

# Workshop Report

CAREC Road Asset Management: In-Country Workshop and Maturity Assessment

**Uzbekistan** 

September 2024

### Disclaimer

This report is the outcome of the CAREC Institute's in country RAM training and maturity assessment for Uzbekistan that took place from 3-6 September 2024. This report was drafted by Dr. Ian Greenwood and Mr. Giorgi Japaridze, CAREC Institute consultants. It is edited by Dr. Ilhom Abdulloev, Chief of Capacity Building Division, the CAREC Institute, and Ms. Dildar Zakir, Capacity Building Specialist, the CAREC Institute.

The views expressed in this report are the views of its authors, contributors and participants of the workshop and do not necessarily reflect the views or policies of the CAREC Institute, its funding entities, or its Governing Council, or stakeholders of the country involved. The CAREC Institute does not guarantee the accuracy of the data included in this report and accepts no responsibility for any consequences of its use. The terminology used may not necessarily be consistent with the CAREC Institute's official terms. The CAREC Institute accepts no liability or responsibility for any party's use of this publication or for the consequences of any party's reliance on the information or data provided herein.

By making any designation of or reference to a particular territory or geographical area, or by using country names in the report, the authors did not intend to make any judgment as to the legal or other status of any territory or area. Boundaries, colors, denominations, or any other information shown on maps do not imply any judgment on the legal status of any territory, or any endorsement or acceptance of such boundaries, colors, denominations, or information.

This work is available under the Creative Commons Attribution 3.0 IGO license (CC BY 3.0 IGO) https://creativecommons.org/licenses/by/3.0/igo/. By using the content of this report, you agree to be bound by the terms of this license. This CC license does not apply to other copyright materials in this report. If the material is attributed to another source, please contact the copyright owner or publisher of that source for permission to reproduce it. The CAREC Institute cannot be held liable for any claims that arise as a result of your use of the material.

Central Asia Regional Economic Cooperation (CAREC) Institute 21<sup>st</sup> Floor, Commercial Building Block 8, Vanke Metropolitan, No. 66 Longteng Road, Shuimogou District, Urumqi, Xinjiang, the PRC, 830028 f: +86-991-8891151 LinkedIn: carec-institute km@carecinstitute.org www.carecinstitute.org

# Acknowledgements

The crucial role of representatives from across the various Ministries, Departments and kindred bodies from within Uzbekistan is duly acknowledged and appreciated. The representatives who participated in the workshops, undertook the in-country assessments, and helped formulate the RAM improvement action plans are duly acknowledged for sharing their knowledge and expertise with all present. The interpretation and translation support from Ms. Natalya Goncharova, and Mr. Akramjon Bazarbaev made interaction possible between the participants and the resource persons.

Overall, this project would have not been possible without the support of Dr. Kuat Akizhanov, CAREC Institute Deputy Director Two, Dr. Lyaziza Sabyrova, Director, Regional Cooperation and Integration (RCI), ADB, Dr. Roman Mogilevskii, Senior Economist, RCI, ADB, Ms. Honey Guerzon, Associate Knowledge Management Officer, RCI, ADB, Mr. Nadir Safaev, Advisor to CAREC National Focal Point for Uzbekistan, Mr. Umid Khudoyberdiev, Regional Cooperation Coordinator, ADB Resident Mission in Uzbekistan, and Mr. Gary Huang, eLearning Specialist, CAREC Institute, and Ms. Gulshat Raissova, CAREC Institute Coordinator, ADB.

# Table of Contents

| Glossary                                 | V  |
|--|----|
| Executive Summary                        | 1  |
| Background to Workshops                  | 2  |
| Presenters and Facilitators              |    |
| Participants                             |    |
| Agenda                                   | 6  |
| Site Visit                               | 9  |
| Maturity Assessment and Improvement Plan | 12 |
| Feedback from participants               | 15 |
| Testimonials                             |    |
|  |    |

# Glossary

| Abbreviation | Description                                    |
|--------------|--|
| ADB          | Asian Development Bank                         |
| AM           | Asset Management                               |
| AMIS         | Asset Management Information System            |
| AMP          | Asset Management Plan                          |
| CAREC        | Central Asia Regional Economic Cooperation     |
| CI           | CAREC Institute                                |
| IIMM         | International Infrastructure Management Manual |
| MOTC         | Ministry of Transport and Communications       |
| 0&M          | Operation and Maintenance                      |
| PIC          | Production and Innovation Center               |
| PMS          | Pavement Management System                     |
| RAM          | Road Asset Management                          |
| RAMIS        | Road Asset Management Information System       |
| RAMS         | Road Asset Management System                   |

# **Executive Summary**

In September 2024, a four-day workshop was held in Tashkent, Uzbekistan, on the topic of Road Asset Management (RAM). Funded by ADB TA and conducted by the CAREC Institute, the workshop was delivered through a combination of in-person and virtual trainers to 20 participants representing various ministries, departments, universities, and kindred organizations involved in the management of the national road network of Uzbekistan.

