



International Conference on Innovation, Technology Transfer and Cooperation for Addressing Climate Change

*United Nations Conference Centre, Bangkok, Thailand
6 December 2022*

Innovations and Technology Applications for Low Carbon Urban Transport and Mobility

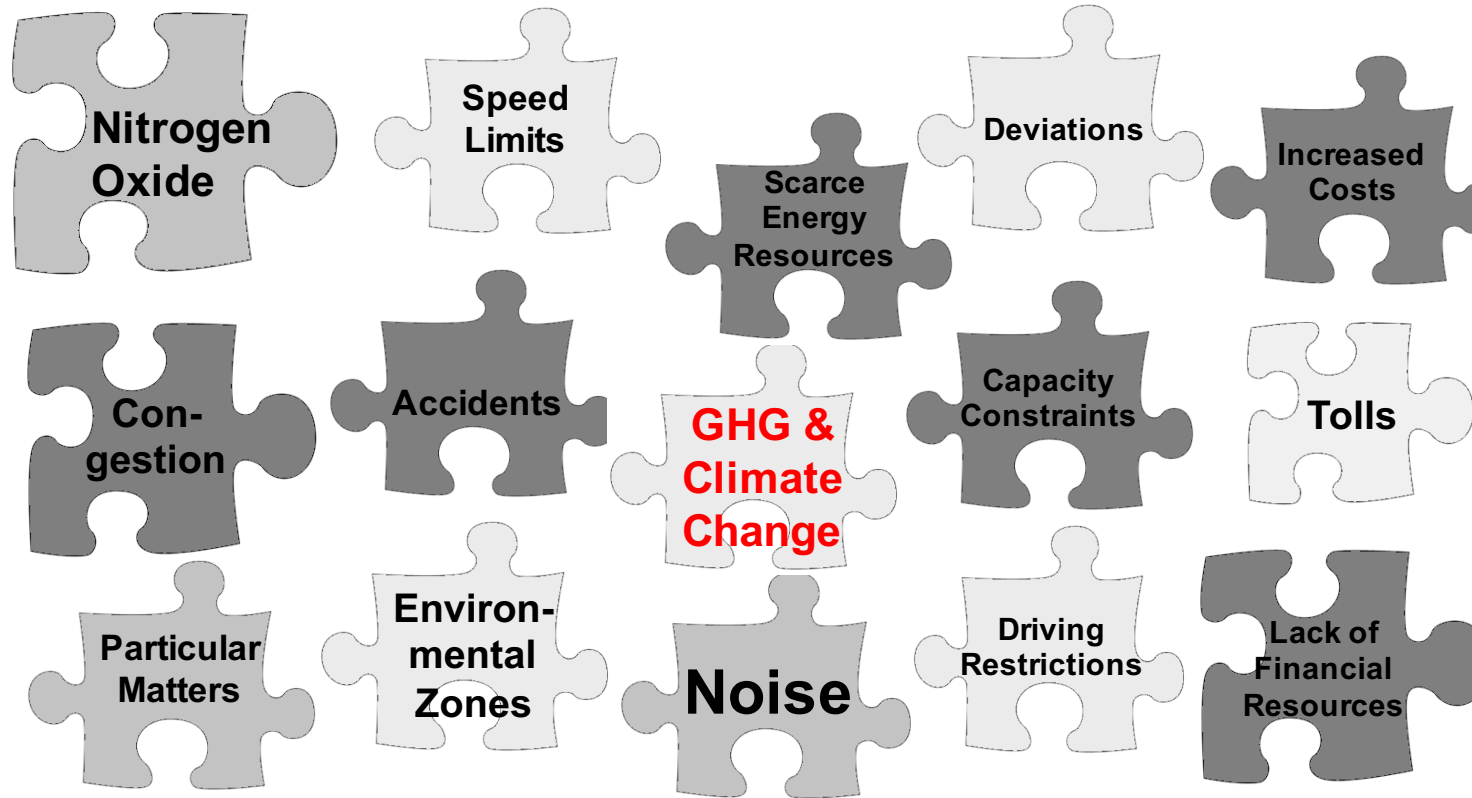
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Contents

- Problems, Opportunities & Vision
- Policy Framework (Examples/Cases)
- Recommendations for Cities

for Low Carbon Urban Mobility

Urban Transport - Problems



❖ Transport increasingly contributed to the total global GHG emissions, increased from **23% in 2010 to 29% in 2017**



