



Workshop Report

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

Kazakhstan

September 2024

Disclaimer

This report is the outcome of the CAREC Institute's in-country Road Asset Management (RAM) workshop and maturity assessment for Kazakhstan that took place from 9 – 12 September 2024. This report was drafted by Dr. Ian Greenwood and Mr. Giorgi Japaridze, CAREC Institute consultants. It is edited by Dr. Ilhom Abdullaev, Chief of Capacity Building Division, the CAREC Institute, and Ms. Dildar Zakir, Capacity Building Specialist, the CAREC Institute.

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Overall, this project would have not been possible without the support of Dr. Kuat Akizhanov, the CAREC Institute Deputy Director Two, Dr. Lyaziza Sabyrova, Regional Head, Regional Cooperation and Integration Unit (RCI), CWRD, ADB, Dr. Roman Mogilevskii, Senior Economist, RCI, CWRD, ADB, Ms. Honey Guerzon, Knowledge Management Officer, RCI, CWRD, ADB, Mr. Diyar Tassym, Advisor to CAREC National Focal Point for Kazakhstan, Ms. Guldana Sadykova, Senior Regional Cooperation Coordinator of CAREC and Mr. Gary Huang, eLearning Specialist, CAREC Institute and Ms. Gulshat Raissova, CAREC Institute Coordinator, ADB.

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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
O&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 Astana Kazakhstan 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 Kazakhstan.

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.

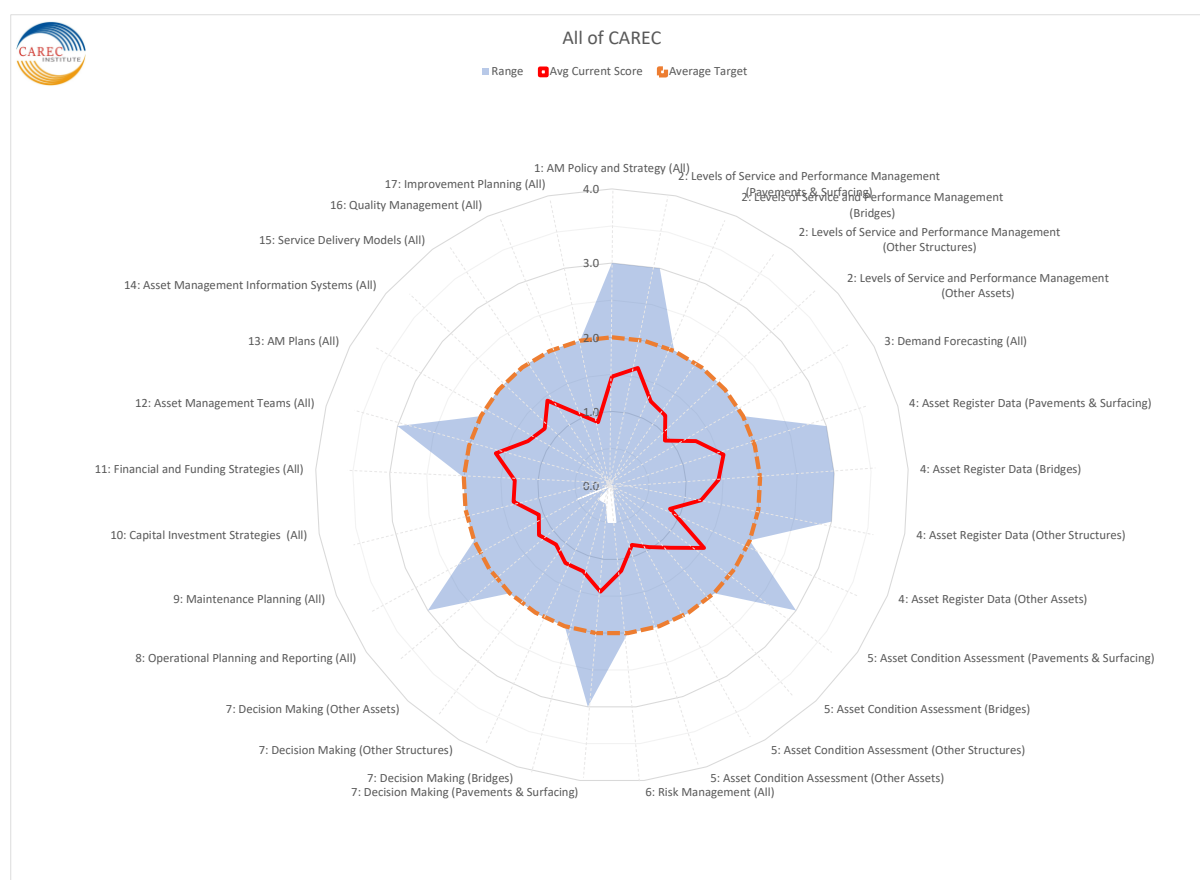
The workshop achieved a very high satisfaction rating with 80% of respondents rating it Excellent and 20% Good.

