

Visiting Drivers Project - Safe & Enjoyable Journeys

Holly Attwell; B.Eng(Civil)(Hons.), PGradCert Pavement Tech., GIPENZ

Traffic & Safety Engineer;
Opus International Consultants Ltd

holly.attwell@opus.co.nz

Abstract

Providing a safe and enjoyable driving experience for our visiting tourist drivers is key to New Zealand maintaining its reputation as an attractive and safe visitor destination while also supporting a sustainable tourism industry and economic future for New Zealand.

This paper will share the experience to date of the Government's signature project led by the NZ Transport Agency to improve our driving experience and road safety on key tourist routes in the West Coast, Otago and Southland regions.

As part of the project perception surveys were completed which explored driver make up and current driver user satisfaction ratings on key tourist routes. These surveys revealed that overseas drivers represent up to 82% of participants and overall overseas and New Zealand drivers have high user satisfaction levels with their journeys

The paper will outline the improvements being made in the safer roads and roadsides space and the enjoyable journey functions of the Visiting Drivers Project. Detailed crash analysis revealed that overseas drivers are having the same crash types as New Zealand drivers. That is the significant majority of crashes involving both overseas driver and NZ drivers are run off road crashes. A suite of low cost innovative treatments were developed and prioritised with the aim of reducing death and serious injuries by 10% for all users while also maintaining New Zealand's reputation as a safe visitor destination.

Project Background

The Visiting Drivers Project was established in March 2014 in response to a spate of serious crashes involving overseas visiting drivers over the 2013/2014 summer which received high profile media coverage. The Project was created under the Signature Programme which is part of the government's road safety strategy to 2020, Safer Journeys.

The purpose of the Visiting Drivers Project is *"to improve road safety for, and of, visiting drivers, while maintaining New Zealand's reputation as an attractive and safe tourist destination."*¹

The project is being led by the NZ Transport Agency on behalf of the government with project partners including the Ministry of Transport; NZ Police; local governments; the AA; the Rental Vehicle Association; and tourism groups.

The project aims to reach visitors, both international and domestic, at all stages of their journey. That is when they are planning and booking, in-flight, on arrival and when driving on our roads. The interventions identified are founded on the safe system approach, which comprises of safe users; safe vehicles; safe speeds; and safe roads and roadsides.

The safer roads and roadsides component has a focus on the Otago, Southland and West Coast regions where international visiting drivers make up a significantly large proportion of traffic.

New Zealand's Tourism Market

Economic Contribution

The Tourism Market is significant for New Zealand. For the year ended March 2016 tourism generated a direct contribution of \$12.9 billion to Gross Domestic Product (GDP) or 5.6

¹ Safer Journeys (n.d.) Visiting Drivers Signature Project, viewed 18 November 2016, <<http://www.saferjourneys.govt.nz/action-plans/signature-programme/visiting-drivers-project/>>

percent of GDP. For the same 12 month period, total tourism expenditure was \$34.7 billion, an increase of 12.2 percent from the previous year.²

Visitor Arrivals to New Zealand

In terms of arrival numbers, there were 3,386,685 overseas visitor arrivals for the 12 month period ended September 2016. This was an 11.4% increase on the 12 months prior. Overseas visitor arrivals have been steadily increasing since 2011 with significant growth since 2014. This is shown in the graph below.

