



Fiji Roads Authority

Using ArcGIS for Road Closure Reporting during climate disasters

03rd March 2020

Nemaia Koto

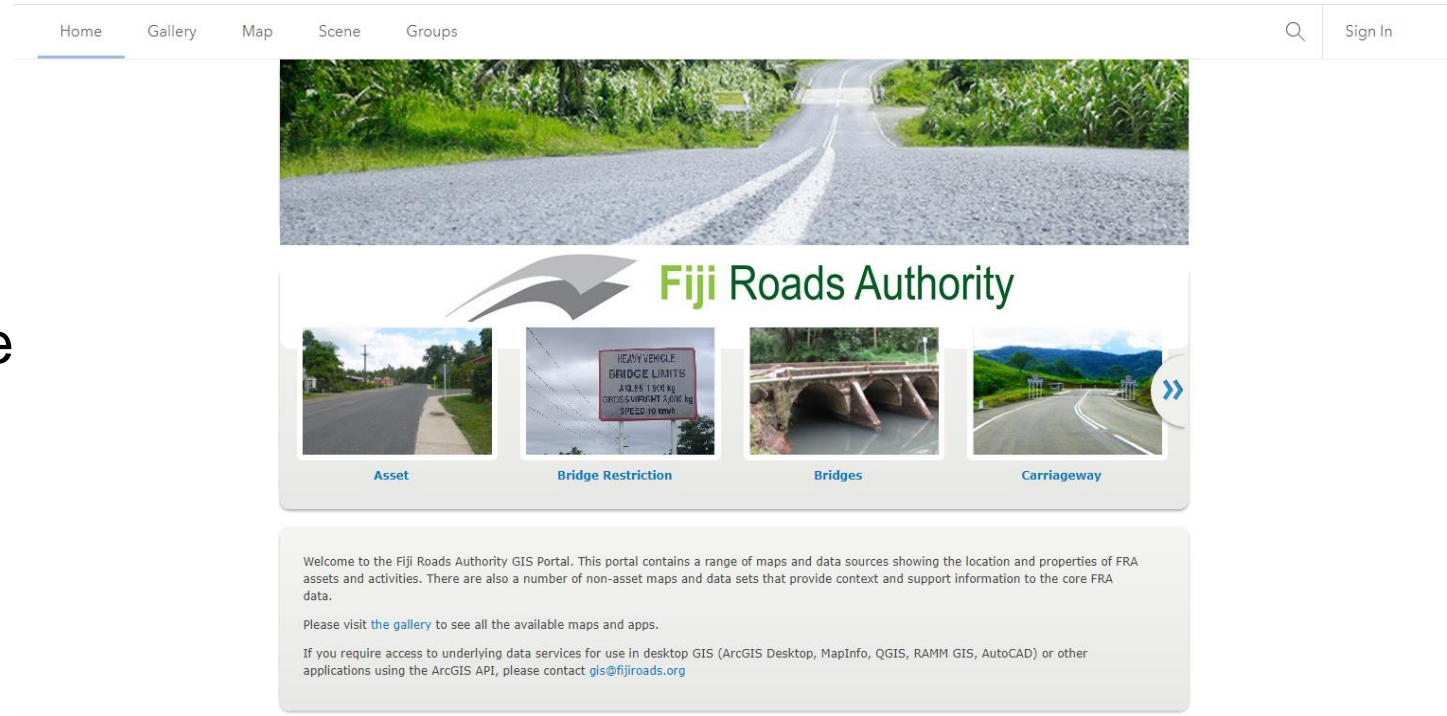
FRA GIS: Current state

- Core data

- GIS asset register – roads, bridges, culverts, traffic lights, street lights
- Asset condition – for some assets
- Projects and programmes – where the work is happening
- Support data – boundaries, other infrastructure, crashes...

- Systems

- ArcGIS Desktops and Pro, GIS database server, web server (gis.fijiroads.org/portal)
- All end users interact via web apps and services



The screenshot shows the homepage of the Fiji Roads Authority GIS Portal. At the top, there is a navigation menu with links for Home, Gallery, Map, Scene, and Groups. A search icon and a 'Sign In' link are located in the top right corner. Below the navigation is a large banner image of a road. Underneath the banner is the Fiji Roads Authority logo, which consists of a stylized road graphic and the text 'Fiji Roads Authority'. Below the logo is a row of four thumbnail images: 'Asset' (a road), 'Bridge Restriction' (a sign), 'Bridges' (a bridge), and 'Carriageway' (a road). Below the thumbnails is a text box containing the following text: 'Welcome to the Fiji Roads Authority GIS Portal. This portal contains a range of maps and data sources showing the location and properties of FRA assets and activities. There are also a number of non-asset maps and data sets that provide context and support information to the core FRA data. Please visit [the gallery](#) to see all the available maps and apps. If you require access to underlying data services for use in desktop GIS (ArcGIS Desktop, MapInfo, QGIS, RAMM GIS, AutoCAD) or other applications using the ArcGIS API, please contact gis@fijiroads.org'.

