

# **Building an integrated spatial decision system in Lesotho with a focus on the transportation sector**

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# Why the initiative in Lesotho?

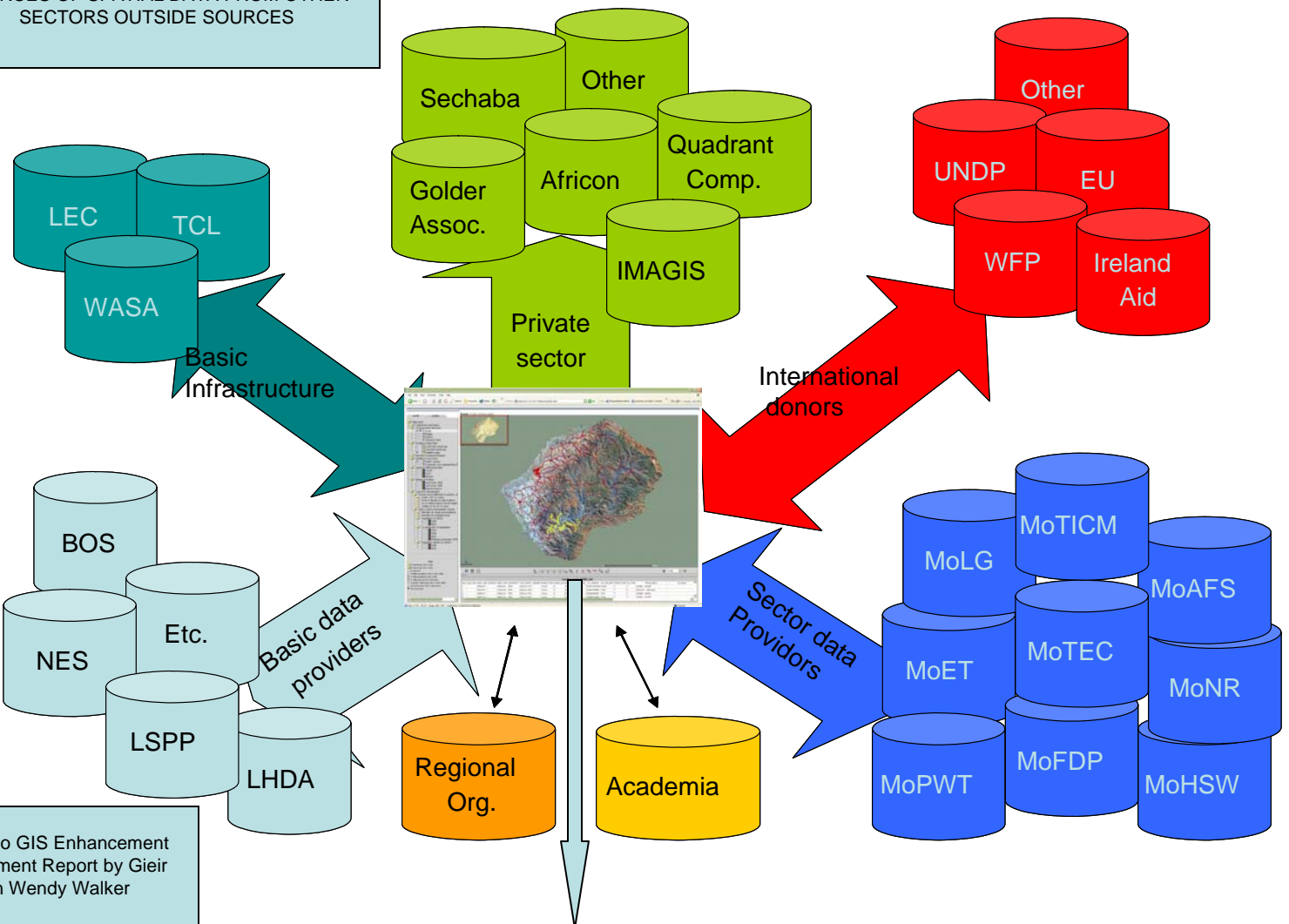
- The main challenge for the transport sector in Lesotho is to
  - provide access and mobility to basic services
  - in order to alleviate poverty and achieve the MDGs objectives
- The MoPWT response to these challenges has been to promote integrated development planning by strengthening internal capacity and cooperate with other relevant sectors
- This initiative is an example of that effort

