

DECARBONISING PATHWAYS FOR TASHKENT'S URBAN MOBILITY

Final stakeholder meeting and results
presentation

14 February 2023
Tashkent, Uzbekistan



On behalf of:

Moderator



Dr Guineng Chen

Team Lead

International Transport Forum



Mr Ilkhom Makhkamov

Minister

Ministry of Transport of
Republic of Uzbekistan



Dr Tilo Klinner

Ambassador

Embassy of the Federal Republic of Germany in
Tashkent

Welcome Remarks



Dr Young Tae Kim
Secretary-General
International Transport Forum

High-level Opening Panel Session

Is Tashkent ready to transition to a low-carbon urban mobility future?

10:15 -11:30

OVERVIEW OF SIPA TASHKENT PROJECT POLICY RECOMMENDATIONS

Dr Guineng Chen, Team Lead
International Transport Forum



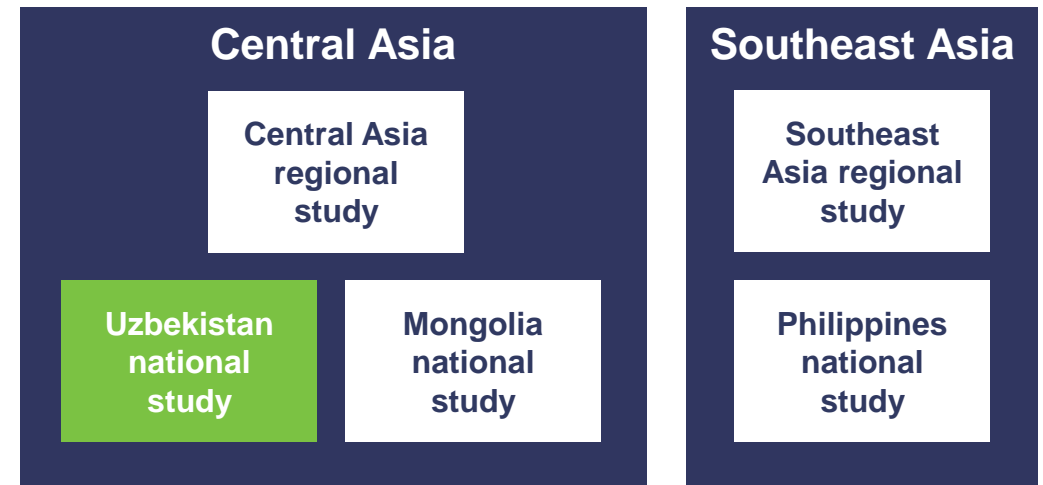
On behalf of:

SIPA Overview

What is the Sustainable Infrastructure Programme in Asia (SIPA) ?

- A four-year program supporting the development of **cleaner infrastructure** in Central and Southeast Asia
- Led by the **OECD** and funded by the International Climate Initiative (IKI) of **Germany's Ministry for the Environment**
- Transport related studies are led by the ITF. It aims to provide **transport policy guidance** with a focus on **decarbonising** and enhanced **connectivity** by:
 - Producing an **assessment of transport infrastructure** at both the **regional** level and **national** level
 - Providing policy makers with **simulation tools** to assess the impact of policy options and identify effective decarbonising measures

Sustainable Infrastructure Programme in Asia



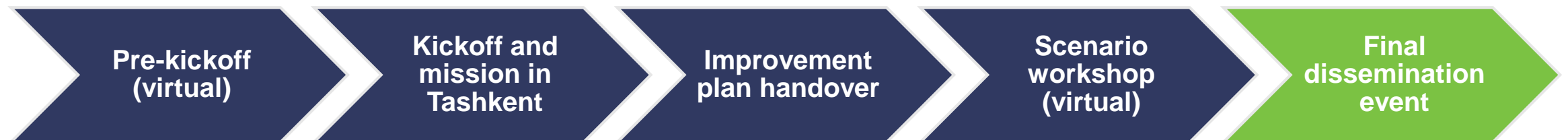
Uzbekistan National Study

What is the national roadmap study for Uzbekistan?

