



First Road Working Group Meeting

11–12 March 2026 | Urumqi, People's Republic of China

Первое заседание Рабочей группы по автомобильным дорогам

11–12 марта 2026 года | Урумчи, Китайская Народная Республика



Green Roads Toolkit Support for CAREC DMCs

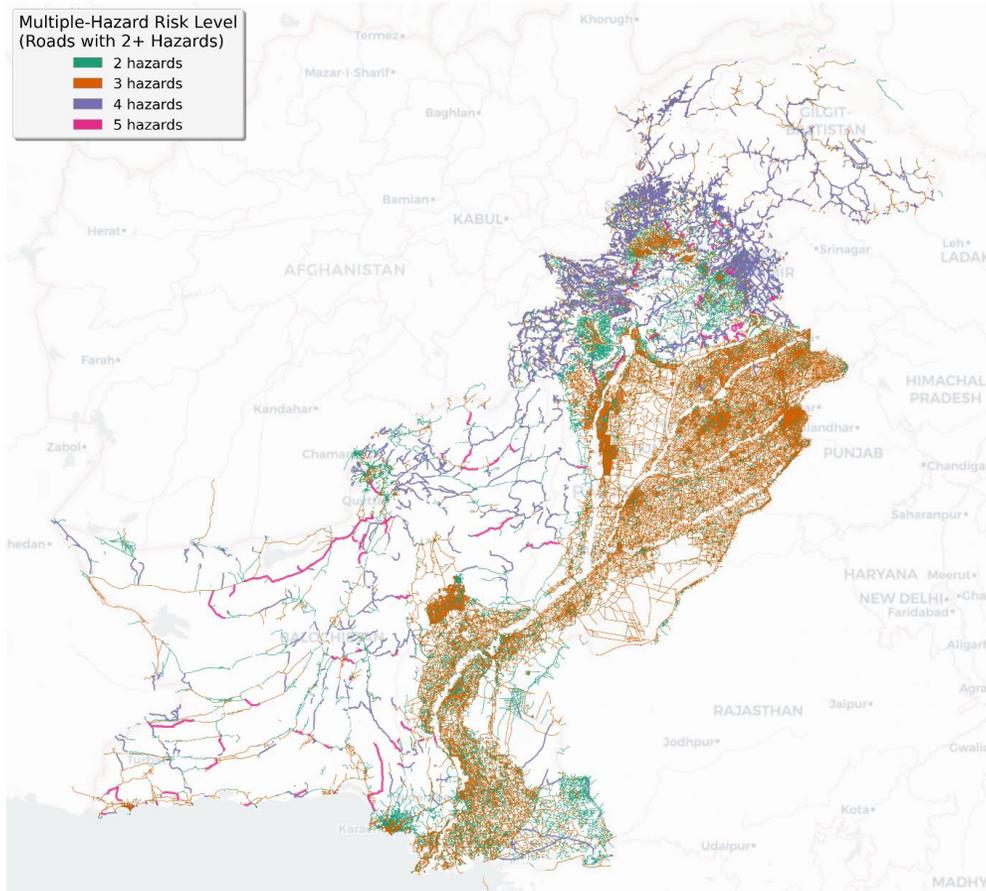
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STRATEGIC CONTEXT FOR GREEN ROADS FOR CAREC





*Roads exposed to multiple hazards in Pakistan.
Source (ADB).*

Transport Challenges in CAREC

CAREC countries face structural transport challenges due to geography, climate risks, and evolving trade patterns.

Climate Risks Impact

Extreme weather and rising temperatures accelerate road deterioration, causing economic losses and disruptions.

Green Roads Solutions

Green Roads integrate decarbonization, resilience, pollution reduction, and biodiversity protection for sustainable transport.

Toolkit for Implementation

The Green Roads Toolkit equips CAREC countries with good practices to design greener, resilient, and inclusive transport corridors.

CTS2030 MIDTERM REVIEW PRIORITIES



Strategic Objectives and Pillars

CTS2030 emphasizes connectivity, sustainability, and resilience as key strategy objectives addressing global challenges.

Challenges in Transport Network

Border-crossing delays, uneven corridor performance, and limited maintenance funding hinder efficient transport and logistics facilitation.

Green and Resilient Infrastructure

Scaling up climate-resilient infrastructure and green transport solutions is essential to adapt to severe climate exposure.

