the total cost of road trauma decreased 8.2 per cent when compared to 2006-10, the total cost of serious injuries increased by 4.0 per cent to \$17.8 billion in 2011-15.

For the purposes of the rest of the report, only matched data has been used in order to provide a regional analysis of road trauma.

**Table 2. Cost of Casualties: Lives Lost, Serious, Moderate and Minor Injuries by Period.**

| Period                    | Lives Lost | Serious Injuries (matched) | Serious Injuries (unmatched) | Moderate Injuries | Minor Injuries | Total           |
|---------------------------|------------|----------------------------|------------------------------|-------------------|----------------|-----------------|
| 2006-2010                 | \$15.57b   | \$9.35b                    | \$7.75b                      | \$3.50b           | \$2.69b        | <b>\$38.85b</b> |
| Average Cost per Casualty | \$7.20m    | \$293,345                  | \$292,895                    | \$56,241          | \$56,800       | -               |
| 2011-2015                 | \$12.43b   | \$9.71b                    | \$8.08b                      | \$3.11b           | \$2.35b        | <b>\$35.68b</b> |
| Average Cost per Casualty | \$7.21m    | \$289,417                  | \$292,895                    | \$57,561          | \$56,339       | -               |





Table 3a. Road Toll: Number of Lives Lost and Serious Injuries by Region.

|                       | Lives Lost  |             |               | Serious Injury (matched) |              |              |
|-----------------------|-------------|-------------|---------------|--------------------------|--------------|--------------|
|                       | 2006-2010   | 2011-2015   | % Change      | 2006-2010                | 2011-2015    | % Change     |
| <b>Sydney</b>         |             |             |               |                          |              |              |
| Sydney North          | 109         | 100         | -8.3%         | 3052                     | 3470         | 13.7%        |
| Sydney South          | 158         | 114         | -27.8%        | 5843                     | 5326         | -8.8%        |
| Sydney West           | 285         | 208         | -27.0%        | 7451                     | 9165         | 23.0%        |
| Outer Sydney          | 199         | 145         | -27.1%        | 2048                     | 2042         | -0.3%        |
| <b>Total Sydney</b>   | <b>751</b>  | <b>567</b>  | <b>-24.5%</b> | <b>18394</b>             | <b>20003</b> | <b>8.7%</b>  |
| <b>Regional</b>       |             |             |               |                          |              |              |
| Hunter                | 204         | 174         | -14.7%        | 2486                     | 2607         | 4.9%         |
| Illawarra             | 151         | 121         | -19.9%        | 2205                     | 2292         | 3.9%         |
| Far North Coast       | 178         | 159         | -10.7%        | 1776                     | 1781         | 0.3%         |
| Mid North Coast       | 169         | 120         | -29.0%        | 1491                     | 1370         | -8.1%        |
| New England           | 127         | 122         | -3.9%         | 910                      | 921          | 1.2%         |
| Orana                 | 78          | 69          | -11.5%        | 630                      | 563          | -10.6%       |
| Far Western           | 15          | 6           | -60.0%        | 91                       | 99           | 8.8%         |
| Central Western       | 155         | 112         | -27.7%        | 1289                     | 1291         | 0.2%         |
| South Eastern         | 148         | 128         | -13.5%        | 1086                     | 1107         | 1.9%         |
| Riverina              | 114         | 82          | -28.1%        | 1121                     | 1064         | -5.1%        |
| Murray                | 73          | 63          | -13.7%        | 488                      | 455          | -6.8%        |
| Other                 | 0           | 0           | 0.0%          | 4                        | 7            | 75.0%        |
| <b>Total Regional</b> | <b>1412</b> | <b>1156</b> | <b>-18.1%</b> | <b>13577</b>             | <b>13557</b> | <b>-0.1%</b> |
| <b>Total NSW</b>      | <b>2163</b> | <b>1723</b> | <b>-20.3%</b> | <b>31971</b>             | <b>33560</b> | <b>5.0%</b>  |



Table 3b. Road Toll: Number of Moderate and Minor Injuries by Region.