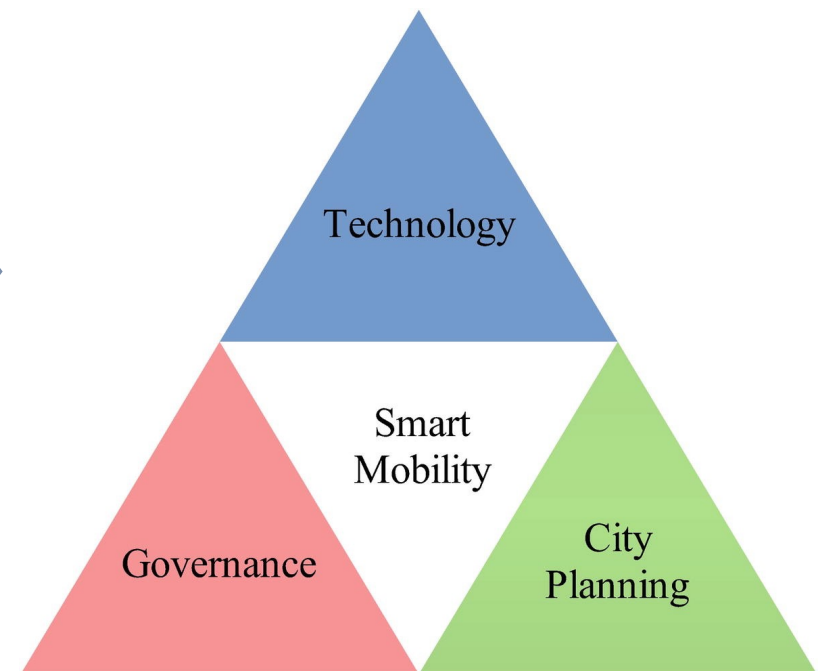
❖ **While tackling GHG emissions, cities will definitely have opportunities to co-address the other problems**

Urban Transport - Opportunities

Mega Trends

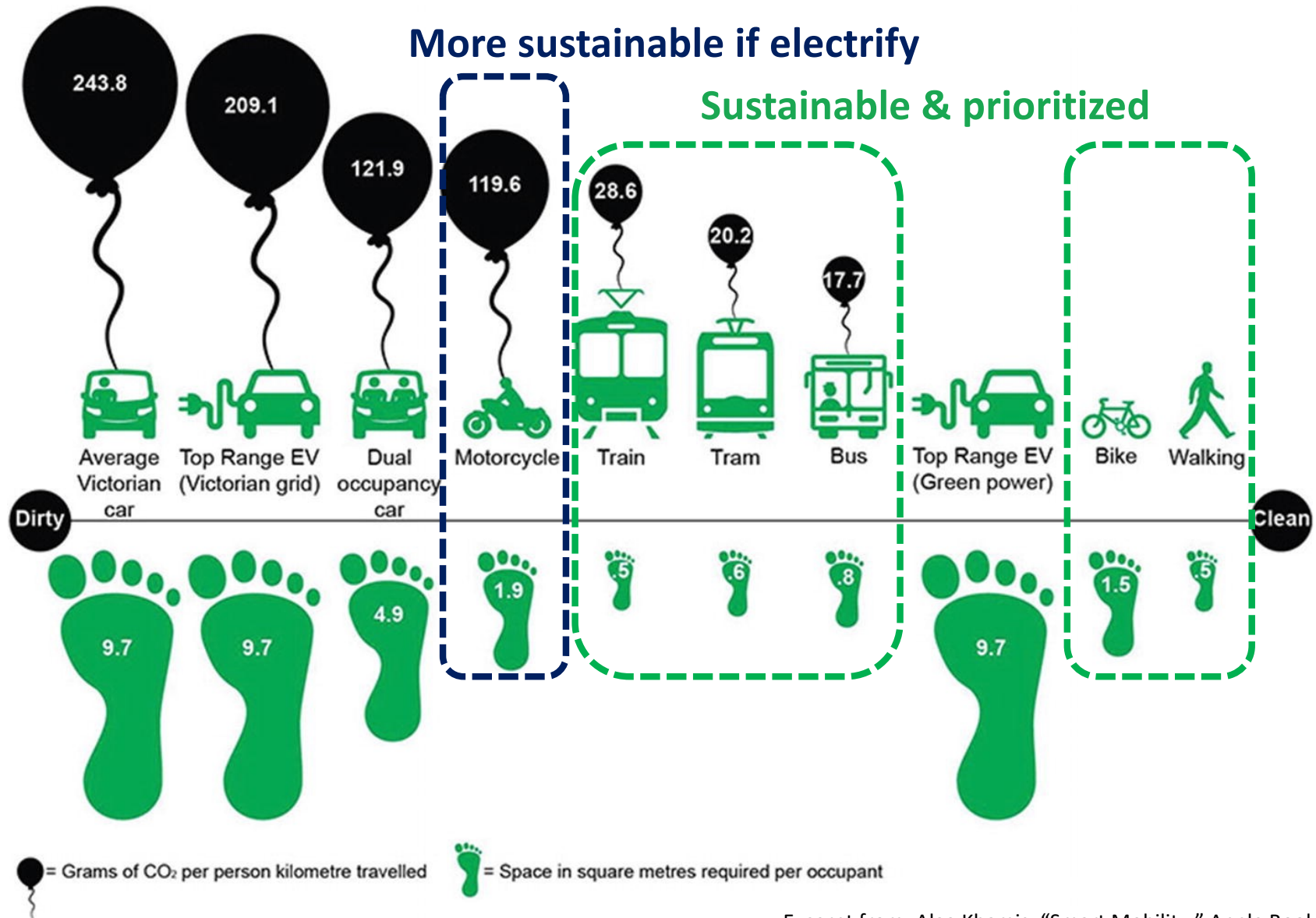
- **Driving automation**
 - safety & accessibility
- **Vehicle electrification**
 - fossil fuel dependency, emissions, climate change
- **Connected vehicles**
 - V2X concept
- **Shared mobility**
 - challenges in mega cities

