

SafetyNET - Did it, Done it, Doing it Tomorrow

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safetynet 
safety network evaluation tool



Introduction

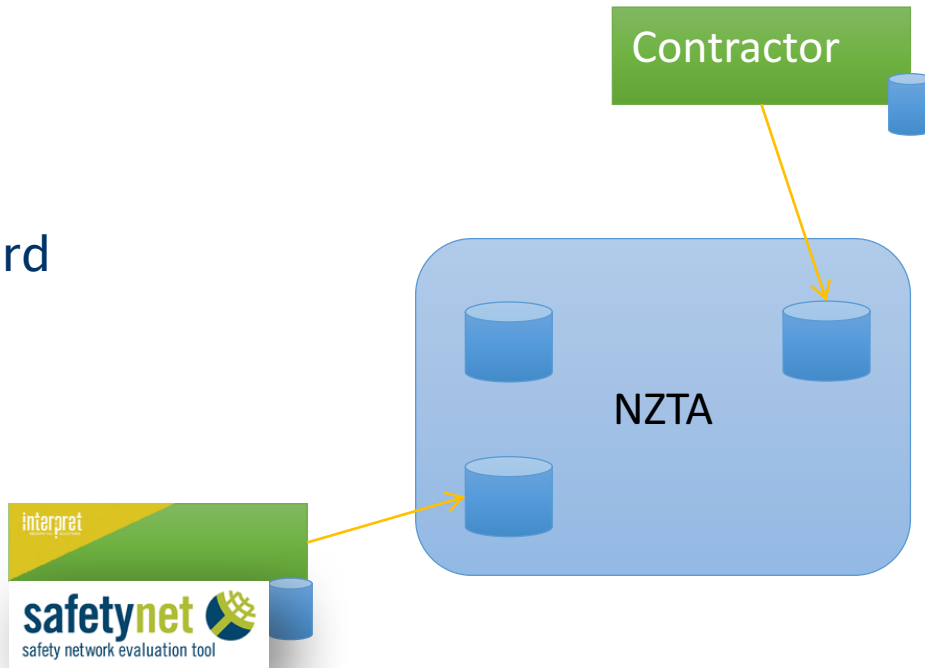
- Interpret and NZ Transport Agency (SafetyNET)
- Why SafetyNET
- Model and Changes
- SafetyNET, Limitations and Advancements
- Win, Win, Win
- Questions



safetynet
safety network evaluation tool

Interpret and NZ Transport Agency

- Prior to 2012
 - Siloed Geospatial Capability
 - No system of record
 - External Expertise
 - SafetyNET



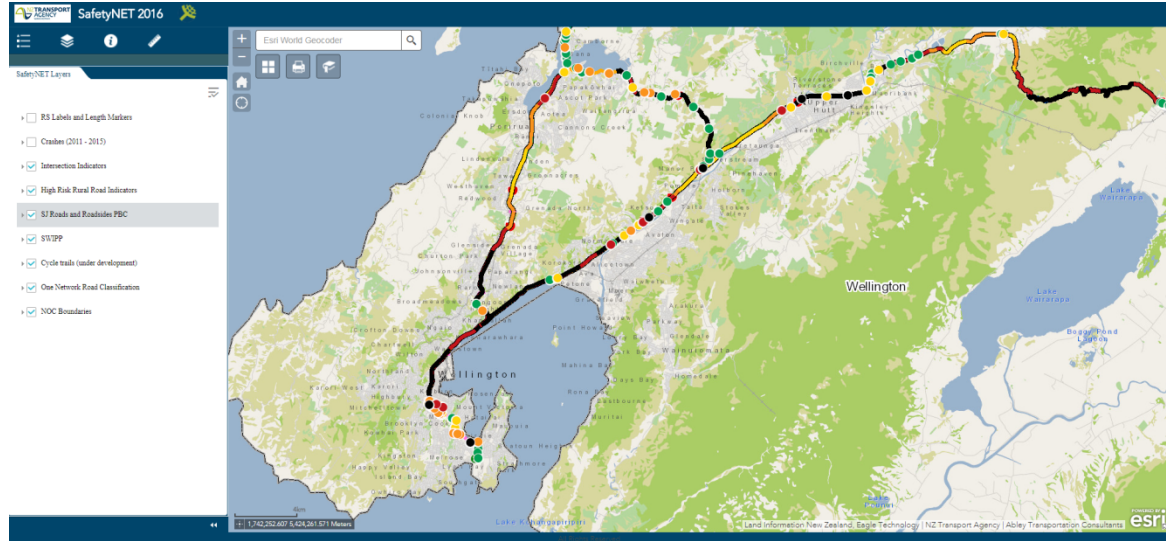
Why SafetyNET

- Road Safety – We all have a part to play
- Great Journeys to keep NZ Moving
- Safer Journeys
- Safe System Approach



