University of Southern Queensland

Faculty of Health, Engineering and Sciences

DEVELOPMENT OF A ROAD SAFETY PLAN FOR SCENIC RIM REGIONAL COUNCIL

A dissertation submitted by

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Abstract

Every day on Australian roads, more than three lives are lost. The number of injuries related to road accidents is closer to one hundred per day. The Australian Bureau of Statistics reports that approximately 90 percent of passenger travel and 20 percent of freight travel is by road. The Australian road network consists of over 800,000 kilometres of roads, from major arterial roads to rural property access lanes (unformed roads).

Scenic Rim Regional Council is responsible for the construction and maintenance of a road network of 1,810 kilometres, of which 956 kilometres are sealed roads, 847 kilometres of unsealed roads, and a small amount of unpaved roads (Scenic Rim Regional Council Road Strategy, 2013).

The intent of this dissertation was to research and review Australian and international guidelines, standards, existing strategies and other relevant literature in order to develop an appropriate Road Safety Plan for Scenic Rim Regional Council.

In order to achieve this, an appropriate approach to road safety was identified, which included a review of the legislative obligations of Council in ensuring a safe transport network, determining an appropriate framework in the form of the Austroads Guide to Road Safety (Austroads Ltd, 2013) which follows the internationally endorsed approach of the Safe System approach, analysing available crash data from WebCrash which had a number of limitations, and reviewing the Scenic Rim Regional Council corporate documents and relevant strategies to determine how a Road Safety Plan could be assimilated.

The result of the dissertation is the development a Road Safety Plan with four Strategic Priority Areas of Road Safety Leadership, Land Use and Transport Planning and Management, Safer Roads and Roadsides, and Community Education, Awareness and Behaviour. The 19 key actions under these Strategic Priority areas are appropriate and achievable with current resourcing for Scenic Rim Regional Council.

It is recommended that Scenic Rim Regional Council adopt the Road Safety Plan and implement the actions to provide a safer road network and demonstrate their commitment to the road users in reducing accidents on the road network they manage and control.

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I further certify that the work is original and has not been previously submitted for assessment in any other course or institution, except where specifically stated.

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1. Introduction

Every day on Australian roads, more than three lives are lost. The number of injuries related to road accidents is closer to one hundred per day. The Australian Bureau of Statistics reports that approximately 90 percent of passenger travel and 20 percent of freight travel is by road. The Australian road network consists of over 800,000 kilometres of roads, from major arterial roads to rural property access lanes (unformed roads).

The statistics for Australian roads are relatively low when compared with global figures; however there are still opportunities to reduce the fatality and injury rates on the road system. In recent years, the Australian Government, along with numerous other countries, committed to the International Decade for Road Safety, a global commitment to reduce road fatalities and injuries. Aligning with this commitment, the National Road Safety Strategy 2011-2020 was released which follows the OECD endorsed approach, which has been utilised for a number of years by countries at the fore in road safety.

The National Road Safety Strategy was agreed to at both a Commonwealth and State level across Australia. Whilst the Federal and State governments do control and maintain the major road networks, Local Governments are the authorities for an extensive amount of Australian lower level roads. In Queensland, although it is good practice to have a road safety plan or strategy, it is not mandatory. Many of the Local Governments may be undertaking appropriate actions in regards to road safety, but there are very few who actually have a Road Safety Plan that the Council has committed to.

An endorsed Plan allows linkages to a Local Governments Corporate Plan, therefore elevating the importance of the Plan and demonstrating commitment to the Plan and the actions. It may also assist in budget considerations for actions identified in the Plan, as well as demonstrating to the public the Councils' commitment to Road Safety.

The Scenic Rim Regional Council was formed in 2008 following local government amalgamations. Located in South East Queensland, the Council is bounded by the New South Wales border to the South, Gold Coast City Council to the East, Logan City Council and Ipswich City Council to the North, and a number of regional local governments to the West including Lockyer Regional Council and Southern Downs Regional Council.

The Scenic Rim region covers over 4238 square kilometres of land and has a large focus of agriculture and tourism as the main businesses for the area. There are three main town centres in the region, Mount Tamborine in the East, Beaudesert in the centre of the region, and Boonah to the West of the region. There are a number of villages across the region which compliment the town centres.

Scenic Rim Regional Council is responsible for over $660 million worth of assets (Scenic Rim Regional Council Annual Report 2012/2013, 2013), of which the majority of assets are roads. This road network totals 1,810 kilometres, of which 956 kilometres are sealed roads, 847 kilometres of unsealed roads, and a small amount of unpaved roads (Scenic Rim Regional Council Road Strategy, 2013).

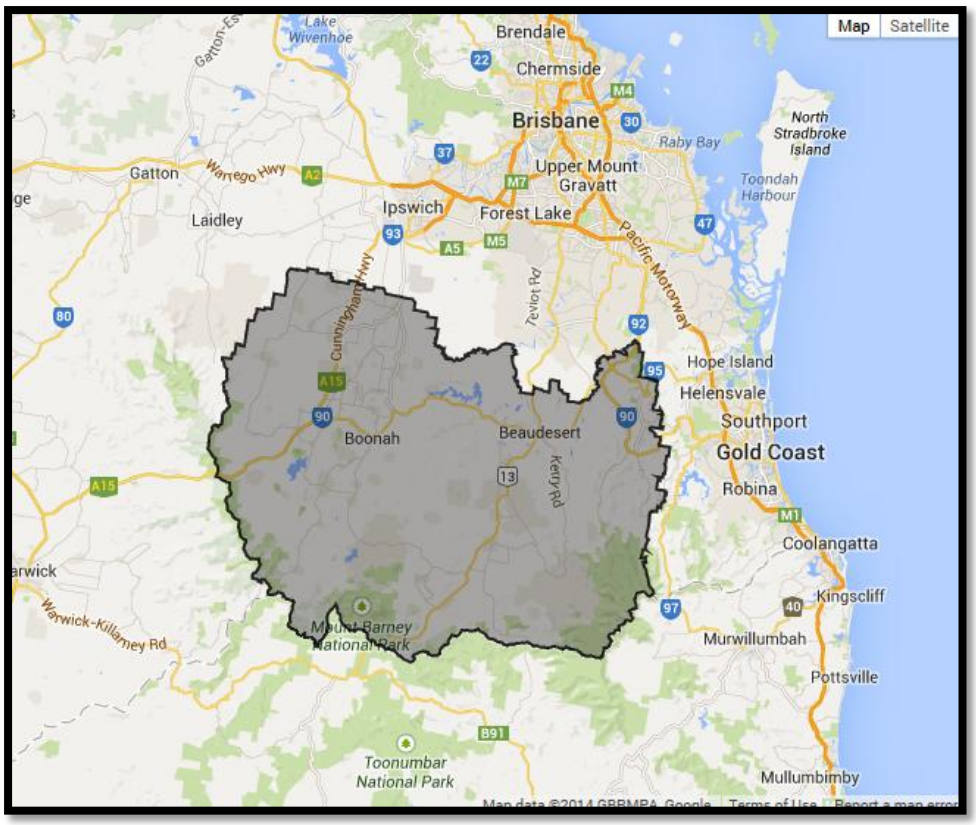

Figure 1- 1: Locality map for Scenic Rim Regional Council, sources from LGAQ website

Sections of roads in the Scenic Rim Region are State controlled roads, as identified in yellow in Figure 1-1 above. These roads include National Highways that pass through the region to the west, and to the east, as part of the State network connecting Queensland and New South Wales. For these roads the Department of Main Roads has developed a Queensland Road Safety Strategy and Queensland Road Safety Action Plan. However Council still works with the State through regular meetings, use of same standards, and by adopting similar principles and policies to ensure consistency in road safety between State controlled and Local Government controlled road networks.

The Scenic Rim Region has a strong tourism market, and a high level of agriculture as the main businesses across the area. Both of these require the road network to be in good condition, and to be safe for users. The tourism industry largely relies on tourists using cars for transportation, as there is little public transport available. Produce grown in the region is transported by heavy vehicles, which travel on both the state road network, and the local road network. Many of the farms where

produce is grown do not have direct access to the state road network, and rely on both sealed and unsealed local roads.

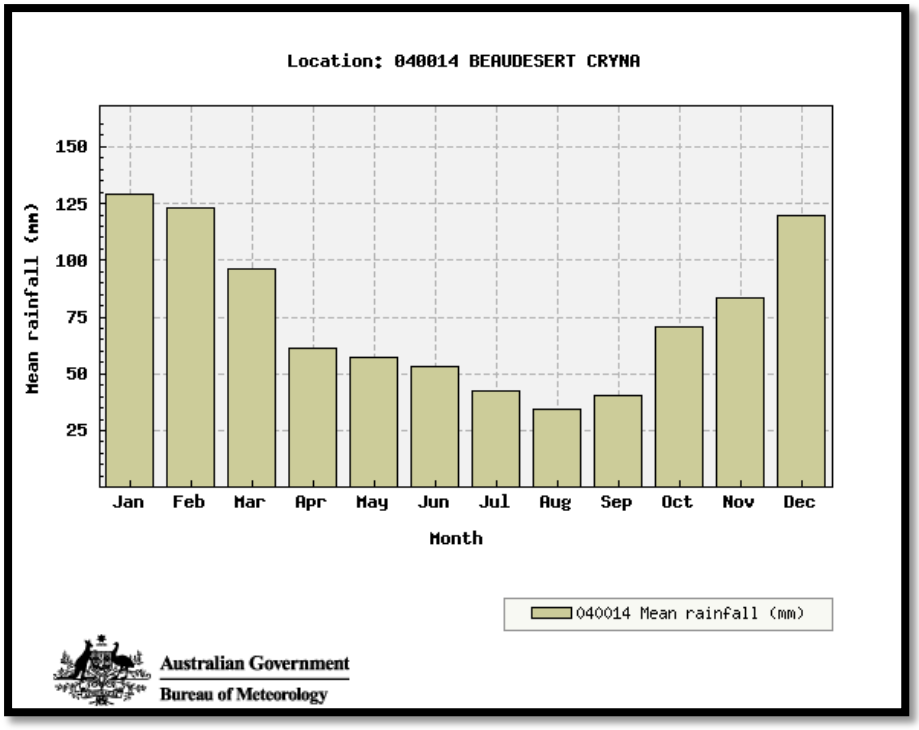

Figure 1- 2: Mean rainfall for the main town of Beaudesert

The rainfall and temperate region, as shown in Figures 1-2 and 1-3, are drivers of the high agricultural use of the land in the region, and the tourist market.

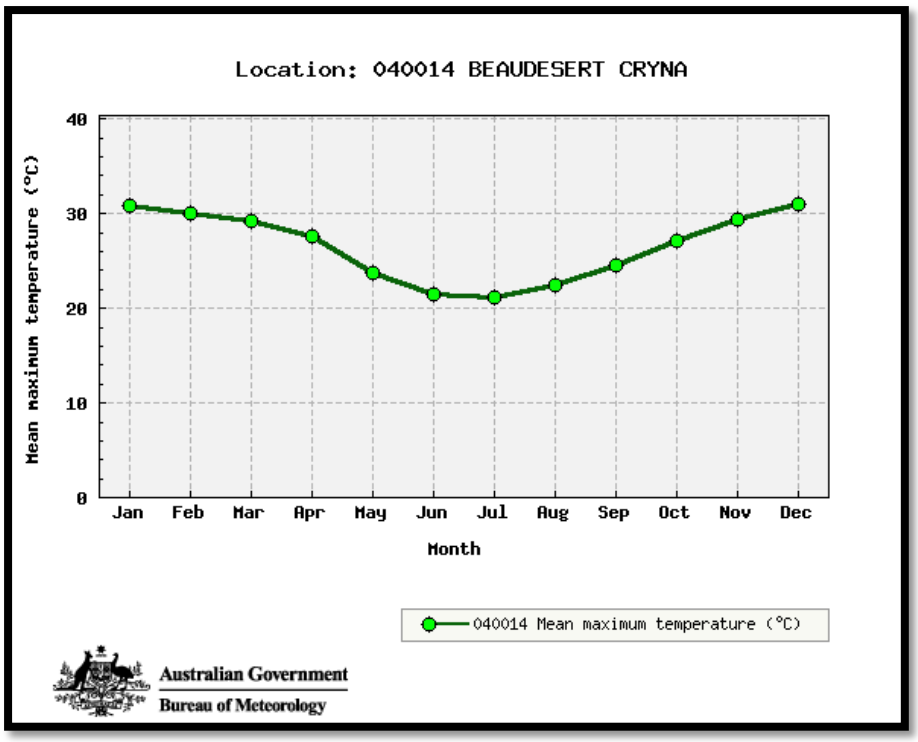

Figure 1- 3: Mean maximum temperature for the main town of Beaudesert.

The high demand on the road network due to the predominant industries means it is critical for the local government authority, Scenic Rim Regional Council, to ensure their road network is maintained and designed in as safe a manner as possible for all users of the roads. Due to the age of much of the local government road network, many of the roads are reaching an age where renewal is required, with current standards to be applied to ensure safety for users.

1.1 Problem Statement

Scenic Rim Regional Council is responsible for over 1800 kilometres of local roads within the region. Over 50% of these roads are unsealed narrow roads, with speed limits of 100 km/hour (due to current standards not recommending speed limits on narrow roads). The nature of these rural roads can lead to serious accidents; these roads are narrow, often have infrangible objects in the road reserve, and being either

unsealed or having unsealed shoulders, can be unforgiving to the road user and difficult to regain control once lost.

This project, titled "Development of a Road Safety Plan for Scenic Rim Regional Council", will identify an appropriate approach to road safety, required actions for the Local Government to undertake, and form a Plan to be adopted by the Council to ensure Scenic Rim Regional Council meets its obligations to the road users in ensuring a safe network.

1.2 Objectives

To research and review Australian and international guidelines, standards, existing strategies and other relevant literature in order to develop an appropriate Road Safety Plan for Scenic Rim Regional Council.

Task 1. Undertake a Road Safety Literature Review, including guidelines, strategies and actions, around Australia and the world.

Task 2.. Review Local Government legislation to determine Councils' role in road safety and how this will apply to the Scenic Rim Regional Council Road Safety Plan.

Task 3. Review legal opinions and cases where local government has failed to meet community road safety expectations.

Task 4. Review of current state of assets at Scenic Rim Regional Council to determine potential impact on road safety.

Task 5. Collate and analyse crash data within the Scenic Rim Region to determine if there are any trends or obvious issues within the network.

Task 6. Develop a suitable Road Safety Plan for Scenic Rim Regional Council which identifies Strategy Priority Areas and associated actions in each area.

2. Literature Review

2.1 Introduction

The increase in road traffic for passenger transport, and goods movement, has resulted in the need for road safety strategies and actions to reduce the casualty rate on Australian and worldwide road networks.

The purpose of this literature review is to determine the approach across the world and in leading countries to road safety, and to provide an understanding of why this project is required and the reasons for the approach undertaken.

2.2 International Approach

2.2.1 OECD

The Organisation for Economic Co-operation and Development (OECD) was established in 1961, with a mission to promote policies that will improve the economic and social well being of people around the world (OECD, 2014)

The OECD has 34 member countries, and a budget of Euro 357 million, and by their own words they provide "a forum in which governments can work together to share experiences and seek solutions to common problems", with "the common thread of our work is a shared commitment to market economies backed by democratic institutions and focused on the wellbeing of all citizens". The OECD also works closely with the European Commission. The OECD has a strong influence on decisions made by governments, with its far reaching memberships around the world.

In 2008, the OECD, and the International Transport Forum, through the Transport Research Centre, produced the report "*Towards Zero: Ambitious Road Safety*

Targets and the Safe System Approach". In the summary document for the report, the nine major recommendations are outlined, including;

- Adopt a highly ambitious vision for road safety
- Set interim targets to move systematically toward the vision
- Develop a Safe System approach, essential for achieving ambitious targets
- Exploit proven interventions for early gains
- Conduct sufficient data collection and analysis to understand crash risks and current performance
- Strengthen the road safety management system
- Accelerate knowledge transfer
- Invest in road safety
- Foster commitment at the highest level of government

Most of these recommendations are easy to incorporate into a Road Safety Strategy; however the first recommendation to adopt a highly ambitious vision for road safety is not without risk, as in a local government context the people who adopt the Strategy are not necessarily experts in the road safety arena, and may not believe an ambitious vision is achievable. This would be a challenge in the development of any road safety system. The other obvious concern in times of fiscal challenge is the investment in road safety, however this can partially still be achieved through day to day operations if money is not available for projects.

The Safe System Approach is outlined in the summary report, with the characteristics of a Safe System approach being that it recognises that prevention efforts notwithstanding, road users will remain fallible and crashes will occur; it stresses that those involved in the design of the road transport system need to accept and share responsibility for the safety of the system, and those that use the system need to accept responsibility for complying with the rules and constraints of the system; it aligns safety management decisions with broader transport and planning decisions that meet wider economic, human and environmental goals; it shapes interventions to meet the long term goal, rather than relying on "traditional" interventions to set the limits of any long term targets (Transport Research Centre, 2008).

The summary report also discusses the importance of a business case for road safety, as the cost of road safety is estimated at between 1% and 3% of a county's GDP (Transport Research Centre, 2008). Therefore, to ensure funding for the road safety program, the report recommends a sound business and economic case. Furthermore, the report recommends that strong political buy-in is achieved as it recognises there may be changes of government throughout the period of a safety programme or strategy. It is also recognised in the report that effective advocacy is required at all levels of government, which in Australia means Federal, State and Local levels.

The International Road Traffic and Accident Database (IRTAD) was established by OECD in 1988, and Australia is a member through the Department of Infrastructure and Transport, and ARRB group. (ARRB group is a not for profit organisation formed in 1960 as the Australian Road Research Board. ARRB offers technical advice, expertise and solutions to its members which consist of local, state, and federal governments in Australia and around the world). It includes a database of accident and traffic data for 29 countries, and also publishes reports with OECD on road safety and traffic incidents. Figure 2-1 from the IRTAD data shows that in 2009, Australia was around 6.1 fatalities per 100,000 population, however countries such as UK, Sweden and Netherlands were less than 4, with many other European countries at lower rates than Australia. Further analysis of IRTAD data shows that the percentage decrease in road deaths over the previous 10 year period was very low in Australia, ranking at the 4th worst of the 29 OECD countries. Although other environmental factors such as distances travelled have not been taken into consideration for these figures, there were still clearly better performing countries around the world than Australia.

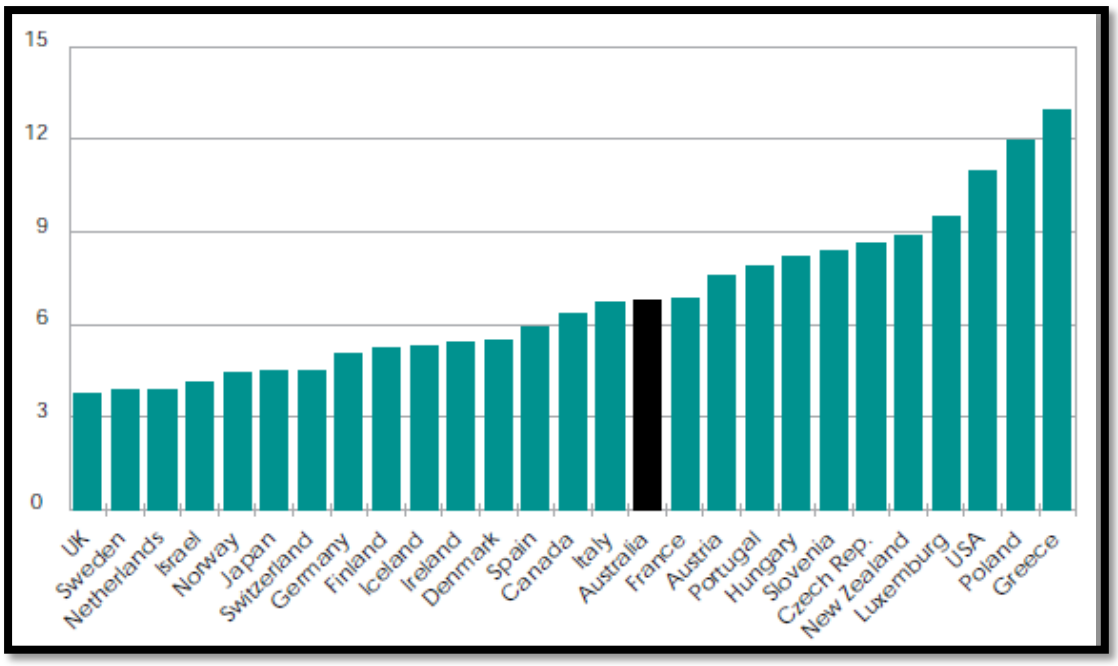

Figure 2- 1: Road fatality rates per 100,000 population, among OECD countries (IRTAD 2009)

Europe has become somewhat of a case study for 'best practice' in road safety over the years, due to their low fatality rates. The strategies for road safety of Europe, and in particular UK, Sweden and Netherlands, are often compared in journal and other articles against poorer performing countries in road safety. In a recent article in Global Newsweek titled '*You drive like an American*' the author relayed that Americans die on the roads at twice the rate than Europeans, with the European Union having a rate of 5.5 fatalities per 100,000 (Bernasek, 2014). The author continues to use Sweden as an example, which reportedly "has a zero tolerance policy on traffic related deaths and injuries, and has been building roads for safety rather than speed or convenience". Clearly the intent of the article was to point out the poor situation in America, however clearly European countries have a high standard in road safety.

Luoma and Sivak, also compared the U.S with European countries in their 2013 paper, and examined the road safety strategies of the United States with Sweden, United Kingdom, and Netherlands. Luoma and Sivak (2013) report that the Swedish road safety strategy is based on *Vision Zero*, a safe system approach where no one should be at risk of injury while using road transportation. *Vision Zero* is based on

four guiding principles, being ethics of the human life; shared responsibility of authorities and road users; safety from a human centered approach; and change by cooperation of all stakeholders. This approach is not a traditional road safety strategy approach but instead is based on *ISO 39001 Road Traffic Safety Management Systems* (Luoma and Sivak, 2013). The strategies used by United Kingdom and by the Netherlands are different again to Sweden in how they are actioned, however the principles and policies for road safety are shared across the countries, which is likely what is driving the low fatality rates.

Bax, De Jong, and Koppenjan in 2010 further detailed why these countries are the top three in Europe, stating that "in the field of road safety, The Netherlands, along with Sweden and the United Kingdom, is considered a leader in Europe". The authors explain there are several reasons for this, including specific funding to target road safety, debate in parliament (making it a priority in political circles) and a general top down approach to co-ordination of road safety activities down to the decentralized governments. Additionally, Bax et al report the three countries have taken similar measures in the past such as the introduction of speed limits; mandatory use of seat belts and bike/moped helmets; improved vehicular safety; and adaptation of infrastructure to prevent accidents.

2.2.2 Decade of Action for Road Safety 2011-2020

Figure 2- 2: International Symbol for the Decade of Action for Road Safety

On May 11, 2011, the United Nations launched the UN Decade of Action for Road Safety 2011-2020 (marketing of this initiative shown in Figure 2-2). This project is in recognition of the number of people killed and seriously injured in traffic accidents, with the UN Secretary General stating "it is totally unacceptable more than one million people die on the roads and more than fifty million are injured" (Ki-moon, 2011). The resolution for the Decade of Action is co-sponsored by 100 countries (UN Decade of Action, 2011). The UN website gives the following 10 reasons to act on road deaths:

- Nearly 1.3 million people are killed on the world's roads each year
- Up to 50 million people are injured, and many remain disabled for life
- 90% of casualties from road deaths occur in developing countries
- Annual road traffic deaths are forecast to rise to 1.9 million people by 2020

- Road traffic injuries are the number one cause of death for young people worldwide
- By 2015 road traffic injuries will be the leading health burden for children over the age of five years in developing countries
- The economic cost to developing countries is at least $100 billion a year
- Road traffic injuries place an immense burden on hospitals and heath systems generally
- Road crashes are preventable
- A global Action Plan includes practical measures which, if implemented, could save millions of lives

The official goal of the Decade of Action is 'stabilising and then reducing' global road traffic fatalities by 2020, and sets out five categories to achieve this, being road safety management, safer roads and mobility, safer vehicles, safe road users, and post crash response. Under each of these categories are a number of guiding actions to be adhered to. The funding required for the activities is estimated at US $500 billion per year, some of which is being made available through the world bank and regional development banks, however the plan asks both public and private entities to take responsibility through their own actions and by donating, as such a Road Safety Fund has been established.

Evaluation and monitoring of the success of the Decade of Action plan are also set out with indicators for each category, and are focused largely on the number of countries that adopt the actions laid out in the each category.

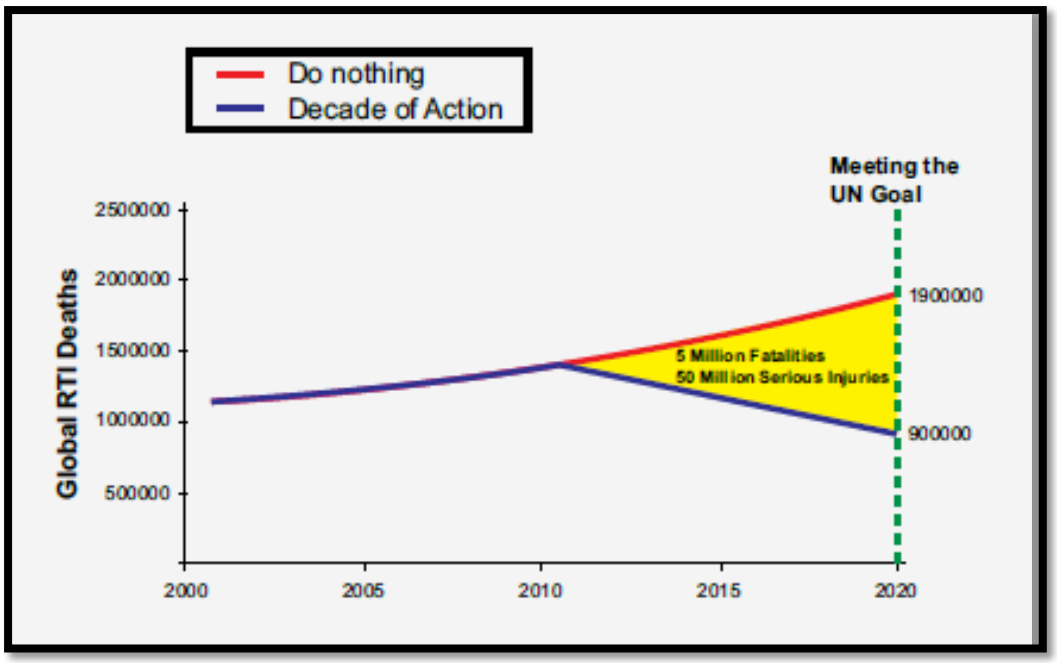

Figure 2- 3: Potential of the Decade of Action for Road Safety (from Decade of Action for Road Safety plan, 2011)

The Decade of Action for Road Safety 2011-2020 is an important worldwide initiative to raise road safety awareness, and an opportunity for better performing countries to both further improve their road safety and to assist poorer performing countries to improve their road safety records. It also forms part of the guiding principles for road safety in Australia. Estimates shown in Figure 2-3 confirm the goals of the Decade of Road Safety, with a predicted reduction of 50 million serious injuries and 5 million fatalities due to the program.

2.2.3 ISO 39001:2012 Road Traffic Safety Management Systems

ISO 39001:2012 Road Traffic Safety Management Systems is an international standard designed to reduce the incidence and risk of death and serious injury related to road traffic accidents (Highways Industry, 2012)

The revised standard was released in 2012, and a number of consultants in the road safety area now offer training and assistance in gaining the certification. According to aarb group, an Australian not for profit entity that provides advice to road agencies, road traffic systems are responsible for an estimated 1,240,000 fatalities worldwide, and 1300 fatalities and over 30,000 serious injuries in Australia (AARB group, 2013), additionally, AARB group reports that ISO 39001 combines best practice and knowledge regarding road traffic safety and quality management systems into a single safety management tool. The standard also lists what are considered the top 10 safety performance factors for organisations. ISO 39001 is a safety management tool for public and private organisations focused on reduction of road traffic risk.