Smart Mobility Triad

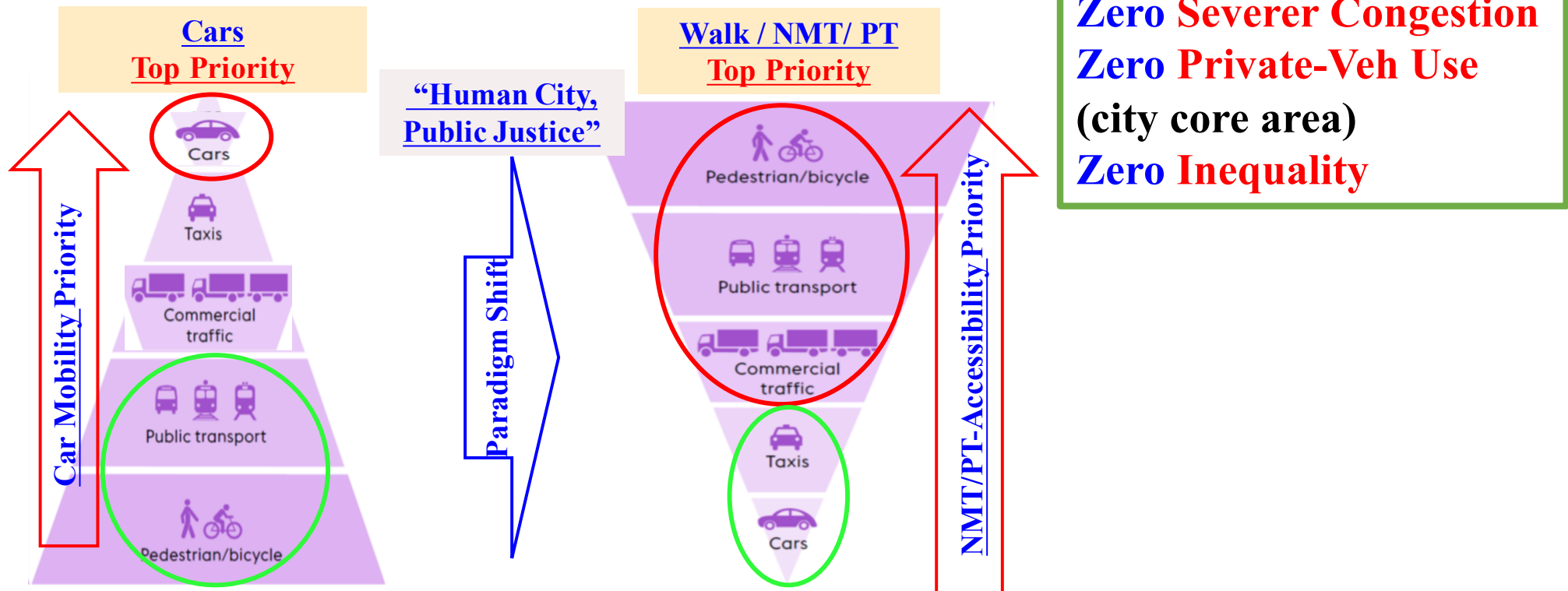


- ❖ Future mobility is **people-centric, software-defined, connected, and electric**
- ❖ Public acceptance of technologies will depend on the existence of a **well-developed governance framework and proper regional/city planning** to accommodate the evolving technologies

Urban Transport - Opportunities



5-Zero Vision & Paradigm Shift



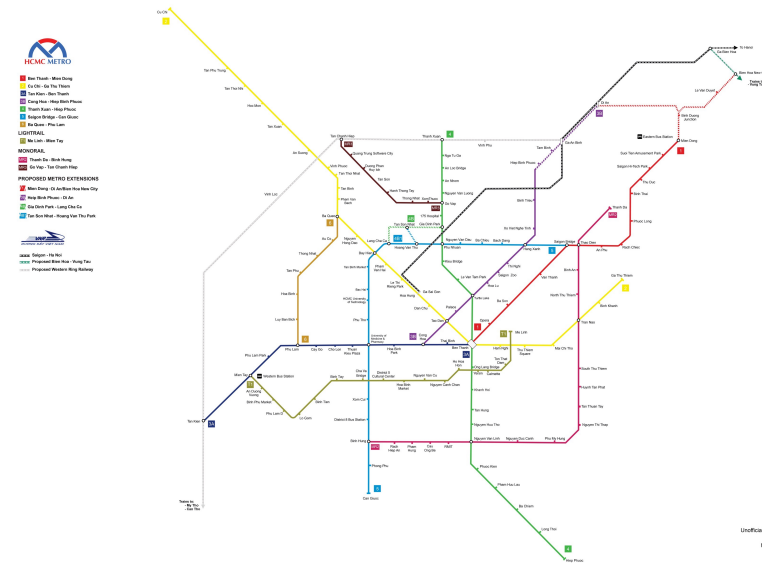
Policy Framework for Low Carbon Urban Mobility

Avoid	Shift	Share	Improve
Strategies			
Reduce or avoid the need for travel e.g. congestion pricing, teleworking, mixed land use	Shift to environmentally friendly modes e.g. road space allocation, transit vehicle priority	Share mobility resources e.g. car sharing, ride sharing, micromobility	Improve energy efficiency and emissions of transport systems e.g. electric vehicles, intelligent transport systems
Outcomes			
System efficiency	Trip efficiency	System and trip efficiency	System, trip and mode efficiency

“Avoid” Strategies

- *To reduce the need for physical travel activity and trip length*
- Development of new urban railways network as a backbone infrastructure
- Integration of land use and mass transit development (TOD) to encourage public transport use and capture land values

