TruckR Mobile Application Evaluation
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July 2018
Executive Summary

TruckR was launched at the Christchurch Freight Forum in September 2017 as one of the initiatives in the Alternate Route Truck Crashes/Rollover Prevention Plan. The app was developed as a trial with the intention to include the reopened State Highway 1 (SH1) with the long term view to receive and review feedback to create a business case to include all of New Zealand’s State highways. This report collates usage, feedback and future development opportunities for TruckR.

The document includes:

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2. Research
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1. Background & Opportunity

Following the November 2016 Kaikoura earthquake, the Main North Line railway and parts of SH1 between Blenheim and Christchurch were closed. All traffic heading between Blenheim and Christchurch moved to an alternate route which goes via Murchison, the alpine Lewis Pass and Culverden. The alternate route became a critical economic lifeline for goods in the South Island.

The alternate route is winding, challenging and narrow in parts including an alpine pass and one-way bridges. This put heavy vehicle operators and drivers under a lot of stress, particularly with the additional delays from multiple worksites from an ongoing improvement programme. The longer driving hours caused fatigue for drivers – a key factor in crashes and rollovers.

The alternate route had up to four times more traffic than pre-earthquake and many communities along this route became concerned about sharing the road with heavy vehicles and how that impacted on the way they and their families lived and use the route.

An Alternate Route Truck Crashes/Rollover Prevention Plan was developed by the South Island’s Truck Crashes/Rollover Prevention Team made up of members from the NZ Transport Agency (NZTA), Road Transport Forum, NZ Trucking, Road Transport Association of NZ (RTANZ), Heavy Haulage, National Road Carriers, NZ Police, Commercial Vehicle Investigation Unit, NZ Transport Agency contractors and consultants, and the North Canterbury Transport Infrastructure Recovery alliance (NCTIR).

The plan was about recognising the issues and responding to them in a way that would provide long-term benefits to the industry and local communities.

The goal was to progressively reduce the incidence and severity of single heavy vehicle rollover crashes on the alternate Picton to Christchurch route which would reduce death and serious injuries and closures and delays. TruckR was one of the actions taken to achieve the goal.
2. Research

Researching the needs of the trucking community was key to the design of TruckR. The RTANZ were essential contributors along with a variety of national operators. Hilton Haulage and TIL Freight were large operators who provided feedback and Conroy Removals were able to provide a mid-sized operator perspective. The requirement gathering sessions highlighted a large demand for an application and the most common functional requirements requested included:

- The app needed to be easy to use and accessible offline.
- Traffic alerts must be updated frequently
- The app would be used as a planning tool to be used whilst stationary.
- App should be available on the Google Play store and App Store.
- Ability to easily provide feedback.
- Key information to be displayed on the map:
  - Road closures and alerts
  - Truck stops and toilets
  - Fuel stops and ability to filter by the fuel cards accepted at the stop
  - Safe stopping bays for 20metre trucks
  - Cell phone non-coverage areas

Following the requirements gathering part of the project a session was held with NZTA and NCTIR to review all of the possible deliverable functional requirements and decisions were made as to which ones were to be implemented into the trial TruckR application. The requested functional requirements not implemented as part of this phase 1 of the project have been listed in the future development opportunities section of this document.
3. Solution

TruckR was designed with the primary objective to provide specific safety and journey information to truck drivers travelling on the Alternate route. The key features of the app are:

- The app connects to the NZTA Traffic Road Event Information System (Treis), allowing the truck driver to easily view traffic alerts for the Alternate Route. Alerts are updated every five minutes and are displayed on the alerts page and the map.

- The app highlights road works, road closures, passing lanes, one lane bridges, trailer swap area and the location of the Commercial Vehicle Safety Team (CVST) as well as areas with limited cellular coverage along the route. The app also allows users to provide the NZTA with feedback on highway conditions, such as potholes.

- Truck drivers can open the app and plan their journey before they start, based on the information provided. They can also pull over and check information during their journey as the app’s map features can operate without mobile phone coverage.

Alerts

The first page of the app shows the traffic alerts which cover everything from road closures and crashes to road works which can cause a delay. The alerts picked up in TruckR are within a 1km distance from the alternate route and are updated every five minutes. If a user clicks on the alert on this page or the alert icon on the map page it will open the NZTA website where the driver can read further information about the alert.
Map

The map page provides the user with an overview of the alternate route and if the icons are tapped on in the map more information can be received. If the icon is an amenity (food, fuel stop, accommodation, CVST or truck repair) it will allow the user to easily access the website or phone number of the amenity.

The user can personalise the map features and app will retain the settings so that every time the user uses the app it will only show what the driver wants to see. An example being that a driver may not need to know where the accommodation options are all the time however if they found themselves on the alternate highway with a road closure they could quickly use the app to locate and contact the accommodation.

Settings (Fuel Cards and Feedback)

The settings icon allows the driver to personalise the app further by choosing the type of fuel card that they have access to and then only displaying those fuel stops along the route on the map.

