Alberta

Traffic Collision Statistics

2015
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2015 Overview

- The number of traffic fatalities decreased 10.6% over the past year from 369 fatalities in 2014 to 330 in 2015.

- The number of traffic injuries decreased 4.5% over the past year from 18,745 injuries in 2014 to 17,907 in 2015.

- The number of traffic collisions decreased 2.8% over the past year from 144,740 collisions in 2014 to 140,705 in 2015.

- The highest number of fatal collisions occurred in July. The highest number of injury collisions occurred in October.

- Friday was the most collision-prone day of the week.

- The most collision-prone period of time was the afternoon rush hour.

- Casualty rates were highest for persons between the ages of 15 and 24.

- Male drivers between the ages of 18 and 19 had the highest involvement rate of all drivers involved in casualty collisions.

- Following too closely, running off the road and left turn across path were the most frequently identified improper driver actions contributing to casualty collisions.

- Fatal collisions occurred most frequently in rural areas, whereas injury and property damage collisions occurred more frequently in urban areas.

- 21.7% of pedestrians involved in fatal collisions had consumed alcohol prior to the collision compared to 10.2% of pedestrians in injury collisions.

- 19.8% of drivers involved in fatal collisions had consumed alcohol prior to the crash compared to 3.1% of drivers in injury collisions.

- Collision-involved restraint users had a much lower injury rate (6.8%) than those not using restraints (22.4%)
Preface

The purpose of this report is to provide an overview of the “who”, “what”, “when”, “where”, “why”, and “how” of traffic collisions which occurred in Alberta during 2015. Although the report is general in nature, it pays particular attention to casualty collisions, that is, those collisions which result in death or injury. Legislation in Alberta requires that a traffic collision, which results in death, injury, or property damage to an apparent extent of $2000.00 or more, be reported immediately to an authorized peace officer. The officer completes a standardized collision report form which provides information on various aspects of the traffic collision. This report is based on the data collected from these report forms.

The collision report form is issued with standard instructions to every police service within Alberta, to be completed by the officer attending the scene of a motor vehicle collision or at a police station. Police priorities at the scene of a collision are to care for the injured, protect the motoring public, complete an on-scene investigation and clear the roadway. Completion of the collision report form is a secondary, but necessary, task.

After completion, the information on the collision report form is coded for input to computer files. The Alberta Collision Information System, which has been operational since 1978, undergoes several manual and computerized inspections each year in order to ensure maximum accuracy of the final data output. This collision information is used to make Alberta’s roads safer for all road users. Due to continuing police investigation, some numbers presented in this report may be subject to revision. It should also be noted that not all percentage columns will total 100 due to rounding error.

This report was produced based on collisions reported to Alberta Transportation by police, at the time of printing. The numbers presented in this report will not be updated. However, the patterns and trends detailed in this report represent an accurate description of Alberta’s traffic collision picture.
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Glossary

Alcohol Impaired – In the judgment of the police officer, driving ability was impaired by alcohol consumption. Whether or not the subject was actually charged is not taken into consideration by the collision report form.

Casualty Collision – A vehicle collision which results in either a fatal or personal injury.

Drinking Driver – Refers to those drivers judged by the police officer as having been drinking prior to the collision or as being alcohol impaired at the time of the collision. Whether or not the driver was actually charged is not taken into consideration by the collision report form.

Fatality – A fatality is the death of a person that occurs as a result of a motor vehicle collision within 30 days of the collision.

Had Been Drinking – In the judgment of the police officer, the driver had recently consumed alcohol but his driving ability was not obviously impaired.

Major Injury – Persons with injuries or complaints of pain who went to the hospital and were subsequently admitted, even if for observation only.

Minor Injury – Persons with injuries or complaints of pain that went to the hospital, were treated in emergency (or refused treatment) and SENT HOME without ever being admitted to the hospital. (Also includes people who indicated that they intended to seek medical treatment.)

Motorcyclist – Refers to drivers and passengers of motorcycles.

Occupant Casualties – Refers to people who were injured or killed as a result of a vehicle collision and were identified as being either a vehicle driver or passenger.

Property Damage – A vehicle collision which resulted in property damage exceeding $2000.00.

Reportable Collision – A vehicle collision which resulted in death, injury or property damage greater than $2000.00.

Rural – Any area outside of what is defined as “Urban”.

Urban – Any area within the corporate boundaries of a city, town, village or hamlet.
2015 Traffic Collision Summary

Introduction

During 2015, 140,705 collisions were recorded on Alberta roadways. Property damage collisions (over $2000) represented 90.2% (126,886) of this total while 9.6% (13,531) were non-fatal injury collisions. Fatal collisions accounted for 0.2% (288) of the total reported collisions.

Five-Year Trends

In terms of population, licenced drivers and registered vehicles, the fatal collision rate has decreased from 2014. The fatality rates also decreased in terms of population, licenced drivers, and registered vehicles.

The non-fatal injury collision and injury rates decreased in 2015 in terms of population, licenced drivers and registered vehicles.

Property damage collision rates decreased from 2014 to 2015 in terms of population, licenced drivers and registered vehicles.

Provincial Comparisons

In order to get a picture of Alberta’s traffic casualties in comparison to other provinces, rates rather than absolute numbers are utilized. In this instance, the most recent casualty rates per billion vehicle kilometres travelled were examined.

Based on this comparison of rates per billion vehicle kilometres travelled, five provinces and territories had a higher fatality rate than Alberta in 2014. With regard to injury rates, in 2014, 10 jurisdictions had a higher injury rate than Alberta.
### Table 1.1

**Alberta Traffic Collisions**

**2011 – 2015**

<table>
<thead>
<tr>
<th>Severity of Collisions</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
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<tbody>
<tr>
<td>Fatal Collisions</td>
<td>285</td>
<td>307</td>
<td>331</td>
<td>328</td>
<td>288</td>
</tr>
<tr>
<td>Non-Fatal Injury Collisions</td>
<td>13909</td>
<td>13822</td>
<td>14073</td>
<td>14244</td>
<td>13531</td>
</tr>
<tr>
<td>Property Damage Collisions</td>
<td>124985</td>
<td>122466</td>
<td>127234</td>
<td>130168</td>
<td>126886</td>
</tr>
</tbody>
</table>

| Total Reportable Collisions     | 139179| 136595| 141638| 144740| 140705|

| Number Killed                   | 313  | 345  | 358  | 369  | 330  |
| Number Injured                  | 18584| 18220| 18650| 18745| 17907|

| Total Number of Casualties      | 18897| 18565| 19008| 19114| 18237|

**Observations**

In 2015, the overall number of collisions decreased 2.8% when compared to 2014. In 2015, injury collisions decreased by 5.0% and fatal crashes decreased by 12.2%. The number of fatalities decreased by 10.6% from 2014 to 2015 and the number of injuries decreased by 4.5%. In terms of the past five years, overall collisions were lowest in 2012 and highest in 2014.
**Table 1.2**

Traffic Collision Rates

2011 – 2015

<table>
<thead>
<tr>
<th>Severity of Collision</th>
<th>Rate Per 10,000 Population</th>
<th>Rate Per 10,000 Licensed Drivers</th>
<th>Rate Per 10,000 Registered Vehicles</th>
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<tr>
<td>Fatal Collisions</td>
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<td>0.8</td>
<td>0.8</td>
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<tr>
<td>Number Killed</td>
<td>0.8</td>
<td>0.9</td>
<td>0.9</td>
</tr>
<tr>
<td>Non-Fatal Injury Collisions</td>
<td>32.2</td>
<td>34.6</td>
<td>35.0</td>
</tr>
<tr>
<td>Number Injured</td>
<td>42.7</td>
<td>45.5</td>
<td>46.3</td>
</tr>
<tr>
<td>Property Damage Collisions</td>
<td>302.4</td>
<td>315.8</td>
<td>316.1</td>
</tr>
<tr>
<td>Total Reportable Collisions</td>
<td>335.3</td>
<td>351.2</td>
<td>351.9</td>
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</tbody>
</table>

**Observations**

In terms of population, licenced drivers and registered vehicles the fatal collision rate has decreased from 2014 to 2015. The fatality rates also decreased in terms of population, licenced drivers, and registered vehicles.

The non-fatal injury collision and injury rates decreased in terms of population, licenced drivers and registered vehicles.

Property damage collision rates decreased from 2014 to 2015 in terms of population, licenced drivers and registered vehicles.

**Sources:**
Population – Statistics Canada as of July 1, 2015
Licenced Drivers – Service Alberta – Registries Services, as of December 31, 2015
Registered Vehicles – Service Alberta – Registries Services, as of December 31, 2015
Figure 1

Fatal Collision Rates
Alberta 2011 - 2015

Injury Collision Rates
Alberta 2011 - 2015

Property Damage Collision Rates
Alberta 2011 - 2015

Overall Collision Rates
Alberta 2011 - 2015
# Table 1.3

Provincial Comparison of Casualty Rates  
Per Billion Vehicle Kilometres Travelled

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<td>1142.9</td>
<td>1538.1</td>
<td>1197.0</td>
<td>1234.6</td>
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## Observations

Based on the most recent information from Transport Canada, from 2013 to 2014, Alberta’s fatality rate per billion vehicle kilometers travelled decreased to 6.3. During the same period, the injury rate per billion vehicle kilometers travelled decreased from 335.5 to 317.8. Over the five years, since 2010, rates have declined by 0.3 fatalities and 31.7 injuries per billion vehicle kilometers travelled.

Sources: Transport Canada, “Canadian Motor Vehicle Traffic Collision Statistics,” (TP3322) and Statistics Canada, “Canadian Vehicle Survey”, catalogue No. 53-223-XIE. The Canadian Vehicle Survey (CVS) is a voluntary vehicle-based survey that provides annual estimates of road vehicle activity (Vehicle-kilometres and passenger-kilometres) of vehicles registered in Canada. The in-scope vehicles for the CVS include all motor vehicles except motorcycles, buses, off-road vehicles (e.g., snowmobiles, dune buggies, and amphibious vehicles) and special equipment (e.g. cranes, street cleaners, snowplows and backhoes) registered in Canada anytime during the survey reference period that have not been scrapped or salvaged. Vehicle Kilometres data for 2013 were estimated using average yearly change for the years 2010-2012.

Figure 2

Alberta Fatality Rates
2010-2014

<table>
<thead>
<tr>
<th>Year</th>
<th>Fatality Rate per Billion Vehicles Kms Travelled</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>6.6</td>
</tr>
<tr>
<td>2011</td>
<td>5.7</td>
</tr>
<tr>
<td>2012</td>
<td>6.4</td>
</tr>
<tr>
<td>2013</td>
<td>6.4</td>
</tr>
<tr>
<td>2014</td>
<td>6.3</td>
</tr>
</tbody>
</table>

Provincial Fatality Rates
2014

<table>
<thead>
<tr>
<th>Province</th>
<th>Fatality Rate per Billion Vehicle Kms Travelled</th>
</tr>
</thead>
<tbody>
<tr>
<td>AB</td>
<td>6.3</td>
</tr>
<tr>
<td>BC</td>
<td>7.7</td>
</tr>
<tr>
<td>SK</td>
<td>9.5</td>
</tr>
<tr>
<td>MB</td>
<td>4.9</td>
</tr>
<tr>
<td>ON</td>
<td>3.6</td>
</tr>
<tr>
<td>QC</td>
<td>4.6</td>
</tr>
<tr>
<td>NB</td>
<td>7.1</td>
</tr>
<tr>
<td>NS</td>
<td>5.0</td>
</tr>
<tr>
<td>PE</td>
<td>5.8</td>
</tr>
<tr>
<td>NL</td>
<td>6.3</td>
</tr>
<tr>
<td>YT</td>
<td>10.3</td>
</tr>
<tr>
<td>NT</td>
<td></td>
</tr>
</tbody>
</table>

Note: To maintain the scale of the graph and to facilitate the comparison across jurisdictions the fatality rate for Nunavut is not included in this graph. The rate for Nunavut is reported in Table 1.3.
When the Collisions Occurred

Month

July experienced more fatal collisions than other months. The highest number of injury and property damage collisions were recorded during the months of October and January, respectively.

Day of Week

The daily distribution of collisions indicated that Friday was the most collision-prone day of the week.

Time

The afternoon rush hour period (3:00 p.m. – 6:59 p.m.) accounted for the highest proportion of collisions. The least collision-prone time period was the early morning (3:00 a.m. – 6:59 a.m.).