[Contact Us](#)

Carriageway Webmap

The screenshot displays the Carriageway web application interface. At the top left, the title "Carriageway" is shown next to the ArcGIS logo, with the subtitle "with Web AppBuilder for ArcGIS". A search bar is located at the top left, containing the text "Search for RoadName/Roa". Below the search bar are navigation icons: a plus sign, a minus sign, a home icon, a refresh icon, a grid icon, a ruler icon, and a compass icon. The main map area shows a satellite view of Fiji with a network of roads overlaid in different colors: purple for bridge decks, green for concrete, orange for thin flexible surfaces, and light orange for unsealed roads. A legend panel is open on the right side, titled "Legend", and lists the four road types with their corresponding colors. At the bottom left, there is a scale bar for 20 km and coordinate information: "177.962 -18.375 Degrees". At the bottom right, there is an "App State" notification box with the text "Click to restore the map extent and layers visibility where you left off."

Bridges Webmap

The screenshot displays a web application interface for mapping bridges in Fiji. The main map area is filled with a dense collection of colored dots, each representing a specific bridge or crossing. The dots are color-coded according to the legend: blue for bridges, red for crossings, green for culverts, and purple for footbridges. Each dot is accompanied by a text label identifying the location, such as 'VATIA ROAD 3/5 CROSSING', 'NABUKELEVU BRIDGE', or 'WAINIKOBA 16 CROSSING'. The map background is a satellite-style aerial view of the island of Fiji.

Search Bar: Located at the top left, it contains the text 'Search for BridgeName/Bri' and a magnifying glass icon.

Legend: Located on the right side, it is titled 'Legend' and contains the following entries:

- Bridges:**
 - Bridge: Blue dot
 - Crossing: Red dot
 - Culvert: Green dot
 - Footbridge: Purple dot
- Dronemagery:**
 - KingsRoad7Upload_Orthomosaic_export_SunMer03233210.9: Red: Band_1, Green: Band_2, Blue: Band_3
 - baustreet: Red: baustreetc1, Green: baustreetc2, Blue: baustreetc3
 - Cunningham-208100_transparent_mosaic_group1.tif: Red: Band_1, Green: Band_2, Blue: Band_3
 - QUEEN_ELIZABETH_DRIVE_transparent_mosaic_group1_WGS: Red: Band_1, Green: Band_2, Blue: Band_3
 - Untitled-226970_transparent_mosaic_group1.tif: Red: Band_1, Green: Band_2, Blue: Band_3

Crashes Webmap

Crashes with Web AppBuilder for ArcGIS

Search for RoadName

Legend

Heatmap

Severity_Z_Score

High

Low

(1 of 4)