The workshop was effectively the third stage of RAM engagement between the CAREC Institute and the CAREC member countries. The first stage occurred in 2020 and consisted of an online training program in RAM; and the second stage occurred in 2021 and was focused on the completion of a self-assessed RAM Maturity Assessment. This third stage built upon that earlier work to:

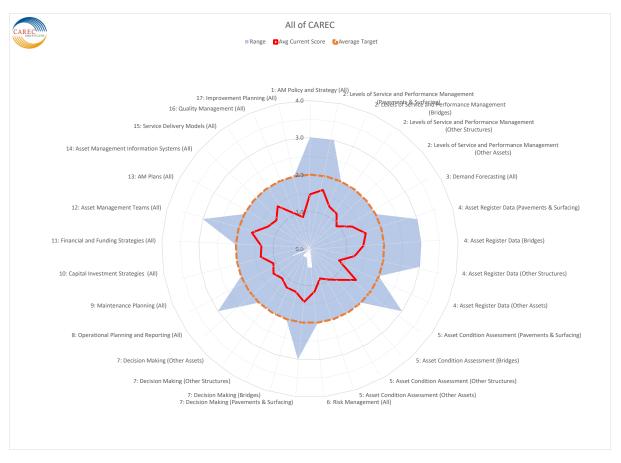
- move to a combination of in-person and virtual training (rather than 100% virtual as per the earlier stages);
- deliver a more focused training program based on specific needs (prioritized based on the proposed action plan drafted as part of the earlier maturity assessment); and
- produce an updated RAM Improvement Plan.

The workshop achieved a very high satisfaction rating with 90% of respondents rating it "Excellent".

# **Background to Workshops**

Since 2020 the CAREC Institute, in collaboration with the Asian Development Bank (ADB), has been supporting the CAREC member countries in a range of Road Asset Management (RAM)<sup>1</sup> initiatives from online training program delivery, through to country specific RAM maturity assessments,<sup>2</sup> and the use of RAM to address a range of other challenges such as cross-border transportation needs and climate change adaptation.

During 2020/21 a RAM maturity assessment was attempted to be completed via self-assessment for each CAREC member country, with the results indicating a significant range of competency both across the various aspects of RAM and also across the member countries.





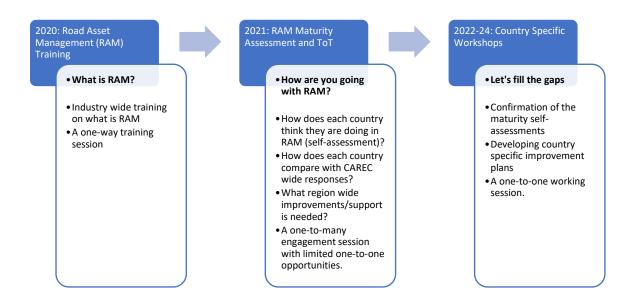
Source: CAREC Region Road Asset Management, Maturity Assessment, Final Report. CAREC Institute, 2021.

This in-country workshop ties in with the prior online training and RAM maturity assessment initiatives, taking the RAM discussions from a regional level down to the country level. The 2020 training was really about awareness raising and for many participants was their first encounter with the full range of RAM activities. The training was not customised to any one country, and besides Q&A sessions it was a one-way delivery. In 2021 the maturity assessment was a more focussed exercise, with a smaller group of participants from each country and much more of a two-way interactive session–although not all countries completed the maturity assessment.

<sup>&</sup>lt;sup>1</sup> CAREC Institute E-Learning Platform: <u>https://elearning.carecinstitute.org/learning-modules/workshops/124.html</u> <sup>2</sup> CAREC Institute E-Learning Platform: <u>https://elearning.carecinstitute.org/learning-modules/workshops/160.html</u>

Country Specific Workshops on Road Asset Management & Maturity Assessment – Uzbekistan

#### Figure 2: Stages of Road Asset Management Capacity Building Activities.



Two countries were included in the first round of Country Specific Workshops conducted in September 2022 – Azerbaijan and Georgia. In May and June 2023, a further two countries were completed, namely the Kyrgyz Republic and Tajikistan. This third round of workshops covered Uzbekistan and Kazakhstan in September 2024.

The core objectives of the workshops were:

- i. to carry out country review on the implementation of RAM and to further develop the target participants' knowledge and skills on asset data collection, management and maintenance;
- ii. to introduce the road related Greenhouse Gas (GHG) emissions and counter measures as well as to produce country specific improvement plan in GHGs reduction;
- iii. to enhance member countries capabilities for bridging capacity gaps among member countries on RAM and promote cooperation among experts and policymakers and influencers;
- iv. to create a core group of competent asset managers within each CAREC country and ultimately across the CAREC region who can support each other in RAM; and
- v. to facilitate and further enhance knowledge and best practices sharing among member countries for effective and sustainable regional development under the CAREC Program.

The workshops are expected to achieve these outcomes:

- country review on the implementation of RAM achieved and to target participants' knowledge and skills on asset data collection, management and maintenance is improved;
- ii. the road related Greenhouse Gas (GHG) emissions and counter measures as well as country specific improvement plan in GHGs reduction are introduced;
- iii. member countries specific capacity needs are addressed and capacity gaps among member countries on RAM are bridged and cooperation among experts and policymakers and influencers are promoted; and
- iv. knowledge and best practices sharing among member countries for collective sustainable regional development under the CAREC Program is further enhanced.