Holidays

The August Long Weekend recorded the highest number of fatalities while the Christmas Season recorded the highest number of injuries. The Christmas Season also recorded the highest total number of collisions.
### Table 2.1

**Collision Occurrence by Month**

2015

<table>
<thead>
<tr>
<th>Month</th>
<th>Fatal Collisions N</th>
<th>Fatal Collisions %</th>
<th>Non-Fatal Injury Collisions N</th>
<th>Non-Fatal Injury Collisions %</th>
<th>Property Damage Collisions N</th>
<th>Property Damage Collisions %</th>
<th>Total Collisions N</th>
<th>Total Collisions %</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>23</td>
<td>8.0</td>
<td>1262</td>
<td>9.3</td>
<td>14053</td>
<td>11.1</td>
<td>15338</td>
<td>10.9</td>
</tr>
<tr>
<td>February</td>
<td>14</td>
<td>4.9</td>
<td>1036</td>
<td>7.7</td>
<td>10865</td>
<td>8.6</td>
<td>11915</td>
<td>8.5</td>
</tr>
<tr>
<td>March</td>
<td>14</td>
<td>4.9</td>
<td>975</td>
<td>7.2</td>
<td>9998</td>
<td>7.9</td>
<td>10987</td>
<td>7.8</td>
</tr>
<tr>
<td>April</td>
<td>18</td>
<td>6.3</td>
<td>910</td>
<td>6.7</td>
<td>8716</td>
<td>6.9</td>
<td>9644</td>
<td>6.9</td>
</tr>
<tr>
<td>May</td>
<td>23</td>
<td>8.0</td>
<td>1119</td>
<td>8.3</td>
<td>9558</td>
<td>7.5</td>
<td>10700</td>
<td>7.6</td>
</tr>
<tr>
<td>June</td>
<td>37</td>
<td>12.8</td>
<td>1173</td>
<td>8.7</td>
<td>9964</td>
<td>7.9</td>
<td>11174</td>
<td>7.9</td>
</tr>
<tr>
<td>July</td>
<td>40</td>
<td>13.9</td>
<td>1219</td>
<td>9.0</td>
<td>9454</td>
<td>7.5</td>
<td>10713</td>
<td>7.6</td>
</tr>
<tr>
<td>August</td>
<td>31</td>
<td>10.8</td>
<td>1101</td>
<td>8.1</td>
<td>8886</td>
<td>7.0</td>
<td>10018</td>
<td>7.1</td>
</tr>
<tr>
<td>September</td>
<td>26</td>
<td>9.0</td>
<td>1105</td>
<td>8.2</td>
<td>9802</td>
<td>7.7</td>
<td>10933</td>
<td>7.8</td>
</tr>
<tr>
<td>October</td>
<td>23</td>
<td>8.0</td>
<td>1267</td>
<td>9.4</td>
<td>10458</td>
<td>8.2</td>
<td>11748</td>
<td>8.3</td>
</tr>
<tr>
<td>November</td>
<td>18</td>
<td>6.3</td>
<td>1172</td>
<td>8.7</td>
<td>12168</td>
<td>9.6</td>
<td>13358</td>
<td>9.5</td>
</tr>
<tr>
<td>December</td>
<td>21</td>
<td>7.3</td>
<td>1189</td>
<td>8.8</td>
<td>12827</td>
<td>10.1</td>
<td>14037</td>
<td>10.0</td>
</tr>
<tr>
<td>Unspecified</td>
<td>--</td>
<td>--</td>
<td>3</td>
<td>0.0</td>
<td>137</td>
<td>0.1</td>
<td>140</td>
<td>0.1</td>
</tr>
</tbody>
</table>

**Total Number of Collisions**

|                | 288   | 100.0  | 13531  | 100.0  | 126886 | 100.0  | 140705 | 100.0  |

**Observations**

The month of July experienced more fatal crashes than any other month. The highest number of reported injury collisions were in October. January reported more property damage collisions than any other month.
Table 2.2

Collision Occurrence by Day of Week

2015

<table>
<thead>
<tr>
<th>Day of Week</th>
<th>Fatal Collisions</th>
<th></th>
<th>Non-Fatal Injury Collisions</th>
<th></th>
<th>Property Damage Collisions</th>
<th></th>
<th>Total Collisions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Monday</td>
<td>38</td>
<td>13.2</td>
<td>1958</td>
<td>14.5</td>
<td>17855</td>
<td>14.1</td>
<td>19851</td>
</tr>
<tr>
<td>Tuesday</td>
<td>36</td>
<td>12.5</td>
<td>2044</td>
<td>15.1</td>
<td>19001</td>
<td>15.0</td>
<td>21081</td>
</tr>
<tr>
<td>Wednesday</td>
<td>37</td>
<td>12.8</td>
<td>2050</td>
<td>15.2</td>
<td>19101</td>
<td>15.1</td>
<td>21188</td>
</tr>
<tr>
<td>Thursday</td>
<td>44</td>
<td>15.3</td>
<td>2056</td>
<td>15.2</td>
<td>19732</td>
<td>15.6</td>
<td>21832</td>
</tr>
<tr>
<td>Friday</td>
<td>32</td>
<td>11.1</td>
<td>2288</td>
<td>16.9</td>
<td>21075</td>
<td>16.6</td>
<td>23395</td>
</tr>
<tr>
<td>Saturday</td>
<td>53</td>
<td>18.4</td>
<td>1754</td>
<td>13.0</td>
<td>17008</td>
<td>13.4</td>
<td>18815</td>
</tr>
<tr>
<td>Sunday</td>
<td>48</td>
<td>16.7</td>
<td>1378</td>
<td>10.2</td>
<td>12977</td>
<td>10.2</td>
<td>14403</td>
</tr>
<tr>
<td>Unspecified</td>
<td>--</td>
<td>--</td>
<td>3</td>
<td>0.0</td>
<td>137</td>
<td>0.1</td>
<td>140</td>
</tr>
</tbody>
</table>

Total Number of Collisions 288 100.0 13531 100.0 126886 100.0 140705 100.0

Observations

The daily distribution of collisions indicated that, overall, Friday was the most collision-prone day of the week.
### Table 2.3

#### Collision Occurrence by Time Period

2015

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Fatal Collisions</th>
<th>Non-Fatal Injury Collisions</th>
<th>Property Damage Collisions</th>
<th>Total Collisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:00 p.m. - 2:59 a.m.</td>
<td>44</td>
<td>883</td>
<td>7642</td>
<td>8569</td>
</tr>
<tr>
<td>3:00 a.m. - 6:59 a.m.</td>
<td>23</td>
<td>721</td>
<td>6317</td>
<td>7061</td>
</tr>
<tr>
<td>7:00 a.m. - 10:59 a.m.</td>
<td>53</td>
<td>2454</td>
<td>23040</td>
<td>25547</td>
</tr>
<tr>
<td>11:00 a.m. - 2:59 p.m.</td>
<td>51</td>
<td>3048</td>
<td>32001</td>
<td>35100</td>
</tr>
<tr>
<td>3:00 p.m. - 6:59 p.m.</td>
<td>63</td>
<td>4360</td>
<td>37678</td>
<td>42101</td>
</tr>
<tr>
<td>7:00 p.m. - 10:59 p.m.</td>
<td>52</td>
<td>1902</td>
<td>16841</td>
<td>18795</td>
</tr>
<tr>
<td>Unspecified</td>
<td>2</td>
<td>163</td>
<td>3367</td>
<td>3532</td>
</tr>
</tbody>
</table>

**Total Number of Collisions**

- **Fatal Collisions**: 288 (100.0%)
- **Non-Fatal Injury Collisions**: 13531 (100.0%)
- **Property Damage Collisions**: 126886 (100.0%)
- **Total Collisions**: 140705 (100.0%)

**Observations**

The afternoon rush hour period (3:00 p.m. – 6:59 p.m.) accounted for the largest percentage (29.9%) of collisions occurring in a 24-hour period. The least collision-prone time period was the early morning (3:00 a.m. – 6:59 a.m.).
Figure 3

Collision Occurrence By Month
Alberta 2015

Collision Occurrence By Day of Week
Alberta 2015

Collision Occurrence By Time Period
Alberta 2015
Table 2.4

Collisions During 2015 Holidays

<table>
<thead>
<tr>
<th>Holidays</th>
<th>Number Killed</th>
<th>Number Injured</th>
<th>Total Collisions*</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Year's Day (January 1)</td>
<td>1</td>
<td>29</td>
<td>247</td>
</tr>
<tr>
<td>Family Day Long Weekend (February 13-16)</td>
<td>6</td>
<td>208</td>
<td>1523</td>
</tr>
<tr>
<td>Easter Long Weekend (April 2-6)</td>
<td>5</td>
<td>172</td>
<td>1370</td>
</tr>
<tr>
<td>Victoria Day Long Weekend (May 15-18)</td>
<td>4</td>
<td>142</td>
<td>1109</td>
</tr>
<tr>
<td>Canada Day (July 1)</td>
<td>1</td>
<td>34</td>
<td>285</td>
</tr>
<tr>
<td>August Long Weekend (July 31 - August 3)</td>
<td>7</td>
<td>177</td>
<td>1198</td>
</tr>
<tr>
<td>Labour Day Long Weekend (September 4-7)</td>
<td>5</td>
<td>164</td>
<td>1189</td>
</tr>
<tr>
<td>Thanksgiving Long Weekend (October 9-12)</td>
<td>6</td>
<td>199</td>
<td>1196</td>
</tr>
<tr>
<td>Remembrance Day (November 11)</td>
<td>--</td>
<td>29</td>
<td>303</td>
</tr>
<tr>
<td>Christmas Season (December 24-28)</td>
<td>1</td>
<td>226</td>
<td>2016</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>36</strong></td>
<td><strong>1380</strong></td>
<td><strong>10436</strong></td>
</tr>
</tbody>
</table>

Observations

The August Long Weekend recorded the highest number of fatalities while the Christmas Season recorded the highest number of injuries. The Christmas Season also recorded the highest total number of collisions.

*Total collisions includes fatal, injury and property damage collisions.

Note: Comparisons should be done with caution. The number of days for each holiday period within the year may vary. From year to year, holiday periods may also vary in length.
Victims

Road User Class

The majority of traffic victims were drivers and passengers of vehicles. Pedestrians and motorcyclists accounted for 6.8% and 3.7% of the total casualties, respectively.

Age of Casualties

Casualty rates per 10,000 population were highest for persons between the ages of 15 and 24. The lowest casualty rates were recorded for children 14 years of age and under.
Table 3.1

Injuries and Fatalities by Road User Class

2015

<table>
<thead>
<tr>
<th>Road User Class</th>
<th>Persons Killed</th>
<th>Persons Injured</th>
<th>Total Casualties</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Drivers</td>
<td>173</td>
<td>52.4</td>
<td>11254</td>
</tr>
<tr>
<td>Passengers</td>
<td>70</td>
<td>21.2</td>
<td>3906</td>
</tr>
<tr>
<td>Pedestrians</td>
<td>36</td>
<td>10.9</td>
<td>1198</td>
</tr>
<tr>
<td>Motorcyclists</td>
<td>33</td>
<td>10.0</td>
<td>640</td>
</tr>
<tr>
<td>Bicyclists</td>
<td>3</td>
<td>0.9</td>
<td>534</td>
</tr>
<tr>
<td>Other</td>
<td>11</td>
<td>3.3</td>
<td>228</td>
</tr>
<tr>
<td>Unspecified</td>
<td>4</td>
<td>1.2</td>
<td>147</td>
</tr>
<tr>
<td><strong>Total Casualties</strong></td>
<td><strong>330</strong></td>
<td><strong>100.0</strong></td>
<td><strong>17907</strong></td>
</tr>
</tbody>
</table>

Observations

The majority of traffic victims were drivers (62.7%) and passengers (21.8%) of vehicles. Pedestrians and motorcyclists accounted for 6.8% and 3.7% of the total casualties, respectively.
### Table 3.2

**Age of Casualties**

2015

<table>
<thead>
<tr>
<th>Age in Years</th>
<th>Persons Killed</th>
<th>Persons Injured</th>
<th>Total Casualties</th>
<th>Casualty Rate Per 10,000 Population*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Under 5</td>
<td>3</td>
<td>0.9</td>
<td>226</td>
<td>1.3</td>
</tr>
<tr>
<td>5 - 9</td>
<td>2</td>
<td>0.6</td>
<td>355</td>
<td>2.0</td>
</tr>
<tr>
<td>10 - 14</td>
<td>2</td>
<td>0.6</td>
<td>439</td>
<td>2.5</td>
</tr>
<tr>
<td>15 - 19</td>
<td>24</td>
<td>7.3</td>
<td>1731</td>
<td>9.7</td>
</tr>
<tr>
<td>20 - 24</td>
<td>50</td>
<td>15.2</td>
<td>2026</td>
<td>11.3</td>
</tr>
<tr>
<td>25 - 29</td>
<td>41</td>
<td>12.4</td>
<td>2111</td>
<td>11.8</td>
</tr>
<tr>
<td>30 - 34</td>
<td>27</td>
<td>8.2</td>
<td>1767</td>
<td>9.9</td>
</tr>
<tr>
<td>35 - 44</td>
<td>52</td>
<td>15.8</td>
<td>2917</td>
<td>16.3</td>
</tr>
<tr>
<td>45 - 54</td>
<td>48</td>
<td>14.5</td>
<td>2562</td>
<td>14.3</td>
</tr>
<tr>
<td>55 - 64</td>
<td>40</td>
<td>12.1</td>
<td>1903</td>
<td>10.6</td>
</tr>
<tr>
<td>65 and over</td>
<td>40</td>
<td>12.1</td>
<td>1348</td>
<td>7.5</td>
</tr>
<tr>
<td>Unspecified</td>
<td>1</td>
<td>0.3</td>
<td>522</td>
<td>2.9</td>
</tr>
</tbody>
</table>

**Total Casualties**

|                  | 330 | 100.0 | 17907 | 100.0 | 18237 | 100.0 |

**Observations**

Casualty rates per 10,000 population were highest for persons between the ages of 15 and 24. The lowest casualty rates were recorded for children 14 years of age and younger.

*Based on estimates of the Alberta population by age groups and sex, July 1, 2015, Statistics Canada*
Figure 4

Age of Casualties
Alberta 2015
Drivers

Age and Sex of Drivers

Collision rates per 1000 licenced drivers indicate that males 18 to 19 years old were more likely to be involved in a casualty collision than any other age group. The next age group most likely to be involved in casualty collisions was males 20 to 24 years old.