Crashes.DBO.CrashesLocation: QUEENS ROAD

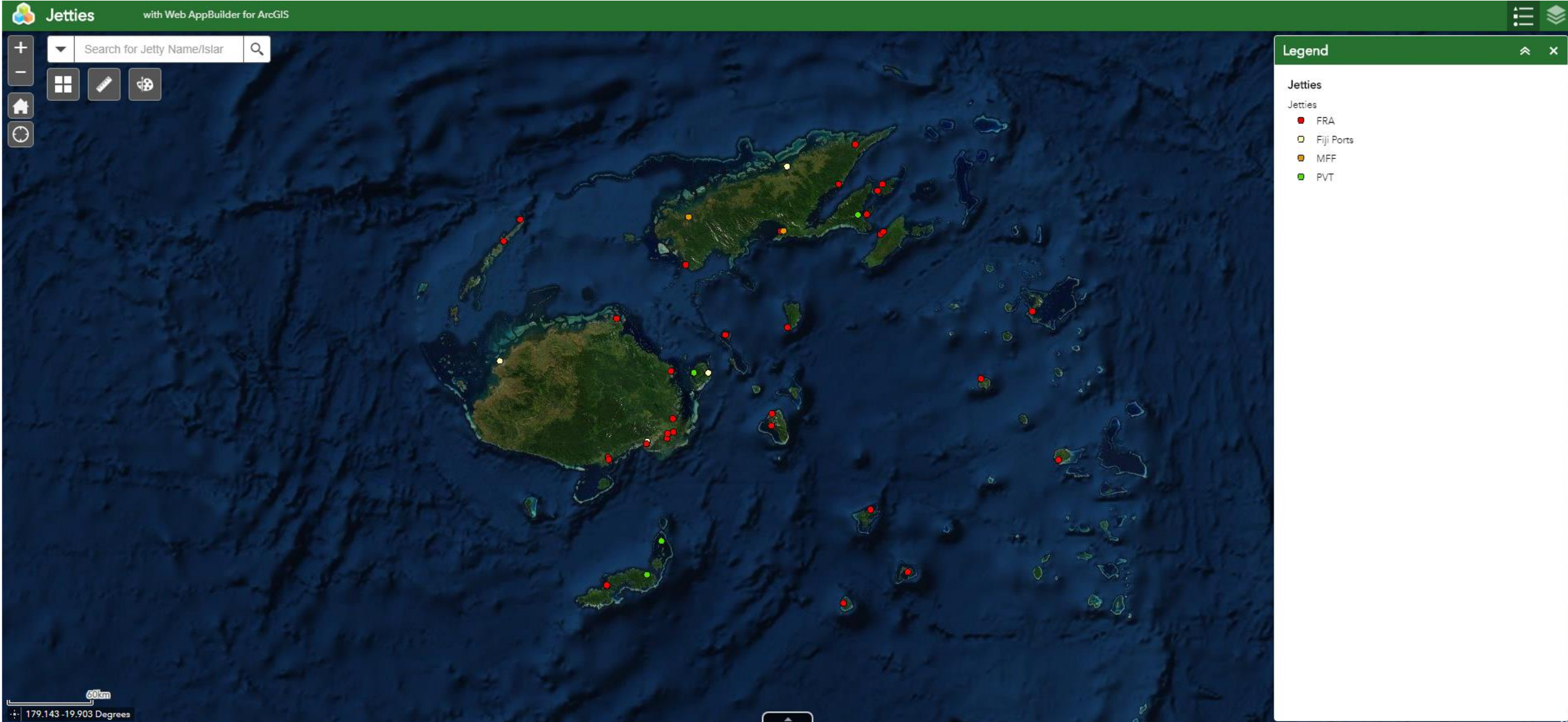
Accident_Key	6,111
Number_of_Vehicles	2
Number_of_Casualties	2
Report_No	52/02
Date	8/11/2002 12:00 P.M.
Division	SOUTHERN
Police_Station	SUVA
No_Vehicles_Damaged	2
Day	Friday
Time	9:00AM
Severity_of_Accident	Hospitalized
Severity_Z_Score	3

[Zoom to](#)