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)¹ initiatives from online training program delivery, through to country specific RAM maturity assessments,² 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.

Figure 1: Summary from 2021 Maturity Self-Assessments.



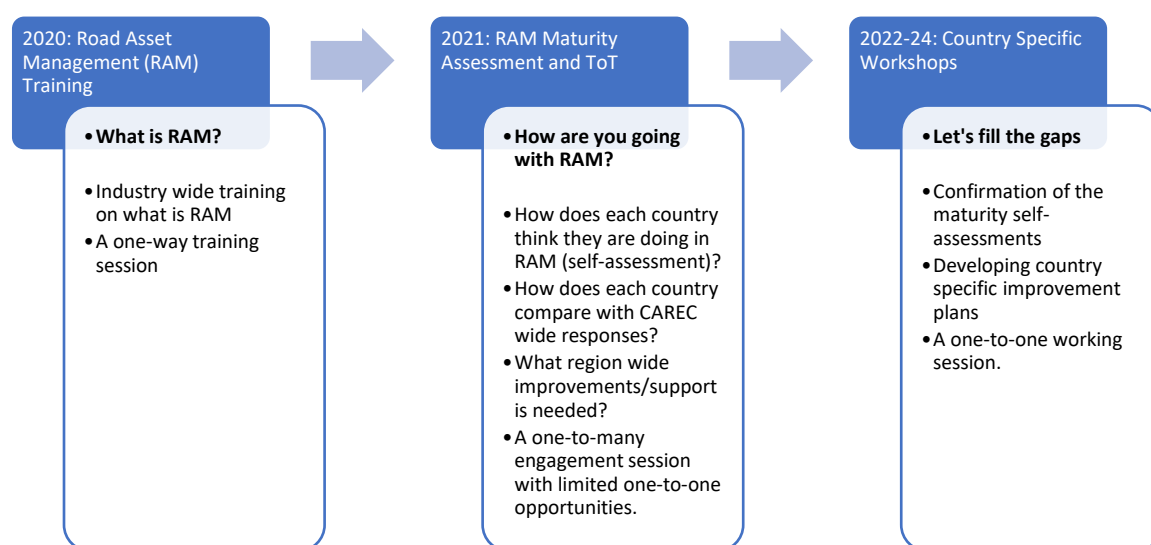
Source: CAREC Region Road Asset Management, Maturity Assessment, Final Report. CAREC Institute, 2021.

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.

¹CAREC Institute E-Learning Platform: <https://elearning.carecinstitute.org/learning-modules/workshops/124.html>

²CAREC Institute E-Learning Platform: <https://elearning.carecinstitute.org/learning-modules/workshops/160.html>

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:

- i. 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 & Facilitators

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

- Mr. Kuat Akizhanov, Deputy Director II, CAREC Institute
- Mr. 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 participants 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. Kazakhstan Officials	
1.	Ms. Assemgul Aikenova, Director, Pricing and Estimated Norms Department, JSC «KazdorNII»
2.	Ms. Aliya Zeinullina, Head Manager, Investments Project Department, JSC «KazdorNII»
3.	Ms. Zhenisgul Temirbek, Road Engineer, Investments Project Department, JSC «KazdorNII»
4.	Ms. Gulzhan Mendagaliyeva, Specialist, JSC «KazdorNII»
5.	Mr. Azamat Tashkenbayev, Project Manager, External Loans Department, NC KazAvtoZhol
6.	Mr. Kurmangazy Tileu, Director, Digitalization Department, JSC «KazdorNII»
7.	Mr. Raiymbek Yermek, Road Engineer, External Loans Department, NC KazAvtoZhol
8.	Mr. Farkhot Baibolatov, Head, Diagnostic Department, Diagnostic and Departmental Expertise Department, National Center for Quality of Road Assets
9.	Ms. Kumiszhana Zhunissova, Expert, Diagnostic and Departmental Expertise Department, National Center for Quality of Road Assets
10.	Mr. Madiyar Abduali, Expert, Diagnostic and Departmental Expertise Department, National Center for Quality of Road Assets
11.	Ms. Anel Ozarchuk, Head, Summary Analytical Department, Diagnostic and Departmental Expertise Department, National Center for Quality of Road Assets
12.	Mr. Meiirkhan Bekessov, Chief Expert, Committee of Roads, Ministry of Transport
13.	Mr. Madi Maksatov, Expert, Committee of Roads, Ministry of Transport
14.	Mr. Aibek Tuzelkhan, Chief Expert, Committee of Roads, Ministry of Transport
15.	Ms. Aizhan Issagulova, Deputy Director, Kazakhstan National Association of Professional Engineers and Consultants
16.	Ms. Korkem Baishova, Deputy Director, Kazakhstan National Association of Professional Engineers and Consultants
17.	Mr. Yerik Amirbayev, Vice President, JSC «KazdorNII»
18.	Mr. Azamat Sagadiev, Expert, Quality Department, National Center for Quality of Road Assets
19.	Mr. Serik Aron, Head, Quality Department, National Center for Quality of Road Assets
20.	Mr. Abishev Abdullakh, Expert, Committee of Roads, Ministry of Transport

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, Road Asset Management Systems Consultant, Roads Department of Georgia

III. Special Guests

25. Mr. Bakhtiyar Zhambyl, Chairman, Committee of Roads, Ministry of Transport
26. Mr. Diyar Tassym, Advisor to CAREC NFP, Kazakhstan
27. Ms. Guldana Sadykova, Senior Regional Cooperation Coordinator of CAREC

IV. CAREC Institute

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

V. Interpreters

33. Ms. Aliya Arinova, Kazakhstan
34. Ms. Olga Kurdyukova, Kazakhstan

Figure 3: Workshop Group Photograph.



Agenda

The workshop agenda was as follows, with all sessions held at the Astana Hilton Hotel. 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>.

The site visit was shifted from the afternoon of day 2, to the afternoon of day 4 as per the participants availability to host such a visit to the National Center for Quality of Road Assets. The afternoon of day 2 was instead used for further discussion on topics of interest to the participants.

  <p style="text-align: center;">Country-Specific Workshop / ToT on Road Asset Management – Kazakhstan 9 – 12 September 2024 Astana, Kazakhstan</p>	
DAY 1 (MONDAY, 9 SEPTEMBER 2024)	
08:30-09:00	Registration
09:00-09:30	Welcome and Opening Remarks <ul style="list-style-type: none"> • Kuat Akizhanov, Deputy Director II, CAREC Institute (CI) • Representative from Ministry of Transport • Country Director, Resident Mission, ADB
09:30-10:00	Keynote Presentation: CAREC Corridors Presenter: Kuat Akizhanov
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 style="list-style-type: none"> 1. Funding, budget allocation cycle 2. Prioritization of road maintenance and renewal needs 3. Method of delivery of road maintenance and renewal works Session is to get engagement of participants and let them feel comfortable speaking in the setting. Facilitators: Ian Greenwood & Giorgi Japaridze
12:00-13:00	Lunch: Park Kitchen
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 Engineering, University of Auckland
16:30-17:00	Wrap-up of Day 1 <ul style="list-style-type: none"> Ilhom Abdulloev, Chief of Capacity Building Division, CI
DAY 2 (TUESDAY, 10 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 <i>What to Collect, With What and How Often</i> Presenter: Theuns Henning
09:40-10:00	Overview on CAREC Corridor Performance, Measurement and Monitoring Presenter: Ilhom Abdulloev
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 Tools Presenter: Theuns Henning
11:30-12:00	Expanding Asset Register and Data Use for Basic Network Level Multi-Year Planning Presenter: Giorgi Japaridze
12:00-13:00	Lunch: Park Kitchen
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 (WEDNESDAY, 11 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 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: Park Kitchen
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 <i>Force Account, Outsourced, Performance Based Contracts (PBCs)</i> Presenter: Ian Greenwood
16:30-17:00	Wrap-up of Day 3 <ul style="list-style-type: none"> Ilhom Abdulloev, Chief of Capacity Building Division, CI
DAY 4 (THURSDAY, 12 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 style="list-style-type: none"> Ilhom Abdulloev, Acting Chief of Capacity Building Division, CI Dildar Zakir, Capacity Building Specialist, Capacity Building Division, CI
12:30-13:00	Final Wrap-up and Workshop Close <ul style="list-style-type: none"> Kuat Akizhanov, Deputy Director II, CI Ilhom Abdulloev, Chief of Capacity Building Division, CI