2.3 Australian Approach

The Australasian College of Road Safety (ACRS), with the support of NRMA-ACT Road Safety Trust, produced a *Safe System Approach Fact Sheet*, explaining the background, development and principles of the Safe System approach that has been adopted in Australia. This fact sheet explains the Safe System approach as viewing "the road transport system holistically by seeking to manage the interaction between road users, roads and roadsides, travel speeds and vehicles. The Safe System approach recognises it is probably not possible to prevent all crases but aims to prevent those that result in death and serious injury". It recognises that Sweden's *Vision Zero* and Netherland's *Sustainable Safety* approaches represent the longest established Safe System approaches, and that Australia and New Zealand adopted a Safe System approach in 2003.

Although the specific Safe System measures will differ between different users of the system, broadly they aim to either prevent a crash from occurring or to reduce the severity of that crash, while minimising the possible role of human error in precipitating the crash (ACRS, 2011). The OECD report on road safety titled "*Towards Zero: Ambitious Road Safety Targets and the Safe System Approach*" recognised the Safe System approach as international best practice. Australia

adopting this system for road safety demonstrates their commitment to improving road safety. The Safe System approach is summarised in Figure 2-4.

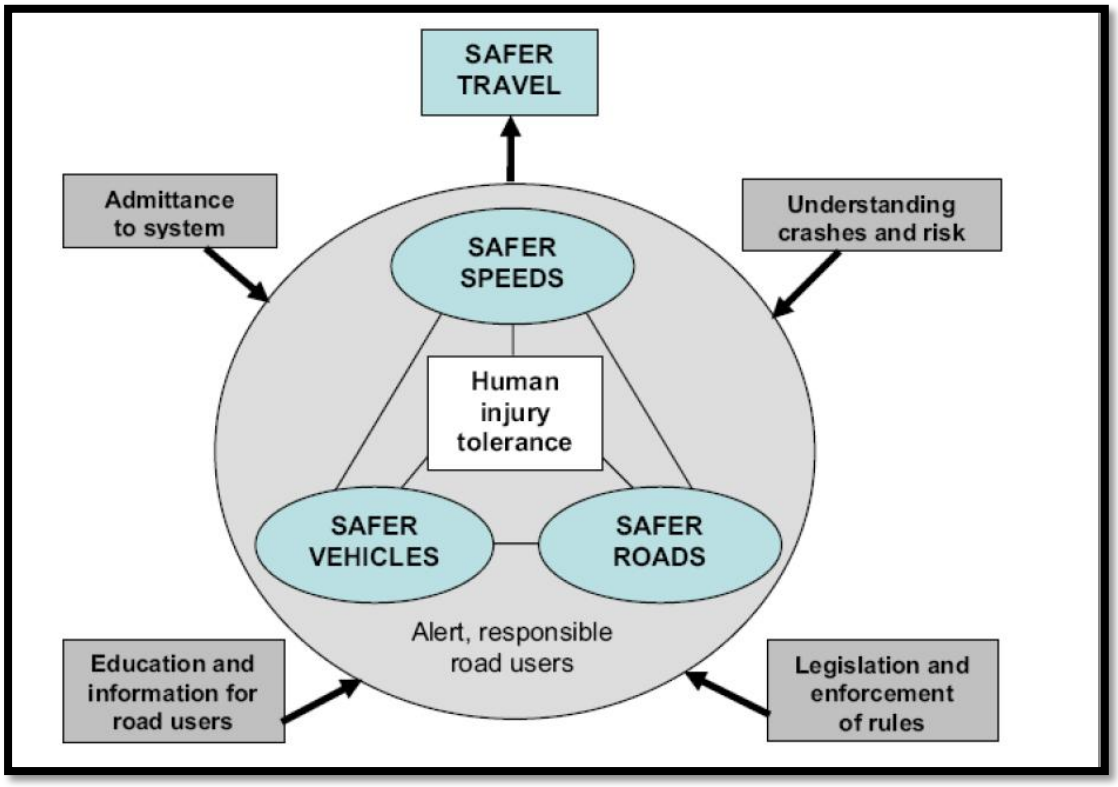

Figure 2- 4: Safe System Framework (Deller and Meares, 2010)

The Department of Infrastructure and Regional Development reports that, on average, four people are killed every day on roads in Australia, and 90 are seriously injured (Dept Infrastructure and Regional Development website, 2014)

To counter these statistics, road safety campaigns have been ongoing for many years in Australia, with public education on speeding, wearing seatbelts, driving while distracted, and drink driving being key messages from the Federal and State government. The 2001-2010 national strategy achieved a per capita reduction of 34 percent in road deaths, (National Road Safety Strategy, 2011) however road safety remains of great concern, as indicated by the deaths and injuries aforementioned on Australian roads. Deaths on Australian roads have been reducing over the 30 years, as shown in Figure 2-5.

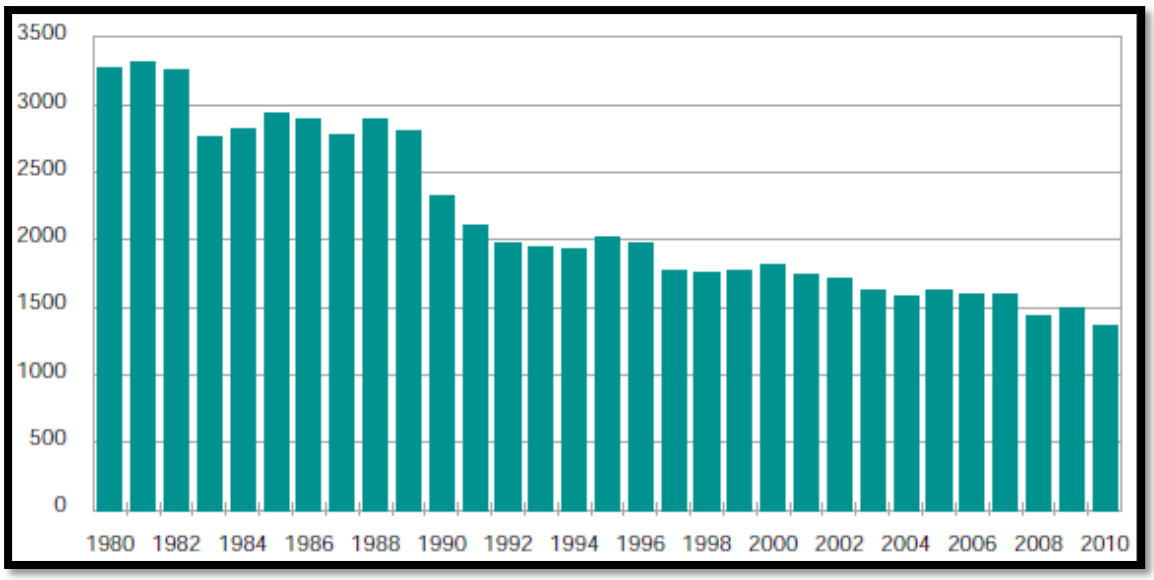

Figure 2- 5: Annual number of Australian road deaths (National Road Safety Strategy, 2011)

In May 2011 the Australian Transport Council released the National Road Safety Strategy 2011-2020, which is a strategy based on the guiding principle that no person should be killed or seriously injured on Australia's roads. The strategy includes a 10 year plan to reduce injuries and deaths by a minimum of 30 percent on Australian roads.

The National Strategy has agreement between Federal, State and Territory governments on the strategy, and commitment to some of the early actions. However it does not commit funding, which is part of the detailed work still required by State governments and their departments. The Strategy is therefore really a guiding principle document that may be used as necessary to support decisions by governments, but with no real funding to ensure the directions in the Strategy are achieved.

Based on assessment of road accident data, the National Strategy outlines the major key challenges for Australian road safety as:

- Reduce the number of serious casualty crashes involving the three major crash types: single vehicle run-of-road, intersections and head on crashes

- Reduce the number of crashes involving heavy vehicles
- Reduce the number of serious casualties among pedestrians and cyclists
- Reduce the number of serious casualty motorcycle crashes
- Protect young road users, particularly novice drivers
- Reduce poor road user behaviour and the consequences of such behaviour, particularly drink driving, speed, and failing to wear seatbelts
- Develop interventions that respond to the different needs and circumstances of urban, regional and remote Australia
- Reduce serious casualties on roads controlled by local government
- Reduce the incidence of serious casualties within Indigenous communities and among other disadvantaged people

The National Strategy embraces the concept of ambitious targets outlined in the OECD report *Towards Zero: Ambitious road safety targets and the safe system approach*, with the Vision being "No person should be killed or seriously injured on Australia's roads". The document explains to the reader the concept and principles adopted around the Safe System approach, being in this case that people make mistakes, there is a limit to the human body in physical impacts, and the idea of a forgiving road network.

In conjunction with the overall targets of reducing the number of fatal and serious injuries on the roads, a number of other high level outcome measures, as well as safety performance indicators are identified. The Strategy then lists aims and actions for 'first steps' (short term 3 year period), and 'future steps' (further actions and initiatives in the medium term) for the four main strategic areas of Safe Roads, Safe Speeds, Safe Vehicles, and Safe People.

A section on 'Making it Happen' outlines how different levels of government will need to work together to address the actions, and how some of this can be achieved. There is no dedication of funding for these actions, but discussion that they do need to be funded, through both addition funding sources and potential re-allocation of current funding.

In November 2013, two and half years after the release of the National Road Safety Strategy, an Implementation status report was released on the Strategy to determine

how well the first steps (3 year timeframe) were progressing. The status reports remind the reader that the Implementation of the actions of the Strategy are the responsibility primarily of the Australian Government for the national highway and local road networks, and for safety standards on new vehicles, and the State and Territory Governments for funding, planning, designing and operating the road network, managing vehicle registration and driver licensing systems, and enforcing road user behaviour (Department of Infrastructure and Regional Development, 2013). It is interesting that the report immediately reiterates who is responsible for actions, and then further reiterates this point again under each action and progress statement.

A key point listed for the implementation status is that "in this status report, most NRSS items have been coded yellow, indicating that action has commenced and is being progressed. It should be noted, however, that action to date may still be limited to early steps only and/or to action that has only been taken by some jurisdictions". From reviewing this status report, it is clear that the implementation of the National Road Safety Strategy is not on track for the first steps to be completed by the three year period. Comparison of statistics from 2012 against the baseline data shows some positive results but some negative results as well. Until further data is available it is difficult to determine if this Strategy is producing the desired outcomes.

Austroads is an important association within the Australasian road and transport industry, and is described on the Austroads website as "the association of Australian and New Zealand road transport and traffic authorities. Austroads members are the six Australian state and two territory road transport and traffic authorities, the Department of Infrastructure and Regional Development, the Australian Local Government Association and the New Zealand Transport Agency". The purpose of Austroads is to promote improved Australian and New Zealand transport outcomes; provide expert technical input to national policy development on road and transport issues; promote improved practice and capability by road agencies; promote consistency in road and road agency operations.

The *Austroads Strategic Plan 2012-2016* includes eight priority areas, of which one is Road Safety – reduce the impact of road trauma. Austroads has a Safety program

designed around the four cornerstones of the safe system, (safe roads and roadsides, safe vehicles, safe speeds and safe road users). Austroads supports Road Safety through publications and education for the public and its members, including the *Austroads Guide to Road Safety*, a nine part guide designed to cover all critical aspects of road safety, support for the *Decade of Action for Road Safety*, and on-going and one off projects ranging from studies on road safety and analysis of trends, to review of sections of the Guide to Road Safety, and a number of projects directly relative to Local Governments, such as 'Safe System Roads for Local Governments', or 'Improving roadside safety'.

Specifically, some parts of the Guide to Road Safety are particularly relevant to this project, including Part 2: Road Safety Strategy and Evaluation. The section takes the user through suggested means of developing their Road Safety Strategy, from the problem analysis, to target setting and performance indicators, to strategy and action plan development, implementation, and monitoring and evaluation.

2.4 Queensland Approach

The *Queensland Road Safety Action Plan 2013-2015* is the State Governments plan for the two year period on how to address road safety. This document is controlled by the Department of Transport and Main Roads, who describe the plan as setting out "how the department will make Queensland's roads safer through new actions and the maintenance of ongoing work to reduce the number of crashes and improve safety on our roads over the next 2 years". (DTMR, 2013). The action plan states that the actions within the plan are Queensland's contribution to the National target of reducing fatalities by 30%, as well as fulfilling Queensland's commitment to the *Decade of Action for Road Safety*.

The actions within the strategic areas of the plan outline funding to be provided for most of the actions, however some actions are specific to an area, such as the Bruce highway upgrade, and the South East Queensland regional cycle network, whilst others specify an amount for a group, such as $40 million per year to local governments for the purpose of improving local government roads (it should be

noted there are 77 local government areas, so this amount of funding is quite minimal when spread over these organisations). The plan does not actually advise whether the funding amounts are increases or decreases on previous funding, and from discussions with local government engineering staff at Scenic Rim Regional Council, it is clear this is a decreased amount for safety programs compared to previous years.

One of the actions from the plan affecting Local Government is "work with local governments to increase their focus on road safety and assist them to develop local strategies and action plans". This is encouraging as currently there are no requirements for local government to have a road safety strategy in Queensland, with only a few councils such as Moreton Bay Regional Council and Toowoomba Regional Council having developed such strategies to date. Prior to de-amalgamation Sunshine Coast Regional Council had a draft Road Safety Action Plan, however this does not appear to have been carried forward to the new Sunshine Coast Council.

2.5 Queensland Local Government Approach

The *Local Government Act 2009* is the governing Act for local government organisations across Australia. Section 59 of the Act states the definition of a road, whilst section 60 outlines that a local government has control of all roads within its' local government area, with the control including being able to

> "survey and resurvey roads; and construct, maintain and improve roads; and approve the naming and numbering of roads; and name and number other roads: and make a local law to regulate the use of roads...."

Although there is no clear statement regarding the local governments role in Road Safety within the Local Government Act, as the asset custodian for the road network within the Scenic Rim Region, Council has an obligation to ensure road safety is improved in the region. This is further defined in an agreement between the Local

Government Association of Queensland (LGAQ), who are "the peak body for Local Government in Queensland...a not for profit association setup solely to serve the state's 77 Councils and their individual needs" (LGAQ, 2014), and Austroads.

At the 2010 Australasian Road Safety Research, Policing and Education Conference, Deller and Meares presented a paper titled "*Comparisons of Emergent Road Safety Strategies in Queensland*", which compared the experiences of the aforementioned Councils (Moreton Bay Regional Council, Toowoomba Regional Council, and the now de-amalgamated Sunshine Coast Regional Council) in their journey of road safety. The paper discussed the use of the Safe System Framework by the local governments, in line with International, Australian, and Queensland strategies. Deller and Meares (2010) also state that beyond the Safe System Framework, Council "also has responsibility for Land Use and Transport Planning and Management in its local area. In addition, council is better placed to involve the local community in road safety issues than other agencies through its ability to build partnerships with the community and other stakeholders". Due to this, the Moreton Bay Regional Council road safety strategy and action plan has seven key areas to target road safety (Deller and Meares, 2010), being;

- Strategic coordination and communication
- Land use and transport planning and management
- Safe roads
- Safe road users
- Safe speeds
- Safe vehicles
- Community ownership

Deller and Meares also make a number of recommendations for local governments around road safety initiatives and actions to improve road safety within their regional area.

2.6 Scenic Rim Regional Council

Scenic Rim Regional Council has been developing its' engineering related strategies over the past few years, including the *Bridge Strategy* (2009 – reviewed annually), *Asset Management Strategies* (2010), *Footpaths and Bikeways Strategy* (2012), and *Road Strategy* (2013c). Councils' Corporate documents do not directly link a focus to road safety, however a key area is "Accessible and Serviced Regions" which in the corporate plan has the statement of intent "Council will provide and advocate or infrastructure and services in accordance with the prioritised needs of our growing community". Road safety initiatives could be linked back to this area of the corporate plan in the absence of anything specifically relating to road safety.

Council is also a member of an established Traffic Advisory Committee, and Speed Management Advisory Committee, who meet once every quarter to six months, depending on items to be discussed, and consist of members from Queensland Police Services (QPS), various sections of Department of Transport and Main Roads (State Government department), and Council representatives. These committees were established and are chaired by the Department of Transport and Main Roads, with the purpose of these meetings being to discuss proposed changes such as speed limits, signage, heavy vehicle routes, and accidents including fatalities on the roads within the region. This allows various opinions to be heard on any road safety concerns, and then Council or Transport and Main Roads to take remedial action if necessary (depending on who maintains the particular road).

According to the *Austroads Guide to Road Safety (Austroads Ltd, 2013)*, there are numerous benefits of a road safety strategy, such an examination of road safety issues across the region, commitment of stakeholders to a set of actions, prioritisation of actions, efficient allocation of resources to road safety goals, and amongst others, an appropriate balance between road safety goals and other societal goals.

2.7 Road Safety data

Current actions the Scenic Rim Regional Council has taken in the Road Safety sphere could be considered to be at a basic level. Design of new or renewal works for roads is undertaken in-house by Council officers, who are suitably trained in design standards and road safety concerns. The Design section operates under a Quality Assurance Program, which includes the use of current practices and standards. Two years ago Council created a new position for a Traffic Safety Officer, who is dedicated to traffic and road safety issues. There was a significant backlog of work and requests for this officer to undertake. The officer investigates customer requests such as speed concerns, pedestrian/children crossings, school safety, bike lane safety, signage requests, parking requests, traffic calming requests, as well as working for the design department with traffic reviews, traffic counter placement and assessment, and general road safety requests. The current approach to road safety is largely reactive rather than proactive.

Council does not have an established record of accidents on their roads. If an accident occurs, the current procedure is that a works officer, and sometimes the traffic safety officer (depending on the initial assessment of the accident) will visit the site to determine the causes and if any safety and design reviews are required for the location. The traffic safety officer also works with the QPS officers through the Traffic Advisory and Speed Management Advisory Committee meetings as previously mentioned, and will investigate road safety at accident locations through request from the local police officers.

Road Safety Audits are also undertaken by qualified staff within the design section of Council as required, which may be due to an accident or complaint regarding road conditions. Audits may suggest improvements required to the section of road, however these recommendations may only be implemented when the road is due for renewal if the improvement is major, such as realignment of a road, or intermediate actions may be implemented such as increased signage, or reduction in speed if warranted under the current Austroads guidelines.

The Queensland Government supplies the WebCrash website, which is a collection of road traffic accidents on Queensland roads, with data being collected since 1986. Summaries of accidents per region are available to the general public, however it should be noted that these accidents are only those which have been reported to police or resulted in hospitalisation or fatalities. In the absence of data available from Council, this data will be valuable in the research of the Road Safety Plan for Scenic Rim Regional Council.

For the purpose of this dissertation, the researcher is to determine the most appropriate approach to the development of the Road Safety Plan for Scenic Rim Regional Council, based on current best practice, and the needs of the Council. This will include the analysis of any available road safety issues such as crash data, to determine the most suitable actions to be identified for implementation in the coming years.

3. Methodology

The six tasks identified in Section 1.2, Objectives, can be summarised into four main inputs into the development of the Road Safety Plan.

Input 1: Framework

- Task 1. Undertake a Road Safety Literature Review, including guidelines, strategies and actions, around Australia and the world.

Input 2: Legal Requirements

- Task 2. Review Local Government legislation to determine Councils' role in road safety and how this will apply to the Scenic Rim Regional Council Road Safety Plan.
- Task 3. Review legal opinions and cases where local government has failed to meet community road safety expectations.

Input 3: Corporate Documents

- Task 4. Review of current state of assets at Scenic Rim Regional Council to determine potential impact on road safety.

Input 4: Data Analysis

- Task 5. Collate and analyse crash data within the Scenic Rim Region to determine if there are any trends or obvious issues within the network.

Output: Road Safety Plan

- Task 6. Develop a suitable Road Safety Plan for Scenic Rim Regional Council which identifies Strategy Priority Areas and associated actions in each area.

This is represented graphically in Figure 3-1 below.

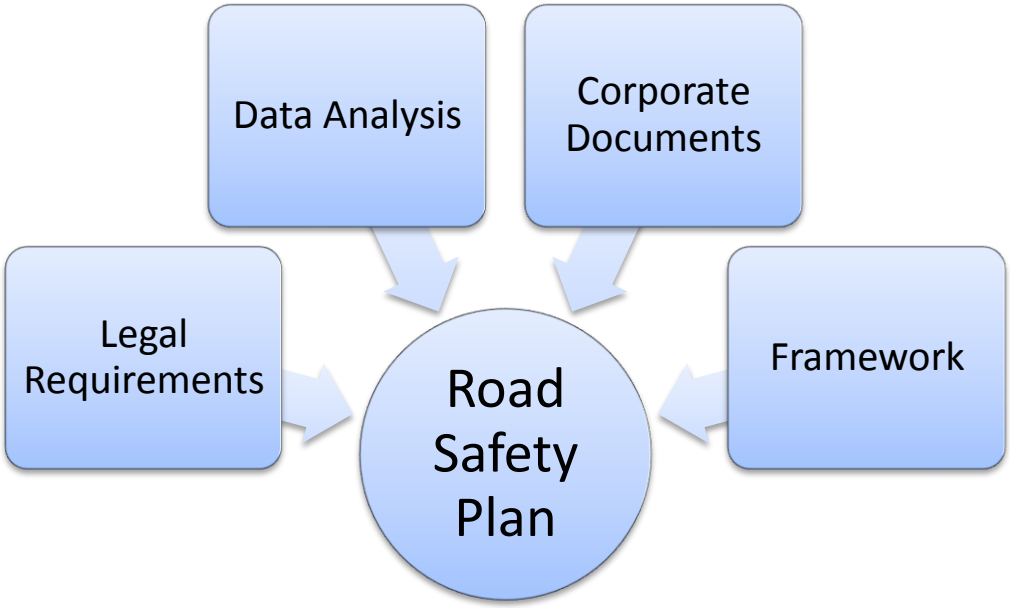

Figure 3- 1: Inputs into the Road Safety Plan

3.1 Framework

The literature review demonstrated the use of the Safe System Approach as both a worldwide and Australian endorsed approached to Road Safety. It is evident this is a suitable approach for the development of the Road Safety Plan for Scenic Rim Regional Council.

The *Austroads Guide to Road Safety Part 2: Road Safety Strategy and Evaluation (2013)* addresses the development of road safety, with the statement "This part of the guide is intended as a comprehensive introduction to the road safety development process, based on best practice as it is currently understood". As Austroads guidelines are used by local governments, including Scenic Rim Regional Council for road related issues, and the Guide to Road Safety aligns with and endorses international best practice and Australian guiding principles, it is considered appropriate this guide is used in the development of the strategy. These guiding principles are specifically the Safe System Approach built on the three basic principles of people make mistakes, human physical frailty and a 'forgiving' road transport system, with the ultimate aim of a Safe System to achieve safe roads, safe

speeds, safe vehicles, and safe road use (Austroads Guide to Road Safety Part 2, 2013).

The Austroads Guide to Road Safety ('the Austroads Guide') suggests there are two main approaches to the development of a road safety strategy, being either a 'top-down' approach, or a 'bottom-up' approach. Given the top down approach requires the development of a vision to begin the process, it is considered more appropriate to pursue the bottom up approach. The bottom up approach is described as starting at the level of problem analysis and countermeasure development (Austroads Guide to Road Safety Part 2, 2013). This approach is also recommended by Deller and Meares in the 2010 paper comparing emergent road safety strategies in Queensland local governments.

The steps followed in the development of the Road Safety Plan generally follow those outlined in the Austroads Guide to Road Safety Part 2 (2013), consisting of Problem Analysis, Countermeasure Selection, Target Setting and Performance Indicators, Strategy and Action Plan Development, Implementation, and Monitoring and Evaluation. Given the timeframe associated with the project, some of these steps are beyond the scope of this project, however it would be recommended to continue to follow these steps for this out of scope work once the Plan is adopted by Council. The steps from the Austroads Guide relevant to this project are detailed in the following section.

3.1.1 Problem Analysis

One of the most critical aspects of a road safety plan is ensuring an adequate understanding of the road safety issues within the region covered by the plan, in this case the Scenic Rim Region. The Austroads Guide suggests the main way to achieve this is to analyse the road crash data base, and to try to determine any patterns emerging from the data base, in terms of increasing or decreasing types of crashes, or whether behavioural patterns associated with the crashes are changing, in terms of factors such as location, season or time of day, gender or age of the drivers. This is further discussed in section 3.4, Data Analysis, however for the data analysis

in this project. Another important consideration mentioned in the Austroads Guide in the problem analysis stage is public opinion, which may highlight public concerns which represent weaknesses in the system, may express opinions which are well ahead of decision makers on road safety issues, or there may be negative deeply held views which are in contrast to the technical solutions presented in the Plan. This Plan will consider public opinion through the examination of relevant traffic safety requests submitted to Council from the public, and how these may be included or addressed in the strategies and actions of the plan. Beyond the scope of this project is the public consultation of the draft plan once it is adopted for consultation by the Council, as is the Councils' current media and communications strategy for new Council plans and documents.

3.1.2 Countermeasure Selection

As mentioned earlier in this section, the four major components of Framework, Legal Requirements, Corporate Documents, and Data Analysis are the inputs to be considered for the Road Safety Plan development. Essentially, the outputs of the project are a Road Safety Plan which identifies a number of countermeasures to address identified problems around road safety for the region (which is identified in section 3.1.1 above). The Austroads Guide suggests these countermeasures can be selected from a number of options in the areas of engineering (road and traffic based measures), vehicle design, driver training, public information and education, and enforcement and sanctions. Obviously, only a selection of these options is available to solve problems at a local government level, and these will be aligned with the Safe System Approach previously outlined.

The importance of public opinion is once again highlighted within countermeasure selection, as a successful road safety plan and actions will need public support for any proposed and implemented changes. This is once again outside the scope of this project, however Council will need to ensure public education of both the plan and actions as they are implemented over time.

3.1.3 Strategy and Action Plan Development

As identified in Figure 3.1, there are a number of inputs into the Road Safety Plan, which are discussed throughout this section, and the Plan will be based on all of these inputs.

In terms of the presentation and layout of the Road Safety Plan, the Infrastructure Services department at Scenic Rim Regional Council have a general layout for their Strategies and Plans, which will be utilised for the Road Safety Plan. In general terms, it will consist of an Introduction, the Plan Context (how the Plan relates to the other Council Corporate Plans and Documents), and then the Strategic Priority Areas of the Plan and the associated actions.

The remaining steps from the Austroads Guide are considered outside the scope of this project and will be addressed by Council.

3.2 Legal Requirements

The Local Government Act 2009 (LG Act) came into use on 1 July 2010. As stated in the LG Act (2009), the purpose of the Act is to provide for

> "the way in which a local government is constituted and the nature and extent of its responsibilities and powers; and a system of local government in Queensland that is accountable, effective, efficient and sustainable".

As the LG Act outlines local governments' responsibilities, it was important to review the relevant sections of the Act to determine the requirements related to roads.

Although Chapter 3, Part 3, of the LG Act is titled Roads and other Infrastructure, only a few sections are relevant to this project, including section 59 which defines a road, and section 60 which outlines the local governments' control of roads.

As the sections are not definitive and are generalised wording, the interpretation of the Act is open. Due to this, it was appropriate to seek a legal opinion on the

Council responsibilities. Scenic Rim Regional Council is a member of the Local Government Association of Queensland (LGAQ), who provide a legal opinion service through King and Company Solicitors. The legal opinions on roads were reviewed, however due to the new LG Act being in place from July 2010, many of the legal opinions predated this and were considered superseded.

As Council had a number of queries associated with roads, it was determined that seeking a legal opinion from Corrs Chambers Westgarth Lawyers (Corrs et al) was an appropriate step. The advice sought was in regards to potential liability relating to non-standard roads, with a number of scenarios. As roads can be non-standard for a number of reasons, including situations which impact on the safety of the road user, this advice is highly relevant to this project and Councils' legal responsibilities associated with road safety. Although the advice was sought by the author at the time of employment with Council, it should be noted the advice is privileged and confidential, and as such can not be included directly in this report, however a generalisation of the advice can be provided.