# Integrated development planning through use of GIS as a planning tool

- MoPWT is enhancing the use of GIS by integrating poverty and social data into the GIS and sharing the information with stakeholders
- All information related to other sectors can also be integrated into the GIS as overlays:
  - The availability of accurate integrated data results in better planning for provision of services.

# GIS Integration of Transport Related Data

SOURCES OF SPATIAL DATA FROM OTHER SECTORS OUTSIDE SOURCES



Source: Lesotho GIS Enhancement Needs Assessment Report by Geir Oddsson Wendy Walker

GIS User Interface in the MoPWT

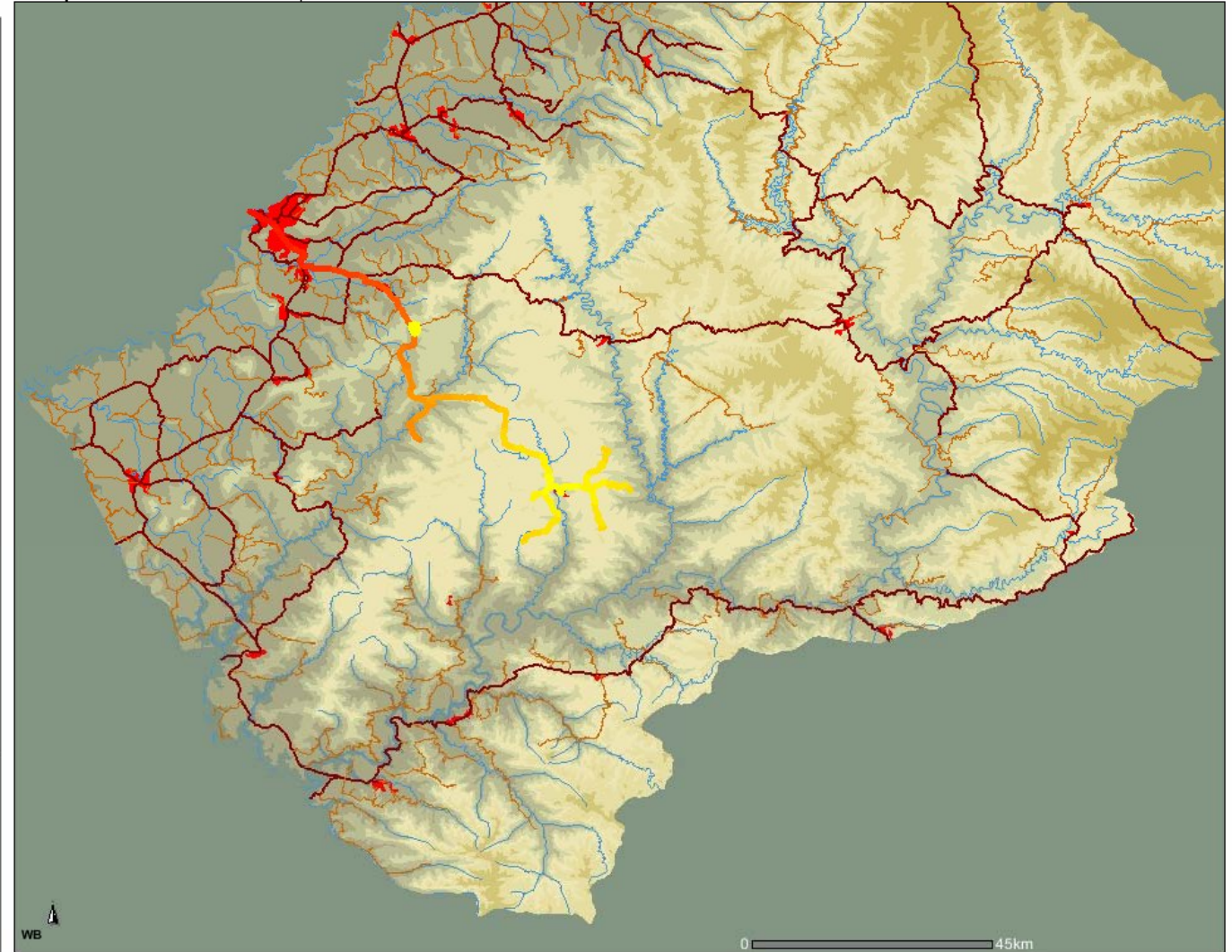
**LAYERS**    **LEGEND**

- Map layers
  - Cadastral & Land Descs
    - Town Points
    - Town Polygons
    - Main Rivers
    - Rivers
  - Transportation Networks
    - Roads
    - Maseru roads
    - Bridges
    - Airstrips
    - Transport fares
    - Distance Semonkong - Qacha's
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    - Roma-Semonkong-Sekake
  - Imagery & Base Maps
    - 1:250,000 Rastermap
    - 1:50,000 Rastermap
    - Satellite image
  - Elevation & Derived Products
    - Hillshade
    - Contours
  - Facilities & Structures
    - Health Centers
    - Companies (not representing th
  - Admin & Political Boundary
    - Const
    - Const
    - Districts
  - Landuse
    - Land cover 1994
    - Land cover 1989
    - National Park
  - Cultural & Demographic

**Help:**

- A closed group, click to open.
- An open group, click to close.
- A map layer.
- A hidden group/layer, click to make visible.
- A visible group/layer, click to hide.
- A visible layer, but not at this scale.
- A partially visible group, click to make visible.
- An inactive layer, click to make active.
- The active layer.