Driver Actions

Following too closely (31.2%), running off the road (18.4%) and left turn across path (11.3%) were the most frequently identified improper driver actions contributing to casualty collisions.
Table 4.1

Age and Sex of Drivers Involved in Casualty Collisions:
Per 1,000 Licenced Drivers

2015

<table>
<thead>
<tr>
<th>Age of Driver</th>
<th>Male</th>
<th></th>
<th></th>
<th>Female</th>
<th></th>
<th></th>
<th>Total*</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rate Per 1000**</td>
<td></td>
<td></td>
<td>Rate Per 1000**</td>
<td></td>
<td></td>
<td>Rate Per 1000**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Licenced Drivers</td>
<td></td>
<td></td>
<td>Licenced Drivers</td>
<td></td>
<td></td>
<td>Licenced Drivers</td>
<td></td>
</tr>
<tr>
<td>Under 16</td>
<td>114</td>
<td>0.5</td>
<td>6.9</td>
<td>43</td>
<td>0.2</td>
<td>2.8</td>
<td>159</td>
<td>0.6</td>
</tr>
<tr>
<td>16 - 17</td>
<td>428</td>
<td>1.7</td>
<td>12.8</td>
<td>382</td>
<td>1.6</td>
<td>12.6</td>
<td>810</td>
<td>3.3</td>
</tr>
<tr>
<td>18 - 19</td>
<td>638</td>
<td>2.6</td>
<td>15.3</td>
<td>459</td>
<td>1.9</td>
<td>12.3</td>
<td>1097</td>
<td>4.5</td>
</tr>
<tr>
<td>20 - 24</td>
<td>1764</td>
<td>7.2</td>
<td>13.0</td>
<td>1176</td>
<td>4.8</td>
<td>9.8</td>
<td>2942</td>
<td>12.0</td>
</tr>
<tr>
<td>25 - 34</td>
<td>3400</td>
<td>13.8</td>
<td>9.6</td>
<td>2313</td>
<td>9.4</td>
<td>7.2</td>
<td>5713</td>
<td>23.2</td>
</tr>
<tr>
<td>35 - 44</td>
<td>2673</td>
<td>10.9</td>
<td>8.5</td>
<td>1848</td>
<td>7.5</td>
<td>6.6</td>
<td>4522</td>
<td>18.4</td>
</tr>
<tr>
<td>45 - 54</td>
<td>2401</td>
<td>9.8</td>
<td>8.4</td>
<td>1542</td>
<td>6.3</td>
<td>5.9</td>
<td>3944</td>
<td>16.0</td>
</tr>
<tr>
<td>55 - 64</td>
<td>1831</td>
<td>7.5</td>
<td>7.2</td>
<td>1050</td>
<td>4.3</td>
<td>4.6</td>
<td>2882</td>
<td>11.7</td>
</tr>
<tr>
<td>65 and over</td>
<td>1230</td>
<td>5.0</td>
<td>5.9</td>
<td>660</td>
<td>2.7</td>
<td>3.6</td>
<td>1890</td>
<td>7.7</td>
</tr>
<tr>
<td>Unspecified</td>
<td>132</td>
<td>0.5</td>
<td>44</td>
<td>0.2</td>
<td>618</td>
<td>2.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Number</td>
<td>14611</td>
<td>59.4</td>
<td>9517</td>
<td>38.7</td>
<td>24577</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Observations

Collision rates per 1000 licenced drivers indicated that males 18 to 19 years old were more likely to be involved in a casualty collision than any other age group. The next age group most likely to be involved in casualty collisions was males 20 to 24 years old.

*Total includes drivers whose sex was not specified on the collision report form. Includes bicyclists.

**Source: Licenced Drivers – Service Alberta – Registries Services, as of December 31, 2015.
Figure 5

Age and Sex of Drivers Involved in Casualty Collisions
Alberta 2015

<table>
<thead>
<tr>
<th>Age in Years</th>
<th>Rate per 1000 Licensed Drivers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 16</td>
<td>6.9</td>
</tr>
<tr>
<td>16 - 17</td>
<td>2.8</td>
</tr>
<tr>
<td>18 - 19</td>
<td>12.8</td>
</tr>
<tr>
<td>20 - 24</td>
<td>12.6</td>
</tr>
<tr>
<td>25 - 34</td>
<td>15.3</td>
</tr>
<tr>
<td>35 - 44</td>
<td>12.3</td>
</tr>
<tr>
<td>45 - 54</td>
<td>13.0</td>
</tr>
<tr>
<td>55 - 64</td>
<td>9.8</td>
</tr>
<tr>
<td>65 and over</td>
<td>9.6</td>
</tr>
</tbody>
</table>

Males □ Females □
### Table 4.2

**Improper Actions of Drivers Involved in Casualty Collisions***

2015

<table>
<thead>
<tr>
<th>Improper Actions</th>
<th>Drivers in Fatal Collisions</th>
<th>Drivers in Non-Fatal Injury Collisions</th>
<th>Total Drivers in Casualty Collisions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Followed Too Closely</td>
<td>7</td>
<td>3.0</td>
<td>3420</td>
</tr>
<tr>
<td>Ran Off Road</td>
<td>104</td>
<td>43.9</td>
<td>1917</td>
</tr>
<tr>
<td>Left Turn Across Path</td>
<td>19</td>
<td>8.0</td>
<td>1218</td>
</tr>
<tr>
<td>Stop Sign Violation</td>
<td>22</td>
<td>9.3</td>
<td>886</td>
</tr>
<tr>
<td>Disobey Traffic Signal</td>
<td>9</td>
<td>3.8</td>
<td>730</td>
</tr>
<tr>
<td>Failed to Yield Right of Way to Pedestrian</td>
<td>6</td>
<td>2.5</td>
<td>592</td>
</tr>
<tr>
<td>Improper Turn</td>
<td>3</td>
<td>1.3</td>
<td>375</td>
</tr>
<tr>
<td>Improper Lane Change</td>
<td>2</td>
<td>0.8</td>
<td>348</td>
</tr>
<tr>
<td>Left of Centre</td>
<td>50</td>
<td>21.1</td>
<td>264</td>
</tr>
<tr>
<td>Backed Unsafely</td>
<td>1</td>
<td>0.4</td>
<td>276</td>
</tr>
<tr>
<td>Failed to Yield Right of Way - Uncontrolled Intersection</td>
<td>2</td>
<td>0.8</td>
<td>230</td>
</tr>
<tr>
<td>Yield Sign Violation</td>
<td>--</td>
<td>--</td>
<td>186</td>
</tr>
<tr>
<td>Improper Passing</td>
<td>7</td>
<td>3.0</td>
<td>103</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>2.1</td>
<td>210</td>
</tr>
</tbody>
</table>

**Total Number of Drivers**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drivers in Fatal Collisions</td>
<td>237</td>
<td>100.0</td>
</tr>
<tr>
<td>Drivers in Non-Fatal Injury Collisions</td>
<td>10755</td>
<td>100.0</td>
</tr>
<tr>
<td>Total Drivers in Casualty Collisions</td>
<td>10992</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Observations**

Following too closely (31.2%), running off the road (18.4%) and left turn across path (11.3%) were the most frequently identified improper driver actions contributing to casualty collisions.

*Based on those cases where driver actions were specified on the collision report form. Includes bicyclists.

Note: There were a total of 22,242 drivers involved in casualty collisions for which a driver action was specified on the collision report form. 11,250 were indicated as driving properly at the time of the collision.
Vehicles

Types of Vehicles

Passenger cars (37.4%), minivans/MPVs (28.1%) and pick-up trucks/vans (22.6%) were the vehicles most frequently involved in total casualty collisions.

Vehicle Factors

Overall 0.9% of vehicles involved in casualty collisions were identified as having a vehicle defect. The most common defect was defective brakes.

Point of Impact

The most common point of impact in casualty collisions involved the front of the vehicle. Overall, 45.1% of the impacts involved the centre front.
### Table 5.1

**Types of Vehicles Involved in Casualty Collisions**

**2015**

<table>
<thead>
<tr>
<th>Type of Vehicle</th>
<th>Vehicles in Fatal Collisions</th>
<th>%</th>
<th>Vehicles in Non-Fatal Injury Collisions</th>
<th>%</th>
<th>Total Vehicles in Casualty Collisions</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passenger Car</td>
<td>110</td>
<td>24.2</td>
<td>9201</td>
<td>37.6</td>
<td>9311</td>
<td>37.4</td>
</tr>
<tr>
<td>Mini-Van/MPV</td>
<td>83</td>
<td>18.2</td>
<td>6916</td>
<td>28.3</td>
<td>6999</td>
<td>28.1</td>
</tr>
<tr>
<td>Pick-up Truck/Van</td>
<td>134</td>
<td>29.5</td>
<td>5488</td>
<td>22.5</td>
<td>5622</td>
<td>22.6</td>
</tr>
<tr>
<td>Truck 4500 kg+</td>
<td>35</td>
<td>7.7</td>
<td>876</td>
<td>3.6</td>
<td>911</td>
<td>3.7</td>
</tr>
<tr>
<td>Motorcycle</td>
<td>31</td>
<td>6.8</td>
<td>622</td>
<td>2.5</td>
<td>653</td>
<td>2.6</td>
</tr>
<tr>
<td>Bicycle</td>
<td>3</td>
<td>0.7</td>
<td>536</td>
<td>2.2</td>
<td>539</td>
<td>2.2</td>
</tr>
<tr>
<td>Tractor-Trailer</td>
<td>39</td>
<td>8.6</td>
<td>457</td>
<td>1.9</td>
<td>496</td>
<td>2.0</td>
</tr>
<tr>
<td>Off-Highway Vehicle</td>
<td>9</td>
<td>2.0</td>
<td>95</td>
<td>0.4</td>
<td>104</td>
<td>0.4</td>
</tr>
<tr>
<td>Transit Bus</td>
<td>1</td>
<td>0.2</td>
<td>88</td>
<td>0.4</td>
<td>89</td>
<td>0.4</td>
</tr>
<tr>
<td>School Bus</td>
<td>4</td>
<td>0.9</td>
<td>46</td>
<td>0.2</td>
<td>50</td>
<td>0.2</td>
</tr>
<tr>
<td>Emergency Vehicle</td>
<td>--</td>
<td>--</td>
<td>35</td>
<td>0.1</td>
<td>35</td>
<td>0.1</td>
</tr>
<tr>
<td>Construction Equipment</td>
<td>2</td>
<td>0.4</td>
<td>18</td>
<td>0.1</td>
<td>20</td>
<td>0.1</td>
</tr>
<tr>
<td>Other Bus</td>
<td>--</td>
<td>--</td>
<td>16</td>
<td>0.1</td>
<td>16</td>
<td>0.1</td>
</tr>
<tr>
<td>Motorhome</td>
<td>1</td>
<td>0.2</td>
<td>14</td>
<td>0.1</td>
<td>15</td>
<td>0.1</td>
</tr>
<tr>
<td>Farm Equipment</td>
<td>2</td>
<td>0.4</td>
<td>11</td>
<td>0.0</td>
<td>13</td>
<td>0.1</td>
</tr>
<tr>
<td>Motorized Snow Vehicle</td>
<td>--</td>
<td>--</td>
<td>12</td>
<td>0.0</td>
<td>12</td>
<td>0.0</td>
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<tr>
<td>Moped</td>
<td>--</td>
<td>--</td>
<td>7</td>
<td>0.0</td>
<td>7</td>
<td>0.0</td>
</tr>
<tr>
<td>Intercity Bus</td>
<td>1</td>
<td>0.2</td>
<td>4</td>
<td>0.0</td>
<td>5</td>
<td>0.0</td>
</tr>
<tr>
<td>Other</td>
<td>--</td>
<td>--</td>
<td>1</td>
<td>0.0</td>
<td>1</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Total Number of Vehicles</strong></td>
<td><strong>455</strong></td>
<td><strong>100.0</strong></td>
<td><strong>24443</strong></td>
<td><strong>100.0</strong></td>
<td><strong>24898</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

**Observations**

Passenger cars, mini-vans/MPVs and pick-up trucks/vans were the vehicles most frequently involved in total casualty collisions. Overall, bicycles represented 2.2% and motorcycles 2.6% of the vehicles involved in casualty collisions. Tractor-Trailers were 2.0% of total vehicles in casualty crashes, but 8.6% of vehicles in fatal crashes.

*Based on those cases where type of vehicle was specified on the collision report form.*
Table 5.2

Vehicle Factors Involved in Casualty Collisions*

2015

<table>
<thead>
<tr>
<th>Vehicle Factors</th>
<th>Vehicles in Fatal Collisions</th>
<th>Vehicles in Non-Fatal Injury Collisions</th>
<th>Total Vehicles in Casualty Collisions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>No Apparent Defect</td>
<td>356</td>
<td>98.3</td>
<td>21906</td>
</tr>
<tr>
<td>Defective Brakes</td>
<td>2</td>
<td>0.6</td>
<td>68</td>
</tr>
<tr>
<td>Tires Failed</td>
<td>2</td>
<td>0.6</td>
<td>36</td>
</tr>
<tr>
<td>Improper Load/Shift</td>
<td>1</td>
<td>0.3</td>
<td>15</td>
</tr>
<tr>
<td>Lighting Defect</td>
<td>--</td>
<td>--</td>
<td>3</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>0.3</td>
<td>74</td>
</tr>
<tr>
<td><strong>Total Number of Vehicles</strong></td>
<td><strong>362</strong></td>
<td><strong>100.0</strong></td>
<td><strong>22102</strong></td>
</tr>
</tbody>
</table>

Observations

Overall 0.9% of vehicles involved in casualty collisions were identified as having a vehicle defect. The most common defect was defective brakes.