3.3 Corporate Documents

The Council corporate documents are public documents readily available for the public to view or obtain a copy. The Community Plan is a 15 year plan that was developed in consultation with the community of Scenic Rim Region and is designed to reflect the views of the community, and thereby direct the Council in all other documents. The Community Plan covers seven main areas of importance to the community, with one of these being related to infrastructure. The difficulty of this project will be in determining a direct link to the Community Plan, which is the principle document directing Council corporate documents. This is a critical link to be made and identified within the Road Safety Plan.

The Corporate Plan is the 5 year document that is developed from the Community Plan, with the aim of "putting the community plan into action". The current Corporate Plan (2013-2018) identifies eight statement of intents, with strategic areas, as well as measures.

The annual Operational Plan and Budget are directly linked to the Corporate Plan, and detail the actions Council undertakes each year to meet the objectives of the Corporate Plan. It can be seen how the plans are interwoven, (Figure 3-2) and the difficulty in obtaining funding for an initiative that is not directly correlated to any of the strategies outlined in the Community or Corporate Plans.

The Asset Management Plans are another important Council document, as they are a measure of the condition of assets across the region and based on measured condition of the assets over time, provide a prediction on when the asset will require renewal, and what the annual cost of the renewal of that asset class will be. The condition ratings of the assets is undertaken by independent consultants, with the results used by Council assets officers to model scenarios and determine the aforementioned renewal budgets. The current asset management plan only allow for renewal of existing assets, and have not considered upgrades required for increased population, or for improvements in road use and safety. The Asset Management Plans are used by Council to provide guidance in the direction of the organisation and in financial situations such as budget determinations. Through reviewing the Asset Management Plans for transport related asset classes (Roads and Bridges), and comparing these to the Financial Plan and annual budget, the funding gap will be able to be determined.

A review of the Road Strategy will also be undertaken, to determine the current practices and actions in place to maintain and operate the road network at Scenic Rim Regional Council. It is important to have this understanding as the Road Safety Plan will need to ensure it does not change any practices but rather complements or suggests improvements to current practices.

Figure 3- 2: Linkages between corporate documents, from SRRC Corporate Plan 2013-2018 (2013b)

3.4 Data Analysis

The Austroads Guide places a high importance on the analysis of crash data to determine any problems in the road network. Collection of data on road safety was through both the local government and the Queensland government databases. Analysis of any collated crash data within the Scenic Rim Regional Council was undertaken, although there are currently few records kept by Council. Further information was gained from discussions with relevant long term officers at Council, and review of past applications for funding from the State and Federal Government under programs aimed at improving the road network, such as Blackspot funding, Safer Schools funding, and Transport Infrastructure Development Scheme (TIDS). Information from the Queensland Police Service obtained during TAC and SMAC meetings was also used in the data analysis, as there have been notifications to Council of accidents on some Council roads.

Analysis of WebCrash data was undertaken as the main source of data, as it was the most reliable source of data available relating to accidents in the Scenic Rim region. Approval to access the site was not granted by the Queensland Transport's Data Analysis Unit; however Council officers were able to supply the latest data in Excel spreadsheet format for analysis.

The WebCrash data extracted from the State Government WebCrash website, is limited to the period from 2005 to 2010/2011. This is due to the site not being updated to current data, however there was enough data supplied to analyse within the 5 to 6 year timeframe.

Property Damage Only incidents are included in the data up to and including 2010, whilst all other incidents are included up to and including 2011.

WebCrash data is supplied in the pre-existing Local Government areas from prior to 2008. Therefore the data for the Boonah Shire Council area is largely correct; however the data for the former Beaudesert Shire Council area required detailed analysis of the location to determine what was still within the Scenic Rim Regional Council area, and what should be removed for data analysis. As roads but not towns were included in the data, this task was significant, and including individually checking every location to determine which Council area it was in, as well as checking if the road with the accident crossed the Council boundary, and if so which side of the boundary the accident occurred.

Accidents in WebCrash are classified into the following five categories, in decreasing magnitude of seriousness:

1. Fatality
2. Hospitalisation
3. Medical Treatment
4. Minor Injury
5. Property Damage Only

The following categories are provided under the title “Crash Nature”;

- Angle
- Collision – Miscellaneous
- Fall From Moving Vehicle (Specify)
- Head-On
- Hit Animal Incl. Ridden Horse or Carriage
- Hit Fixed Obstruction or Temporary Object

- Hit Parked Vehicle
- Hit Pedestrian
- Motor Cycle Or Pedal Cycle Overturn; Fall or Drop
- Non-Collision – Miscellaneous
- Overturned
- Rear-End
- Sideswipe
- Struck By External Load

Details on location such as longitude and latitude are supplied, along with further details of the accident, if there was an intersecting street, time and date, and speed limit of the road.

Alignment details for both vertical and horizontal alignment are supplied, in the following categories:

Horizontal Alignment

- Straight
- Curved – View obstructed
- Curved – View clear

Vertical Alignment

- Level
- Grade
- Crest
- Dip

Road Surface is categorised into;

- Sealed – Dry
- Sealed – Wet
- Unsealed – Dry
- Unsealed – Wet
- Unknown

Atmospheric Conditions;

- Clear
- Raining
- Smoke/Dust
- Fog

Lighting;

- Daylight
- Dawn/Dusk
- Darkness – Lighted
- Darkness – Unlighted
- Unknown

A typical example of relevant data from WebCrash is shown in Table 3.1, and is an example of an accident that occurred on 10 June 2005 at 3pm on Beacon Road, resulting in hospitalisation. The conditions were wet and the accident occurred during daylight hours. The road was unsealed and wet, and the accident occurred in a 60 km/hr speed zone, on a straight section of road in a dip.

Table 3- 1: Extract from WebCrash raw data

Date and Time	LGA	Road Authority	Street	Intersecting Street	Longitude _AGD66	Latitude _AGD66	DCA
Fri 10-Jun-2005 3pm	Beaudesert Shire Council(13)	Local Govt	Beacon Rd		153.1807	-27.9296	VEH'S MANOEUVRING: OTHER(400)

Crash Nature	Speed Limit	Crash Severity	Roadway Surface	Horizontal Alignment	Vertical Alignment	Lighting Condition	Atmospheric Condition
Angle	60	Hospitalisation	Unsealed – Wet	Straight	Dip	Daylight	Raining

All of the data parameters allow the user to analyse the data a number of ways and try to determine any underlying factors causing the accident. Given the longitude and latitude are supplied with the data, one of the first steps after finding only the relevant data for the Scenic Rim Region, was to plot the incidents on maps to determine any clusters of accidents for further detailed analysis.

Further analysis of this data allowed the determination of any 'problem' areas for Council to further investigate, through the actions in the Strategy.

Other means of analysis of the data included reviewing only the fatal accidents, then the fatal accidents plus the hospitalisation accidents, and finally adding in the medical treatment accidents to determine if there were any patterns to the more serious incidents.

4. Analysis

As indicated in within the methodology section, a large part of the analysis is related to the available crash data for the region. This results in suitable countermeasures which form the strategic areas of the Road Safety Plan and the actions.

4.1 Framework

Using the Safe System Framework approach, problem analysis is undertaken in section 4.4 - Analysis, which details the process of analysis of the crash data and customer requests for road safety. Following this, high risk areas were able to be determined for Council to consider in the Road Safety Plan, and the appropriate countermeasures were determined and summarised into actions under four Strategic Priority Areas within the Road Safety Plan.

Actions were then further analysed along with current financial and resource (staff) constraints, to determine the timeframes for the actions as short term, medium term, or ongoing. Given the Road Safety Plan is only a 5 year document, it was not considered appropriate to assign long term timeframes.

Throughout the development of the countermeasures, strategic priority areas, and actions liaison with Council officers was undertaken to ensure the document is relevant to Council, and can be used by them.

4.2 Legal Requirements

Toowoomba Regional Council (TRC), in 2011, released their Road Safety Strategic Plan. TRC had an excellent database of crash data to refer to, with details which allowed them to identify factors such as age of drivers, and whether speed, alcohol or drugs were a contributing factor. The TRC is an excellent example of a road

safety plan for a large Council, and was completed with a high level of support from a number of stakeholders, including the State government, Department of Transport and Main Roads, Queensland Police Service, the Institute of Public Works Engineering Australia (Queensland Division), and the Local Government Association of Queensland. In the TRC Plan, it was identified that Council has a role in each of the following:

- Being the primary authority responsible for the safety of the roads it manages
- A duty to consider road safety in planning decisions for land use and developments.
- Lobbying for funding for transport infrastructure to improve road safety for its community
- Encouraging safe road use behaviour in the community

The legal advice available through the LGAQ website was examined, and although the most of the advice was prior to the new LG Act in 2009, the wording of Councils responsibility regarding roads did not extensively change from the old Act to the new Act. In legal advice from King and Co. in 2008, it is stated:

> "where a local government becomes aware (or should be aware) of a risk created by the condition of a road and has the power to take action to reduce or eliminate this risk, it will become bound by a duty of care to all potential road users, to take reasonable steps to meet its duty.....the duty of care is to take reasonable steps to assure the safety of the road users...."

The current legal advice sought from Corrs Chambers Westgarth Lawyers, 2014 (Corrs et al) advises that a Council failing to rectify a road that poses a risk to the community would be considered failure to exercise its statutory powers potentially resulting in harm. The legal advice further advises that depending on the extent to which the road is defective, the risk may be medium to high to the Council.

Corrs et al (2014) also discuss a Councils failure to maintain or repair a road due to budgetary constraints, whereby a plaintiff would be prevented from seeking to challenge the Council's general budgetary decision making, and the plaintiff would not be open to saying Council should have allocated more money in its budget to road repair and maintenance.

Despite the legal advice, if Council was aware of a serious safety risk on a road, they would have an obligation to rectify the situation immediately, whether it be to close the road to the public, as is their power under the Local Government Act, or to repair it.

4.3 Corporate Documents

The Corporate Documents were analysed to determine any relevant sections to be incorporated into the Road Safety Plan.

The Scenic Rim Community Plan 2011-2026 (2011) lists the maintenance of community infrastructure as a part of a challenging future for the region, and states that "funding levels will need to increase to maintain current service levels into the future". It also discusses population growth with projected population levels of over 80,000 by 2031, from just over 39,000 in 2011. The theme in the Community Plan relating to the road network is 'Accessible and Serviced Region'. Relevant outcomes under this theme for Road Safety include:

- A well maintained road network that meets community needs
- Inviting, attractive and functional streets, paths, parks and community facilities
- Infrastructure and services keep pace with growth and changing needs and are compatible with our environment
- Investment in community infrastructure and levels of service reflect the community's capacity and willingness to pay for them

Underpinning the outcomes, are priorities, of which the following are relevant for Road Safety:

- Maintaining and upgrading the existing State and local road network
- Building infrastructure that supports safe walking and cycling and increases accessibility
- Improving access and the attractiveness of towns and villages by managing traffic, heavy vehicles and parking

- Ensuring community infrastructure is appropriate for our environment, contributes to attractive and functional places, and serves multiple purposes
- Ensuring new infrastructure needed to support residents, visitors and a growing economy is provided in time and is funded by those who benefit most

The Scenic Rim Regional Council Corporate Plan 2013-2018 (2013) carries the themes from the Community Plan, with Accessible and Serviced Region relating to the infrastructure network. The statement of intent addresses Council providing for infrastructure needs of the growing community, and includes strategies to achieve this. Those relevant to Road Safety include:

- Promote a sustainable infrastructure network which provides adequate accessibility across the region
- Advocate for our region to facilitate investment for the provision of other key infrastructure and networks.

At the time of developing the Road Safety Plan, Council was in the process of reviewing and updating their Roads Asset Management Plan. The previously endorsed Roads Asset Management Plan (Roads AMP) (2010) has therefore been used to determine asset renewal requirements.

The critical sections of the Roads AMP requiring analysis included the Sustainability Indices (Table 4-1), the cumulative renewal funding gap and the improvement plans for the maintenance and operation of the network.

Table 4- 1: Sustainability Indices for Road Assets (Scenic Rim Regional Council, Roads, Core Asset Management Plan, 2010)

All Road Assets	**Lifecycle (per annum)**	**10 Year (per annum)**
Annual Average Cost	$14,822,000	$14,418,000
Annual Average Expenditure	$11,654,000	$11,654,000
Annual Average Funding Gap	$3,168,000 (shortfall)	$2,764,000 (shortfall)
Sustainability Index	**0.79**	**0.81**

Although the figures above for the sustainability indices were based on a return intervention condition (RIC) of 8, the Roads AMP demonstrates cumulative renewal gaps for RIC scenarios of 7, 8 and 9 (Figure 4-1).

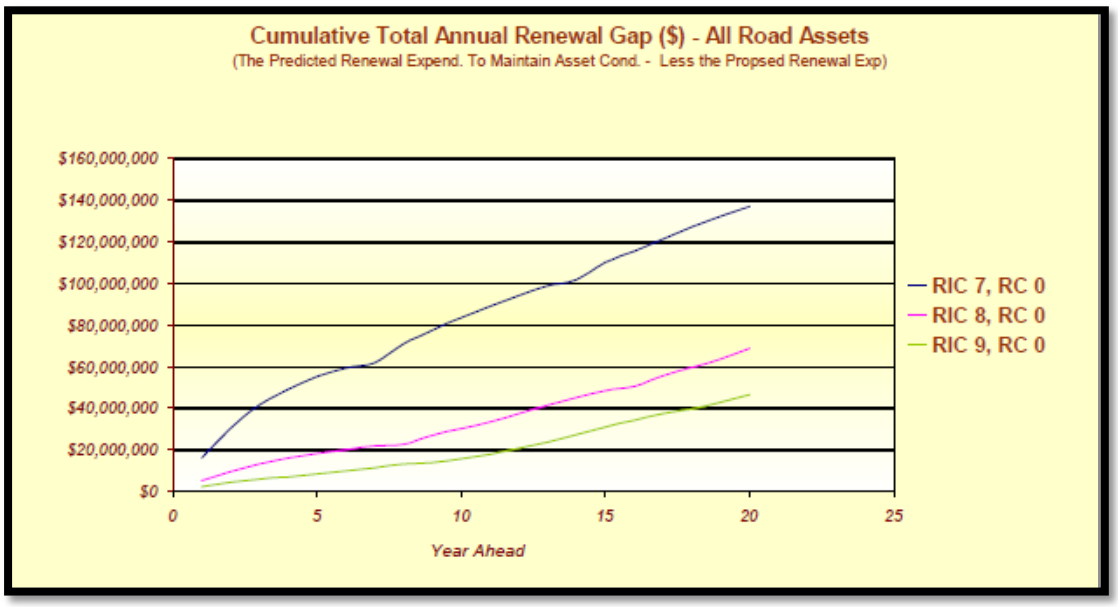

Figure 4- 1: Cumulative Annual Renewal Gap for Roads Assets (Scenic Rim Regional Council, Roads, Core Asset Management Plan, 2010)

The Roads AMP states that the Council plans for the future in terms of asset management of the road network are:

1. Ensure the road network is maintained at a safe and functional standard as set out in this asset management plan
2. Continuously improve the management of Council's road network through the development of sustainable asset management practices
3. To maintain the road network such that adopted customer service standards are achieved at minimum cost

In regards to safety, it is also stated in the Roads AMP that council inspects all roads regularly and prioritises and repairs issues in accordance with their schedule to ensure safety.

4.4 Data Analysis

The data from webcrash was able to be sorted, and then mapped according to the longitude and latitude data. Sorting of the data was extensive and time consuming, with State Road crashes being removed first (after checking due to the number of errors between where a State Road was classified as a Local Government Road, and vice versa). The sorting of data from the old Beaudesert Shire Council data was more complicated, as the data only specifies a street or road name, and a longitude and latitude. Each entry was checked against a street directory of the Scenic Rim Region, and if the street did not exist in the directory, was discarded. If the street did exist in the directory, it was then determined if it was a boundary road, by checking the maps within the street directory.

Should a crash be on a boundary road, it then had to be individually mapped on the free mapping software, BatchGeo, using the longitude and latitude supplied from the web crash data. This produced a map with the location marked, which was once again compared to the street directory to determine which side of the Council boundary it was on. If the crash was on the Logan side, it was discarded. Figure 4-1 below shows a boundary road, Kilmoylar Road, with accidents on the road to the north and south of the waterway. The area to the north is within Logan City Council, while the area to the south is within Scenic Rim Regional Council.

Figure 4- 2: Mapping of accidents on from data on the same road within different Local Government areas.

Once all the data was sorted, a spreadsheet of the longitude and latitude data was simply loaded into the BatchGeo webpage, and a map created (Figure 4-1 and 4-2). The data can be edited at any time if any mistakes are found, such as a crash within the neighbouring Council area being mapped. The final raw data for the Scenic Rim Regional Council area is shown in Appendix B.

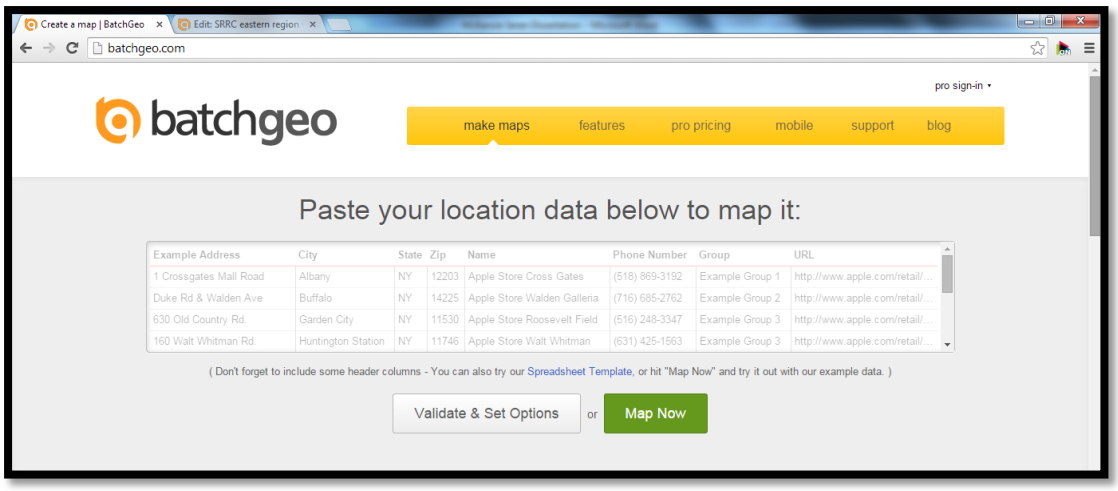

Figure 4- 3: BatchGeo home page

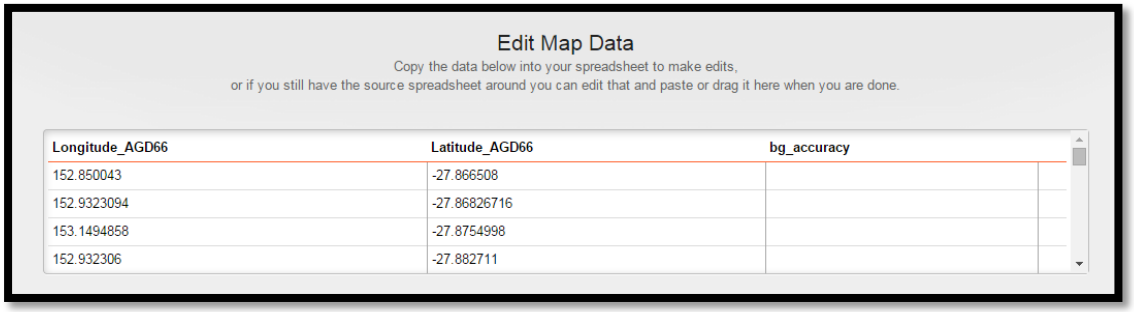

Figure 4- 4: Scenic Rim Regional Council longitude and latitude data in BatchGeo for mapping

The resulting maps from the data input are able to be viewed as the whole region with all accidents shown, or by zooming in on an area to view the number of accidents in a road or street.

Spreadsheet data was also able to be sorted and manipulated to determine high accident areas, Table 4-2, (which is also obtained from the mapping), and then further analysing the types of accidents occurring in these multiple accident areas.

Roads which had three or more accidents on them in the time period were separated from the other roads, as a priority to view the roads and determine what may be causing the accidents, to determine if there were any obvious countermeasures to be included in the Road Safety Plan. A sample of the roads (those with seven or more accidents) is shown below, with photos taken from Google Street View which allowed accuracy of locations with the longitude and latitude from WebCrash.

Table 4- 2: Roads with three or more accidents

	Number accidents	Fatal	Hospitalisation	Medical Treatment	Minor Injury	Property Damage only
Albert St	4		1	2		1
Allan Creek Road	3		2	1		
Alpine Terrace	5		2	2		1
Beacon Road	5		1	2	1	1
Beechmont Road	11		4	3	2	2
Birnam Range Road	5		3			2
Boyland Road	3		2	1		
Brookland Road	3		2	1		
Brooklands drive	7		1	2		4
Christmas Creek Road	5		5			
Church St	3		1	2		
Curtis Road	4			1	1	2
Duckett St	3			1		2
Eaglesfield Street	8		2	1	2	3
Flagstone Creek Road	5		1	3	1	
Hartley Road	4		2	1		1
High St	5		2	1		2
Hoya Road	3		2	1		
Innisplain Road	5	2	1	2		
Kalbar Peak Crossing Road	3		3			
Kerry Road	8	1	4	4		
Kinabalu Drive	4		1	1		2
Kooralbyn Road	8		1	3	2	2
Milbong Road	3		2			1
Mt French Road	4		2		1	1
Munbilla Road	4		1	1	1	1
Nindooinbah Est Road	3		1	1	1	
Old Kalbar Road	3			1		2
Old Rifle Range Road	3				2	1
Sandy Creek Road	3		1	1		1
Tarome Road	5	1	1	1	1	1
Upper Coomera Road	4		1	1		2
Veresdale Scrub Road	9	1	5	2	1	
Wonglepond Road	3					3

Figure 4- 5: Beechmont Road, Beechmont. Eleven accidents.

Figure 4- 6: Brooklands Drive, Beaudesert. Seven accidents.

Figure 4- 7: Eaglesfield Street, Beaudesert. Eight accidents, including six at the above intersection with Tina Street.

Figure 4- 8: Kerry Road, Kerry. Eight accidents including a fatality on this bend.

Figure 4- 9: Kooralbyn Road, Kooralbyn. Eight accidents on this road

Figure 4- 10: Veresdale Scrub Road, Veresdale Scrub. Nine accidents including one fatality.

There were seven fatalities on six roads in the time period (Table 4-3), these roads were also viewed, although it should be noted in the case of a fatality Council usually discusses any road issues with the Queensland Police Service and takes any remedial action if necessary. Kerry Road and Veresdale Scrub Road, both of which had fatalities, are shown in Figure 4-8 and 4- 10.

Table 4- 3: Roads with fatal accidents, and other accidents (as applicable).

Road	Total Accidents	Fatal	Hospitalisation	Medical Treatment	Minor Injury	Property Damage only
Collins Place	1	1				
Dawsons Road	1	1				
Kerry Road	8	1	4	4		
Tarome Road	5	1	1	1	1	1
Veresdale Scrub Road	9	1	5	2	1	
Innisplain Road	5	2	1	2		

Figure 4- 11: Collins Place, 60 km/hr suburban street. Fatality on this section.

Figure 4- 12: Intersection of Dawsons Road and Rosewood Road. 100m/hr rural road, fatality at this location.

Figure 4- 13: Innisplain Road location of fatality. 100 km/hr rural road.

Figure 4- 14: Innisplain Road location of second fatality. 100km/hr rural road.

Figure 4- 15: Tarome Road, location of fatality. 100km/hr rural road. (Note Google Maps identifies this road as Rosewood – Aratula Road).

Further analysis of the webcrash data was undertaken by viewing each of the 142 roads with accidents recorded on them, and categorising them into eight different road categories. These categories were reflective of the environment and road construction, and were:

- Wide sealed town street – this urban street generally has two divided lanes, parking lane/s, and kerb and gutter.
- Sealed town street – this urban street is generally undivided but has enough room for parking and two lanes. Generally has kerb and gutter on at least one side.
- Sealed town street, unsealed shoulders – this urban street is divided with unsealed shoulders and urban speed environments. This was not a common street type.
- Undivided sealed, unsealed shoulders – this road was found in the town outskirts, in urban speed environments. Parking may be available but off the sealed section of road.
- Divided sealed, unsealed shoulders – Generally in a rural high speed environment, this road is divided but only wide enough for the two lanes, with unsealed shoulders.
- Rural, undivided sealed, unsealed shoulders – this rural road is generally default speed limited to 100 km/hr. Single vehicle seal width, with unsealed shoulders for passing.
- Unsealed road – rural low volume gravel roads with default speed limit of 100km/hr.
- Rural track – very low volume track with little to no gravel or maintenance by Council.

Once all of the roads were categorised they could be analysed to determine any patterns in accidents.

Council was able to provide some raw data from their customer request system for traffic safety requests, spanning a twelve month period and totalling 173 requests. This data was extracted from the current customer request system and converted into an excel spreadsheet. Although some data was missing in the excel spreadsheet, for the most part it was able to be used to determine what the public are requesting from Council in the area of road safety. The data also required sorting as the requests ranged from signage requests to speed zones to parking requests. In relating the requests for relevance to road safety, it was determined the requests for speeding and speed zones, hooning, road marking issues, requests for pedestrian crossings, unsafe

narrow roads, and concerns of dangerous intersections were all suitable to consider for this project. This totalled 54 customer requests relating to road safety to be further analysed and compared to the webcrash data.

In analysing the customer request data, a new spreadsheet was made with the street names, and the issue the customer was concerned with regarding road safety. It was unclear whether some requests were repeat requests from the same customer during the twelve month period as some appeared very similar, as the data supplied by Council did not allow this analysis. Nine roads received more than one request regarding a safety issue in the 12 month period. These are summarised in Table 4-4.

A further analysis was carried out comparing the webcrash data and the customer requests to determine if there were requests on roads with a crash history.

Table 4- 4: Roads receiving more than one customer request for road safety in 12 month period analysed.

Road	Issue
Allan Creek Road	Speed review
Allan Creek Road	Needs white line or reflectors at corner with Brabazon Road
Biddaddaba Road	Line marking request
Biddaddaba Road	Speed review
Brooklands Drive	Speed review, traffic calming
Brooklands Drive	Speed review, hooning
Brooklands Drive	Speed review
Brooklands Drive/Summerfield Drive	Hooning around intersection
Burnett Creek Road	Speed review and signage
Burnett Creek Road	Speed review
Christmas Creek Road	Speed review
Christmas Creek Road	Speed review
Eaglesfield St	Changed from Stop to Give Way recently, resulting in multiple accidents
Eaglesfield St	Changed from Stop to Give Way recently, resulting in multiple accidents
Eaglesfield St/Anna St	Intersection safety with Eaglesfield St
Eaglesfield St/Brisbane St	Pedestrian crossing
Elizabeth St	Speed review and traffic calming
Elizabeth St	Speed review
Wellington Bundock Road	Speed sign missing
Wellington Bundock Road	Speed review
Wellington Bundock Road	Speed review
Wellington Bundock Road	Speed review
Wild Pig Creek Road	Speed review and signage
Wild Pig Creek Road	Speed review

5. Results

5.1 Framework

The analysis of data has allowed countermeasures to be determined for Council to continue to improve road safety across the region. As the Safe System approach has been adopted for this Plan, the strategic priority areas are closely related to the guiding principles of the Safe System approach, and have been identified as:

- Road Safety Leadership
- Land Use and Transport Planning and Management
- Safer Roads and Roadsides
- Community Education, Awareness and Behaviour

Each action under the strategic priority areas is defined, and then a timeframe assigned to it. Given the current financial situation of the organisation (as discussed below in section 5.3), for this Plan it was deemed appropriate that actions are specifically able to be performed with current staffing levels, with no high capital costs incurred, or that the actions simply are incorporated into current practices and procedures. The Plan has a five year life, therefore the timeframes associated with it with deemed to be short term (1-2 years), medium term (3-5 years) or ongoing (in some cases, a combination of both a short or medium term and ongoing timeframe).