Transport fares is now Active Layer



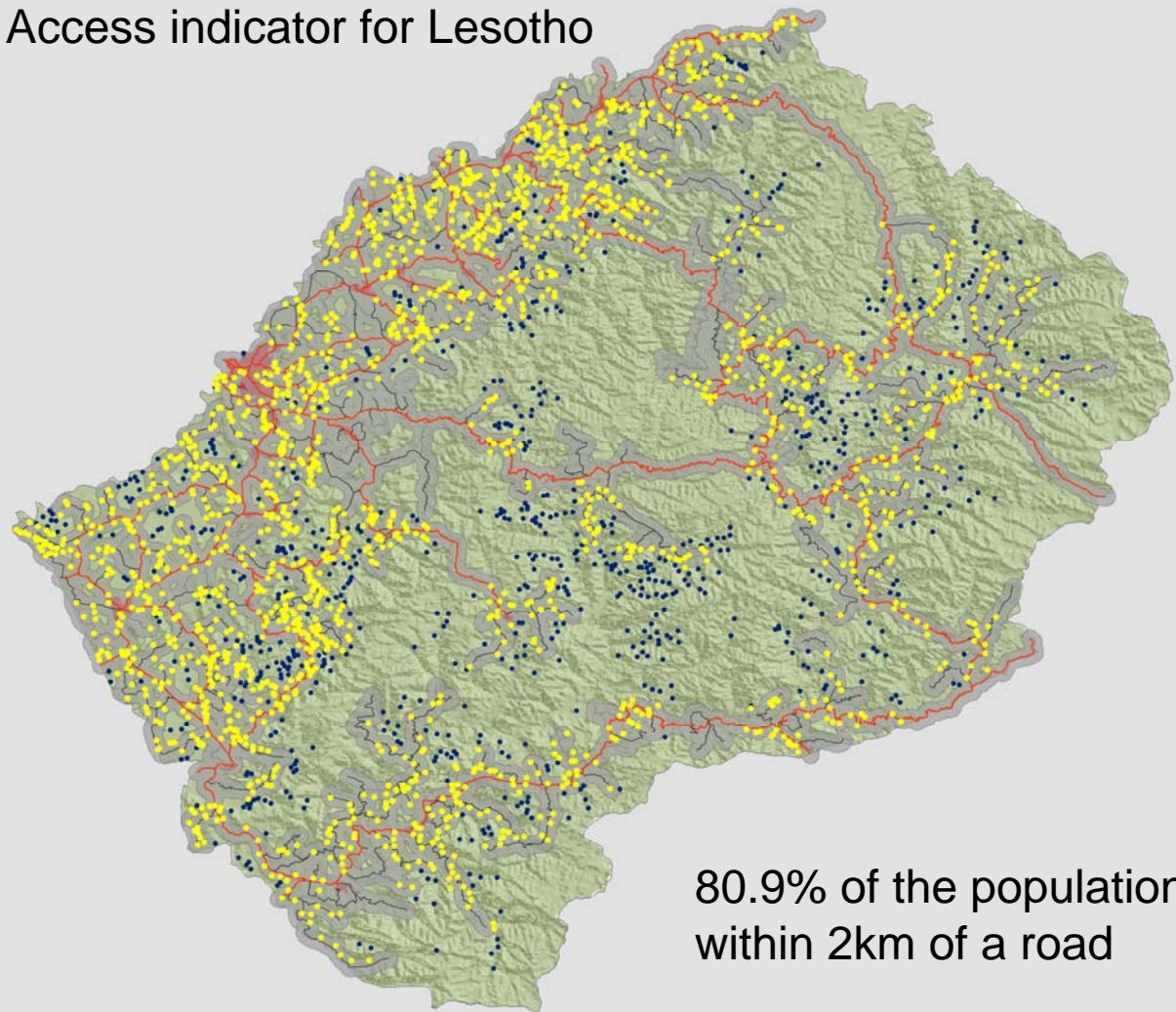
Map navigation toolbar with icons for pan, zoom, and other map controls.

**RESULT**

**dist\_join\_simpl3**

Rec	ID	DISTANCE	DISTANCE_K	ROAD_TYPE_	FARES_BUS_	FARES_TAXI	TOTAL_BUS_	TOTAL_TAXI	GROUP_ID	#SHAPE#	#ID#
1	535	83800	83.8	A	0.1	0.2	8.38	16.76	7	[point]	535
2	536	83700	83.7	A	0.1	0.2	8.37	16.74	7	[point]	536
3	540	83300	83.3	A	0.1	0.2	8.33	16.66	7	[point]	540
4	541	83200	83.2	A	0.1	0.2	8.32	16.64	7	[point]	541
5	542	83100	83.1	A	0.1	0.2	8.31	16.62	7	[point]	542