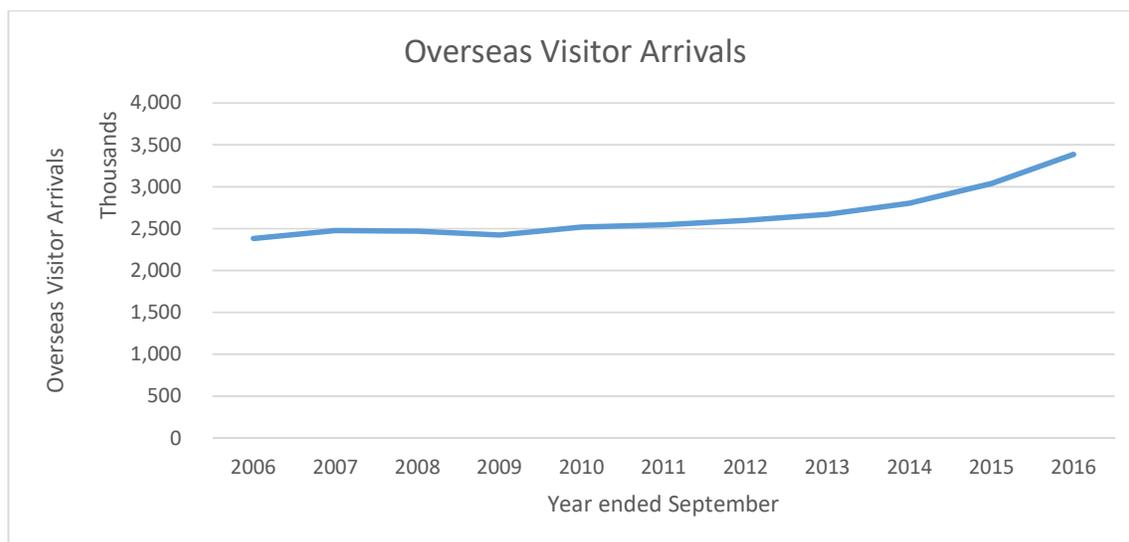


Figure 1 - Overseas visitor arrivals for the year ended September. (Source Statistics New Zealand)

Australia is the most popular country of origin for visitors to New Zealand and growth in this market is still being observed. This is followed by China which demonstrated significant market growth between 2014 and 2016. The next most common countries for visitor arrivals include the United Kingdom, Germany, Japan and Korea.

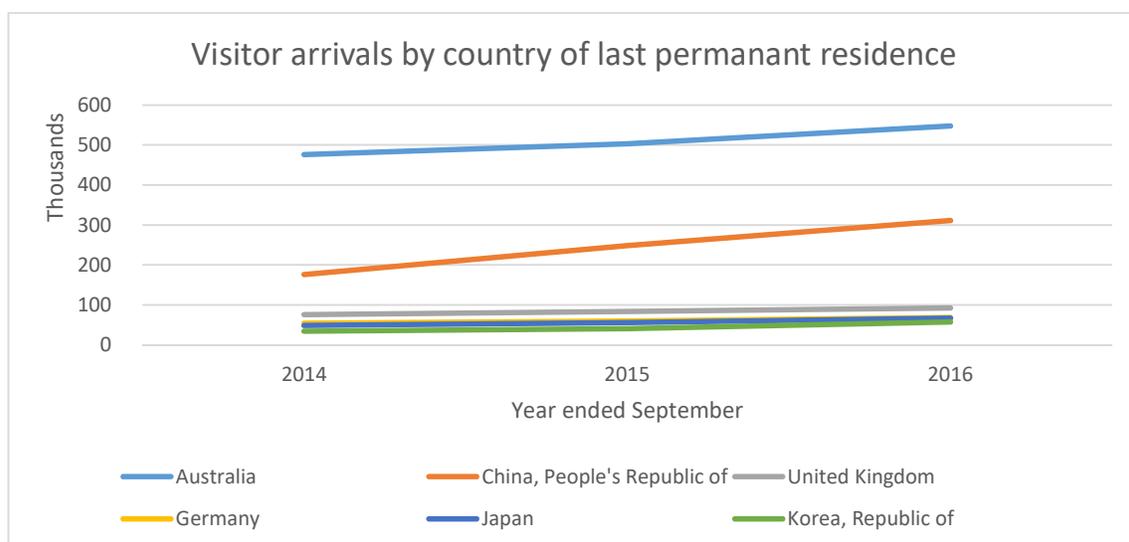


Figure 2 - Holiday/vacation arrivals by country of last permanent residence (Source Statistics New Zealand)

² Statistics New Zealand (2016). Tourism Satellite Account: 2016. Wellington: Statistics New Zealand. Available from www.stats.govt.nz.

These figures demonstrate that a lot is at stake if New Zealand loses its reputation as a safe country to visit and that investment in infrastructure is required to support the current demand and future growth in the market.

