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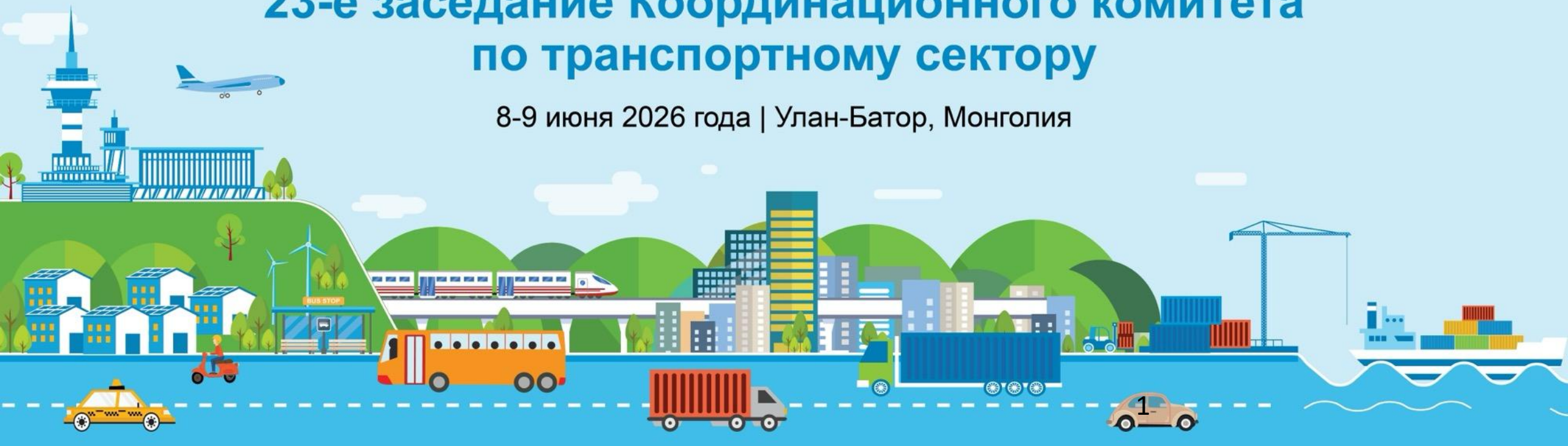

Digitalizing Uzbekistan's Transport Sector

From operator to orchestrator

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THE PROBLEM

A sector that has digitalized without direction

Each subsector has advanced on its own — with no shared vision for how digital tools should change the way the sector works and serves its users.

Roads & ITS

ITS equipment is being deployed — but systems don't integrate, and there is no central road map or asset inventory.

Aviation

Air travel still requires stamped paper boarding passes — blocking nearly every downstream digital step.

Logistics

Platforms are partial and data is not shared across agencies — cargo cannot be tracked end to end.

Urban mobility

Promising pilots — unified ticketing and MaaS — launched, but not scaled or connected.

Left uncoordinated, the gaps compound — duplicated investments, systems that cannot talk, and a widening gap as neighbours move to paperless corridors. **The answer is direction, not more isolated tools.**

GETTING THE TERMS RIGHT

Digitize, digitalize, transform — not the same thing

Often used interchangeably — but the gap between them is the gap between **buying tools** and **changing how the sector works.**

Digitization

Convert analog → digital

Paper and analog records become machine-readable digital files.

Uzbekistan: Scanned permits and electronic documents.

→

Digitalization

Automate the workflow

Apply digital tools and digitized data to streamline and automate specific processes.

Uzbekistan: e-Permit and E-logistika automating permits and customs.

→

Digital transformation

Reshape how the sector works

Use digital to drive strategic, cultural and organizational change — new value, end to end.

Uzbekistan: The ministry as orchestrator: one connected, data-driven sector.

Uzbekistan has digitized records and begun digitalizing workflows — e-permits, E-logistika, payments.
The unfinished step is transformation: one connected, data-driven sector — the move **from operator to orchestrator.**

THE VALUE AT STAKE

What coordinated digitalization can unlock

Gains the strategy targets — unlocked only by coordinated, sector-wide rollout, not isolated projects.

21:1

Benefit–cost ratio of adaptive traffic signals (international benchmark)

10–25%

Lower congestion emissions on corridors with adaptive signals

15–20%

Logistics emissions cut through digital routing and e-freight

>10%

Road-sector efficiency — a conservative floor; the upside is larger from a manual base

50%

Fewer climate-driven asset failures with predictive, digital-twin maintenance

+1.4%

More intra-CAREC trade for every 10% cut in border-crossing time (CPMM / ADB)

Internationally benchmarked and consultant-projected figures — they indicate the value at stake, not guaranteed outcomes.

THE BIG IDEA

From operator to orchestrator

The ministry's role is changing — from **running assets** to **setting standards, governing data, and certifying the systems others build.**

Phase 1	Phase 2	Phase 3	Phase 4
Mechanical	**GPS / GIS**	**Connected**	**AI & autonomous**
Stand-alone assets	Digitized data	Data-driven systems	Self-optimizing

Our reading of the report's subsector chapters *(indicative)*

Roads	Railways · Aviation	Urban mobility · Logistics	(none yet)
Committee for Roads: the RAMS rollout stalled on adoption and training — no unified road-data map yet.	Rail systems in place; aviation has kiosks and e-gates; but is gated by the paper boarding-pass stamp.	Adaptive signals, unified ticketing and MaaS; E-logistika and e-Permit add connected, data-driven flows.	Selective AI / adaptive-signal pilots only; not yet at sector scale.

The sector spans Phase 1 to 3 — roads lag, urban and logistics lead. That spread is exactly why a shared direction, not isolated tools, is needed.