Why SafetyNET

- Collaboration
- Information
- Identify Risk
- Prioritise



Safety

- NZ Transport Agency are strong contributors to:
 - Safe Roads and Roadsides
 - Safe Speeds
- SafetyNET
 - Collaborate with partners
 - Understanding safety risk
- Information and analysis behind the information is of vital importance



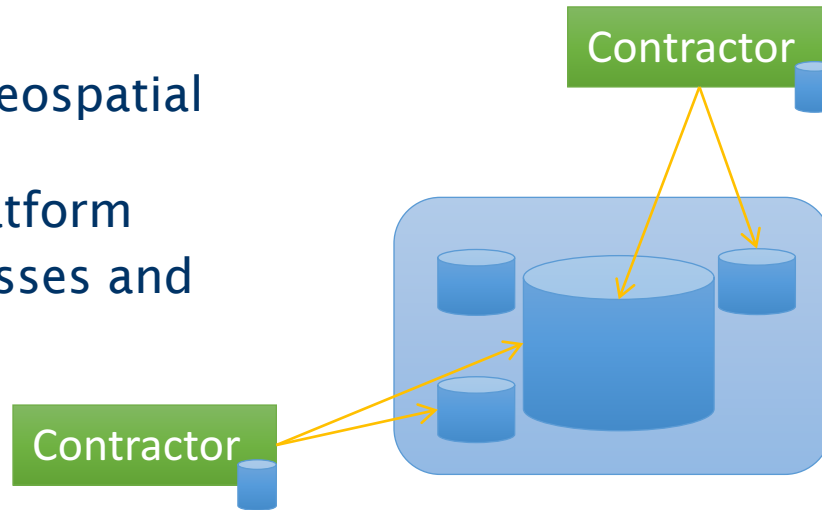
Safety

- Some examples of what SafetNET gives us and our Partners
 - Network Screening
 - Visualise Collective and Personal Risk
 - Identify Low and High volume Risky Roads and so prioritise
 - High volume areas – ID Risky areas
 - Low volume areas – ID unknown Risk



Model and Changes

- 2012 – New Strategic approach
- 2014
 - Centrally coordinating Geospatial Team
 - Enterprise Geospatial Platform
 - Governance, data, processes and tools
 - Change in model



Model and Changes

- Flex Based - Risk
- Enterprise Licence Agreement
- Provide Server and Server Software
- New capabilities in the software
- NZTA Manage Security and Access