The actual layout of the document was required by Council to match other Strategic documents. As such, the document briefly discusses the need for a Road Safety Plan, shows the context of the document and how it interrelates with other Council documents, and discusses these Council documents and their relationship with road safety, including a short section on the Safe System Framework. Following this the Strategic Priority Areas are briefly identified, and then detailed with actions. The timeline is included as an appendix, as Council has not included timeframes for previous similar strategic Plans.

5.2 Legal Requirements

As identified in the Analysis section through the legal advice from both King and Co. (2008), and Corrs et al (2014), Council has a legal obligation to ensure the road network is safe for road users. The most recent specific advice from Corrs et al (2014) discusses the potential liability to Council, advising:

> "there is a risk that failing to take action could result in the Council being liable in negligence, if, say, a person or their property were damaged as a result of the Council's failure to rectify or close a defective or illegal road
>
> .....as a general matter of law, an action for negligence may arise where a `person owes a duty to take reasonable care, fails to do so, and as a result causes harm
>
> .....it is reasonably foreseeable that a failure to exercise its statutory powers might result in harm
>
> .....Councils broad powers over roads make it plain that the Council is in a position of control with respect to road construction and maintenance".

The legal advice demonstrates that Council's have a both a responsibility to maintain a safe network, and a liability if they fail to keep the network safe for road users. Given the legal advice includes a risk assessment which deems the risk as medium to high (which is the second highest risk category), Councils must take the safety of their roads seriously and ensure actions are taken to mitigate and reduce the risk.

This underscores the requirement for Council's to have a Road Safety Plan to ensure they are demonstrating and documenting their commitment to road safety. This is particularly an issue for smaller regional Councils with gazetted but unconstructed roads, with more and more residents wanting to construct their residence on a road with no legal and safe constructed road. Often it is these same smaller Councils that have a small rate base but a large area to maintain, and therefore are financially constrained, but still have legal obligations.

5.3 Corporate Documents

Although there is no evident clear wording around road safety in the Council corporate documents, there is a strong commitment to infrastructure and the transport network. By Council obligations and current standards and guidelines, there is a link to road safety, given that Council must ensure the safety of the road user. Therefore, by the strong link to infrastructure, there is also a strong (presumed) link to road safety.

Despite the strong commitment in the Community and Corporate Plans to the infrastructure networks, the Asset Management Plan for Roads demonstrates a lack of funding. It should be noted the Bridge Asset Management Plan was also viewed, however it demonstrates correct renewal funding over the next 20 years. The Road AMP has not been updated with current figures following flood damage and subsequent repairs under the National Disaster Relief and Recovery Arrangements (NDRRA), however given the funding is to allow repair work to the condition of the asset prior to the flood incidents, there should be no impact on the asset condition ratings and subsequent renewal requirements.

The Sustainability Indices as shown previously in Table 4-1 demonstrate a funding shortfall in the road network of approximately $3.168 million dollars per year (over the lifecycle of the assets). This is a significant funding gap, with this estimate from 2010, the cumulative gap, as demonstrated in Figure 4-1, will be up to around $20 million by 2015, if Council does not take appropriate actions to either fund the shortfall, or change the way they maintain their network to minimise the rate of condition degradation. As Council is currently awaiting finalisation of the latest independent condition ratings, it is unclear if the funding gap has occurred as predicted, and therefore the average condition rating of the assets has worsened.

Lower condition ratings across the road network have a direct correlation with road safety. In practice, it results in roads that are degrading faster than Council can maintain them, and may result in either a forced higher intervention level for renewal (ie, the road is left for longer and becomes poorer and unsafe), or a decision

is made to decrease the service level of certain roads (a sealed low volume road may be changed to a gravel unsealed road if Council can not afford to reseal it).

As the Road AMP was based renewal only, there has been no consideration of improvements to road safety on roads that were designed to the standard of the day, but may not meet current standards. However in reality, Council does ensure when a road is renewed, it is upgraded to current standards. This may result in a higher cost of renewal, and therefore less funding available for other roads within the network.

5.4 Data Analysis

The results of the BatchGeo mapping can be viewed as a whole region map, (Figure 5-1), however are much more useful when zooming in on areas to determine the number of accidents in an area.

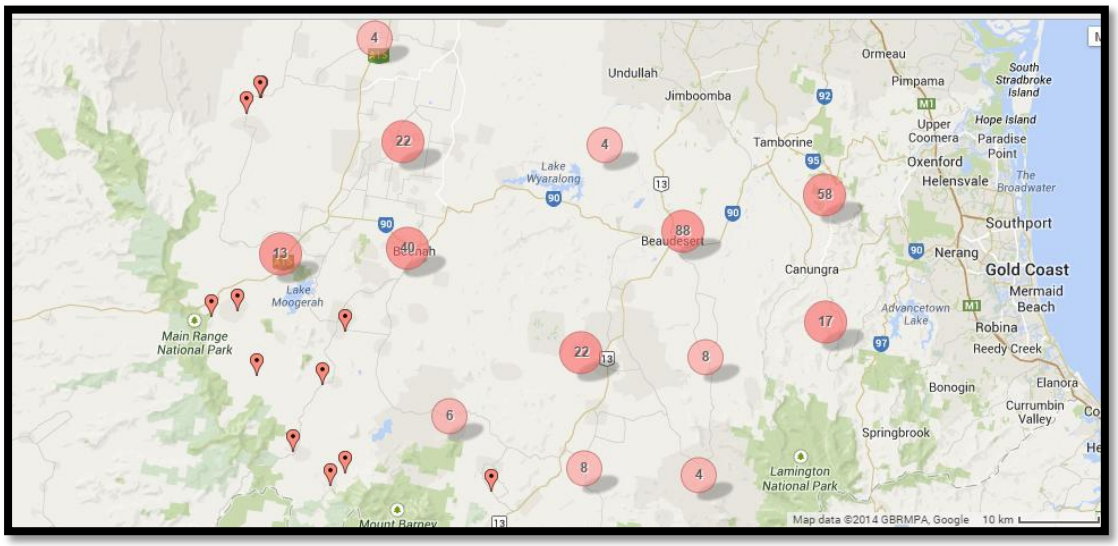

Figure 5- 1: BatchGeo mapping of whole of Scenic Rim Regional Council area accidents

With closer inspection of the areas, such breaking them into Eastern and Western regions, a better idea of accident frequency can be determined. Figures 5-2 and 5-3 shown these regions.

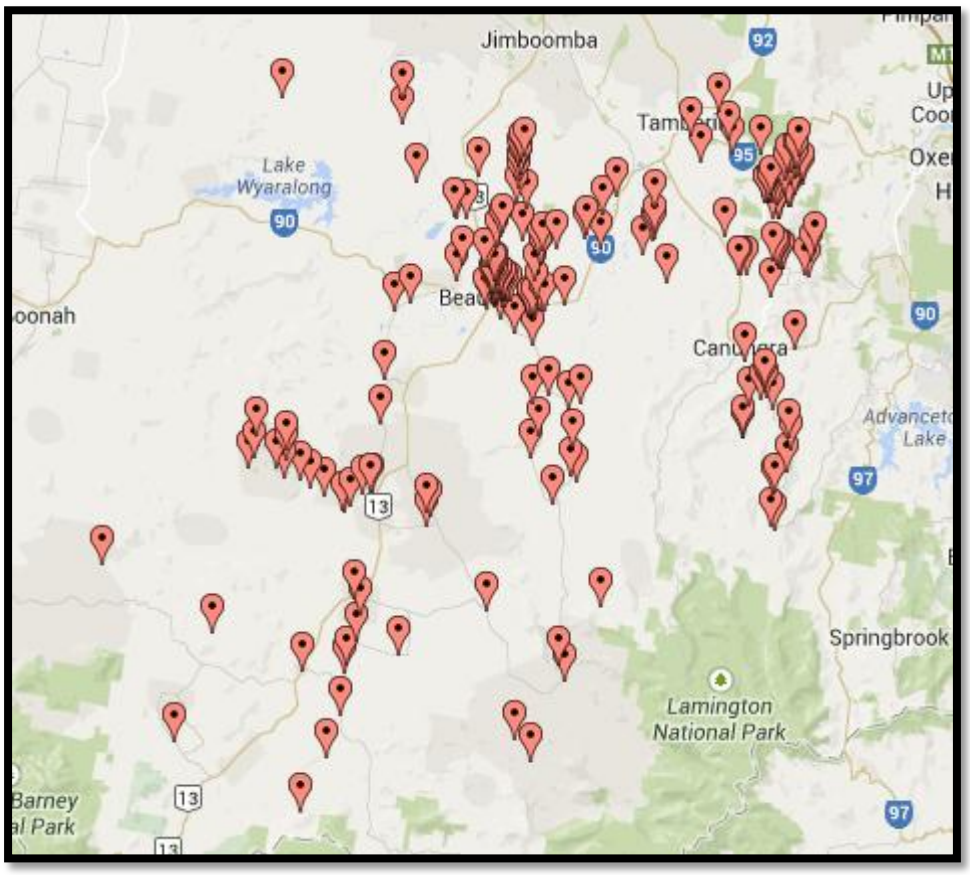

Figure 5- 2: BatchGeo mapping of Eastern region of Scenic Rim accidents

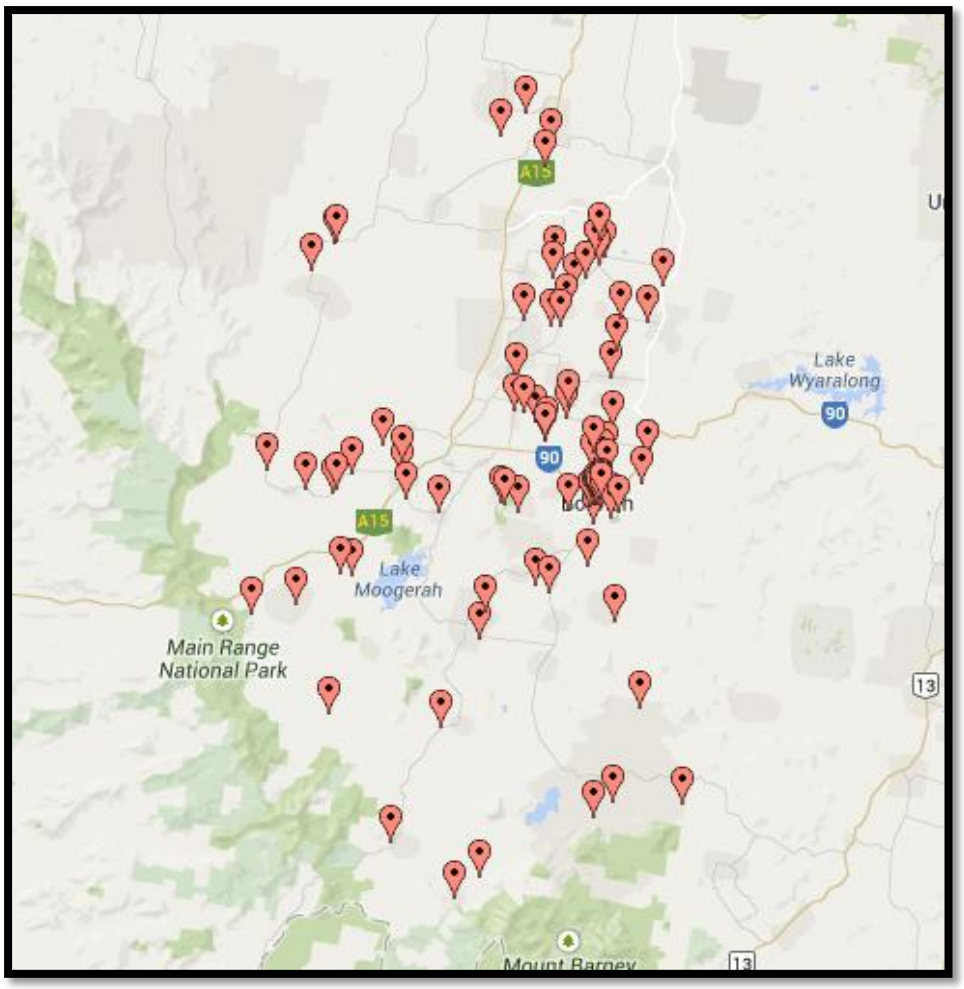

Figure 5- 3: BatchGeo mapping of Western region of Scenic Rim accidents

From these maps, high levels of accidents can be determined, and further inspected. From the Eastern region mapping (Figure 5-2), it can be seen there are some areas of high numbers of accidents near Kooralbyn, and north of Beaudesert. These areas were identified as Kooralbyn Road (Figure 5-4), and Veresdale Scrub Road (Figure 5-5).

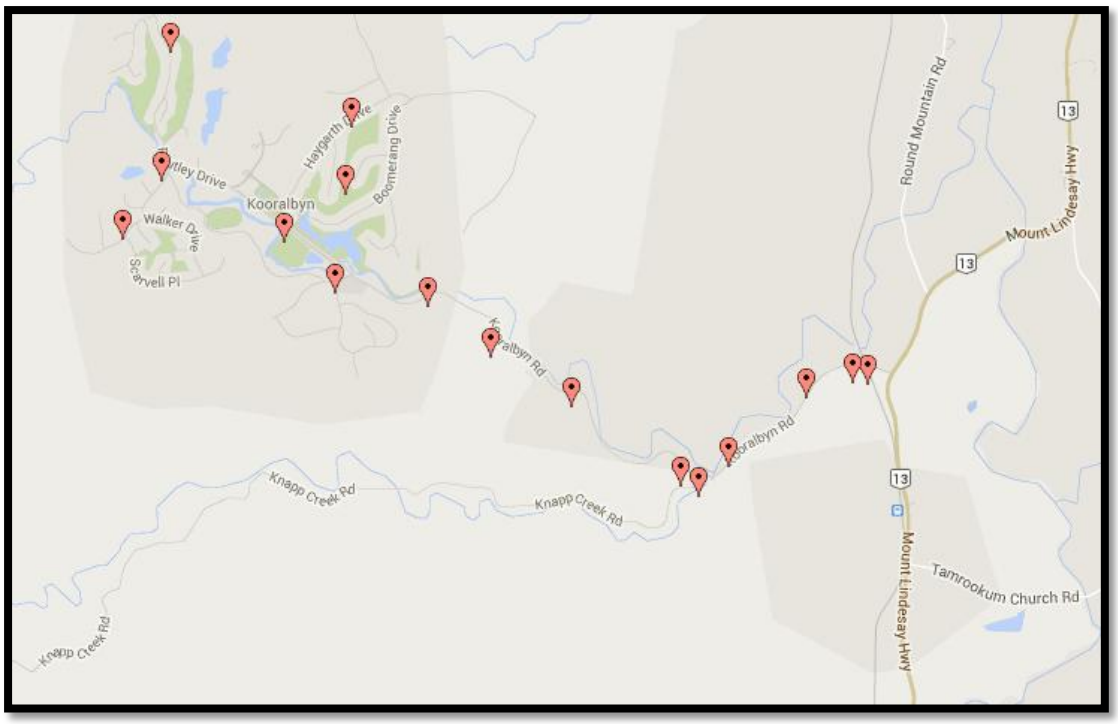

Figure 5- 4: BatchGeo mapping of accidents on Kooralbyn Road

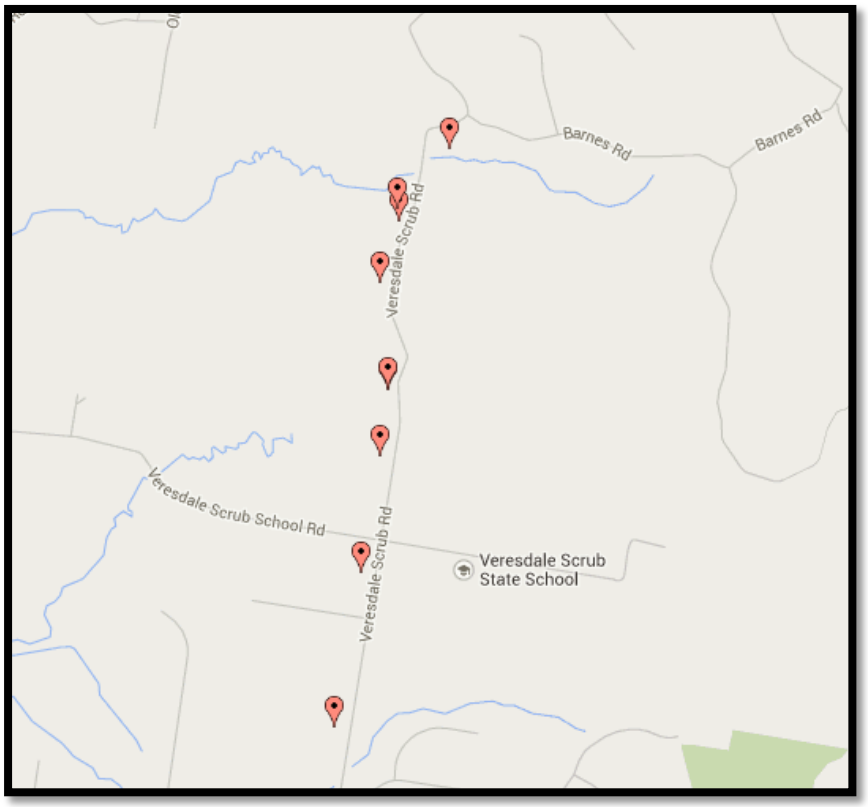

Figure 5- 5:BatchGeo mapping of Veresdale Scrub Road

The maps were validated by sorting the data in the spreadsheets to determine high volumes of crashes, as shown in Table 4-2 previously. The analysis of customer requests on roads shows that there were 39 roads with requests for road safety. When compared with the WebCrash data, the following was found;

- 49% of roads with customer requests have an accident history;
- Of this 49% with an accident history, 84% have had more than 1 accident;
- 53% of them have had 5 or more accidents;
- Of the roads with more than 1 request in the system, 78% have had an accident or accidents.

This demonstrates the value of the customer request system, as although only about half of the roads with a current request on them have an accident history, it is evident when accidents occur on these roads there is a high chance there will be more than one accident. Council does have a customer request system and a road safety officer that reviews the requests, however it is known that the number of requests is currently much higher than one officer can effectively resolve.

The types of streets and roads with accidents on them were analysed to determine what types of engineering solutions may be required. The roads were able to be analysed into 7 main categories, as shown in Figures 5-6 through to 5-12. The categorisation of the roads is attached in Appendix C.

Figure 5- 6: Typical “Wide sealed town street”. Church Street, Boonah.

Figure 5- 7: Typical “Sealed town street”. Leonard Street, Boonah.

Figure 5- 8: Typical “Undivided sealed, unsealed shoulders”. Grace Street, Dugandan

Figure 5- 9: Typical “Divided sealed, unsealed shoulders”. Allandale Road, Dugandan

Figure 5- 10: Typical "Rural, undivided sealed, unsealed shoulders". Allandale Road, Allandale

Figure 5- 11: Typical "Unsealed road". Old Rifle Range Road, Coulson.

Figure 5- 12: Typical "Rural track". Tabragalbra House Road, Tabragalbra. (Source: GoogleMaps, 2010)

Not surprisingly, around 60% of the roads with accidents on them were rural type roads, which account for around 57% of the total number of accidents. These roads are generally a higher speed environment, with less forgiving road shoulders. Examples of these roads are Figures 5-9 to 5-12, showing the rural divided sealed with unsealed shoulders road, the undivided sealed with unsealed shoulders road, the unsealed road, and the rural track. Typically, these roads would be default speed limited to 100 km/hour, with the road user expected to drive to the conditions of the road. These results demonstrate Council must concentrate on its rural roads as well as its high volume urban roads, despite the lower traffic volumes on the rural roads. The appropriate countermeasure for these issues on rural roads are to ensure renewal of the road is to current design standards, and issues such as sharp corners and unsafe sight distances (Figure 5-13) are removed through realignment of the road, as shown in Figure 5-14. Sealing of shoulders also results in much safer pull off areas and shoulders for the road user.

Figure 5- 13: Entering a 100 km/hr road with only an 80 metre sight distance. Anthony Road/Roadvale-Harrisville Road intersection.

Figure 5- 14: Design for re-alignment of FM Bell Road to remove unsafe corners.

The rural undivided sealed with unsealed shoulders (Figure 5-8) road accounts for 25% of accidents across the region, the urban/semi urban undivided sealed with unsealed shoulders (Figure 5-8) accounts for 21% of accidents and the rural divided sealed road with unsealed shoulders (Figure 5-9) accounts for 18% of all accidents. This shows that 64% of all accidents occur on roads with unsealed shoulders, and the accidents occur in both high and low speed environments.

5.5 The Road Safety Plan

In researching and developing the Plan, a number of improvements were identified for the Council to undertake. Appropriate actions were discussed with Council officers, including the Works Manager, the Design Manager, and the Traffic Safety Officer, and subsequently included in the Strategy. The setting of targets and performance indicators was determined to be outside the scope of this Plan due to limited baseline data available. However, with the use of available data appropriate actions in line with the Council goals were developed.

Due to the current fiscal restraints that the Council is facing (as previously noted, the Council Road Strategy states there is a funding shortfall), and previously available funding not being provided now, it is unlikely actions and outcomes that require large amounts of funding would be realistic in the short term. Therefore, as mentioned in section 5.1, the Strategy focuses on programs and projects able to be achieved through current staffing arrangements.

The formulation of the strategy and action plan was required to be undertaken in a manner that met the governance requirements of the organisation, the community expectations, and followed the guiding principles of the Safe System Approach to road safety. Close consultation with the engineering section of Council to ensure the document was developed to their requirements was required, as well as ensuring Council understands the Safe System approach being used as the basis. The overall inputs and outputs of the plan are shown in Figure 5-15.

Figure 5- 15: Inputs and Outputs for the Road Safety Plan

The first Strategic Priority area is Road Safety Leadership. It reinforces Council's commitment to road safety and to achieving a reduction on roads within the region.

The actions and timeframes developed for this priority area are shown in Table 5-1.

Table 5- 1: Actions and timeframes for Road Safety Leadership priority area.

Action number	**Key Action**	**Timeframe**
1.1	Implementation of the Road Safety Plan.	Ongoing
1.2	Participation in Road Safety Programs and initiatives with other key stakeholders, such as the State Government, Queensland Police Service, Department of Transport and Main Roads, and the community.	Ongoing
1.3	Provide leadership to the community in the area of Road Safety.	Ongoing

The second Strategic Priority area is Land Use and Transport Planning and Management. This priority area emphasizes the importance of providing a network of safe roads and public transport options for the regions that meets the growing population demands.

The actions and timeframes developed for this priority area are shown in Table 5-2.

Table 5- 2: Actions and Timeframes for Land Use and Transport Planning and Management priority area.

Action number	**Key Action**	**Timeframe**
2.1	As relevant strategies such as the Road Strategy, the Bridge Strategy, the Footpath and Bikeway Stategic Plan and the Social Plan are reviewed, ensure Road Safety is included as a priority.	Ongoing
2.2	Include Road Safety as a priority in the new Scenic Rim Regional Council Planning Scheme.	Medium Term
2.3	Assessment of Development applications will include consideration of road safety principles.	Ongoing
2.4	Infrastructure planning and modelling will be undertaken in accordance with the principles of this road safety plan.	Ongoing

The Strategic Priority area of Safer Roads and Roadsides is one of the larger areas for improvements to road safety that Council can directly impact upon. This area focuses on improving the safety of the road network through improved design, operational and maintenance practices, and the actions and timeframes are shown in Table 5-3.

Table 5- 3: Actions and timeframes for Safer Roads and Roadsides priority area.

Action number	Key Action	Timeframe
3.1	Expanding the current road safety audit program (major road designs, high level roads, serious accidents).	Short term and ongoing
3.2	Reviewing current guidelines and processes in design to improve road safety.	Ongoing
3.3	Analysis of available data such as crash data and road safety audits, and use of outcomes in the prioritisation of road upgrades and renewals (Capital Works Program).	Ongoing
3.4	Consideration of the development of a guideline for safer road shoulders and pull off areas.	Medium term
3.5	Create an asset register of road signage across the region, and consider auditing the signage network on an annual basis.	Medium term and ongoing
3.6	Identify and analyse areas for improvement that could be funded by State and Federal grant programs in the future.	Ongoing

The final Strategic Priority Area of Community Education, Awareness and Behaviour aims to achieve improvements in road use and behaviour through education and awareness campaigns, by providing support to the community and stakeholders. The actions and timeframes are shown in Table 5-4.

Table 5- 4: Actions and timeframes for Community Education, Awareness and Behaviour priority area.

Action number	Key Action	Timeframe
4.1	Support and work with State agencies and other stakeholders to improve road safety awareness.	Ongoing
4.2	Consider including education programs for schools or other communities if they are not provided by State Government.	Short term and ongoing
4.3	Consider implementing a road safety program within Council for employees.	Medium term
4.4	Continue to implement actions from other State and Council strategies which support road safety and the transport network, such as the promotion of safe cycling and walking networks.	Ongoing
4.5	Continue to work with local schools and the State in the implementation of School SafeST requests and programs.	Ongoing
4.6	Support and work with State agencies and other stakeholders to improve road safety awareness.	Ongoing

The full Scenic Rim Regional Council Road Safety Plan is attached as Appendix D.

6. Discussion

It is evident from the results that Local Government's have a large role to play in road safety in the transport networks they control and maintain, particularly given the potential improvements to be obtained from relatively simple engineering solutions on road networks. This is particularly true for this Council, where the available data for analysis is minimal, and it is a smaller rural Council with limited resources and active stakeholders, however the Council can at least ensure they are providing a safe road network to the road users.

The Road Safety Plan Strategic Priority Areas and the key actions are suitably related to the Safe System Approach for this Road Safety Plan. The Safe System Approach calls upon the main aspects of Safe Speeds, Safe Roads, Safe Vehicles, and Safe Travel. For Scenic Rim Regional Council, the major contribution they can have to the Safe System Approach is to ensure they provide Safe Roads, through the variety of actions nominated in the Strategic Priority Area for Safer Roads and Roadsides. At this stage, Council has little influence on the Safe Vehicle aspect, however can assist others in the education of safer driving practices to influence both the Safe Travel and Safe Speeds by supporting stakeholders who promote these actions. The reality of this Council being in a small rural Council in a constrained financial situation means for the life of this Road Safety Plan, they are unlikely to find money to fund campaigns for road safety, however can support others such as the State Government with their Drive to Save Lives campaign, through promotion in newsletters to residents, pamphlets and posters in customer service areas, and linking to the State Government website from the Council website.

The use of the Austroads recommended approach to development of the Road Safety Plan worked to a degree for this project. The Austroads approach recommended 6 steps in the development of the road safety strategy (bottom up approach), being:

- Problem Analysis,
- Countermeasure Selection,
- Target Setting and Performance Indicators,
- Strategy and Action Plan Development,

- Implementation, and
- Monitoring and Evaluation.

The problem analysis and countermeasure selection worked for this Plan, however specific target setting and performance indicators were too difficult to achieve at this time due to limited data availability. Instead, a general statement of aiming for a reduction in accidents and increased awareness and safety of the road network was included in the Plan. Despite this, appropriate Strategic Areas and Action Plans were able to be developed that suited this Council. The Implementation and Monitoring and Evaluation will be further discussed in the Recommendations sections. Overall, the *Austroads Guide to Road Safety Part 2: Road Safety Strategy and Evaluation (2013)* was able to be adapted to meet the needs of this Council in developing its Road Safety Plan.

The response of Scenic Rim Regional Council to Road Safety may seem limited when compared to the Toowoomba Regional Council Road Safety Strategic Plan, however TRC is a large city council with many more funding and stakeholder opportunities than Scenic Rim. The fact that Scenic Rim Regional Council is viewing Road Safety as an important aspect of their obligations to the community is a more advanced approach than most other Councils in Queensland, who have not developed a road safety plan or strategy. It is clear however that Scenic Rim Regional Council is beginning its journey in road safety, and the maturity will grow should they adopt and use the Road Safety Plan that has been developed for them.