*Based on those cases where a vehicle factor was specified on the collision report form. This information does not indicate whether or not a mechanical inspection of the collision-involved vehicle was conducted.
Table 5.3

Point of Impact on Vehicles Involved in Casualty Collisions*

2015

<table>
<thead>
<tr>
<th>Point of Impact</th>
<th>Vehicles in Fatal Collisions</th>
<th></th>
<th>Vehicles in Non-Fatal Injury Collisions</th>
<th></th>
<th>Total Vehicles in Casualty Collisions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Centre Front</td>
<td>229</td>
<td>51.5</td>
<td>10630</td>
<td>45.0</td>
<td>10859</td>
<td>45.1</td>
</tr>
<tr>
<td>Centre Rear</td>
<td>22</td>
<td>4.9</td>
<td>5122</td>
<td>21.7</td>
<td>5144</td>
<td>21.4</td>
</tr>
<tr>
<td>Right Front</td>
<td>18</td>
<td>4.0</td>
<td>1631</td>
<td>6.9</td>
<td>1649</td>
<td>6.8</td>
</tr>
<tr>
<td>Left Front</td>
<td>16</td>
<td>3.6</td>
<td>1632</td>
<td>6.9</td>
<td>1648</td>
<td>6.8</td>
</tr>
<tr>
<td>Rollover</td>
<td>77</td>
<td>17.3</td>
<td>1176</td>
<td>5.0</td>
<td>1253</td>
<td>5.2</td>
</tr>
<tr>
<td>Left Side</td>
<td>36</td>
<td>8.1</td>
<td>1055</td>
<td>4.5</td>
<td>1091</td>
<td>4.5</td>
</tr>
<tr>
<td>Right Side</td>
<td>18</td>
<td>4.0</td>
<td>1001</td>
<td>4.2</td>
<td>1019</td>
<td>4.2</td>
</tr>
<tr>
<td>Left Rear</td>
<td>5</td>
<td>1.1</td>
<td>554</td>
<td>2.3</td>
<td>559</td>
<td>2.3</td>
</tr>
<tr>
<td>Right Rear</td>
<td>4</td>
<td>0.9</td>
<td>521</td>
<td>2.2</td>
<td>525</td>
<td>2.2</td>
</tr>
<tr>
<td>Attachment</td>
<td>14</td>
<td>3.1</td>
<td>211</td>
<td>0.9</td>
<td>225</td>
<td>0.9</td>
</tr>
<tr>
<td>Undercarriage</td>
<td>2</td>
<td>0.4</td>
<td>61</td>
<td>0.3</td>
<td>63</td>
<td>0.3</td>
</tr>
<tr>
<td>Top</td>
<td>4</td>
<td>0.9</td>
<td>48</td>
<td>0.2</td>
<td>52</td>
<td>0.2</td>
</tr>
<tr>
<td><strong>Total Number of Vehicles</strong></td>
<td>445</td>
<td>100.0</td>
<td>23642</td>
<td>100.0</td>
<td>24087</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Observations

The most common point of impact in casualty collisions involved the front of the vehicle. 45.1% of the impacts involved the centre front, while 21.4% of the impacts involved the centre rear.

*Based on those cases where point of impact was specified on the collision report form.
Environment

Location

The majority of fatal crashes (68.1%) occurred in rural areas, whereas the majority of injury (75.7%) and property damage (85.1%) crashes occurred in urban areas.

Surface Conditions

The majority (68.4%) of all casualty collisions occurred when surface conditions were dry. Slush, snow or ice was involved in 10.8% of fatal collisions and 19.6% of non-fatal injury collisions.
### Table 6.1

**Location of Collisions**

2015

<table>
<thead>
<tr>
<th>Location</th>
<th>Fatal Collisions</th>
<th>Non-Fatal Injury Collisions</th>
<th>Property Damage Collisions</th>
<th>Total Collisions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Urban</td>
<td>92</td>
<td>31.9</td>
<td>10247</td>
<td>75.7</td>
</tr>
<tr>
<td>Rural</td>
<td>196</td>
<td>68.1</td>
<td>3284</td>
<td>24.3</td>
</tr>
<tr>
<td>Total</td>
<td>288</td>
<td>100.0</td>
<td>13531</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Observations**

The majority of fatal collisions (68.1%) occurred in rural areas. Collisions occurring in urban areas resulted in the highest proportion of non-fatal injury collisions (75.7%) and property damage crashes (85.1%).
Table 6.2

Casualty Collision Occurrence by Surface Condition

2015

<table>
<thead>
<tr>
<th>Surface Condition</th>
<th>Fatal Collisions</th>
<th>Non-Fatal Injury Collisions</th>
<th>Total Casualty Collisions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Dry</td>
<td>223</td>
<td>77.4</td>
<td>9233</td>
</tr>
<tr>
<td>Slush/Snow/Ice</td>
<td>31</td>
<td>10.8</td>
<td>2655</td>
</tr>
<tr>
<td>Wet</td>
<td>23</td>
<td>8.0</td>
<td>1089</td>
</tr>
<tr>
<td>Loose Surface Material</td>
<td>4</td>
<td>1.4</td>
<td>201</td>
</tr>
<tr>
<td>Muddy</td>
<td>--</td>
<td>--</td>
<td>26</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>0.7</td>
<td>41</td>
</tr>
<tr>
<td>Unspecified</td>
<td>5</td>
<td>1.7</td>
<td>286</td>
</tr>
<tr>
<td><strong>Total Number of Collisions</strong></td>
<td><strong>288</strong></td>
<td><strong>100.0</strong></td>
<td><strong>13531</strong></td>
</tr>
</tbody>
</table>

Observations

The majority (68.4%) of casualty collisions occurred when surface conditions were dry. Slush, snow or ice was involved in 10.8% of fatal collisions and 19.6% of non-fatal injury collisions.
Special Types of Vehicles

Motorcycles

- In 2015, based on motorcycle registrations, the involvement rate of motorcycles has decreased in fatal collisions over 2014 but increased in injury collisions.

- The majority of motorcycle casualty collisions involved male drivers. Motorcycle operators under the age of 25 had the highest involvement rate per 1000 licenced drivers.

- Compared to drivers involved in total casualty collisions, motorcycle operators were more likely to run off the road, make an improper turn, or pass improperly. However, motorcycle operators were less likely to follow too closely, make a left turn across the path of an oncoming vehicle or commit a stop sign violation.

- Compared to drivers involved in all types of vehicle casualty collisions, motorcycle operators were more likely to have consumed alcohol before the crash.

- Vehicle factors were identified for 1.9% of motorcycles involved in casualty collisions compared to 1.0% for all types of vehicles involved in casualty collisions.

- The occurrence of casualty collisions involving motorcycles was highest in the month of July.

- The majority of casualty collisions involving motorcycles occurred on dry roads.
Table 7.1

Motorcycles Involved in Casualty Collisions

2011 – 2015

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Motorcycles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fatal</td>
<td>31</td>
<td>36</td>
<td>42</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>Non-Fatal Injury</td>
<td>622</td>
<td>598</td>
<td>642</td>
<td>609</td>
<td>655</td>
</tr>
<tr>
<td>Total Number of Motorcycles Involving Casualty Collisions</td>
<td>653</td>
<td>634</td>
<td>684</td>
<td>631</td>
<td>681</td>
</tr>
</tbody>
</table>

Casualties*

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number Killed</td>
<td>33</td>
<td>35</td>
<td>42</td>
<td>21</td>
<td>24</td>
</tr>
<tr>
<td>Number Injured</td>
<td>685</td>
<td>649</td>
<td>697</td>
<td>660</td>
<td>719</td>
</tr>
<tr>
<td>Total Casualties in Collisions Involving Motorcycles</td>
<td>718</td>
<td>684</td>
<td>739</td>
<td>681</td>
<td>743</td>
</tr>
</tbody>
</table>

Number of Motorcycles Involved in Casualty Collisions Per 10,000 Registered Motorcycles**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatal Collisions</td>
<td>2.5</td>
<td>2.9</td>
<td>3.6</td>
<td>2.0</td>
<td>2.4</td>
</tr>
<tr>
<td>Non-Fatal Injury Collisions</td>
<td>49.2</td>
<td>48.9</td>
<td>54.7</td>
<td>54.3</td>
<td>60.5</td>
</tr>
</tbody>
</table>

Observations

Based on motorcycle registrations in 2015, compared to 2014, the involvement rate of motorcycles has decreased in fatal collisions but increased in injury collisions.

*This refers to the total number of people killed and injured in collisions in which a motorcycle was involved. It does not refer to the number of motorcyclists killed and injured.

** Source: Based on vehicle registration statistics, Service Alberta – Registries Services, December 31, 2015.
Figure 6

Number of Motorcycles Involved in Fatal Collisions
Alberta 2011 - 2015

<table>
<thead>
<tr>
<th>Year</th>
<th>Rate per 10,000 Registered Motorcycles</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>2.5</td>
</tr>
<tr>
<td>2014</td>
<td>2.9</td>
</tr>
<tr>
<td>2013</td>
<td>3.6</td>
</tr>
<tr>
<td>2012</td>
<td>2.0</td>
</tr>
<tr>
<td>2011</td>
<td>2.4</td>
</tr>
</tbody>
</table>
Table 7.2

Age and Sex of Motorcycle Operators Involved in Casualty Collisions

2015

<table>
<thead>
<tr>
<th>Age of Motorcycle Operators</th>
<th>Male</th>
<th>Female</th>
<th>Total*</th>
<th>Rate Per 1,000 Licensed Motorcycle Operators**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Under 16</td>
<td>5</td>
<td>0.8</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>16 - 17</td>
<td>2</td>
<td>0.3</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>18 - 19</td>
<td>16</td>
<td>2.5</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>20 - 24</td>
<td>59</td>
<td>9.1</td>
<td>2</td>
<td>0.3</td>
</tr>
<tr>
<td>25 - 34</td>
<td>151</td>
<td>23.2</td>
<td>8</td>
<td>1.2</td>
</tr>
<tr>
<td>35 - 44</td>
<td>109</td>
<td>16.8</td>
<td>17</td>
<td>2.6</td>
</tr>
<tr>
<td>45 - 54</td>
<td>123</td>
<td>18.9</td>
<td>20</td>
<td>3.1</td>
</tr>
<tr>
<td>55 - 64</td>
<td>105</td>
<td>16.2</td>
<td>6</td>
<td>0.9</td>
</tr>
<tr>
<td>65 and over</td>
<td>21</td>
<td>3.2</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>Unspecified</td>
<td>1</td>
<td>0.2</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Total Number of Motorcycle Operators</td>
<td>592</td>
<td>91.1</td>
<td>56</td>
<td>8.6</td>
</tr>
</tbody>
</table>

Observations

The majority of motorcycle casualty collisions involved male operators. Based on involvement per 1,000 licenced operators, motorcycle operators under the age of 25 were most likely to be involved in collisions. In particular, 18 - 19 year old motorcycle operators had the highest involvement rate per 1,000 licenced motorcycle operators. These age and sex comparisons are limited due to the lack of driving exposure data. In order to make valid age comparisons, it is important to take into account the number of kilometers driven annually by each age and sex group of motorcycle operators.

Note: In Alberta, Class 6 (motorcycle) licences are not issued to operators under 16 years of age.

*Total includes drivers whose sex was not specified on the collision report form.

**Source: Licenced Drivers – Service Alberta – Registries Services, as of December 31, 2015.
### Table 7.3

**Improper Actions of Motorcycle Operators Involved in Casualty Collisions***

#### 2015

<table>
<thead>
<tr>
<th>Improper Actions of Motorcycle Operators</th>
<th>N</th>
<th>%</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ran Off Road</td>
<td>140</td>
<td>49.5</td>
<td>18.4</td>
</tr>
<tr>
<td>Followed Too Closely</td>
<td>55</td>
<td>19.4</td>
<td>31.2</td>
</tr>
<tr>
<td>Improper Turn</td>
<td>19</td>
<td>6.7</td>
<td>3.4</td>
</tr>
<tr>
<td>Left Turn Across Path</td>
<td>10</td>
<td>3.5</td>
<td>11.3</td>
</tr>
<tr>
<td>Improper Passing</td>
<td>9</td>
<td>3.2</td>
<td>1.0</td>
</tr>
<tr>
<td>Improper Lane Change</td>
<td>8</td>
<td>2.8</td>
<td>3.2</td>
</tr>
<tr>
<td>Disobey Traffic Signal</td>
<td>8</td>
<td>2.8</td>
<td>6.7</td>
</tr>
<tr>
<td>Left of Centre</td>
<td>6</td>
<td>2.1</td>
<td>2.9</td>
</tr>
<tr>
<td>Stop Sign Violation</td>
<td>3</td>
<td>1.1</td>
<td>8.3</td>
</tr>
<tr>
<td>Failed to Yield Right of Way - Uncontrolled Intersection</td>
<td>3</td>
<td>1.1</td>
<td>2.1</td>
</tr>
<tr>
<td>Yield Sign Violation</td>
<td>1</td>
<td>0.4</td>
<td>1.7</td>
</tr>
<tr>
<td>Failed to Yield Right of Way to Pedestrian</td>
<td>1</td>
<td>0.4</td>
<td>5.4</td>
</tr>
<tr>
<td>Backed Unsafely</td>
<td>--</td>
<td>--</td>
<td>2.5</td>
</tr>
<tr>
<td>Other</td>
<td>20</td>
<td>7.1</td>
<td>2.0</td>
</tr>
</tbody>
</table>

**Total Number of Operators**  
283  100.0

#### Observations

Compared to drivers involved in total casualty collisions, motorcycle operators were more likely to run off the road, make an improper turn or pass improperly. However, motorcycle operators were less likely to follow too closely, make a left turn across the path of an oncoming vehicle or commit a stop sign violation.

*Based on those cases where driver actions were specified on the collision report form.

Note: There were a total of 556 motorcycle operators involved in casualty collisions for which a driver action was specified on the collision report form. 273 were indicated as driving properly at the time of the collision.
### Table 7.4

**Condition of Motorcycle Operators Involved in Casualty Collisions**

<table>
<thead>
<tr>
<th>Condition of Motorcycle Operator</th>
<th>N</th>
<th>%</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>546</td>
<td>95.5</td>
<td>94.4</td>
</tr>
<tr>
<td>Had Been Drinking</td>
<td>15</td>
<td>2.6</td>
<td>1.5</td>
</tr>
<tr>
<td>Alcohol Impaired</td>
<td>10</td>
<td>1.7</td>
<td>1.9</td>
</tr>
<tr>
<td><strong>Total Alcohol Involvement</strong></td>
<td>25</td>
<td>4.4</td>
<td>3.4</td>
</tr>
<tr>
<td>Impaired by Drugs</td>
<td>1</td>
<td>0.2</td>
<td>0.3</td>
</tr>
<tr>
<td>Fatigued/Asleep</td>
<td>--</td>
<td>--</td>
<td>0.9</td>
</tr>
<tr>
<td>Other</td>
<td>--</td>
<td>--</td>
<td>1.1</td>
</tr>
<tr>
<td><strong>Total Number of Motorcycle Operators</strong></td>
<td>572</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

**Observations**

The motorcycle operator’s condition was a contributory factor for 4.5% of the motorcycle operators involved in casualty collisions. Compared to drivers involved in total casualty collisions, motorcycle operators were more likely to have consumed alcohol prior to the crash.