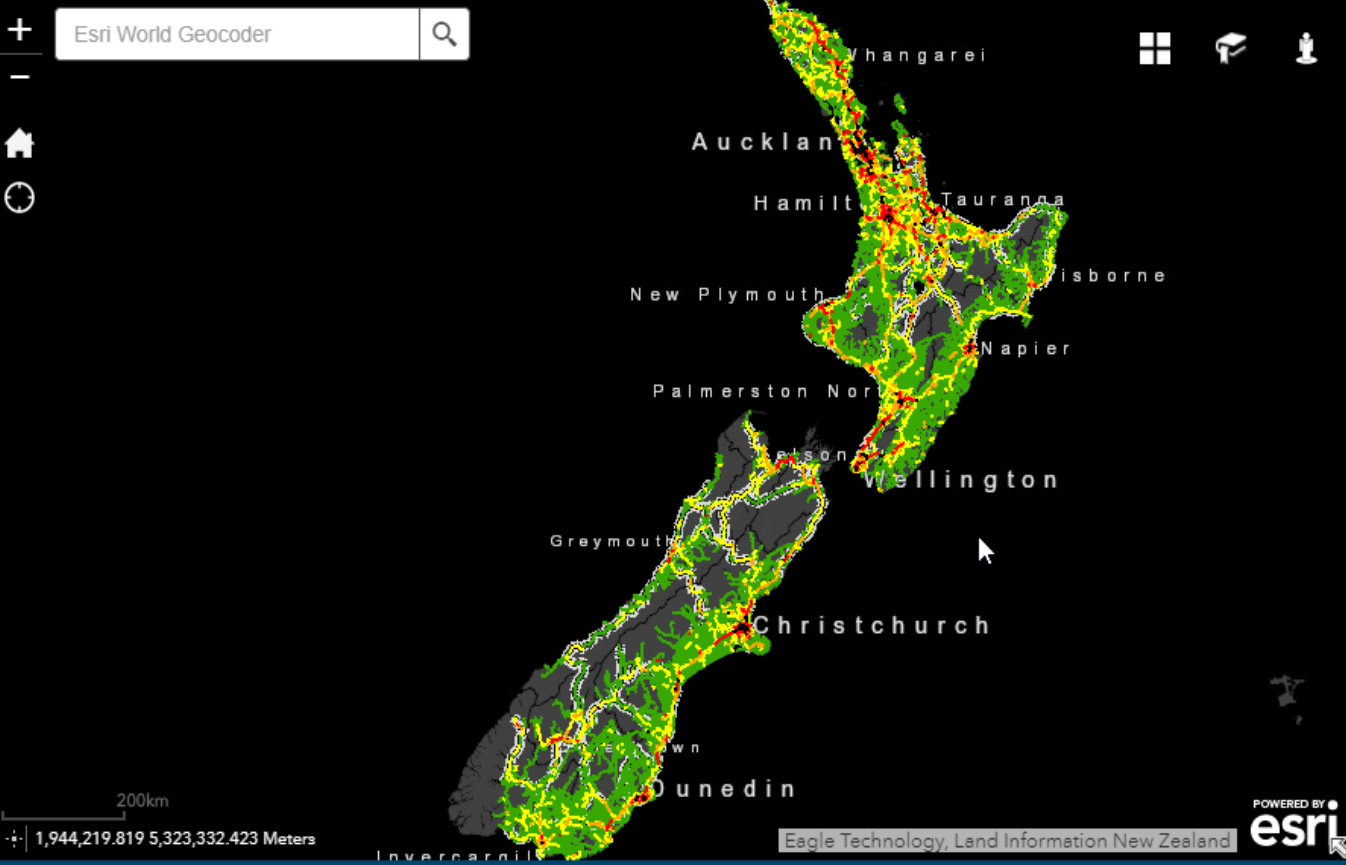


- Layer List
- Operational Layers
- Crashes (2011 - 2015)
 - Speed Management Framework
 - Posted Speed Limits
 - ONRC
 - Crash Risk
 - Infrastructure Risk Rating
 - Safe and Appropriate Speeds
 - Operating Speeds
 - High Benefit Speed Management
 - Better Conversation Results

