

# Using GIS To Identify Hotspot and Land Management In and Around The Rail Reserve

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## SUMMARY

Railway reserve means an area of the land and associated vertical clearance along a railway line between the proclaimed boundaries, on which is found railway.

Rail Reserve events is the occurrence of crime or non-criminal activities within the rail reserve. The Rail Reserve Events statistics are extracted from the monthly security report and captured by ArcGIS software.

The rail reserve events are captured in a point format on the relative OHTE (Overhead Traction Equipment) mast pole (relative location), Patrol gates and coordinates system (absolute location). The GIS system assist in determining the hot and cold spots. This assist with making informed decisions and interventions in the hot spot areas.

The Events are categorized as crime and non-criminal activities, some of the events that occurred in the previous financial year are as follows:

Damage of Gate on Alignment

Damage To Palisade Fence

Damage to Palisade Fence by Motor Vehicle

Damage To Steel Palisade

MITP

Graffiti

Theft General

Theft of Cable

Trespassing on Rail Reserve: Without Arrest

Trespassing on Rail Reserve: With Arrest

The requirements for the Geographic Information System (GIS). Technical

Services division currently receive and processes incoming Applications from third parties. A third party can be an entity, organisation, or any individual. The Applications are lodged to get permission to perform operations that may affect the rail reserve. The specialist assesses the Application and together with relevant affected parties make decisions whether to approve, approve conditionally or disapprove the Applications. The GMA requires a Software Solution that will aid consistent processing of the Gauteng Transport Infrastructure Act (GTIA), related Applications systematically. The Software Solution will facilitate the processing of Applications from the beginning to the end. The system shall ensure that the Applications are processed using the consistent workflow.

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FIG Congress 2026  
The Future We Want - The SDGs and Beyond  
Cape Town, South Africa, 24–29 May 2026