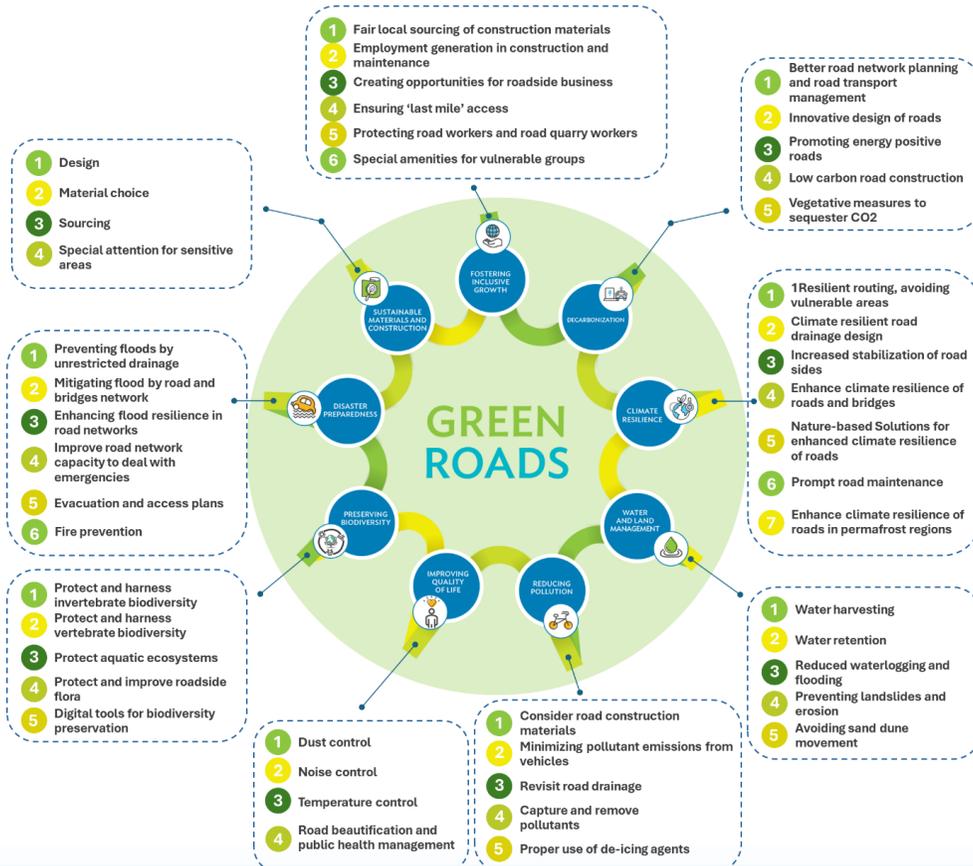
Digitalization and Institutional Collaboration

Digital tools enable intelligent transport systems and paperless trade, supported by aligned institutional strategies and knowledge exchange.



Green Roads Toolkit

OVERVIEW OF GREEN ROADS TOOLKIT



Green Roads Toolkit Structure
Source (ADB).

Comprehensive Sustainable Toolkit

The Green Roads Toolkit offers over 150 interventions covering planning, design, construction, operation, and asset management for sustainable roads.

Nine Core Dimensions

GRT integrates nine key dimensions including decarbonization, climate resilience, pollution reduction, and biodiversity preservation in road development.