Esri World Geocoder



200km
1,944,219.819 5,323,332.423 Meters



Eagle Technology, Land Information New Zealand

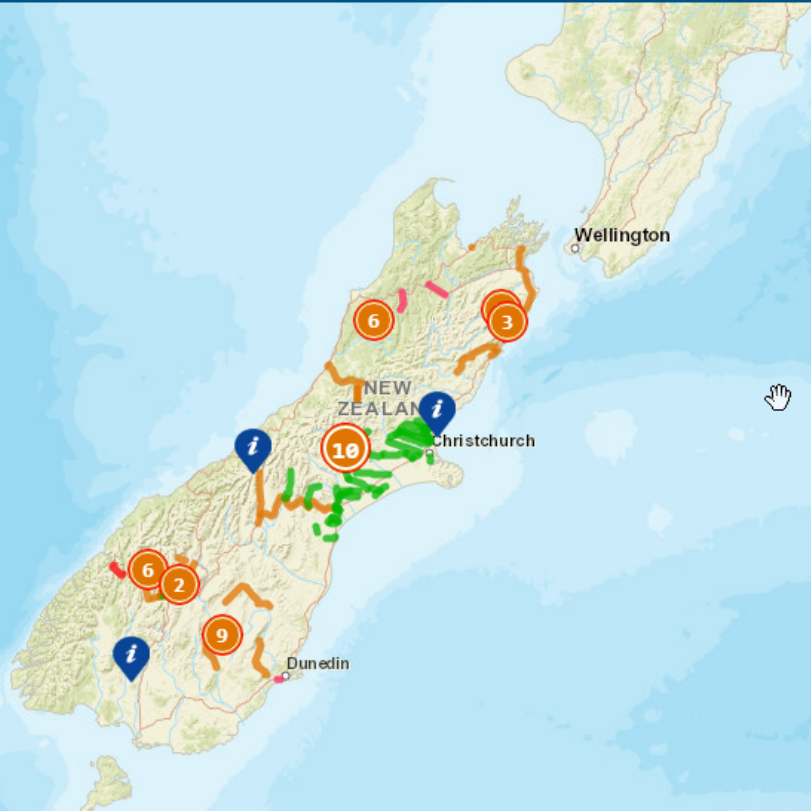


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Tasman Sea

[Submit a Report](#)



100 km
100 mi





Winter Journeys

Trial Road Conditions Map



Slippery Signage Map

Map navigation controls:

- + (Zoom In)
- Home (Home)
- (Zoom Out)
- Search (Search)
- Location (Location)



Layer List

Operational layers

- Slippery Crashes ...
- Slippery Road Signage ...

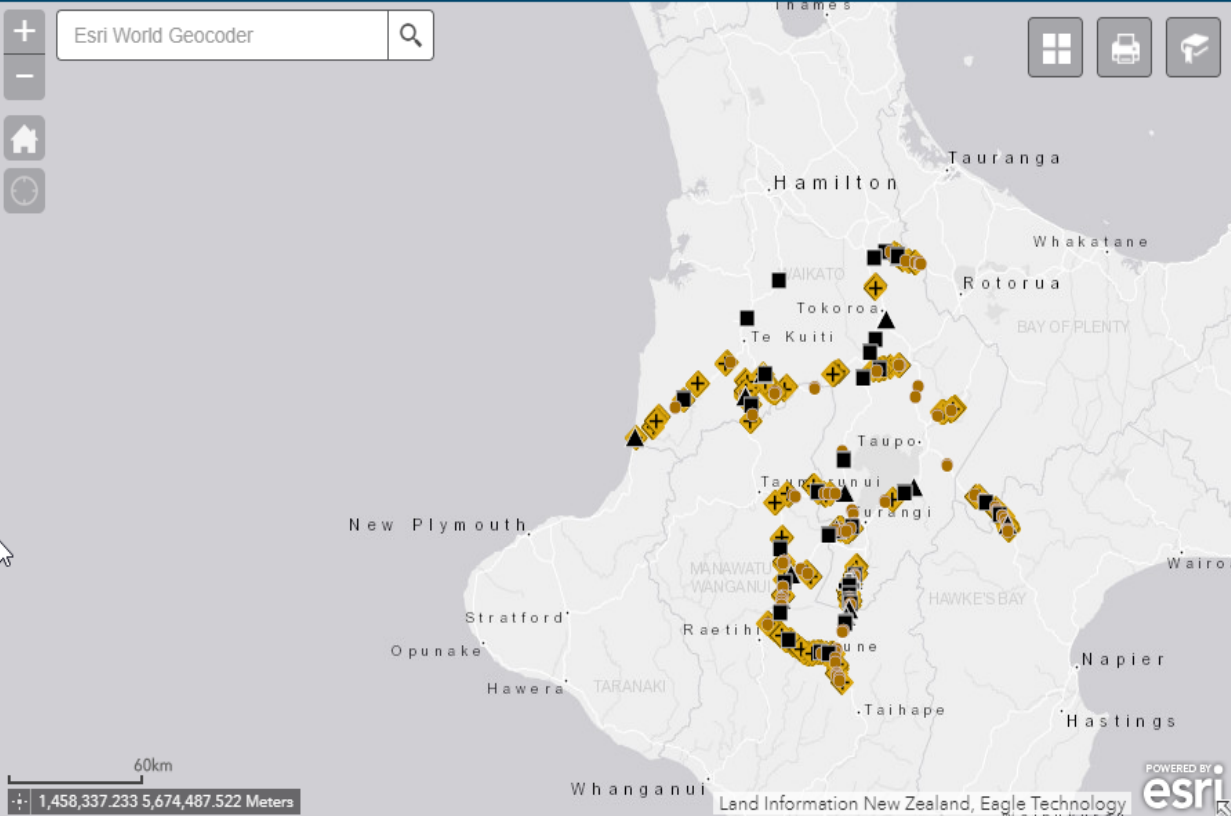
Esri World Geocoder

Map navigation controls:

- + (Zoom In)
- (Zoom Out)
- Home (Home)
- Refresh (Refresh)

Map navigation controls:

- Full Screen (Full Screen)
- Print (Print)
- Help (Help)



100 km
100 mi



1,458,337.233 5,674,487.522 Meters



Winter Journeys

Trial Road Conditions Map



Tasman Sea

+

Home

-

Map controls

Layer List

Operational

100 km

100 mi

Connected : subodh

Find address or place

Map showing road network with a highlighted road in blue.

Road Attributes setup

Please fill the following characteristics of the road.

Hierarchy ▾

- Primary road
- Secondary road
- Local road
- Other

Selected Hierarchy : Primary Road

Selected speed : 50 km/h

ok Cancel

Create model

Instructions

- Zoom to area of interest
- Choose model type
- Choose area of network outage, **Create Barrier**
- When satisfied that you have correctly specified your scenario, click on Submit button

Email subodh.dhakal@interpret.co.nz

Models

- Census Area Units Model (1865*1865 OD matrix)
- Warning!** This model may involve very long run times.
- Territorial Authorities Model (66*66 OD matrix)

Create Barrier Clear Barrier

Submit

Create a new road (beta version)

- Create road Free hand road
- Delete road Road attributes





Road Attributes setup

Please fill the following characteristics of the road.

Create model

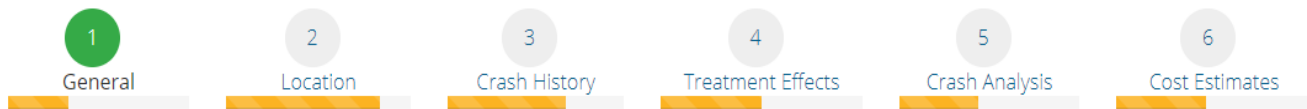
Tasman Sea

100 km / 100 mi

- Dashboard
- Projects
- Reporting Tool
- Budget Management
- Administrator
- Support
- Help

Edit project: Rons test road - do not touch

Dashboard > Projects overview > Comments View Project Sheet



Prefix	Project name*	Rank	Expected start year
KPDC-3 - Local Road	Rons test road - do not touch	0	2017/18

Project type NSP project NMA project

Network Management Area	State Highway	Region
<ul style="list-style-type: none"> Far North District Council Gisborne North Gisborne West Hawkes Bay Kaipara District Council 	Local Road	Northland

Safety Issues & Diagnosis of Road / Roadside

[Empty form area for safety issues and diagnosis]

SafetyNET (Flex site)

SafetyNET 2016 Gap Identification
Safety Network Evaluation Tool



[About SafetyNET](#) [View Full Legend](#) [Contact Helpdesk](#)
[Disclaimer](#) [View Userguide](#)

interpret
solutions

Choose SafetyNET Layers

Layer Visibility

- Crashes (2011 to 2015)
- Intersection Indicators
- RONS
- Draft Programme (by SHIP)
- Draft Programme (by year)
- All Gaps
- SJRRPBC
- Corridor Gaps
- High Risk Rural Road indicators
- One Network Road Classificatio
- NOC Boundaries

Streets Imagery Dark Gray Canvas Topo



SafetyNET Legend

High Risk Rural Road indicators

Collective Risk (Zoom 1)

- Low
- Low Medium
- Medium
- Medium High
- High

500 km

SafetyNET flex limitations...

ArcGIS API for Flex (Retired)

[Home](#)[Guide](#)[API Reference](#)[Sample Code](#)[Forum](#)

The ArcGIS API for Flex is retired

On June 1, 2016 the ArcGIS API for Flex entered the retired phase of its product life cycle. There will be no further updates to the product or its documentation. We recommend you explore Web based solutions based on the [ArcGIS API for JavaScript](#).

