

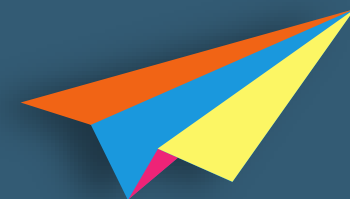


YOUR LOGO

Transportation and Physical Connectivity

FACULTY OF ECONOMICS, THAMMASAT UNIVERSITY

MODULE 8



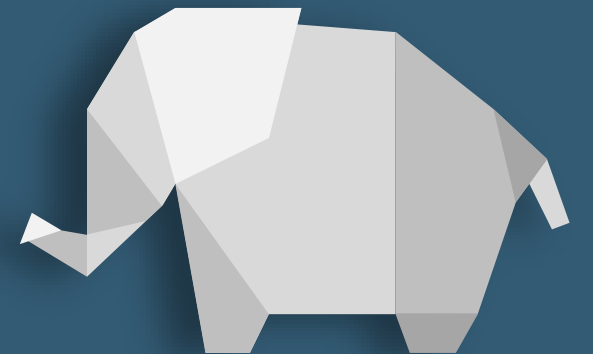
transportation

a means by which people and goods
move from one location to another
by

land

air

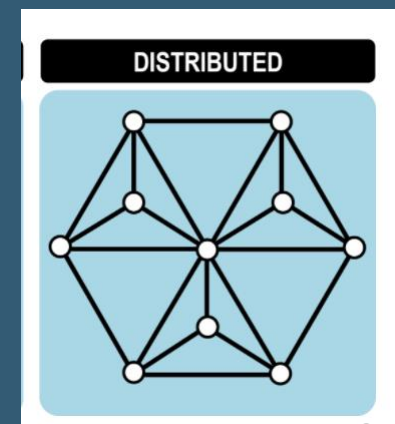
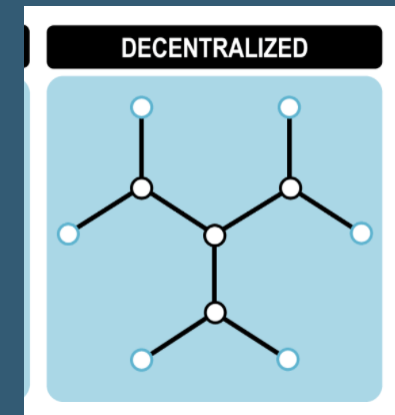
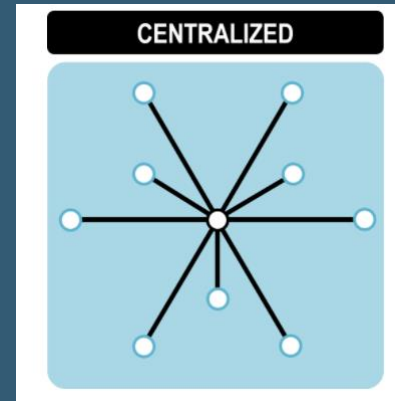
waterways