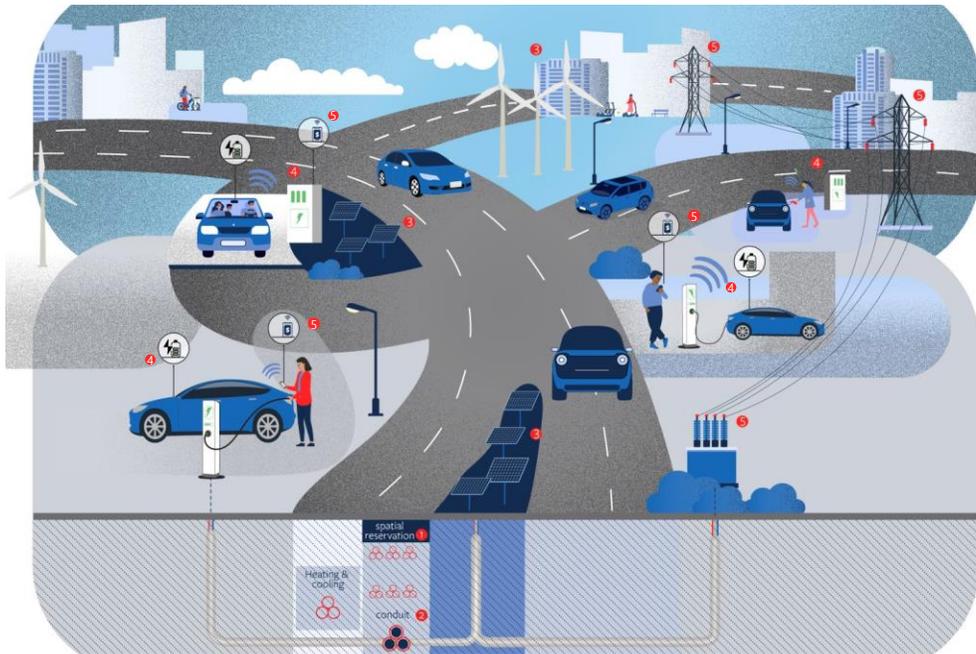
Local Adaptation and Policy Alignment

The toolkit is adaptable to local contexts and aligns with national policies and global climate goals like the Paris Agreement.

Enabling Factors for Implementation

GRT emphasizes institutional capacity, financing, procurement modernization, and inter-agency coordination for effective road projects.

ALIGNMENT OF GRT WITH CAREC CTS2030 PILLARS



Resilient Road Management

GRT introduces climate-adaptive engineering and resilience-focused maintenance to improve road asset management.

Cross-Border Transport Facilitation

Toolkit enhances corridor reliability by improving pavements, drainage, and environmental management for trade efficiency.

Road Safety Enhancements

The GRT is being upgraded with enhanced road safety measures that follow the Safe System approach to reducing road traffic injuries and deaths.

Green and Digital Transport Systems

Supports decarbonization, electrification-ready designs, and smart digital technologies for sustainable transport.

Dig Once Approach to Decarbonization and Digitalization
Source (ADB).



Green Roads Toolkit

CLIMATE VULNERABILITY & RESILIENCE

Hazard	Present Day	RCP2.6 (2100)	RCP4.5 (2100)	RCP8.5 (2100)
Fluvial Flooding	\$119.6M	\$307.6M	\$327.4M	\$384.6M
Pluvial Flooding	\$6.3M	—	\$12.8M	\$13.7M
Earthquakes	\$230.5M	—	—	—
Rainfall Landslides	\$166.4M	\$174.5M	—	\$174.6M
Earthquake Landslides	\$532.5M	—	—	—

Vulnerability of CAREC Corridors

Floods, landslides, and extreme weather increase risks to CAREC transport corridors, affecting connectivity and trade.

Resilience Strategies and Solutions

Adaptive routing, improved drainage, slope stabilization, and climate-responsive maintenance enhance transport system resilience.

Implementation and Future Outlook

CARE programs and the Roads Working Group promote resilient corridors ensuring safer, reliable transport under climate change.