Crash Statistics

License Type

Nationally overseas licensed drivers were involved in 6% of fatal and injury crashes for the five year period 2010 to 2014. At a local level their representation is much higher. For the same period (2010 to 2014) overseas licensed drivers were involved in the following percentage of fatal and serious crashes on the State Highway network.

Otago	11.8%
West Coast	23.4%
Southland	16.5%

Table 1 - Percentage of Fatal and Serious crashes involving an overseas licensed driver (2010 – 2014)

Fatal and serious crashes have only been used in the analysis as license type information is not as reliable for less severe crashes. It is important to note involvement does not necessarily correlate to “at fault”.

Data on fatal and serious crashes involving overseas licensed drivers is well documented. However; it is not well known the number of visiting drivers on the network at any one time or the distances they are travelling. Without this information it is not possible to determine if overseas licensed drivers are under or over represented in crashes compared to New Zealand licensed drivers with respect to vehicle kilometres travelled.

Crash Type

When considering the crashes visitors are involved in in terms of the key crash types identified in the Safer Journeys 2020 Road Safety Strategy, the types of crashes visitors are having is very similar to New Zealand license holders. That is, the significant majority of crashes for both overseas licensed drivers and New Zealand drivers are run off road type crashes. Figure 3 below shows there is some variation amongst the regions, particularly when comparing Otago with Southland and the West Coast. There is also likely to be some statistical variation given the data set size for overseas license holders is significantly smaller than for New Zealand license holders.

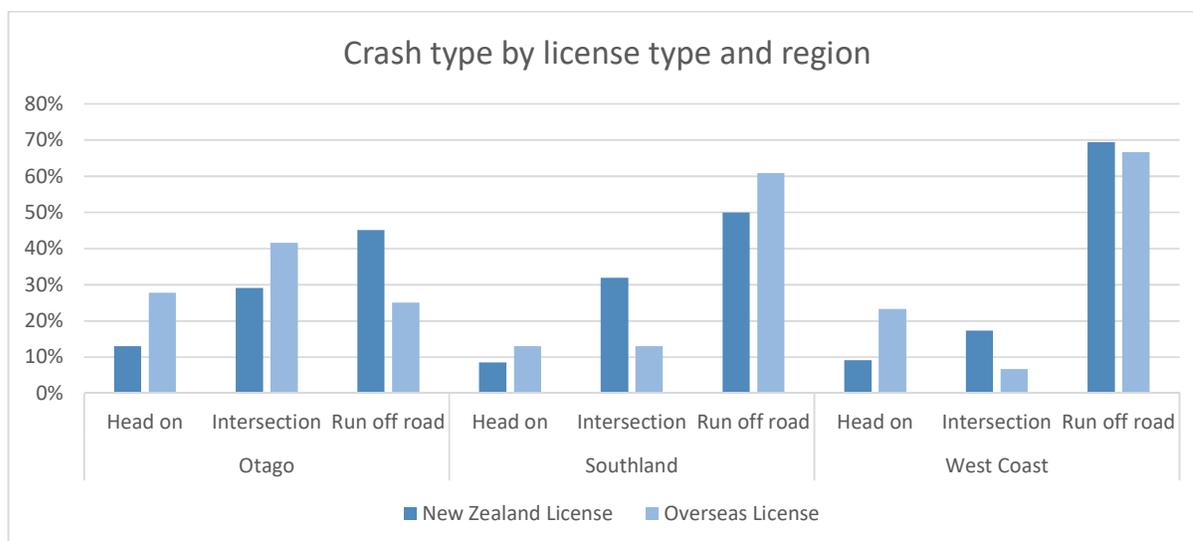


Figure 3 - Crash type by license type for each region (fatal and serious crashes on State Highways only, 2010-2014)

Overseas licensed drivers appear to be over-represented in head-on crashes on the West Coast. However; when looking at these crashes in more detail the majority of these head-on crashes are due to cutting a corner or swinging wide on a bend, rather than resorting to right-hand driving.