Site Visit

A site visit was made to the local National Center for Quality of Road Assets on the final day of the workshop 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 use of their road asset management information system. The site visit proved to be an ideal setting for discussing the various challenges faced by the Center and the participants engaged in meaningful conversations with the insights that the Center could implement to improve its operations and outcomes.

Particularly noted was the inability of the Centre to access HDM-4 to generate the draft works programme, despite this having been implemented under a World Bank project. It is thought that the HDM-4 software may be residing with the State Committee of Roads, although this has not been confirmed.

The Centre is thanked for their arrangement of the site visit, including making key staff available for discussions with the CAREC Institute staff and trainers. A selection of photos from the site visit is included in the table below.

Table 2: Photos from Site Visit.

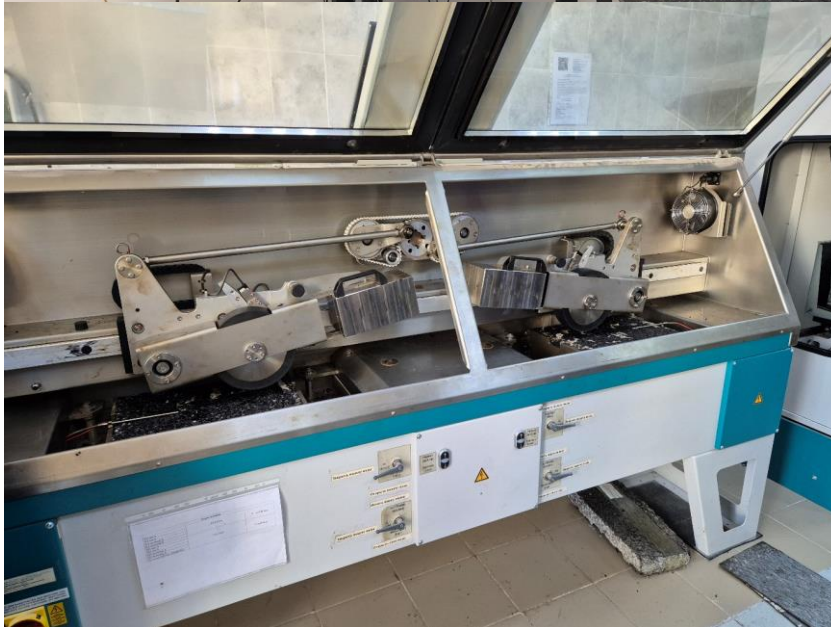


One of the 16 equivalent data collection vans (mobile labs).

The technology doesn't permit them to collect data in the daytime, and at a maximum speed of 60km/h. Appears to be an option to rationalise the number of vans in use, and get better specified sensors to enable data collection in a wider range of conditions.