connectivity

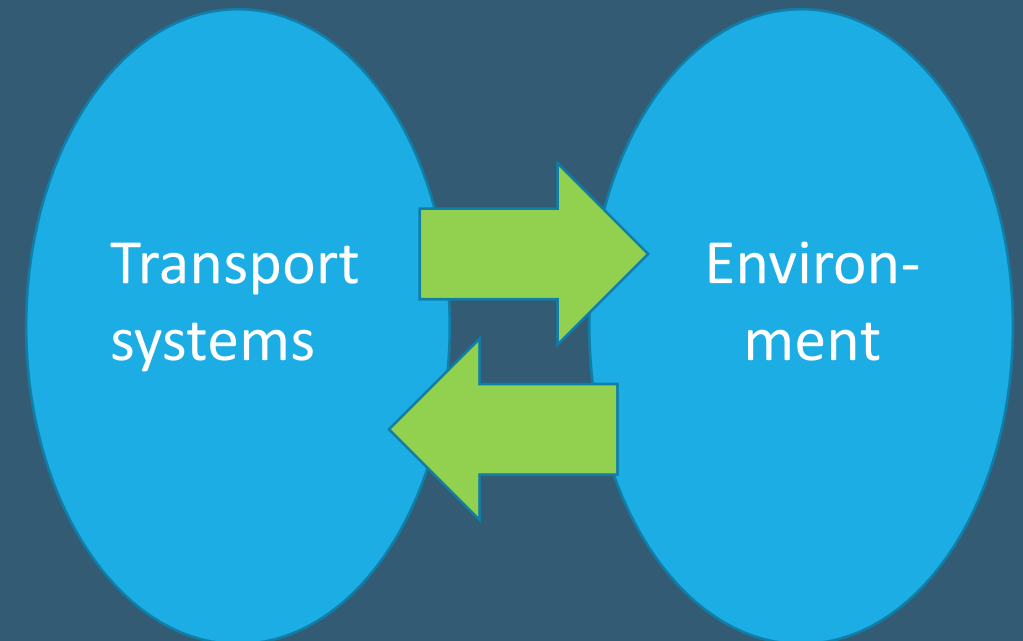
- ability to connect points or nodes; relative degree of connectedness within a transportation network
- contributes to increased supply chain efficiency and it boosts resilience