In summary, this project has allowed for the review of the current position of Council in terms of legal obligations, financial and corporate responsibilities, practices in management of infrastructure, and combined these with a Safe System Approach and an analysis of available crash data to develop a Road Safety Plan with four Strategic Priority Areas and subsequently 19 key actions that are appropriate and achievable with current resourcing.

7. Conclusions

In developing this Road Safety Plan for Scenic Rim Regional Council, it should be noted there were a number of limitations that may have hindered the ability to determine the most appropriate actions for Council to undertake. Despite this, with the current data available, the Plan has been developed based on the current maturity level of Council in their approach to road safety, as well as considering the current financial situation for the Council.

The limitations that restricted the ability to accurately assess crash data were largely due to the type of data available for assessment. The data was only available for the timeframe between 2005-2011 from the State WebCrash database, with Council unable to supply any crashdata due to no records being kept by them.

Even with the data supplied by WebCrash, there are limitations on what is actually reported as an accident. Queensland Transport defines a road traffic crash as:

> "A road traffic crash reported to the police which resulted from the movement of at least one road vehicle on a road or road related area and involved death or injury to any person, or property damage. Note also that to qualify as valid, crashes must meet the following criteria:
>
> - the crash occurs on a public road, and
> - a person is killed or injured, or
> - at least one vehicle was towed away, or
> - the value of the property damage is:
>
> a) $2500 or more damage to property other than vehicles (after 1 December 1999)
>
> b) $2500 or more damage to vehicle and/or property (after 1 December 1991 and prior to 1 December 1999)
>
> c) value of property damage is greater than $1000 (prior to December 1991)"

Due to these requirements for reporting, there may be a number of accidents that have not been reported. Although these non reported accidents would largely be of

a minor scale, it does not necessarily mean there are no road safety factors contributing to the accidents.

Given the data analysis is a major part of the development of the Plan, it is considered this is the biggest limitation of the Plan, and one of the most important aspects to advance in order for the next iteration of the Road Safety Plan to be more accurate and useable.

As mentioned numerous times, the Council fiscal restraints have limited the Road Safety Plan to actions which can be achieved with current staffing and resources. This may be improved in the future, however the current Plan does give the Council a basis to work on and many suitable actions for improving road safety.

The original intent of this project was to identify an appropriate approach to road safety, form required actions for the Local Government to undertake, and develop a Plan to be adopted by the Council to ensure Scenic Rim Regional Council meets its obligations to the road users in ensuring a safe network. It is considered that generally this has been achieved, although it it up to Council to determine if they wish to adopt the Road Safety Plan. Some outstanding items from the adopted approach to road safety, being the Austroads approach which incorporates the Safe System Approach, remain for Council to develop over time, such as Targets and Performance Indicators, Implementation, and Monitoring and Evaluation of the Plan.

The original tasks which were identified for the completion of the project are listed below, along with comments on the final results appropriate for each task.

Task 1. Undertake a Road Safety Literature Review, including guidelines, strategies and actions, around Australia and the world.

It is considered this task has been completed satisfactorily, with the literature review resulting in appropriate guidelines and frameworks for use in the development of the Road Safety Plan, specifically being the *Austroads Guide to Road Safety Part 2: Road Safety Strategy and Evaluation (2013)*, which endorsed the internationally approved Safe System Approach to road safety, and provided a process for developing the Plan. The literature review also resulted in

determining approaches to Road Safety Plan by local governments in Queensland, and allowed the comparison of a Road Safety Strategic Plan developed for a large urban Council (Toowoomba Regional Council) to be compared to the Plan developed in this project for Scenic Rim Regional Council.

Task 2. Review Local Government legislation to determine Councils' role in road safety and how this will apply to the Scenic Rim Regional Council Road Safety Plan.

The only appropriate legislation for this task was the Local Government Act 2009, which includes a significant section on roads and what Council's powers are in relation to the roads.

Task 3. Review legal opinions and cases where local government has failed to meet community road safety expectations.

This task was achieved through reviewing legal advice supplied via the Local Government Association of Queensland, where King and Co. were engaged to provide advice to local governments. Advice found pre-dated the current Local Government Act, and specific advice was sought by Council on a number of roads isues. Corrs, Chambers and Westgarth provided this advice, which demonstrated there is a significant obligation to Council to ensure it provides a safe road network to all road users, and that the risk due to negligence of an unsafe network is medium to high. No information on cases was found specifically where a Council in Queensland had failed to provide a safe road network and were determined to be negligent.

Task 4. Review of current state of assets at Scenic Rim Regional Council to determine potential impact on road safety.

As reported earlier, there is significant asset renewal funding gaps in the roads asset class. The result of this is further degradation of the asset class, meaning the road conditions worsen, and subsequently there is an increase in the risk to Council associated with road safety. This may be revised when the road condition assessment data is

provided to Council and the Road Asset Management Plan is updated, however with the predictions from the 2010 Asset Management Plan showing a renewal funding gap of $3.168 million per year, it could be reasonably expected that the asset conditions will worsen and the funding gap will be increased.

Task 5. Collate and analyse crash data within the Scenic Rim Region to determine if there are any trends or obvious issues within the network.

The analysis of the available data was successful, with results showing a high incidence of accidents on roads which are of a rural nature, and roads which do not have sealed shoulders. Council has an opportunity to engineer solutions to these problems, by including funding for shoulder sealing on high use rural roads, and high accident roads. It also became clear that some of these roads have high numbers of accidents and require upgrading by Council. The actions in the Strategic Priority Area for Safer Roads and Roadsides address the outcomes from the crash data analysis.

Task 6. Develop a suitable Road Safety Plan for Scenic Rim Regional Council which identifies Strategy Priority Areas and associated actions in each area.

This task was achieved through the development of the Plan which meets Councils needs in terms of a layout that is in line with the current strategies in the Infrastructure Services department, outcomes that are achievable with current resources and funding, and will assist Council to provide a safer road network which can be monitored through the number of accidents on the transport network.

Overall, this project achieved the outcome as intended, and a Road Safety Plan has been delivered to officers at Council.

8. Recommendations

It is recommended that in order to improve road safety across the Scenic Rim Regional Council region and to prioritise road safety, the Road Safety Plan is adopted at both the executive level of Council, and by the Councillors as a working document which guides the actions of Council. Whether the document is adopted by Council or not, the Infrastructure Services team should ensure they implement the actions where possible, particularly from the Safer Roads and Roadsides Strategic Priority Area, as many of these changes will lead to better practices and subsequently improved road safety.

It is essential that a good database of accidents is available to improve the quality of the Road Safety Plan. Council needs to work closely with stakeholders and advocate for better data to be made available from the State. Council does not get direct notification of accidents and relies on the WebCrash data to be accurate and up to date. The Queensland Police Service and Department of Transport and Main Roads have an obligation to the community and to organisations controlling and maintaining the road network to provide accurate and up to date information for assessment. Once up to date information becomes available, it is recommended it is reviewed and any updates required to the Road Safety Plan are made.

Regardless of when the WebCrash data is updated, it should be reviewed and analysed on a regular basis, such as every 6 months to determine if there are any issues Council should be aware of and in need of remedial action.

The means in which Council deals with the challenge it faces with the aging road asset class and the gap in the funding renewal, and the subsequent impact on road safety will need to be monitored. This is an ongoing concern until road safety as a responsibility and obligation matures within the organisation.

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Appendix A – Project Specification

University of Southern Queensland

FACULTY OF ENGINEERING AND SURVEYING

ENG4111/ENG4112 Research Project

PROJECT SPECIFICATION

FOR: Seren Catherine McKENZIE

TOPIC: DEVELOPMENT OF A ROAD SAFETY STRATEGY FOR SCENIC RIM REGIONAL COUNCIL

SUPERVISOR: Dr Soma Somasundaraswaran

Patrick Murphy (RPEQ), Scenic Rim Regional Council

SPONSORSHIP: Scenic Rim Regional Council

CONFIDENTIALITY: The data and information obtained from within Council, and the Road Safety Strategy developed for this research project remains the property of Scenic Rim Regional Council, and cannot be used, in whole or in part, for any other purposes unless prior approval is given by Scenic Rim Regional Council.

PROJECT AIM: To research and review Australian and international guidelines, standards, existing strategies and other relevant literature in order to develop an appropriate Road Safety Strategy for Scenic Rim Regional Council.

PROGRAMME: (Issue A, 11 February 2014)

1) Undertake a Road Safety Literature Review, including guidelines, strategies and actions, around Australia and the world.

2) Review Local Government legislation to determine Councils' role in road safety and how this will apply to the Scenic Rim Regional Council Road Safety Strategy.

3) Review legal opinions and cases where local government has failed to meet community road safety expectations.

4) Review of current state of assets at Scenic Rim Regional Council to determine potential impact on road safety.

5) Collate and analyse crash data within the Scenic Rim Region to determine if there are any trends or obvious issues within the network.

6) Develop a suitable Road Safety Strategy for Scenic Rim Regional Council which identifies Strategic Priority Areas and associated Strategies in each area.

7) Submit an academic dissertation on the research and development of the Road Safety Strategy for Scenic Rim Regional Council.

As time permits:

8) Present the draft Road Safety Strategy to Council for adoption for public consultation.

Appendix B – WebCrash sorted Scenic Rim Region data

Crash Number	Date and Time	Year	LGA	Road Authority	Street
20060003052	Mon 6-Feb-2006 6pm	2006	Beaudeser	Local Govt	Albert St
20800462881	Wed 23-Jul-2008 1am	2008	Beaudeser	Local Govt	Albert St
20700483192	Sat 8-Dec-2007 3pm	2007	Beaudeser	Local Govt	Albert St
20050020792	Sat 20-Aug-2005 11am	2005	Beaudeser	Local Govt	Albert St
20700164145	Thu 12-Jul-2007 8am	2007	Boonah Sh	Local Govt	Alfred St
20100412667	Sun 18-Apr-2010 9am	2010	Beaudeser	Local Govt	Allan Ck Rd
20700064697	Tue 3-Apr-2007 5pm	2007	Beaudeser	Local Govt	Allan Ck Rd
20060000362	Thu 5-Jan-2006 11pm	2006	Beaudeser	Local Govt	Allan Ck Rd
20800718426	Sat 8-Nov-2008 2pm	2008	Boonah Sh	Local Govt	Allandale Rd
20800680676	Fri 24-Oct-2008 10pm	2008	Beaudeser	Local Govt	Alpine Tce
20050003303	Thu 10-Feb-2005 3pm	2005	Beaudeser	Local Govt	Alpine Tce
20100937386	Fri 15-Oct-2010 10pm	2010	Beaudeser	Local Govt	Alpine Tce
20900330853	Fri 1-May-2009 8am	2009	Beaudeser	Local Govt	Alpine Tce
20900961537	Mon 7-Dec-2009 3pm	2009	Beaudeser	Local Govt	Alpine Tce
20900887686	Fri 13-Nov-2009 10am	2009	Beaudeser	Local Govt	Anna St
20050003052	Tue 4-Jan-2005 3pm	2005	Beaudeser	Local Govt	Anna St
20110422138	Sat 14-May-2011 5pm	2011	Boonah Sh	Local Govt	Anthony Rd
20060005418	Fri 3-Mar-2006 3pm	2006	Beaudeser	Local Govt	Arthur St
20050031077	Thu 8-Dec-2005 1pm	2005	Beaudeser	Local Govt	Arthur St
20050016350	Sun 3-Jul-2005 4pm	2005	Beaudeser	Local Govt	Bartle Rd
20050014282	Fri 10-Jun-2005 3pm	2005	Beaudeser	Local Govt	Beacon Rd
20060007992	Thu 30-Mar-2006 5pm	2006	Beaudeser	Local Govt	Beacon Rd
20050023144	Thu 15-Sep-2005 8am	2005	Beaudeser	Local Govt	Beacon Rd
20800409772	Sun 29-Jun-2008 12am	2008	Beaudeser	Local Govt	Beacon Rd
20050011367	Mon 9-May-2005 6pm	2005	Beaudeser	Local Govt	Beacon Rd
20100796793	Sat 28-Aug-2010 7pm	2010	Beaudeser	Local Govt	Beaudesert - Beenleigh Rd
20901019897	Mon 28-Dec-2009 6am	2009	Beaudeser	Local Govt	Beaudesert - Beenleigh Rd
20060008570	Thu 6-Apr-2006 5am	2006	Beaudeser	Local Govt	Beaudesert - Nerang Rd
20700033539	Fri 16-Feb-2007 10pm	2007	Beaudeser	Local Govt	Beechmont Rd
20800452476	Sat 19-Jul-2008 9am	2008	Beaudeser	Local Govt	Beechmont Rd
20800454750	Sun 20-Jul-2008 10am	2008	Beaudeser	Local Govt	Beechmont Rd
20700007533	Sat 13-Jan-2007 10am	2007	Beaudeser	Local Govt	Beechmont Rd
20110340571	Mon 18-Apr-2011 11am	2011	Beaudeser	Local Govt	Beechmont Rd
20060006340	Sun 12-Mar-2006 1pm	2006	Beaudeser	Local Govt	Beechmont Rd
20800115836	Tue 19-Feb-2008 12pm	2008	Beaudeser	Local Govt	Beechmont Rd

20060015796	Sun 9-Jul-2006 7pm	2006	Beaudeser	Local Govt	Beechmont Rd
20700024196	Fri 9-Feb-2007 6am	2007	Beaudeser	Local Govt	Beechmont Rd
20060012252	Sat 20-May-2006 12pm	2006	Beaudeser	Local Govt	Beechmont Rd
20100315086	Sun 14-Mar-2010 1pm	2010	Beaudeser	Local Govt	Beechmont Rd
20700069486	Wed 11-Apr-2007 9am	2007	Beaudeser	Local Govt	Biddaddaba Creek Rd
20900736061	Mon 21-Sep-2009 7am	2009	Beaudeser	Local Govt	Birnam Range Rd
20900326579	Wed 29-Apr-2009 7pm	2009	Beaudeser	Local Govt	Birnam Range Rd
20110591680	Thu 7-Jul-2011 7pm	2011	Beaudeser	Local Govt	Birnam Range Rd
20800672223	Wed 22-Oct-2008 8am	2008	Beaudeser	Local Govt	Birnam Range Rd
20900814087	Sun 18-Oct-2009 2pm	2009	Beaudeser	Local Govt	Birnam Range Rd
20700112224	Tue 12-Jun-2007 3pm	2007	Beaudeser	Local Govt	Birnam St
20060011317	Wed 10-May-2006 6pm	2006	Beaudeser	Local Govt	Birnam St
20800074301	Sat 2-Feb-2008 5pm	2008	Beaudeser	Local Govt	Boomerang Dr
20900663840	Thu 27-Aug-2009 8am	2009	Boonah Sh	Local Govt	Boonah - Rathdowney Rd
20900713954	Sun 13-Sep-2009 9am	2009	Beaudeser	Local Govt	Boyland Rd
20600029729	Sun 9-Jul-2006 12pm	2006	Beaudeser	Local Govt	Boyland Rd
20060017091	Sun 30-Jul-2006 12pm	2006	Beaudeser	Local Govt	Boyland Rd
20100391441	Sat 10-Apr-2010 5pm	2010	Boonah Sh	Local Govt	Boyle Rd
20900047362	Sun 18-Jan-2009 3pm	2009	Boonah Sh	Local Govt	Boyle Rd
20110369941	Thu 28-Apr-2011 10am	2011	Beaudeser	Local Govt	Brisbane St
20700017399	Mon 29-Jan-2007 5pm	2007	Beaudeser	Local Govt	Bromelton House Rd
20800768632	Fri 28-Nov-2008 5am	2008	Beaudeser	Local Govt	Bromelton House Rd
20050031638	Wed 14-Dec-2005 6am	2005	Beaudeser	Local Govt	Bromelton St
20060008164	Fri 31-Mar-2006 9am	2006	Beaudeser	Local Govt	Brookland Rd
20800025034	Fri 11-Jan-2008 5pm	2008	Beaudeser	Local Govt	Brookland Rd
20100708226	Fri 30-Jul-2010 9am	2010	Beaudeser	Local Govt	Brookland Rd
20700246586	Thu 23-Aug-2007 6pm	2007	Beaudeser	Local Govt	Brooklands Dr
20110457336	Wed 25-May-2011 8pm	2011	Beaudeser	Local Govt	Brooklands Dr
20110320857	Mon 11-Apr-2011 8pm	2011	Beaudeser	Local Govt	Brooklands Dr
20060011841	Tue 16-May-2006 4pm	2006	Beaudeser	Local Govt	Brooklands Dr
20100126280	Sat 9-Jan-2010 5pm	2010	Beaudeser	Local Govt	Brooklands Dr
20700190866	Fri 27-Jul-2007 1pm	2007	Beaudeser	Local Govt	Brooklands Dr
20600109148	Sat 2-Dec-2006 2pm	2006	Beaudeser	Local Govt	Brooklands Dr
20900183377	Sat 7-Mar-2009 3pm	2009	Boonah Sh	Local Govt	Bruckner Hill Rd
20110201779	Tue 8-Mar-2011 3pm	2011	Boonah Sh	Local Govt	Bunburra Rd
20900340217	Sat 25-Apr-2009 7am	2009	Boonah Sh	Local Govt	Bunjurgen Rd
20100796985	Sat 28-Aug-2010 6pm	2010	Boonah Sh	Local Govt	Burnetts Ck Rd

20700024558	Sat 10-Feb-2007 9am	2007	Boonah Sh	Local Govt	Burnetts Ck Rd
20700034978	Sat 24-Feb-2007 10pm	2007	Beaudeser	Local Govt	Cainbable Ck Rd
20800328683	Sat 24-May-2008 7am	2008	Beaudeser	Local Govt	Cainbable Ck Rd
20800114244	Wed 20-Feb-2008 4pm	2008	Boonah Sh	Local Govt	Cannon Ck Rd
20110843912	Thu 22-Sep-2011 4pm	2011	Beaudeser	Local Govt	Cannon Ck Rd
20050032351	Tue 20-Dec-2005 9am	2005	Boonah Sh	Local Govt	Carneys Creek Rd
20800517881	Sun 17-Aug-2008 7pm	2008	Boonah Sh	Local Govt	Caswells La
20060011023	Sun 7-May-2006 9am	2006	Beaudeser	Local Govt	Cedar Creek Falls Rd
20101044153	Sat 20-Nov-2010 1pm	2010	Boonah Sh	Local Govt	Charlwood Rd
20110132905	Wed 16-Feb-2011 12am	2011	Boonah Sh	Local Govt	Charlwood Rd
20110212771	Fri 11-Mar-2011 3pm	2011	Beaudeser	Local Govt	Christmas Creek Rd
20700108158	Wed 6-Jun-2007 11am	2007	Beaudeser	Local Govt	Christmas Creek Rd
20800327311	Fri 23-May-2008 5pm	2008	Beaudeser	Local Govt	Christmas Creek Rd
20110309036	Fri 8-Apr-2011 10pm	2011	Beaudeser	Local Govt	Christmas Creek Rd
20700025095	Sat 10-Feb-2007 8am	2007	Beaudeser	Local Govt	Christmas Creek Rd
20100680416	Tue 20-Jul-2010 7pm	2010	Boonah Sh	Local Govt	Church St
20900061303	Fri 23-Jan-2009 12pm	2009	Boonah Sh	Local Govt	Church St
20050003198	Thu 10-Feb-2005 9am	2005	Boonah Sh	Local Govt	Church St
20900698835	Tue 8-Sep-2009 6am	2009	Boonah Sh	Local Govt	Coleyville Rd
20800025392	Fri 11-Jan-2008 2pm	2008	Beaudeser	Local Govt	Collins Pl
20600095311	Wed 8-Nov-2006 1pm	2006	Beaudeser	Local Govt	Collins St
20900769722	Sat 3-Oct-2009 1am	2009	Beaudeser	Local Govt	Contour Rd
20800429828	Fri 4-Jul-2008 4pm	2008	Beaudeser	Local Govt	Contour Rd
20600072610	Wed 27-Sep-2006 3pm	2006	Beaudeser	Local Govt	Coomera Gorge Dr
20100308550	Fri 12-Mar-2010 10am	2010	Beaudeser	Local Govt	Coral Ct
20050010812	Sun 1-May-2005 1pm	2005	Beaudeser	Local Govt	Cossart St
20100433583	Sun 25-Apr-2010 4pm	2010	Boonah Sh	Local Govt	Cossart St
20060004406	Mon 20-Feb-2006 7pm	2006	Boonah Sh	Local Govt	Cotswold Rd
20900239222	Sat 28-Mar-2009 1pm	2009	Beaudeser	Local Govt	Creamer Rd
20900307357	Wed 22-Apr-2009 2pm	2009	Boonah Sh	Local Govt	Cunningham Hwy
20100900040	Sat 2-Oct-2010 1pm	2010	Boonah Sh	Local Govt	Cunningham Hwy
20800522864	Wed 20-Aug-2008 8am	2008	Boonah Sh	Local Govt	Cunningham Hwy
20110008040	Mon 3-Jan-2011 11am	2011	Boonah Sh	Local Govt	Cunningham Hwy
20900265007	Tue 7-Apr-2009 4am	2009	Boonah Sh	Local Govt	Cunningham Hwy
20050027153	Thu 27-Oct-2005 5pm	2005	Boonah Sh	Local Govt	Cunningham Hwy
20800344757	Sat 31-May-2008 11am	2008	Boonah Sh	Local Govt	Cunningham Hwy
20800554628	Tue 2-Sep-2008 3pm	2008	Boonah Sh	Local Govt	Cunningham Hwy

20050032823	Sun 25-Dec-2005 4pm	2005	Boonah Sh	Local Govt	Cunningham Hwy
20800330553	Thu 22-May-2008 3pm	2008	Beaudeser	Local Govt	Curtis Rd
20900067962	Mon 26-Jan-2009 12pm	2009	Beaudeser	Local Govt	Curtis Rd
20900418655	Tue 2-Jun-2009 3pm	2009	Beaudeser	Local Govt	Curtis Rd
20060007844	Wed 29-Mar-2006 12pm	2006	Beaudeser	Local Govt	Curtis Rd
20110640771	Sat 23-Jul-2011 10am	2011	Beaudeser	Local Govt	Darlington Connection Rd
20900567999	Fri 24-Jul-2009 10pm	2009	Beaudeser	Local Govt	Darlington Range Rd
20100708267	Fri 30-Jul-2010 1am	2010	Boonah Sh	Local Govt	Dawsons Rd
20700394102	Tue 23-Oct-2007 9pm	2007	Beaudeser	Local Govt	Doug Sullivan Ct
20110006633	Sun 2-Jan-2011 11pm	2011	Beaudeser	Local Govt	Drynan Pl
20800466296	Fri 25-Jul-2008 12pm	2008	Beaudeser	Local Govt	Duck Ck Rd
20800568433	Mon 8-Sep-2008 2pm	2008	Beaudeser	Local Govt	Duckett St
20050028768	Tue 15-Nov-2005 4pm	2005	Beaudeser	Local Govt	Duckett St
20700176918	Fri 20-Jul-2007 11am	2007	Beaudeser	Local Govt	Duckett St
20100249572	Fri 19-Feb-2010 11pm	2010	Beaudeser	Local Govt	Dunsinane St
20100592046	Sun 20-Jun-2010 11am	2010	Beaudeser	Local Govt	Eagle Heights Rd
20700054480	Wed 21-Mar-2007 5pm	2007	Beaudeser	Local Govt	Eaglesfield St
20060011660	Sun 14-May-2006 11am	2006	Beaudeser	Local Govt	Eaglesfield St
20100742482	Tue 10-Aug-2010 3pm	2010	Beaudeser	Local Govt	Eaglesfield St
20900697283	Mon 7-Sep-2009 3pm	2009	Beaudeser	Local Govt	Eaglesfield St
20600066798	Thu 14-Sep-2006 3pm	2006	Beaudeser	Local Govt	Eaglesfield St
20100491210	Sat 15-May-2010 2pm	2010	Beaudeser	Local Govt	Eaglesfield St
20900038041	Thu 15-Jan-2009 9am	2009	Beaudeser	Local Govt	Eaglesfield St
20800270322	Tue 29-Apr-2008 7am	2008	Beaudeser	Local Govt	Eaglesfield St
20900411524	Sat 30-May-2009 10pm	2009	Boonah Sh	Local Govt	Edward St
20600060723	Wed 6-Sep-2006 5pm	2006	Boonah Sh	Local Govt	Edward St
20050008288	Tue 5-Apr-2005 3pm	2005	Boonah Sh	Local Govt	Elizabeth Tce
20050031769	Wed 14-Dec-2005 3pm	2005	Boonah Sh	Local Govt	Elizabeth Tce
20060003439	Fri 10-Feb-2006 5pm	2006	Beaudeser	Local Govt	Enterprise Dr
20050006196	Sun 13-Mar-2005 5pm	2005	Boonah Sh	Local Govt	F.M. Bells Rd
20060014023	Sun 11-Jun-2006 1pm	2006	Beaudeser	Local Govt	Fenwick Dr
20110496740	Tue 7-Jun-2011 1pm	2011	Beaudeser	Local Govt	Fields Rd
20050015694	Mon 27-Jun-2005 1am	2005	Beaudeser	Local Govt	Fields Rd
20050002775	Fri 4-Feb-2005 5pm	2005	Beaudeser	Local Govt	Flagstone Creek Rd
20700397507	Thu 1-Nov-2007 11am	2007	Beaudeser	Local Govt	Flagstone Creek Rd
20901016647	Sat 26-Dec-2009 4pm	2009	Beaudeser	Local Govt	Flagstone Creek Rd
20800315553	Sun 18-May-2008 3pm	2008	Beaudeser	Local Govt	Flagstone Creek Rd

20100408302	Fri 16-Apr-2010 5pm	2010	Beaudeser	Local Govt	Flagstone Creek Rd
20900524596	Fri 10-Jul-2009 1am	2009	Beaudeser	Local Govt	Forsythia Dr
20120198170	Mon 28-Nov-2011 8am	2011	Beaudeser	Local Govt	Four Mile La
20060013929	Sat 10-Jun-2006 11am	2006	Beaudeser	Local Govt	Four Mile La
20700469431	Sun 2-Dec-2007 7pm	2007	Boonah Sh	Local Govt	Frazerview Rd
20111095755	Tue 6-Dec-2011 8pm	2011	Boonah Sh	Local Govt	Ganthorpe Rd
20101151570	Sun 26-Dec-2010 4pm	2010	Beaudeser	Local Govt	Geissmann St
20050010142	Fri 22-Apr-2005 3pm	2005	Beaudeser	Local Govt	Gould Hill Rd
20900231636	Wed 25-Mar-2009 7pm	2009	Beaudeser	Local Govt	Gould Hill Rd
20800005005	Wed 2-Jan-2008 6pm	2008	Beaudeser	Local Govt	Guanaba Rd
20060001506	Fri 20-Jan-2006 8am	2006	Beaudeser	Local Govt	Guanaba Rd
20700092999	Fri 11-May-2007 3pm	2007	Beaudeser	Local Govt	Hartley Rd
20050012513	Sun 22-May-2005 2pm	2005	Beaudeser	Local Govt	Hartley Rd
20700303063	Tue 18-Sep-2007 4pm	2007	Beaudeser	Local Govt	Hartley Rd
20800734944	Wed 12-Nov-2008 12pm	2008	Beaudeser	Local Govt	Hartley Rd
20060015374	Sun 2-Jul-2006 1am	2006	Beaudeser	Local Govt	Haygarth Dr
20800582307	Sun 14-Sep-2008 9am	2008	Boonah Sh	Local Govt	Head Rd
20050026928	Wed 26-Oct-2005 5pm	2005	Boonah Sh	Local Govt	Heise Rd
20110718297	Mon 15-Aug-2011 8pm	2011	Beaudeser	Local Govt	Helen St
20111033452	Sat 19-Nov-2011 10am	2011	Boonah Sh	Local Govt	High St
20100974690	Thu 28-Oct-2010 3pm	2010	Boonah Sh	Local Govt	High St
20900304154	Tue 21-Apr-2009 3pm	2009	Boonah Sh	Local Govt	High St
20060009280	Thu 13-Apr-2006 8am	2006	Boonah Sh	Local Govt	High St
20050004437	Sun 20-Feb-2005 10am	2005	Boonah Sh	Local Govt	High St
20100845081	Mon 13-Sep-2010 10am	2010	Boonah Sh	Local Govt	Highbury St
20600079407	Tue 10-Oct-2006 2pm	2006	Beaudeser	Local Govt	Hinchcliffe Dr
20700072791	Mon 16-Apr-2007 10am	2007	Beaudeser	Local Govt	Hodgson Rd
20900101108	Sat 7-Feb-2009 11am	2009	Boonah Sh	Local Govt	Hoya Rd
20060006848	Sat 18-Mar-2006 9am	2006	Boonah Sh	Local Govt	Hoya Rd
20100393983	Sun 11-Apr-2010 6pm	2010	Boonah Sh	Local Govt	Hoya Rd
20110733477	Fri 19-Aug-2011 10pm	2011	Beaudeser	Local Govt	Innisplain Rd
20700098828	Thu 24-May-2007 12am	2007	Beaudeser	Local Govt	Innisplain Rd
20600084695	Fri 20-Oct-2006 12pm	2006	Beaudeser	Local Govt	Innisplain Rd
20050011289	Sun 8-May-2005 10pm	2005	Beaudeser	Local Govt	Innisplain Rd
20900032214	Mon 12-Jan-2009 12pm	2009	Beaudeser	Local Govt	Innisplain Rd
20900679779	Tue 1-Sep-2009 1pm	2009	Boonah Sh	Local Govt	Ipswich - Boonah Rd
20900739841	Tue 22-Sep-2009 3pm	2009	Beaudeser	Local Govt	J G Campbell La

