ATO APPROACH AND IMPLEMENTATION

**Approach**
- Multiple Sources for single indicator
- Multiple Dimensions & Modes
- Data and Policy
- Historical & Outlook
- Tracking Instrument for SDG/PA/Aichi Declaration
- Incremental Approach
- Partnerships
- On-demand Research

**Dimensions**
- Infrastructure
- Activity & Services
- Access & Connectivity
- Air Pollution
- Road Safety
- Climate Change
- Economic Impact

**Scope**
- Regional
- National
- Rural
- Urban
- Project

**Insights**
- Data
- Policy
- Institutional
- Financing
- Outlook (2030/2050)

**Products**
- National Database
- Urban Database
- Policy Tracker (1110+ docs. in the repository)
- Cost Database (1000+ projects)
- Knowledge Products & Tracking Reports (10 published documents)

**Others - COVID Transport Database, ADB Portfolio**
INFRASTRUCTURE GAP

Road availability
Kilometers per thousand capita, 2022
Australia, New Zealand, & Pacific Islands
North and Central Asia
South-East Asia
Asia-Pacific
East and North-East Asia
South and South-West Asia

Heavy rail (including HSR) availability
Kilometers per million population, 2021
Australia, New Zealand, & Pacific Islands
North and Central Asia
East and North-East Asia
Asia-Pacific
South-East Asia
South and South-West Asia

Rapid urban transit (BRT, LRT, metro) availability
Kilometers per million urban population, 2021
Australia, New Zealand, & Pacific Islands
East and North-East Asia
Asia-Pacific
North and Central Asia
South-East Asia
South and South-West Asia

Source: Asian Transport Outlook analysis (Country Official Statistics; UIC; ITDP)
BUILDING THE FUTURE: ASIA'S RAPID TRANSIT RISE

GDP per capita vs rapid urban transit kilometers

Kilometers of urban rapid transit

GDP per capita

Asia-Pacific
Europe and Northern America
Latin America and the Caribbean
Sub-Saharan Africa
Northern Africa and Western Asia

Rapid transit kilometers per capita (1990-2021)

Rapid transit (BRT, LRT, metro) kilometers per million urban population

GDP (PPP) per capita, USD

Source: Asian Transport Outlook analysis (ITDP)
ACCESS TO PUBLIC TRANSPORT

More than half of the cities have at least \( \frac{3}{4} \) of their populations not have proper access to public transport. Only 17% of the cities in Asia have at least half of their population having proper access to public transport services.

Source: Asian Transport Outlook analysis (SEDAC)
IMPORT OF BUSES

Source: Asian Transport Outlook analysis (Trademap)
LACK OF RURAL ACCESS

Share of Rural Population Without Rural Access & GDP/Capita

Source: Asian Transport Outlook analysis (SEDAC)
VEHICLE GROWTH

Motorization rate vs. road availability

Source: Asian Transport Outlook analysis (Country official statistics)
Share of transport in fossil CO2 emissions varies across countries from 7% to 40%

Source: Asian Transport Outlook analysis (EDGAR, 2023; World Bank)
Within the road transport sector in the region, heavy-duty vehicles are the major contributor to transport carbon emissions with a regional share of 47%, light-duty vehicles constitute about 46%, and two and three-wheelers constitute about 7%.
E-MOBILITY STATUS

UNEP-E-Mobility Index (ATO 2024 Update)

Share of electric vehicles in total road vehicle imports (2017-2023)

Source: Asian Transport Outlook analysis (UNEP, Trademap)
SENsitIVITY TO HAZARDS VARIES

Asia & Pacific has 38% of world’s transport infrastructure, but will potentially face 58% of global damages

Source: Asian Transport Outlook analysis (CDRI, 2023)
RAIL TAKES CENTER STAGE: ASIA'S TRANSPORT INVESTMENT SURGE

Transport infrastructure investments (construction + maintenance)