comprises “hard” and
“soft” elements

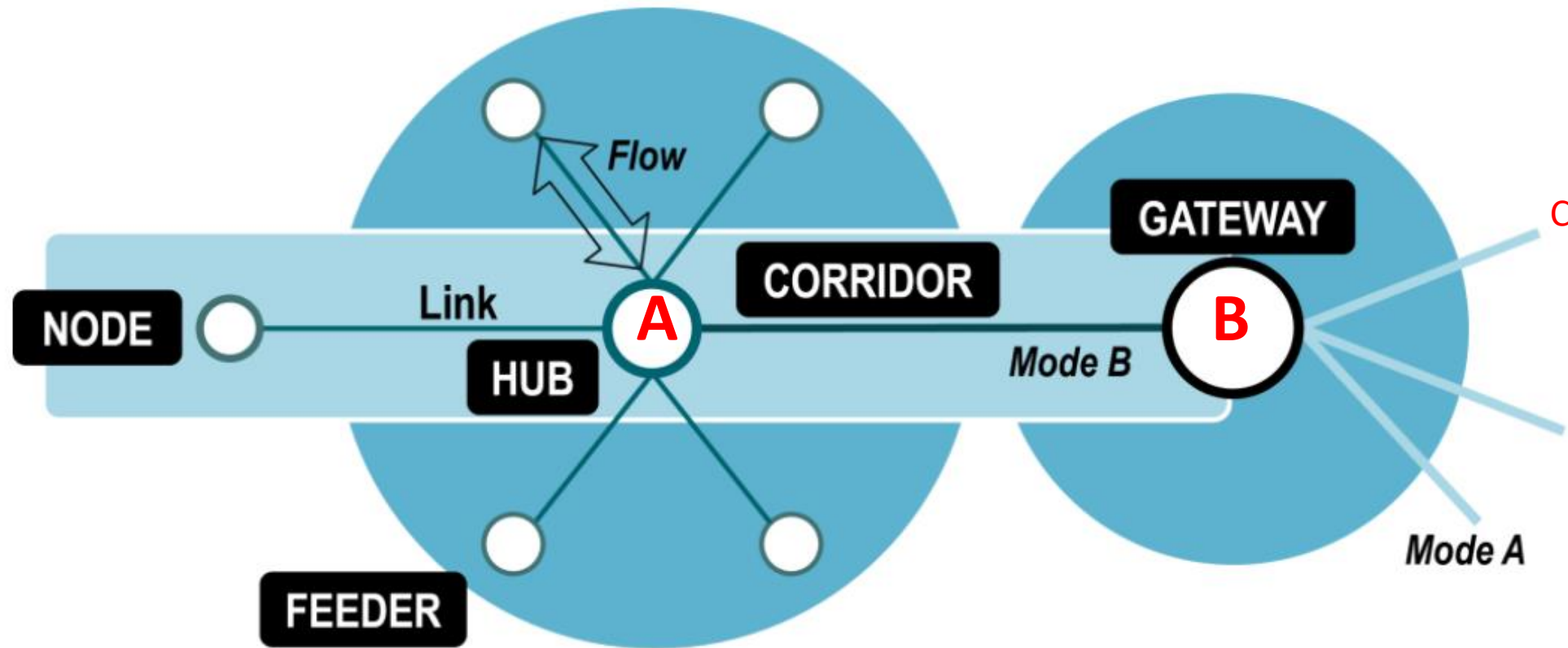


Sustainable transport

- addresses issues of GHG emission reductions
- use of alternative modalities for mobility
- use of alternative sources of power
- improved freight transportation
- improved safety
- climate proofing for transport infrastructure



Components of transport networks



Structural Components of Transport Networks

Transportation system objectives

- Reduce travel time and costs
- Improve access to spatial locations
- Improve movement of people, goods and services
- Ensure safety, security and comfort
- Reduce pollution and noise levels
- Support economic activities and enhance quality of life



A transportation system comprises:

Physical infrastructure

- Roads
- Bridges
- Railways
- Waterways



Vehicles

- Cars
- Trains
- Buses
- Trucks



Operations

- Regulations
- Standard procedures



Supporting facilities

Bus stations, airports, seaports, trucking terminals, logistics centers, warehouses, and maintenance facilities



TRANSPORTATION ISSUES



Connectivity and infrastructure

- Lack of connectivity among and within countries: incomplete road, railway and water transportation links and networks
- Condition of physical transportation infrastructure: poor quality of roads, railway tracks, and river/seaports



Coordination and awareness

- Lack of public awareness on safety causes road traffic accidents
- Lack of coordination: how to better facilitate transportation of goods and people?
- Crossing international borders: procedural delays, non-tariff barriers, lack of harmonized standards
- Opening up isolated and border areas increases risk of human trafficking and prostitution



Operation and maintenance

- Limited budget for operating and maintaining transport systems
- Delayed maintenance causes rapid depreciation of transportation assets and is costly in the long run
- Limited human skills in planning and maintaining transportation infrastructure and facilities

