Country-Specific Workshops on Road Asset Management

RESULTS OF PHASE I AND THE SCOPE, PURPOSE OF PHASE II

The Ministry of Transport and Communications of the Kyrgyz Republic

23 May 2023

PHASE I OBJECTIVES

roughton

- Duration – September 2018 to December 2021
- Develop RAMS tailored to MOTC's needs
- Fit for purpose and sustainable
- Develop guidelines for data collection
- Support PIC in collecting and loading data into RAMS
- Develop a 5-year rolling works program
- Train MOTC staff

Project Scope

roughton

- Business Process Review
- Define Network Referencing
- Data Collection and Management Manual
- Performance Management Framework
- Road Asset Database
- Decision Support System / Planning Tool
- Rolling Work Plan
- Road Asset Management Manual
- Training to Staff

Business Process Review

roughton

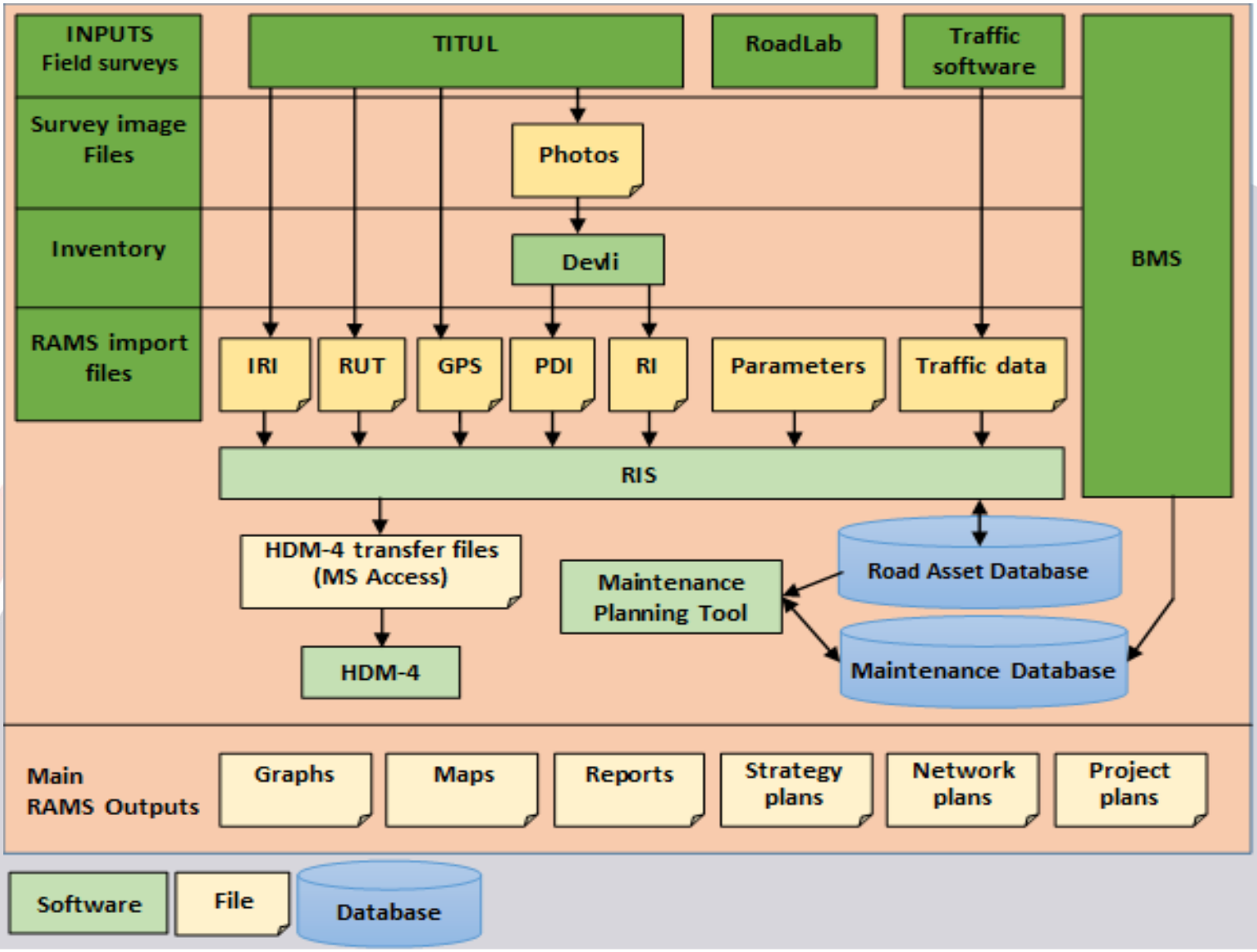
- Assess the working processes and to create the new ones to respond to the new working methods that RAMS will cause
- Remove mixed and repeat procedures
- Ensure clear start and end for each task
- Documents /procedure
- Training to Staff