|                       | Moderate Injury |              |               | Minor Injury |              |               |
|-----------------------|-----------------|--------------|---------------|--------------|--------------|---------------|
|                       | 2006-2010       | 2011-2015    | % Change      | 2006-2010    | 2011-2015    | % Change      |
| <b>Sydney</b>         |                 |              |               |              |              |               |
| Sydney North          | 6554            | 5198         | -20.7%        | 5779         | 4605         | -20.3%        |
| Sydney South          | 12617           | 10216        | -19.0%        | 9716         | 8741         | -10.0%        |
| Sydney West           | 16527           | 12324        | -25.4%        | 12346        | 12561        | 1.7%          |
| Outer Sydney          | 5270            | 4495         | -14.7%        | 2546         | 2154         | -15.4%        |
| <b>Total Sydney</b>   | <b>40968</b>    | <b>32233</b> | <b>-21.3%</b> | <b>30387</b> | <b>28061</b> | <b>-7.7%</b>  |
| <b>Regional</b>       |                 |              |               |              |              |               |
| Hunter                | 6709            | 5267         | -21.5%        | 3058         | 2821         | -7.8%         |
| Illawarra             | 3325            | 3072         | -7.6%         | 2583         | 2034         | -21.3%        |
| Far North Coast       | 2134            | 2540         | 19.0%         | 2353         | 1486         | -36.8%        |
| Mid North Coast       | 2684            | 2626         | -2.2%         | 1379         | 1232         | -10.7%        |
| New England           | 2095            | 1979         | -5.5%         | 811          | 862          | 6.3%          |
| Orana                 | 532             | 665          | 25.0%         | 772          | 648          | -16.1%        |
| Far Western           | 207             | 185          | -10.6%        | 116          | 111          | -4.3%         |
| Central Western       | 1492            | 2152         | 44.2%         | 1397         | 991          | -29.1%        |
| South Eastern         | 665             | 1745         | 162.4%        | 2797         | 2018         | -27.9%        |
| Riverina              | 797             | 900          | 12.9%         | 858          | 672          | -21.7%        |
| Murray                | 639             | 665          | 4.1%          | 877          | 786          | -10.4%        |
| Other                 | 0               | 0            | 0.0%          | 2            | 9            | 350.0%        |
| <b>Total Regional</b> | <b>21279</b>    | <b>21796</b> | <b>2.4%</b>   | <b>17003</b> | <b>13670</b> | <b>-19.6%</b> |
| <b>Total NSW</b>      | <b>62247</b>    | <b>54029</b> | <b>-13.2%</b> | <b>47390</b> | <b>41731</b> | <b>-11.9%</b> |

## Lives Lost

For the period 2011-15, there was a 20.3 per cent decrease in the number of lives lost across NSW roads when compared to 2006-10 (see Table 3a). This meant the total cost of fatalities on NSW roads declined from \$15.57 billion in 2006-10 to \$12.43 billion during 2011-15.

The average cost of a life lost on a NSW road for the period 2011-2015 was \$7.21 million.



Table 4. Lives Lost Comparison by Period.

| Period                    | 2006-10  | 2011-15  |
|---------------------------|----------|----------|
| Total Lives Lost          | 2,163    | 1,723    |
| Total Cost                | \$15.57b | \$12.43b |
| Average Cost per Casualty | \$7.20m  | \$7.21m  |

## Serious Injuries

Over the ten-year period from 2006 to 2015, there were 119,563 people seriously injured on NSW roads. For the purposes of coding data, serious injuries can be grouped into two main categories:

- Serious injury (matched) - a person identified in a police report and matched to a health record indicating a hospital stay due to injuries sustained in a crash, or is identified as an iCare (Lifetime Care) participant.
- Serious injury (unmatched) - a person not matched to a police report but identified from health records as having a hospital stay due to an injury on a public road.

A majority of serious injuries (55 per cent) are matched to police reports. For the purposes of this report, only serious injuries matched to a police report have been analysed in the proceeding sections in order to provide regional comparisons.

For the period 2011-2015 there was a five per cent increase in the number of serious injuries (matched) to 33,560 from 31,971. This cost to the community is \$9.71 billion compared to \$9.35 billion for the period 2006 to 2010.

The average cost of someone being seriously injured on a NSW road for the period 2011-15 was \$289,417.

Table 5. Serious Injuries Comparison by Period.

|                                | 2006-10                    |                              |          | 2011-15                    |                              |          |
|--------------------------------|----------------------------|------------------------------|----------|----------------------------|------------------------------|----------|
|                                | Serious Injuries (matched) | Serious Injuries (unmatched) | Total    | Serious Injuries (matched) | Serious Injuries (unmatched) | Total    |
| Total Number of Serious Injury | 31,971                     | 26,461                       | 58,432   | 33,560                     | 27,570                       | 61,130   |
| Total Cost                     | \$9.35b                    | \$7.75b                      | \$17.10b | \$9.71b                    | \$8.08b                      | \$17.79b |
| Average Cost per Casualty      | \$292,345                  | \$292,895                    | -        | \$289,417                  | \$292,895                    | -        |

## Moderate Injuries

For the period 2011-15 there was a 13.2 per cent decrease in the number of moderate injuries on NSW roads from 62,247 to 54,029 when compared to 2006-10.

A moderate injury is defined as a person who is identified in a police report and also matched to a health record that indicates they were treated at an emergency department but were not admitted for a hospital stay,

or is matched to a CTP claim indicating a moderate or higher injury.

Moderate injuries cost the community \$3.11 billion in 2011-15 compared to \$3.50 billion for the period 2006-10.