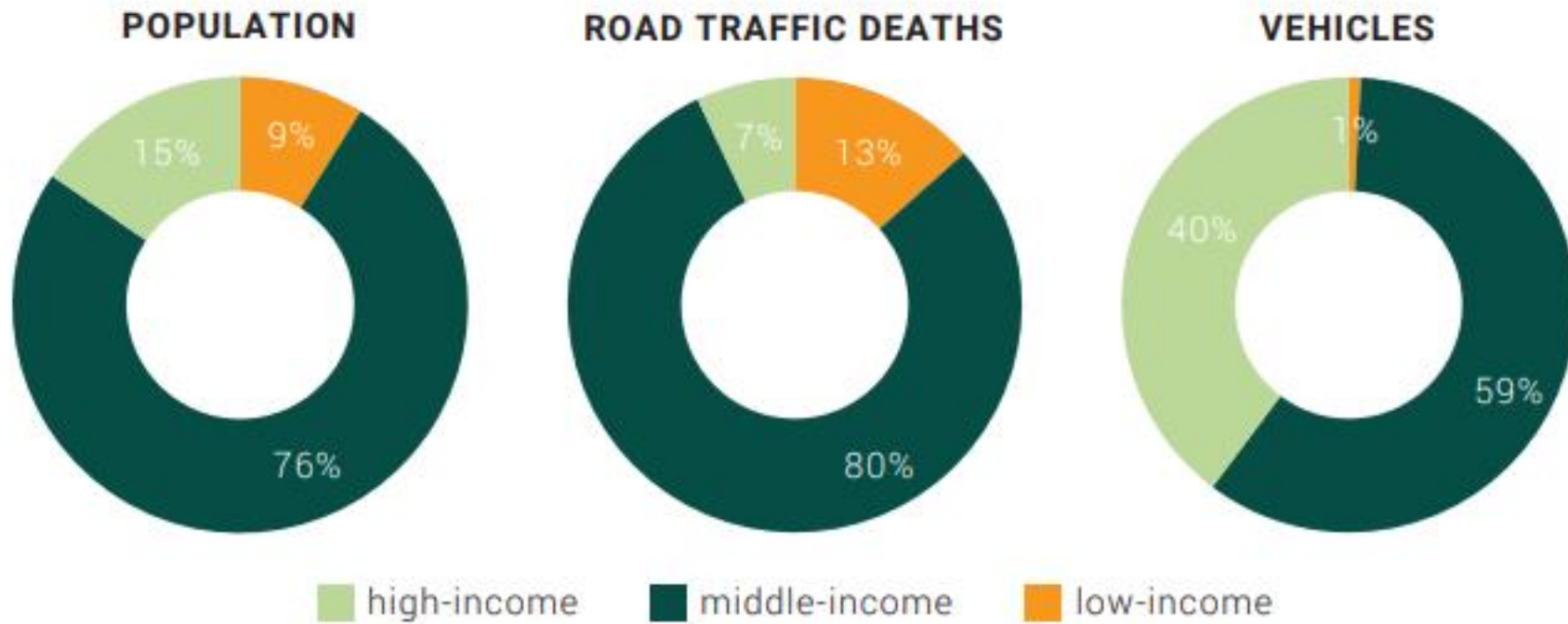


Urban transportation

- Rapid urbanization: transportation becomes more problematic; traffic jams increase travel time, fuel costs, and pollution
- Traffic congestion leads to adverse human behavior such as frustration and road rage
- Good and reliable public transportation system creates incentive to use alternatives to commute rather than by private car