*Based on those cases where driver condition was specified on the collision report form.*
### Table 7.5

**Motorcycle Vehicle Factors in Casualty Collisions***

<table>
<thead>
<tr>
<th>Vehicle Factors</th>
<th>N</th>
<th>%</th>
<th>Vehicle Factors in Total Casualty Collisions (All Vehicle Types)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Apparent Defect</td>
<td>581</td>
<td>98.1</td>
<td>99.0</td>
</tr>
<tr>
<td>Tires Failed</td>
<td>3</td>
<td>0.5</td>
<td>0.2</td>
</tr>
<tr>
<td>Defective Brakes</td>
<td>2</td>
<td>0.3</td>
<td>0.3</td>
</tr>
<tr>
<td>Lighting Defect</td>
<td>1</td>
<td>0.2</td>
<td>0.0</td>
</tr>
<tr>
<td>Improper Load/Shift</td>
<td>--</td>
<td>--</td>
<td>0.1</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>0.8</td>
<td>0.4</td>
</tr>
<tr>
<td><strong>Total Number of Motorcycles</strong></td>
<td><strong>592</strong></td>
<td><strong>100.0</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Observations**

Vehicle factors were identified for 1.9% of the motorcycles involved in casualty collisions compared to 1.0% for all types of vehicles involved in casualty collisions.

*Based on those cases where a vehicle factor was specified on the collision report form. This does not indicate that a mechanical inspection of the collision-involved motorcycle was conducted.
Table 7.6

Casualty Collisions Involving Motorcycles:

Month of Occurrence

2015

<table>
<thead>
<tr>
<th>Month</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>February</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>March</td>
<td>23</td>
<td>3.6</td>
</tr>
<tr>
<td>April</td>
<td>50</td>
<td>7.8</td>
</tr>
<tr>
<td>May</td>
<td>97</td>
<td>15.2</td>
</tr>
<tr>
<td>June</td>
<td>107</td>
<td>16.8</td>
</tr>
<tr>
<td>July</td>
<td>122</td>
<td>19.1</td>
</tr>
<tr>
<td>August</td>
<td>101</td>
<td>15.8</td>
</tr>
<tr>
<td>September</td>
<td>85</td>
<td>13.3</td>
</tr>
<tr>
<td>October</td>
<td>43</td>
<td>6.7</td>
</tr>
<tr>
<td>November</td>
<td>8</td>
<td>1.3</td>
</tr>
<tr>
<td>December</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

Total Number of Collisions 638 100.0

Observations

The month of July recorded the highest proportion of casualty crashes involving motorcycles.
Table 7.7

Casualty Collisions Involving Motorcycles:

Road Surface Condition

2015

<table>
<thead>
<tr>
<th>Road Surface Condition</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry</td>
<td>571</td>
<td>89.5</td>
</tr>
<tr>
<td>Loose Surface Material</td>
<td>29</td>
<td>4.5</td>
</tr>
<tr>
<td>Wet</td>
<td>23</td>
<td>3.6</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
<td>1.1</td>
</tr>
<tr>
<td>Unspecified</td>
<td>8</td>
<td>1.3</td>
</tr>
<tr>
<td>Total Number of Collisions</td>
<td>638</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Observations

The majority (89.5%) of casualty collisions involving motorcycles occurred on dry roads. Loose material on the road surface was involved in 4.5% of motorcycle casualty crashes. Wet roads were the scene for 3.6% of motorcycle casualty collisions.
Special Types of Vehicles

Truck Tractors

- In 2015, there were 38 persons killed and 556 injured in collisions involving truck tractors. This represents a decrease in fatalities and injuries from 2014.

- Compared to drivers of other vehicles, truck tractor drivers were more likely to run off the road, make an improper lane change, or pass improperly. However, operators of truck tractors were less likely than other vehicle operators to follow too closely, make a left turn across the path of oncoming vehicles or fail to yield right of way to a pedestrian.

- Truck tractor drivers were less likely to consume alcohol before the crash compared to drivers in total casualty collisions.

- Vehicle factors were more likely to be present in truck tractor casualty collisions than in total casualty collisions.

- The occurrence of casualty collisions involving truck tractors was highest in the month of January.
### Table 7.8

**Truck Tractors Involved in Casualty Collisions**

2011 – 2015

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fatal</strong></td>
<td>39</td>
<td>54</td>
<td>50</td>
<td>39</td>
<td>48</td>
</tr>
<tr>
<td><strong>Non-Fatal Injury</strong></td>
<td>457</td>
<td>526</td>
<td>477</td>
<td>476</td>
<td>481</td>
</tr>
<tr>
<td><strong>Total Number of Truck Tractors Involved in Casualty Collisions</strong></td>
<td>496</td>
<td>580</td>
<td>527</td>
<td>515</td>
<td>529</td>
</tr>
</tbody>
</table>

**Casualties***

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number Killed</strong></td>
<td>38</td>
<td>57</td>
<td>53</td>
<td>37</td>
<td>50</td>
</tr>
<tr>
<td><strong>Number Injured</strong></td>
<td>556</td>
<td>633</td>
<td>584</td>
<td>599</td>
<td>670</td>
</tr>
<tr>
<td><strong>Total Casualties in Collisions Involving Truck Tractors</strong></td>
<td>594</td>
<td>690</td>
<td>637</td>
<td>636</td>
<td>720</td>
</tr>
</tbody>
</table>

**Observations**

In 2015, there were 38 persons killed and 556 injured in collisions involving truck tractors. This represents a decrease in fatalities and injuries from 2014. The total number of truck tractors involved in casualty crashes was highest in 2014 at 580.

*This refers to the total number of people killed and injured in collisions in which a truck tractor was involved. It does not refer to the number of truck tractor drivers killed and injured.*
### Table 7.9

**Improper Actions of Truck Tractor Drivers Involved in Casualty Collisions**

2015

<table>
<thead>
<tr>
<th>Improper Actions of Truck Tractor Driver</th>
<th>2015 N</th>
<th>2015 %</th>
<th>All Vehicle Types %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ran Off Road</td>
<td>88</td>
<td>43.1</td>
<td>18.4</td>
</tr>
<tr>
<td>Followed Too Closely</td>
<td>41</td>
<td>20.1</td>
<td>31.2</td>
</tr>
<tr>
<td>Improper Lane Change</td>
<td>14</td>
<td>6.9</td>
<td>3.2</td>
</tr>
<tr>
<td>Stop Sign Violation</td>
<td>13</td>
<td>6.4</td>
<td>8.3</td>
</tr>
<tr>
<td>Improper Passing</td>
<td>9</td>
<td>4.4</td>
<td>1.0</td>
</tr>
<tr>
<td>Left Turn Across Path</td>
<td>7</td>
<td>3.4</td>
<td>11.3</td>
</tr>
<tr>
<td>Left of Centre</td>
<td>7</td>
<td>3.4</td>
<td>2.9</td>
</tr>
<tr>
<td>Disobey Traffic Signal</td>
<td>6</td>
<td>2.9</td>
<td>6.7</td>
</tr>
<tr>
<td>Improper Turn</td>
<td>5</td>
<td>2.5</td>
<td>3.4</td>
</tr>
<tr>
<td>Backed Unsafely</td>
<td>4</td>
<td>2.0</td>
<td>2.5</td>
</tr>
<tr>
<td>Failed to Yield Right of Way - Uncontrolled Intersection</td>
<td>3</td>
<td>1.5</td>
<td>2.1</td>
</tr>
<tr>
<td>Yield Sign Violation</td>
<td>1</td>
<td>0.5</td>
<td>1.7</td>
</tr>
<tr>
<td>Failed to Yield Right of Way - Pedestrian</td>
<td>1</td>
<td>0.5</td>
<td>5.4</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>2.5</td>
<td>2.0</td>
</tr>
</tbody>
</table>

**Total Number of Drivers** 204 100.0

**Observations**

Compared to drivers of other vehicles, truck tractor drivers were more likely to run off the road, make an improper lane change, or pass improperly. However, operators of truck tractors were less likely than other vehicle operators to follow too closely, make a left turn across the path of oncoming vehicles or fail to yield right of way to a pedestrian.

*Based on those cases where driver actions were specified on the collision report form.

**Note:** There was a total of 446 truck-tractor drivers involved in casualty collisions for which a driver action was specified on the collision report form. 242 were indicated as driving properly at the time of the collision.
### Table 7.10

**Condition of Truck Tractor Drivers Involved in Casualty Collisions***

<table>
<thead>
<tr>
<th>Driver Condition</th>
<th>N</th>
<th>%</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>420</td>
<td>96.8</td>
<td>94.4</td>
</tr>
<tr>
<td>Had Been Drinking</td>
<td>3</td>
<td>0.7</td>
<td>1.5</td>
</tr>
<tr>
<td>Alcohol Impaired</td>
<td>2</td>
<td>0.5</td>
<td>1.9</td>
</tr>
<tr>
<td><strong>Total Alcohol Involvement</strong></td>
<td>5</td>
<td>1.2</td>
<td>3.4</td>
</tr>
<tr>
<td>Fatigued/Asleep</td>
<td>7</td>
<td>1.6</td>
<td>0.3</td>
</tr>
<tr>
<td>Impaired by Drugs</td>
<td>--</td>
<td>--</td>
<td>0.9</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>0.5</td>
<td>1.1</td>
</tr>
<tr>
<td><strong>Total Number of Drivers</strong></td>
<td>434</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

**Observations**

The condition of the truck tractor driver was a contributory factor for 3.2% of the drivers involved. In 2015, five truck tractor drivers were reported by police as having consumed alcohol. Truck tractor drivers were more likely to have been fatigued or asleep at the time of the crash.

*Based on those cases where driver condition was specified on the collision report form.
Table 7.11

Vehicle Factors of Truck Tractors Involved in Casualty Collisions*

2015

<table>
<thead>
<tr>
<th>Vehicle Factors</th>
<th>N</th>
<th>%</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Apparent Defect</td>
<td>431</td>
<td>97.7</td>
<td>99.0</td>
</tr>
<tr>
<td>Defective Brakes</td>
<td>5</td>
<td>1.1</td>
<td>0.3</td>
</tr>
<tr>
<td>Improper Load/Shift</td>
<td>3</td>
<td>0.7</td>
<td>0.0</td>
</tr>
<tr>
<td>Lighting Defect</td>
<td>1</td>
<td>0.2</td>
<td>0.1</td>
</tr>
<tr>
<td>Tires Failed</td>
<td>--</td>
<td>--</td>
<td>0.2</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>0.2</td>
<td>0.4</td>
</tr>
</tbody>
</table>

Total Number of Truck Tractors 441 100.0

Observations

Vehicle factors were identified for 2.3% of truck tractors in casualty collisions. Vehicle factors were more likely to be present in truck tractor collisions than in total casualty collisions.

*Based on those cases where a vehicle factor was specified on the collision report form. This does not indicate whether or not a mechanical inspection of the collision-involved truck tractor was conducted.
Table 7.12

Casualty Collisions Involving Truck Tractors:

Month of Occurrence

2015

<table>
<thead>
<tr>
<th>Month</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>60</td>
<td>13.1</td>
</tr>
<tr>
<td>February</td>
<td>41</td>
<td>9.0</td>
</tr>
<tr>
<td>March</td>
<td>31</td>
<td>6.8</td>
</tr>
<tr>
<td>April</td>
<td>26</td>
<td>5.7</td>
</tr>
<tr>
<td>May</td>
<td>23</td>
<td>5.0</td>
</tr>
<tr>
<td>June</td>
<td>33</td>
<td>7.2</td>
</tr>
<tr>
<td>July</td>
<td>47</td>
<td>10.3</td>
</tr>
<tr>
<td>August</td>
<td>48</td>
<td>10.5</td>
</tr>
<tr>
<td>September</td>
<td>25</td>
<td>5.5</td>
</tr>
<tr>
<td>October</td>
<td>43</td>
<td>9.4</td>
</tr>
<tr>
<td>November</td>
<td>36</td>
<td>7.9</td>
</tr>
<tr>
<td>December</td>
<td>43</td>
<td>9.4</td>
</tr>
<tr>
<td>Unspecified</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>Total Number of Collisions</td>
<td>457</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Observations

The occurrence of casualty collisions involving truck tractors was highest in the month of January and lowest during May.
Special Types of Vehicles

Trains

- In 2015, four people were killed and 14 people were injured in crashes in which a train was involved. The number of casualties involving trains remained the same from 2014.

- The largest number of casualty collisions involving trains occurred in the month of November.

- The majority (93.3%) of drivers involved in casualty collisions with a train made an improper driving action.
Table 7.13

Trains Involved in Casualty Collisions

2011 – 2015

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of Trains</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fatal</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Non-Fatal Injury</td>
<td>12</td>
<td>14</td>
<td>16</td>
<td>16</td>
<td>19</td>
</tr>
<tr>
<td><strong>Total Number of Trains</strong></td>
<td>16</td>
<td>16</td>
<td>20</td>
<td>17</td>
<td>22</td>
</tr>
<tr>
<td><strong>Casualties</strong>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number Killed</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Number Injured</td>
<td>14</td>
<td>16</td>
<td>20</td>
<td>20</td>
<td>27</td>
</tr>
<tr>
<td><strong>Total Casualties in Collisions Involving Trains</strong></td>
<td>18</td>
<td>18</td>
<td>24</td>
<td>21</td>
<td>30</td>
</tr>
</tbody>
</table>

Observations

The number of trains involved in casualty collisions remained the same compared to 2014. The number of casualties resulting from these collisions also remained the same.

