FIJI ROADS

Fiji Roads Authority

BETTER ROADS, BETTER ACCESS, BETTER BUSINESS

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FRA meets delivery targets

TO date, the Fiji Roads Authority (FRA) is "on track" in delivering the planned maintenance and renewals programmes for 2013.

"We will be getting to every road in Fiji over the next few years, that is the long-term commitment Government has made in establishing the FRA. Fiji can expect to see the road network improve to an appropriate international standard," said FRA CEO Mr Neil Cook.

"It has been a challenging year as we not only have a very large work programme to deliver, but we have also had to set up FRA while at the same time working with a number of new contractors becoming established in Fiji on very long-term projects, " said Mr Cook.

Many projects are multi-year, so a project costing $200 million, for example, may be spread over four years. The challenge is to do the forecasting and expenditure of a project as accurately as possible, while understanding that it needs to be balanced out over the duration of that project.

The multi- year projects are at different stages, from almost complete to just starting, while others will need further investment in order to continue to meet outcomes set by Government.

Mr Cook said that outside of the $290 million "massive" capital works programme of large projects in 2013, Maintenance and Renewals Programmes work is also on target, and does not stop.

"If at any time you stop investing in your asset and fail to replace parts when due, the condition of your asset will start to deteriorate. That is what we have seen happen to Fiji's roads over the past 15 or 20 years. And that's what we are remedying now," said Mr Cook.

Mr Neil Cook, FRA CEO: Maintenance and Renewals programmes do not stop.

Moto bridge opened

The Moto bridge provides access to amenities for the people of Ba. (Inset) The Honourable Prime Minister, Voreqe Bainimarama at the official opening.

WITH the opening of the new Moto bridge and five kilometres of newly-sealed road, a lifeline has been restored for the people of Ba.

In his speech to mark the official opening, the Honourable Prime Minister, Voreqe Bainimarama, said that the Moto bridge is a symbol of his commitment to the people of Ba and rural communities throughout Fiji.

"It is a mark of permanence, an investment in this community, in the people who live and work there."

The bridge, built by China Railway First Group, at a cost of $5 million, provides access to towns, hospitals and markets, and gives children access to schools. Across the bridge, one primary, one secondary school, a health centre and the water reservoir all sustain the community.

The new bridge also provides a vital link in the supply route for sugar cane to the Rarawai Mill.

"That's why a bridge immune to flooding is so important. It will once again unlock this area's potential," said the Prime Minister.

Best service delivery for all

FIJI Roads Authority looks at the whole network, in order to deliver the best service in all areas, right across the country.

While most people understand that it is not possible to improve all roads over night, everyone believes that their road is the most important. And so it is – to them.

But it is the task of FRA to prioritise the use of funds to address what are the worst areas, and what people see as "worst" are not necessarily the same as assessed by FRA.

Also, FRA may spend money on a site that might not look so bad to a casual observer. This is because it is better to spend a smaller amount now, rather than leave the road to deteriorate further while attending to a site that has already gone beyond repair.

There is a science to road renewal and rehabilitation, with experienced contractors contributing their knowledge of pavement work at a network level to the task of improving Fiji's roads.

FRA will get to every road; it will not be in 2013, nor will it be in 2014. But it will happen.

Newly-sealed Sikeci Place, Laucala Beach Estate, Suva.

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FIJI ROADS AUTHORITY

Bridges - an investment need

PRESENTING one of the biggest challenges to Fiji Roads Authority (FRA) is the state of some 300 of the country's bridges.

A well-designed bridge will last 100 years, and over many years, the average rate of replacement would be seven or eight bridges, but inspections have shown that the need is much greater than anticipated.

The inspections completed on 1,000 bridges have revealed that 100 are in need of urgent attention, and another 200 need quick, if less urgent, attention.

The cost of these repairs and replacements need to be offset against the potential risks to the safety of the travelling public.

Bucalevu bridge, Taveuni, after it received urgent repair.

This repairs have to be done as children must have access to an education, and the public must have access to health services and participation in commercial ventures and social events.

Replacing a bridge is not a simple process. It takes time to investigate, to design, to tender it, and then get it built properly. The focus is on working to manage the risks bridges may present, with weight limits imposed where necessary. If this weight is less than that of a loaded bus, it effectively closes the bridge.

Closing a bridge is the last resort, as people need to be able to live their lives, not suddenly find they cannot complete their journey.

FRA is already planning how to deliver next year's work programme, including the need for bridge replacements.

Stinson bridge update

Neglect made Stinson bridge dangerous for vehicles.

WHILE Fiji Roads Authority is considering a temporary bridge as a solution at the Stinson Parade bridge, there is an available detour in place.