Road fatalities: a pressing issue

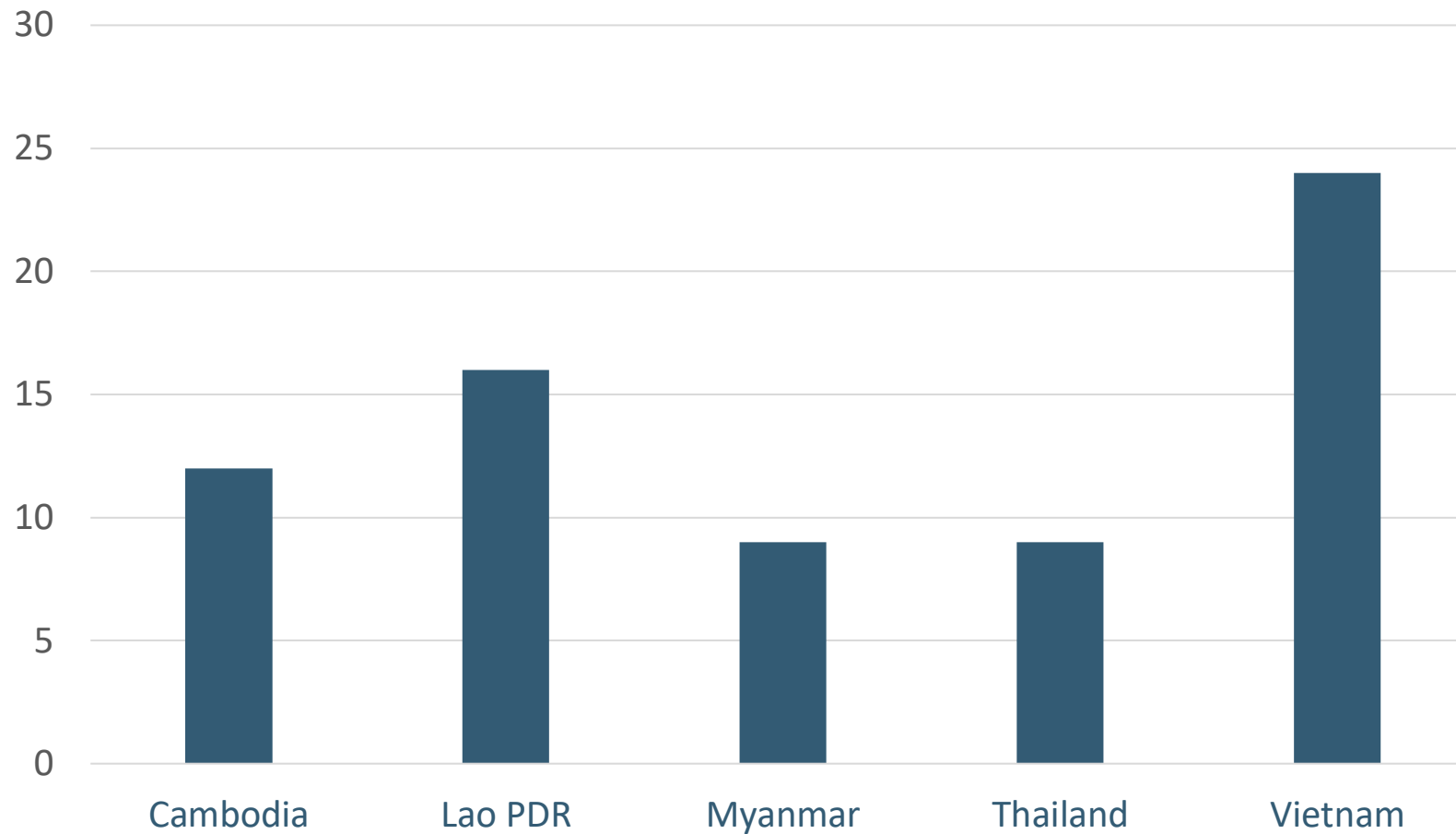


*income levels are based on 2017 World Bank classifications.