# **Presenters and Facilitators**

The CAREC Institute provides the facilitators for the workshop, with key staff being:

- Dr. Kuat Akizhanov, Deputy Director Two, CAREC Institute
- Dr. Ilhom Abdulloev, Chief of Capacity Building Division, CAREC Institute

The workshop training was delivered by:

- Dr. Ian Greenwood (in person, and overall workshop lead)
- Mr Giorgi Japaridze (in person and assistant workshop lead)
- Dr. Theunis Henning (via video link)
- Mr. Serge Cartier (via video link)

Other key facilitators include:

- Ms. Dildar Zakir, CAREC Institute
- Mr. Gary Huang, CAREC Institute
- Ms. Gulshat Raissova, CAREC Institute Coordinator, ADB

### **Participants**

There were 20 primary participants registered for the workshop as per the table below.

#### Table 1: List of Workshop Participants.

#### I. Uzbekistan Officials

- 1. Mr. Akhror Rajapov, Chief Specialist, Road Assets Department, Ministry of Transport
- 2. Mr. Mirrasul Sagatov, Chief Specialist, Road Assets Department, Ministry of Transport
- 3. Mr. Asror Usmonxodjayev, Leading Specialist, Road Assets Department, Ministry of Transport
- 4. Mr. Mavlon Khamraev, Leading Specialist, Road Construction Control Department, Transport Control Inspection
- 5. Mr. Doniyorxodja Pulatov, Chief Specialist, Road Construction Control Department, Transport Control Inspection
- 6. Mr. Anvar Mustafoev, Chief Specialist, Operation and Analysis of the Technical Condition of Highways Department, The Committee for the Roads / Highways Committee
- 7. Mr. Oybek Khojakulov, Deputy Head, Operation and Analysis of the Technical Condition of Highways Department, The Committee for the Roads / Highways Committee
- 8. Mr. Jamshid Nishonov, Head, Highways State Cadaster Department, "Center for Highway Technical Condition Analysis and Safety" State Enterprise
- 9. Ms. Shaxnoza Nazarova, Chief Specialist, Road Asset Management Improvement and Roadside Facilities Monitoring Department, "Center for Highway Technical Condition Analysis and Safety" State Enterprise
- 10. Mr. Dilmurod Ruzumov, Head, Finance-Economics and Contracts Department, "Center for Highway Technical Condition Analysis and Safety" State Enterprise
- 11. Mr. Gofurjon Olimov, Chief Accountant, Accounting Department, "Qamchiqavtoyo'l" Specialized Road Maintenance State Enterprise
- 12. Mr. Jamshid Begmatov, Division Head and Chief Accountant, Economics, Accounting and Reporting Department, The Main Directorate of Highways of the Jizzakh Region
- 13. Mr. Mamaraim Abdusattarov, Division Head and Chief Accountant, Finance-Economics, Accounting and Reporting Department, The Main Directorate of Highways of the Tashkent Region
- 14. Mr. Shavkat Berdikulov, Division Head, Economics, Accounting and Reporting Department, The Main Directorate of Highways of the Syrdarya Region
- 15. Mr. Temur-Malik Usmanov, Division Head, Economics, Accounting and Reporting Department, The Main Directorate of Highways of the Namangan Region

- 16. Ms. Yulduz Toshmurodova, Leading Specialist, "Scientific Research Institute of Highways" State Enterprise
- 17. Ms. Gulnara Asinbayeva, Specialist, "Scientific Research Institute of Highways" State Enterprise
- 18. Mr. Aslidin Urokov, Professor, DSc, Highways Construction and Operation Department, Tashkent State Transport University
- 19. Mr. Raximjon Soataliyev, Assistant Professor, Highways Construction and Operation Department, Tashkent State Transport University
- 20. Mr. Abduvoxid Yunusov, Assistant professor, PhD, Urban Roads and Streets Department, Tashkent State Transport University

#### II. Resource Persons

- 21. Mr. Ian Greenwood, Chartered Professional Engineer, and a Fellow of Engineers New Zealand
- 22. Mr. Theuns Henning, Senior Lecturer, Civil and Environmental Engineering, University of Auckland (online)
- 23. Mr. Serge Cartier, Cartier Consult (online)
- 24. Mr. Giorgi Japaridze,

#### III. Special Guests

- 25. Mr. Nadir Safaev, Advisor to CAREC NFP, Uzbekistan
- 26. Mr. Umid Khudoyberdiev, Regional Cooperation Coordinator, Uzbekistan Resident Mission, ADB

#### IV. CAREC Institute

- 27. Mr. Kuat Akizhanov, Deputy Director II, CAREC Institute
- 28. Mr. Ilhom Abdulloev, Chief of Capacity Building Division, CAREC Institute
- 29. Ms. Dildar Zakir, Capacity Building Specialist, CAREC Institute
- 30. Mr. Gary Huang, E-Learning Specialist, CAREC Institute
- 31. Ms. Gulshat Raissova, CAREC Institute Coordinator, ADB

#### V. Interpreters

- 32. Ms. Natalya Goncharova, Uzbekistan
- 33. Mr. Akramjon Bazarbaev, Uzbekistan

#### Figure 3: Workshop Group Photograph.



# Agenda

The workshop agenda was as follows, with all sessions held at the Crowne Plaza Hotel in. All training materials were provided in both English and Russian languages, with electronic copies made available via the CAREC Institute e-learning platform https://elearning.carecinstitute.org/learning-modules/workshops/2845.html.





