



***Achieving Cost Effectiveness of
Passenger and Freight Transport
Infrastructure and Services
towards Economic Sustainability***

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of the Regional EST Forum in Asia, Australia.

Key issues

- Transport has become one of the major causes of environmental degradation, particularly air and noise pollution, traffic congestion, road accidents and fatalities, and increasing greenhouse gas emissions that contribute to climate change.
- Air pollution contributes to the death of more than 10 million people each year and 90 percent of air pollution related death occur in developing countries, costing just over US\$5 trillion in welfare losses globally.

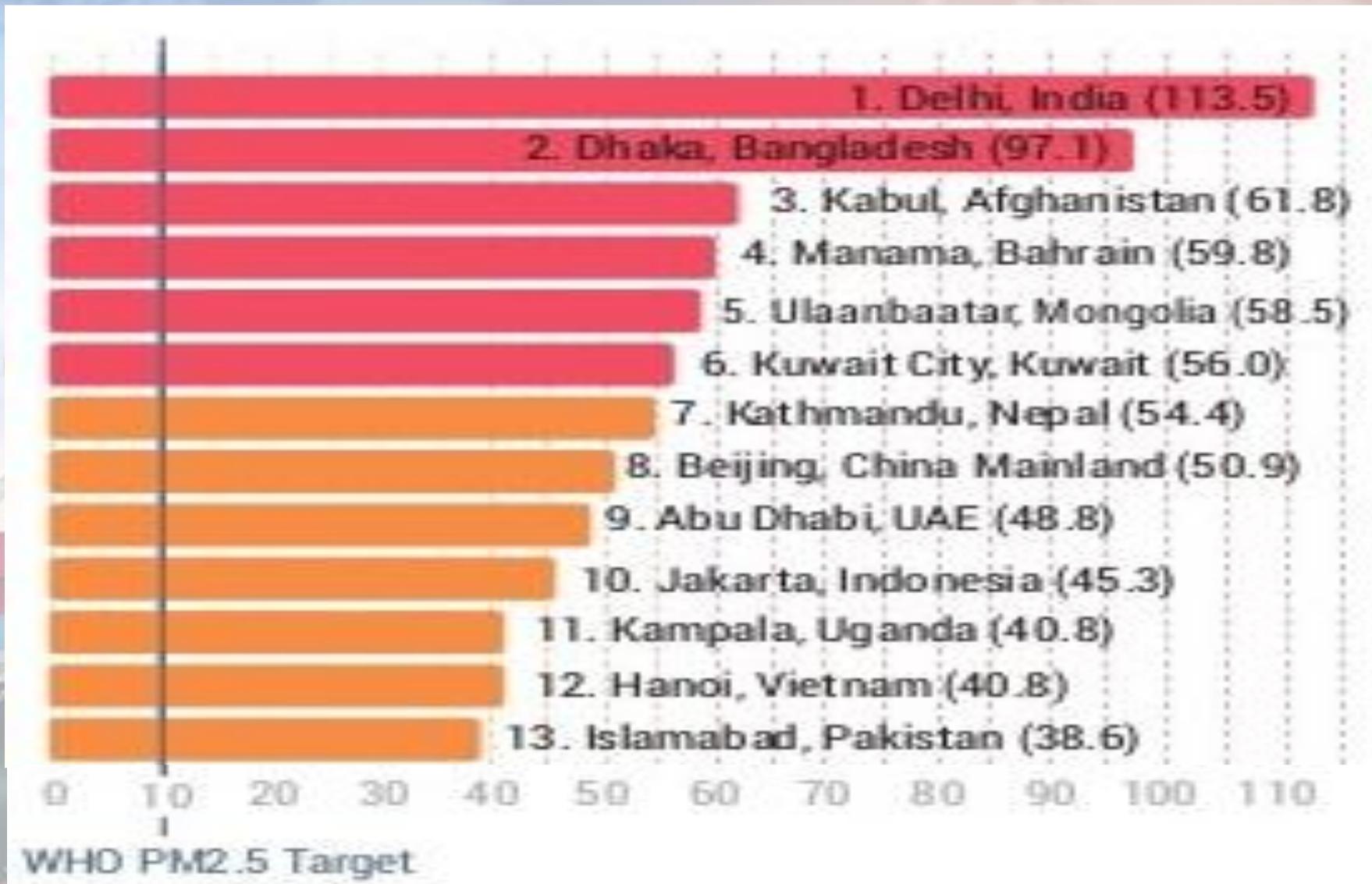


Figure 1: World regional capital city ranking on the PM2.5 concentration

Source: IQAir (2019)

