Chapter 8

Chile

This chapter presents 2014 road safety data for Chile along with provisional data from 2015. It looks at trends in traffic and road safety from the years 2000 to 2014 and road user behaviour patterns. This includes data on speed, drink driving, drugs and driving, distracted driving, fatigue and seat belt and helmet use. The chapter reviews Chile’s road safety strategy and the most recently implemented safety measures.*

* Data included in this report are under validation by IRTAD. All data stem from National Road Safety Commission (CONASET) unless otherwise noted. For more information please contact: CMedina@mtt.gob.cl.
Between 2000 and 2014, fatalities in Chile fluctuated with no clear trend emerging. The lowest value 1,960 was observed in 2009 and the highest value 2,317 was observed in 2008. In 2014 there were 2,119 road deaths in Chile, a 0.4% increase compared to 2013. Initial data from 2015 indicate that this figure has increased again by 1%. Injury crashes decreased by 2% in 2014, but the overall trend since 2000 has been an increasing one.

From 2014, Chile has implemented the reform of their driving licence system. They have also clamped down on drink driving offences which have reduced alcohol related fatalities by 25%.

Road safety data collection

Definitions applied in Chile

- Road fatality: A person who dies from injuries within 24 hours of the crash. To conform to international definitions being a death within 30 days, the National Road Safety Commission (CONASET, Comisión Nacional de Seguridad de Tránsito) applies a correction factor of 1.3. Fatality data in this report correspond to the corrected data.

- Person seriously injured: A person injured and hospitalised for more than 24 hours.

Data collection

Following a traffic crash, the police (Carabineros de Chile) attending the site of the accident are responsible for filling out a Data Collection Form of Road Traffic Accidents (SIEC 2), which is used throughout the country. The information is later entered and stored in a road traffic crash database available to the police. In cases of crashes involving deaths or serious injuries, the crash report is sent by the police to the relevant judges. The police records only include data for the first 24 hours after the crash has occurred.

The official data, on the other hand, are generated through the National Vital Statistics Agreement (CNEV, whose members are the National Statistics Institute, the Ministry of Health and the Civil Registry and Identification Service). The cause of death is coded by the Ministry of Health using the International Statistical Classification of Diseases and Related Health Problems (ICD-10). However, due to the complexity involved in collecting and validating data on deaths, the most recent information from the health database is from 2011. The collection and validation process also involves cross checking with police data. This process is not yet automated, which explains the delay in reporting data on vital statistics.

Due these challenges, to standardise the number of deaths to those occurring up to 30 days after the crash and in accordance with the criteria set by the World Health Organisation (WHO), a correction factor of 1.3 is applied to the death data received from the police. CONASET is currently working together with the police and other relevant institutions to develop an improved form and to create a new database with automated linkage between police and health data.
Most recent safety data

Road crashes in 2015 – provisional data

Based on provisional data, there were 2 140 road fatalities in 2015, 1% more than in 2014. The number of injury crashes increased by 0.7%.

Road crashes in 2014

In 2014, there were 2 119 road deaths in Chile, a 0.4 % increase compared to 2013. The number of deaths decreased among cyclists and pedestrians, but increased among motorcyclists and passenger car occupants. Fatalities increased among young people (0-14 years old) and the elderly (65+ years old). The number of injury crashes decreased by 2%.

Two important measures were implemented in 2014: the reform of the driving licence procedure, with new theoretical and practical exams; and the adoption in September of the “Emilia’s Law” which increases the severity of punishment for drunk drivers who cause serious injuries or death (including at least one year of actual imprisonment). In addition, fleeing the scene or refusing an alcohol test has become a criminal offence.

Trends in traffic and road safety (2000-14)

Traffic

Between 2000 and 2014, the number of motorised vehicles more than doubled (115%), with the number of motorcycles multiplying by more than five from approximately 30 000 to nearly 170 000 (515%).

There is a strong vehicle concentration in the main cities. As a consequence, congestion is increasing, especially during rush hours.

Road safety

Crashes and casualties

Between 2000 and 2014, the fatalities have fluctuated with no clear trend emerging. The lowest value 1 960 was observed in 2009 and the highest value 2 317 was observed in 2008. Injury crashes decreased by 2% in 2014, but the overall trend is increasing since 2000.

Rates

In 2014, Chile had a fatality rate of 11.9 fatalities per 100 000 inhabitants. Since 1990 the rate has decreased by 24%.