Pakistan Overview of mean EAD across hazards and future scenarios

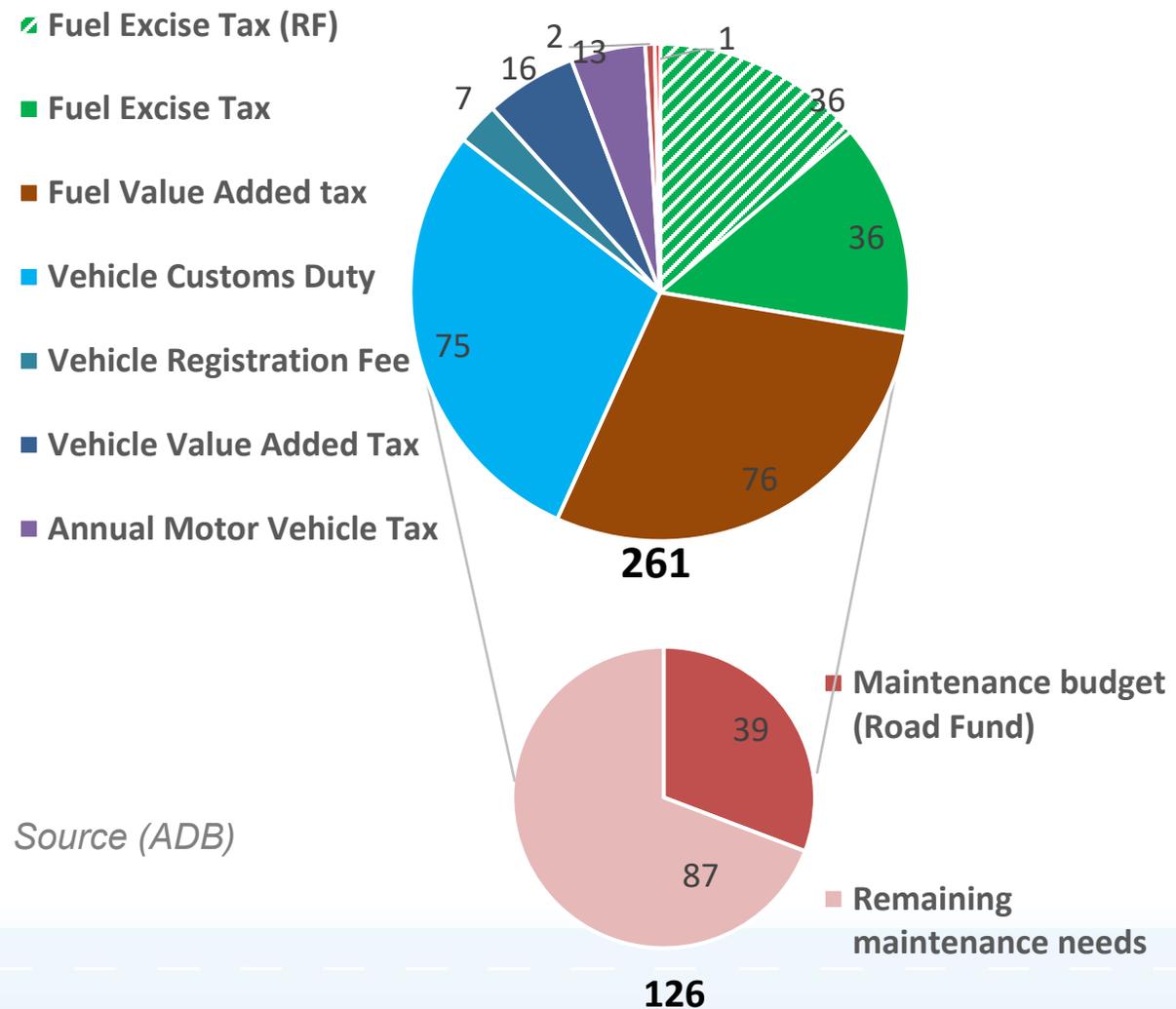
Source (ADB)



Green Roads Toolkit

INSTITUTIONAL ENABLERS

Kyrgyz Republic – Road User Revenues (million USD)



Source (ADB)

Policy Development and Coordination

Robust policies align green transport with climate goals and coordinate multi-sector collaboration for effective implementation.

Design Standards and Regulatory Frameworks

Updated design standards embed climate resilience and regulatory frameworks ensure safe, sustainable material use and innovation.

Financial and Procurement Mechanisms

Financial tools mobilize funding for green upgrades, while sustainable procurement promotes green supply chains and recycled materials.

Capacity Building and Cross-Sector Partnerships

Training enhances technical skills and partnerships facilitate coordinated green road transport adoption across sectors.

PRACTICAL INTERVENTION AREAS



Decarbonization Strategies

Focus on reducing emissions via network planning, electrification readiness, low-energy pavements, and LED lighting infrastructure.

Climate Resilience Measures

Improved routing, enhanced drainage, slope stabilization, and proactive maintenance to withstand climate impacts.

Water and Land Management

Converting roads into hydrological assets by harvesting and safely distributing water to reduce erosion and support livelihoods.

Biodiversity Preservation

Use of wildlife crossings, vegetated corridors, and aquatic-friendly culverts to reduce habitat fragmentation.

How CAREC Roads Working Group Can Drive and Mainstream Scaling of Green Roads

Regional Collaboration and Standards

The group can support regional collaboration towards harmonizing standards for green and resilient road practices across member countries.

Diagnostic and Benchmarking

It can coordinate regional diagnostics to identify policy gaps and benchmark enabling factors for green road adoption.

Capacity Building and Knowledge Sharing

The group can facilitate capacity-building, peer exchanges, and workshops to integrate green road practices across road infrastructure lifecycle.

Integrated Green Project Support

Can support preparation of green project pipelines embedding climate resilience, decarbonization, and inclusive development.

Access Green Roads Toolkit from ADB Website (adb.org)



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