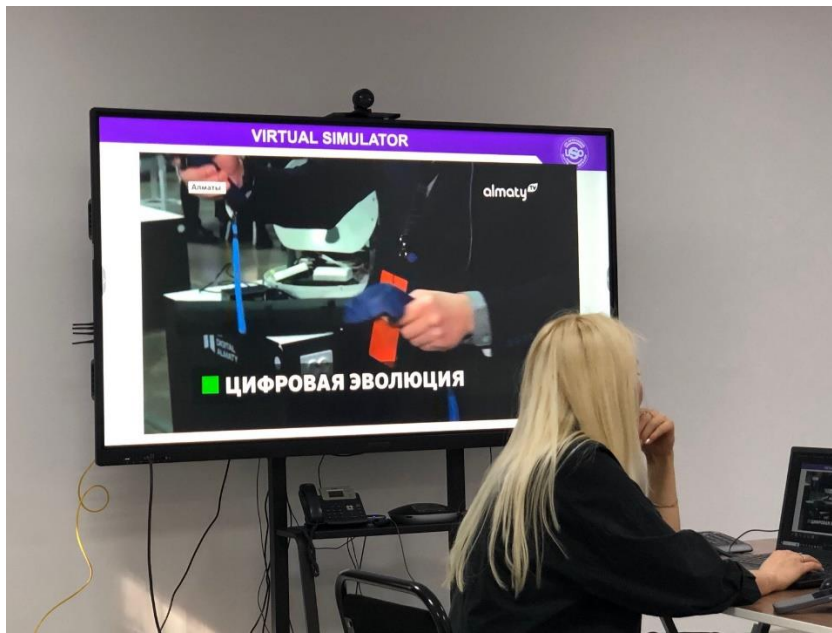
From collecting samples in the field, through to sharing of results, the full process is well managed with automated saving of test results to eliminate human input error.



Machine for undertaking rapid testing of asphalt pavements for rutting susceptibility.



Testing lab.

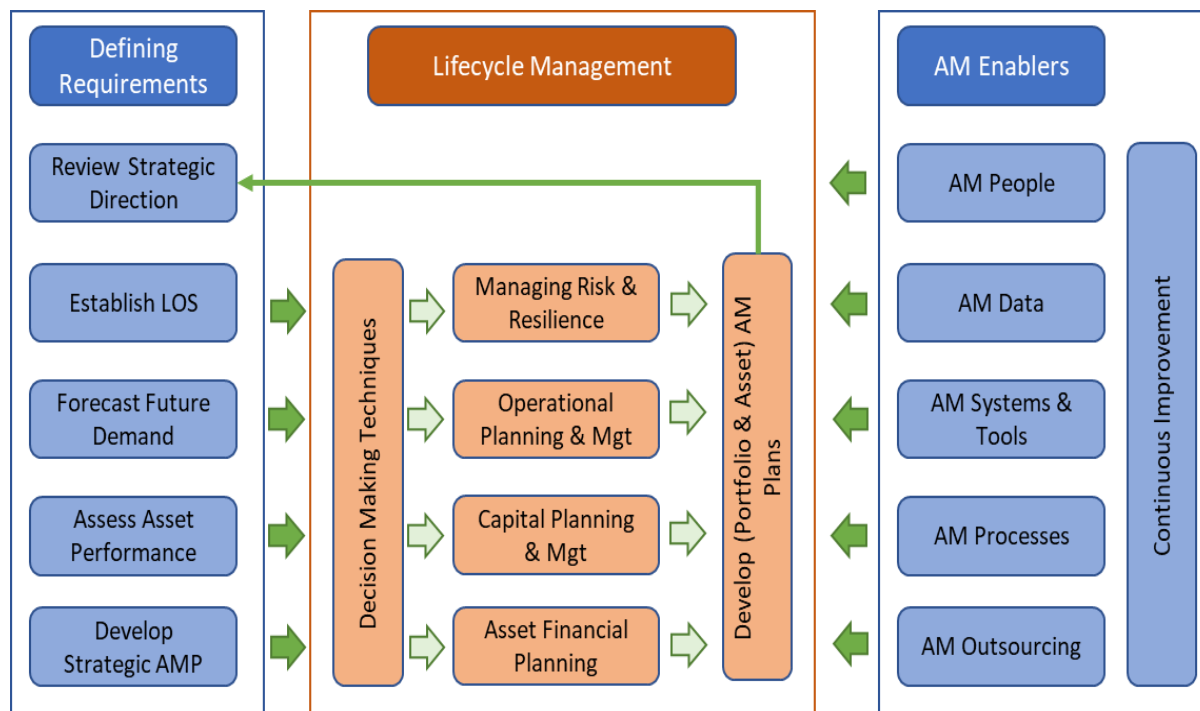


Presentation of VR simulator training for lab technician refresher courses.