*This refers to the total number of people killed and injured in collisions involving a train.
### Table 7.14

**Casualty Collisions Involving Trains:**

**Month of Occurrence**

2015

<table>
<thead>
<tr>
<th>Month</th>
<th>Fatal Collisions</th>
<th>Non-Fatal Injury Collisions</th>
<th>Total Casualty Collisions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>January</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>February</td>
<td>--</td>
<td>--</td>
<td>2</td>
</tr>
<tr>
<td>March</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>April</td>
<td>1</td>
<td>25.0</td>
<td>--</td>
</tr>
<tr>
<td>May</td>
<td>--</td>
<td>--</td>
<td>2</td>
</tr>
<tr>
<td>June</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>July</td>
<td>1</td>
<td>25.0</td>
<td>--</td>
</tr>
<tr>
<td>August</td>
<td>--</td>
<td>--</td>
<td>2</td>
</tr>
<tr>
<td>September</td>
<td>--</td>
<td>--</td>
<td>2</td>
</tr>
<tr>
<td>October</td>
<td>1</td>
<td>25.0</td>
<td>1</td>
</tr>
<tr>
<td>November</td>
<td>--</td>
<td>--</td>
<td>3</td>
</tr>
<tr>
<td>December</td>
<td>1</td>
<td>25.0</td>
<td>--</td>
</tr>
<tr>
<td><strong>Total Number of Collisions</strong></td>
<td><strong>4</strong></td>
<td><strong>100.0</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

**Observations**

The largest number of casualty collisions involving trains occurred in the month of November.
**Table 7.15**

Actions of Drivers Involved in Casualty Collisions with Trains*

2015

<table>
<thead>
<tr>
<th>Driver Actions</th>
<th>Drivers in Fatal Collisions</th>
<th>Drivers in Non-Fatal Injury Collisions</th>
<th>Total Drivers in Casualty Collisions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Driving Properly</td>
<td>--</td>
<td>--</td>
<td>1</td>
</tr>
<tr>
<td>Disobey Traffic Signal</td>
<td>3</td>
<td>75.0</td>
<td>5</td>
</tr>
<tr>
<td>Stop Sign Violation</td>
<td>1</td>
<td>25.0</td>
<td>2</td>
</tr>
<tr>
<td>Failed to Yield Right of Way - Uncontrolled Intersection</td>
<td>--</td>
<td>--</td>
<td>2</td>
</tr>
<tr>
<td>Improper Turn</td>
<td>--</td>
<td>--</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total Number of Drivers</strong></td>
<td>4</td>
<td>100.0</td>
<td>11</td>
</tr>
</tbody>
</table>

Observations

The majority (93.3%) of drivers involved in a casualty collision with a train made an improper driving action.

*Based on those cases where driver actions were specified on the collision report form.
Pedestrians

- Pedestrian casualty collisions were more likely to occur in October. July experienced the least number of pedestrian crashes.

- Pedestrian casualty collisions were most likely to occur on Tuesday and least likely to occur on Sunday.

- Pedestrian casualty collisions were most likely to occur during the evening rush-hour period (3:00 p.m. - 6:59 p.m.).

- 50.2% of the drivers in casualty collisions involving a pedestrian were recorded as failing to yield the right of way to the pedestrian.

- The casualty rate per population was highest for pedestrians between the ages of 15 and 19.

- Of pedestrians involved in injury collisions, 10.2% had consumed alcohol before the collision, compared to 21.7% involved in fatal collisions.

- Of those pedestrians who had consumed alcohol prior to the collision, the highest rate of involvement per 10,000 population was for pedestrians 20 - 24 years of age.
Table 8.1

Casualty Collisions Involving Pedestrians:
Month of Occurrence

2015

<table>
<thead>
<tr>
<th>Month of Collision</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>105</td>
<td>8.8</td>
</tr>
<tr>
<td>February</td>
<td>91</td>
<td>7.7</td>
</tr>
<tr>
<td>March</td>
<td>107</td>
<td>9.0</td>
</tr>
<tr>
<td>April</td>
<td>81</td>
<td>6.8</td>
</tr>
<tr>
<td>May</td>
<td>93</td>
<td>7.8</td>
</tr>
<tr>
<td>June</td>
<td>87</td>
<td>7.3</td>
</tr>
<tr>
<td>July</td>
<td>79</td>
<td>6.6</td>
</tr>
<tr>
<td>August</td>
<td>80</td>
<td>6.7</td>
</tr>
<tr>
<td>September</td>
<td>107</td>
<td>9.0</td>
</tr>
<tr>
<td>October</td>
<td>126</td>
<td>10.6</td>
</tr>
<tr>
<td>November</td>
<td>122</td>
<td>10.3</td>
</tr>
<tr>
<td>December</td>
<td>111</td>
<td>9.3</td>
</tr>
</tbody>
</table>

Total Number of Collisions 1189 100.0

Observations

Pedestrian casualty collisions were more likely to occur in October. July experienced the least number of pedestrian crashes.
Table 8.2

Casualty Collisions Involving Pedestrians:

Day of Week

2015

<table>
<thead>
<tr>
<th>Day of Week</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>181</td>
<td>15.2</td>
</tr>
<tr>
<td>Tuesday</td>
<td>191</td>
<td>16.1</td>
</tr>
<tr>
<td>Wednesday</td>
<td>185</td>
<td>15.6</td>
</tr>
<tr>
<td>Thursday</td>
<td>187</td>
<td>15.7</td>
</tr>
<tr>
<td>Friday</td>
<td>185</td>
<td>15.6</td>
</tr>
<tr>
<td>Saturday</td>
<td>139</td>
<td>11.7</td>
</tr>
<tr>
<td>Sunday</td>
<td>121</td>
<td>10.2</td>
</tr>
<tr>
<td><strong>Total Number of Collisions</strong></td>
<td><strong>1189</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Observations

Pedestrian casualty collisions were most likely to occur on Tuesday and least likely to occur on Sunday.
### Table 8.3

**Casualty Collisions Involving Pedestrians:**

**Time Period**

**2015**

<table>
<thead>
<tr>
<th>Time Period</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:00 p.m. - 2:59 a.m.</td>
<td>86</td>
<td>7.2</td>
</tr>
<tr>
<td>3:00 a.m. - 6:59 a.m.</td>
<td>52</td>
<td>4.4</td>
</tr>
<tr>
<td>7:00 a.m. - 10:59 a.m.</td>
<td>223</td>
<td>18.8</td>
</tr>
<tr>
<td>11:00 a.m. - 2:59 p.m.</td>
<td>258</td>
<td>21.7</td>
</tr>
<tr>
<td>3:00 p.m. - 6:59 p.m.</td>
<td>348</td>
<td>29.3</td>
</tr>
<tr>
<td>7:00 p.m. - 10:59 p.m.</td>
<td>216</td>
<td>18.2</td>
</tr>
<tr>
<td>Unspecified</td>
<td>6</td>
<td>0.5</td>
</tr>
</tbody>
</table>

**Total Number of Collisions**

|                  | 1189 | 100.0 |

**Observations**

Pedestrian casualty collisions were most likely to occur during the evening rush-hour period from 3:00 p.m. to 6:59 p.m. These collisions were least likely to occur during the early morning hours (3:00 a.m. to 6:59 a.m.).
### Table 8.4

**Casualty Collisions Involving Pedestrians:**

<table>
<thead>
<tr>
<th>Location</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>1146</td>
<td>96.4</td>
</tr>
<tr>
<td>Rural</td>
<td>43</td>
<td>3.6</td>
</tr>
</tbody>
</table>

**Total Number of Collisions**

1189 100.0

**Observations**

The majority of pedestrian casualty collisions (96.4%) occurred in urban areas. Only 3.6% occurred in rural areas.
### Table 8.5

**Actions of Drivers Involved in Casualty Collisions with Pedestrians***

<table>
<thead>
<tr>
<th>Driver Actions</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driving Properly</td>
<td>306</td>
<td>28.9</td>
</tr>
<tr>
<td>Failed to Yield Right of Way To Pedestrian</td>
<td>531</td>
<td>50.2</td>
</tr>
<tr>
<td>Backed Unsafely</td>
<td>96</td>
<td>9.1</td>
</tr>
<tr>
<td>Improper Turn</td>
<td>29</td>
<td>2.7</td>
</tr>
<tr>
<td>Ran Off Road</td>
<td>16</td>
<td>1.5</td>
</tr>
<tr>
<td>Failed to Yield Right of Way - Uncontrolled Intersection</td>
<td>16</td>
<td>1.5</td>
</tr>
<tr>
<td>Followed Too Closely</td>
<td>12</td>
<td>1.1</td>
</tr>
<tr>
<td>Left Turn Across Path</td>
<td>11</td>
<td>1.0</td>
</tr>
<tr>
<td>Stop Sign Violation</td>
<td>11</td>
<td>1.0</td>
</tr>
<tr>
<td>Disobey Traffic Signal</td>
<td>11</td>
<td>1.0</td>
</tr>
<tr>
<td>Yield Sign Violation</td>
<td>5</td>
<td>0.5</td>
</tr>
<tr>
<td>Left of Centre</td>
<td>3</td>
<td>0.3</td>
</tr>
<tr>
<td>Improper Passing</td>
<td>3</td>
<td>0.3</td>
</tr>
<tr>
<td>Improper Lane Change</td>
<td>2</td>
<td>0.2</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
<td>0.6</td>
</tr>
<tr>
<td><strong>Total Number of Drivers</strong></td>
<td>1058</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Observations**

28.9% of the drivers involved in pedestrian casualty crashes were recorded as driving properly. However, 50.2% of the drivers involved in pedestrian casualty collisions failed to yield the right of way to the pedestrian.

*Based on those cases where driver actions were specified on the collision report form.*
### Table 8.6

**Age of Pedestrian Casualties**

2015

<table>
<thead>
<tr>
<th>Age in Years</th>
<th>Pedestrians Killed N</th>
<th>Pedestrians Injured N</th>
<th>Total Pedestrian Casualties N</th>
<th>Pedestrian Casualty Rate Per 10,000 Population*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 5</td>
<td>0</td>
<td>20</td>
<td>20</td>
<td>1.6</td>
</tr>
<tr>
<td>5 - 9</td>
<td>1</td>
<td>53</td>
<td>54</td>
<td>4.4</td>
</tr>
<tr>
<td>10 - 14</td>
<td>1</td>
<td>75</td>
<td>76</td>
<td>6.2</td>
</tr>
<tr>
<td>15 - 19</td>
<td>2</td>
<td>123</td>
<td>125</td>
<td>10.1</td>
</tr>
<tr>
<td>20 - 24</td>
<td>1</td>
<td>122</td>
<td>123</td>
<td>10.0</td>
</tr>
<tr>
<td>25 - 29</td>
<td>2</td>
<td>122</td>
<td>124</td>
<td>10.0</td>
</tr>
<tr>
<td>30 - 34</td>
<td>2</td>
<td>94</td>
<td>96</td>
<td>7.8</td>
</tr>
<tr>
<td>35 - 44</td>
<td>9</td>
<td>150</td>
<td>159</td>
<td>12.9</td>
</tr>
<tr>
<td>45 - 54</td>
<td>5</td>
<td>142</td>
<td>147</td>
<td>11.9</td>
</tr>
<tr>
<td>55 - 64</td>
<td>5</td>
<td>125</td>
<td>130</td>
<td>10.5</td>
</tr>
<tr>
<td>65 and over</td>
<td>8</td>
<td>128</td>
<td>136</td>
<td>11.0</td>
</tr>
<tr>
<td>Unspecified</td>
<td>--</td>
<td>44</td>
<td>44</td>
<td>3.6</td>
</tr>
</tbody>
</table>

**Total Number of Pedestrian Casualties**

|                        | 36 | 1198 | 1234 | 100.0 |

**Observations**

The casualty rate per population was highest for pedestrians between the ages of 15 and 19. The lowest casualty rate was recorded for children under 5 years of age.

*Source: Based on estimates of the Alberta population by age groups and sex, July 1, 2015, Statistics Canada*
Figure 7

Pedestrian Casualties
Alberta 2015

Casualty Rate per 10,000 Population

Age in Years

Under 5  5 - 9  10 - 14  15 - 19  20 - 24  25 - 29  30 - 34  35 - 44  45 - 54  55 - 64  65 and over

0.7  2.1  3.3  5.1  4.2  3.6  2.6  2.6  2.6  2.6  2.8
### Table 8.7

Condition of Pedestrians Involved in Casualty Collisions*

<table>
<thead>
<tr>
<th>Condition of Pedestrian</th>
<th>Pedestrians in Fatal Collisions</th>
<th>Pedestrians in Non-Fatal Injury Collisions</th>
<th>Total Pedestrians in Casualty Collisions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Normal</td>
<td>17</td>
<td>73.9</td>
<td>944</td>
</tr>
<tr>
<td>Had Been Drinking</td>
<td>2</td>
<td>8.7</td>
<td>42</td>
</tr>
<tr>
<td>Alcohol Impaired</td>
<td>3</td>
<td>13.0</td>
<td>67</td>
</tr>
<tr>
<td>Total Alcohol Involvement</td>
<td>5</td>
<td>21.7</td>
<td>109</td>
</tr>
<tr>
<td>Impaired by Drugs</td>
<td>--</td>
<td>--</td>
<td>7</td>
</tr>
<tr>
<td>Fatigued/Asleep</td>
<td>--</td>
<td>--</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>4.3</td>
<td>6</td>
</tr>
<tr>
<td>Total Number of Pedestrians</td>
<td>23</td>
<td>100.0</td>
<td>1067</td>
</tr>
</tbody>
</table>

### Observations

Of pedestrians involved in injury collisions, 10.2% had consumed alcohol before the collision, compared to 21.7% involved in fatal collisions. As the severity of the collision increased, the involvement of alcohol increased.