20700222940	Sun 12-Aug-2007 1pm	2007	Boonah Sh	Local Govt	Kalbar - Peak Crossing Rd
20600053968	Wed 23-Aug-2006 11pm	2006	Boonah Sh	Local Govt	Kalbar - Peak Crossing Rd
20600110171	Fri 1-Dec-2006 2pm	2006	Boonah Sh	Local Govt	Kalbar - Peak Crossing Rd
20700127030	Sun 24-Jun-2007 4am	2007	Boonah Sh	Local Govt	Kalbar - Roadvale Rd
20800154768	Sat 8-Mar-2008 10pm	2008	Beaudeser	Local Govt	Kamarooka St
20050019969	Thu 11-Aug-2005 3pm	2005	Beaudeser	Local Govt	Katoomba Cres
20050019615	Sun 7-Aug-2005 3pm	2005	Boonah Sh	Local Govt	Kengoon Rd
20800526392	Wed 20-Aug-2008 2pm	2008	Boonah Sh	Local Govt	Kengoon Rd
20700277068	Thu 6-Sep-2007 11pm	2007	Beaudeser	Local Govt	Kerry Rd
20050025575	Wed 12-Oct-2005 5pm	2005	Beaudeser	Local Govt	Kerry Rd
20800035973	Wed 16-Jan-2008 3pm	2008	Beaudeser	Local Govt	Kerry Rd
20050003009	Mon 7-Feb-2005 7pm	2005	Beaudeser	Local Govt	Kerry Rd
20700075349	Fri 20-Apr-2007 1am	2007	Beaudeser	Local Govt	Kerry Rd
20700171680	Tue 17-Jul-2007 5am	2007	Beaudeser	Local Govt	Kerry Rd
20800580484	Sat 13-Sep-2008 2am	2008	Beaudeser	Local Govt	Kerry Rd
20060000510	Sat 7-Jan-2006 1am	2006	Beaudeser	Local Govt	Kerry Rd
20600056680	Wed 30-Aug-2006 7am	2006	Beaudeser	Local Govt	Kinabalu Dr
20110822324	Thu 15-Sep-2011 4pm	2011	Beaudeser	Local Govt	Kinabalu Dr
20700043329	Thu 8-Mar-2007 12am	2007	Beaudeser	Local Govt	Kinabalu Dr
20101038678	Thu 18-Nov-2010 10pm	2010	Beaudeser	Local Govt	Kinabalu Dr
20600108166	Thu 30-Nov-2006 9pm	2006	Beaudeser	Local Govt	Kooralbyn Rd
20110241088	Sun 20-Mar-2011 9am	2011	Beaudeser	Local Govt	Kooralbyn Rd
20800099241	Thu 14-Feb-2008 7am	2008	Beaudeser	Local Govt	Kooralbyn Rd
20050024436	Wed 14-Sep-2005 6pm	2005	Beaudeser	Local Govt	Kooralbyn Rd
20700021248	Mon 5-Feb-2007 10am	2007	Beaudeser	Local Govt	Kooralbyn Rd
20100450869	Sat 1-May-2010 4pm	2010	Beaudeser	Local Govt	Kooralbyn Rd
20900677056	Mon 31-Aug-2009 4pm	2009	Beaudeser	Local Govt	Kooralbyn Rd
20700251774	Sun 26-Aug-2007 8am	2007	Beaudeser	Local Govt	Kooralbyn Rd
20060010501	Sat 29-Apr-2006 9am	2006	Boonah Sh	Local Govt	Krugers Rd
20050002411	Mon 31-Jan-2005 4pm	2005	Beaudeser	Local Govt	Lamberts Rd
20050011837	Sat 14-May-2005 8pm	2005	Boonah Sh	Local Govt	Leonard St
20900514948	Mon 6-Jul-2009 2pm	2009	Boonah Sh	Local Govt	Leonard St
20100724825	Wed 4-Aug-2010 7pm	2010	Beaudeser	Local Govt	Lillian St
20060009498	Mon 17-Apr-2006 2pm	2006	Beaudeser	Local Govt	Long Rd
20900214783	Tue 3-Mar-2009 5pm	2009	Beaudeser	Local Govt	Lucas Rd
20060006864	Fri 17-Mar-2006 11pm	2006	Beaudeser	Local Govt	Main St
20900553577	Mon 20-Jul-2009 11am	2009	Beaudeser	Local Govt	Main St

20050027881	Sat 5-Nov-2005 7pm	2005	Beaudeser	Local Govt	Main Western Rd
20100988543	Tue 2-Nov-2010 9am	2010	Beaudeser	Local Govt	Mckee St
20111088380	Sun 4-Dec-2011 3pm	2011	Beaudeser	Local Govt	Meridian Wy
20900593790	Mon 3-Aug-2009 11am	2009	Boonah Sh	Local Govt	Milbong Rd
20700316645	Mon 24-Sep-2007 2pm	2007	Boonah Sh	Local Govt	Milbong Rd
20900211426	Wed 18-Mar-2009 7am	2009	Boonah Sh	Local Govt	Milbong Rd
20700483023	Sat 8-Dec-2007 2pm	2007	Boonah Sh	Local Govt	Milford Rd
20600045104	Tue 8-Aug-2006 9am	2006	Beaudeser	Local Govt	Montague St
20060002961	Sat 4-Feb-2006 4pm	2006	Beaudeser	Local Govt	Monza St
20800515606	Sat 16-Aug-2008 3pm	2008	Beaudeser	Local Govt	Mt Barney Rd
20800305647	Wed 14-May-2008 3pm	2008	Boonah Sh	Local Govt	Mt French Rd
20060006785	Fri 17-Mar-2006 8am	2006	Boonah Sh	Local Govt	Mt French Rd
20800098867	Tue 29-Jan-2008 7pm	2008	Boonah Sh	Local Govt	Mt French Rd
20700075346	Thu 19-Apr-2007 3pm	2007	Boonah Sh	Local Govt	Mt French Rd
20800472060	Mon 28-Apr-2008 11am	2008	Beaudeser	Local Govt	Mt Lindesay Hwy
20100754663	Sat 14-Aug-2010 10am	2010	Boonah Sh	Local Govt	Munbilla Rd
20600041884	Tue 1-Aug-2006 5am	2006	Boonah Sh	Local Govt	Munbilla Rd
20900300321	Mon 20-Apr-2009 9am	2009	Boonah Sh	Local Govt	Munbilla Rd
20100787122	Tue 24-Aug-2010 5pm	2010	Boonah Sh	Local Govt	Munbilla Rd
20900725970	Thu 17-Sep-2009 3pm	2009	Boonah Sh	Local Govt	Newmans Rd
20900319082	Sat 25-Apr-2009 11pm	2009	Boonah Sh	Local Govt	Newmans Rd
20800686379	Thu 23-Oct-2008 2pm	2008	Boonah Sh	Local Govt	Niebling Rd
20060001254	Tue 17-Jan-2006 7am	2006	Beaudeser	Local Govt	Nindooinbah Est Rd
20600068648	Thu 21-Sep-2006 2pm	2006	Beaudeser	Local Govt	Nindooinbah Est Rd
20800555452	Mon 1-Sep-2008 4pm	2008	Beaudeser	Local Govt	Nindooinbah Est Rd
20100607859	Fri 25-Jun-2010 3pm	2010	Beaudeser	Local Govt	Oaky Conn Rd
20100771152	Thu 19-Aug-2010 10am	2010	Boonah Sh	Local Govt	Oertels Rd
20110534600	Sun 12-Jun-2011 3pm	2011	Boonah Sh	Local Govt	Old Kalbar Rd
20800722354	Tue 4-Nov-2008 8pm	2008	Boonah Sh	Local Govt	Old Kalbar Rd
20700104132	Fri 25-May-2007 9am	2007	Boonah Sh	Local Govt	Old Kalbar Rd
20110455650	Wed 25-May-2011 9am	2011	Boonah Sh	Local Govt	Old Rifle Range Rd
20600077019	Fri 6-Oct-2006 2pm	2006	Boonah Sh	Local Govt	Old Rifle Range Rd
20700071289	Fri 13-Apr-2007 7pm	2007	Boonah Sh	Local Govt	Old Rifle Range Rd
20050007630	Tue 29-Mar-2005 11am	2005	Boonah Sh	Local Govt	Old Warwick Rd
20050026608	Mon 24-Oct-2005 6am	2005	Beaudeser	Local Govt	Pacific Pde
20600100424	Fri 17-Nov-2006 3pm	2006	Beaudeser	Local Govt	Philp Mtn Rd
20050003414	Fri 11-Feb-2005 6pm	2005	Boonah Sh	Local Govt	Pocock Rd

20700137737	Fri 29-Jun-2007 6pm	2007	Boonah Sh	Local Govt	Radford Rd
20900933817	Mon 23-Nov-2009 2pm	2009	Boonah Sh	Local Govt	Redhill-Munbilla Rd
20100737255	Sun 8-Aug-2010 9pm	2010	Boonah Sh	Local Govt	Roadvale - Harrisville Rd
20700178612	Sat 21-Jul-2007 5am	2007	Boonah Sh	Local Govt	Roadvale - Harrisville Rd
20900050781	Mon 19-Jan-2009 3pm	2009	Boonah Sh	Local Govt	Rosevale Rd (1/08)
20800163504	Wed 12-Mar-2008 6am	2008	Boonah Sh	Local Govt	Rosevale Rd (1/08)
20600047828	Sat 12-Aug-2006 5pm	2006	Beaudeser	Local Govt	Round Mountain Rd
20700070234	Sun 8-Apr-2007 12pm	2007	Beaudeser	Local Govt	Running Creek Rd
20900713143	Sun 13-Sep-2009 1am	2009	Beaudeser	Local Govt	Sandy Creek Rd
20800485555	Sun 3-Aug-2008 12pm	2008	Beaudeser	Local Govt	Sandy Creek Rd
20800634702	Mon 6-Oct-2008 4pm	2008	Beaudeser	Local Govt	Sandy Creek Rd
20110155823	Tue 22-Feb-2011 7pm	2011	Beaudeser	Local Govt	Simmental Dr
20900792977	Sat 10-Oct-2009 9pm	2009	Boonah Sh	Local Govt	Spicers Gap Rd
20050013061	Sun 22-May-2005 5pm	2005	Boonah Sh	Local Govt	Spicers Gap Rd
20060003020	Sun 4-Dec-2005 9am	2005	Boonah Sh	Local Govt	Stanfield Rd
20900420559	Wed 3-Jun-2009 12pm	2009	Boonah Sh	Local Govt	Sugarloaf Rd
20900818828	Mon 19-Oct-2009 6pm	2009	Boonah Sh	Local Govt	Sugarloaf Rd
20050029033	Fri 18-Nov-2005 8am	2005	Beaudeser	Local Govt	Tabragalba House Rd
20700011739	Fri 19-Jan-2007 3pm	2007	Beaudeser	Local Govt	Tamborine - Oxenford Rd
20100800821	Mon 30-Aug-2010 8am	2010	Beaudeser	Local Govt	Tamborine Mountain Rd
20110669088	Mon 1-Aug-2011 7am	2011	Beaudeser	Local Govt	Tamrookum Church Rd
20100393907	Sun 11-Apr-2010 1pm	2010	Boonah Sh	Local Govt	Tarome Rd (1/08)
20900089167	Tue 3-Feb-2009 9am	2009	Boonah Sh	Local Govt	Tarome Rd (1/08)
20100733180	Sat 7-Aug-2010 11am	2010	Boonah Sh	Local Govt	Tarome Rd (1/08)
20110061835	Sun 23-Jan-2011 7pm	2011	Boonah Sh	Local Govt	Tarome Rd (1/08)
20800283686	Mon 28-Apr-2008 1pm	2008	Boonah Sh	Local Govt	Tarome Rd (1/08)
20800629998	Sat 4-Oct-2008 8am	2008	Beaudeser	Local Govt	Tartar Creek Rd
20600044946	Sat 5-Aug-2006 7pm	2006	Boonah Sh	Local Govt	Teviotville Rd
20700531023	Tue 25-Dec-2007 3pm	2007	Beaudeser	Local Govt	Tolima Dr
20800618480	Mon 29-Sep-2008 11am	2008	Boonah Sh	Local Govt	Toohills Rd
20050013085	Sat 28-May-2005 7pm	2005	Beaudeser	Local Govt	Tubber St
20700106041	Sun 3-Jun-2007 10am	2007	Beaudeser	Local Govt	Tubber St
20700100536	Sat 26-May-2007 10am	2007	Beaudeser	Local Govt	Upper Coomera Rd
20900137416	Fri 20-Feb-2009 12pm	2009	Beaudeser	Local Govt	Upper Coomera Rd
20100511809	Sun 23-May-2010 7am	2010	Beaudeser	Local Govt	Upper Coomera Rd
20100654341	Sat 10-Jul-2010 7pm	2010	Beaudeser	Local Govt	Upper Coomera Rd
20800263960	Fri 25-Apr-2008 11pm	2008	Beaudeser	Local Govt	Veresdale Scrub Rd

20060017001	Fri 28-Jul-2006 8am	2006	Beaudeser	Local Govt	Veresdale Scrub Rd
20800332306	Mon 26-May-2008 8am	2008	Beaudeser	Local Govt	Veresdale Scrub Rd
20700215168	Wed 8-Aug-2007 9pm	2007	Beaudeser	Local Govt	Veresdale Scrub Rd
20100486319	Fri 14-May-2010 10am	2010	Beaudeser	Local Govt	Veresdale Scrub Rd
20700315340	Sat 15-Sep-2007 11pm	2007	Beaudeser	Local Govt	Veresdale Scrub Rd
20700105488	Sat 2-Jun-2007 1am	2007	Beaudeser	Local Govt	Veresdale Scrub Rd
20800679822	Fri 24-Oct-2008 12pm	2008	Beaudeser	Local Govt	Veresdale Scrub Rd
20700024885	Sat 10-Feb-2007 5pm	2007	Beaudeser	Local Govt	Veresdale Scrub Rd
20900102241	Sat 7-Feb-2009 7pm	2009	Beaudeser	Local Govt	Vonda Youngman Dr
20900199198	Sat 14-Mar-2009 7am	2009	Beaudeser	Local Govt	Walker Dr
20050014646	Wed 26-Jan-2005 1am	2005	Beaudeser	Local Govt	Wasatch Ct
20060003726	Mon 13-Feb-2006 7pm	2006	Beaudeser	Local Govt	Wattle St
20050030620	Sat 3-Dec-2005 5pm	2005	Beaudeser	Local Govt	Wellington Bundock Dr
20110286079	Sat 2-Apr-2011 2pm	2011	Boonah Sh	Local Govt	Wild Cattle Creek Rd
20100285732	Thu 4-Mar-2010 5pm	2010	Beaudeser	Local Govt	Wild Pig Creek Rd
20060005220	Tue 28-Feb-2006 11pm	2006	Beaudeser	Local Govt	Wongawallan Rd
20600082325	Mon 16-Oct-2006 8am	2006	Beaudeser	Local Govt	Wonglepong Rd
20900330662	Fri 1-May-2009 8am	2009	Beaudeser	Local Govt	Wonglepong Rd
20100893791	Thu 30-Sep-2010 1pm	2010	Beaudeser	Local Govt	Wonglepong Rd
20110078919	Sat 29-Jan-2011 2am	2011	Beaudeser	Local Govt	Worendo St
20700372025	Wed 17-Oct-2007 8pm	2007	Beaudeser	Local Govt	Worip Dr

Intersecting Street	Crash Severity	Roadway F	Roadway F	Roadway S	Roadway S	Horizontal	Horizontal	Vertical Ali
	Hospitalisation	99	Not Applica	01	Sealed - D	1	Straight	1
	Medical Treatment	99	Not Applica	01	Sealed - D	1	Straight	1
Brisbane St	Medical Treatment	11	T Junction	01	Sealed - D	1	Straight	1
	Property Damage Only	99	Not Applica	01	Sealed - D	1	Straight	1
Elizabeth Tce	Medical Treatment	11	T Junction	01	Sealed - D	3	Curved-Vie	2
	Hospitalisation	99	Not Applica	01	Sealed - D	3	Curved-Vie	1
Brooklands Rd	Hospitalisation	11	T Junction	01	Sealed - D	1	Straight	1
	Medical Treatment	99	Not Applica	02	Sealed - W	2	Curved-Vie	1
	Hospitalisation	20	Bridge; Ca	02	Sealed - W	2	Curved-Vie	1
	Hospitalisation	99	Not Applica	01	Sealed - D	3	Curved-Vie	2
	Hospitalisation	99	Not Applica	02	Sealed - W	1	Straight	1
	Medical Treatment	99	Not Applica	02	Sealed - W	2	Curved-Vie	2
	Medical Treatment	99	Not Applica	01	Sealed - D	1	Straight	2
	Property Damage Only	99	Not Applica	01	Sealed - D	2	Curved-Vie	2
	Hospitalisation	99	Not Applica	01	Sealed - D	1	Straight	1
	Minor Injury	99	Not Applica	01	Sealed - D	1	Straight	1
	Minor Injury	99	Not Applica	03	Unsealed -	3	Curved-Vie	1
Eaglesfield St	Hospitalisation	10	Cross	02	Sealed - W	1	Straight	1
	Property Damage Only	99	Not Applica	01	Sealed - D	1	Straight	2
	Hospitalisation	99	Not Applica	01	Sealed - D	1	Straight	1
	Hospitalisation	99	Not Applica	04	Unsealed -	1	Straight	4
	Medical Treatment	99	Not Applica	01	Sealed - D	1	Straight	2
	Medical Treatment	99	Not Applica	01	Sealed - D	1	Straight	1
Tamborine Mountain Rd	Minor Injury	10	Cross	01	Sealed - D	1	Straight	3
	Property Damage Only	99	Not Applica	01	Sealed - D	1	Straight	2
	Medical Treatment	99	Not Applica	01	Sealed - D	1	Straight	1
	Medical Treatment	99	Not Applica	02	Sealed - W	3	Curved-Vie	1
	Medical Treatment	99	Not Applica	02	Sealed - W	2	Curved-Vie	2
	Hospitalisation	99	Not Applica	02	Sealed - W	1	Straight	1
	Hospitalisation	99	Not Applica	01	Sealed - D	3	Curved-Vie	2
	Hospitalisation	99	Not Applica	01	Sealed - D	3	Curved-Vie	2
	Hospitalisation	99	Not Applica	01	Sealed - D	2	Curved-Vie	2
	Medical Treatment	99	Not Applica	02	Sealed - W	1	Straight	2
	Medical Treatment	99	Not Applica	02	Sealed - W	2	Curved-Vie	2
	Medical Treatment	99	Not Applica	02	Sealed - W	2	Curved-Vie	2

Millie Ct	Minor Injury	11	T Junction	01	Sealed - D	3	Curved-Vie	2
	Minor Injury	99	Not Applica	01	Sealed - D	2	Curved-Vie	2
	Property Damage Only	99	Not Applica	01	Sealed - D	1	Straight	1
	Property Damage Only	99	Not Applica	02	Sealed - W	2	Curved-Vie	2
	Medical Treatment	99	Not Applica	01	Sealed - D	3	Curved-Vie	2
	Hospitalisation	99	Not Applica	03	Unsealed -	3	Curved-Vie	1
	Hospitalisation	99	Not Applica	03	Unsealed -	2	Curved-Vie	2
	Hospitalisation	99	Not Applica	03	Unsealed -	2	Curved-Vie	3
	Property Damage Only	99	Not Applica	03	Unsealed -	1	Straight	3
	Property Damage Only	99	Not Applica	03	Unsealed -	3	Curved-Vie	3
	Property Damage Only	99	Not Applica	01	Sealed - D	3	Curved-Vie	1
	Property Damage Only	99	Not Applica	01	Sealed - D	1	Straight	1
Wellington Bundock Dr	Medical Treatment	11	T Junction	02	Sealed - W	3	Curved-Vie	2
	Hospitalisation	99	Not Applica	01	Sealed - D	2	Curved-Vie	1
	Hospitalisation	99	Not Applica	01	Sealed - D	2	Curved-Vie	2
Four Mile La	Hospitalisation	11	T Junction	01	Sealed - D	2	Curved-Vie	3
	Medical Treatment	99	Not Applica	03	Unsealed -	2	Curved-Vie	3
	Medical Treatment	99	Not Applica	03	Unsealed -	1	Straight	3
	Medical Treatment	99	Not Applica	03	Unsealed -	1	Straight	2
	Minor Injury	99	Not Applica	01	Sealed - D	1	Straight	1
	Hospitalisation	99	Not Applica	01	Sealed - D	1	Straight	1
	Medical Treatment	99	Not Applica	02	Sealed - W	3	Curved-Vie	1
Hopkins St	Medical Treatment	11	T Junction	01	Sealed - D	1	Straight	1
	Medical Treatment	99	Not Applica	02	Sealed - W	1	Straight	1
Undullah Rd	Hospitalisation	10	Cross	01	Sealed - D	1	Straight	2
	Hospitalisation	99	Not Applica	01	Sealed - D	1	Straight	2
Monza St	Hospitalisation	11	T Junction	02	Sealed - W	1	Straight	1
	Medical Treatment	99	Not Applica	01	Sealed - D	3	Curved-Vie	2
	Medical Treatment	99	Not Applica	02	Sealed - W	1	Straight	2
	Property Damage Only	99	Not Applica	03	Unsealed -	1	Straight	3
Monza St	Property Damage Only	11	T Junction	01	Sealed - D	1	Straight	2
	Property Damage Only	99	Not Applica	01	Sealed - D	1	Straight	2
Nicole Crct	Property Damage Only	11	T Junction	01	Sealed - D	1	Straight	1
	Property Damage Only	99	Not Applica	01	Sealed - D	3	Curved-Vie	1
	Medical Treatment	99	Not Applica	03	Unsealed -	2	Curved-Vie	1
	Property Damage Only	99	Not Applica	01	Sealed - D	1	Straight	1
	Medical Treatment	99	Not Applica	03	Unsealed -	1	Straight	2

	Medical Treatment	99	Not Applica	03	Unsealed -	3	Curved-Vie	1
Nindooinbah Est Rd	Medical Treatment	11	T Junction	01	Sealed - D	1	Straight	1
	Property Damage Only	99	Not Applica	01	Sealed - D	3	Curved-Vie	1
	Hospitalisation	99	Not Applica	03	Unsealed -	2	Curved-Vie	3
	Medical Treatment	99	Not Applica	03	Unsealed -	2	Curved-Vie	2
	Minor Injury	99	Not Applica	01	Sealed - D	3	Curved-Vie	1
Cunningham Hwy	Hospitalisation	11	T Junction	01	Sealed - D	3	Curved-Vie	1
	Minor Injury	99	Not Applica	01	Sealed - D	1	Straight	2
	Medical Treatment	99	Not Applica	01	Sealed - D	1	Straight	1
	Minor Injury	99	Not Applica	02	Sealed - W	1	Straight	1
	Hospitalisation	99	Not Applica	01	Sealed - D	3	Curved-Vie	1
	Hospitalisation	99	Not Applica	02	Sealed - W	1	Straight	3
	Hospitalisation	99	Not Applica	01	Sealed - D	1	Straight	1
	Hospitalisation	99	Not Applica	01	Sealed - D	3	Curved-Vie	2
	Hospitalisation	20	Bridge; Ca	01	Sealed - D	1	Straight	1
	Hospitalisation	99	Not Applica	01	Sealed - D	1	Straight	2
John St	Medical Treatment	10	Cross	01	Sealed - D	1	Straight	1
	Medical Treatment	99	Not Applica	02	Sealed - W	3	Curved-Vie	1
Cunningham Hwy	Medical Treatment	10	Cross	01	Sealed - D	1	Straight	1
	Fatal	99	Not Applica	01	Sealed - D	1	Straight	2
	Property Damage Only	99	Not Applica	01	Sealed - D	1	Straight	1
	Hospitalisation	99	Not Applica	01	Sealed - D	3	Curved-Vie	2
Tamborine - Oxenford Rd	Medical Treatment	11	T Junction	01	Sealed - D	1	Straight	4
	Minor Injury	99	Not Applica	02	Sealed - W	3	Curved-Vie	3
	Hospitalisation	99	Not Applica	03	Unsealed -	1	Straight	2
	Medical Treatment	99	Not Applica	03	Unsealed -	1	Straight	2
	Property Damage Only	99	Not Applica	01	Sealed - D	1	Straight	1
	Hospitalisation	60	Forestry/N	03	Unsealed -	2	Curved-Vie	4
	Hospitalisation	99	Not Applica	03	Unsealed -	1	Straight	1
	Fatal	99	Not Applica	01	Sealed - D	1	Straight	2
	Hospitalisation	99	Not Applica	02	Sealed - W	1	Straight	2
Gimpels Rd	Hospitalisation	10	Cross	01	Sealed - D	1	Straight	1
	Medical Treatment	99	Not Applica	01	Sealed - D	1	Straight	2
	Medical Treatment	99	Not Applica	01	Sealed - D	1	Straight	1
	Minor Injury	99	Not Applica	01	Sealed - D	1	Straight	2
	Property Damage Only	99	Not Applica	02	Sealed - W	1	Straight	1
	Property Damage Only	99	Not Applica	01	Sealed - D	1	Straight	1

