INTELLIGENT TRANSPORT SYSTEM

Strategic Plan Outline
Accelerating Digital Transformation in the Road Transport

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Introduction & Overview

- Two of the major challenges on our roads
- Brief introduction to ITS
- Existing capacity within RA and how it can be transformed into a fully fledged ITS (LIVE DEMO)
- Benefits of ITS for Namibia and the need for wider stakeholders consultation
- Conclusion

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Two Major Challenges on Namibian Roads

1. OVERSPEEDING
   Crashes, injuries & fatalities

2. OVERLOADING
   Damage to road infrastructure
What is an Intelligent Transport System (ITS)?

- Integrated application of advanced road traffic technologies in tandem with **ICT** to enhance **Safety & Efficiency** in the road transport sector.
- **ITS** complements the RA’s statutory mandate.

**Components of ITS:**
Some Technologies used in ITS

Loops, Piezos, WIM, GPRS, TELEMATICS, FCD, V2V, V2I, RFID etc
EXISTING CAPACITY IN RA: TSS

Establish/Repair Traffic Monitoring Sites
- Permanent and Adhoc Stations
- Install machines, Solar Panel, Battery, etc

Set up Machine and Extract data
- Calibrate and Inspect
- Data collection (Milking)
- Remote access via GPRS

Analyse data and prepare reports
- To share with stakeholders
- To make various managerial and technical decisions
TRAFFIC DATA BEING COLLECTED AT THE STATIONS

- **Data**: Volume, Speed, Direction, Lane, Date, Time, Length & Class of vehicles (Light & Heavy).

- **Importance**: for road network management, planning, designs of roads, road safety studies, economic researches etc

- **Stakeholders** include Engineers, Economists, Traffic Law enforcement officers, Business community, Government agencies & NGOs, International Development partners etc

- More benefits can be derived from developing the existing capacity further using ICT; hence the development of this ITS strategy.
Live traffic view on Namibian roads
The way forward

- TSS must not continue being a mere traffic data collection tool.
- It’s high time for TSS to evolve to ITS as RA and the nation at large need to tap into its potential benefits especially for improvement of road safety, road infrastructure preservation, crime prevention, road user charges and revenue collection.
- Reposition and upgrade already existing TSS capacity to realise ITS in Namibia.
- Use traffic data in real time for road transport law enforcement purposes.
Why do we need ITS for RA?

To realise the strategic **vision** and **mission** of RA in pursuit of Vision 2030 and NDPs

- **Safety**
- **Efficiency**
- **Preservation**
- **Security**
- **Enforcement**

- Enhanced traffic monitoring & control
- Stakeholder satisfaction
- Logistics hub of SADC
- Best roads in Africa

**SAFETY, SAFETY, SAFETY!!**
1. Weigh In Motion (WIM)
2. Average Speed Over Distance (ASOD)
Economical, efficient and unmanned protection of roads from overloading.

- Complement weigh bridge operations
  - Screening of trucks for weighbridges. Keep records.

- Real time loading law enforcement by ANPR & WIM Bending plate
  - 24 hours; large area coverage closing escape routes; day and night enforcement in real time; ANPR photographic evidences.

- Improve road safety
  - Overloaded vehicles pose risk to all.

- Pavement and Bridge management
  - Axle load data for Designs & performance analysis
Unmanned speed law enforcement 24/7
Takes average speed over distance & at spots
Identify vehicles with own unique speed limit
  - Buses, minibus-taxis, trucks with own speed restriction
Compliments enforcement by mobile speed cameras
Automatic Number Plate Recognition (ANPR)
  - Vehicle road worthiness, licensing, theft, Warrants, Summons, NAMPOL etc status
Real time violation detection
Photographic evidences
Improves road safety enforcing traffic laws
AVERAGE SPEED CAMERAS IS WATCHING YOU
Known Distance (D)

Time (T) = T@B – T@A

AVERAGE SPEED OVER DISTANCE = D / T
BENEFITS OF ITS FOR STAKEHOLDERS
ITS POTENTIAL BENEFITS FOR RA

- Improve road safety
- Deter overloading
- Measure pavement performance (E80s)
- Enforce road transport laws smartly
- Enhance quality of traffic data
- Monitor traffic in real time
- Support weighbridges
ITS POTENTIAL BENEFITS FOR MVAF

- Minimise road crashes
- Minimise severity of injuries
- Determine cause of accident
- Keep record of offenders
- Monitor emergency response time
- Instil discipline among motorists
- Reduce expenses
ITS POTENTIAL BENEFITS FOR RFA

- **Optimise revenue collection**
  - Mass Distance Charges
  - License fees
  - Traffic violation fines
  - Financial planning

- **Save costs**
  - Road maintenance
  - Weighbridge operations
  - Road accidents
  - Promotes honesty
OTHER POTENTIAL BENEFITS OF ITS INCLUDE

- Enhances smart policing
- Track criminals
- Assist road blocks
- Compliments existing speed cameras
- Promotes behavioural change
- Draws public attention to road safety
ITS STRATEGY FOR WIM & ASOD

1. Planning and consultations; Feasibility study that identifies and prioritise road links.

2. Procurement of goods & services

3. Law reviews, piloting & Implementation

4. Operation
ICT is a great ally for road safety and efficiency. This ITS strategy can only be realised by the cooperation of the road safety stakeholders & the ICT sector. So let us work together!
Questions, Suggestions, Comments
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