The average cost of someone being moderately injured on a NSW road for the period 2011-15 was \$57,561.

**Table 6. Moderate Injuries Comparison by Period.**

| Period                    | 2006-10  | 2011-15  |
|---------------------------|----------|----------|
| Total Moderate Injuries   | 62,247   | 54,029   |
| Total Cost                | \$3.50b  | \$3.11b  |
| Average Cost per Casualty | \$56,241 | \$57,561 |

## Minor Injuries

Minor injuries cost the community \$2.35 billion during 2011-15, a decrease of 12.7 per cent compared to 2006-10.

A minor injury is defined as a person identified as having an injury in a police report who is either unmatched to a health record or is matched to a minor injury Compulsory Third Party (CTP) claim.

For the period 2011-15 there was an 11.9 per cent decrease in the number of minor injuries to 41,731 from 47,390 in 2006-10.

The average cost of someone sustaining a minor injury on NSW roads for the period 2011-15 was \$56,339.

**Table 7. Minor Injuries Comparison by Period.**

| Period                    | 2006-10  | 2011-15  |
|---------------------------|----------|----------|
| Total Minor Injuries      | 47,390   | 41,731   |
| Total Cost                | \$2.69b  | \$2.35b  |
| Average Cost per Casualty | \$56,800 | \$56,339 |

# The Cost of Casualties to the Regions

The NRMA has analysed cost of road casualties by region as detailed in Tables 8a and b. The list of local government areas included in each region can be found in the Appendix. Key highlights for both the Sydney and regional areas have been summarised below.

## Sydney Region

For the period 2011-15 there was a 24.5 per cent decrease in the number of lives lost in the Sydney Region from 751 to 567. Lives lost on Sydney Region roads cost the community \$3.86 billion during the 2011-15 period.

However, over the same period there was an 8.7 per cent increase in the cost of serious injuries (matched) in the Sydney Region to \$4.91 billion compared to \$4.52 billion during the period 2006-10. The number of serious injuries increased from 18,394 to 20,003 over the same period.

The Sydney West area including Parramatta, Fairfield and Blacktown recorded a 23.0 per cent increase in the number of serious injuries (matched) from 7,451 in 2006-10 to 9,165 in 2011-15. This cost the community \$2.25 billion compared to \$1.83 billion during the period 2006-10.

Similarly, the Sydney North area including Hornsby, Lane Cove and Ryde saw a 13.7 per cent increase in the number of serious injuries (matched) from 3,052 during 2006-10 to 3,470 in 2011-15. This cost the community \$852.49 million compared to \$749.80 million during the period 2006-2010.

## Regional NSW

For the period 2011-2015 there was an 18.1 per cent decrease in the number of lives lost on regional NSW roads from 1,412 to 1,156 during 2006-10. This meant a reduction in the cost to the community from \$10.45 billion in 2006-10 to \$8.57 billion in 2011-15.

However, there were regions where there was a marked increase in the number and cost of serious injuries when comparing the 2006-10 and 2011-15 periods. The Far Western region recorded the highest percentage increase in the cost of serious injuries rising 8.8 per cent from \$34.7 million to \$37.7 million in 2011-15.

In addition, the Hunter region saw a 4.9 per cent increase in the number of serious injuries (matched) from 2,486 to 2,607. These casualties cost the community \$820.78 million in 2011-15. Further, there was a 2.3 per cent increase in the cost of serious injuries in the Illawarra region to \$678.82 million over the same period.

In the South Eastern region including Young, Yass and Bega Valley, there was a significant increase in moderate injuries, rising 162.4 per from 665 to 1,745 in 2011-15. These casualties cost the community \$121.94 million compared to \$46.47 million recorded in 2006-10.

Further, the Central Western region including Bathurst, Lithgow and Orange recorded a 44.2 percent increase in the cost of moderate injuries from \$104.26 million during 2006-10 to \$150.38 million in 2011-15.





Table 8a. Cost of crashes: Lives Lost and Serious Injuries by Regions.