In Otago, overseas licensed drivers are over-represented in both head-on and intersection type crashes when compared to New Zealand drivers. However; as Otago has the lowest proportion of overseas licensed drivers some statistical variation is expected. The higher proportion of head-on crashes occurring in Otago is again attributed to swinging wide on a bend, cutting a corner, or losing control. The increased involvement in intersection crashes is likely due to the higher number of high volume intersections on the Otago network compared with remaining networks.

In Southland, overseas licensed drivers are over-represented in both head-on and run off road crashes. Again the head on crashes are more often due to cutting a corner or swinging wide on a bend, rather than resorting to right-hand driving. In Southland the key tourist route is the road through to Milford Sound which is particularly challenging winding and mountainous terrain. The significant majority of users on this route are visitors to the region. Given the nature of this route and the high proportion of visitors travelling on it, it is unsurprising that overseas drivers are over represented in run off road crashes in Southland.

Crash Locations

When reviewing the locations of fatal and serious crashes on State Highways involving overseas license drivers some clear routes and corridors emerge. These corridors and their key attractions are summarised in the following table. Christchurch is an important connection point for the regions as the majority of international flights to the South Island arrive there.

Region	Corridors	Corridor length	Key Visitor Attractions or Connections
Otago	<ul style="list-style-type: none"> • SH8 Twizel to Cromwell • SH6 Haast Pass to south of Queenstown 	359km	Queenstown Lakes District Central Otago Christchurch connection
Southland	<ul style="list-style-type: none"> • SH6 south of Queenstown to Five Rivers, SH97 from Five Rivers to Mossburn, SH94 from Mossburn to Milford Sound 	243km	Queenstown Milford Sound Access to a number of Great Walks
West Coast	<ul style="list-style-type: none"> • SH6 from the West Coast/Tasman boundary to the Haast Pass • SH73 from Arthurs Pass to Kumara Junction 	626km	Pancake Rocks, Punakaiki Franz Josef Glacier Fox Glacier Christchurch connection

Table 2 - Key tourist routes identified for regions

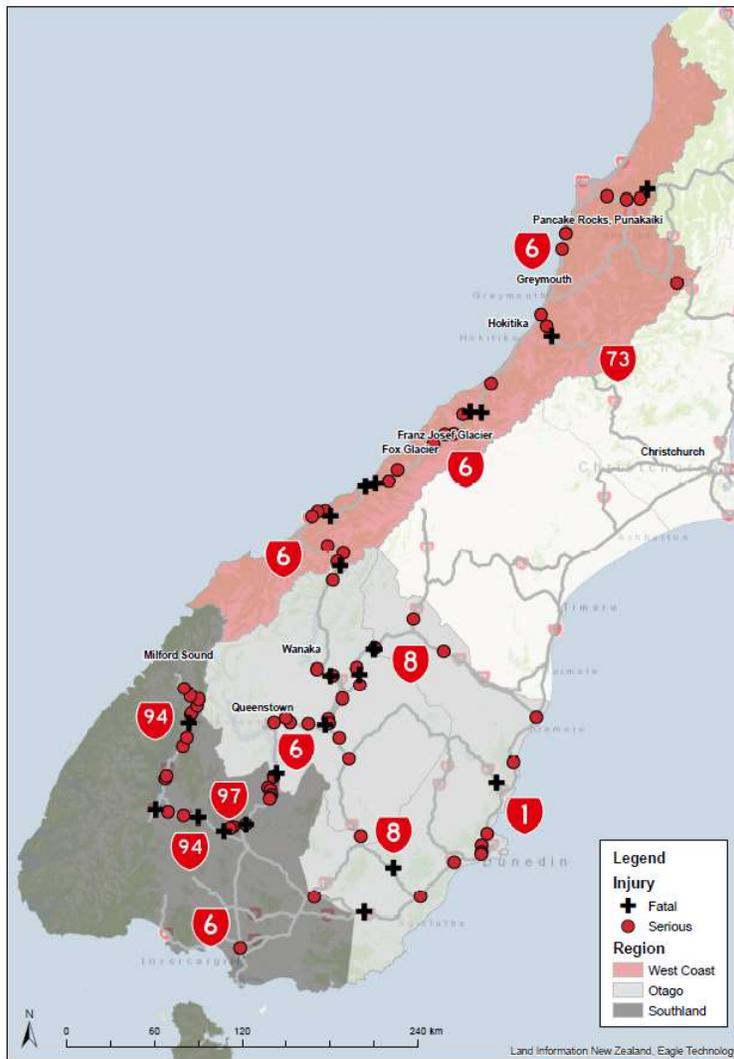


Figure 4 - Location of overseas license drivers involved in fatal and serious crashes (2010-2014)