Table 8.1. Road safety and traffic data

<table>
<thead>
<tr>
<th></th>
<th>1990</th>
<th>2000</th>
<th>2010</th>
<th>2013</th>
<th>2014</th>
<th>2014 % change from</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2013</td>
</tr>
<tr>
<td>Reported safety data</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.4</td>
</tr>
<tr>
<td>Fatalities</td>
<td>2 063</td>
<td>2 207</td>
<td>2 074</td>
<td>2 110</td>
<td>2 119</td>
<td>-4.0</td>
</tr>
<tr>
<td>Injury crashes</td>
<td>30 772</td>
<td>34 335</td>
<td>39 307</td>
<td>38 483</td>
<td>38 483</td>
<td>-2.1</td>
</tr>
<tr>
<td>Seriously injured persons</td>
<td>6 312</td>
<td>7 581</td>
<td>6 420</td>
<td>6 943</td>
<td>6 968</td>
<td>0.4</td>
</tr>
<tr>
<td>Deaths per 100 000 inhabitants</td>
<td>15.7</td>
<td>14.3</td>
<td>12.1</td>
<td>12.0</td>
<td>11.9</td>
<td>-1.1</td>
</tr>
<tr>
<td>Deaths per 10 000 registered vehicles</td>
<td>19.2</td>
<td>10.6</td>
<td>6.3</td>
<td>5.1</td>
<td>4.7</td>
<td>-6.3</td>
</tr>
<tr>
<td>Traffic data</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.4</td>
</tr>
<tr>
<td>Registered vehicles (thousands)</td>
<td>2 079</td>
<td>3 299</td>
<td>4 169</td>
<td>4 468</td>
<td>4 468</td>
<td>7.2</td>
</tr>
<tr>
<td>Registered vehicles per 1 000 inhabitants</td>
<td>135</td>
<td>193</td>
<td>237</td>
<td>251</td>
<td>251</td>
<td>5.6</td>
</tr>
</tbody>
</table>

[http://dx.doi.org/10.1787/888933385394](http://dx.doi.org/10.1787/888933385394)
Road safety by user group

Passenger car occupants and pedestrians are the user groups the most affected by road fatalities and were represented in 2014 at 39% and 38% respectively of all fatalities.

As in many Latin American countries, the safety of motorcyclists is a growing concern. Since 2010 the number of motorcyclists killed increased by more than 45% while the number of motorised two-wheelers increased by 64% over the same period. In 2014, the government launched a national plan to improve the safety of motorcyclists. It includes 35 targeted measures, including a graduated licensing system, a more rigorous driving exam and infrastructure improvement (see also the section on recent road safety measures).

The number of deaths among cyclists decreased by 12% in 2014 compared to 2013 (from 161 to 142). There is growing popularity of cycling as a means of transport and not just for recreational purposes. To respond to this growth, CONASET has implemented a number of awareness campaigns.

<table>
<thead>
<tr>
<th>Road fatalities by road user group</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2013</th>
<th>2014</th>
<th>2014 % change from</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclists</td>
<td>189</td>
<td>161</td>
<td>142</td>
<td>-11.8</td>
</tr>
<tr>
<td>Motorcyclists</td>
<td>111</td>
<td>146</td>
<td>160</td>
<td>9.6</td>
</tr>
<tr>
<td>Passenger car occupants</td>
<td>731</td>
<td>762</td>
<td>832</td>
<td>9.2</td>
</tr>
<tr>
<td>Pedestrians</td>
<td>815</td>
<td>820</td>
<td>800</td>
<td>-2.4</td>
</tr>
<tr>
<td>Others</td>
<td>229</td>
<td>221</td>
<td>186</td>
<td>-15.8</td>
</tr>
<tr>
<td>Total</td>
<td>2 074</td>
<td>2 110</td>
<td>2 119</td>
<td>0.4</td>
</tr>
</tbody>
</table>

Road safety by age group

Road crashes are the primary cause of death in children aged between 1 and 14.
Since 2010, senior citizens (65+ years old) are the most at risk in traffic, with a mortality rate of 19 to 20 deaths per 100,000 inhabitants. They are particularly vulnerable as pedestrians and cyclists.

In 2014, fatalities increased for young people (0-24 years old) and decreased for the 15-17 and 25-64 year-old age groups.

