

# Use of Information Technology in Mitigating Road Crash Fatalities

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THE ROAD SAFETY FUND



TANZANIA

**TEN  
STEP  
PLAN**



International Road Federation  
Fédération Routière Internationale  
Federación Internacional de Carreteras



# 1.0 Introduction

## 1.1 About the Land Transport Regulatory Authority (LATRA)

- LATRA was established by the Land Transport Regulatory Authority Act No. 3 of 2019.
- Section 5(1) of the Act provides for functions of the Authority that include:
  - Establishment of standard of regulated services,
  - Coordination of Land Transport Safety activities,
  - Registration of crew and certification of drivers of regulated sector,
  - Certification of worthiness of rolling stock and road worthiness of commercial vehicles.

# 1.0 Introduction ...

## 1.2 State of road Safety in Tanzania Mainland

According to the study on Improvement of Road Safety in Tanzania Mainland, Conducted by Cowi in 2016:

- 50% of road fatal accidents occur in trunk roads
- Most of cases are related to over speeding

This situation is attributed to various road safety gaps that include:

- Poor road safety management
- Unsafe roads
- Unsafe road users

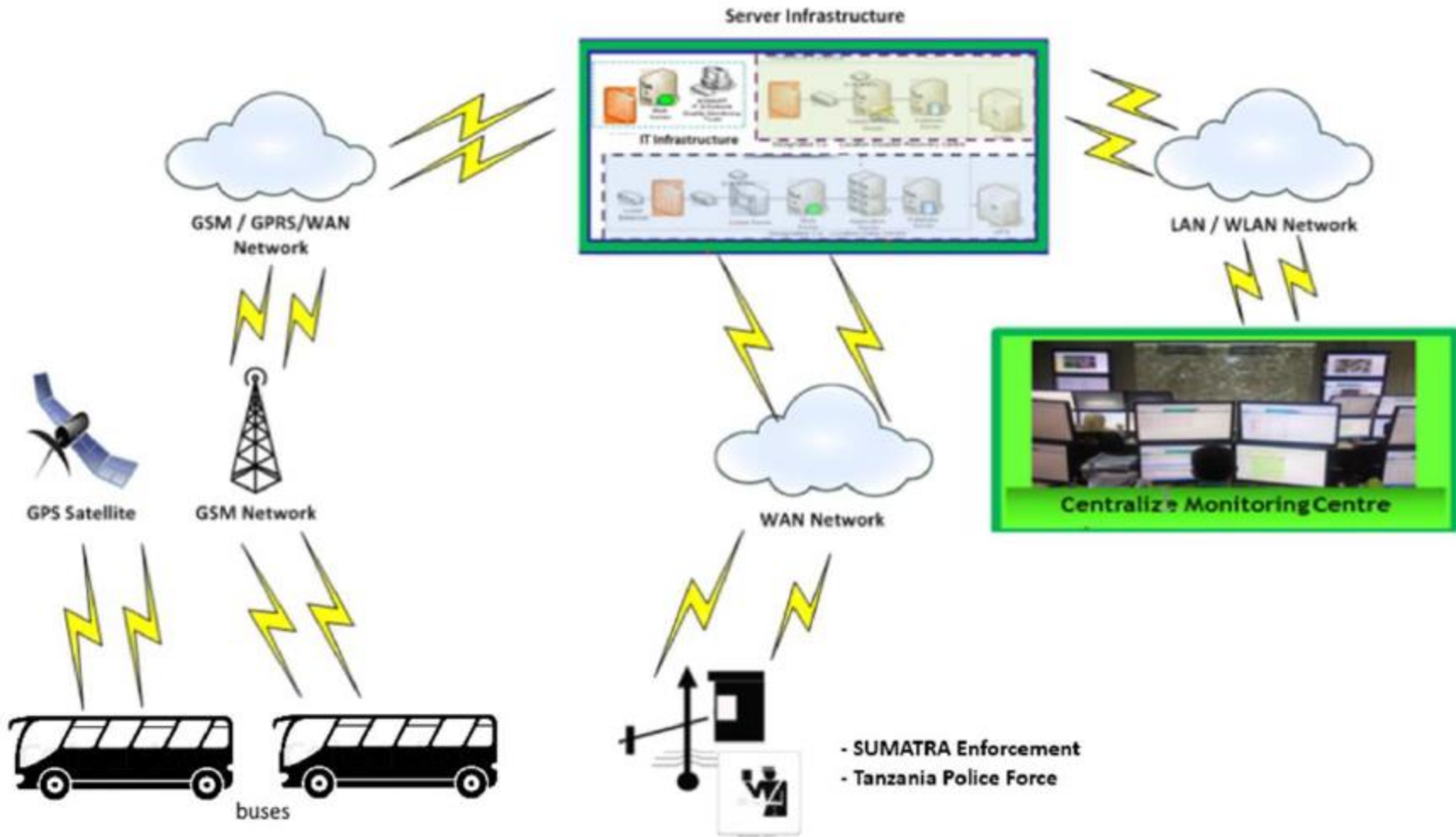
# 2.0 ICT deployment in mitigating road crashes

## 2.1 Use of Vehicle Tracking System (VTS)

- Vehicle tracking technology is one of the most popular technological advancement all over the world which enables real time tracking of vehicles,
- VTS functions with the help of different technologies like Global Positioning System (GPS), Global System for Mobile Communication (GSM) and General Packet Radio Service (GPRS) technologies along with other radio frequency mediums,
- Over 5,000 buses are connected to the vehicle tracking system platform,
- Five locomotives are connected to the system on trial.

# 2.0 ICT deployment in mitigating road crashes ...

## 2.1.1 VTS high level architecture



# 2.0 ICT deployment in mitigating road crashes ...

## 2.1.2 Some features of VTS

- Real-time tracking providing speed and status/position of vehicle on accurate digital maps,
- Alerts on violations / exceptions of set rules such as speed violations, geo fence violations (off route / wrong route) , hash breaking , hash acceleration , hash turning , etc.
- Alert drivers for over-speeding – BUZZER,
- Panic button,
- Driver Identification - (i-button),
- Monitor vehicle's fuel consumption,
- Accidents reconstruction.

# 2.0 ICT deployment in mitigating road crashes ...

## 2.1.3 Impact of VTS and future deployment plans

- Reduction of number and severity of road crashes involving buses,
- Reduction of running costs in terms fuel and spare parts,
- VTS services will be deployed to:
  - Trucks to manage speed and driver fatigue,
  - Commuter buses to manage compliance to routes,
  - Monitoring of Trains,
  - Interested government institutions,
  - Integration with other systems.

# 2.0 ICT deployment in mitigating road crashes ...

## 2.2 Prospective road safety ICT based systems

### 2.2.1 Automated drivers' testing system

- LATRA is mandated by LATRA Act to register crew and certify commercial vehicle drivers,
- The Land Transport Regulatory Authority (Certification of Drivers and Registration of Crew) Regulation – GN. 81 of 27/02/2020 sets requirements for commercial vehicle drivers certification,
- Drivers will have to undergo aptitude tests through automated drivers' certification system,
- Drivers are currently being registered in a newly developed Railway and Road Information Management System (RRIMS).



# 2.0 ICT deployment in mitigating road crashes ...

## 2.2 Prospective road safety ICT based systems ...

### 2.2.2 Vehicle Inspection Systems

- LATRA Act mandates the Authority to certify worthiness of rolling stock and road worthiness of commercial vehicles,
- LATRA is currently in the process of procuring a consultant for providing guidance on implementation of this mandate,
- Plans are to have vehicles systematically inspected annually or biannually by using computerized equipment.

# 3.0 Conclusion

- The potential of Information and Communication Technology in addressing road safety challenges, as per LATRA experience, will redefine our way of addressing road safety issues if fully adopted.
- While LATRA recognizes contributions of other key stakeholders like law enforcement agents and road authorities in road safety, full implementation of LATRA's efforts in land transport safety coordination, certification of commercial vehicle drivers and mandatory vehicle inspection stands a bigger chance of substantially improving the state of road safety in Tanzania.
- The ten step plan for safer road infrastructure is a commendable initiative for complementing the existing road crash mitigation efforts.