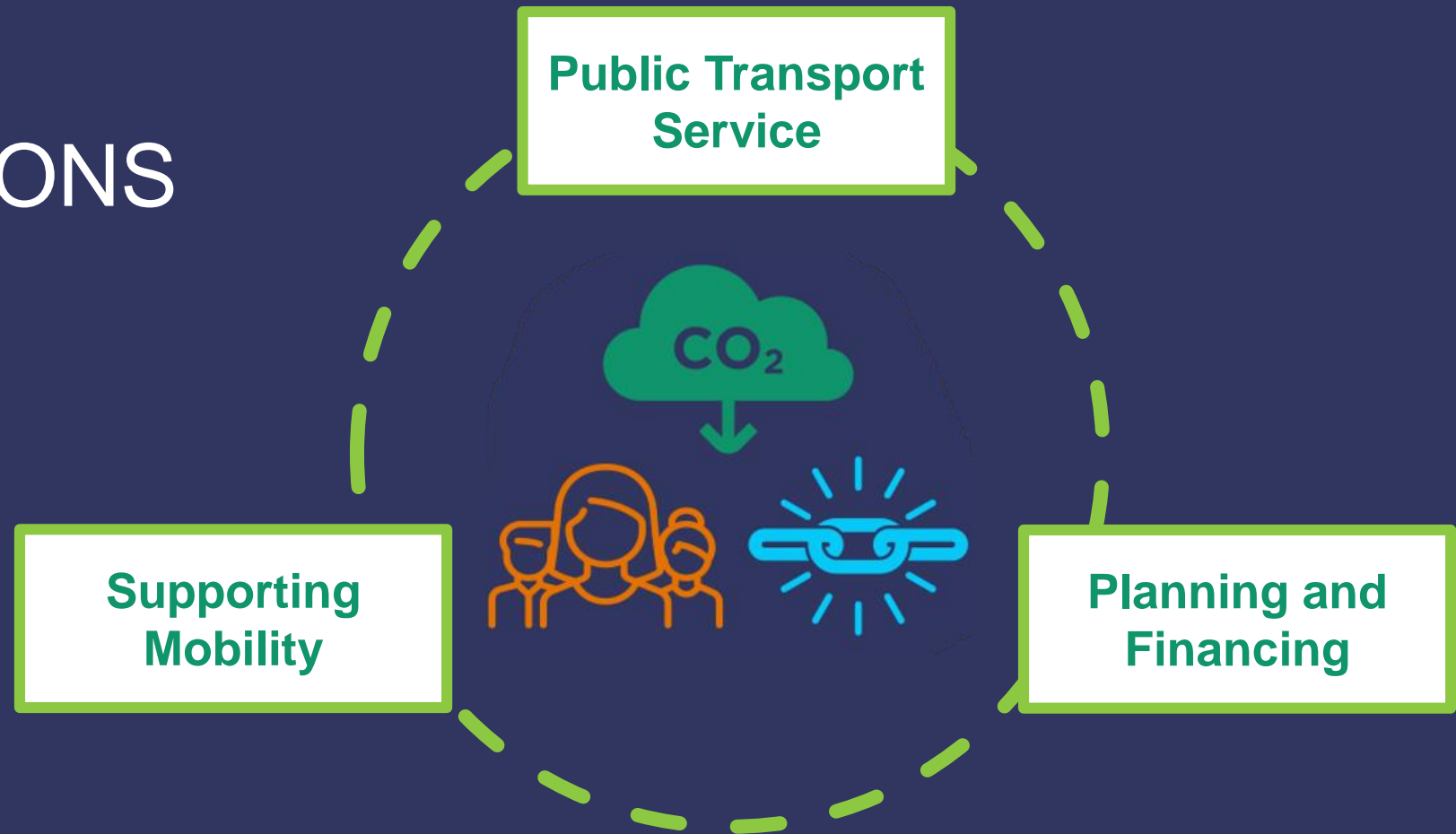
The national roadmap study for Uzbekistan developed **decarbonising pathways** for **urban passenger transport** in the capital city, Tashkent. It focused on the role of public transport and its development. It comprises four parts:

- 1 Understanding the urban transport context in Tashkent:** data collection, analysis of policy priorities
- 2 Developing a public transport improvement plan for Tashkent:** strategies to meet Uzbekistan's goals regarding sustainable mobility
- 3 Quantitative assessment of decarbonising pathways for Tashkent:** tailoring of the ITF modelling tool to forecast carbon emissions under 3 different scenarios (Baseline, Current Policy, Climate Ambition)
- 4 Dissemination of best practices for low-carbon transport systems**

Timeline of the project/study



POLICY DIRECTIONS FOR TASHKENT



Improving Planning and Financing

Current situation

- **Inefficient governance process**, with a limited degree of transparency, integration, responsibility allocation and institutional capacity
- **Fragmented public transport provision** with minimal incentives for better performance
- **Insufficient financing system** leading to limited economic support for public transport
- **Lack of integration of land-use and transport planning** undermining the importance of mobility in sustainable urban development

Policy recommendations



Restructure governance and establish a **Metropolitan Transport Authority (MTA)**



Adopt a **Sustainable Urban Mobility Plan (SUMP)**



Improve and **diversify funding streams** for public transport



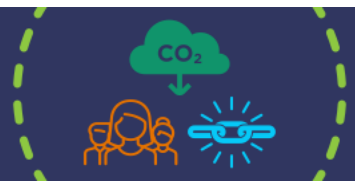
Modernize procurement by introducing **Quality Incentive Contracts**



Adopt **data-driven transport planning and policymaking**



Integrate **land-use and transport development**



Enhancing Public Transport Service

Current situation

- Decent **network coverage** that **lacks optimisation** – no hierarchy with overlapping and lengthy routes
- Insufficient level of service with **unsatisfactory reliability**, convenience and user-friendliness
- **Insufficient bus fleet** with **low fuel efficiency** and a significant share of ageing vehicles
- **Outdated fare system** with no support to targeted users and multimodal trips