	Property Damage Only	99	Not Applica	02	Sealed - W	1	Straight	2
	Medical Treatment	99	Not Applica	01	Sealed - Di	1	Straight	2
Long Rd	Minor Injury	10	Cross	02	Sealed - W	3	Curved-Vie	1
Long Rd	Property Damage Only	10	Cross	01	Sealed - Di	3	Curved-Vie	3
Long Rd	Property Damage Only	10	Cross	01	Sealed - Di	3	Curved-Vie	3
Kerry Rd	Hospitalisation	11	T Junction	01	Sealed - Di	1	Straight	1
	Hospitalisation	99	Not Applica	03	Unsealed -	3	Curved-Vie	2
Rosevale Rd (1/08)	Fatal	11	T Junction	01	Sealed - Di	3	Curved-Vie	3
Enterprise Dr	Medical Treatment	11	T Junction	01	Sealed - Di	1	Straight	1
	Medical Treatment	99	Not Applica	01	Sealed - Di	1	Straight	3
	Medical Treatment	99	Not Applica	03	Unsealed -	1	Straight	2
Eaglesfield St	Medical Treatment	10	Cross	01	Sealed - Di	1	Straight	2
Tubber St	Property Damage Only	11	T Junction	01	Sealed - Di	1	Straight	2
Eaglesfield St	Property Damage Only	10	Cross	01	Sealed - Di	1	Straight	1
Lillian St	Property Damage Only	11	T Junction	01	Sealed - Di	1	Straight	1
	Hospitalisation	99	Not Applica	01	Sealed - Di	1	Straight	3
Tina St	Hospitalisation	10	Cross	01	Sealed - Di	1	Straight	1
Hart St	Hospitalisation	10	Cross	01	Sealed - Di	1	Straight	2
Tina St	Medical Treatment	10	Cross	02	Sealed - W	1	Straight	1
Tina St	Minor Injury	10	Cross	01	Sealed - Di	1	Straight	1
Tina St	Minor Injury	10	Cross	01	Sealed - Di	1	Straight	1
Tina St	Property Damage Only	10	Cross	01	Sealed - Di	1	Straight	1
	Property Damage Only	99	Not Applica	01	Sealed - Di	1	Straight	2
Tina St	Property Damage Only	10	Cross	01	Sealed - Di	1	Straight	4
	Medical Treatment	99	Not Applica	01	Sealed - Di	1	Straight	2
	Medical Treatment	99	Not Applica	01	Sealed - Di	1	Straight	1
Ipswich - Boonah Rd	Medical Treatment	11	T Junction	01	Sealed - Di	1	Straight	1
Ipswich - Boonah Rd	Minor Injury	11	T Junction	01	Sealed - Di	1	Straight	2
	Hospitalisation	99	Not Applica	02	Sealed - W	1	Straight	1
	Minor Injury	99	Not Applica	03	Unsealed -	3	Curved-Vie	1
	Property Damage Only	20	Bridge; Ca	01	Sealed - Di	2	Curved-Vie	1
	Hospitalisation	99	Not Applica	01	Sealed - Di	1	Straight	4
	Hospitalisation	99	Not Applica	01	Sealed - Di	1	Straight	1
	Hospitalisation	99	Not Applica	03	Unsealed -	3	Curved-Vie	2
	Medical Treatment	99	Not Applica	04	Unsealed -	2	Curved-Vie	2
	Medical Treatment	99	Not Applica	04	Unsealed -	1	Straight	2
	Medical Treatment	99	Not Applica	03	Unsealed -	1	Straight	3

	Minor Injury	99	Not Applica	03	Unsealed -	1	Straight	3
	Hospitalisation	99	Not Applica	01	Sealed - Di	1	Straight	1
	Medical Treatment	99	Not Applica	01	Sealed - Di	1	Straight	1
	Property Damage Only	99	Not Applica	04	Unsealed -	1	Straight	1
	Property Damage Only	99	Not Applica	01	Sealed - Di	2	Curved-Vie	2
	Hospitalisation	99	Not Applica	01	Sealed - Di	1	Straight	1
Main St	Medical Treatment	11	T Junction	02	Sealed - W	1	Straight	1
	Hospitalisation	99	Not Applica	01	Sealed - Di	1	Straight	1
	Medical Treatment	99	Not Applica	01	Sealed - Di	3	Curved-Vie	1
	Hospitalisation	99	Not Applica	02	Sealed - W	2	Curved-Vie	2
	Property Damage Only	99	Not Applica	02	Sealed - W	3	Curved-Vie	1
Long Rd	Hospitalisation	10	Cross	02	Sealed - W	3	Curved-Vie	1
Long Rd	Hospitalisation	10	Cross	01	Sealed - Di	3	Curved-Vie	2
Holt Rd	Medical Treatment	11	T Junction	01	Sealed - Di	1	Straight	4
Long Rd	Property Damage Only	10	Cross	02	Sealed - W	1	Straight	1
	Minor Injury	99	Not Applica	01	Sealed - Di	1	Straight	3
	Hospitalisation	99	Not Applica	01	Sealed - Di	1	Straight	2
	Minor Injury	99	Not Applica	03	Unsealed -	2	Curved-Vie	1
	Hospitalisation	99	Not Applica	01	Sealed - Di	2	Curved-Vie	1
	Hospitalisation	99	Not Applica	01	Sealed - Di	1	Straight	1
Walter St	Hospitalisation	11	T Junction	01	Sealed - Di	1	Straight	1
Walter St	Medical Treatment	11	T Junction	01	Sealed - Di	1	Straight	1
	Property Damage Only	99	Not Applica	01	Sealed - Di	1	Straight	1
	Property Damage Only	99	Not Applica	01	Sealed - Di	1	Straight	1
	Property Damage Only	99	Not Applica	01	Sealed - Di	1	Straight	2
Routley Dr	Property Damage Only	11	T Junction	01	Sealed - Di	1	Straight	1
Kooralbyn Rd	Hospitalisation	11	T Junction	01	Sealed - Di	3	Curved-Vie	1
	Hospitalisation	99	Not Applica	01	Sealed - Di	1	Straight	2
	Hospitalisation	99	Not Applica	01	Sealed - Di	2	Curved-Vie	1
	Medical Treatment	99	Not Applica	01	Sealed - Di	1	Straight	2
	Fatal	99	Not Applica	01	Sealed - Di	1	Straight	1
	Fatal	99	Not Applica	01	Sealed - Di	1	Straight	1
	Hospitalisation	99	Not Applica	01	Sealed - Di	3	Curved-Vie	2
	Medical Treatment	99	Not Applica	01	Sealed - Di	2	Curved-Vie	1
	Medical Treatment	99	Not Applica	01	Sealed - Di	1	Straight	3
	Medical Treatment	99	Not Applica	01	Sealed - Di	3	Curved-Vie	1
Leach Rd	Medical Treatment	11	T Junction	01	Sealed - Di	2	Curved-Vie	1

	Hospitalisation	99	Not Applica	01	Sealed - D	1	Straight	2
	Hospitalisation	99	Not Applica	01	Sealed - D	3	Curved-Vie	1
	Hospitalisation	99	Not Applica	01	Sealed - D	1	Straight	1
	Hospitalisation	99	Not Applica	02	Sealed - W	3	Curved-Vie	3
	Medical Treatment	99	Not Applica	01	Sealed - D	1	Straight	3
Long Rd	Hospitalisation	11	T Junction	01	Sealed - D	2	Curved-Vie	2
	Medical Treatment	99	Not Applica	03	Unsealed -	1	Straight	3
	Property Damage Only	99	Not Applica	03	Unsealed -	1	Straight	3
	Hospitalisation	99	Not Applica	04	Unsealed -	1	Straight	4
	Hospitalisation	99	Not Applica	01	Sealed - D	2	Curved-Vie	3
	Hospitalisation	99	Not Applica	01	Sealed - D	3	Curved-Vie	1
	Hospitalisation	99	Not Applica	01	Sealed - D	1	Straight	1
	Medical Treatment	20	Bridge; Ca	02	Sealed - W	1	Straight	1
	Medical Treatment	99	Not Applica	01	Sealed - D	3	Curved-Vie	1
	Medical Treatment	99	Not Applica	01	Sealed - D	1	Straight	1
	Medical Treatment	99	Not Applica	02	Sealed - W	3	Curved-Vie	1
	Hospitalisation	99	Not Applica	01	Sealed - D	1	Straight	2
	Medical Treatment	99	Not Applica	01	Sealed - D	1	Straight	2
	Property Damage Only	99	Not Applica	02	Sealed - W	2	Curved-Vie	1
Wongawallan Rd	Property Damage Only	11	T Junction	02	Sealed - W	1	Straight	2
	Hospitalisation	99	Not Applica	01	Sealed - D	3	Curved-Vie	3
	Medical Treatment	99	Not Applica	02	Sealed - W	3	Curved-Vie	2
	Medical Treatment	99	Not Applica	01	Sealed - D	1	Straight	1
	Medical Treatment	99	Not Applica	01	Sealed - D	3	Curved-Vie	2
	Minor Injury	99	Not Applica	01	Sealed - D	1	Straight	1
	Minor Injury	99	Not Applica	02	Sealed - W	2	Curved-Vie	1
	Property Damage Only	99	Not Applica	01	Sealed - D	3	Curved-Vie	1
	Property Damage Only	20	Bridge; Ca	01	Sealed - D	1	Straight	4
	Hospitalisation	20	Bridge; Ca	01	Sealed - D	1	Straight	1
	Property Damage Only	99	Not Applica	01	Sealed - D	3	Curved-Vie	1
Worley La	Hospitalisation	10	Cross	01	Sealed - D	1	Straight	3
	Medical Treatment	99	Not Applica	01	Sealed - D	1	Straight	2
	Medical Treatment	99	Not Applica	01	Sealed - D	1	Straight	2
	Hospitalisation	99	Not Applica	01	Sealed - D	1	Straight	1
	Hospitalisation	99	Not Applica	01	Sealed - D	1	Straight	1
Tamborine Mountain Rd	Hospitalisation	11	T Junction	01	Sealed - D	3	Curved-Vie	2
	Medical Treatment	99	Not Applica	01	Sealed - D	1	Straight	2

	Minor Injury	99	Not Applica	01	Sealed - D	1	Straight	2
	Medical Treatment	99	Not Applica	01	Sealed - D	1	Straight	1
	Hospitalisation	99	Not Applica	01	Sealed - D	1	Straight	1
Roadvale - Harrisville Rd	Hospitalisation	10	Cross	01	Sealed - D	1	Straight	4
	Hospitalisation	99	Not Applica	01	Sealed - D	1	Straight	2
	Property Damage Only	99	Not Applica	03	Unsealed -	1	Straight	2
Saleyard Rd	Hospitalisation	10	Cross	01	Sealed - D	1	Straight	2
Tubber St	Hospitalisation	11	T Junction	01	Sealed - D	1	Straight	1
	Property Damage Only	99	Not Applica	01	Sealed - D	3	Curved-Vie	2
	Medical Treatment	20	Bridge; Ca	01	Sealed - D	1	Straight	3
	Hospitalisation	99	Not Applica	01	Sealed - D	1	Straight	4
	Hospitalisation	99	Not Applica	01	Sealed - D	3	Curved-Vie	2
	Minor Injury	99	Not Applica	01	Sealed - D	1	Straight	2
	Property Damage Only	99	Not Applica	01	Sealed - D	1	Straight	4
	Medical Treatment	99	Not Applica	01	Sealed - D	1	Straight	1
	Hospitalisation	99	Not Applica	01	Sealed - D	3	Curved-Vie	2
	Medical Treatment	20	Bridge; Ca	01	Sealed - D	3	Curved-Vie	1
	Minor Injury	99	Not Applica	01	Sealed - D	1	Straight	2
	Property Damage Only	99	Not Applica	01	Sealed - D	1	Straight	3
	Hospitalisation	99	Not Applica	03	Unsealed -	2	Curved-Vie	2
	Property Damage Only	99	Not Applica	03	Unsealed -	2	Curved-Vie	2
Rosevale Rd (1/08)	Minor Injury	11	T Junction	01	Sealed - D	3	Curved-Vie	1
	Hospitalisation	99	Not Applica	01	Sealed - D	1	Straight	1
	Medical Treatment	99	Not Applica	01	Sealed - D	3	Curved-Vie	1
	Minor Injury	99	Not Applica	01	Sealed - D	3	Curved-Vie	1
	Medical Treatment	99	Not Applica	03	Unsealed -	2	Curved-Vie	2
Old Kalbar Rd	Medical Treatment	11	T Junction	03	Unsealed -	1	Straight	1
	Medical Treatment	99	Not Applica	04	Unsealed -	2	Curved-Vie	1
	Property Damage Only	99	Not Applica	03	Unsealed -	3	Curved-Vie	1
	Property Damage Only	99	Not Applica	03	Unsealed -	1	Straight	1
	Minor Injury	99	Not Applica	03	Unsealed -	2	Curved-Vie	2
	Minor Injury	99	Not Applica	01	Sealed - D	2	Curved-Vie	1
	Property Damage Only	99	Not Applica	03	Unsealed -	2	Curved-Vie	1
	Hospitalisation	99	Not Applica	03	Unsealed -	1	Straight	3
	Medical Treatment	99	Not Applica	01	Sealed - D	1	Straight	1
	Medical Treatment	99	Not Applica	03	Unsealed -	2	Curved-Vie	2
	Property Damage Only	99	Not Applica	03	Unsealed -	2	Curved-Vie	2

Redhill-Munbilla Rd	Minor Injury	11	T Junction	01	Sealed - D	1	Straight	1
	Property Damage Only	99	Not Applica	03	Unsealed -	3	Curved-Vie	1
	Hospitalisation	99	Not Applica	01	Sealed - D	1	Straight	4
Roadvale Rd	Medical Treatment	11	T Junction	01	Sealed - D	1	Straight	2
	Hospitalisation	99	Not Applica	01	Sealed - D	3	Curved-Vie	1
	Medical Treatment	99	Not Applica	03	Unsealed -	3	Curved-Vie	1
	Property Damage Only	99	Not Applica	03	Unsealed -	2	Curved-Vie	1
	Hospitalisation	99	Not Applica	01	Sealed - D	1	Straight	1
	Hospitalisation	99	Not Applica	01	Sealed - D	3	Curved-Vie	1
Swan Gully Rd	Medical Treatment	15	Roundabou	01	Sealed - D	1	Straight	1
	Property Damage Only	99	Not Applica	01	Sealed - D	3	Curved-Vie	3
Vonda Youngman Dr	Hospitalisation	11	T Junction	01	Sealed - D	1	Straight	2
	Minor Injury	99	Not Applica	03	Unsealed -	2	Curved-Vie	2
	Minor Injury	99	Not Applica	03	Unsealed -	3	Curved-Vie	2
	Property Damage Only	99	Not Applica	03	Unsealed -	2	Curved-Vie	1
	Hospitalisation	99	Not Applica	03	Unsealed -	2	Curved-Vie	1
	Property Damage Only	99	Not Applica	01	Sealed - D	1	Straight	1
	Property Damage Only	99	Not Applica	03	Unsealed -	1	Straight	1
	Hospitalisation	99	Not Applica	01	Sealed - D	2	Curved-Vie	2
	Medical Treatment	99	Not Applica	01	Sealed - D	3	Curved-Vie	2
	Medical Treatment	99	Not Applica	01	Sealed - D	1	Straight	2
	Fatal	99	Not Applica	01	Sealed - D	3	Curved-Vie	2
	Hospitalisation	40	Median Op	02	Sealed - W	1	Straight	2
	Medical Treatment	99	Not Applica	01	Sealed - D	3	Curved-Vie	2
	Minor Injury	20	Bridge; Ca	03	Unsealed -	3	Curved-Vie	4
	Property Damage Only	99	Not Applica	01	Sealed - D	1	Straight	1
	Property Damage Only	99	Not Applica	03	Unsealed -	2	Curved-Vie	4
	Minor Injury	99	Not Applica	01	Sealed - D	1	Straight	1
	Hospitalisation	99	Not Applica	01	Sealed - D	2	Curved-Vie	3
	Hospitalisation	99	Not Applica	03	Unsealed -	1	Straight	1
	Property Damage Only	99	Not Applica	01	Sealed - D	1	Straight	1
	Property Damage Only	99	Not Applica	01	Sealed - D	1	Straight	1
	Hospitalisation	99	Not Applica	02	Sealed - W	1	Straight	1
	Medical Treatment	99	Not Applica	01	Sealed - D	2	Curved-Vie	1
	Property Damage Only	99	Not Applica	01	Sealed - D	2	Curved-Vie	3
	Property Damage Only	99	Not Applica	01	Sealed - D	3	Curved-Vie	1
	Fatal	99	Not Applica	01	Sealed - D	3	Curved-Vie	3

	Hospitalisation	99	Not Applica	02	Sealed - W	2	Curved-Vie	4
	Hospitalisation	99	Not Applica	01	Sealed - D	3	Curved-Vie	2
	Hospitalisation	99	Not Applica	01	Sealed - D	2	Curved-Vie	3
	Hospitalisation	99	Not Applica	01	Sealed - D	3	Curved-Vie	4
	Hospitalisation	99	Not Applica	01	Sealed - D	1	Straight	1
	Medical Treatment	99	Not Applica	01	Sealed - D	1	Straight	3
Veresdale Scrub School Rd	Medical Treatment	10	Cross	01	Sealed - D	1	Straight	1
	Minor Injury	99	Not Applica	01	Sealed - D	3	Curved-Vie	2
	Minor Injury	99	Not Applica	01	Sealed - D	1	Straight	3
	Property Damage Only	99	Not Applica	01	Sealed - D	3	Curved-Vie	4
	Medical Treatment	99	Not Applica	02	Sealed - W	1	Straight	1
	Property Damage Only	99	Not Applica	01	Sealed - D	1	Straight	1
	Hospitalisation	99	Not Applica	01	Sealed - D	2	Curved-Vie	3
	Medical Treatment	99	Not Applica	03	Unsealed -	3	Curved-Vie	1
	Hospitalisation	99	Not Applica	03	Unsealed -	2	Curved-Vie	2
	Property Damage Only	99	Not Applica	02	Sealed - W	1	Straight	2
	Property Damage Only	99	Not Applica	03	Unsealed -	2	Curved-Vie	1
	Property Damage Only	99	Not Applica	03	Unsealed -	1	Straight	3
	Property Damage Only	99	Not Applica	03	Unsealed -	3	Curved-Vie	4
	Hospitalisation	99	Not Applica	01	Sealed - D	3	Curved-Vie	1
	Medical Treatment	99	Not Applica	01	Sealed - D	3	Curved-Vie	2

Vertical Ali	Traffic Con	Traffic Con	Lighting Cc	Lighting Cc	Atmospher	Atmospheric Condition
Level	99	No Traffic (	02	Dawn/Dusk	01	Clear
Level	99	No Traffic (	03	Darkness -	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	04	Darkness -	01	Clear
Level	99	No Traffic (	01	Daylight	02	Raining
Grade	99	No Traffic (	04	Darkness -	01	Clear
Level	99	No Traffic (	01	Daylight	02	Raining
Grade	99	No Traffic (	04	Darkness -	02	Raining
Grade	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	02	Dawn/Dusk	01	Clear
Level	09	Give Way	01	Daylight	02	Raining
Grade	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Dip	99	No Traffic (	01	Daylight	02	Raining
Grade	99	No Traffic (	02	Dawn/Dusk	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Crest	09	Give Way	03	Darkness -	01	Clear
Grade	99	No Traffic (	03	Darkness -	01	Clear
Level	99	No Traffic (	04	Darkness -	01	Clear
Level	99	No Traffic (	01	Daylight	02	Raining
Grade	99	No Traffic (	02	Dawn/Dusk	04	Fog
Level	99	No Traffic (	04	Darkness -	02	Raining
Grade	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	02	Raining
Grade	99	No Traffic (	01	Daylight	02	Raining
Grade	99	No Traffic (	01	Daylight	01	Clear

Grade	99	No Traffic (	04	Darkness -	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	02	Raining
Grade	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	04	Darkness -	01	Clear
Crest	99	No Traffic (	04	Darkness -	01	Clear
Crest	99	No Traffic (	01	Daylight	01	Clear
Crest	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	03	Darkness -	01	Clear
Grade	99	No Traffic (	01	Daylight	02	Raining
Level	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Crest	99	No Traffic (	01	Daylight	01	Clear
Crest	99	No Traffic (	01	Daylight	01	Clear
Crest	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	09	Give Way	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	02	Raining
Grade	09	Give Way	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	04	Fog
Level	99	No Traffic (	03	Darkness -	02	Raining
Grade	99	No Traffic (	04	Darkness -	01	Clear
Grade	99	No Traffic (	03	Darkness -	02	Raining
Crest	99	No Traffic (	01	Daylight	01	Clear
Grade	09	Give Way	02	Dawn/Dusk	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	02	Dawn/Dusk	03	Smoke/Dust

Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	04	Darkness -	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Crest	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	09	Give Way	04	Darkness -	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	04	Darkness -	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Crest	99	No Traffic (	01	Daylight	02	Raining
Level	99	No Traffic (	02	Dawn/Dusk	01	Clear
Grade	99	No Traffic (	04	Darkness -	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	03	Darkness -	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	09	Give Way	02	Dawn/Dusk	04	Fog
Grade	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	04	Darkness -	01	Clear
Dip	99	No Traffic (	01	Daylight	01	Clear
Crest	99	No Traffic (	01	Daylight	02	Raining
Grade	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Dip	99	No Traffic (	04	Darkness -	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	02	Raining
Level	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	04	Darkness -	01	Clear
Grade	99	No Traffic (	03	Darkness -	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear

Grade	99	No Traffic (	01	Daylight	02	Raining
Grade	11	Pedestrian	01	Daylight	01	Clear
Level	09	Give Way	01	Daylight	02	Raining
Crest	09	Give Way	01	Daylight	01	Clear
Crest	09	Give Way	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	04	Darkness -	01	Clear
Crest	99	No Traffic (	04	Darkness -	01	Clear
Level	99	No Traffic (	03	Darkness -	01	Clear
Crest	99	No Traffic (	04	Darkness -	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Grade	09	Give Way	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Level	09	Give Way	01	Daylight	01	Clear
Level	99	No Traffic (	03	Darkness -	01	Clear
Crest	99	No Traffic (	01	Daylight	01	Clear
Level	08	Stop Sign	02	Dawn/Dusl	01	Clear
Grade	09	Give Way	01	Daylight	01	Clear
Level	08	Stop Sign	01	Daylight	02	Raining
Level	08	Stop Sign	01	Daylight	01	Clear
Level	09	Give Way	01	Daylight	01	Clear
Level	08	Stop Sign	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Dip	08	Stop Sign	01	Daylight	01	Clear
Grade	99	No Traffic (	04	Darkness -	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	08	Stop Sign	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	02	Dawn/Dusl	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Dip	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	04	Darkness -	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	02	Raining
Crest	99	No Traffic (	01	Daylight	01	Clear

Crest	99	No Traffic (	02	Dawn/Dusk	01	Clear
Level	99	No Traffic (	04	Darkness -	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	02	Raining
Grade	99	No Traffic (	04	Darkness -	01	Clear
Level	99	No Traffic (	03	Darkness -	01	Clear
Level	09	Give Way	01	Daylight	02	Raining
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	04	Darkness -	01	Clear
Grade	99	No Traffic (	04	Darkness -	02	Raining
Level	99	No Traffic (	01	Daylight	02	Raining
Level	09	Give Way	01	Daylight	02	Raining
Grade	99	No Traffic (	01	Daylight	01	Clear
Dip	09	Give Way	01	Daylight	01	Clear
Level	09	Give Way	01	Daylight	02	Raining
Crest	99	No Traffic (	04	Darkness -	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	02	Dawn/Dusk	01	Clear
Level	99	No Traffic (	04	Darkness -	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	11	Pedestrian	01	Daylight	01	Clear
Level	11	Pedestrian	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	04	Darkness -	01	Clear
Level	99	No Traffic (	04	Darkness -	01	Clear
Level	99	No Traffic (	04	Darkness -	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	04	Darkness -	01	Clear
Crest	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear

Grade	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	04	Darkness -	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Crest	99	No Traffic (	04	Darkness -	04	Fog
Crest	99	No Traffic (	04	Darkness -	01	Clear
Grade	08	Stop Sign	01	Daylight	01	Clear
Crest	99	No Traffic (	01	Daylight	01	Clear
Crest	99	No Traffic (	01	Daylight	01	Clear
Dip	99	No Traffic (	04	Darkness -	02	Raining
Crest	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	02	Dawn/Dusk	01	Clear
Level	99	No Traffic (	04	Darkness -	01	Clear
Level	99	No Traffic (	04	Darkness -	01	Clear
Level	99	No Traffic (	04	Darkness -	01	Clear
Level	99	No Traffic (	04	Darkness -	01	Clear
Grade	14	Latm Devic	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	04	Darkness -	02	Raining
Grade	99	No Traffic (	04	Darkness -	02	Raining
Crest	99	No Traffic (	04	Darkness -	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	04	Darkness -	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Dip	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Crest	99	No Traffic (	03	Darkness -	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	03	Darkness -	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	03	Darkness -	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear

Grade	99	No Traffic (	04	Darkness -	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Dip	09	Give Way	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Grade	08	Stop Sign	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Crest	99	No Traffic (	01	Daylight	03	Smoke/Dust
Dip	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	04	Darkness -	01	Clear
Dip	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	02	Dawn/Dusk	04	Fog
Grade	99	No Traffic (	01	Daylight	01	Clear
Crest	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	04	Darkness -	01	Clear
Level	09	Give Way	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	02	Raining
Level	99	No Traffic (	04	Darkness -	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	04	Darkness -	01	Clear
Crest	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	04	Fog
Grade	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	02	Dawn/Dusk	01	Clear

Level	99	No Traffic (	04	Darkness -	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Dip	99	No Traffic (	04	Darkness -	01	Clear
Grade	99	No Traffic (	02	Dawn/Dusk	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	02	Dawn/Dusk	01	Clear
Level	99	No Traffic (	02	Dawn/Dusk	01	Clear
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Level	99	No Traffic (	04	Darkness -	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Crest	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	04	Darkness -	01	Clear
Grade	99	No Traffic (	04	Darkness -	01	Clear
Grade	99	No Traffic (	02	Dawn/Dusk	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	02	Dawn/Dusk	01	Clear
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Grade	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Grade	99	No Traffic (	01	Daylight	01	Clear
Dip	99	No Traffic (	04	Darkness -	01	Clear
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Level	99	No Traffic (	04	Darkness -	01	Clear
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Level	99	No Traffic (	03	Darkness -	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	01	Daylight	01	Clear
Crest	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	04	Darkness -	01	Clear
Crest	99	No Traffic (	04	Darkness -	01	Clear

Dip	99	No Traffic (	01	Daylight	02	Raining
Grade	99	No Traffic (	01	Daylight	01	Clear
Crest	99	No Traffic (	04	Darkness -	01	Clear
Dip	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	04	Darkness -	01	Clear
Crest	99	No Traffic (	04	Darkness -	01	Clear
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Crest	99	No Traffic (	01	Daylight	01	Clear
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Grade	99	No Traffic (	02	Dawn/Dusl	01	Clear
Grade	99	No Traffic (	03	Darkness -	02	Raining
Level	99	No Traffic (	01	Daylight	01	Clear
Crest	99	No Traffic (	01	Daylight	03	Smoke/Dust
Dip	99	No Traffic (	01	Daylight	01	Clear
Level	99	No Traffic (	04	Darkness -	01	Clear
Grade	99	No Traffic (	03	Darkness -	01	Clear