### Table 8.3. Road fatalities by age group

<table>
<thead>
<tr>
<th>Age</th>
<th>2010</th>
<th>2013</th>
<th>2014</th>
<th>2014 % change from 2013</th>
<th>2010</th>
</tr>
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<tbody>
<tr>
<td>0-5</td>
<td>56</td>
<td>43</td>
<td>56</td>
<td>30.2</td>
<td>0</td>
</tr>
<tr>
<td>6-9</td>
<td>18</td>
<td>23</td>
<td>27</td>
<td>17.4</td>
<td>50.0</td>
</tr>
<tr>
<td>10-14</td>
<td>29</td>
<td>27</td>
<td>36</td>
<td>33.3</td>
<td>24.1</td>
</tr>
<tr>
<td>15-17</td>
<td>42</td>
<td>55</td>
<td>39</td>
<td>-29.1</td>
<td>-7.1</td>
</tr>
<tr>
<td>18-20</td>
<td>104</td>
<td>118</td>
<td>118</td>
<td>0</td>
<td>13.5</td>
</tr>
<tr>
<td>21-24</td>
<td>147</td>
<td>172</td>
<td>192</td>
<td>11.6</td>
<td>30.6</td>
</tr>
<tr>
<td>25-64</td>
<td>1,292</td>
<td>1,276</td>
<td>1,243</td>
<td>-2.8</td>
<td>-3.8</td>
</tr>
<tr>
<td>≥ 65</td>
<td>302</td>
<td>334</td>
<td>341</td>
<td>2.1</td>
<td>12.9</td>
</tr>
<tr>
<td>Total</td>
<td>2,074</td>
<td>2,110</td>
<td>2,119</td>
<td>0.4</td>
<td>2.2</td>
</tr>
</tbody>
</table>

**Road safety by road type**

In 2014, 61% of road fatalities occurred on roads outside urban areas.

### Economic cost of traffic crashes

In Chile, the economic cost of road crashes is based on the human capital approach. This approach assesses the consequences of the crashes based on the loss of productivity resulting from a statistical death, but does not include property damage and other costs.

Based on this methodology, road crashes cost was estimated at USD 404 million in 2013.

However, the real costs of road crashes for Chilean society are actually much higher. First, police data underestimate the true extent of casualties. Second, the mandatory vehicle
insurance covers health expenses up to a certain amount, beyond which the expenses must be covered by the victims. In addition, this calculation does not consider property damage and other costs, including police, fire, legal and administrative costs and paperwork.

Recent trends in road user behaviour

Speed

There is little information on the share of crashes due to excessive or inappropriate speed. Moreover, data available underestimates the influence of speed in the most serious crashes. Work is underway to get more accurate information. Meanwhile, it is roughly estimated that speeding is responsible for around 30% of fatal crashes.
A study conducted in 2014-15 revealed that at any given time 50% of drivers exceed the speed limit on interurban roads and 40% in urban areas. The research also showed speeding was more prevalent during the night and at weekends. The study also found that roads with a median barrier separation contributed to speeding.

In August 2015, the Ministry of Transportation and Telecommunications submitted a bill to congress that proposes reducing the urban speed limit from 60 to 50 km/h. This law is expected to be voted on by parliament in 2016.

**Drink driving**

In 2012, the government of Chile introduced a new law to support the zero tolerance policy for drink driving. It sets the maximum permissible blood alcohol content (BAC) at 0.3 g/l. The law defines:

- driving under the influence of alcohol as driving with a BAC between 0.3 g/l and 0.8 g/l
- driving while intoxicated, which entails much tougher sanctions, as driving with a BAC of 0.8 g/l or higher.

A traffic crash is defined as alcohol-related when either a driver, or another person involved in the crash (including motorcyclists, cyclists or pedestrians), has a measurable or estimated BAC of 0.3 g/l or above.

The number of fatalities due to drink driving declined significantly in 2012, when the zero tolerance law was implemented. It is estimated that 9% of fatalities in 2014 involved a driver impaired by alcohol.
In 2014, “Emilia’s Law” (Ley Emilia) was implemented to more severely punish drunk drivers responsible for serious injury or fatal crashes. This new law complements the zero tolerance law enacted in 2012 and increases sanctions for drink driving, such as disqualifying the driver for life. The driver is also subject to at least one year of actual imprisonment. In addition, fleeing the scene or refusing an alcohol test is now a criminal offence. More information can be found at www.conaset.cl/ley-emilia.html.

Following the first year of the implementation of “Emilia’s Law” the number of fatalities, crashes and those injured due to the influence of alcohol decreased respectively by 16%, 12% and 13%.