WHERE THE REGION STANDS

Uzbekistan among its CAREC peers

Frontrunners

AI & orchestration

Kazakhstan · Georgia

Hub-seekers

Interoperability & e-permits

Uzbekistan, Azerbaijan

"Emerging orchestrator"

Policy aligners

State platforms, leapfrogging

Kyrgyz Republic, Armenia

Infrastructure-first

Building the base

Tajikistan, Turkmenistan

A region of high variance — but one shared direction of travel: from operators to orchestrators.

THE STRATEGY

A whole-of-sector strategy, 2026–2030

Five subsectors — each assessed, with gaps and a costed roadmap

- Urban
- Roads & ITS
- Railways
- Aviation
- Logistics & Cross-border

Six cross-cutting themes — the binding elements across every mode

- Data governance & interoperability
- Cybersecurity & resilience
- Institutional reform & co-governance
- Human capital & capacity
- Climate & decarbonization
- Regional integration & connectivity

Indicative envelope **~$0.7–1.25 billion** over 2026–2030, delivered in phases.

The Consultant's Report, submitted to the Government / Ministry of Transport strategy, developed with ADB technical assistance.

THE ROADMAP

Implementation roadmap, 2026–2030

Stage 1 · Foundation

2026–2027

- Stand up governance & steering structures
- Deploy foundational data: sensors, digital maps, core platforms
- Launch quick wins; develop the national ITS architecture

Stage 2 · Integration

2027–2028

- Scale ITS and adaptive signals
- Roll out e-gates and kiosks to more airports
- Launch freight marketplace and smart-border pilots

Stage 3 · Optimization

2028–2030

- AI-based predictive maintenance across modes
- Activate digital twins for planning
- Full smart-border management; 5G-ready corridors

THE INVESTMENT

Indicative investment by subsector

Subsector	Key investment areas	5-yr range
Urban transport	ITS, 400 adaptive signals, BRT, MaaS, 5G, cybersecurity	**$280–480M**
Roads & ITS	Sensors/WIM, digital map & asset inventory, twins, ERP	**$60–200M**
Railways	Train planning, asset/TQI, ERP, diagnostics, AI/Big Data	**$12–20M**
Aviation	E-gates, kiosks, APIS, AODB, IT centre, new airport	**$75–130M**
Logistics & cross-border	Smart borders, logtech fund, freight marketplace, academy	**$280–420M**

Total indicative envelope ~$0.7–1.25 billion over 2026–2030, including shared digital foundation (5G, cybersecurity) – ADB Consultant's Report

FROM PLAN TO PRACTICE

Five illustrations on the ground

Urban ITS	Up to 400 adaptive-signal intersections; unified ticketing and MaaS; BRT and fleet electrification.	**10–25% lower congestion emissions**
Roads & ITS	A unified digital road map and asset inventory, a national RAMS and a Weigh-in-Motion network — from manual records to predictive maintenance.	**>10% efficiency — a conservative floor**
Railways	Train planning, asset and track-quality monitoring, ERP and diagnostics — building toward AI and Big-Data operations.	**Higher reliability, predictive upkeep**
Aviation	One regulatory reform unlocks a contactless journey — e-gates, self-bag-drop and biometrics across the airport.	**Remove one paper step, the chain moves**
Logistics & corridors	Electronic transport documents (eTIR, e-CMR, e-Permit, e-SPS), corridor dashboards and smart borders.	**Faster, cheaper, more predictable trade**

MAKING IT IMPLEMENTABLE

From strategy to delivery

A track record of follow-through

Uzbekistan has consistently backed transport reform with enforceable instruments and financing — all already public:

- Digital Uzbekistan 2030 & the national AI strategy
- Public-transport reform and electric-bus programs
- E-logistika cargo-digitalization rollout
- Tashkent 2030 Mobility Plan
- 2026 reform opening competitive rail access

The strategy recommends anchoring delivery in:

1. **Clear targets, financing and named accountability**
2. **Ministry as orchestrator + an interoperability & standards function**
3. **A national steering committee reporting to Cabinet**
4. **A data-governance framework with open standards**
5. **Dedicated capacity — a digital transport unit and a training academy**
6. **Phased rollout, 2026→2030, with quick wins first**

THE CLIMATE ANGLE

The climate dividend

Digitalization is also a decarbonization lever — directly supporting Uzbekistan's Nationally Determined Contributions.

10–25%

Lower congestion-related emissions on corridors with adaptive signals

15–20%

Logistics fuel savings from optimized routing and fewer empty backhauls

Modal shift

Better rail scheduling, BRT and MaaS move trips to lower-carbon modes

Further gains from fleet electrification, smart-border idling reduction and resilience planning via digital twins.

THE REGIONAL ANGLE

Digitalization as a regional public good

A national reform reaches full value only when neighbours interoperate. On the Middle Corridor and CAREC routes, interoperability is the multiplier.

Mutual recognition

Electronic transport documents accepted across borders — eTIR, e-CMR, e-Permit, e-SPS.

Corridor dashboards

Shared, real-time visibility of border waiting and delivery times along the corridor.

Trusted-trader recognition

Mutual Authorized Economic Operator status and harmonized data standards.

A regional academy

A Central-West hub for transport-digitalization skills, research and exchange.

LESSONS & RISKS

Five lessons — and the risks we're managing

1. Anchor delivery in targets, financing and accountability — not a strategy alone.
2. Shift governance before deploying technology: operator → orchestrator.
3. Sequence quick wins to build momentum and political support.
4. Treat interoperability as a regional choice, not a national afterthought.
5. Engage the private sector early — as co-investor, operator and innovator, not just a vendor.

Key risks — actively managed

Institutional fragmentation · Vendor lock-in · Cybersecurity · Skills gap · Regulatory barriers · Financing. *Full mitigations in the backup.*

Thank you!