TRANSPORTATION IN CLMV

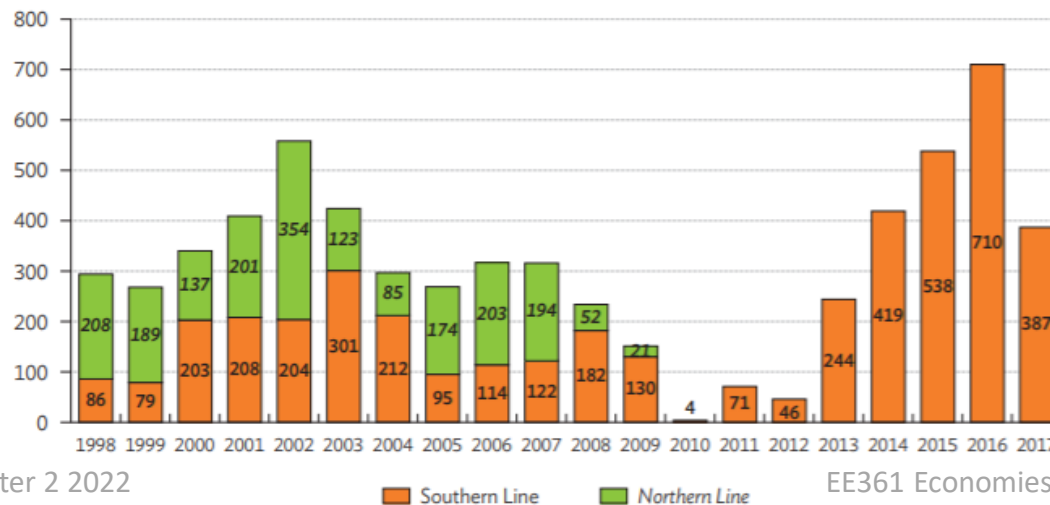
Road fatality rates, CLMV + Thailand



Cambodia Railway

- The 652km railway system built between 1930-1960s and deteriorated in the 1970s
- Rehabilitation of the railway system completed in 2016 (Phnom Penh-Sihanoukville); railway rehabilitation has improved movements of goods and people

Figure 6: Railway Freight Traffic Volume (thousand tons)



Lao PDR road network

- Up to 2000, travelling within Laos pose challenges because of the absence of all-weather road transportation network
- Of the 35,000km road network, less than 50% were in fair condition, and only 14% surfaced/sealed
- With 5,225km new and upgraded, currently Lao PDR has 6,490km (37%) all-weather roads
- Impact: increased economic growth, particularly trade, tourism and agriculture production.



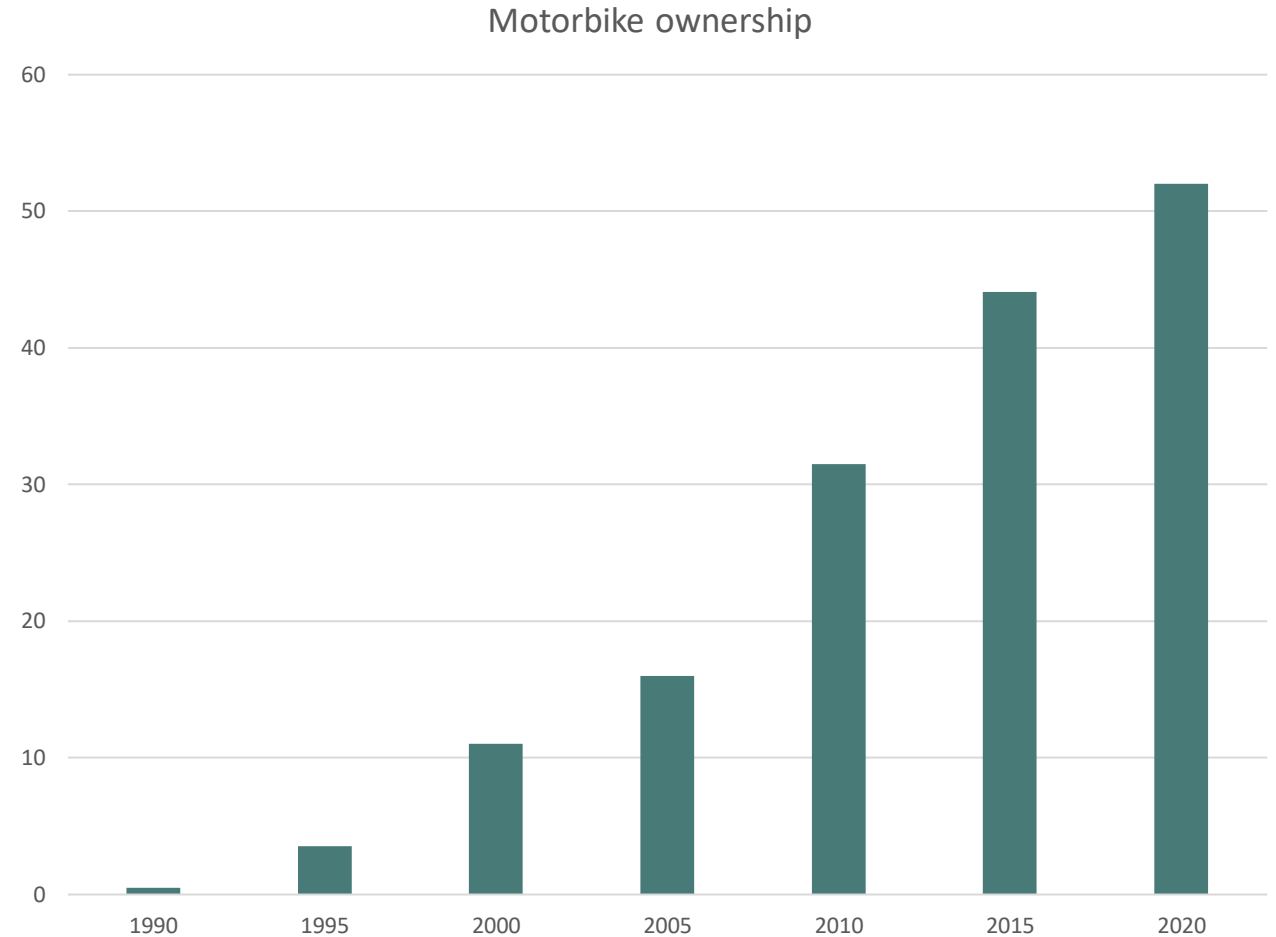
Myanmar vehicle ownership and fatalities