**Drugs and driving**

Currently there is no proper drug test process following a crash. Therefore, the attribution of only 0.1% of deaths to driving under the influence of drugs is largely underestimated. This situation can be explained because a road crash is defined as caused by drugs only when the police see the act of consuming or any physical evidence of drugs.

**Distraction**

Police data reported that 6% of crash deaths in 2014 were related to distracted driving.

Chilean traffic law considers driving while using a mobile phone a serious traffic violation, unless the person is using a hands-free device.

**Sleepiness and fatigue**

According to police data only 1.4% of traffic deaths in 2014 are related to fatigue. This figure is low because it is difficult for the police to discern the physical condition of the drivers when the crash occurred.

**Seat belts and helmets**

Seat belt use has been compulsory for front seats since 1985 and rear seats since 2006. The wearing rate in 2014 was 78% for drivers, 62% for front seat passengers and around 15% for rear seat passengers.

Until 2015, children under 8 years of age had to be seated in the rear seat and be adequately restrained. Since March 2016, this applies to children up to 12 years of age. As of 2017, the obligation to use child restraints will be applied to children from 4 to 8 years of age or those below 1.35 m height or lighter than 33 kg of weight.

All riders of motorised two-wheelers are required to wear helmets. The helmet wearing rate by riders of motorised two-wheelers is high at 99%. Use of the helmet has been compulsory since 1985 when the transit law was published.

For cyclists, wearing helmets has been required since 2005, but just in urban areas.

<table>
<thead>
<tr>
<th>Table 8.5. Seating wearing rate by car occupancy and road type</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2014</td>
</tr>
<tr>
<td><strong>Front seat</strong></td>
<td></td>
</tr>
<tr>
<td>Driver</td>
<td>78</td>
</tr>
<tr>
<td>Passenger</td>
<td>62</td>
</tr>
<tr>
<td><strong>Rear seats</strong></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>15</td>
</tr>
</tbody>
</table>
National road safety strategies and targets

Organisation of road safety

CONASET is an interministerial body created as a presidential advisory commission through Supreme Decree 223, of 27 December 1993.

CONASET has a board of 10 ministers (Ministry of Interior Affairs, Ministry of the General Secretariat of the Presidency, Ministry General Secretariat of Government, Ministry of Education, Ministry of Justice, Ministry of Public Works, Ministry of Health, Ministry of Housing and Urban Development, Ministry of Labour and Ministry of Transportation) plus the National Police Director. CONASET is led by the Minister of Transportation and CONASET’s Executive Secretary is in charge of the National Road Safety Strategy, which is agreed by the board.

In 1993, CONASET began working on a framework policy declaration, which has served as the general strategic guide.

Road safety strategy for 2011-2020

The Chilean Government has launched an ambitious development agenda that is the basis for the country’s ultimate goal of achieving a high-income developed status by 2018. Chile is a leading country in the Latin American region but lags behind standards of the Organisation for Economic Co-operation and Development (OECD) for the Human Opportunity Index. In this context, it is important to achieve greater competitiveness and to improve the quality of road safety.

Chile is currently developing a new National Road Safety Strategy, which will be based on the five pillars of the Global Plan for the Decade of Action for Road Safety 2011-20. In particular, the focus of the new strategy will be on institutional strengthening, speed enforcement, safer new and older vehicles, strengthening the protection of vulnerable road users and a complete revision of the national post road crashes protocol.

Road safety targets

In 2011, Chile established its first ever road safety target: a 20% decrease in the number of road deaths by 2014 (to 1 636 fatalities or fewer) compared to the level of 2011.

Monitoring targets

In 2014, there were 2 119 road fatalities. The target was not reached.

In 2015 a special evaluation was made for the first half of the decade. Its results will guide the elaboration of the new strategy. In particular, the evaluation highlighted the need to develop safety plans for the most vulnerable road users, including children, teenagers and motorcyclists.

Recent safety measures (2013-16)

Road safety management

Road users

Driving license

● The new practical exam for vehicle drivers requires candidates to demonstrate their ability to drive safely and does not only evaluate a set of determined manoeuvres.

● Since 2014, the knowledge exam can be also taken in English throughout all of Chile.
In order to educate citizens on the benefits of eco-driving, this topic was included in the knowledge exam from 2015.

CONASET developed a handbook (Libro del Nuevo Conductor) to help candidates study for their tests.

**Pedestrians**
- In Chile, pedestrians account for nearly 40% of all road fatalities. They remain a target for awareness campaigns which focus on respect, self-care and civic coexistence to improve people’s quality of life (More information can be found at www.conaset.cl/todos-somos-peatones/).