Key messages

- Resilient and sustainable transport infrastructure and services are key for sustainable economic growth,
- Meeting the growth in demand for transport services with private vehicles is not viable in many parts of the world, especially Asia, and
- There are a number of promising new approaches and technologies to consider.
- *This requires different thinking and bold action...*

Safe, Low-Carbon and Transport

Economic benefits

- Reducing costs of travel, vehicle ownership, fuel, and maintenance given shared transport is cheaper and cost effective compared to using private cars.
- Increasing land-value along the corridor and around the transit stations.
- Reducing air pollution and noise pollution related economic impacts.
- Reducing urban sprawl and promoting mixed use developments.
- Reducing traffic congestion and associated time cost, fuel efficiency cost, air pollution and carbon emission costs.
- Increasing the number of local and international tourists.
- Improving productivity, labor markets, commercial prospects by expending new transit.
- Increasing competitiveness by providing broader labor market and more diverse skilled labor force.
- Creating new market, trade, and business opportunities due to expansion of the shared transit service area.

Safe, Low-Carbon and Transport

Social benefits

- Improving social inclusion, integration, connection, and networking opportunities which make people happier and more productive.
- Increasing mobility, accessibility, connectivity and freedom.
- Shared transport is safer and easy to use and people-friendly.
- Providing a good alternative for disadvantage groups-children, women, physically disabled, and elderly.

Health benefits

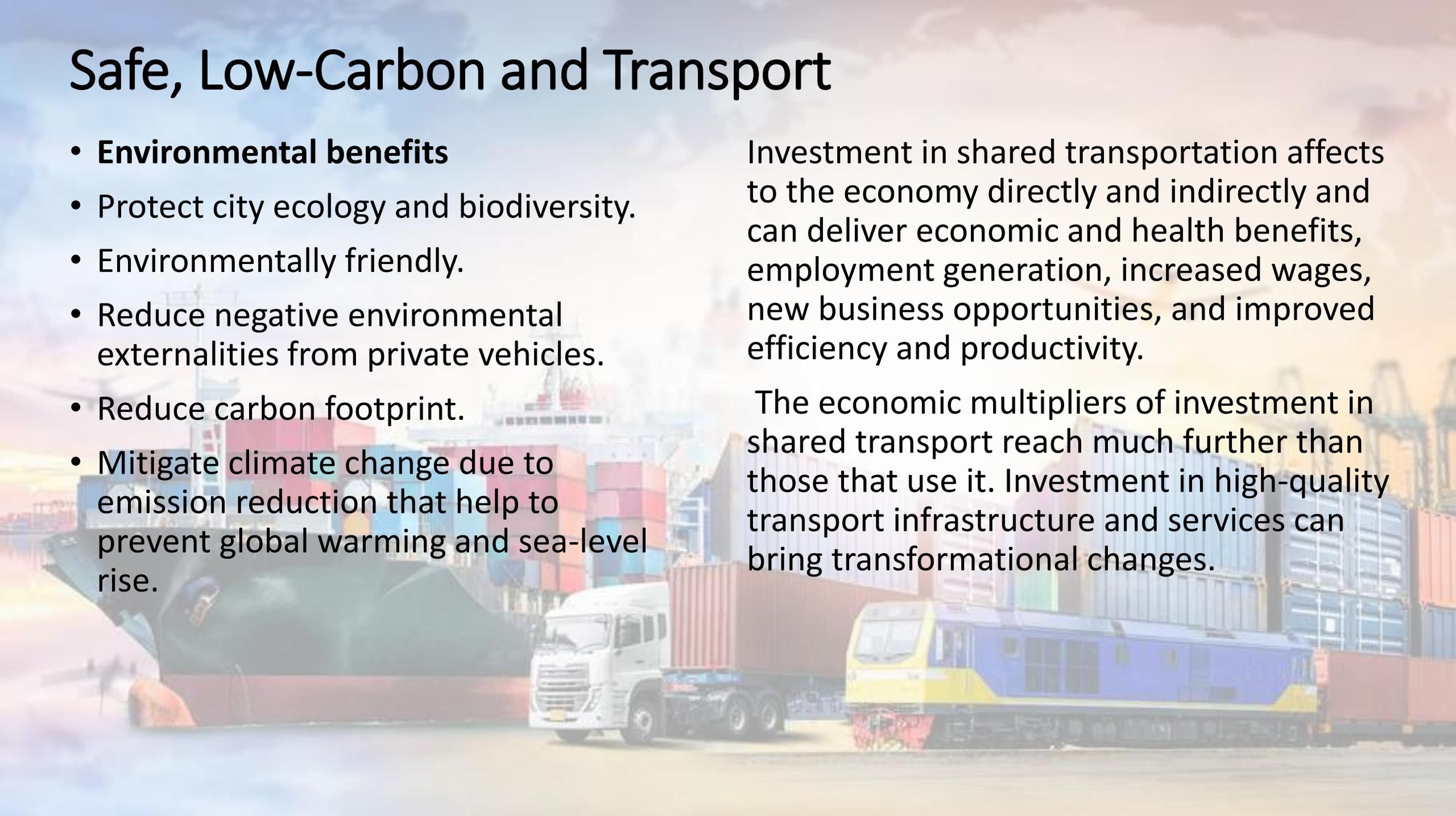
- Decreasing air pollution and improve health of the city dwellers.
- Increasing road safety, security, and comfort.
- Providing opportunity to cycling and walking to transit stations produce healthy society.
- Shared transportation helps to aging population, children and women, physically restricted people, and their well beings.
- Mobility freedom, easy and save to use and less stressful transport system.