*Based only on those cases where pedestrian condition was specified on the collision report form.
### Table 8.8

**Age of Drinking Pedestrians Involved in Casualty Collisions***

2015

<table>
<thead>
<tr>
<th>Age in Years</th>
<th>N</th>
<th>%</th>
<th>Rate per 10,000 Population**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 10</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>10 - 14</td>
<td>1</td>
<td>0.9</td>
<td>0.0</td>
</tr>
<tr>
<td>15 - 19</td>
<td>3</td>
<td>2.6</td>
<td>0.1</td>
</tr>
<tr>
<td>20 - 24</td>
<td>18</td>
<td>15.8</td>
<td>0.6</td>
</tr>
<tr>
<td>25 - 29</td>
<td>15</td>
<td>13.2</td>
<td>0.4</td>
</tr>
<tr>
<td>30 - 34</td>
<td>15</td>
<td>13.2</td>
<td>0.4</td>
</tr>
<tr>
<td>35 - 44</td>
<td>20</td>
<td>17.5</td>
<td>0.3</td>
</tr>
<tr>
<td>45 - 54</td>
<td>26</td>
<td>22.8</td>
<td>0.5</td>
</tr>
<tr>
<td>55 - 64</td>
<td>8</td>
<td>7.0</td>
<td>0.2</td>
</tr>
<tr>
<td>65 and over</td>
<td>4</td>
<td>3.5</td>
<td>0.1</td>
</tr>
<tr>
<td>Unspecified</td>
<td>4</td>
<td>3.5</td>
<td></td>
</tr>
</tbody>
</table>

**Total Number of Pedestrian Casualties**  
114  100.0

**Observations**

Of those pedestrians who had consumed alcohol prior to the collision, the highest rate of involvement per 10,000 population was for pedestrians 20 - 24 years of age.

*Based on those cases where pedestrian condition was specified on the collision report form.

**Source: Based on estimates of the Alberta population by age groups and sex, July 1, 2015, Statistics Canada.
Bicyclists

- Casualty collisions involving bicycles were more likely to occur in the month of July.
- Weekdays experienced the most casualty collisions involving bicycles. As well, the largest number of these crashes (38.1%) occurred during the evening rush-hour period.
- Young bicyclists aged 15 to 19 had the highest casualty rate per 10,000 population.
- Compared to operators of all vehicles in casualty collisions, bicyclists were more likely to disobey a traffic signal or fail to yield right-of-way at an uncontrolled intersection.
- 5.2% of bicyclists involved in casualty collisions had consumed alcohol before the crash.
### Table 9.1

**Casualty Collisions Involving Bicycles:**

**Month of Occurrence**

**2015**

<table>
<thead>
<tr>
<th>Month of Collision</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>7</td>
<td>1.3</td>
</tr>
<tr>
<td>February</td>
<td>8</td>
<td>1.5</td>
</tr>
<tr>
<td>March</td>
<td>15</td>
<td>2.8</td>
</tr>
<tr>
<td>April</td>
<td>44</td>
<td>8.3</td>
</tr>
<tr>
<td>May</td>
<td>54</td>
<td>10.1</td>
</tr>
<tr>
<td>June</td>
<td>87</td>
<td>16.3</td>
</tr>
<tr>
<td>July</td>
<td>91</td>
<td>17.1</td>
</tr>
<tr>
<td>August</td>
<td>80</td>
<td>15.0</td>
</tr>
<tr>
<td>September</td>
<td>76</td>
<td>14.3</td>
</tr>
<tr>
<td>October</td>
<td>46</td>
<td>8.6</td>
</tr>
<tr>
<td>November</td>
<td>17</td>
<td>3.2</td>
</tr>
<tr>
<td>December</td>
<td>8</td>
<td>1.5</td>
</tr>
</tbody>
</table>

**Total Number of Collisions** | 533 | 100.0%

**Observations**

The highest number of casualty crashes involving bicycles occurred during the month of July.
### Table 9.2

**Casualty Collisions Involving Bicycles:**

**Day of Week**

2015

<table>
<thead>
<tr>
<th>Day of Week</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>65</td>
<td>12.2</td>
</tr>
<tr>
<td>Tuesday</td>
<td>91</td>
<td>17.1</td>
</tr>
<tr>
<td>Wednesday</td>
<td>97</td>
<td>18.2</td>
</tr>
<tr>
<td>Thursday</td>
<td>94</td>
<td>17.6</td>
</tr>
<tr>
<td>Friday</td>
<td>90</td>
<td>16.9</td>
</tr>
<tr>
<td>Saturday</td>
<td>58</td>
<td>10.9</td>
</tr>
<tr>
<td>Sunday</td>
<td>38</td>
<td>7.1</td>
</tr>
<tr>
<td><strong>Total Number of Collisions</strong></td>
<td><strong>533</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

**Observations**

Casualty collisions involving bicycles were most likely to occur on weekdays.
### Table 9.3

**Casualty Collisions Involving Bicycles:**

**Time Period**

**2015**

<table>
<thead>
<tr>
<th>Time Period</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:00 p.m. - 2:59 a.m.</td>
<td>17</td>
<td>3.2</td>
</tr>
<tr>
<td>3:00 a.m. - 6:59 a.m.</td>
<td>22</td>
<td>4.1</td>
</tr>
<tr>
<td>7:00 a.m. - 10:59 a.m.</td>
<td>103</td>
<td>19.3</td>
</tr>
<tr>
<td>11:00 a.m. - 2:59 p.m.</td>
<td>92</td>
<td>17.3</td>
</tr>
<tr>
<td>3:00 p.m. - 6:59 p.m.</td>
<td>203</td>
<td>38.1</td>
</tr>
<tr>
<td>7:00 p.m. - 10:59 p.m.</td>
<td>90</td>
<td>16.9</td>
</tr>
<tr>
<td>Unspecified</td>
<td>6</td>
<td>1.1</td>
</tr>
</tbody>
</table>

**Total Number of Collisions** 533 100.0

**Observations**

The largest proportion of casualty crashes (38.1%) involving bicycles occurred during the evening rush-hour period of 3:00 p.m. - 6:59 p.m.
Table 9.4

Age of Bicyclist Casualties

2015

<table>
<thead>
<tr>
<th>Age in Years</th>
<th>Persons Killed N</th>
<th>Persons Injured N</th>
<th>Total Bicyclist Casualties N</th>
<th>Casualty Rate Per 10,000 Population*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 5</td>
<td>--</td>
<td>3</td>
<td>3</td>
<td>0.6</td>
</tr>
<tr>
<td>5 - 9</td>
<td>--</td>
<td>26</td>
<td>26</td>
<td>4.9</td>
</tr>
<tr>
<td>10 - 14</td>
<td>--</td>
<td>59</td>
<td>59</td>
<td>11.0</td>
</tr>
<tr>
<td>15 - 19</td>
<td>--</td>
<td>75</td>
<td>75</td>
<td>14.0</td>
</tr>
<tr>
<td>20 - 24</td>
<td>1 33.3</td>
<td>57</td>
<td>58</td>
<td>10.8</td>
</tr>
<tr>
<td>25 - 29</td>
<td>--</td>
<td>49</td>
<td>49</td>
<td>9.2</td>
</tr>
<tr>
<td>30 - 34</td>
<td>--</td>
<td>36</td>
<td>36</td>
<td>6.7</td>
</tr>
<tr>
<td>35 - 44</td>
<td>1 33.3</td>
<td>72</td>
<td>73</td>
<td>13.5</td>
</tr>
<tr>
<td>45 - 54</td>
<td>1 33.3</td>
<td>77</td>
<td>78</td>
<td>14.4</td>
</tr>
<tr>
<td>55 - 64</td>
<td>--</td>
<td>43</td>
<td>43</td>
<td>8.1</td>
</tr>
<tr>
<td>65 and over</td>
<td>--</td>
<td>10</td>
<td>10</td>
<td>1.9</td>
</tr>
<tr>
<td>Unspecified</td>
<td>--</td>
<td>27</td>
<td>27</td>
<td>5.1</td>
</tr>
</tbody>
</table>

Total Casualties 3 100.0 534 100.0 537 100.0

Observations

Casualty rates per 10,000 population were highest for persons between the ages of 15 and 19. The lowest casualty rates were recorded for children under 5 years of age and adults aged 65 and older.

*Based on estimates of the Alberta population by age groups and sex, July 1, 2015, Statistics Canada
Table 9.5

Improper Actions of Bicyclists Involved in Casualty Collisions

2015

<table>
<thead>
<tr>
<th>Improper Actions of Bicyclists</th>
<th>N</th>
<th>%</th>
<th>Driver Actions in Total Casualty Collisions (All Vehicle Types)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disobey Traffic Signal</td>
<td>44</td>
<td>23.4</td>
<td>6.7</td>
</tr>
<tr>
<td>Failed to Yield Right of Way - Uncontrolled Intersec</td>
<td>26</td>
<td>13.8</td>
<td>2.1</td>
</tr>
<tr>
<td>Stop Sign Violation</td>
<td>23</td>
<td>12.2</td>
<td>8.3</td>
</tr>
<tr>
<td>Followed Too Closely</td>
<td>7</td>
<td>3.7</td>
<td>31.2</td>
</tr>
<tr>
<td>Backed Unsafely</td>
<td>5</td>
<td>2.7</td>
<td>2.5</td>
</tr>
<tr>
<td>Improper Lane Change</td>
<td>5</td>
<td>2.7</td>
<td>3.2</td>
</tr>
<tr>
<td>Left Turn Across Path</td>
<td>5</td>
<td>2.7</td>
<td>11.3</td>
</tr>
<tr>
<td>Improper Turn</td>
<td>4</td>
<td>2.1</td>
<td>3.4</td>
</tr>
<tr>
<td>Left of Centre</td>
<td>4</td>
<td>2.1</td>
<td>2.9</td>
</tr>
<tr>
<td>Improper Passing</td>
<td>4</td>
<td>2.1</td>
<td>1.0</td>
</tr>
<tr>
<td>Failed to Yield Right of Way to Pedestrian</td>
<td>3</td>
<td>1.6</td>
<td>5.4</td>
</tr>
<tr>
<td>Yield Sign Violation</td>
<td>3</td>
<td>1.6</td>
<td>1.7</td>
</tr>
<tr>
<td>Ran Off Road</td>
<td>2</td>
<td>1.1</td>
<td>18.4</td>
</tr>
<tr>
<td>Other</td>
<td>53</td>
<td>28.2</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Total Number of Bicyclists 188 100.0

Observations

Compared to operators of all vehicles in casualty collisions, bicyclists were more likely to disobey a traffic signal or to fail to yield right-of-way at an uncontrolled intersection.

*Based on those cases where driver actions were specified on the collision report form.

Note: There were a total of 381 bicyclists involved in casualty collisions for which a driver action was specified on the collision report form. 193 were indicated as driving properly at the time of the collision.
### Table 9.6

**Condition of Bicyclists Involved in Casualty Collisions**

<table>
<thead>
<tr>
<th>Condition of Bicyclist</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>449</td>
<td>93.7</td>
</tr>
<tr>
<td>Had Been Drinking</td>
<td>17</td>
<td>3.5</td>
</tr>
<tr>
<td>Alcohol Impaired</td>
<td>8</td>
<td>1.7</td>
</tr>
<tr>
<td><strong>Total Alcohol Involvement</strong></td>
<td>25</td>
<td>5.2</td>
</tr>
<tr>
<td>Impaired by Drugs</td>
<td>2</td>
<td>0.4</td>
</tr>
<tr>
<td>Fatigued/Asleep</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>0.4</td>
</tr>
<tr>
<td><strong>Total Number of Bicyclists</strong></td>
<td>479</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Observations**

5.2% of bicyclists involved in casualty collisions had consumed alcohol before the crash.

*Based only on those cases where bicyclist condition was specified on the collision report form.*
Traffic Safety Issues

Alcohol Involvement

- A total of 3.1% of drivers involved in injury crashes were judged to have consumed alcohol prior to the crash, compared to 19.8% of drivers involved in fatal collisions. As the severity of the collision increased, the involvement of alcohol dramatically increased.

- In terms of involvement per 1,000 licenced drivers, males between 18 and 21 years of age were most likely to have been drinking before the crash. There were over four times as many male drivers as female drivers who had consumed alcohol prior to the collision.

- In 2015, alcohol related casualty crashes were most likely to have occurred in May, on Saturday, and between 11:00 p.m. and 2:59 a.m.

- Figure 8 provides a graphic representation of the involvement of drinking drivers in casualty collisions over the past five years, 2011 - 2015.
Table 10.1

Condition of Drivers in Casualty Collisions*

2015

<table>
<thead>
<tr>
<th>Condition of Driver</th>
<th>Drivers in Fatal Collisions</th>
<th>Drivers in Non-Fatal Injury Collisions</th>
<th>Total Drivers in Casualty Collisions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Normal</td>
<td>273</td>
<td>76.0</td>
<td>19812</td>
</tr>
<tr>
<td>Had Been Drinking</td>
<td>34</td>
<td>9.5</td>
<td>279</td>
</tr>
<tr>
<td>Alcohol Impaired</td>
<td>37</td>
<td>10.3</td>
<td>370</td>
</tr>
<tr>
<td>Total Alcohol Involvement</td>
<td>71</td>
<td>19.8</td>
<td>649</td>
</tr>
<tr>
<td>Impaired by Drugs</td>
<td>6</td>
<td>1.7</td>
<td>52</td>
</tr>
<tr>
<td>Fatigued/Asleep</td>
<td>7</td>
<td>1.9</td>
<td>186</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>0.6</td>
<td>226</td>
</tr>
<tr>
<td>Total Number of Drivers</td>
<td>359</td>
<td>100.0</td>
<td>20925</td>
</tr>
</tbody>
</table>

Observations

Of drivers involved in injury collisions, 3.1% had consumed alcohol before the crash, compared to 19.8% in fatal collisions. As the severity of the collision increased, the involvement of alcohol dramatically increased. Overall, 3.4% of drivers involved in casualty collisions were judged to have consumed alcohol before the crash.