|                       | Lives Lost                |                           |               | Serious Injury (matched)  |                           |              |
|-----------------------|---------------------------|---------------------------|---------------|---------------------------|---------------------------|--------------|
|                       | 2006-2010<br>(\$ Million) | 2011-2015<br>(\$ Million) | % Change      | 2006-2010<br>(\$ Million) | 2011-2015<br>(\$ Million) | % Change     |
| <b>Sydney</b>         |                           |                           |               |                           |                           |              |
| Sydney North          | 742.30                    | 681.01                    | -8.3%         | 749.80                    | 852.49                    | 13.7%        |
| Sydney South          | 1,075.99                  | 776.35                    | -27.8%        | 1,435.47                  | 1,308.46                  | -8.8%        |
| Sydney West           | 1,940.87                  | 1,416.50                  | -27.0%        | 1,830.52                  | 2,251.60                  | 23.0%        |
| Outer Sydney          | 1,355.20                  | 987.46                    | -27.1%        | 503.14                    | 501.67                    | -0.3%        |
| <b>Total Sydney</b>   | <b>5,114.36</b>           | <b>3,861.31</b>           | <b>-24.5%</b> | <b>4,518.93</b>           | <b>4,914.22</b>           | <b>8.7%</b>  |
| <b>Regional</b>       |                           |                           |               |                           |                           |              |
| Hunter                | 1,469.90                  | 1,258.99                  | -14.3%        | 778.32                    | 820.78                    | 5.5%         |
| Illawarra             | 1,083.35                  | 878.22                    | -19.0%        | 663.40                    | 678.82                    | 2.3%         |
| Far North Coast       | 1,329.86                  | 1,187.91                  | -10.7%        | 676.72                    | 678.63                    | 0.3%         |
| Mid North Coast       | 1,262.62                  | 896.53                    | -29.0%        | 568.13                    | 522.02                    | -8.1%        |
| New England           | 948.83                    | 911.48                    | -3.9%         | 346.74                    | 350.94                    | 1.2%         |
| Orana                 | 582.75                    | 515.51                    | -11.5%        | 240.05                    | 214.52                    | -10.6%       |
| Far Western           | 112.07                    | 44.83                     | -60.0%        | 34.67                     | 37.72                     | 8.8%         |
| Central Western       | 1,158.02                  | 836.77                    | -27.7%        | 491.16                    | 491.92                    | 0.2%         |
| South Eastern         | 1,105.73                  | 956.30                    | -13.5%        | 413.81                    | 421.81                    | 1.9%         |
| Riverina              | 851.71                    | 612.63                    | -28.1%        | 427.14                    | 405.42                    | -5.1%        |
| Murray                | 545.39                    | 470.68                    | -13.7%        | 185.95                    | 173.37                    | -6.8%        |
| Other                 | -                         | -                         | 0.0%          | 1.52                      | 2.67                      | 75.0%        |
| <b>Total Regional</b> | <b>10,450.72</b>          | <b>8,569.85</b>           | <b>-18.0%</b> | <b>4,827.62</b>           | <b>4,798.61</b>           | <b>-0.6%</b> |
| <b>Total NSW</b>      | <b>15,565.09</b>          | <b>12,431.16</b>          | <b>-20.1%</b> | <b>9,346.55</b>           | <b>9,712.83</b>           | <b>3.9%</b>  |



Table 8b. Cost of crashes: Moderate and Minor Injuries by Region.

|                       | Moderate Injury           |                           |               | Minor Injury              |                           |               |
|-----------------------|---------------------------|---------------------------|---------------|---------------------------|---------------------------|---------------|
|                       | 2006-2010<br>(\$ Million) | 2011-2015<br>(\$ Million) | % Change      | 2006-2010<br>(\$ Million) | 2011-2015<br>(\$ Million) | % Change      |
| <b>Sydney</b>         |                           |                           |               |                           |                           |               |
| Sydney North          | 339.01                    | 268.87                    | -20.7%        | 298.92                    | 238.19                    | -20.3%        |
| Sydney South          | 652.61                    | 528.42                    | -19.0%        | 502.56                    | 452.13                    | -10.0%        |
| Sydney West           | 854.86                    | 637.46                    | -25.4%        | 638.60                    | 649.72                    | 1.7%          |
| Outer Sydney          | 272.59                    | 232.50                    | -14.7%        | 131.69                    | 111.42                    | -15.4%        |
| <b>Total Sydney</b>   | <b>2,119.07</b>           | <b>1,667.25</b>           | <b>-21.3%</b> | <b>1,571.77</b>           | <b>1,451.46</b>           | <b>-7.7%</b>  |
| <b>Regional</b>       |                           |                           |               |                           |                           |               |
| Hunter                | 397.22                    | 317.87                    | -20.0%        | 175.98                    | 165.36                    | -6.0%         |
| Illawarra             | 198.74                    | 184.51                    | -7.2%         | 150.03                    | 118.28                    | -21.2%        |
| Far North Coast       | 149.12                    | 177.49                    | 19.0%         | 164.42                    | 103.84                    | -36.8%        |
| Mid North Coast       | 187.55                    | 183.50                    | -2.2%         | 96.36                     | 86.09                     | -10.7%        |
| New England           | 146.39                    | 138.29                    | -5.5%         | 56.67                     | 60.23                     | 6.3%          |
| Orana                 | 37.18                     | 46.47                     | 25.0%         | 53.95                     | 45.28                     | -16.1%        |
| Far Western           | 14.46                     | 12.93                     | -10.6%        | 8.11                      | 7.76                      | -4.3%         |
| Central Western       | 104.26                    | 150.38                    | 44.2%         | 97.62                     | 69.25                     | -29.1%        |
| South Eastern         | 46.47                     | 121.94                    | 162.4%        | 195.45                    | 141.01                    | -27.9%        |
| Riverina              | 55.69                     | 62.89                     | 12.9%         | 59.96                     | 46.96                     | -21.7%        |
| Murray                | 44.65                     | 46.47                     | 4.1%          | 61.28                     | 54.92                     | -10.4%        |
| Other                 | -                         | -                         | 0.0%          | 0.14                      | 0.63                      | 350.0%        |
| <b>Total Regional</b> | <b>1,381.74</b>           | <b>1,442.73</b>           | <b>4.4%</b>   | <b>1,119.97</b>           | <b>899.61</b>             | <b>-19.7%</b> |
| <b>Total NSW</b>      | <b>3,500.81</b>           | <b>3,109.99</b>           | <b>-11.2%</b> | <b>2,691.74</b>           | <b>2,351.07</b>           | <b>-12.7%</b> |