Feedback can be sent via the app and if the feedback is on the road conditions this is sent direct to the NZTA at info@nzta.govt.nz and will also send the location details of where the device was when the feedback was sent.
Dashboard

The app has a fully manageable back end dashboard which allows multiple users to log in, monitor the usage, edit the map data and review feedback.
4. Usage and User Feedback

Usage

TruckR has been downloaded on over 850 devices since its launch.
The breakdown of that is 586 android device downloads and 270 unique IP IOS downloads.
Despite the opening of SH1 TruckR is still being utilised and in June there were on average 40 users a day with the usage increasing on days of particularly bad weather or incidents.

Feedback

TruckR has been endorsed by both the Road Transport Forum and the Road Transport Association of NZ.

Neil Reid the Chairperson of the Road Transport Forum commented in the recent article in NZ Construction - “I have used the App and I am happy to report that my use was successful. I do believe that it will serve a useful purpose for the transport industry.”


John Bond the Area Executive for North Canterbury, Buller, Nelson, Marlborough Regions RTANZ commented - “This app has been designed and tested by truckies, for truckies. Most drivers travelling on the Alternate Route are not familiar with it and as drivers know, you can’t just park a 20-metre truck wherever you want to and it is hard to just stop suddenly, even if you do spot somewhere on your travels. This app will let users plan ahead and get the local knowledge they need to make the drive easier and safer.”
The following pieces of feedback was received from users via the TruckR app feedback feature.

Great app. Would be excellent if it covered the rest of the South island. (5 Stars)

Great app. I drive a 50 tonne rig from ChCh to Kawatiri and back 5 days a week and I check this app every day. Brilliant!

Looks like it will be a great tool for drivers. Can you please add in school zones, high crash areas, all bridges and slow corners?

Please can we have the app cover SH1 via Kaikoura

This app is great. Full of the right info for all travellers. Keep up the good work.

Would be good to see it continued throughout the country. Especially for fuel stops. Maybe include truck friendly rest areas as well. Drivers would be happy to provide locations of these. Cheers Karen (driver)

Great app. As a driver up and down the alternative route I will be using it a lot.

Would be very useful tool to have on the go.

5. Next Steps

Phase 2a – Trial Extension to include SH1 via Kaikoura

The most heavily requested next step for TruckR is to extend the route coverage to include SH1 via Kaikoura and cover both main routes from Christchurch to Picton.

- Requirements to carry out this include:
  - Roading information (single lane bridges, passing lanes and stopping bays) provided by NCTIR.
  - Trucking amenity information (fuel stops, food outlets, toilets, truck stops, trailer swaps, accommodation and truck repair) to be provided by RTANZ
  - Minimal App changes to reflect both routes between Christchurch to Picton
  - Changes to the Tries API to show alerts along the reopened SH1.
The new data including the cellular coverage would be added via the dashboard. Once the data has been collected the application changes, API additions and data input would require less than a week to implement and cost c.$7k. Approval of this phase would allow the app to reach a wider audience and to receive further feedback as to what should be included in a future nationwide roll out.

Phase 2b – Extension to include SH1 Dunedin to Christchurch

The addition of this heavily used trucking route in the South Island could be considered as a next step for TruckR. Similar to the Phase 2a this will require the same changes with an application change so that a user can choose to view the alerts for either North or South or Christchurch. This phase has the potential to be 2 week’s work given the amount of data that would need to be entered and cost c.$14k.

Phase 3 – National Roll Out

From the research carried out and feedback received a national roll out of TruckR would be widely welcomed by the trucking community. A national rollout of TruckR would require significant functional changes to the application to allow users to select specific routes and to integrate the most requested enhancements.

- User configurable route planning for alerts
- Real time travel times for routes.
- Drive mode showing current location and alert when the driver is approaching a potential hazard.
- Configurable voice alerts/warnings.

These changes would require significant investment. There has been lots of interest from organisations to sponsor or bring TruckR under their banner in house so for a national rollout, partnership opportunities could be explored to help financially.
Possible Development Enhancements

Enhancements listed below are a combination of features requested as part of the initial research with the trucking industry and feedback received via the application.

- Allow the user to have favourite routes which can be saved in the app.
- Allow push notifications for alerts for saved routes even if the app is closed.
- TruckR to be developed into a navigational tool which could be used whilst on the move.
- Links to webcams
- Spark are the provider of the mobile data coverage and enhancements could be made by including Vodafone and 2degrees coverage and display all areas on no mobile phone coverage.
- The Met Service are keen to have real time observations from weather station located along the route available in the application.
- Voice activation
- Allow the truck drivers to rate the food and accommodation option listed in the app like a trip advisor and give them a star rating.
- Include a FAQ’s
- Smart alerts/warnings based on where you are located (eg. new hazard within 50km) and direction of travel.
- Have the information about the feature pop up at the bottom of the app like google maps.
- Enhance the dashboard to validate new feature coordinates to ensure they are within the section and that they have been entered correctly.
- Alerts to include where and when pilot vehicles for wide loads being moved.
- Change color of Alternate route so you can see closed roads more clearly.
- Include detour information if route is closed and clearly display any restrictions if it is available via the NZTA Tries alert.
6. External Links for Reference

TruckR on the NZTA Website -


TruckR Website – [www.truckR.co.nz](http://www.truckR.co.nz)

TruckR App QR code for both Google Play Store and the App Store: