



Presenting

'How the application of telematics can enhance service delivery and accountability'

to the **iLGM**
Institute for Local Government Management

by Tony Austin of



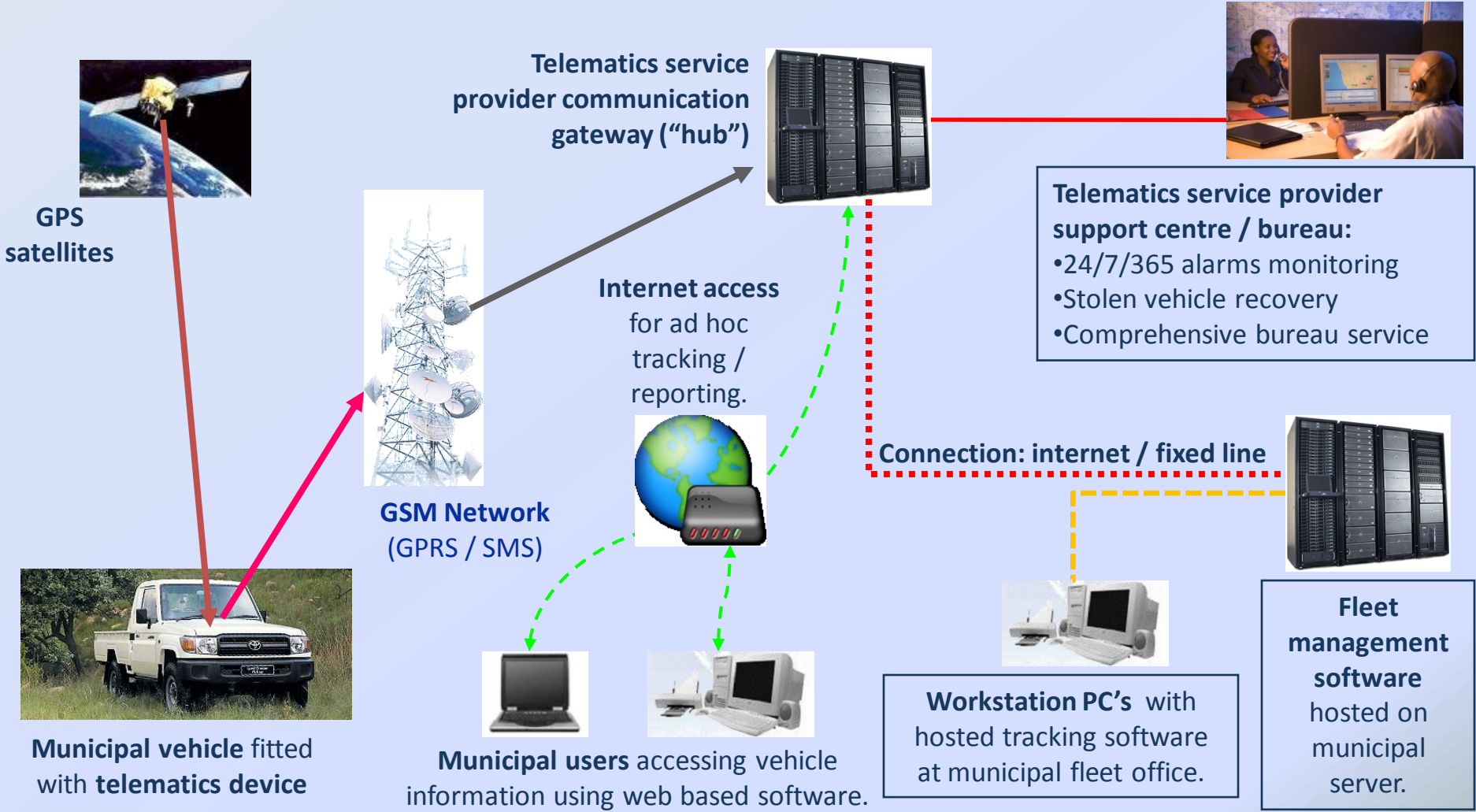
Introduction

- To fulfill mandate to deliver services to rate payers, municipalities use human resources;
- Vehicles are one of the most basic and crucial tools of trade used by these human resources to deliver services effectively;
- By extension monitoring of vehicles contributes to management of key staff using vehicles and to fulfilling duty of care to them;
- Municipal management team requires access to information
 - facilitate measurement of service delivery and
 - to control costs associated with operating a fleet of vehicles.

Enter 'telematics'

- In context of paper 'telematics' will refer to:
 - collection of data relating to vehicle activity by onboard recording device ("of its own accord"),
 - transmitted from "far away" e.g. by GSM network to
 - application software by means of which current and historical data can be viewed and, ideally, be 'beneficiated' and applied.
- Telematics thus enables municipal management to identify aspects negatively impacting on cost of operating a vehicle fleet, to measure service delivery by staff using the vehicles and so identify areas of inefficiency and address these.
- Of what does a typical telematics solution comprise?

Typical telematics solution architecture



Key performance areas addressed by telematics – Security & safety

- Telematics solution provides real time status alarms which indicate potential risk to security / safety of driver or vehicle and the historical reports highlighting the same.
- Such proactive indications of risk allow (a) for a quick response to recover stolen / hijacked vehicles, (b) to react so as to protect the driver / lone worker or (c) to provide driver feedback / training to prevent continued dangerous driving.
- In this way accountability for the manner of using council vehicles is directly promoted.