Maturity Assessment and Improvement Plan

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 Kazakhstan. 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.

Table 3: Recommended Improvement Plan

RAM Process	Improvement Initiative
Strategic Direction	<ul style="list-style-type: none"> While the overall direction of RAM appears to be captured in various Presidential Decrees, a cohesive RAM Policy and Strategy would be worth developing. In particular clarifying what standard of RAM they are aiming to achieve (is it ISO55000?) and what entities are responsible for what aspects of RAM The RAM Strategy should clearly articulate the steps of improvement for RAM up till 2030, including the costs associated with implementing the Policy and Strategy.
Levels of Service	<ul style="list-style-type: none"> The current measures a purely on the basis of road condition (IRI appears to be the primary measure). There is a need to develop a full range of Service Levels and 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	<ul style="list-style-type: none"> • Participants advised they have good traffic counting and loading regime in place. • They also have a good network of weather monitoring stations (both in air and in ground to a depth of 3m) • Participants expressed interest in establishing Long Term Pavement Performance (LTPP) sites and also obtaining equipment for accelerated pavement load testing of new mixes etc.
Asset Performance	<ul style="list-style-type: none"> • With 16 mobile data collection vehicles to cover 25,000km of road, they should be adequately covered. However, the technology is such that they can only collect at a maximum of 60 km/h and can't get reliable measurements if collecting data during the day. There is a clear need to rationalise the number of vehicles, while also updating to modern technology.
Asset Management Plan	<ul style="list-style-type: none"> • Based on discussions (no document was sighted) it would appear that the bulk of an AMP is contained within their existing Budget Request Document (BRD). Support to expand the BRD into a full RAM may be required. • The expanded BRD should be published publicly.
Decision Making Techniques	<ul style="list-style-type: none"> • While there was a World Bank funded project that implemented HDM-4, the National Centre for Quality of Road Assets (who collect the data, host the RAMS and in theory would run HDM-4 for the road authority) weren't the recipient of that training or software. There is a need to resolve where the current licence is, who was trained and who should be undertaking the analysis. • There is a need for DSTs for pavements and potentially 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	<ul style="list-style-type: none"> • 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 impacts.
Operational & Maintenance Planning	<ul style="list-style-type: none"> • Ensure that the asset management system is able to keep track of maintenance costs for subsequent use in DSTs • Develop emergency response plans for when unplanned road closures (landslides, accidents or similar) occur.
Capital Planning	<ul style="list-style-type: none"> • Need to determine the appropriate mix of system (HDM-4 or similar) and practitioner input to the development of the annual works program. • Develop a rolling 5-year works program for all resurfacing and rehabilitation/reconstruction works, plus for major structures (bridges, tunnels and large box culverts).
Asset Financial Planning & Valuation	<ul style="list-style-type: none"> • Complete an asset valuation in 2025 and include an estimate of annual depreciation.
Portfolio AMPs	<ul style="list-style-type: none"> • No specific actions were identified
People	<ul style="list-style-type: none"> • Establish linkages with the university sector to both address issues of concern, and to build future capacity in the RAM space.
Data	<ul style="list-style-type: none"> • 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. • Equipment needs (to be confirmed by further investigation):

	<ul style="list-style-type: none"> • Update existing mobile data lab vehicles with technology that can operate at higher speeds and during daylight. • Roughness equipment – A Walking Profilometer or similar would be useful for calibrating the high-speed equipment and surveying small road sections. • Accelerated pavement loading equipment.
Systems and Tools	<ul style="list-style-type: none"> • Undertake a review of the current RAMS (customised built) to determine improvements needed to bring it up to standard (i.e. expand functionality to cover more assets, plus resolve integration with HDM-4, creation of dynamic treatment lengths etc) • Implement a DST for pavements and possibly bridges.
Processes	<ul style="list-style-type: none"> • Business map all current RAM processes
Outsourcing	<ul style="list-style-type: none"> • Review the respective benefits of internal vs outsource for various aspects of RAM. Noting that the collection of data is already outsourced from the Committee of Roads to the National Centre for Quality of Road Assets.
Improvement Planning	<ul style="list-style-type: none"> • Adopt an improvement plan with timelines and fund it, and report on overall progress within the AMP. Also link with the RAM Strategy.

