

Delivering vital infrastructure development

Bridging Case Study



Bengu, Thabane and Tsomo Bridges, South Africa

Customer: Eastern Cape Province Department of Roads & Transport;
Maluti-a-Phofung Local Municipality, Free State

Solution: Mabey Compact 200™



The Challenge

South Africa is in urgent need of rural infrastructure development. In remote rural areas, access to vital amenities, such as healthcare, markets and education is limited. Additionally, for many outlying communities, economic growth is hampered by the challenge of crossing difficult terrain, where rivers, prone to periodic flooding during rainy season, pose a real threat to the people crossing them.

Over many of these rivers, safe pedestrian or vehicular bridging simply does not exist; for generations communities have relied on boats, make-shift bridging solutions or have even risked swimming to reach the other side, sometimes tragically resulting in loss of life, as children attempt to cross the swollen rivers en route to school.

Historically, progress to address the lack of bridging had been compromised by lack of funding. However, in 2009, the Eastern Cape Department of Roads and Transport and the Maluti-a-Phofung Municipality, Free State, embarked on a bridging programme aimed at installing bridging across rivers in areas where safe infrastructure was non-existent. In a single one-year period between 2009 and 2010, three desperately needed bridges were installed in the Eastern Cape and Free State Provinces. These three new bridges - the Tsomo Bridge, the Bengu Bridge, and the Thabane Bridge - were to have a profound and positive effect on the local communities, providing safe access to basic services and helping stimulate economic growth.

The Solution

Concrete bridging is often mistakenly perceived as the only viable solution for permanent bridging applications, and is expensive and difficult to deliver in a short timeframe. Mindful of the urgent need for these vital infrastructure links, our clients, however, recognised the versatility of steel bridging for permanent applications and selected the Mabey Compact 200™ bridge as an ideal solution. Cost-effective and easy to transport, Mabey C200™ bridging is quick and easy to assemble and install using local teams, and plant and equipment.

The 13 bay, 39m Tsomo bridge was the first Mabey C200™ to be installed and took just three days to install. On completion, the installation components were transferred for re-use at the Bengu Bridge site.

The Bengu Bridge, at 62m, was the longest of the three bridges, and featured two equal spans. During the installation, the team faced the challenge of a steep sided valley over a fast flowing river. To overcome this challenge and speed up installation, the site foreman and several team members from the local Tsomo bridge installation team, called on their growing knowledge and experience to complete the complicated installation in just six days.

The final 2-span, 52m Thabane Bridge was also installed across a very steep valley in the Drakensburg mountains, Free State. Whilst this bridge was initially built for pedestrians, the local authority soon decided to construct an access road to the bridge in order to allow vehicular usage too; since the Mabey C200™ bridge was designed for vehicle loading, the change in usage did not affect the usability of the bridge for this purpose, and the bridge continues to serve as a vital connection.

The Result

The installation of the three bridges in the East Cape and Free State Provinces has had a positive effect on local communities. Children can safely reach schools, families can access markets and healthcare, and workers can more easily go about their day-to-day business. The capacity of the bridges means they are 'future-proof', so whilst they were originally installed to enable pedestrian crossing, they are also capable of carrying vehicular traffic in keeping with the Province's plans for future road infrastructure development.

Additionally, local installation teams in the Provinces are now experienced in bridge assembly and installation, thanks to the Mabey Site Advisors, who oversaw the site assessments and installations. This will mean that, with Mabey's on-going technical support, local installation teams will be able to lead on any future bridge installations in the region.



Mabey Bridge Limited, Unit 9, Lydney Harbour Estate, Lydney, Gloucestershire GL15 4EJ, United Kingdom

Office: +44 (0)1291 623 801 Email: mail@mabeybridge.com www.mabey.com