Policy recommendations



Create a **hierarchical and intermodal public transport** network to increase ridership and meet future demand



Transform informal public transport services to strengthen transport supply and improve connectivity



Implement a **new fare structure** with single ticket for seamless trips



Expanding Supporting Mobility

Current situation

- Suboptimal legislation, working conditions, and weak enforcement lead to the rampage of illegal taxis
- Unorganised parking in the city resulting in extra congestion and compromised road safety
- Application of digital solutions and Intelligent Transport Systems (ITS) is at the early stage
- Underdeveloped micromobility is not yet a feasible transport alternative

Policy recommendations



Formalise the taxi market and reduce its competitiveness



Leverage micromobility, shared mobility and digitalisation for convenient multimodal integration



Regulate private mobility to maximize the benefits of sustainable urban mobility

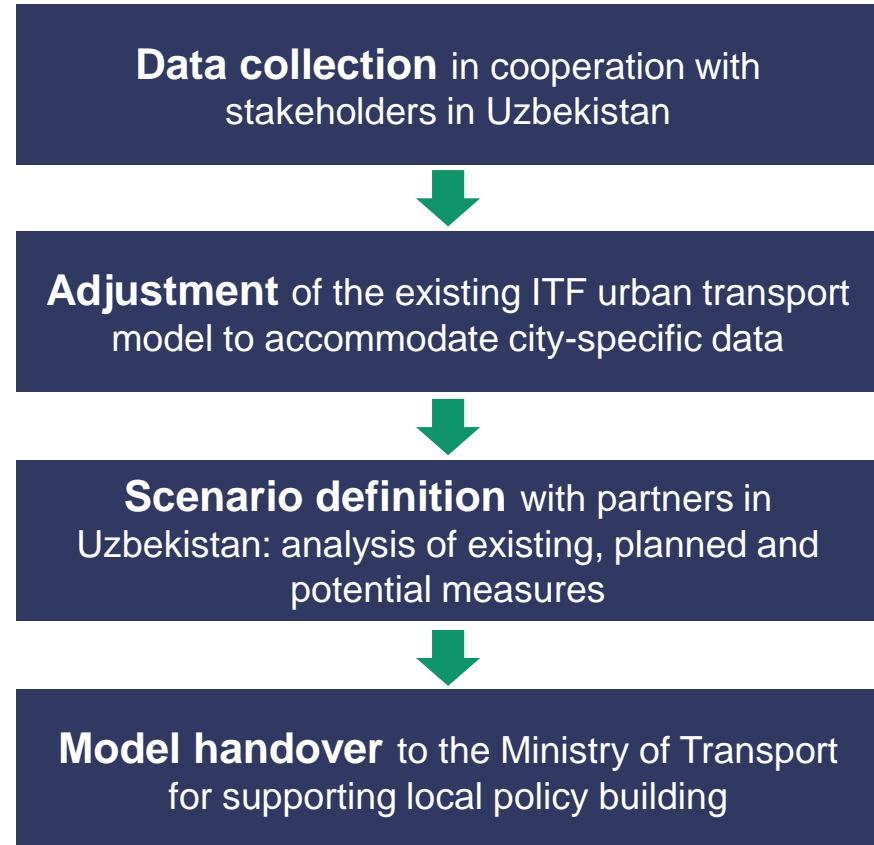


Quantification to Inform Transport Policy

Policy scenarios for CO2 reduction

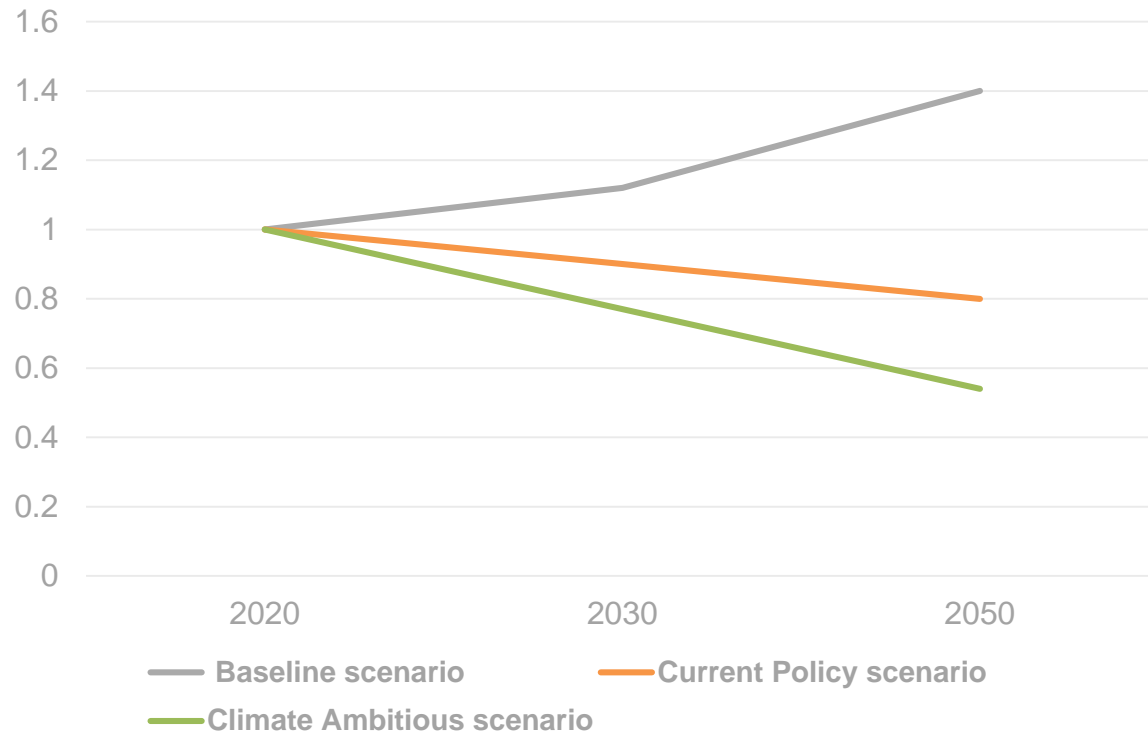
The ITF designed **three distinct scenarios** to assess the **CO2 reduction potential** of different policy pathways. The scenarios explore alternative futures, their impacts on the transport system and their externalities.

- 1 Baseline scenario:** no measures are implemented for sustainable mobility
- 2 Current Policy scenario:** expected and planned measures are implemented
- 3 Climate Ambition scenario:** planned measures are enhanced and new measures are added



Decarbonising Pathways for Tashkent

Trajectories of CO₂ emissions until 2050 by scenario (million tonnes)



Main intakes

- **Baseline scenario**, population and income growth and shift towards private vehicles result in a sharp increase in CO₂ emissions.
- **Current Policy scenario**, policy actions in the plan reverse the emission trajectory, however, not sufficient to achieve Tashkent's climate goals.