# Country-Specific Workshop / ToT

#### on Road Asset Management – Uzbekistan

3 – 6 September 2024 Tashkent, Uzbekistan

| 08:30-09:00   | Registration   |
|---------------|--|
| 09:00-09:30   | Welcome and Opening Remarks  |
|               | <ul> <li>Kuat Akizhanov, Deputy Director II, CAREC Institute (CI)</li> <li>Representative from Ministry of Transport</li> <li>Country Director, Resident Mission, ADB</li> </ul>     |
| 09:30-10:00   | Keynote Presentation: CAREC Corridors  |
|               | Presenter: Ilhom Abdulloev, Chief of Capacity Building Division, Cl  |
| Session Theme | What is RAM and What is Currently Occurring?   |
| 10:00-10:15   | Overview of the Training   |
|               | Presenter: Ian Greenwood, Chartered Professional Engineer, and a Fellow of Engineers New Zealand   |
| 10:15-10:45   | Group Photo/Tea/Coffee/Networking  |
| 10:45-11:15   | Refresh on RAM   |
|               | Presenter: Ian Greenwood   |
| 11:15-12:00   | Current RAM Practice   |
|               | Facilitated discussion from relevant parts of government to cover off:   |
|               | <ol> <li>Funding, budget allocation cycle</li> <li>Prioritization of road maintenance and renewal needs</li> <li>Method of delivery of road maintenance and renewal works</li> </ol> |
|               | Session is to get engagement of participants and let them feel<br>comfortable speaking in the setting.   |
|               | Facilitators: Ian Greenwood & Giorgi Japaridze   |
| 12:00-13:00   | Lunch: Buffet Bar Plaza  |
| Session Theme | Direction Setting (for RAM and for Assets)   |
| 13:00-14:30   | RAM Strategy and Policy  |
|               | Presenter: Ian Greenwood   |
| 14:30-15:00   | Tea/Coffee/Networking  |
| 15:00-16:30   | Developing Service Levels for All Asset Types  |

|               | Presenter: Theuns Henning, Senior Lecturer, Civil and Environmental<br>Engineering, University of Auckland   |
|---------------|--|
| 16:30-17:00   | Wrap-up of Day 1   |
|               | Ilhom Abdulloev, Chief of Capacity Building Division, Cl   |
| AY 2 (WEDNESD | AY, 4 SEPTEMBER 2024)  |
| 08:30-09:00   | Registration   |
| Session Theme | From Data Collection to Creating a Works Program   |
| 09:00-09:40   | Asset Condition Data Collection  |
|               | What to Collect, With What and How Often   |
|               | Presenter: Theuns Henning  |
| 09:40-10:00   | Overview on CAREC Corridor Performance, Measurement and<br>Monitoring  |
|               | Presenter: Kuat Akizhanov  |
| 10:00-10:45   | The Georgia & Kyrgyz Experience  |
|               | Presenter: Giorgi Japaridze  |
| 10:45-11:00   | Tea/Coffee/Networking  |
| 11:00-11:30   | Asset Management Information Systems, and Decision Support<br>Tools  |
|               | Presenter: Theuns Henning  |
| 11:30-12:00   | Expanding Asset Register and Data Use for Basic Network Level<br>Multi-Year Planning   |
|               | Presenter: Giorgi Japaridze  |
| 12:00-13:00   | Lunch: Buffet Bar Plaza  |
| Session Theme | Observing RAM in Practice  |
| 13:00-17:00   | Site Visit   |
|               | Purpose of site visit is to enable for practical discussions of how RAM is applied. Some combination of visiting maintenance depots, road maintenance and rehabilitation projects, or new construction activities. |
| DAY 3 (THURSD | AY, 5 SEPTEMBER 2024)  |
| 08:30-09:00   | Registration   |
| Session Theme | Resilience, Climate Change and Emergency Response  |
| 09:00-10:30   | Carbon Emission Modelling, Policies, and Integrating Climate<br>Change into RAM  |
|               | Presenters: Ian Greenwood & Theuns Henning   |
| 10:30-11:00   | Tea/Coffee/Networking  |