*Based on those cases where driver condition was specified on the collision report form. These numbers do not include bicyclists (see Table 9.6, page 65).
**Figure 8**

Involvement of Drinking Drivers in Casualty Collisions
Alberta 2011 - 2015

![Bar chart showing the percentage involvement of drinking drivers in casualty collisions from 2011 to 2015.](chart.png)

- **2015**: 19.8% (3.1% Fatal, 16.7% Injury)
- **2014**: 15.9% (3.3% Fatal, 12.6% Injury)
- **2013**: 17.5% (3.3% Fatal, 14.2% Injury)
- **2012**: 19.6% (4.1% Fatal, 15.5% Injury)
- **2011**: 16.5% (4.4% Fatal, 12.1% Injury)
Figure 9

Driver Condition in Casualty Collisions
Alberta 2015

Driver Condition

- Normal
- Had Been Drinking
- Alcohol Impaired
- TOTAL Alcohol Involvement

% of Drivers in Casualty Collisions

- Fatal Collisions
- Injury Collisions
### Table 10.2

**Age and Sex of Drinking Drivers in Casualty Collisions***

**2015**

<table>
<thead>
<tr>
<th>Age in Years</th>
<th>N</th>
<th>%</th>
<th>N</th>
<th>%</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td></td>
<td>Female</td>
<td></td>
<td>Total*</td>
<td></td>
</tr>
<tr>
<td>Under 16</td>
<td>2</td>
<td>0.3</td>
<td>2</td>
<td>0.3</td>
<td>4</td>
<td>0.6</td>
</tr>
<tr>
<td>16 - 17</td>
<td>9</td>
<td>1.3</td>
<td>3</td>
<td>0.4</td>
<td>12</td>
<td>1.7</td>
</tr>
<tr>
<td>18 - 19</td>
<td>46</td>
<td>6.4</td>
<td>6</td>
<td>0.8</td>
<td>52</td>
<td>7.2</td>
</tr>
<tr>
<td>20 - 21</td>
<td>53</td>
<td>7.4</td>
<td>10</td>
<td>1.4</td>
<td>63</td>
<td>8.8</td>
</tr>
<tr>
<td>22 - 24</td>
<td>66</td>
<td>9.2</td>
<td>10</td>
<td>1.4</td>
<td>76</td>
<td>10.6</td>
</tr>
<tr>
<td>25 - 29</td>
<td>94</td>
<td>13.1</td>
<td>25</td>
<td>3.5</td>
<td>119</td>
<td>16.5</td>
</tr>
<tr>
<td>30 - 34</td>
<td>79</td>
<td>11.0</td>
<td>17</td>
<td>2.4</td>
<td>96</td>
<td>13.3</td>
</tr>
<tr>
<td>35 - 44</td>
<td>99</td>
<td>13.8</td>
<td>21</td>
<td>2.9</td>
<td>120</td>
<td>16.7</td>
</tr>
<tr>
<td>45 - 54</td>
<td>69</td>
<td>9.6</td>
<td>23</td>
<td>3.2</td>
<td>92</td>
<td>12.8</td>
</tr>
<tr>
<td>55 - 64</td>
<td>47</td>
<td>6.5</td>
<td>8</td>
<td>1.1</td>
<td>55</td>
<td>7.6</td>
</tr>
<tr>
<td>65 and over</td>
<td>11</td>
<td>1.5</td>
<td>5</td>
<td>0.7</td>
<td>16</td>
<td>2.2</td>
</tr>
<tr>
<td>Unspecified</td>
<td>4</td>
<td>0.6</td>
<td>1</td>
<td>0.1</td>
<td>15</td>
<td>2.1</td>
</tr>
<tr>
<td>Total Drivers</td>
<td>579</td>
<td>80.4</td>
<td>131</td>
<td>18.2</td>
<td>720</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Observations**

Of those collision-involved drivers who had consumed alcohol, there were over four times as many male drivers as female drivers. In terms of involvement per 1,000 licenced drivers, males 18 - 21 years of age were more likely to have consumed alcohol prior to a casualty collision than any other age group.

Drinking drivers include those indicated on the collision report form as having been drinking prior to the crash and those who were alcohol-impaired at the time of the crash. Whether or not the driver was actually charged is not taken into consideration by the collision report form.

---

*Includes only drivers whose age and/or sex was specified on the collision report form. Total includes drinking drivers whose sex was not specified on the collision report form.

**Source: Licenced Drivers – Service Alberta – Registries Services, as of December 31, 2015.*
**Figure 10**

**Drinking Drivers Involved in Casualty Collisions**

*Alberta 2015*

The bars in the above figure depict the actual number. The data labels have been rounded.

Note: The bars in the above figure depict the actual number. The data labels have been rounded.
Table 10.3

Alcohol-Involved Casualty Collisions:

Month of Occurrence

2015

<table>
<thead>
<tr>
<th>Month</th>
<th>Fatal Collisions</th>
<th>Non-Fatal Injury Collisions</th>
<th>Total Casualty Collisions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>January</td>
<td>3</td>
<td>4.2</td>
<td>42</td>
</tr>
<tr>
<td>February</td>
<td>1</td>
<td>1.4</td>
<td>35</td>
</tr>
<tr>
<td>March</td>
<td>4</td>
<td>5.6</td>
<td>46</td>
</tr>
<tr>
<td>April</td>
<td>8</td>
<td>11.3</td>
<td>67</td>
</tr>
<tr>
<td>May</td>
<td>6</td>
<td>8.5</td>
<td>76</td>
</tr>
<tr>
<td>June</td>
<td>7</td>
<td>9.9</td>
<td>55</td>
</tr>
<tr>
<td>July</td>
<td>12</td>
<td>16.9</td>
<td>58</td>
</tr>
<tr>
<td>August</td>
<td>7</td>
<td>9.9</td>
<td>66</td>
</tr>
<tr>
<td>September</td>
<td>7</td>
<td>9.9</td>
<td>46</td>
</tr>
<tr>
<td>October</td>
<td>7</td>
<td>9.9</td>
<td>69</td>
</tr>
<tr>
<td>November</td>
<td>6</td>
<td>8.5</td>
<td>49</td>
</tr>
<tr>
<td>December</td>
<td>3</td>
<td>4.2</td>
<td>35</td>
</tr>
<tr>
<td>Unspecified</td>
<td>--</td>
<td>--</td>
<td>1</td>
</tr>
</tbody>
</table>

Total Number of Collisions 71 100.0 645 100.0 716 100.0

Observations

The month of May accounted for the largest proportion of alcohol-involved casualty collisions. The month of February accounted for the smallest proportion of alcohol-involved casualty collisions.
### Table 10.4

**Alcohol-Involved Casualty Collisions:**

**Day of Week**

**2015**

<table>
<thead>
<tr>
<th>Day of Week</th>
<th>Fatal Collisions</th>
<th></th>
<th>Non-Fatal Injury Collisions</th>
<th></th>
<th>Total Casualty Collisions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Monday</td>
<td>5</td>
<td>7.0</td>
<td>87</td>
<td>13.5</td>
<td>92</td>
<td>12.8</td>
</tr>
<tr>
<td>Tuesday</td>
<td>8</td>
<td>11.3</td>
<td>81</td>
<td>12.6</td>
<td>89</td>
<td>12.4</td>
</tr>
<tr>
<td>Wednesday</td>
<td>11</td>
<td>15.5</td>
<td>63</td>
<td>9.8</td>
<td>74</td>
<td>10.3</td>
</tr>
<tr>
<td>Thursday</td>
<td>7</td>
<td>9.9</td>
<td>66</td>
<td>10.2</td>
<td>73</td>
<td>10.2</td>
</tr>
<tr>
<td>Friday</td>
<td>6</td>
<td>8.5</td>
<td>91</td>
<td>14.1</td>
<td>97</td>
<td>13.5</td>
</tr>
<tr>
<td>Saturday</td>
<td>17</td>
<td>23.9</td>
<td>145</td>
<td>22.5</td>
<td>162</td>
<td>22.6</td>
</tr>
<tr>
<td>Sunday</td>
<td>17</td>
<td>23.9</td>
<td>111</td>
<td>17.2</td>
<td>128</td>
<td>17.9</td>
</tr>
<tr>
<td>Unspecified</td>
<td>--</td>
<td>--</td>
<td>1</td>
<td>0.2</td>
<td>1</td>
<td>0.1</td>
</tr>
<tr>
<td><strong>Total Number of Collisions</strong></td>
<td><strong>71</strong></td>
<td><strong>100.0</strong></td>
<td><strong>645</strong></td>
<td><strong>100.0</strong></td>
<td><strong>716</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

**Observations**

The highest number of alcohol-involved fatal collisions occurred on Saturday and Sunday (23.9%). The highest number of non-fatal injury collisions occurred on Saturday (22.5%). The smallest number of alcohol-involved casualty collisions occurred on Thursday (10.2%).
### Table 10.5

**Alcohol-Involved Casualty Collisions:**

**Time Period**

2015

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Fatal Collisions N</th>
<th>%</th>
<th>Non-Fatal Injury Collisions N</th>
<th>%</th>
<th>Total Casualty Collisions N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:00 p.m. - 2:59 a.m.</td>
<td>19</td>
<td>26.8</td>
<td>193</td>
<td>29.9</td>
<td>212</td>
<td>29.6</td>
</tr>
<tr>
<td>3:00 a.m. - 6:59 a.m.</td>
<td>8</td>
<td>11.3</td>
<td>73</td>
<td>11.3</td>
<td>81</td>
<td>11.3</td>
</tr>
<tr>
<td>7:00 a.m. - 10:59 a.m.</td>
<td>5</td>
<td>7.0</td>
<td>38</td>
<td>5.9</td>
<td>43</td>
<td>6.0</td>
</tr>
<tr>
<td>11:00 a.m. - 2:59 p.m.</td>
<td>8</td>
<td>11.3</td>
<td>45</td>
<td>7.0</td>
<td>53</td>
<td>7.4</td>
</tr>
<tr>
<td>3:00 p.m. - 6:59 p.m.</td>
<td>12</td>
<td>16.9</td>
<td>127</td>
<td>19.7</td>
<td>139</td>
<td>19.4</td>
</tr>
<tr>
<td>7:00 p.m. - 10:59 p.m.</td>
<td>19</td>
<td>26.8</td>
<td>161</td>
<td>25.0</td>
<td>180</td>
<td>25.1</td>
</tr>
<tr>
<td>Unspecified</td>
<td>--</td>
<td>--</td>
<td>8</td>
<td>1.2</td>
<td>8</td>
<td>1.1</td>
</tr>
<tr>
<td><strong>Total Number of Collisions</strong></td>
<td>71</td>
<td>100.0</td>
<td>645</td>
<td>100.0</td>
<td>716</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Observations**

The late night/early morning time period (11:00 p.m. – 2:59 a.m.) was most likely to record alcohol-involved casualty collisions (29.6%). The morning hours (7:00 a.m. – 10:59 a.m.) were least likely to record alcohol-involved casualty crashes (6.0%).
Figure 11

Alcohol-Involved Casualty Collisions
Alberta 2015

By Month of Occurrence

% of Alcohol Involved Casualty Collisions

Jan 6.3  Feb 5.0  Mar 7.0  Apr 10.5  May 11.5  Jun 8.7  Jul 9.8  Aug 10.2  Sep 7.4  Oct 10.6  Nov 7.7  Dec 5.3

By Day of Week

% of Alcohol Involved Casualty Collisions

Monday 12.8  Tuesday 12.4  Wednesday 10.3  Thursday 10.2  Friday 13.5  Saturday 22.6  Sunday 17.9

By Time Period

% of Alcohol Involved Casualty Collisions

11:00 pm-2:59 am 29.6  3:00 am-6:59 am 11.3  7:00 am-10:59 am 6.0  11:00 am-2:59 pm 7.4  3:00 pm-6:59 pm 19.4  7:00 pm-10:59 pm 25.1
Traffic Safety Issues

Restraint Use

- Collision-involved restraint users had a much lower injury rate (6.8%) than those not using restraints (22.4%).

- Occupants using a restraint reduce the likelihood of sustaining an injury and the severity of injury decreases.
Table 10.6

Restraint Use of Vehicle Occupants and Injury Severity* (Use versus Non-Use)

2015

<table>
<thead>
<tr>
<th>Injury Severity of Occupants</th>
<th>Percentage of Occupants Using Restraints</th>
<th>Percentage of Occupants Not Using Restraints</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Fatal Injury</td>
<td>0.1</td>
<td>3.5</td>
</tr>
<tr>
<td>Major Injury</td>
<td>0.9</td>
<td>7.9</td>
</tr>
<tr>
<td>Minor Injury</td>
<td>5.9</td>
<td>11.0</td>
</tr>
<tr>
<td>Total Occupants Sustaining Injuries</td>
<td>6.8</td>
<td>22.4</td>
</tr>
<tr>
<td>No Apparent Injury</td>
<td>93.2</td>
<td>77.6</td>
</tr>
<tr>
<td>Total Occupants</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Observations

Collision involved restraint users had a much lower injury rate (6.8%) than those not using restraints (22.4%). This table illustrates the moderating effect of seat belt use on injury severity. Occupants using a restraint reduce the likelihood of sustaining an injury and the severity of injury decreases.

Injury Severity

Fatal – A fatal injury is the death of a person that occurs as a result of a motor vehicle collision within 30 days of the collision.

Major – Persons with injuries or complaint of pain that went to the hospital and were subsequently admitted even if for observation only.

Minor – Persons with injuries or complaint of pain that went to the hospital, were treated in emergency (or refused treatment) and SENT HOME without ever being admitted to the hospital. (Also includes persons who indicated they intend to seek medical attention.)

*Based on those cases where occupant restraint use and injury severity were specified on the collision report form.