Data collection

roughton

- A strategy was developed (AADT>7000 – yearly, AADT1000-7000 – every two years, low traffic <1000 every three years
- Network Referencing (network was divided to sections, sub-sections with nodes at every start and end of sections)
- Data Collection Manual was prepared
- Paved Road Data was gathered
- Using TRASSA with additional GPS and Video Camara
- Data (Road Inventory Data, IRI, Rutting, Road Photography (Pavement Distress, Inventory), Traffic Data, FWD, Friction Data and Texture Data

RAMS Components

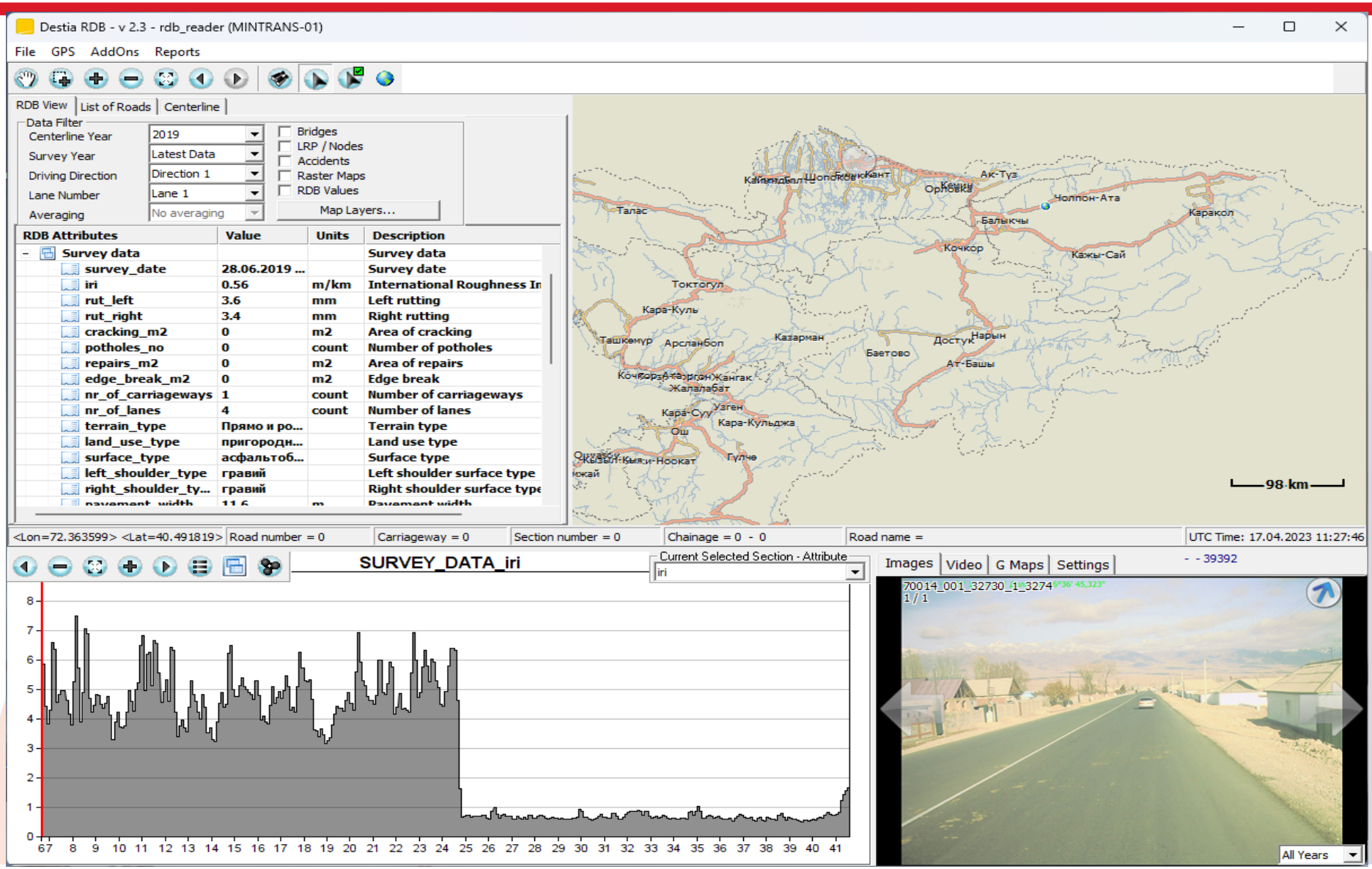


RIS

- Supplied by FINNROAD
- Client-Server architecture
- Desktop application connecting to a database.
- Generates
  - Graphs
  - Maps
  - Reports

RIS – Screen View

roughton



Maintenance Planning System

roughton

- Two Planning Tools
  - HDM4 for Strategy Analysis
  - MPS for other planning
- MPS
  - Web-based system with three-tier architecture
  - PostgreSQL database server, back-end in Python programming language and front-end (user-interface with forms and reports) written with the use of Vue.js framework
  - Has 8 menus/functions (to add, approve plans)
  - Web-GIS is a module of the MPS

Strategy Analysis

roughton

- The “optimal budget scenario”, maximizing the NPV, results in an average annual required budget of USD 100 million over the 20-year analysis period.
- USD 300 million per year during the next 4 years, required to clear the backlog.
- Whereas available budget is only USD 7 million with which only about 20 km periodic maintenance per year.

Asset Management Manual

roughton

- Shift from maintenance implementation to asset management