Putting in a temporary bridge would be very costly as geotechnical drilling investigations have revealed that the rock needed to be drilled and used as a support for bridge piers is very deep beneath the sea floor.

This photo taken underneath the bridge shows why closing it to all vehicular traffic was urgent and necessary.

Nasese bridge survey begins

Drilling for rock samples at Nasese.

GEOTECHNICAL investigation has begun on the Nasese Bridge in Suva in preparation for the bridge replacement programme, taking place in 2014.

Erasito Consultants Limited is carrying out the geotechnical survey on behalf of the Fiji Roads Authority.

Situated on Queen Elizabeth Drive, earlier site inspections of the bridge have shown that as the design and materials used were inappropriate for this location and due to the years of coastal exposure, extensive deterioration has taken place.

Laboratories test for quality

Mr Jeff Hansen, FRA Laboratories Business Manager, (left) and Mr Furkanul Hoq, Samabula Laboratory Manager, test gravel moisture content.

TO ensure that the best quality materials are used to repair and rebuild Fiji's roads, rigorous and constant testing is carried out at the Fiji Roads Authority (FRA) laboratories.

Making sure that the best standards of testing are being applied at the two Base laboratories, one in Suva with 13 staff, the other in Lautoka with eight employees, and the five Project laboratories, is Mr Jeff Hansen, FRA Laboratories Business Manager.

As their name suggests, the Project laboratories are located where road construction and repairs projects are being carried out, in Naqali, Sigatoka and Ba on Viti Levu, and at Buca Bay and Lekutu on Vanua Levu.

"We test for a range of things, but mainly for compaction, and the quality of the product, as well as for strength, plasticity and weathering.

"Tests are carried out on the base course and sub-base course material as well as the stone chips supplied by local quarries, as certain specifications must be met," said Mr Hansen.

Stone chips need to be of a certain size with sharp edges to bind and compact properly. If river gravel is being used, it has to go through a crusher to produce the necessary sharp edges. Quarry operators have to keep stockpiles of a certain volume so that tests can be made.

GIS an exciting challenge

"WE are looking at reaching the same stage in 12 to 24 months that other utilities have taken ten years to get to. It is a big challenge, but it is very exciting."

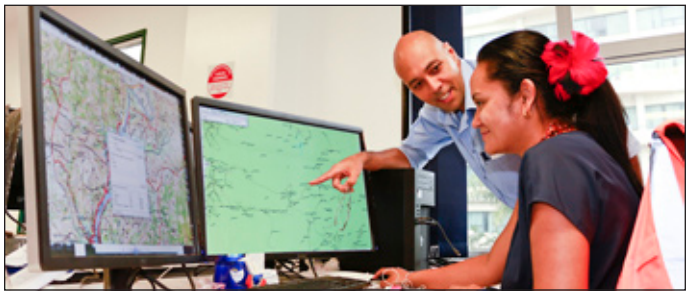
Mr Conway Pene, MWH Asset Management System Manager was describing the challenge of data collection and bringing "all that information together in a coherent way and turning it into an information product that the decision makers can use for strategic investment and maintenance planning."

MWH provides professional engineering services to the Fiji Roads Authority (FRA), and Mr Pene is building and developing an asset management system for FRA.

This system contains a Geographical Information System (GIS) component, which is computer mapping connected to a data base, and is a way of viewing FRA's Assets.

The first step in developing the GIS Asset Management System is to gather as much information as possible about all roads in Fiji, and build a big data base to store it all: the name, of the road, what it is made of, sealed or unsealed, how wide, what type and volume of traffic it carries, what signs are on the road, which contractor worked there.

Mr Pene and his team have been gathering data from anyone who has ever built a road or established utilities, such as Municipal Councils, Provincial Development, the Ministry of Works, Transport and Public Utilities, the Fiji Water Authority, Fiji Sugar Corporation and Telecom Fiji Ltd.



Mr Conway Pene, MWH Asset Management System Manager and Ms Ferlisa Valentine, GIS Graduate Technician, gather data to create coherent information.

While existing maps provide a starting point, the most recent of these may be 10 years old, so only a small range of information is available.

"In the past, a lot of data management has been ad hoc, surveying to produce one map, rather than systematically surveying everything and then producing maps as needed," said Mr Pene, who looks forward to a more formalised information sharing system between utilities, on an institution to institution basis, with all maps and information lining up, "in a common operational picture."

Jetties in need of attention

Rotuma Jetty provides a vital link in connecting the island with the rest of the world.

WHILE in the past many of Fiji's jetties were constructed with all good intent, the designs have not necessarily been appropriate for the site.