SafetyNET (WAB site)

About SafetyNET

Welcome to SafetyNET 2017

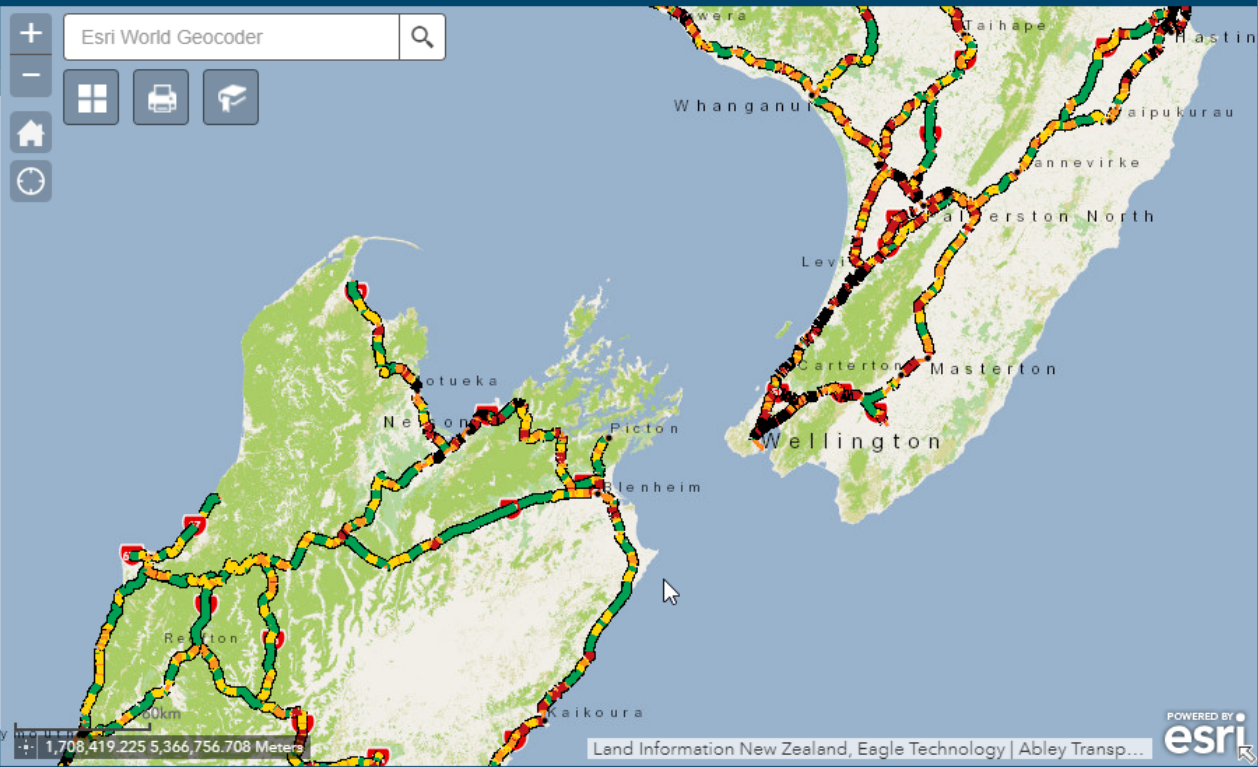
SafetyNET (Safety Network Evaluation Tool) is an online interactive road safety tool developed by Abley Transportation Consultants for the NZ Transport Agency. The purpose of SafetyNET is to provide the NZ Transport Agency and its consultants with a visual means of understanding safety risk for the state highway network, including indicators generated from the High-Risk Rural Roads Guide and the High Risk Intersection Guide.

Current Status

The High Risk Rural Road Indicators were updated in May 2017 using 2012-2016 crashes from CAS. These indicators include the Intersection Indicators, Collective Risk, Personal Risk, Reactive Treatment Strategy. These indicators are updated yearly using the latest five years of crash data.

Indicators generated using KiwiRAP data rely on the latest KiwiRAP Assessment Tool (KAT) data collected by the NZ Transport Agency. The age of this data varies between 2012 to 2016 depending on when sections of the state highway network were last surveyed.

Other datasets are scheduled to be reviewed and updated



Why Web App Builder (WAB)....?

- Create HTML/JavaScript apps that work on desktop browsers, tablets, and smartphones.
- Integrated with the ArcGIS Online and Portal for ArcGIS platforms.
- Build the apps you need using ready-to-use widgets, such as query, geoprocessing, print, and more.
- Create custom app templates.
- Extensible framework for developers to create widgets and themes.

How we did it....