- **Climate Ambition scenario**, strong policy measures allow for cutting CO₂ emissions further and achieving decarbonising goals

Baseline
Business as usual

Current Policy
Where we are heading

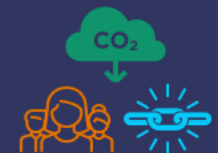
Climate Ambition
How far we must go

+40%

-20%

-46%

Evolution of transport-related CO₂ emissions from 2020 to 2050



Panel Discussion

Is Tashkent ready to transition to a low-carbon urban mobility future?

Moderator



Dr Guineng Chen

Team Lead

International Transport
Forum



Ms Matilda Dimovska

Uzbekistan Resident Representative
United Nations Development
Programme



Dr Young Tae Kim

Secretary-General
International Transport
Forum



Mr Anvar Djuraev

Head of Transport Department
Ministry of Transport / Tashkent City

Break

Coffee - Samarkand foyer

11:30-12:00

Lunch - Fergana room

12:00-13:00

In-focus Policy Dialogue – Part 1

What are the strengths and missing elements of Tashkent's current sustainable mobility agenda?

13:30 -14:45

RESULTS OF THE ITF CURRENT POLICY SCENARIO FOR TASHKENT

Yaroslav Kholodov, Policy Analyst, ITF



On behalf of:

How did we build the current policy scenario?

In collaboration with Uzbek stakeholders we

- Analyzed current transport policies for Tashkent
- Reviewed the planned evolution of the transport system in the coming years
- Defined quantified objectives for each policy measure
- **Example:** Bus Rapid Transit (BRT) network, expressed as a total length
 - Target for 2030: 30 km
 - Target for 2050: 100 km

Combining the effects of each measure under an assumption that the measure targets are reached, we projected the CO₂ emissions of the transport sector in Tashkent between 2020 and 2050.

Planned measures

Large-scale renewal of the bus fleet and promotion of cleaner technologies for private vehicles

Doubling of the metro network

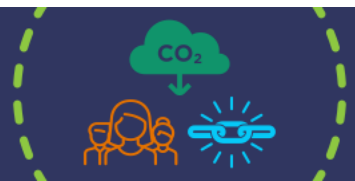
Creation of a BRT network, optimisation of the bus network, introduction of bus priority