| 11:00-12:00    | Climate Resilient Road Management   |
|----------------|---|
|                | Climate impacts and Adaptation Strategies   |
|                | Presenters: Theuns Henning & Ian Greenwood  |
| 12:00-13:00    | Lunch: Buffet Bar Plaza   |
| Session Theme  | Funding the Asset, Documenting RAM & Service Delivery Models  |
| 13:00-14:00    | Road Funding  |
|                | Presenter: Serge Cartier, Cartier Consult   |
| 14:00-14:30    | Tea/Coffee/Networking   |
| 14:30-15:30    | Asset Management Plans  |
|                | Presenter: Theuns Henning   |
| 15:30-16:30    | Service Delivery Models   |
|                | Force Account, Outsourced, Performance Based Contracts (PBCs)   |
|                | Presenter: Ian Greenwood  |
| 16:30-17:00    | Wrap-up of Day 3  |
|                | Kuat Akizhanov, Deputy Director II, CI  |
| DAY 4 (FRIDAY, | 6 SEPTEMBER 2024)   |
| 08:30-09:00    | Registration  |
| Session Theme  | The Way Forward   |
| 09:00-11:00    | Developing the RAM Improvement Plan   |
|                | Facilitated by Ian Greenwood & Giorgi Japaridze   |
| 11:00-11:30    | Tea/Coffee/Networking   |
| 11:30-12:30    | Workshop Evaluation and General Q&A   |
|                | <ul> <li>Ilhom Abdulloev, Acting Chief of Capacity Building Division, CI</li> <li>Dildar Zakir, Capacity Building Specialist, Capacity Building Division, CI</li> </ul> |
| 12:30-13:00    | Final Wrap-up and Workshop Close  |
|                | <ul> <li>Kuat Akizhanov, Deputy Director II, CI</li> <li>Ilhom Abdulloev, Chief of Capacity Building Division, CI</li> </ul>  |

# Site Visit

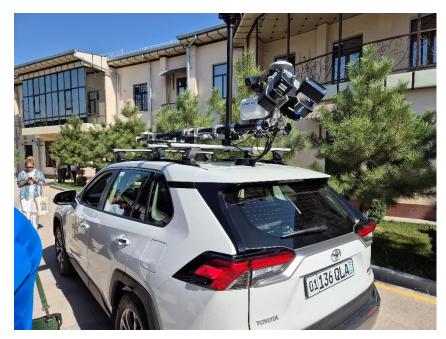
A site visit was made to the local State Committee for the Roads of the Republic of Uzbekistan offices where participants observed the data collection equipment currently in use to measure road conditions and monitor traffic, along with receiving a presentation on the process from data collection, through to the production of a forward works program. The site visit provided an ideal opportunity for ongoing discussions throughout the workshop.

The State Committee of Roads is thanked for their arrangement of the site visit, including making key staff available for discussions with the workshop participants. A selection of photos from the site visit is included in the table below.

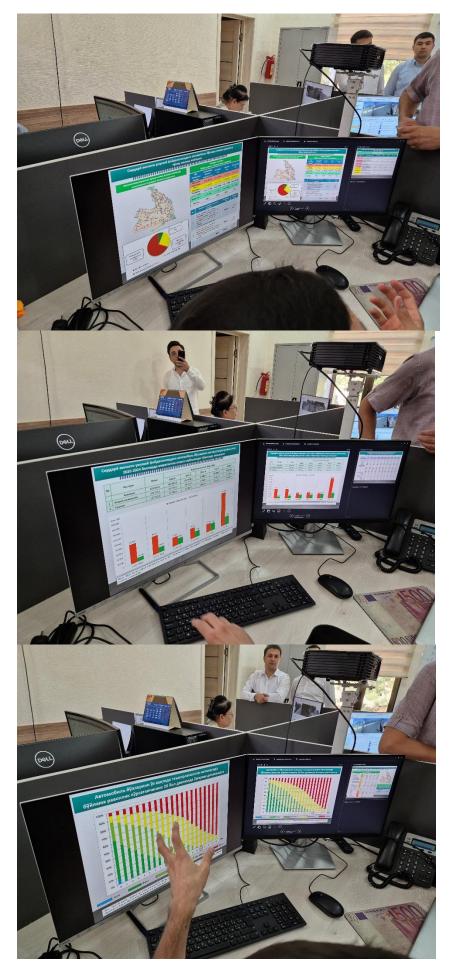
Table 2: Photos from Site Visit.



Inspecting the highspeed data collection vehicle (IRI, rutting, video, etc). Also had FWD trailer attached to it. Vehicle is new, with Russian based equipment. Collect high speed data at approximately 50 lane-km per hour. FWD at 1 km intervals in opposing directions.



New 360-degree camera and LiDAR system for creating 3D images of the road. Currently used for inventory and as a survey vehicle, not for road condition assessment.



Data from the field is processed and from the current condition default works are created.

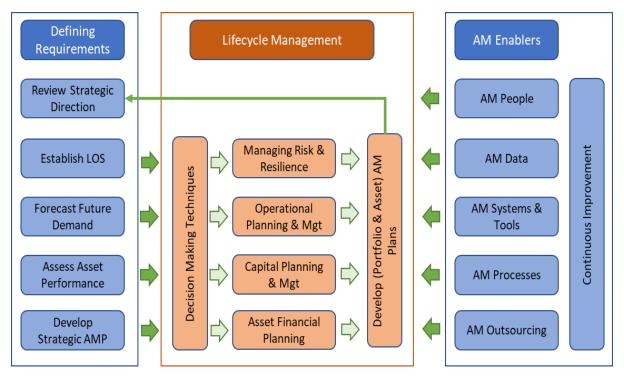
Historic and projected (right hand column) funding needs for sample road network.

An illustration of where the Committee of Roads want to move to in terms of projecting the condition over time. They don't currently have this capability.

# **Maturity Assessment and Improvement Plan**

The maturity assessment followed the overall RAM process diagram (refer to Figure 4) that is based upon the International Infrastructure Management Manual (IIMM), which has been used as the basis of the training for the past 2-years.