NZTA Action

Interpret Action

Rest Services
& Webmap

- ArcGIS rest Services is registered as a layer in the Interpret's ArcGIS Online with credentials saved in AGOL
- Webmap is created in AGOL and made public (shared with everyone)

Referer in
AGOL

- Add a referer to each publicly shared service layer in ArcGIS Online

App and web
server

- Application is created using WebApp Builder Developer Edition and hosted on Interpret's webserver

How we did it....

NZTA Action

Interpret Action

Rest Services
& Webmap

- ArcGIS Service is registered as a layer in the Interpret's ArcGIS Online
- Webmap is created in AGOL and shared to everyone public

Referer in
AGOL

- Add a referer to each publicly shared service layer in ArcGIS Online

App and web
server

- Application is created using WebApp Builder Developer Edition and hosted on Interpret's webserver

Limit Usage

Restrict traffic and/or enforce rate limiting policies to the domains or IP addresses below.

Enable rate limiting

1,000

requests per

1

Second(s)

Referrer URL or IP:

ADD

OK

CANCEL

How we did it....

NZTA Action

Interpret Action

NZTA creates group

- A Private group is created by the NZTA in ArcGIS Online account

Add app url in AGOI

- NZTA created an item and add the Apps url (<https://nzta.abley.com/safetyNET>) to the item

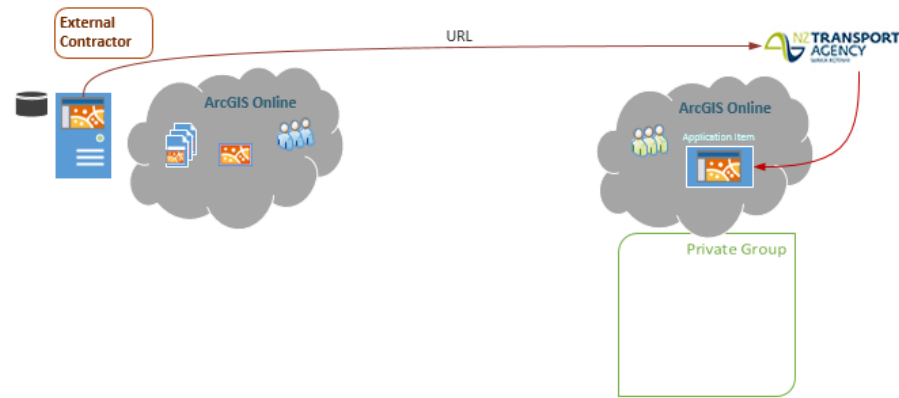
URI

- NZTA register the application item and pass the App ID onto Interpret

How we did it....

NZTA Action

Interpret Action



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URI

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How we did it....

NZTA Action

Interpret Action

Config.json

- Interpret saved the App ID provided by NZTA in the config.json file in webserver

Config.json

- Change from organizational arcgis online account to www.arcgisonline.com

Sharing the App

- Application is shared with the private group created earlier in AGOL

How we did it....

NZTA Action

Interpret Action

Config.json

- Interpret saved the App ID and webserver

Config.json

- Change from organizational domain to www.arcgisonline.com

Sharing the App

- Application is shared with

config.json

```
1  [
2    "theme": {
3      "name": "TabTheme",
4      "styles": [
5        "default",
6        "simpleblue",
7        "purple",
8        "red",
9        "yellow",
10       "green",
11       "blue",
12       "cyan"
13     ],
14     "version": "2.0.1"
15   },
16   "portalUrl": "http://nzta.maps.arcgis.com",
17   "appId": "",
18   "authorizedCrossoriginDomains": [],
19   "title": "Student Movements",
20   "subtitle": "Data sourced from Ministry of Education ",
21   "keepAppState": true,
22   "logo": "images\\logo.jpeg",
```


How we did it....