Enhancement of the bike and pedestrian infrastructure

Taxi market reform

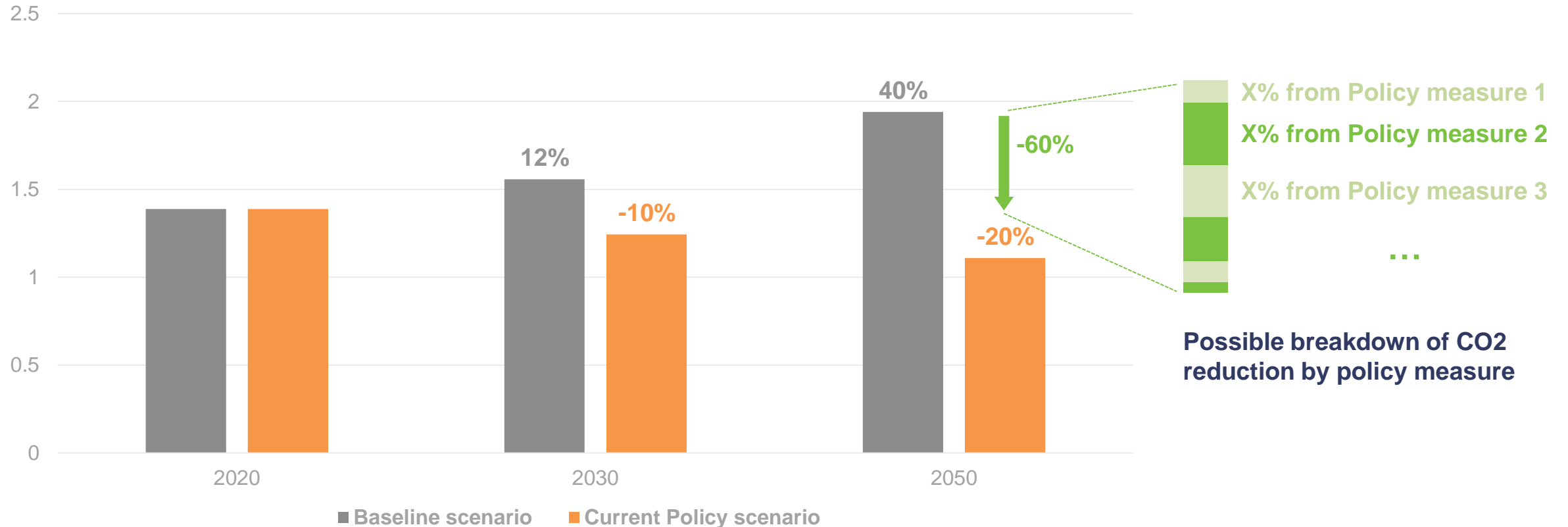
Incentives for bike and scooter sharing

Parking management (restriction and pricing)



Results of the Current Policy Scenario

Urban mobility CO2 emissions until 2050 by scenario (million tonnes)



Vehicle Technology Development

Scenario metrics

- Percentage of various vehicle technologies in the private vehicle and bus fleets
- **Target 2050:** 35% of electric cars and 70% of electric buses

Existing plan

- Delivery of 230 electric buses by 2023
- Production of electric vehicles in Uzbekistan

Implementation and challenges

- Development of charging infrastructure
- Supply of green electricity
- Vehicle refurbishment during the fleet renewal

Quantification of the policy measures

Reduction in transport-related CO₂ emission attributed to the measure

By 2030

-8%

By 2050

-20%

Infrastructure Expansion

Scenario metrics

- Infrastructure length for different modes
- **Target 2050:** 100 km of metro, 100 km of BRT, 2900 km of bus and 300 km of bike network

Existing plan

- Extension of the existing metro lines with seven stations
- Construction of a 52 km ring metro line with 35 stations
- Reorganisation of the bus network with 160 routes
- Development of a 250 km cycling network

Implementation and challenges

- Availability of financial resources
- High cost of investments: which modes should be prioritized?
- Integration of independent modes into a multimodal network

Quantification of the policy measures

Reduction in transport-related CO2 emission attributed to the measure

By 2030

-13%

By 2050

-30%

Public Transport Promotion

Scenario metrics

- Increase of the operating speed, share of the bus network with priority, reduction of the average trip cost
- **Target 2050:** 10% faster mass transit, 15% faster buses, 40% of the bus network with priority lanes, 30% cheaper public transport trips

Existing plan

- Increase the frequency of bus services up to two times
- Introduction of priority lanes on 11 trunk bus routes
- Implementation of an integrated fare system

Implementation and challenges

- Focus on the high level of reliability
- Targeted support for different user groups

Quantification of the policy measures

Reduction in transport-related CO₂ emission attributed to the measure

By 2030

-3%

By 2050

-7%

Shared Transport Promotion

Scenario metrics

- Share of legal taxis, ride sharing fleet, bike and scooter sharing fleet
- **Target 2050:** 60% of legal taxis, 14000 ride sharing vehicles, 3000 shared bikes and scooters

Existing plan

- Taxi market reform (ride sharing services)

Implementation and challenges

- Limit the competitiveness of taxis
- Promote complementarity instead of substitution
- Ensure public acceptance of new services

Quantification of the policy measures

Reduction in transport-related CO2 emission attributed to the measure

By 2030

-0.1%

By 2050

-0.8%

Pricing Measures

Scenario metrics

- Average parking fare per hour
- **Target 2050:** parking fare of 2800 UZS per hour