# The Cost of Casualties by NSW Highways

The cost of casualties was again replicated across key highways throughout NSW, as detailed in Table 9 and 10. Overall, there was more than a 30 per cent decrease in the number of lives lost on the Princes, Pacific, Newell, Hume and Sturt Highways for the period 2011-15 compared to 2006-10.

However, over the period 2011-15 there was a 127.3 per cent increase in the number of lives lost on the

Oxley Highway, increasing from 11 in 2006-2010 to 25 in 2011-2015 over the five year period. The cost to the community of casualties on the Oxley Highway totalled \$186.78 million in 2011-2015.

The following sections outline the key casualty statistics for the main arterial roads in NSW.

**Table 9a. Road Toll: Number of Lives Lost and Serious Injuries by Key Highways.**

|                       | Lives Lost |           |          | Serious Injury (matched) |           |          |
|-----------------------|------------|-----------|----------|--------------------------|-----------|----------|
|                       | 2006-2010  | 2011-2015 | % Change | 2006-2010                | 2011-2015 | % Change |
| <b>Key Highways</b>   |            |           |          |                          |           |          |
| Princes Highway       | 68         | 47        | -30.9%   | 952                      | 937       | -1.6%    |
| Pacific Highway       | 172        | 132       | -23.3%   | 1,371                    | 1,234     | -10.0%   |
| Mitchell Highway      | 14         | 12        | -14.3%   | 133                      | 138       | 3.8%     |
| Great Western Highway | 48         | 29        | -39.6%   | 851                      | 870       | 2.2%     |
| Oxley Highway         | 11         | 25        | 127.3%   | 126                      | 114       | -9.5%    |
| Newell Highway        | 62         | 32        | -48.4%   | 256                      | 176       | -31.3%   |
| Sturt Highway         | 33         | 15        | -54.5%   | 118                      | 108       | -8.5%    |
| New England Highway   | 53         | 49        | -7.5%    | 334                      | 289       | -13.5%   |
| Hume Highway          | 85         | 53        | -37.6%   | 724                      | 708       | -2.2%    |

**Table 10a. Cost of crashes: Number of Lives Lost and Serious Injuries by Key Highways.**

|                       | Lives Lost                |                           |          | Serious Injury (matched)  |                           |          |
|-----------------------|---------------------------|---------------------------|----------|---------------------------|---------------------------|----------|
|                       | 2006-2010<br>(\$ Million) | 2011-2015<br>(\$ Million) | % change | 2006-2010<br>(\$ Million) | 2011-2015<br>(\$ Million) | % change |
| <b>Key Highways</b>   |                           |                           |          |                           |                           |          |
| Princes Highway       | 492.17                    | 342.55                    | -30.4%   | 290.19                    | 286.64                    | -1.2%    |
| Pacific Highway       | 1,255.95                  | 971.64                    | -22.6%   | 443.62                    | 401.30                    | -9.5%    |
| Mitchell Highway      | 104.60                    | 89.65                     | -14.3%   | 50.68                     | 52.58                     | 3.8%     |
| Great Western Highway | 334.16                    | 203.44                    | -39.1%   | 224.09                    | 228.49                    | 2.0%     |
| Oxley Highway         | 82.18                     | 186.78                    | 127.3%   | 48.01                     | 43.44                     | -9.5%    |
| Newell Highway        | 463.21                    | 239.08                    | -48.4%   | 97.55                     | 67.06                     | -31.3%   |
| Sturt Highway         | 246.55                    | 112.07                    | -54.5%   | 44.96                     | 41.15                     | -8.5%    |
| New England Highway   | 395.97                    | 364.10                    | -8.0%    | 125.24                    | 107.68                    | -14.0%   |
| Hume Highway          | 614.55                    | 384.73                    | -37.4%   | 220.51                    | 206.97                    | -6.1%    |