# Access indicator for Lesotho



80.9% of the population within 2km of a road

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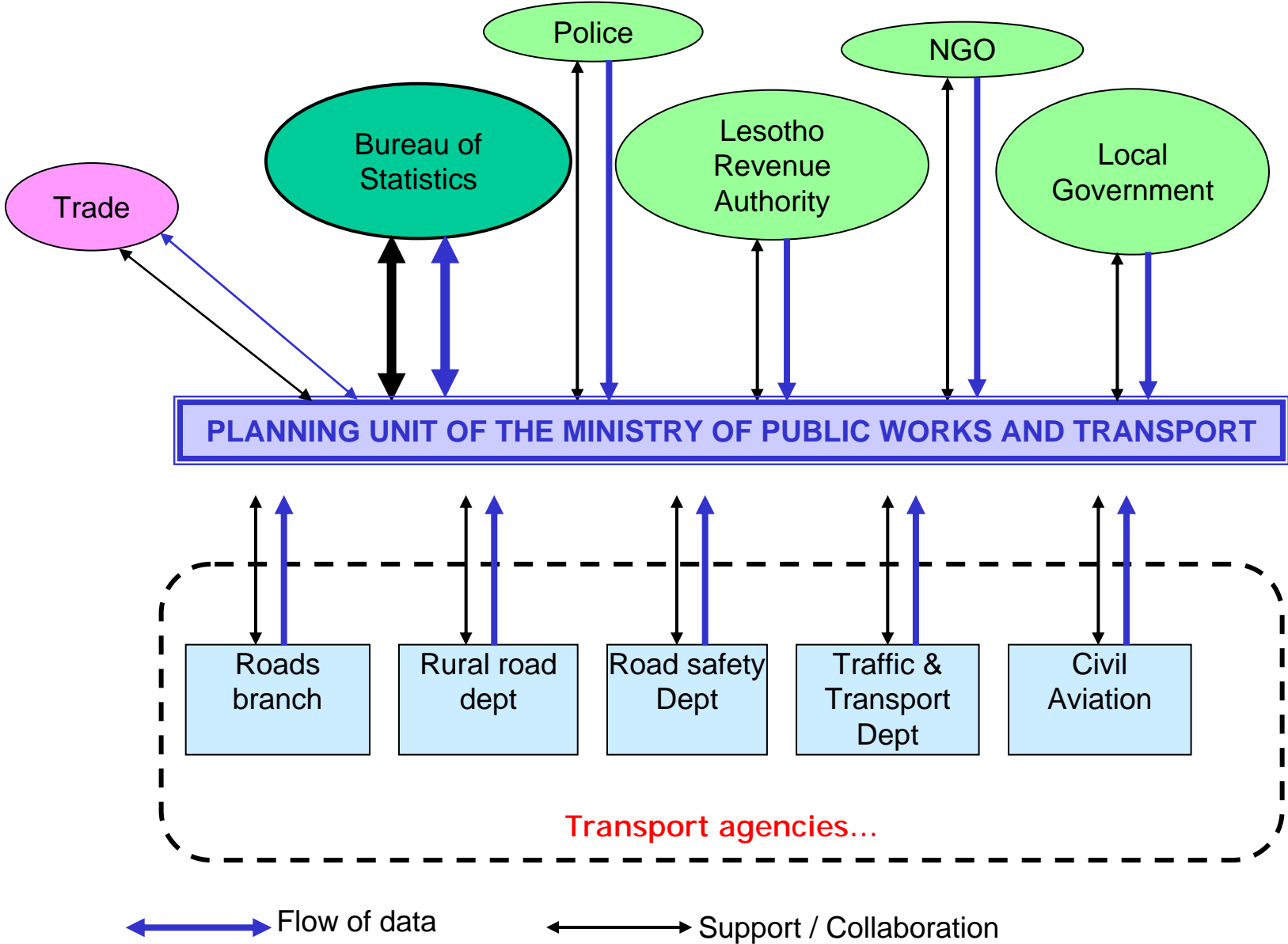
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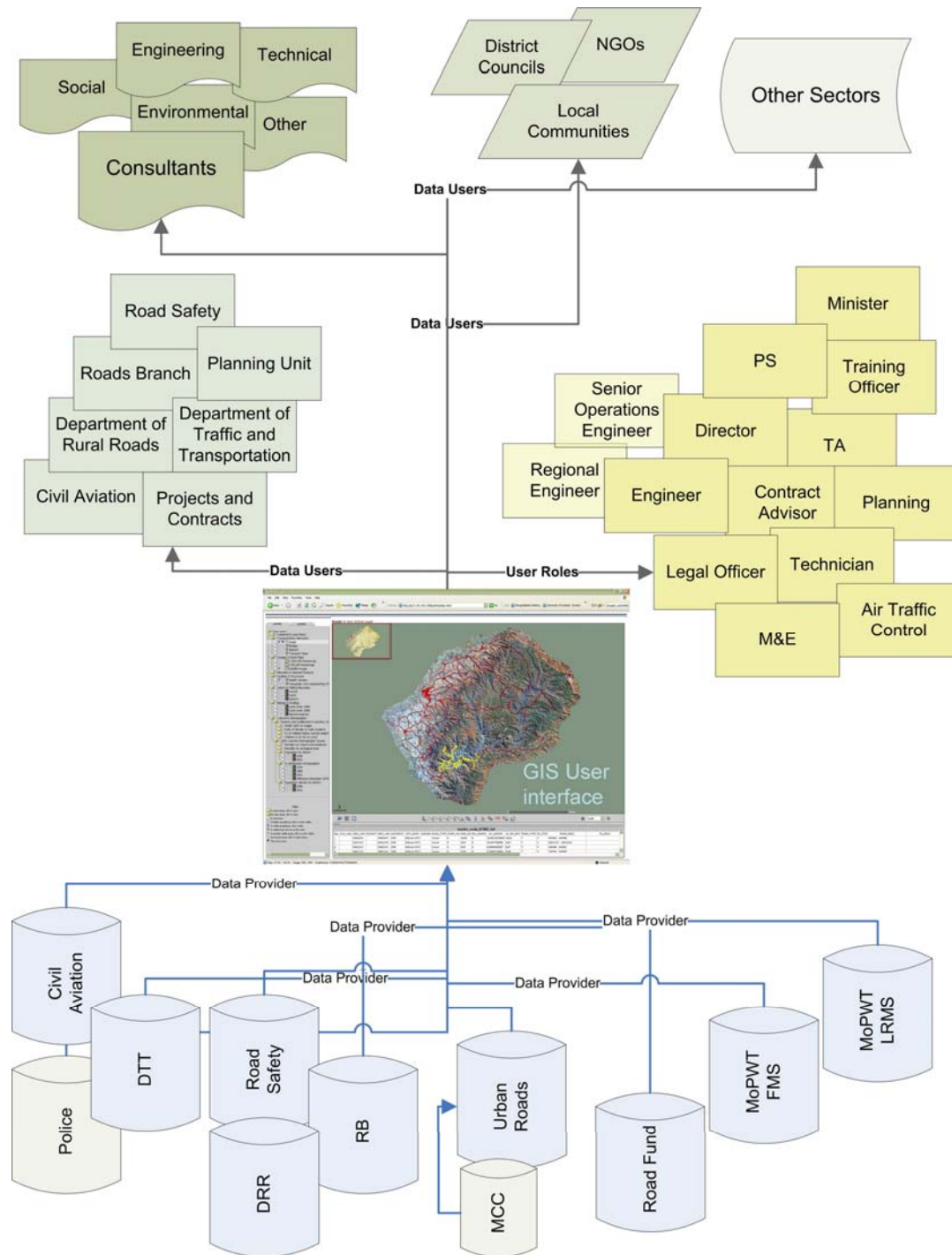
# General Data Collection: Institutional Setup at MoPWT Level



# The flow of spatial data within the transportation sector in Lesotho

From **data providers** through a **common Internet interface** to the **data users**.

The data users are both defined by their **organizational placement** within transportation and their **roles** in a process orientated manner.





# What is needed?

- An improvement of the national institutional framework for monitoring and evaluation that focuses on user needs
  - Data policy
    - Standards
    - Pricing
    - Data sharing
  - Enhancing existing processes
    - From above **and** from below
  - Capacity
    - Technical
    - Hardware/software

# Next steps in Lesotho

- Implementing system structures within the transportation sector
- Finalizing and implementing a national data policy within as many sectors as possible
- Building sufficient capacity in-country
- Finding financial resources to accomplish those tasks