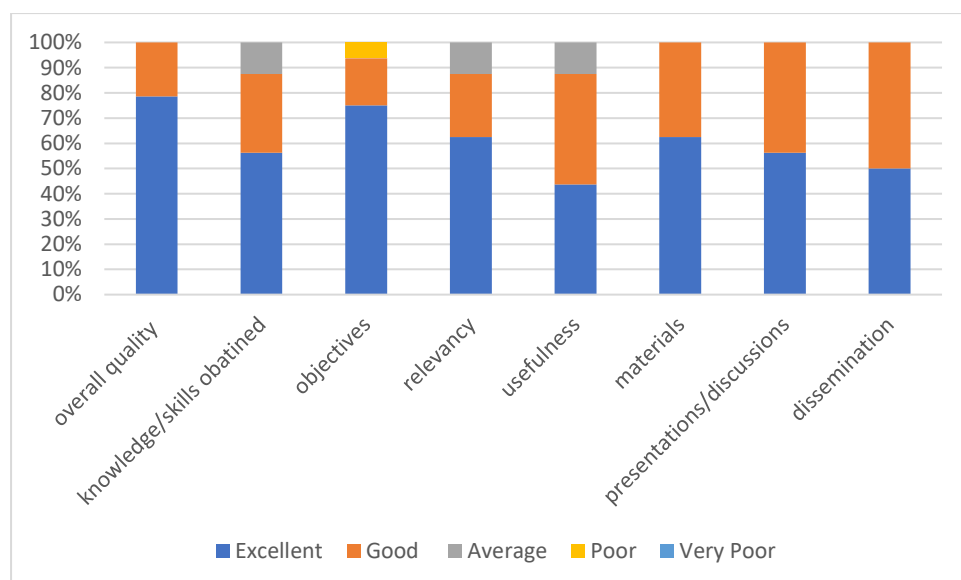
Feedback from participants

At the end of the workshop, participants were provided with a feedback form. Responses were received from 16 of the 20 workshop participants.

The Road Asset Management (RAM) workshop held in Astana, Kazakhstan, from 9-12 September 2024, received highly positive feedback from participants, with widespread appreciation for the knowledge shared, the structure of the sessions, and the presenters' expertise. The workshop successfully facilitated skill-building for professionals in road asset management, focusing on both technical and operational aspects. Participants highlighted the relevance of the content to their work, particularly the use of international practices and methodologies such as HDM-4 and iRAP star ratings. They expressed a strong intention to apply the newly gained knowledge to improve Kazakhstan's road infrastructure and operations.

This chart provides a clear visual overview of where the workshop succeeded and highlights areas where future workshops can incorporate participant feedback to enhance engagement and practical application.

Figure 5: Participant Feedback Ratings



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

Participants outlined several specific ways in which they plan to apply the knowledge gained during the workshop:

- **Development of RAM Systems:** Many participants emphasized the use of the workshop content to contribute to the development and improvement of road asset management (RAM) systems in Kazakhstan, including the application of international methodologies.
- **Technical Application:** Participants mentioned the intention to test and apply tools like HDM-4, iRAP star ratings, and International Roughness Index (IRI), as well as to integrate the skills learned into technical projects such as turnkey and institutional components.
- **Operational Improvements:** Some respondents plan to improve road asset performance and safety, incorporating new methods and strengthening contracts in line with international standards.

- **Ongoing Planning:** A few participants noted they are still in the process of formulating specific plans but intend to utilize the knowledge gained in engagements with IFI and in the drafting of technical documentation.

Overall, the responses indicate a strong commitment to applying the workshop's knowledge to both practical projects and strategic reforms within Kazakhstan's road infrastructure sector.