Existing plan

- Paid parking on 12 streets with further expansion

Implementation and challenges

- Implementation and operation of parking infrastructure
- Effective enforcement of parking regulations
- Availability of transport alternatives before introducing the restrictions

Quantification of the policy measures

Reduction in transport-related CO₂ emission attributed to the measure

By 2030

-0.4%

By 2050

-1%

Policy Measures Quantification Comparison

	Vehicle Technology Development	Infrastructure Expansion	Public Transport Promotion	Shared Transport Promotion	Pricing Measures
By 2030	-8%	-13%	-3%	-0.1%	-0.4%
By 2050	-20%	-30%	-7%	-0.8%	-1%

Policy priorities

- Begin with “soft” measures that require less time and resources to implement
- Develop a hierarchical and integrated public transport network that will become the backbone of urban mobility
- In parallel, introduce and enhance shared and micromobility to further support public transport
- Following the establishment of sustainable modes as a feasible alternative, target the use of private vehicles

Panel Discussion

What are the strengths and missing elements of Tashkent's current sustainable mobility agenda?

Moderator



Mr Yaroslav Kholodov
Policy Analyst
International Transport
Forum



Mr Ikrom Shodiev
Deputy Head of Marketing and
International Relations Department
Toshshaxartransxizmat



Ms Nadya Klyuchnikova
Principal Banker
European Bank for Reconstruction
and Development



Mr Nodir Khudayberdiev
Project Manager
Ministry of Transport



Mr Murod Abidov
Head of Project Office
Scientific Production Center
"Uzavtotranstekhnika"

Break

Coffee - Samarkand foyer

14:45 -15:00

In-focus Policy Dialogue – Part 2

*What is the successful pathway to reaching
the climate goal for urban mobility
in Tashkent and other cities in Uzbekistan?*

15:00 -16:15

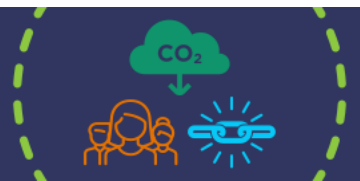
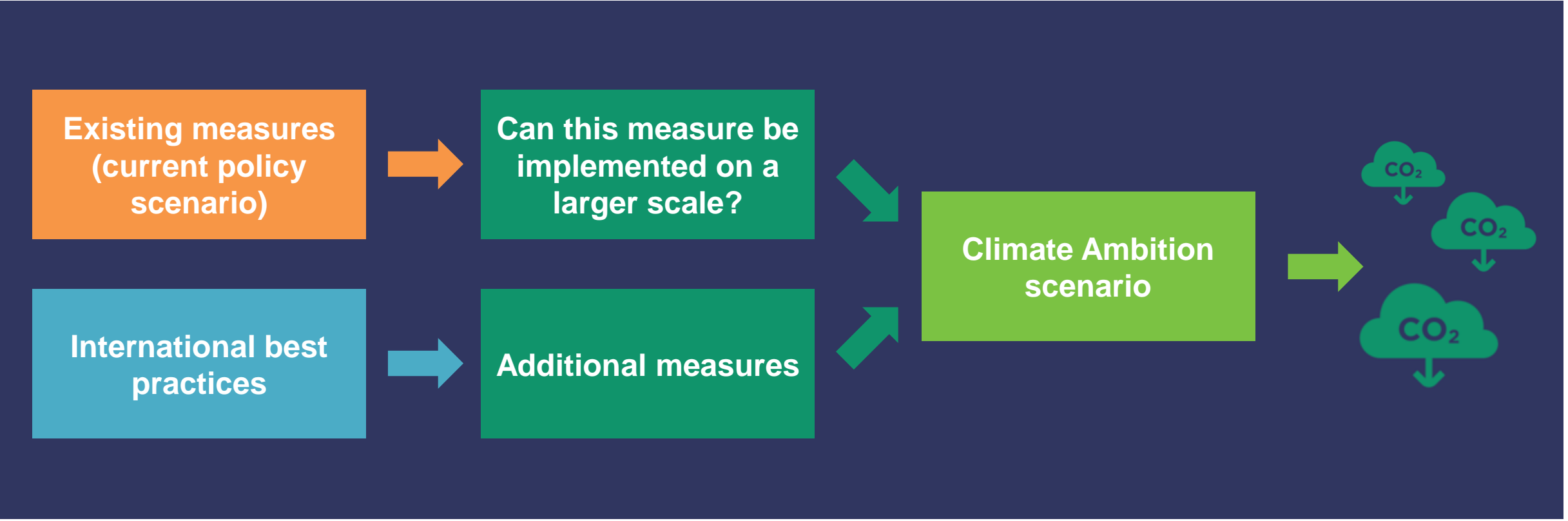
RESULTS OF THE ITF CLIMATE AMBITION SCENARIO FOR TASHKENT