NZTA Action

Interpret Action

Config.json

- Interpret saved the App ID provided by NZTA in the config.json file in webserver

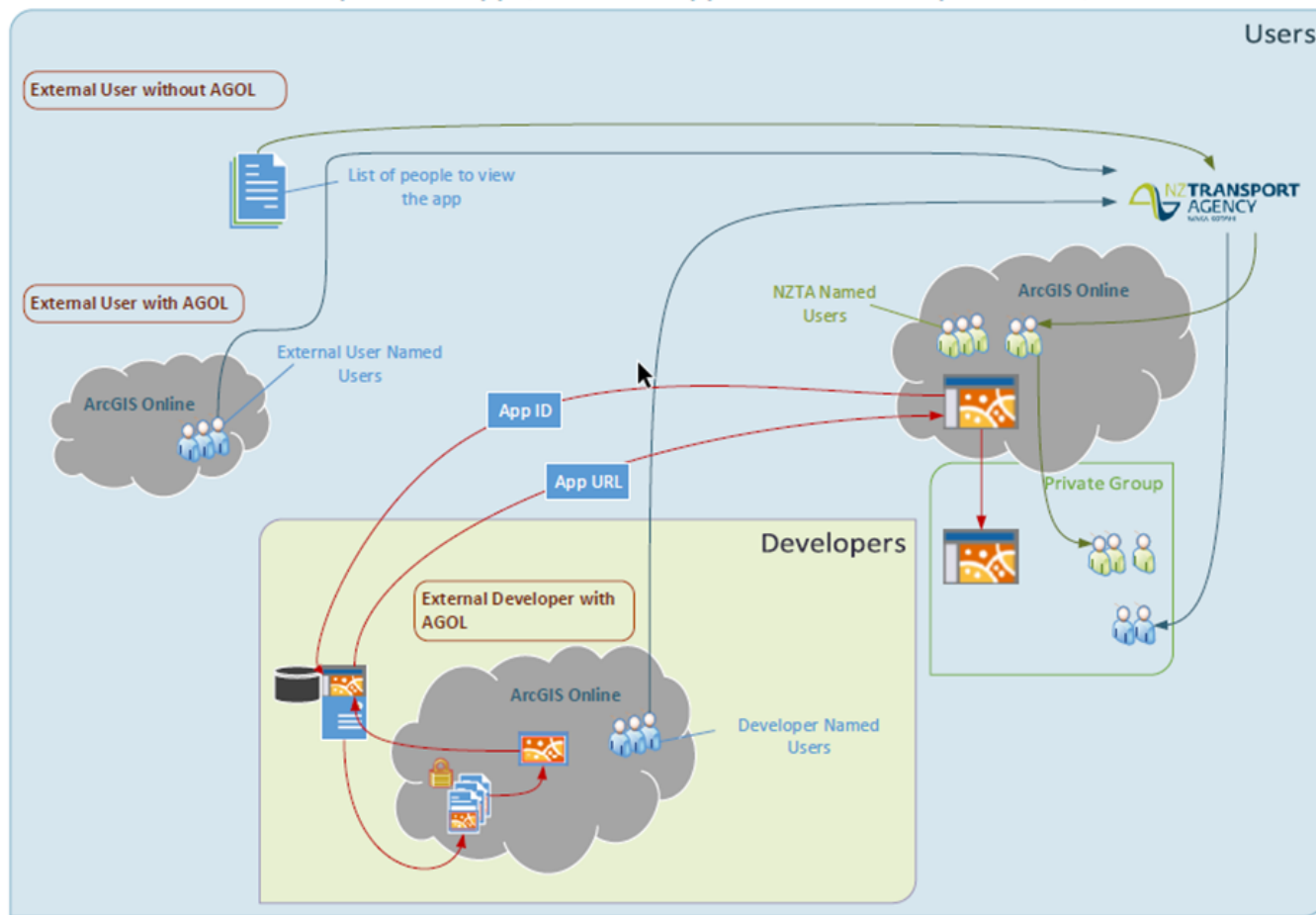
Config.json

- Change from organizational arcgis online account to www.arcgisonline.com

Sharing the App

- Application is shared with the private group created earlier in AGOL

Externally hosted App (AGOL WebApp Builder- developer edition)



Win, Win, Win

- Interpret performs the technical analysis & maintains the data behind the SafetyNET Application
- Rest Services and Layers, Web map and app, website maintained by Interpret
- Application in Arcgis online
- NZTA maintains/owns the application user group on ArcGIS online groups
- TA Win: Better Security and Analytics
- Interpret: Focus on what we do best
- Partners: More tools for collaboration



Moving forward.....

- Two way sharing of layers between organizations, that maintains up-to-date layers
- We are incorporating Liner Referencing Widget in the website (custom widget)
- Crash filtering widget (again Custom widget) is being developed as required
- Other enhancement.....



Questions?



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