- Road, 65%
- Heavy rail, 23%
- Metro, 6%
- HSR, 5%

- Road, 59%
- Heavy rail, 17%
- Metro, 9%
- HSR, 14%

2000-2010

- Road, 65%
- Heavy rail, 23%
- Metro, 6%
- HSR, 5%

- Road, 59%
- Heavy rail, 17%
- Metro, 9%
- HSR, 14%

2011-2021

Official development assistance in the transport sector

- Airports, 10%
- Ports, 6%
- Rail, 28%
- HSR, 5%

- Airports, 6%
- Ports, 7%
- Rail, 44%
- HSR, 17%

2000-2010

- Airports, 10%
- Ports, 6%
- Rail, 24%
- HSR, 5%

- Airports, 6%
- Ports, 7%
- Rail, 44%
- HSR, 17%

2011-2022

Public-private partnership investments in the transport sector

- Airports, 10%
- Ports, 5%
- Rail, 22%
- HSR, 5%

- Airports, 6%
- Ports, 7%
- Rail, 44%
- HSR, 17%

2000-2010

- Airports, 10%
- Ports, 6%
- Rail, 24%
- HSR, 5%

- Airports, 6%
- Ports, 7%
- Rail, 44%
- HSR, 17%

2011-2022

Source: Asian Transport Outlook analysis (Country Official Statistics; World Bank PPI, 2023; OECD, 2023)
POLICY AMBITION AND FOCUS AS KEY DRIVER OF THE SHIFT

Based on a sample of 25 economies.

Share of transport-related policy measures by mode

<table>
<thead>
<tr>
<th>Mode</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road</td>
<td>North and Central Asia, Australia, New Zealand, &amp; Pacific Islands</td>
</tr>
<tr>
<td></td>
<td>East and North-East Asia</td>
</tr>
<tr>
<td></td>
<td>South and South-West Asia</td>
</tr>
<tr>
<td>Rail</td>
<td>North and Central Asia, South-East Asia</td>
</tr>
<tr>
<td></td>
<td>East and North-East Asia</td>
</tr>
<tr>
<td></td>
<td>South-East Asia</td>
</tr>
<tr>
<td></td>
<td>Australia, New Zealand, &amp; Pacific Islands</td>
</tr>
<tr>
<td>Shipping</td>
<td>South-East Asia</td>
</tr>
<tr>
<td></td>
<td>East and North-East Asia</td>
</tr>
<tr>
<td></td>
<td>North and Central Asia</td>
</tr>
<tr>
<td>Aviation</td>
<td>East and North-East Asia</td>
</tr>
<tr>
<td></td>
<td>South-East Asia</td>
</tr>
<tr>
<td></td>
<td>North and Central Asia</td>
</tr>
<tr>
<td></td>
<td>South and South-West Asia</td>
</tr>
<tr>
<td>Urban Transport</td>
<td>South-East Asia</td>
</tr>
<tr>
<td></td>
<td>East and North-East Asia</td>
</tr>
<tr>
<td></td>
<td>North and Central Asia</td>
</tr>
<tr>
<td></td>
<td>Australia, New Zealand, &amp; Pacific Islands</td>
</tr>
</tbody>
</table>

*Survey of 25 low- and middle-income countries

Transport policy documents by theme

Source: National Policies
TRANSPORT & SDGS: ECONOMIES’ FOCUS DIFFER WITH DIFFERING PRIORITIES