There are a number of visiting driver crashes on the east coast of Otago and Southland. However; these are located on State Highway 1, a National Strategic route with improvements planned under other capital projects so are excluded from this project.

Perception Surveys

To better understand the proportion of user types and visitor's and local's expectations and satisfaction levels of the State Highway network perception surveys were completed. Surveys were completed in March 2016 at three sites across the key regions with a total of 334 driver's participating.

The surveys confirmed the high number of overseas and domestic visitors on the region's roads with 82 percent of participants at the Southland Site and 81 percent at the West Coast site being overseas visitors. Thirty-six percent of respondents in Otago were domestic visitors ie. residing outside of the region.

Region	Number of Participants	Participant type	Proportion
Otago	87	Overseas visitor	50%
		Non-local New Zealander (domestic visitor)	36%
		Local	14%
Southland	122	Overseas visitor	82%
		Non-local New Zealander (domestic visitor)	11%
		Local	7%
West Coast	125	Overseas visitor	81%
		Non-local New Zealander (domestic visitor)	15%
		Local	4%

Table 3 - Perception survey participant type by region

The findings from these surveys indicated that all respondents (overseas visitors, non-local New Zealand residents or locals) felt the roads were safe, they were satisfied with their driving experience on the day of the survey, and that the level of safety on the road had positively affected their view of the regions as a tourist destination.

Drivers were also asked open questions for their suggestions to improve road safety. The responses are summarised in the following table. Road users who were more familiar with the type of roads were more likely to be specific with their suggestions (i.e. with locals being most specific and overseas visitors least specific or being more likely to offer no suggestion). Overall, the suggestions were commonly related to overtaking opportunities, which relates to inconvenience, but arguably could relate to scenic experience. Overtaking opportunities were less of a priority for overseas visitors relative to the domestic road user groups.

Of the overseas visitors that did make a suggestion, the top suggestion was for more overtaking opportunities, followed by wider road shoulders and more signage. If the respondents that made no specific suggestion were removed, then about 1 in 4 overseas visitors (24.1%) suggested improvements that would potentially also support improved scenic route experiences, in terms of more stopping places (10.9%) and improved signage (13.2%).

For non-local NZ residents (i.e. domestic visitors) that did make a suggestion, the top one was for more overtaking opportunities, followed by reducing the number of corners. The local's top suggestions were more overtaking opportunities, followed by road design and maintenance, and improving other road user behaviour.

While participation was voluntary the results of the surveys show that on the surveyed Southland and West Coast corridors overseas visitors are the major proportion of users on the network. Otago had a high proportion of domestic visitors (non-local NZ residents) and when combined with overseas visitors, visiting drivers were still the majority user group.

The surveys also demonstrate that user satisfaction of the corridors is high and that it is meeting visitor's expectations which is positively affecting their view of the regions as a tourist destination.

Suggested safety improvement	Overseas visitors	Non-local NZ residents	Locals
	%	%	%
More overtaking opportunities	9.4	19.0	23.1
More stopping places	5.7	4.8	3.8
Wider roads shoulders	8.2	4.8	3.8
Review speed limit downwards	3.3	3.2	7.7
Reduce number of corners	1.2	6.3	0.0
More crash barriers	2.9	0.0	0.0
Smoother improved road surface	5.3	4.8	3.8
Reduce number of one lane bridges	3.7	3.2	0.0
More signage	6.9	1.6	7.7
More arrows	0.4	4.8	0.0
Other road user behaviour	2.0	4.8	11.5
Homer tunnel improvements	1.2	1.6	0.0
Road design and maintenance	2.0	4.8	19.2
Nothing required/no suggestion	45.3	31.7	11.5
Other	2.4	4.8	7.7