Key performance areas addressed by telematics – Abuse (time or vehicles)

- High quality telematics systems highlight possible abuses by detecting and reporting, in real time (and historically), such statuses as over speeding, over revving, harsh braking, excess idling, area violations, route deviations, working hour and hours of use exceptions as well as fuel consumption.
- By reacting to this information, municipal management can
 - Give driver feedback and training - improves driving habits, reducing accident risk, risk of traffic fines which could lead to license suspension under AARTO and realise significant savings on fuel and vehicle maintenance costs.

Key performance areas addressed by telematics – Abuse (time or vehicles) cont.

- Extend vehicle lifespan by reducing mileage traveled i.a. by eliminating unauthorised or unnecessary trips;
- Greater productivity is promoted by elimination of unnecessary detours / deviations and by addressing late starts and early returns;
- Operational efficiency is improved by monitoring routes followed and optimising these in future planning e.g. refuse removal;
- Employee interests can be protected e.g. detailed information in cases of accident / traffic offences;
- Regular driver feedback and coaching or discipline, where necessary, promotes accountability, safer and more economical driving.

Key performance areas addressed by telematics – Productivity

- A crucial area to which telematics makes a significant contribution – facilitates measurement of the productivity of key staff by measuring the activity of the vehicles they use;
- One of the greatest benefits afforded by telematics – identify and re-deploy under utilised units, obviating necessity of new acquisitions , saving on capital and operating expenses;
- Right-sizing exercises can be conducted, using this data as core input.

Key performance areas addressed by telematics – Operational control

- Telematics devices typically provide for peripheral integration i.a. driver identification, tipper / door monitoring, remote immobilisation, communications consoles allowing managed communications etc.
- Also allow integration with PDA's / PNA's (e.g. Garmin) enabling job allocation and routing based on location of vehicle with required skill set.
- Drivers can be restricted to driving certain categories, vehicles illegally used can be immobilised, use of auxiliary equipment monitored and communication costs controlled.
- Fines management enabled.

Key performance areas addressed by telematics – Operational control cont.

- Benefits include improved “on the road” communications at lower cost;
- Promote efficient service delivery by monitoring i.a. route adherence, stop locations and eliminate misuse of council property by monitoring where e.g. tippers offload etc.;
- Greatly improves response times as closest vehicle to service address can be identified and dispatched.

Key performance areas addressed by telematics – Asset management

- Addresses aspects which impact on longevity and “safety” of vehicles and their cost effective use.
- To facilitate this premier telematics solutions maintain and remotely transmit an accumulating odometer / hourmeter which inform maintenance and roadworthiness due and license renewal reminders set on software;
- Also generate reports which facilitate accident reconstruction / analysis;
- In this way vehicle availability and extended life span is promoted, along with safe and economical vehicle use.

Examples of benefits realised – 1

Water utility in KZN

- Fleet of 228 vehicles, 1 application software station.
- In first year assessed they realised following savings:
 - Maintenance down from R 977 456 to R 872 884 (save R 104 572)
 - Petrol costs down from R 2 335 702 to R 1 938 228 (save R 397 474)
 - Petrol litres down from 640 254 to 534 074 (save 106 180 litres)
 - Diesel costs down from R 402 374 to R 396 045 (save R 6 329)
 - Diesel litres up from 142 030 to 150 950 (the department involved in a once-off pipeline project used mostly diesel vehicles, explaining increased consumption.)
 - Kilometers reduced from 4 545 024 to 4 264 793 (reduced by 280 231 km)
 - Vehicle valued at R 170 000 recovered
- Benefits noted: improved driver control / accountability, better driving habits, real time awareness, increased productivity, improved routing, enhanced driver security and fewer accidents.

Examples of benefits realised – 2

Ethekwini Municipality

- Fleet of 5 500 vehicles; hosted and web based software.
- Solution still to be fully integrated and benefits quantified.
However, following noted:
 - Telematics information helping address utilisation and unauthorised use.
 - Exceptions highlighting abuses are now identified and can be investigated with proper evidence at hand.
 - Drivers are given feedback based on telematics information and counseled where necessary.

Examples of benefits realised – 3

Drakenstein Municipality

- Fleet of 420 vehicles, 170 equipped with telematics; 8 x hosted software.
- Following improvements have been noted:
 - Abuse of vehicles can be identified, is escalated to department heads and driver training facilitated or discipline given as need dictates;
 - Improved service delivery;
 - Productivity of users of those vehicles has improved;
 - Overtime claims and fuel costs reduced.

Examples of benefits realised – 4

South African Police Service

- Fleet of 40 000 plus vehicles, 27 000 plus equipped with telematics to date. More than 1 000 concurrent software users.
- Not allowed to disclose actual financial benefits – NDA.
 - Have however, reduced maintenance and fuel costs, significantly;
 - Reaction times have been halved;
 - Service delivery improved with up to 100%.

Conclusion

- Telematics furnishes municipal management with wealth of information pertaining to current and historical vehicle status and use.
- Clear that municipalities can benefit by application of telematics by reducing costs of operating vehicle fleet,
- identifying and addressing inefficiencies / abuses highlighted by telematics and thus
- Promoting service delivery to rate payers and accountability by municipal drivers and operational managers.

We thank the iLGM
for this opportunity.

Questions?