- Government policy needs to give the target minimum condition level (service level) to each road category.
- Fund allocation must be comparable to achieving these condition levels on long term

Training to MOTC Staff

roughton

- Purpose- To ensure sustainability
- Workshops on the uses of RAMS
- Training on maintenance planning for all local maintenance units and regional offices
- How to operate and institutionalize the newly developed RAMS

Phase II Objectives

- RAMS fit for purpose
- Affordable
- Sustainable

Phase II Scope

roughton

- Procure equipment for data collection
- Changes to the existing database, MPS
- Gather and upload data (including unpaved roads)
- Strengthen the Institutional structure of RMD, PIC
- Identify annual funding needs, funding sources, support the establishment of a new road fund
- Provide capacity building and training to staff
- Develop University course on RAMS

Project Deliverables

roughton

1. Inception Report
2. Monthly progress report
3. Equipment Calibration Report
4. Equipment Calibration Manual
5. Data Collection report
6. Data Collection and Management Manual
7. Updated RIS database
8. Updated MPS
9. Three-Year Rolling Plan
10. Road Financing Report
11. RAMS Planning Manual
12. RAMS Operation Manual
13. Legal instruments for RAMS
14. RAMS Action Program
15. Maintenance Implementation Report
16. Capacity Building Report
17. University course on RAMS
18. Draft Final/Final Report

PHASE II Status

- Commencement 19/3/2023
- Inception report submitted in April
- Equipment Procurement – Technical Specifications being finalized
- Traffic Data Collection Commenced on 15/5/2023

roughton

Thank You