Table 4 - Respondents suggested safety improvements for route

Safer Roads and Roadside Improvements

Considering the crash types both overseas and New Zealand licensed drivers were having and the feedback from the perception surveys, a suite of low cost safe supporting and journey improvement projects were developed for the key tourist routes for each region. As the crashes visiting drivers are having are the same as New Zealand drivers the majority of improvement options were sourced from the NZ Transport Agency's High Risk Road Guides. Additionally a number of innovations were developed specifically in response to visitor needs, both overseas and domestic. These are summarised in the following table.

Improvement Category	Treatments Included	Targeted Crash Type / Enjoyable Journeys
Signage	<ul style="list-style-type: none"> • Curve warning signage • Speed threshold signs • Rest area / lookout signs • Electronic driver feedback signs 	Run off road / all crashes / enjoyable journeys
Markings	<ul style="list-style-type: none"> • Wide edge and centre lines • Centreline Audio Tactile Profiled (ATP) marking • Edgeline ATP • No passing markings • Tourist arrows 	Run off road / head on crashes
Safety Barrier	<ul style="list-style-type: none"> • Non traversable slopes / drop offs • Outside of curves • Approaches and across bridges • Culverts 	Run off road crashes
Hazard Removal	<ul style="list-style-type: none"> • Culvert extensions • Tree removal etc 	Run off road crashes
Intersection improvements	<ul style="list-style-type: none"> • Various treatments specific to intersection 	Intersection crashes
Passing Opportunities	<ul style="list-style-type: none"> • Stopping bays • Passing lanes • Slow vehicle bays 	Enjoyable journeys Intersection crashes
Shoulder Widening / Sealing	<ul style="list-style-type: none"> • Sealing at lookouts and rest areas • Shoulder widening of narrow carriageway 	Enjoyable journeys Run off road crashes
Speed Management	<ul style="list-style-type: none"> • Safer speeds 	All crashes

Table 5 - Summary of treatments adopted for Safer Roads and Roadside and Enjoyable Journeys components of the Visiting Driver Signature Project.

Innovations

A number of innovative treatments were developed in response to specific crashes visitors are having and the feedback from the perception survey. These include:

- Extension of the stop box in the right turn bay of a high speed rural intersection. This is to encourage early entry of visiting drivers, particularly overseas ones, who are observed not to drive on flush markings and are therefore entering the stop boxes at sharp angles and high speed.
- Installation of 2 and 5 kilometre advance warning signs in addition to the standard 300 or 400 metre advance warning signs for rest areas and lookouts to encourage early decision making and increase use.
- The use of the internationally recognised “camera” and “lookout” symbols on brown tourist signs identifying lookouts. Also posting advance warning of lookouts at points where drivers may observe views but stopping would be unsafe therefore by encouraging use of safe stopping places.
- Alternative uses of electronic warning signs (EWS) to highlight additional hazards to those approved for use in the Traffic Control Devices (TCD) manual including the requirement to give way on single lane bridges.

These treatments are currently being implemented across the regions. Perception surveys will be repeated in future and post-implementation crash analysis completed to better understand the effectiveness of the improvements.

Conclusion

The tourism market is important to New Zealand and generates a substantial component of GDP. The tourism market is experiencing significant growth which is not forecast to slow.

Overseas licensed drivers are involved in substantially more fatal and serious crashes on the West Coast, Otago and Southland networks than the national average. However; the perception surveys completed in March 2016 revealed overseas licensed drivers could make up to 82% of users on key tourist routes.

The perception surveys demonstrated that user satisfaction of the network is high and it is meeting visitor's expectations. This is positively affecting their view of the regions as a tourist destination.

Overseas licensed driver are having the same crash types as New Zealand drivers and therefore any investment in making the roads and roadsides safer will benefit both visitors and local drivers.

Because the crash types visitors are having are similar to locals, investment in typical road and roadside improvements has been justified. There is opportunity for innovation where visitors are having specific problems or to improve the journey experience.