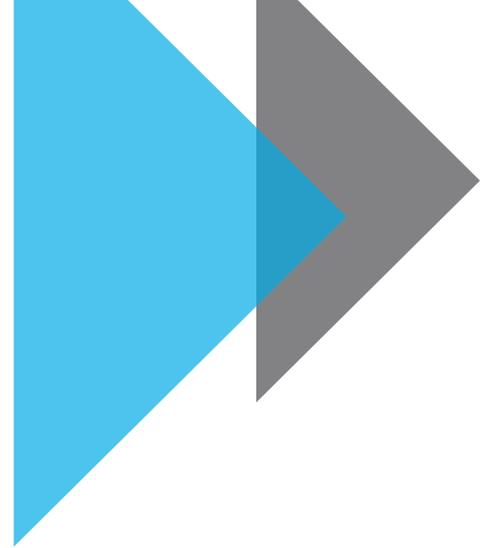


Table 9b. Road Toll: Number of Moderate and Minor Injuries by Key Highways.

|                       | Moderate Injury |           |          | Minor Injury |           |          |
|-----------------------|-----------------|-----------|----------|--------------|-----------|----------|
|                       | 2006-2010       | 2011-2015 | % Change | 2006-2010    | 2011-2015 | % Change |
| <b>Key Highways</b>   |                 |           |          |              |           |          |
| Princes Highway       | 1,630           | 1,511     | -7.3%    | 1,564        | 1,069     | -31.6%   |
| Pacific Highway       | 2,940           | 2,423     | -17.6%   | 1,859        | 1,397     | -24.9%   |
| Mitchell Highway      | 300             | 296       | -1.3%    | 131          | 124       | -5.3%    |
| Great Western Highway | 1,902           | 1,433     | -24.7%   | 1,359        | 1,263     | -7.1%    |
| Oxley Highway         | 275             | 231       | -16.0%   | 115          | 99        | -13.9%   |
| Newell Highway        | 161             | 264       | 64.0%    | 253          | 245       | -3.2%    |
| Sturt Highway         | 123             | 98        | -20.3%   | 170          | 142       | -16.5%   |
| New England Highway   | 922             | 787       | -14.6%   | 270          | 329       | 21.9%    |
| Hume Highway          | 1,661           | 1,241     | -25.3%   | 1,238        | 1,215     | -1.9%    |

Table 10b. Cost of crashes: Number of Moderate and Minor Injuries by Key Highways.

|                       | Moderate Injury           |                           |          | Minor Injury              |                           |          |
|-----------------------|---------------------------|---------------------------|----------|---------------------------|---------------------------|----------|
|                       | 2006-2010<br>(\$ Million) | 2011-2015<br>(\$ Million) | % change | 2006-2010<br>(\$ Million) | 2011-2015<br>(\$ Million) | % change |
| <b>Key Highways</b>   |                           |                           |          |                           |                           |          |
| Princes Highway       | 90.86                     | 88.03                     | -3.1%    | 91.17                     | 60.36                     | -33.8%   |
| Pacific Highway       | 173.82                    | 146.77                    | -15.6%   | 111.48                    | 78.01                     | -30.0%   |
| Mitchell Highway      | 20.96                     | 20.68                     | -1.3%    | 9.15                      | 8.66                      | -5.3%    |
| Great Western Highway | 102.14                    | 79.77                     | -21.9%   | 71.73                     | 66.85                     | -6.8%    |
| Oxley Highway         | 19.22                     | 16.14                     | -16.0%   | 8.04                      | 6.92                      | -13.9%   |
| Newell Highway        | 11.25                     | 18.45                     | 64.0%    | 17.68                     | 17.12                     | -3.2%    |
| Sturt Highway         | 8.59                      | 6.85                      | -20.3%   | 11.88                     | 9.92                      | -16.5%   |
| New England Highway   | 63.52                     | 54.23                     | -14.6%   | 18.38                     | 22.46                     | 22.2%    |
| Hume Highway          | 93.34                     | 70.34                     | -24.6%   | 70.23                     | 69.04                     | -1.7%    |

## Princes Highway (Sydney to Victorian Border)

For the period 2011-2015 there was a 30.9 per cent decrease in the number of lives lost on the Princes Highway from 68 to 47. The cost of fatalities on the Princes Highway during 2011-15 totalled \$342.55 million compared to \$492.17 million for the previous period 2006-10.

Table 11. Cost of Casualties on the Princes Highway by Period.

| Period    | Lives Lost | Serious Injuries (matched) | Moderate Injuries | Minor Injuries |
|-----------|------------|----------------------------|-------------------|----------------|
| 2006-2010 | \$492.17m  | \$290.19m                  | \$90.86m          | \$91.17m       |
| 2011-2015 | \$342.55m  | \$286.64m                  | \$88.03m          | \$60.36m       |

## Pacific Highway (North Sydney to Tweed Heads)

The Pacific has the highest instances of fatalities than any other highway in NSW. The loss of life along this highway cost the community \$971.64 million in 2011-15. However, for the period 2011-15, there was a 23.3 per cent decrease in the number of lives lost on the Pacific Highway from 172 to 132.