Appendix C – Categorisation of Roads with accidents

Rural roads

Charlwood Rd	Rural, undivided sealed, sealed shoulders
Christmas Creek Rd	Rural, undivided sealed, sealed shoulders
Allan Ck Rd	Rural, undivided sealed, unsealed shoulders
Allandale Rd	Rural, undivided sealed, unsealed shoulders
Beechmont Rd	Rural, undivided sealed, unsealed shoulders
Biddaddaba Creek Rd	Rural, undivided sealed, unsealed shoulders
Birnam Range Rd	Rural, undivided sealed, unsealed shoulders
Boyland Rd	Rural, undivided sealed, unsealed shoulders
Bromelton House Rd	Rural, undivided sealed, unsealed shoulders
Brookland Rd	Rural, undivided sealed, unsealed shoulders
Cedar Creek Falls Rd	Rural, undivided sealed, unsealed shoulders
Coleyville Rd	Rural, undivided sealed, unsealed shoulders
Fields Rd	Rural, undivided sealed, unsealed shoulders
Frazerview Rd	Rural, undivided sealed, unsealed shoulders
Ganthorpe Rd	Rural, undivided sealed, unsealed shoulders
Geissmann St	Rural, undivided sealed, unsealed shoulders
Gould Hill Rd	Rural, undivided sealed, unsealed shoulders
Guanaba Rd	Rural, undivided sealed, unsealed shoulders
Head Rd	Rural, undivided sealed, unsealed shoulders
Innisplain Rd	Rural, undivided sealed, unsealed shoulders
Kengoon Rd	Rural, undivided sealed, unsealed shoulders
Kruger Rd	Rural, undivided sealed, unsealed shoulders
Mt Barney Rd	Rural, undivided sealed, unsealed shoulders
Niebling Rd	Rural, undivided sealed, unsealed shoulders
Nindooinbah Est Rd	Rural, undivided sealed, unsealed shoulders
Roadvale - Harrisville Rd	Rural, undivided sealed, unsealed shoulders
Running Creek Rd	Rural, undivided sealed, unsealed shoulders
Sandy Creek Rd	Rural, undivided sealed, unsealed shoulders
Spicers Gap Rd	Rural, undivided sealed, unsealed shoulders
Stanfield Rd	Rural, undivided sealed, unsealed shoulders
Tamrookum Church Rd	Rural, undivided sealed, unsealed shoulders
Upper Coomera Rd	Rural, undivided sealed, unsealed shoulders
Veresdale Scrub Rd	Rural, undivided sealed, unsealed shoulders
Vonda Youngman Dr	Rural, undivided sealed, unsealed shoulders
Fenwick Rd	Divided sealed, unsealed shoulders
Carneys Creek Rd	Divided sealed, unsealed shoulders
Hartley Rd	Divided sealed, unsealed shoulders
Helen St	Divided sealed, unsealed shoulders
Hoya Rd	Divided sealed, unsealed shoulders
Kalbar - Peak Crossing Rd	Divided sealed, unsealed shoulders
Kerry Rd	Divided sealed, unsealed shoulders
Kooralbyn Rd	Divided sealed, unsealed shoulders
Main Western Rd	Divided sealed, unsealed shoulders
Mckee St	Divided sealed, unsealed shoulders
Milbong Rd	Divided sealed, unsealed shoulders
Mt French Rd	Divided sealed, unsealed shoulders
Munbilla Rd	Divided sealed, unsealed shoulders
Rosevale Rd (1/08)	Divided sealed, unsealed shoulders
Simmental Dr	Divided sealed, unsealed shoulders

Tarome Rd (1/08)	Divided sealed, unsealed shoulders
Teviotville Rd	Divided sealed, unsealed shoulders
Wellington Bundock Dr	Divided sealed, unsealed shoulders
Anthony Rd	Unsealed road
Boyle Rd	Unsealed road
Cainbable Ck Rd	Unsealed road
Cannon Ck Rd	Unsealed road
Collins St	Unsealed road
Cotswold Rd	Unsealed road
Creamer Rd	Unsealed road
Duck Ck Rd	Unsealed road
F.M. Bell Rd	Unsealed road
Flagstone Creek Rd	Unsealed road
Four Mile La	Unsealed road
Heise Rd	Unsealed road
Hodgson Rd	Unsealed road
J G Campbell La	Unsealed road
Lamberts Rd	Unsealed road
Newman Rd	Unsealed road
Oaky Conn Rd	Unsealed road
Oertels Rd	Unsealed road
Old Kalbar Rd	Unsealed road
Old Rifle Range Rd	Unsealed road
Old Warwick Rd	Unsealed road
Philp Mtn Rd	Unsealed road
Pocock Rd	Unsealed road
Radford Rd	Unsealed road
Round Mountain Rd	Unsealed road
Sugarloaf Rd	Unsealed road
Tartar Creek Rd	Unsealed road
Toohill Rd	Unsealed road
Wild Cattle Creek Rd	Unsealed road
Wild Pig Creek Rd	Unsealed road
Caswells La	Rural track
Dawsons Rd	Rural track
Tabragalba House Rd	Rural track

Urban Roads

Albert St	Wide sealed town street
Alfred St	Wide sealed town street
Anna St	Wide sealed town street
Arthur St	Wide sealed town street
Brisbane St	Wide sealed town street
Brooklands Dr	Wide sealed town street
Church St	Wide sealed town street
Curtis Rd	Wide sealed town street
Doug Sullivan Ct	Wide sealed town street
Duckett St	Wide sealed town street
Dunsinane St	Wide sealed town street
Eagle Heights Rd	Wide sealed town street
Eaglesfield St	Wide sealed town street
Edward St	Wide sealed town street
Elizabeth Tce	Wide sealed town street
Enterprise Dr	Wide sealed town street
Birnam St	Sealed town street
High St	Sealed town street
Highbury St	Sealed town street
Kamarooka St	Sealed town street
Leonard St	Sealed town street
Lillian St	Sealed town street
Long Rd	Sealed town street
Main St	Sealed town street
Meridian Wy	Sealed town street
Milford Rd	Sealed town street
Montague St	Sealed town street
Monza St	Sealed town street
Tubber St	Sealed town street
Wattle St	Sealed town street
Alpine Tce	Sealed town street, unsealed shoulders
Beacon Rd	Sealed town street, unsealed shoulders
Fenwick Rd	Divided sealed, unsealed shoulders
Hartley Rd	Divided sealed, unsealed shoulders
Helen St	Divided sealed, unsealed shoulders
Hoya Rd	Divided sealed, unsealed shoulders
Kalbar - Peak Crossing Rd	Divided sealed, unsealed shoulders
Kooralbyn Rd	Divided sealed, unsealed shoulders
Main Western Rd	Divided sealed, unsealed shoulders
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Simmental Dr	Divided sealed, unsealed shoulders
Tarome Rd (1/08)	Divided sealed, unsealed shoulders
Teviotville Rd	Divided sealed, unsealed shoulders
Wellington Bundock Dr	Divided sealed, unsealed shoulders

Appendix D – Road Safety Plan for Scenic Rim Regional Council

Scenic Rim Regional Council

Road Safety Plan

Version Control

Vers	Authored	Date
1	Seren McKenzie	30 September 2014

Scenic Rim Regional Council
82 Brisbane Street, Beaudesert QLD 4285
Phone: 5540 5151
Web: www.scenicrim.qld.gov.au

Table of Content

Introduction

Council maintains an extensive transport network of sealed and unsealed roads, over 100 bridges, and footpaths and bikeways. In order to provide a safe network Council regularly reviews its strategies to ensure it continues to manage the network in a safe manner, to effectively improve community education in road safety, and ultimately decrease accidents on the transport network.

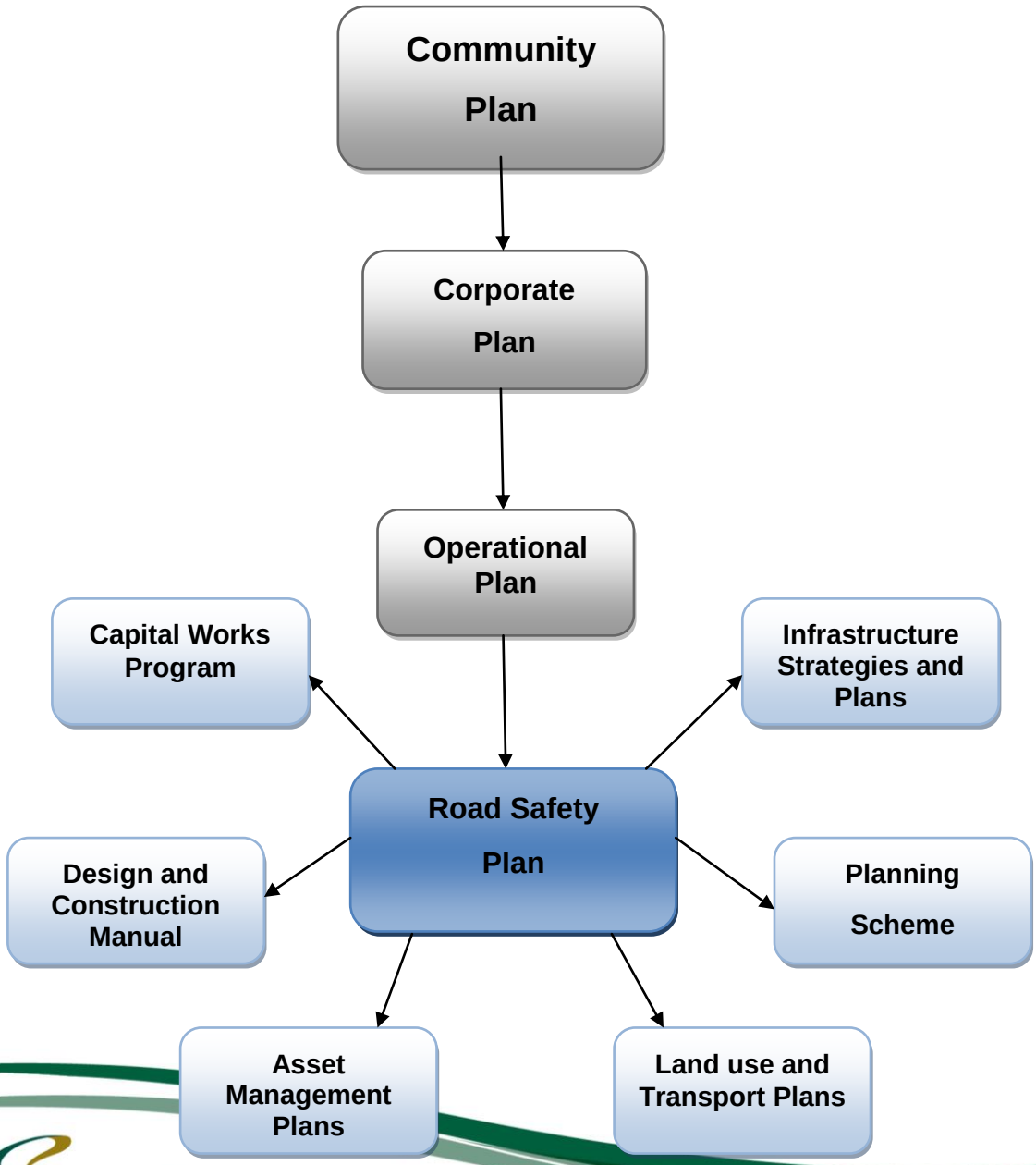
In order to maintain a safe network for road users, Council must operate by an endorsed Safe System approach to road safety. The Safe System Framework is utilised by countries around the world with the safest transport networks, and has also been implemented by the Australian Government in its Road Safety Strategy.

The purpose of this Road Safety Plan is to utilise the principles of the Safe System approach to determine appropriate actions for Scenic Rim Regional Council to implement in order to improve the safety of the transport network and thereby result in fewer accidents and injuries.

Context

This Plan has been developed with consideration to the linkages with a range of strategic documents, legislation, guidelines and standards relating to Council's provision of a safe transport network.

The below figure shows the interconnection of the Road Safety Plan with other existing documents of Council.



Corporate Strategy Documents

The Scenic Rim Community Plan 2011 – 2026 has been prepared following extensive consultation with the community. It is the overarching Plan for the future of the Scenic Rim Region in that it "provides a shared vision and plan for the region's future and will guide Council, other levels of government and community action on issues including the environment, economic development, social well being, infrastructure and governance."

A theme in the Community Plan which focuses on Accessible and Serviced Region is appropriate to this Strategy. A number of the outcomes of this theme include Road Safety as an expectation, such as:

- "Infrastructure and services keep pace with growth and changing needs and are compatible with our environment".
- "A well maintained road network that meets community needs"
- "Inviting, attractive and functional streets, paths, parks and community facilities"

The Corporate Plan Statement of Intent for Accessible and Serviced Region states "Council will provide and advocate for infrastructure and services in accordance with the prioritised needs of our growing community". This includes strategies in which Road Safety is an essential element, being to:

- "Promote a sustainable infrastructure network which provides adequate accessibility across the region"
- "Advocate for our region to facilitate investment for the provision of other key infrastructure and networks"

Road users expect to be able to travel on a safe road network, as is the responsibility of Council to provide on its transport network.

Legislative Requirements

The *Local Government Act 2009* has been developed with the purpose to provide for "the way in which a local government is constituted and the nature and extent of its responsibilities and power; and a system of local government in Queensland that is accountable, effective, efficient and sustainable"

As defined in *Chapter 3 Part 3* of the *Local Government Act 2009*, a road is "an area of land that is dedicated to public use as a road; or an area of land that – is developed for, or has as one of its main uses, the driving or riding of motor vehicles; and is open to, or used by, the public; or a footpath or bicycle path; or a bridge, culvert, ford, tunnel or viaduct."

The Act outlines the control of roads by the local government, including a local governments' responsibility to construct, maintain and improve roads, and to make a local law to regulate the use of roads.

In addition to the above State legislation there may be applicable legal or policy requirements under the common law, local government planning schemes, local laws and/or road and transport guidelines and codes.

Council Local Laws and Policies

Local Law No. 4 (Local Government Controlled Areas, Facilities and Roads) 2011, has the purpose to "protect the health and safety of persons using local government controlled land, facilities, infrastructure and roads; and preserve features of the natural and built environment and other aspects of the amenity of local government controlled land, facilities, infrastructure and roads." The Local Law achieves this by regulating access to roads, and prohibiting or restricting certain activities. Further to *Local Law No. 4*, there are a number of Subordinate Local Laws are relevant to road use.

Council has adopted a policy on the Provision of Road Network, which outlines Council's position on a number of areas such as extensions to road network, road and street construction standards, road and street maintenance standards, signage and traffic control devices, stormwater infrastructure in road reserves, vehicles parking within road reserves, vegetation within road reserves, private access entrances, utility services within a road reserve, and works within a road reserve.

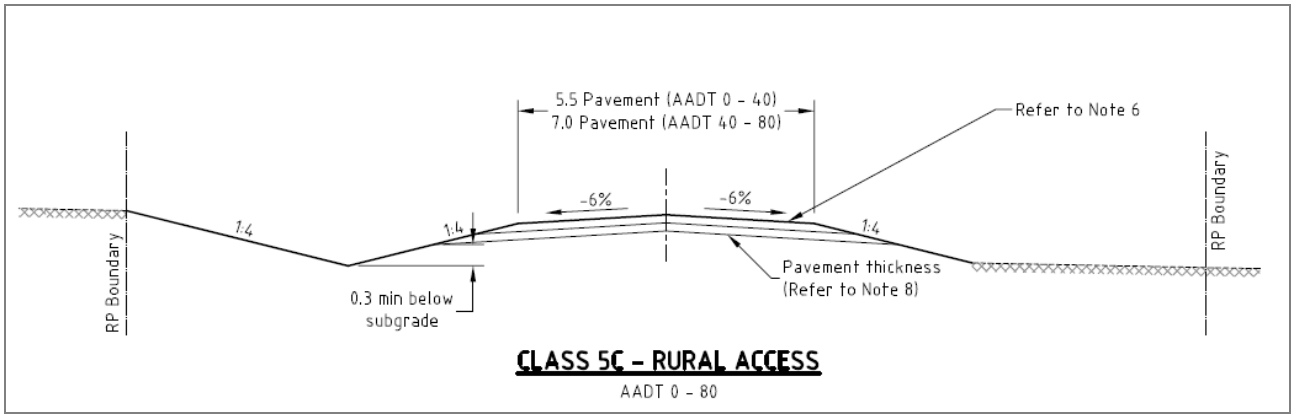
Council also has an adopted Road Strategy which outlines how Council maintains its' extensive road network of sealed and unsealed roads to provide a safe and efficient network, through reviewing its strategies regularly to ensure continuous effective management.

Guidelines and Standards

The Austroads Guidelines are the standards used by Council for the design and management of the road network. Complementing the Austroads Guidelines, are ARRB (Australian Road Research Board) Guidelines and Council's Design and Construction Manual. The Design and Construction Manual may include adapted standards to account for local issues of significance which require alternative construction techniques.

New roads are required to be designed and constructed in accordance with these standards and guidelines to ensure the community receives a safe and efficient network to current standards.

Notwithstanding the above technical documents, Registered Professional Engineers (Qld) assume full legal responsibility for all designs. This is a State legislative requirement, under the *Professional Engineers Act*.



Disaster Management

Recovery of the road network following natural disasters is prioritised based on community needs and levels of service, with safety of the road user a key consideration. At times, due to funding restrictions, some of the road network may function at a lower level of service for a period of time.

The Natural Disaster Relief and Recovery Arrangements (NDRRA) are a joint funding initiative of the Commonwealth and State Governments to provide disaster relief and recovery payments for infrastructure restoration to help communities recover from the effect of natural disasters.

Following a declared disaster event, there is a period of emergent works whereby Council will rectify the priority areas of the infrastructure network to ensure the immediate safety and connectivity of the community. The remainder of the work to restore the road network to its previous level of function is completed in the restoration period, whereby Council assesses the damage, and submits proposals for approval under NDRRA Guidelines. Once approved, Council (or its contractors) complete the restoration of the network.

Town Planning

The preparation of the Region's Planning Scheme is an opportunity to promote the importance of a sustainable road network through land use planning.

Efficient land use planning must consider suitable network connectivity between different land uses, for now and into the future. Natural features such as ridges and gullies should be considered in the development and road network planning.

Development assessment plays a significant part in the process to ensure suitable alignment of roads which are the safest option for the road users. Pre-lodgement discussions with applicants (and their consultants) regarding subdivision layouts, are an opportunity to reinforce the safe road network layout of major and minor networks.

Conditions of development application approvals allow for the designers to achieve efficient development in terms of sustainable road networks.

Asset Management Plans

Council has developed Asset Management Plans for all of the major infrastructure classes it manages. The Asset Management Plans underpin Council's approach to managing community assets, with the purpose of providing a strategic view of Council's assets in a way that promotes sustainable service provision. This is achieved by assessing the long term asset related funding requirements (demand) against proposed spending levels (expenditure). An overall funding shortfall in the planning period suggests service provision is not sustainable in the longer term, and appropriate action must be taken to reduce and ultimately close the gap.

The Roads Asset Management Plan (AMP) addresses the assets of sealed road pavements and surfaces, unsealed road pavements, and concrete kerb and channel.

The Roads AMP indicates the existing road asset base is not being renewed at the same rate at which it is degrading. This means that the current funding level does not match the demand in this asset class, and Council will determine through this strategy how to address this issue, whilst still maintaining a safe road network.

Increased funding of the asset class may be difficult to achieve, due to decreases in available grant money from both a Federal and State level which may have provided adequate funding in the past, as well as limitations on available funds through rate revenue and community affordability.

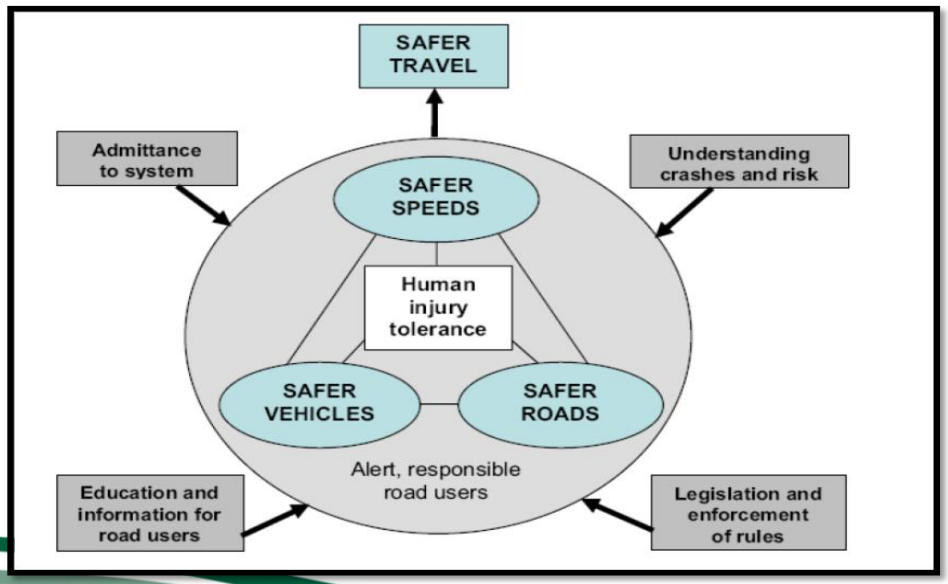
Whilst safety of the road network remains a key priority, Council must continue to examine its operations and maintenance practices, as well as explore options to increase the life of the asset, and overall improvements to the whole of life costs.

Safe System Framework

In determining the most appropriate approach to Road Safety, it is apparent the Safe System Framework addresses all the needs of the road user, and is an approach endorsed at a worldwide, Australian, and Queensland level.

In 2003 the Australian Transport Council release the National Road Safety Strategy, which is based on the Safe System Framework, and has the guiding principle that no person should be killed or seriously injured on Australia's roads.

The principles of the Safe System Approach are that people make mistakes, there is a limit to the human body in physical impacts, and a forgiving road network is required. As such, a Safe System Framework consists of targets for Safer Vehicles, Safer Roads and Safer Speeds, which all inter relate with the human injury tolerance levels, and lead to Safer Travel.



Strategic Priority Areas

Strategic Priority Areas have been developed to address these needs.

The provision of a safe road network provides a link for visitors and residents to commute throughout the Scenic Rim Region.

This Road Safety Plan outlines the key Strategic Areas of focus for continued improvements to Road Safety in the Scenic Rim region, following the Safe System Framework approach.

This Plan covers the Strategic Priority Areas of:

Road Safety Leadership

- Council will demonstrate its' strong commitment to Road Safety and achieving a reduction in accidents on roads within the region.

Land Use and Transport Planning and Management

- Provide a network of well planned and safe roads and public transport options for the region that meets the increasing population demands.

Safer Roads and Roadsides

- Improve the safety of the road network for all road users, through improved design, operational and maintenance practices.

Community Education, Awareness and Behaviour

- Achieve improvements in road use behaviour through education and awareness campaigns, by providing support to the community and stakeholders.

Strategic Priority Area 1: Road Safety Leadership

Council will demonstrate its' strong commitment to Road Safety and achieving a reduction in accidents on roads within the region.

Councils' commitment to road safety and leadership within the community will continue through a number of initiatives with various stakeholders. Council will ensure the actions of this Road Safety Plan are implemented through proactively including road safety within its corporate plans.

Council will continue to work with external agencies and stakeholders to identify and address road safety issues, thereby achieving improvements in road safety with the aim of reducing accidents on the road network.

Strategies

1.1 Implementation of the Road Safety Plan.

1.2 Participation in Road Safety Programs and initiatives with other key stakeholders, such as the State Government, Queensland Police Service, Department of Transport and Main Roads, and the community.

1.3 Provide leadership to the community in the area of Road Safety.

Strategic Priority Area 2: Land Use and Transport Planning and Management

Provide a network of well planned and safe roads and public transport options for the region that meets the increasing population demands.

Given the proposed growth of the region in both residential and industrial communities, it is essential that Road Safety is included as an important step in development, land use, and transport planning.

This priority area will be addressed through guidelines and standards included in the Scenic Rim Regional Council Planning Schemes and associated tools. It also encompasses areas such as public transport planning, and bicycle and footpath networks, for which Strategic Plans are already in place.

Strategies

2.1 As relevant strategies such as the Road Strategy, the Bridge Strategy, the Footpath and Bikeway Stategic Plan and the Social Plan are reviewed, ensure Road Safety is included as a priority.

2.2 Include Road Safety as a priority in the new Scenic Rim Regional Council Planning Scheme.

2.3 Assessment of Development applications will include consideration of road safety principles.

2.4 Infrastructure planning and modelling will be undertaken in accordance with the principles of this road safety plan.

Strategic Priority Area 3: Safer Roads and Roadsides

Improve the safety of the road network for all road users, through improved design, operational and maintenance practices.

Council is committed to ensuring a safe road system through the regular review of practices for the operation and maintenance of the network. This is achieved through Asset Management Plans, Road and Bridge Strategies, and various documented practices such as prioritisation of capital works, road safety request system and prioritisation, and a Quality Management System.

Ongoing support and improvements to the road safety program at Council are required to continue to advance the safety of the network. New practices, guidelines and standards will need to be considered by Council.

Safety reviews and audits should be considered and undertaken when appropriate, with outcomes prioritised into immediate short term actions, medium term actions, and long term actions to improve the network. Long term actions such as redesign of roads should be undertaken to ensure projects are ready for construction should funding become available.

Council should continue to appeal to the State Government for funding for major projects such as town bypasses to ensure the ongoing safety of the road users by removal of heavy vehicles through built up areas.

Strategies

3.1 Expanding the current road safety audit program (major road designs, high level roads, serious accidents).

3.2 Reviewing current guidelines and processes in design to improve road safety.

3.3 Analysis of available data such as crash data and road safety audits, and use of outcomes in the prioritisation of road upgrades and renewals (Capital Works Program).

3.4 Consideration of the development of a guideline for safer road shoulders and pull off areas.

3.5 Create an asset register of road signage across the region, and consider auditing the signage network on an annual basis.

3.6 Identify and analyse areas for improvement that could be funded by State and Federal grant programs in the future.

Strategic Priority Area 4: Community Education, Awareness and Behaviour

Achieve improvements in road use behaviour through education and awareness campaigns, by providing support to the community and stakeholders.

Council will continue to support key messages from stakeholders such as Department of Transport and Main Roads, Queensland Police Service, the Federal Government, and others such as RACQ to ensure improved road safety awareness and behaviour.

Council will also continue to work with Department of Transport and Main Roads, and neighbouring Council areas, regarding the review of speed zones with the region. The main request Council receives from the community regarding road safety is regarding speeding and speed zones. Regular review of signage, as well as the use of the portable speed detection unit in high risk areas (which displays road users' speeds) will assist in educating the community.

Strategies

4.1 Support and work with State agencies and other stakeholders to improve road safety awareness.

4.2 Consider including education programs for schools or other communities if they are not provided by State Government.

4.3 Consider implementing a road safety program within Council for employees.

4.4 Continue to implement actions from other State and Council strategies which support road safety and the transport network, such as the promotion of safe cycling and walking networks.

4.5 Continue to work with local schools and the State in the implementation of School SafeST requests and programs.

4.6 Achieve safer speeds and awareness through the use of the portable speed observation signs, and the review of advisory and regulatory speed signage throughout the network, as required.

Appendix 1

Action Plan and Timeframes

Action number	Key Action	Timeframe
1.1	Implementation of the Road Safety Plan.	Ongoing
1.2	Participation in Road Safety Programs and initiatives with other key stakeholders, such as the State Government, Queensland Police Service, Department of Transport and Main Roads, and the community.	Ongoing
1.3	Provide leadership to the community in the area of Road Safety.	Ongoing
2.1	As relevant strategies such as the Road Strategy, the Bridge Strategy, the Footpath and Bikeway Stategic Plan and the Social Plan are reviewed, ensure Road Safety is included as a priority.	Ongoing
2.2	Include Road Safety as a priority in the new Scenic Rim Regional Council Planning Scheme.	Medium Term
2.3	Assessment of Development applications will include consideration of road safety principles.	Ongoing
2.4	Infrastructure planning and modelling will be undertaken in accordance with the principles of this road safety plan.	Ongoing
3.1	Expanding the current road safety audit program (major road designs, high level roads, serious accidents).	Short term and ongoing
3.2	Reviewing current guidelines and processes in design to improve road safety.	Ongoing
3.3	Analysis of available data such as crash data and road safety audits, and use of outcomes in the prioritisation of road upgrades and renewals (Capital Works Program).	Ongoing
3.4	Consideration of the development of a guideline for safer road shoulders and pull off areas.	Medium term
3.5	Create an asset register of road signage across the region, and consider auditing the signage network on an annual basis.	Medium term and ongoing
3.6	Identify and analyse areas for improvement that could be funded by State and Federal grant programs in the future.	Ongoing

Action number	Key Action	Timeframe
4.1	Support and work with State agencies and other stakeholders to improve road safety awareness.	Ongoing
4.2	Consider including education programs for schools or other communities if they are not provided by State Government.	Short term and ongoing
4.3	Consider implementing a road safety program within Council for employees.	Medium term
4.4	Continue to implement actions from other State and Council strategies which support road safety and the transport network, such as the promotion of safe cycling and walking networks.	Ongoing
4.5	Continue to work with local schools and the State in the implementation of School SafeST requests and programs.	Ongoing
4.1	Support and work with State agencies and other stakeholders to improve road safety awareness.	Ongoing