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

Participants identified a broad range of agencies and stakeholders who could benefit from future deliveries of the RAM course:

- **Government Ministries and Committees:** Key government bodies such as the Committee of Roads, Ministry of Transport, and Ministry of Finance were frequently mentioned as potential beneficiaries.
- **Regional and Local Bodies:** Several respondents suggested regional municipalities and local executive bodies, highlighting the need for decentralized road asset management knowledge.
- **Research and Development Institutes:** Organizations like the National Center for Road Asset Quality and KazDorNII (Roads R&D Institute) were identified as crucial stakeholders that would benefit from the course's technical insights.
- **Private Sector and Consultants:** MSO Consulting Group and managing companies involved in the road industry were also recognized as potential participants who could leverage the course content for industry improvements.
- **QazAutoZhol:** This national road management company was mentioned multiple times, underscoring its significance in road asset management and the strong need for capacity building within this entity.

In summary, the feedback highlights a wide spectrum of stakeholders, from government ministries and local bodies to research institutes and private sector entities, all of which play a vital role in the road infrastructure sector and could greatly benefit from future training sessions.

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

Participants generally provided positive feedback about the presentations, while also offering constructive suggestions:

- **Clarity and Engagement:** Many attendees praised the speakers for explaining concepts clearly and providing comprehensive answers to participant questions.
- **Desire for More Examples:** Several participants requested more real-life examples and facts, particularly those related to international practices and the condition of roads in other countries. They expressed interest in seeing more photos and videos of road management practices from different regions.
- **Positive Feedback:** Participants noted that the presentations were good overall.
- **Additional Details on Global Practices:** There was a recurring suggestion to include more detailed explanations of existing road management practices applied in other countries, to deepen the learning experience.

In summary, while the presentations were well-received for their clarity, participants expressed interest in seeing more practical examples and international case studies in future workshops.

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

a. Duration of the Course

No major comments on the course duration, but there was a suggestion to start the sessions later in the morning, around 09:30 or 10:00, to allow for better participant readiness.

b. Quality of the Discussions

Several participants emphasized the need to improve the quality of discussions, particularly by increasing the time allocated for discussions for more in-depth, interactive exchanges.

c. Participant Mix

Feedback on the participant mix was generally positive, but a few respondents highlighted the need for diversity in participant backgrounds to enhance engagement and learning outcomes.

d. Facilitation

Overall, the facilitation was well received, with most respondents satisfied with how the sessions were conducted.

In summary, while the course facilitation and participant mix were viewed positively, there is a strong call for longer, more interactive discussions and a minor suggestion to adjust the session start time to improve participant engagement.

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

Participants provided several key areas they would like to see covered in future events:

- **Road Quality and Standards:** Many participants expressed interest in exploring road quality topics, including the quality standards applied to materials in other countries, to improve local practices.
- **Practical Tools and Testing:** There was a strong desire for more practical tools and opportunities to test different systems using local data from Kazakhstan, emphasizing hands-on learning.
- **Road Safety:** Road safety emerged as a priority topic, with participants keen to learn more about how to minimize accidents and address road safety challenges. They also requested a focus on design engineering related to safety.
- **Specialized Topics:** Other suggested themes included pricing in road construction and operations, digitalization, and the FIDIC contract management system.
- **Localization:** A request was made to facilitate future workshops in the Kazakh language, to make the content more accessible to a broader range of participants.

In summary, participants are looking for more practical, hands-on content and deeper coverage of topics like road quality, safety, and digitalization, with some also advocating for workshops to be conducted in local languages to enhance engagement.

Other Comments or Suggestions

Participants provided additional comments and suggestions for future workshops:

- **International Collaboration:** Several participants suggested organizing joint workshops with colleagues from other countries, particularly CAREC members, to facilitate cross-country learning and collaboration.
- **Practical Focus:** There were requests for more practical exercises to complement the theoretical content, ensuring participants could apply the knowledge in real-world scenarios.
- **Visual Aids:** Participants expressed interest in seeing tables of comparison, before-and-after photos, and other visual aids to better understand the methods and practices shared during the workshop.
- **Positive Feedback:** Overall, participants were satisfied, noting that all questions were answered and there was a good exchange of theoretical experiences.

In summary, participants appreciated the workshop but called for greater practical focus and visual comparisons to enhance understanding, as well as opportunities for international collaboration.