Further, there was 10 per cent decrease in the number of serious injuries from 1,371 to 1,234. These casualties cost the community \$401.30 million.

Table 12. Cost of Casualties on the Pacific Highway by Period.

| Period    | Lives Lost | Serious Injuries (matched) | Moderate Injuries | Minor Injuries |
|-----------|------------|----------------------------|-------------------|----------------|
| 2006-2010 | \$1255.95m | \$443.62m                  | \$173.82m         | \$111.48m      |
| 2011-2015 | \$971.64m  | \$401.30m                  | \$146.77m         | \$78.01m       |

## Mitchell Highway (Bathurst to Dubbo)

For the period 2011-2015 there was a 14.3 per cent decrease in the number of lives lost on the Mitchell Highway from 14 to 12. The total cost of fatalities along this stretch of road during 2011-15 was \$89.65 million. There was a 3.8 per cent increase in the number of serious injuries from 133 to 138 between 2006-10 and 2011-15.

Table 13. Cost of Casualties on the Mitchell Highway by Period.

| Period    | Lives Lost | Serious Injuries (matched) | Moderate Injuries | Minor Injuries |
|-----------|------------|----------------------------|-------------------|----------------|
| 2006-2010 | \$104.60m  | \$50.68m                   | \$20.96m          | \$9.15m        |
| 2011-2015 | \$89.65m   | \$52.58m                   | \$20.68m          | \$8.66m        |

## Great Western Highway (Sydney to Bathurst)

For the period 2011-15 there was a 39.6 per cent decrease in the number of lives lost on the Great Western Highway to 29 from 48. These casualties cost the community \$203.44 million compared to \$334.16 million for the period 2006-10.

Table 14. Cost of Casualties on the Great Western Highway by Period.

| Period    | Lives Lost | Serious Injuries (matched) | Moderate Injuries | Minor Injuries |
|-----------|------------|----------------------------|-------------------|----------------|
| 2006-2010 | \$334.16m  | \$224.09m                  | \$102.14m         | \$71.73m       |
| 2011-2015 | \$203.44m  | \$228.49m                  | \$79.77m          | \$66.85m       |

## Oxley Highway (Port Macquarie to Nevertire)

The Oxley Highway recorded the largest increase in fatalities over the 2011-15 period of any arterial road, registering a 127 per cent increase in the number of lives lost from 11 to 25. These casualties cost the community \$186.78 million compared to \$82.18 million for the period 2006-10. However, serious injuries over the same period decreased 9.5 per cent to 114.

Table 15. Cost of Casualties on the Oxley Highway by Period.

| Period    | Lives Lost | Serious Injuries (matched) | Moderate Injuries | Minor Injuries |
|-----------|------------|----------------------------|-------------------|----------------|
| 2006-2010 | \$82.18m   | \$48.01m                   | \$19.22m          | \$8.04m        |
| 2011-2015 | \$186.78m  | \$43.44m                   | \$16.14m          | \$6.92m        |

## Newell Highway (Tocumwal to Goondiwindi)

The Newell Highway recorded one of the largest declines in fatalities for the period 2011-15, with a 48.4 per cent decrease in the number of lives lost from 62 to 32. This reduced the cost to the community from \$463.21 million to \$239.08 million in 2011-15.

There was also 31.3 per cent decrease in the number of serious injuries on the Newell Highway over the same period to 176. These casualties cost the community \$67.06 million. This was the largest decline in serious injuries across all arterial roads in NSW.

Table 16. Cost of Casualties on the Newell Highway by Period.

| Period    | Lives Lost | Serious Injuries (matched) | Moderate Injuries | Minor Injuries |
|-----------|------------|----------------------------|-------------------|----------------|
| 2006-2010 | \$463.21m  | \$97.55m                   | \$11.25m          | \$17.68m       |
| 2011-2015 | \$239.08m  | \$67.06m                   | \$18.45m          | \$17.12m       |

## Sturt Highway (Hume Highway near Gundagai to Mildura)

The Sturt Highway recorded the largest decline in lives lost for the period 2011-15, with a 54.5 per cent decrease from 33 to 15. The total cost of fatalities to the community in 2011-15 totalled \$112.07 million.

Table 17. Cost of Casualties on the Sturt Highway by Period.

| Period    | Lives Lost | Serious Injuries (matched) | Moderate Injuries | Minor Injuries |
|-----------|------------|----------------------------|-------------------|----------------|
| 2006-2010 | \$246.55m  | \$44.96m                   | \$8.59m           | \$11.88m       |
| 2011-2015 | \$112.07m  | \$41.15m                   | \$6.85m           | \$9.92m        |

## New England Highway (Hexham to Wallangarra)

The New England Highway recorded a 7.5 per cent decline in the number of lives lost from 53 to 49, totalling \$364.10 million for the 2011-15 period. Over the same period there was a 13.5 per cent decrease in the number of serious injuries. These casualties cost the community \$107.68 million compared to \$125.24 million for the period 2006-10.