Safe, Low-Carbon and Transport

- **Environmental benefits**
- Protect city ecology and biodiversity.
- Environmentally friendly.
- Reduce negative environmental externalities from private vehicles.
- Reduce carbon footprint.
- Mitigate climate change due to emission reduction that help to prevent global warming and sea-level rise.

Investment in shared transportation affects to the economy directly and indirectly and can deliver economic and health benefits, employment generation, increased wages, new business opportunities, and improved efficiency and productivity.

The economic multipliers of investment in shared transport reach much further than those that use it. Investment in high-quality transport infrastructure and services can bring transformational changes.



Key messages

- COVID-19 has shown the world that much less travel can be possible with a greater local focus,
- Applying best practices and new technologies will be critical in the response and to build resilience to future challenges, and
- EST Member Countries have a wealth of knowledge and experience to share.
- *There are three important areas to consider...*

Key messages

- There are three important areas to consider:

Transit
Activated
Corridors

Freight Data
Sharing

Blockchain
Technology

Transit Activated Corridors

- A range of impacts from transport need to be addressed and one clear way is to create effective and efficient shared transit corridors that unlock development opportunities and provide greater accessibility.
- This will involve building on the success of 'Transit Oriented Development' or TOD to create 'Transit Activated Corridors', or TAC,s focused on a corridor of stations.

Freight Data Sharing

- Given the high value of freight there has been much work done to investigate ways to increase the efficiency of freight movement. However, on the whole, such efforts are yet to demonstrate meaningful improvements and greater data sharing is needed.
- Improved data sharing between freight operators and transport agencies can create many mutual benefits such as reduced congestion and trip time, improved safety, synchronisation of freight, and informing transport system investment decisions.

Blockchain Technology

- Emerging digital distributed ledgers, such as Blockchains, can be used to deliver new value to the transport sector, taking advantage of automated data collection from, and communication with, a range of devices connected to the internet.
- Blockchains provide a powerful data management tool that can streamline transactions, verify authenticity, improve logistics, monitor on-route conditions, and establish provenance in the freight sector.

Blockchain Technology

- AT&T is developing a system for improving fleet and cargo management, goods tracking and regulating driver compliance.
- The World Wildlife Fund and ConsenSys have piloted a project to trace tuna throughout the supply chain.
- Bosch has developed an open-source system to connect over 10 million IoT devices and manage devices that charge electric vehicles allowing for reserving and paying for e-charging services.
- Bosch and Siemens have a system for smart parking where vehicles communicate with parking facilities and negotiate parking terms.

Conclusion

- It is important to build strong collaboration among the EST member countries to share the knowledge, experience, technology, good example, and best practices.
- Similarly, bilateral, and multilateral development banks, UN agencies, international organizations, NGOs and research institution should align their policies, programmes, finance and capacity building in support of the goals of the Aichi 2030 Declaration.



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