Economy - SDG matrix by avg. no. of SDG relevant measures per doc. (>2015)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Azerbaijan</td>
<td>2</td>
<td>0</td>
<td>13</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>9</td>
<td>8</td>
<td>11</td>
<td>3</td>
<td>6</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>3</td>
<td>0</td>
<td>14</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>7</td>
<td>6</td>
<td>8</td>
<td>2</td>
<td>6</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Kyrgyz Republic</td>
<td>2</td>
<td>0</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>5</td>
<td>5</td>
<td>6</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Tajikistan</td>
<td>4</td>
<td>0</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>9</td>
<td>9</td>
<td>10</td>
<td>2</td>
<td>6</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Uzbekistan</td>
<td>3</td>
<td>0</td>
<td>18</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>8</td>
<td>13</td>
<td>13</td>
<td>19</td>
<td>4</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>3</td>
<td>0</td>
<td>14</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>6</td>
<td>11</td>
<td>10</td>
<td>15</td>
<td>4</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Bhutan</td>
<td>4</td>
<td>0</td>
<td>17</td>
<td>1</td>
<td>0</td>
<td>6</td>
<td>13</td>
<td>13</td>
<td>17</td>
<td>5</td>
<td>10</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Cambodia</td>
<td>4</td>
<td>0</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>5</td>
<td>9</td>
<td>8</td>
<td>13</td>
<td>3</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>Indonesia</td>
<td>3</td>
<td>0</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>8</td>
<td>8</td>
<td>11</td>
<td>2</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Lao PDR</td>
<td>2</td>
<td>0</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>4</td>
<td>8</td>
<td>8</td>
<td>9</td>
<td>2</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Malaysia</td>
<td>5</td>
<td>1</td>
<td>29</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>10</td>
<td>21</td>
<td>21</td>
<td>29</td>
<td>5</td>
<td>17</td>
<td>1</td>
</tr>
<tr>
<td>Maldives</td>
<td>3</td>
<td>0</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>7</td>
<td>6</td>
<td>10</td>
<td>4</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Marshall Islands</td>
<td>1</td>
<td>0</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>2</td>
<td>4</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Mongolia</td>
<td>4</td>
<td>0</td>
<td>14</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>5</td>
<td>10</td>
<td>11</td>
<td>14</td>
<td>4</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Nauru</td>
<td>2</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>1</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Nepal</td>
<td>6</td>
<td>0</td>
<td>18</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>16</td>
<td>2</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Pakistan</td>
<td>3</td>
<td>0</td>
<td>24</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>7</td>
<td>17</td>
<td>17</td>
<td>20</td>
<td>4</td>
<td>13</td>
<td>1</td>
</tr>
<tr>
<td>Palau</td>
<td>1</td>
<td>0</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Philippines</td>
<td>2</td>
<td>0</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>7</td>
<td>7</td>
<td>10</td>
<td>4</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Solomon Islands</td>
<td>4</td>
<td>1</td>
<td>9</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>8</td>
<td>11</td>
<td>2</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>6</td>
<td>1</td>
<td>18</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>5</td>
<td>16</td>
<td>16</td>
<td>20</td>
<td>4</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>Thailand</td>
<td>2</td>
<td>0</td>
<td>16</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>5</td>
<td>10</td>
<td>11</td>
<td>16</td>
<td>4</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Timor-Leste</td>
<td>5</td>
<td>1</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>8</td>
<td>11</td>
<td>2</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Vanuatu</td>
<td>3</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>6</td>
<td>1</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>4</td>
<td>0</td>
<td>13</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>5</td>
<td>11</td>
<td>11</td>
<td>13</td>
<td>3</td>
<td>8</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: ATO national policy trackers developed for 25 economies
DIVERSE CHALLENGES EXIST ACROSS SUBREGIONS, BUT VALUABLE LESSONS

- Access and connectivity
- Public transport
- Road safety
- Adaptation and resilience
- Freight
- Gender
- Just transition
- ...

Central and West Asia

Pacific

South Asia

South East Asia

East Asia

Eastern Europe
TRANSPORT CLIMATE PROFILES

Carbon emissions, energy consumption

Climate change adaptation, damages due to hazards

Drivers
TRANSPORT CLIMATE PROFILES

Documenting relevant policies on climate and transport sector

Examining coherence of NDCs, LTSs, and national policies on climate ambition (Upcoming)

Understanding country priorities and how it is integrated in NDCs/LTSs (Upcoming)
"ATO translates data into insights, policies, and investments"

asiantransportoutlook.com

ATO Team  asiantransportoutlook@gmail.com
Jamie Leather  jleather@adb.org
Andres Pizarro  andres.pizarro@aiib.org
Manuel Benard  manuel.benard@aiib.org
Alvin Mejia  alvin.mejia.a@gmail.com
Sudhir Gota  sudhirgota@gmail.com

Twitter  @transportATO
LinkedIn  bit.ly/ATOlinkedin