Table 18. Cost of Casualties on the New England Highway by Period.

| Period    | Lives Lost | Serious Injuries (matched) | Moderate Injuries | Minor Injuries |
|-----------|------------|----------------------------|-------------------|----------------|
| 2006-2010 | \$395.97m  | \$125.24m                  | \$63.52m          | \$18.38m       |
| 2011-2015 | \$364.10m  | \$107.68m                  | \$54.23m          | \$22.46m       |

## Hume Highway (Ashfield to Albury)

For the period 2011-15, there was a 37.6 per cent decrease in the number of lives lost on the Hume Highway from 85 to 53. Over the same period there was a 2.2 per cent decline in serious injuries. These casualties cost the community \$206.97 million over the 2011-15 period. The Hume Highway has the fourth highest number of serious injuries of all major highways.

Table 19. Cost of Casualties on the Hume Highway by Period.

| Period    | Lives Lost | Serious Injuries (matched) | Moderate Injuries | Minor Injuries |
|-----------|------------|----------------------------|-------------------|----------------|
| 2006-2010 | \$614.55m  | \$220.51m                  | \$93.34m          | \$70.23m       |
| 2011-2015 | \$384.73m  | \$206.97m                  | \$70.34m          | \$69.04m       |

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# Appendix

## Regions by Local Government Areas

| Region                 | Local Government Areas  |
|------------------------|---|
| <b>Sydney Region</b>   |   |
| <b>Sydney North</b>    | Hornsby, Hunters Hill, Ku-ring-gai, Lane Cove, Manly, Mosman, North Sydney, Pittwater, Ryde, The Hills, Warringah, Willoughby                                     |
| <b>Sydney South</b>    | Ashfield, Botany Bay, Burwood, Canada Bay, Canterbury, Hurstville, Kogarah, Leichhardt, Marrickville, Randwick, Rockdale, Sutherland, Sydney, Waverley, Woollahra |
| <b>Sydney West</b>     | Auburn, Bankstown, Blacktown, Camden, Campbelltown, Fairfield, Holroyd, Liverpool, Parramatta, Penrith, Strathfield   |
| <b>Outer Sydney</b>    | Blue Mountains, Gosford, Hawkesbury, Wollondilly, Wyong   |
| <b>Regional NSW</b>    |   |
| <b>Hunter</b>          | Cessnock, Dungog, Lake Macquarie, Maitland, Muswellbrook, Newcastle, Port Stephens, Singleton, Upper Hunter   |
| <b>Illawarra</b>       | Kiama, Shellharbour, Shoalhaven, Wingecarribee, Wollongong  |
| <b>Far North Coast</b> | Ballina, Byron, Clarence Valley, Kyogle, Lismore, Richmond Valley, Tweed  |
| <b>Far North Coast</b> | Bellingen, Coffs Harbour, Gloucester, Great Lakes, Greater Taree, Kempsey, Nambucca, Port Macquarie-Hastings  |
| <b>New England</b>     | Armidale Dumaresq, Glen Innes Severn, Gunnedah, Guyra, Gwydir, Inverell, Liverpool Plains, Moree Plains, Narrabri, Tamworth Regional, Tenterfield, Uralla, Walcha |
| <b>Orana</b>           | Bogan, Bourke, Brewarrina, Cobar, Coonamble, Dubbo, Gilgandra, Narromine, Walgett, Warren, Warrumbungle, Wellington   |
| <b>Far Western</b>     | Broken Hill, Central Darling, Unincorporated Area   |
| <b>Central Western</b> | Bathurst, Bland, Blayney, Cabonne, Cowra, Forbes, Lachlan, Lithgow, Mid-Western Regional, Oberon, Orange, Parkes, Weddin  |
| <b>South Eastern</b>   | Bega Valley, Bombala, Boorowa, Cooma-Monaro, Eurobodalla, Goulburn Mulwaree, Harden, Palerang, Queanbeyan, Snowy River, Upper Lachlan, Yass Valley, Young         |
| <b>Riverina</b>        | Carrathool, Coolamon, Cootamundra, Griffith, Gundagai, Hay, Junee, Leeton, Lockhart, Murrumbidgee, Narrandera, Temora, Tumut, Wagga Wagga                         |
| <b>Murray</b>          | Albury, Balranald, Berrigan, Conargo, Corowa, Deniliquin, Greater Hume, Jerilderie, Murray, Tumbarumba, Urana, Wakool, Wentworth                                  |
| <b>Other</b>           | Lord Howe Island  |



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