The 2021 RAM Maturity Self-Assessment process was not completed by Uzbekistan, such that no base assessment was available to work from. Based upon the discussions had throughout the workshop, and in particular discussions on the final day around the needs for support to further enhance RAM practices it is concluded that many of the foundations of good RAM practice are in place within Uzbekistan. There are however a number of distinct gaps where further action is needed to create a "joined up" approach to RAM.



#### Figure 4: Asset Management Process.

### Source: International Infrastructure Management Manual

The improvement plan was developed in consultation with those at the workshop, and the accuracy and relevance of all findings are therefore constrained by the knowledge of those at the workshop. It is entirely plausible that a different finding would be arrived at if different participants were involved. Therefore, the improvement plan should be considered as a base from which further validation and refinement should occur.

| RAM Process         | Improvement Initiative   |
|---------------------|--|
| Strategic Direction | <ul> <li>While the overall direction of RAM appears to be captured in various<br/>Presidential Decrees, a cohesive RAM Policy and Strategy would be<br/>worth developing. In particular clarifying what standard of RAM they<br/>are aiming to achieve (is it ISO55000?) and what entities are<br/>responsible for what aspects of RAM</li> <li>The RAM Strategy should clearly articulate the steps of improvement<br/>for RAM up till 2030, including the costs associated with<br/>implementing the Policy and Strategy.</li> </ul> |

| Levels of Service                     | The current measures a nurshy on the basis of read condition (ID)   |
|---------------------------------------|---|
|                                       | <ul> <li>The current measures a purely on the basis of road condition (IRI<br/>appears to be the primary measure).</li> </ul>   |
|                                       | <ul> <li>There is a need to develop a full range of Service Levels and</li> </ul>   |
|                                       | Performance Measures – beyond just road roughness (i.e. travel time   |
|                                       | reliability, road safety etc).  |
|                                       | • Need to develop and implement Customer Satisfaction surveys.  |
|                                       | • Ensure public reporting against the measures occurs.  |
| Future Demand                         | • At present they have limited automatic traffic counting hardware and  |
|                                       | few 24/7 axle load monitoring sites (weigh stations or weigh-in-  |
|                                       | motion).  |
|                                       | Develop a national traffic monitoring strategy that includes a  |
|                                       | combination of permanent and temporary sites, and covers both   |
|                                       | traffic volumes and vehicle loading data.   |
|                                       | • From the strategy then determine the additional equipment (beyond   |
|                                       | the current 5 portable radar systems) that is required to meet the  |
|                                       | needs of the strategy. Likely will need a combination of additional portable counting systems, permanent weigh-in-motion sites, and   |
|                                       | portable counting systems, permanent weigh-in-motion sites, and<br>portable scales.   |
| Asset Performance                     | Data collection equipment for roads looks sufficient for the needs.   |
|                                       | <ul> <li>Unclear if there is suitable data collection equipment for bridges.</li> </ul>   |
| Asset Management Plan                 | While much of the information required for a good AMP is in place,  |
| -                                     | this is not captured in a single document that can cohesively explain   |
|                                       | the 'story' of the assets and hence justify the need for investing in it.   |
|                                       | Prepare an AMP and publish this publicly.   |
|                                       | Use the AMP as the primary justification for the overall works  |
|                                       | program, and to keep track of progress against the RAM Policy and   |
|                                       | Strategy.   |
| Decision Making Techniques            | • At present there is a lack of any predictive modelling tools and  |
|                                       | associated decision support tools (DST). A draft works program is   |
|                                       | generated purely on the basis of the latest assessed condition, and<br>the impact of funding decisions is not able to be modelled.  |
|                                       | <ul> <li>There is a need for DSTs for pavements and potentially</li> </ul>  |
|                                       | bridges/tunnels.  |
|                                       | Determine how to blend risk based 'climate resilient' type needs into   |
|                                       | the more deterministic capital works program.   |
|                                       | Introduce non-monetary prioritization indicators into planning  |
|                                       | process relevant to population, access social services, tourism,  |
|                                       | healthcare, education, etc.   |
| Risk and Resilience                   | Prepare a formal risk assessment methodology and conduct a full   |
|                                       | climate resilient study of the network.   |
|                                       | Conduct a study to determine the criticality of the road sections –   |
|                                       | beyond just traffic volumes, but considering the wider societal   |
| Operational & Maintenance             | impacts.  |
| Operational & Maintenance<br>Planning | <ul> <li>Ensure that the asset management system is able to keep track of<br/>maintenance costs for subsequent use in DSTs</li> </ul>   |
| налипь                                | <ul> <li>Develop emergency response plans for when unplanned road</li> </ul>  |
|                                       | closures (landslides, accidents or similar) occur.  |
|                                       |   |
| Capital Planning                      |   |
| Capital Planning                      | <ul> <li>Need to determine the appropriate mix of system (HDM-4 or similar)<br/>and practitioner input to the development of the annual works</li> </ul>  |
| Capital Planning                      | • Need to determine the appropriate mix of system (HDM-4 or similar)  |
| Capital Planning                      | <ul> <li>Need to determine the appropriate mix of system (HDM-4 or similar)<br/>and practitioner input to the development of the annual works</li> </ul>  |
| Capital Planning                      | <ul> <li>Need to determine the appropriate mix of system (HDM-4 or similar)<br/>and practitioner input to the development of the annual works<br/>program.</li> </ul>   |
| Capital Planning                      | <ul> <li>Need to determine the appropriate mix of system (HDM-4 or similar) and practitioner input to the development of the annual works program.</li> <li>Develop a rolling 5-year works program for all resurfacing and</li> </ul>   |
| Asset Financial Planning &            | <ul> <li>Need to determine the appropriate mix of system (HDM-4 or similar) and practitioner input to the development of the annual works program.</li> <li>Develop a rolling 5-year works program for all resurfacing and rehabilitation/reconstruction works, plus for major structures (bridges, tunnels and large box culverts).</li> <li>Complete an asset valuation in 2025 and include an estimate of</li> </ul> |
|                                       | <ul> <li>Need to determine the appropriate mix of system (HDM-4 or similar) and practitioner input to the development of the annual works program.</li> <li>Develop a rolling 5-year works program for all resurfacing and rehabilitation/reconstruction works, plus for major structures (bridges, tunnels and large box culverts).</li> </ul>   |

