Our Team

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Objectives

By completing this session, participants will:

• Understand the main pathways for sustainable mobility using the Avoid-Shift-Improve (ASI) Framework.
• Identify regional examples that illustrate how these pathways can be implemented.
• Understand how these pathways might impact sustainable development and LTS goals.
Avoid-Shift-Improve Framework
The ASI Framework is a comprehensive approach to advance sustainable mobility outcomes, such as greenhouse gas (GHG) emission reductions, reduced energy consumption, and reduced congestion. The Framework was first used in Germany and has been adopted by organizations such as GIZ, SLOCAT, and WRI. The Framework consists of the following pillars:

- Avoid/Reduce
- Shift/Maintain
- Improve

Transportation sector mitigation activities or policies can be organized into one or more of these pillars.
Mapping Transportation Measures with ASI

Developed by the Partnership on Sustainable, Low Carbon Transport (SLOCAT)

Key Elements

Avoid
Avoid and reduce the need for motorized travel

Shift
Shift to more environmentally friendly modes

Improve
Improve energy efficiency of transport modes

Definitions

TCC-GSR Policy Examples

Transport Demand Management
Urban Public Transport
Railways
Walking and Cycling
New Mobility Services

Fuel Economy
Electric Mobility
Renewable Energy

Source: SLOCAT, Figure 2 (http://www.slocat.net/wp-content/uploads/legacy/slocat_transport-and-climate-change-2018-web.pdf)
Co-Benefits of Sustainable Transportation

**Energy Security**
- Diversification of energy supply
- Lower energy costs
- Less imported fuel

**Environmental Protection**
- Better air quality
- Less soil degradation
- Climate protection
- Noise reduction

**Economic Development**
- Increased private investment
- Local job and value creation
- Better income opportunities

**Improved Quality of Life**
- Better road safety
- Fewer health risks
- Time savings

Adapted from GIZ

Source: BAPPENAS

- GHG emissions reduced nearly 43% by 2030
- GDP growth of 6% per year between 2019-2045
- Over US$5.4 trillion added to GDP in 2045
- 40,000 deaths avoided each year in 2045
- Extreme poverty reduced to 4.2% of population in 2043
- 15.3 million additional jobs in 2045, which are greener and better paid
- Prevents the loss of nearly 16 million ha of forest land in 2045
- Improved living conditions
- Reduced investment-to-GDP ratio
- Closing of gender/regional opportunity gaps
- Improved air quality
### ASI Framework and Sustainable Development

Mapping key transportation activities to sustainable development goals

#### Sustainable Long-Term Development

<table>
<thead>
<tr>
<th>Environment</th>
<th>Energy Security</th>
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<tbody>
<tr>
<td>GHG Emissions</td>
<td>Air Quality</td>
<td>Land Use</td>
<td>Fuel Imports</td>
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<tr>
<td>Avoid Transport Demand Management</td>
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<td>Shift Urban Public Transport</td>
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Sustainable Development Indicators and Transportation

- Transport contributes directly to five Sustainable Development Goal (SDG) Targets.

**3 Good Health and Well-being**
- Reduce global deaths and injuries from road traffic accidents

**7 Affordable and Clean Energy**
- Double the global rate of improvement in energy efficiency

**9 Industry, Innovation and Infrastructure**
- Develop sustainable infrastructure, including regional and trans-border infrastructure

**11 Sustainable Cities and Communities**
- Provide access to safe, affordable, accessible, and sustainable transport

**12 Responsible Consumption and Production**
- Address market distortions for fossil fuels (e.g., subsidies)
Sustainable Development Indicators and Transportation

- Transport contributes indirectly to an additional seven SDG Targets.
Regional Case Studies
What is happening in your country?

Source: SLOCAT, Figure 2 (http://www.slocat.net/wp-content/uploads/legacy/slocat_transport-and-climate-change-2018-web.pdf)
India National Urban Mobility Policies

Avoid-Shift

• The Ministry of Housing and Urban Affairs unveiled an Urban Green Mobility Scheme in 2017.
• Funding totaled $10.75 billion across 103 cities.
• Expected improvements include new and updated pedestrian, cycling, and public transport facilities.
• The implementation of Transit Oriented Development (TOD) and Transportation Demand Management (TDM) measures will improve road safety.
Trans-Asian Railway

Shift

- Low carbon passenger and freight transportation, such as energy efficient rail, can decrease the need for air, sea, and road transport.
- Total of 117,500 km of railway lines serving 28 member countries between Asia and Europe.
- Cheaper and more reliable alternative to air and sea travel, especially due to COVID-19 impacts.
Subway Systems in Jakarta

Shift

• Jakarta opened its first subway line in March 2019, followed soon by a light rail transit (LRT) line and more services in construction.

• Targets for 2030:
  • Increase public transport use from 25% to 60%.
  • Decrease GHG emissions by 30%.
Electrification of Two-Wheelers in Vietnam

Study on low carbon transport in Vietnam concluded that the strongest mitigation potential is provided through the electrification of two-wheelers.

Electric motorbikes could account for 30% of total two-wheeler fleet by 2030.

Including other measures, it can lead to a 20% reduction in transport GHG emissions compared to business-as-usual (BAU).
HDV Standards in India, China, and Japan

Improve

• India’s vehicle efficiency program focuses on increasing the fuel-efficiency of heavy-duty vehicles (HDVs).
• Includes diesel-powered trucks and buses weighing 12 tonnes or more, which account for 60% of the fuel use and CO₂ emissions of India’s HDV fleet.
• HDV fuel economy standards to yield 40% reduction in fuel consumption.
Why Map Sustainability Impacts?

• Identifying all the potential sustainability impacts of a transportation activity allows for a complete and accurate assessment of the activity.

• Sustainability impacts in one category may lead to benefits or adverse impacts in in another category. Planners should be aware of these impacts. For example:
  • Reduced local air pollution may improve public health outcomes
  • Improved transportation infrastructure (e.g., highways) may encourage additional driving

• Sustainability impacts can inform and/or contribute to LTS goals.
Sustainability impacts can be mapped to the existing ASI Framework.

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**Avoid**
- Transport Demand Management
- Urban Public Transport
- Railways
- Walking and Cycling
- New Mobility Services

**Shift**
- Fuel Economy
- Electric Mobility
- Renewable Energy
Mapping of Sustainability Impact

Activity
- National Electric Vehicle (EV) Plan, with subsidies to incentivize the adoption of EVs

First Stage Impact
- Reduced fuel consumption

Second Stage Impacts
- Decreased GHG emissions
- Decreased local air pollution
- Decreased fuel imports

Third Stage Impacts
- Improved public health
- Increased labor productivity
- Improved energy security
Closing Remarks
Preparing for Session 3

In Session 3, we will be discussing data, scenario, and modeling considerations needed for transparent LTS development in the transportation sector.

To prepare for this session, consider what data or performance metrics might be needed to quantify the impacts identified in this Session’s exercise. For example, this could include vehicle or fuel sales, electricity consumption, or vehicle kilometers/miles traveled.
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<td>A review of how sustainable development goals are related to Sustainable Development Goals.</td>
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Thank you