Yaroslav Kholodov, Policy Analyst, ITF



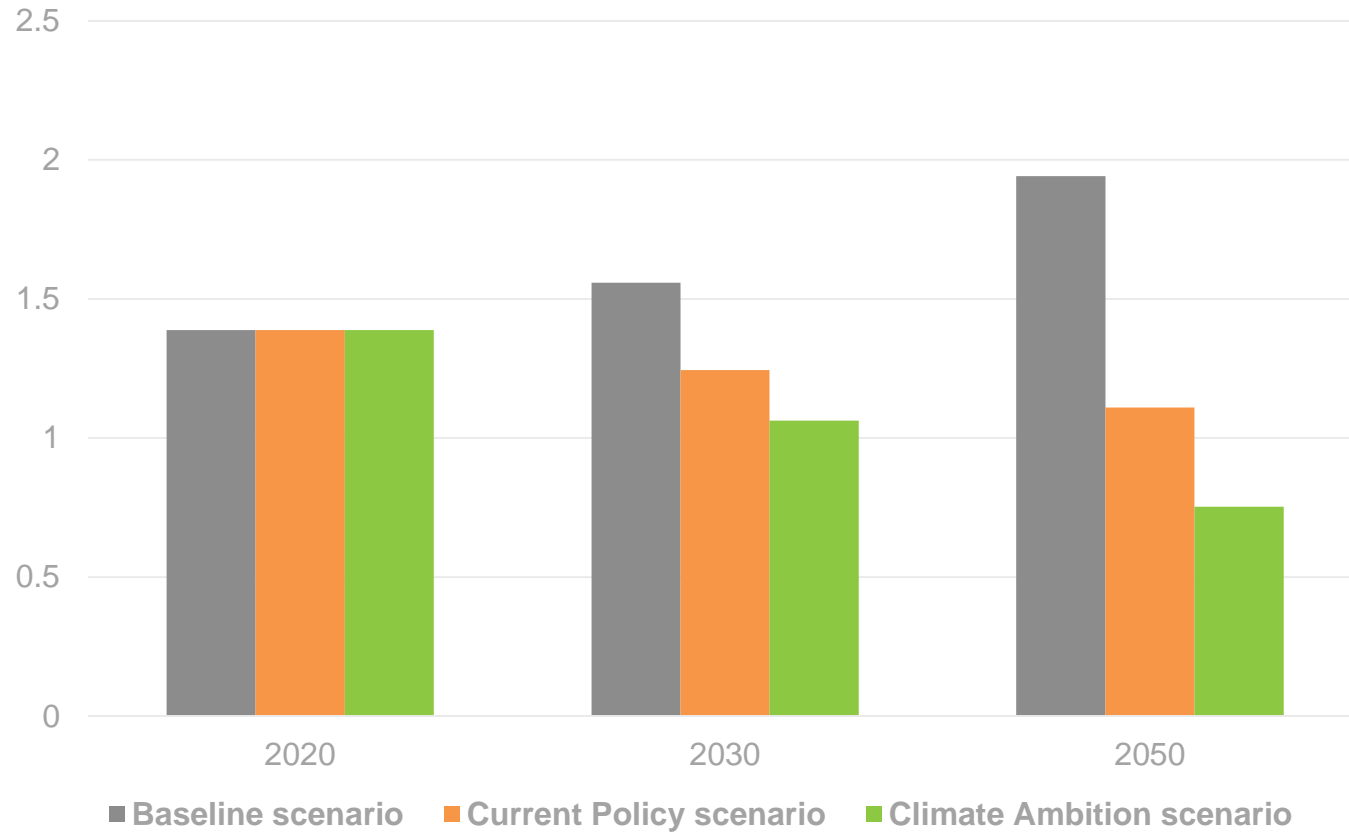
On behalf of:

How did we build the Climate Ambition scenario?



Results of the Climate Ambition scenario

Urban mobility CO2 emissions until 2050 by scenario (million tonnes)



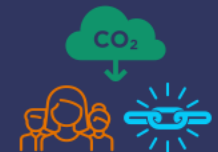
CO2 emissions in 2050

-86%

Compared to the
Baseline scenario

-26%

Compared to the
Current Policy
scenario



Vehicle Technology Development

Measure enhancement (by 2050)

- 65% of private vehicles will be electric, twice the share of Current Policy
- Full electrification of the bus fleet, compared to 70% in Current Policy



Quantification of policy measures

Reduction in transport-related CO₂ emissions attributed to the measures

By 2030

By 2050

-15%

-39%

Current Policy (reminder)

-8%

-20%

Infrastructure Expansion

Measure enhancement (by 2050)

Compared to the Current Policy scenario, Climate Ambition considers that:

- Metro network +50%
- Bus Rapid Transit network +140%
- Suburban rail network +100%
- Conventional bus network +40%
- Bike network +65%
- Pedestrian network +10%