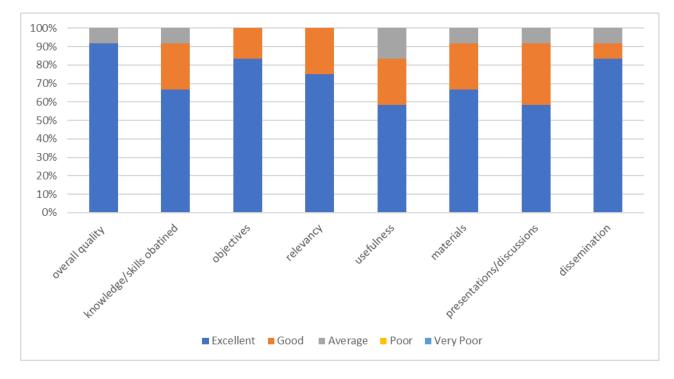
| People               | • Establish linkages with the university sector to both address issues of concern, and to build future capacity in the RAM space.  |
|----------------------|--|
| Data                 | • Establish Long Term Pavement Performance (LTPP) sites, ideally with other CAREC countries using a common evaluation format and open sharing of data across borders and with university sector.   |
|                      | <ul> <li>Equipment needs (to be confirmed by further investigation):</li> <li>Traffic counters</li> <li>Weigh-in-motion</li> </ul>   |
|                      | <ul> <li>Portable weigh scales</li> <li>Roughness equipment – A Walking Profilometer or similar<br/>would be useful for calibrating the high-speed equipment and<br/>surveying small road sections.</li> </ul>   |
|                      | Bridge inspection equipment  |
| Systems and Tools    | <ul> <li>Determine what overall functionality is required and whether that<br/>will be through a single COTS system or via a number of discrete<br/>COTS systems (avoiding developing in-house software)</li> <li>Implement a DST for pavements and possibly bridges.</li> </ul> |
| Processes            | Business map all current RAM processes   |
| Outsourcing          | • Review the respective benefits of internal vs outsource for various aspects of RAM – such as condition inspections, traffic counting etc.  |
| Improvement Planning | • Adopt an improvement plan with timelines and fund it, and report on overall progress within the AMP. Also link with the RAM Strategy.  |

# Feedback from participants

At the end of the workshop, participants were provided with a feedback form. Responses were received from 12 participants.

The Road Asset Management Workshop held in Tashkent, Uzbekistan, from 3-6 September 2024, received positive feedback from participants. The workshop aimed to provide professionals in the field of road asset management with essential knowledge and practical skills to improve their day-today operations and infrastructure management. Participants provided detailed feedback on several aspects of the workshop, highlighting its relevance, effectiveness, and areas for future improvement.

Overall, participants expressed gratitude for the opportunity to learn, exchange knowledge, and stay up-to-date with the latest practices in road asset management. They also provided insightful suggestions for enhancing future sessions, emphasizing the need for a more practical, internationally focused, and advanced approach.



Responses to the questions asked a provided below.

# How will you apply knowledge gained in this course to your work (please be specific about your plans)?

Participants provided a range of responses, generally emphasizing the practical application of knowledge gained from the workshop:

- **Daily Integration:** Participants mentioned that they plan to apply the knowledge directly in their daily activities, including road asset management tasks and laboratory settings.
- Enhanced Understanding: Some participants highlighted that while they were familiar with much of the content, the workshop provided new perspectives and terminology, which they will integrate into their existing practices.
- **Concept Adoption:** Participants plan to improve road asset management by incorporating new concepts introduced during the workshop.

- **Comparative Insights:** One participant mentioned using the experience to compare Uzbekistan's practices with those of other countries, suggesting a cross-national learning application.
- **Practical Application:** Some responses indicated the intention to apply the knowledge specifically to improve the laboratory processes or other technical aspects of road management.

This feedback suggests a strong intention among participants to both apply and compare the new knowledge with existing practices, as well as improve processes in their daily operations.

# Which agencies or stakeholders in your country could benefit from future deliveries of this course (this can include your own agency)?