**Motorcycle road safety plan**
- The Motorcycle Road Safety plan was launched in 2014. This plan contains 35 measures including short, medium and long term initiatives.
- A first measure of the plan, introduced in August 2015, is the implementation of “Motobox”. This consists of a demarcation area at intersections with traffic lights, allowing motorcyclists to move off as soon as the green light is displayed, ahead of the rest of the traffic.
- A new, more rigorous, driving test for motorcyclists is being developed. The test will consist of a series of manoeuvres on a closed circuit designed to assess the ability of the motorcyclist to manoeuvre the motorcycle.
- Another initiative is the re-categorisation of the current motorcycle license into 3 levels. The objective is to enable new motorcycle riders to gradually qualify to ride more powerful motorcycles, preventing potential accidents with inexperienced riders.

**Children and teenagers road safety plan**
- In Chile, road crashes are the first cause of death for children between 1 and 14 years of age. To demonstrate the urgent need to improve road safety in this area, Chile joined the
UN’s #SaveKidsLives initiative and started to develop a road safety plan for children and teenagers. The plan was based on consultation with citizens, parents and children throughout Chile and will be presented during the first half of 2016.

**Speed management**

- Speed enforcement is carried out by the Chilean police (Carabineros de Chile) and inspectors of the Ministry of Public Works on roadsides. Given the limited resources and the very widespread road network, the chances of being checked for speed are very low. Taking into account the successful experiences of other countries, the government of Chile has decided to launch a programme for the progressive implementation of automatic speed enforcement throughout the country. This programme will take the form of an automated centre for the treatment of speed infractions (CATI in Spanish) that will operate radars to enforce speed compliance. The creation of this centre is part of a bill currently in congress.

- In August 2015 the Ministry of Transportation and Telecommunications submitted a bill to congress that proposes reducing urban speed limits from 60 to 50 km/h. In 2002, the speed limit was increased to 60 km/h and the following year crashes in urban areas increased, as well as fatalities (by 25%).

**Road safety education and campaigns**

- In the last three years CONASET in collaboration with the Ministry of Education has added road safety activities to primary school programs.

- CONASET is continuously developing road safety awareness campaigns. In 2015, the most relevant campaigns were “Desacelérate” (Decelerate) that focused on reducing speed and “La Consentida” for improving awareness of the problem of drink driving during the Chilean Independence Day holiday. There were renewed efforts to reinforce the importance of the use of the seat belts in the campaign “Solo un click” (Just one click). Child safety was another relevant matter covered by the campaign “Niños Seguros” (Security for our Children) initiative where both children and parents from different cities across the country participated in dialogues about the importance of safety when using various means of transport. This campaign is aligned with the international #SaveKidsLives campaign.

- More about campaigns from CONASET can be found at [www.youtube.com/user/Manejateporlavida](http://www.youtube.com/user/Manejateporlavida).

**Vehicles**

Recent improvements to vehicle safety include:

- mandatory frontal airbags (for drivers and passengers) on new light vehicles sold in Chile (2015)
- ISOFIX or LATCH anchoring systems for vehicles of 2 700 kg or less to simplify correct installation of child restraint systems without the need of seat belts (2014)
- reflective vests in cars starting as of January 2016 (2014)
- increased safety requirements for motorcycles, including standards for motorcycle features in line with international regulations (2014)
- new safety devices for interurban buses, such as Antilock Brake Systems, Electronic Stability Control, rear fog light, back-up alarm (2013)
- an audible alarm for non-use of seat belts in new cars (2013)
Recent and ongoing research

- A speed survey was carried out in 2014 and 2015 on different road types of Chile. Speed data was collected by radars continuously for 24 hours a day, seven days a week at 50 control points. In short, the data showed that 5 out of 10 drivers exceed speed limits in intercity roads and 4 out of 10 exceed the limits in urban roads.

- Behavioural studies were conducted in 10 cities in 2013 and 2014, focusing on seat belt use, helmet use and distracted driving by car or motorcycle drivers. These studies showed that 77% of drivers and 62% of the front seat passengers use their seat belt and that the use of helmets in motorcyclists and passengers is up to 99%. The study also showed that 14% of car drivers get distracted using their cell phones, while just 1% of the motorcyclists use their phones when they are driving. A similar study was undertaken in 2015, with coverage in 89 cities around the country and more than 80 000 observed cases. In addition, this study integrated the subject of child restraint systems use in detail. This research is now under analysis.

References

Websites

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