Quantification of policy measures

Reduction in transport-related CO₂ emissions attributed to the measures

By 2030

By 2050

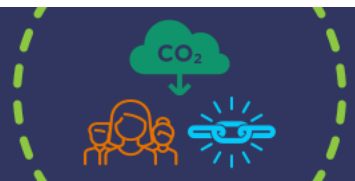
-18%

-43%

Current Policy (reminder)

-13%

-30%



Public Transport Promotion

Measure enhancement (by 2050)

- Double the operating speed of mass transit and bus
- Complete the system of city-wide bus prioritisation
- Full rollout of a MaaS subscription with a target population share of at least 30%

New Measures

- Launch of on-demand services

Quantification of policy measures

Reduction in transport-related CO₂ emissions attributed to the measures

By 2030

By 2050

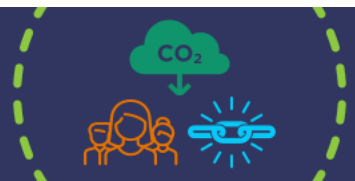
-6%

-12%

Current Policy (reminder)

-3%

-7%



Shared Transport Promotion

Measure enhancement (by 2050)

- Reduce ride sharing fleet by 30%
- Double the size of bike and scooter sharing fleet
- All taxis must operate legally

New Measures

- Introduce incentives for car sharing and carpooling



Quantification of policy measures

Reduction in transport-related CO2 emissions attributed to the measures

By 2030

By 2050

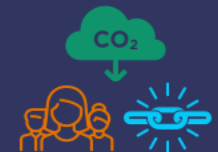
-0.6%

-3.4%

Current Policy (reminder)

-0.1%

-0.8%



Pricing Measures

New Measures

- Implement road pricing (congestion charging)
- Introduce additional fuel tax to disincentivise the consumption of fossil fuels
- Gradually increase vehicle ownership and purchase tax (can vary per vehicle technology)



Quantification of policy measures

Reduction in transport-related CO₂ emissions attributed to the measures

By 2030

-3%

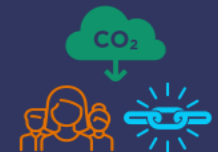
By 2050

-7%

Current Policy (reminder)

-0.4%

-1%



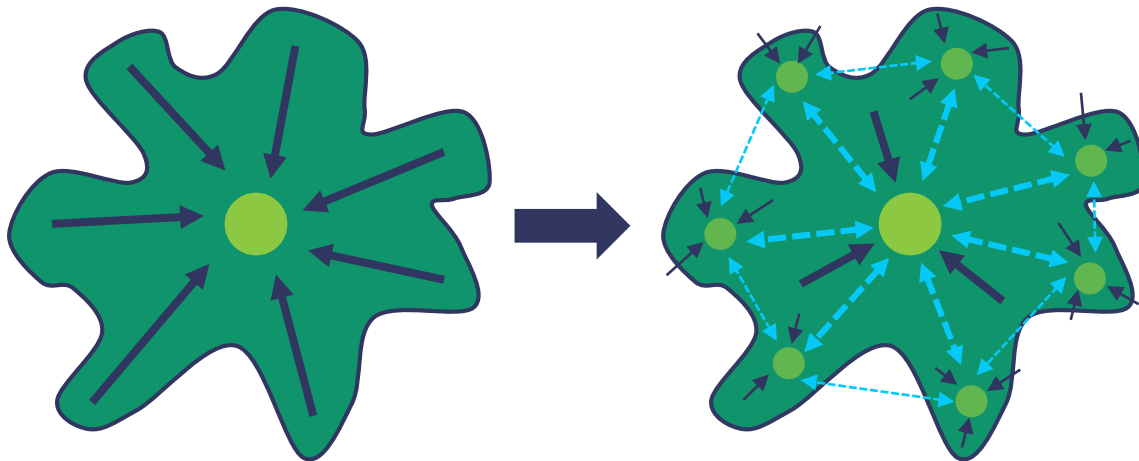
Other Measures

Measure enhancement (by 2050)

- Promotion of teleworking to achieve a 10% increase

New Measures

- Adapt Transit Oriented Development (TOD) practices to diversify land-use functions and increase density around the public transport network



Quantification of policy measures

Reduction in transport-related CO₂ emissions attributed to the measures

By 2030

By 2050

-0.4%

-1.5%

Current Policy (reminder)

-0.1%

-0.6%

Panel Discussion

What is the successful pathway to reaching the climate goal for urban mobility in Tashkent and other cities in Uzbekistan?

Moderator



Dr Guineng Chen

Team Lead

International Transport
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Mr Bekzod Kholmatov

Head of Center for Researching
Transport and Logistics
Ministry of Transport



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Project Manager
United Nations Development
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Dr Madina Junussova

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Vice Rector for Research and
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Tashkent State Transport University



Mr Yaroslav Kholodov
Policy Analyst
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Closing remarks



Dr Young Tae Kim
Secretary-General
International Transport Forum



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