- Transport service markets deteriorated after decades of isolation; previously transport markets highly controlled whereby government subsidized state-owned transport companies
- Due to rapid economic growth 2012-2015, car and truck ownership doubled, along with a rise in competitive private transport market
- This resulted in more road accidents; 36% of injured people admitted to Myanmar's hospitals were involved in crashes



Vietnam motorbikes

- Motorbikes account for 95% of vehicles and are the primary mode of transport
- 1990, there were 0.5 million; it increased to 11.0 million in 2000, 31.5 million in 2010 and 52 million in 2020
- Currently over half of the population have motorbikes



Vietnam motorbikes

- Between 1990–2010, the number of motorbikes on the road increased 30-fold
- A need to focus on enforcing emission standards and creating public awareness of traffic safety
- In 2007, mandatory helmet law was passed with enforcement; a 16% reduction in road traffic head injuries occurred within the first 3 months



Informal transportation

- Motos, bajajs and tuk-tuks are important forms of informal transportation for day-to-day movement of people and goods
- These complement the formal modes of urban transportation such as buses, rail, and taxis





REGIONAL COOPERATION IN TRANSPORT

Regional cooperation in transportation

Countries engage in regional cooperation in transportation; several benefits:

- Creates synergies and impacts through new and upgraded infrastructure
- Opens markets and borders for transport services
- Improves economic efficiency and reduces transport costs
- Completes transport networks and improves links
- Harmonizes regulatory framework



GMS Economic Corridors

In 1998, the GMS Program identified several priority areas for development:

- East–West Economic Corridor
- North–South Economic Corridor
- Southern Economic Corridor

Other economic corridors:

- Southern Coastal Corridor
- Eastern Corridor
- Western Corridor
- Central Corridor



Several achievements

- Improvement in physical connectivity in the GMS countries, through road transport projects in the economic corridors
- Completion of priority transport investment projects in border areas and strategic towns and cities
- Completion of construction of national highways linking Cambodia, Lao PDR and Vietnam



Several achievements

- Increased intra-regional trade; volume of trade has increased from roughly \$5 billion in 1992 to \$413 billion in 2014
- Improved cross border facilities, immigration and customs procedures, and phyto-sanitary handling of agricultural goods
- Increased intra-regional tourism, with increased arrivals from neighboring countries



CONCLUSION



Conclusion

- Development of transport infrastructure reduces cost, travel time of travel, and savings in vehicle operating costs
- Improved transportation can create negative externalities, such as accidents, environmental pollution and human trafficking
- With increased construction of transport infrastructure, more emphasis will need to be made on operation and maintenance, more specifically road maintenance
- Regional cooperation in the transportation can lead to mutual benefits among participating countries



THANK **Y**OU!

Merry Christmas!

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