Participants identified several key agencies and stakeholders who would benefit from future sessions of the workshop:

- **Road Agencies**: Most participants agreed that all road-related agencies and personnel would find the workshop highly valuable.
- **Specific Entities**: Agencies such as the Automobile Roads Committee, Ministry of Transport, and the State Enterprise for the Analysis of Highways and Road Safety were frequently mentioned as key beneficiaries.
- **Broader Stakeholders**: Beyond specific agencies, participants indicated that the training would be beneficial to all road construction and road asset management authorities.
- **Relevance for Knowledge Sharing**: One participant emphasized that this training was instrumental in gaining new knowledge and that all related road agencies would find it interesting and beneficial.

In summary, the feedback suggests broad applicability of the course content across a wide range of road management and safety organizations, with particular emphasis on national committees and ministries.

# Do you have any comments or suggestions on the presentations by Speakers/Presenters?

Participants provided constructive feedback for the presentations:

- Positive Feedback: Many participants expressed gratitude to the organizers and speakers, complimenting the overall quality of the presentations and wishing success for future activities.
- **Need for New Information:** Some participants indicated that the information presented was already available in Uzbekistan, highlighting the need for new and more innovative content in future workshops.
- Concrete Proposals: There was a specific request for more concrete proposals on road asset management to be included in future events, indicating a desire for more actionable insights.
- **Global Perspective:** Participants expressed interest in learning from the experience of other countries, suggesting that future workshops incorporate international examples and best practices.

In summary, while the speakers were well-received, there is a strong desire for fresh, innovative content and more practical proposals, as well as opportunities to engage with global best practices.

# Do you have any comments or suggestions that would help us improve our future events?

## **Duration of the Course**

Positive Feedback: Participants generally found the duration of the course to be appropriate, with one noting that "everything was perfect."

Suggestions: No significant requests for changes were made, indicating overall satisfaction with the course length.

## **Quality of the Discussions**

Constructive Feedback: A common theme was the need to improve the quality of discussions. Many participants repeatedly emphasized that this area could benefit from more depth and engagement.

# Participant Mix

Positive Feedback: The participant mix was not directly criticized, and the workshop organization was described as superb and flexible, allowing for effective knowledge sharing.

# **Facilitation**

Praise for Organization: Participants were pleased with the overall facilitation, mentioning that the workshop was well-organized, and the agenda was flexible, which contributed to a positive learning environment.

In summary, while participants were satisfied with the duration and facilitation of the workshop, there is a strong desire to enhance the quality of discussions in future events, possibly by encouraging more interactive and deeper exchanges among participants.

# What capacity development needs/issues/subjects/themes would you like the course organizers to address in its future events?

Participants provided several suggestions for future training topics and formats:

- Location of Training: There is a strong interest in having future workshops conducted outside Uzbekistan, allowing participants to engage with international practices and environments.
- **Practical Focus:** Many participants expressed a preference for more practice-oriented workshops as opposed to theory-driven sessions, highlighting the need for hands-on, practical applications.
- **Specialized Training:** There is a demand for workshops tailored to specific roles, such as road management financiers, including accountants and economists.
- New Equipment and Study Tours: Participants also called for training on new equipment and practical demonstrations of its use. Additionally, they suggested organizing study tours to other countries to observe and learn from global best practices in road asset management.

In summary, participants are eager for future events to incorporate more practical, specialized content and international exposure, whether through training abroad, study tours, or hands-on equipment demonstrations.

### **Other Comments or Suggestions**

Participants expressed their gratitude and provided additional suggestions:

- **Gratitude and Acknowledgement:** Many participants offered thanks to the organizers for the knowledge shared and commended the contribution towards developing world-class roads.
- **Future Participation:** Some participants expressed a strong desire to attend more training events in the future, appreciating the opportunity to stay updated and improve knowledge.
- International Focus: There was a repeated suggestion to organize future training courses abroad and to engage international experts in road asset management, highlighting the value of global knowledge exchange.

In summary, participants were highly appreciative of the workshop and are keen to continue learning, with a specific focus on international exposure and expert involvement in future events.

# **Testimonials**



# Mr. Akhror Rajapov, Chief Specialist, Road Assets Department, Ministry of Transport:

"Uzbekistan has successfully acquired state-of-the-art laboratories for its new road projects. These advanced facilities will rigorously examine the roads across different categories, including traffic flow. The standards for these laboratories are impressive. And today's workshop revealed opportunities for enhancing the laboratory programming to achieve even greater performance and accuracy."



# Mr. Asror Usmonxodjayev, Leading Specialist, Road Assets Department, Ministry of Transport:

"I am truly delighted that this workshop is taking place in Uzbekistan. It has provided us with crucial new information that is essential for our professional work. The presentations about Road Asset Management have been exceptionally informative and directly applicable to my daily tasks. The shared international experiences are incredibly valuable for advancing road asset development in Uzbekistan."



# Mr. Mirrasul Sagatov, Chief Specialist, Road Assets Department, Ministry of Transport

"I am thrilled with the insights gained from this workshop, particularly the valuable experiences shared from Georgia and Kyrgyz Republic. The discussions on Road Asset Management strategies, policies, and the use of equipment for evaluating and monitoring work quality were exceptionally enlightening. We are now proud to demonstrate in practice during our field visit how we are implementing the quality control of our roads in Uzbekistan."