20km

178.142 -18.328 Degrees

Jetties Webmap

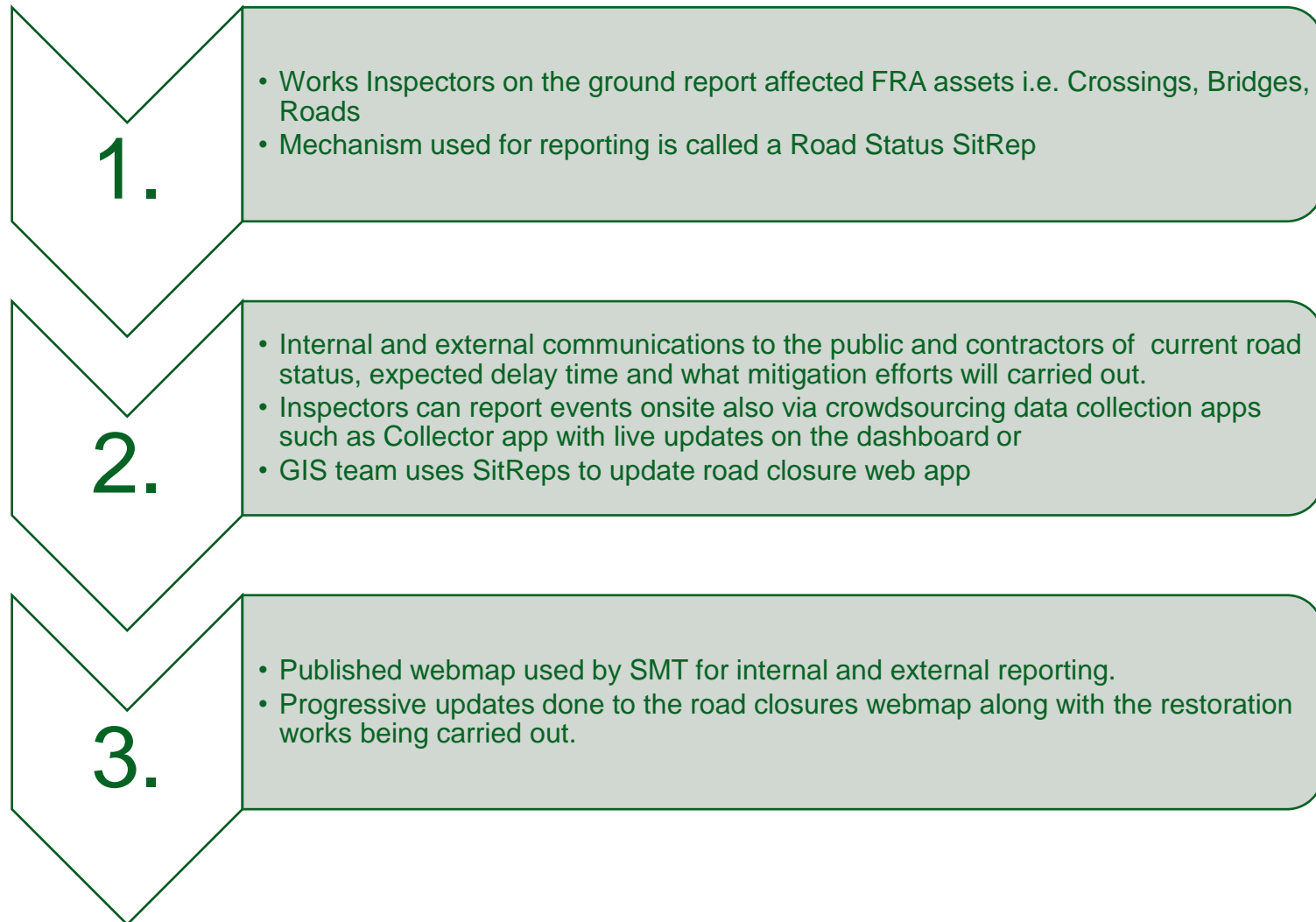


Current FY activities

- Roll out roads-specific ArcGIS extension
 - Focus on linear referencing
- Integration with other systems
 - Maintenance work-order management (RAMM)
 - Project management (Primavera)
 - Other infrastructure organisations (WAF, FEA, TFL, MoIT)
- New data
 - Road boundary survey – selected sites only (with WAF)

Reporting Road Closures

- Process



Collector App

- Video Tutorial for using ArcGIS Collector

Road Closure Webmap

- <http://bit.ly/2SSpfHd>

FOSS4G SoTM Oceania 2020 Plug

FOSS4G SoTM OCEANIA 2020

ABOUT ATTEND PRESENT SPONSOR SPEAKERS SCHEDULE ORGANISERS NEWS SIGN IN

That's a wrap! The conference was a great success. Videos are now available.

SEE THE VIDEOS

FOSS4G SoTM Oceania - Yeah, we know that's a mouthful. Here's what it means.

So let's break it down - 'Free and Open Source Software for Geospatial' or FOSS4G if you're a fan of efficiency (we are) is the name given to the conferences of the Open Source Geospatial Foundation (OSGeo). OSGeo is a non-profit with a mission to foster and promote the adoption of open source geospatial technology. All of this is done within the broader context of open source software philosophy and participatory community driven development.

'State of the Map' or SoTM is the conference of the OpenStreetMap Foundation (OSMF) which supports the development of a free and open editable world map. This takes the form of the community driven OpenStreetMap project.

'Oceania' - no acronyms here - This is the part of the world which is quite, well, ocean-y. Think Moana. Technically, Wikipedia tells us it's the geographic region made up of Australasia, Melanesia, Micronesia, and Polynesia. Are you from Oceania? Register now! Not from Oceania? We want you too! Come visit us!

All together now!

FOSS4G SoTM Oceania is the regional chapter of the larger global community and the chance to merge the two conferences into one exciting Oceania centered event. We are supported by the OSGeo Foundation (OSGeo) and the OpenStreetMap Foundation (OSMF).

Here's how it went down...

In 2019, Oceania's open-source geospatial enthusiasts gathered in Wellington for two days of presentations, a Community Day, and social events.

210 Attendees

4 Days

- Free and open source software for Geospatial (FOSS4G)
- Date: 17th - 20th November, 2020.
- Venue: Suva, Fiji
- Mailing List: <http://eepurl.com/dpehWj>

Questions?

- Contact:

- e: nemaia.koto@fijiroads.org
- p: 3100 114
- m: 8690780