"We need to spend the time and the effort up-front to make sure that we get the right design," said Mr Neil Cook, CEO of Fiji Roads Authority (FRA).

Mr Cook emphasised that jetties are complex structures that require the right level of expertise, design and construction, specific to the unique coastal environment in which they will operate.

With one third of the Jetty Inspection Programme completed, it is has become obvious many of these structures are in need of serious attention. In part, this is because of neglected maintenance, but it is also because the structure is not appropriate for its location.

The Rotuma Jetty is an example of a well-built construction, but one that needs urgent attention. The structure is such that the sand builds up and prevents vessels from docking, so the infrastructure fails to deliver the promised service.

The number of jetties and landings that are on the FRA list of responsibilities was originally listed as 16, but FRA investigation has revealed that there are some 44 structures, most of which are of a significant size and require funding to get them working well.

Maintenance achievements in brief

Western Division

- 804 km of grading was undertaken
- 11,504 m^2 of sealed pavement repairs
- 33 m of new culverts installed.
- 315 km of mowing.
- 8,180 m^3 of maintenance gravel placed on the unsealed road network.
- 81m of water table cleaning.
- 17 bridge deck repairs.
- 88,221m^2 of resealing.
- 770m of rehabilitation.
- 1.2 km of damaged guard rail removal.

Northern Division

- 260 km of grading completed
- 830 m^2 of sealed pavement repairs
- 140km of mowing

Central Division

- 15,909 potholes repaired:
- 162 culverts inspected:
- 2 village clean ups:
- 6 bridges inspected:
- 4 bridges routine maintenance
- 288 signs cleaned
- 3.087 km unsealed road resheeting
- 6.533 km resealing
- 7.417 km rehabilitation

Suva rehabilitation makes progress

THE Suva Central Business District rehabilitation project is making steady progress with every effort made to minimise the inconvenience to businesses and travellers during the process.

With much of the work taking place at night, the closest attention has been paid to pedestrian and vehicular safety, and managing traffic flows in some of the busiest streets in Suva.

When a road pavement has deteriorated to the point that patching is no longer possible, it needs to be rebuilt, as is happening in Central Suva at present.

To do this, one option is to dig out and remove old material and bring in new materials, as has happened in parts of Knolly Street.

Alternatively, the existing pavement can be used, modified or recycled in some way such as in the foamed bitumen modification (FBM) process that uses state-of-the-art technology, as we have seen along Victoria Parade and Harris Road.

Compared to more traditional methods of road construction, this work proceeds very quickly, making the best use of the availability of the specialist equipment brought to Fiji by Fulton Hogan Hiways Joint Venture.

The FBM process has contributed to rapid construction in the Suva CBD as seen here outside the Holiday Inn.

NASRUP tenders called

Nadi project sections.

FRA is programmed to roll out the first phase of the Nadi and Suva Roads Upgrade project.

NASRUP comprises significant road widening on the roads between the Nadi and Nausori International Airports and the near-by cities and tourist destinations.

The successful tenderer will have to meet stringent standards to ensure that the projects not only begin quickly, but are completed in a timely fashion, while meeting the appropriate quality standard, and ensuring that the Fiji Government receives value for money in implementing these projects.

It is envisioned by the Fiji Government that as well as improving travelling times, the upgraded roads will enhance the first experience of Fiji for visitors arriving at our international airports.

Suva project sections.

Commonly asked questions

What activities require a permit from FRA?

Apply in writing to get FRA permission to hold a march, hang a banner, put up a billboard, sell, or set up a taxi base on the roadside. Allow five working days for march and banner permits. Allow 30 working days for billboard, taxi base and selling on the roadside permits.

Do I need Police clearance?

You need to get permission from the Police Department to hold a march. Then apply in writing to FRA with the name of your organisation and the date and time and route of the march. A permit will be given, depending upon what other activities are taking place. If permission is given, all details of the march must be advertised well in advance so the public is aware that the road will be closed during the march.

FRA will advise you if you need to apply for City or Town Council permission for your planned activity.

Definitions

1. **NASRUP:** Nadi Suva Road Upgrading Project.

2. **Milling:** The process where the old existing road surface is removed by machine to expose the road base. The old material is ground small to be re-used as road base material.

3. **Flush Median:** White diagonal lines, painted on the surface of the road, marking an area about one-car-width wide. They're called 'flush' because they are not raised areas. They are used to provide a wider separation between traffic streams on either side of the road, provide pedestrians with a place to pause while crossing two traffic streams, or provide a refuge for vehicles turning into and out of side roads.

4. **Carriageway -** The actual area of road reserve that traffic uses.

5. **Road Reserve -** Public land designated for roads and footpaths, inclusive from boundary to boundary.