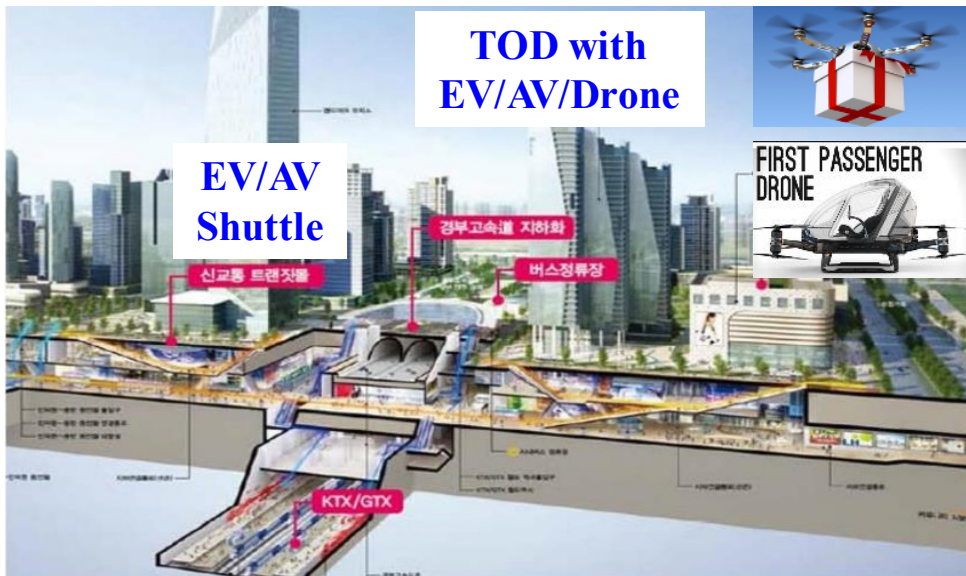
HO CHI MINH CITY METRO



TOD Plan at Rach Chiec Station (MRT1)



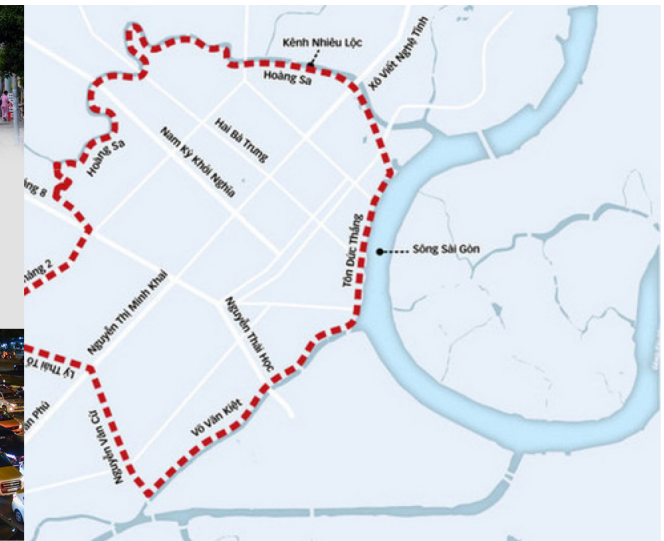
Rach Chiec Station (MRT1) under Construction



“Avoid” Strategies

➤ *To further reduce private vehicle use*

- Parking policy
- Congestion charge scheme in CBD
- Low-emission zones (HCMC CBD)



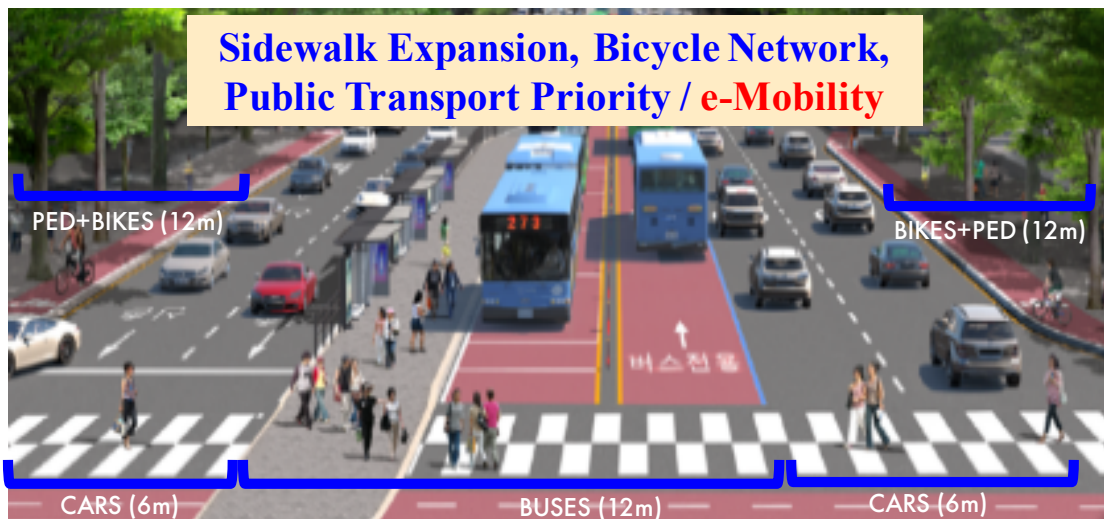
THU PHÍ VÀO TRUNG TÂM TP.HCM

THỜI GIAN 6h - 19h

MỨC THU 40,000 đồng/ôtô cá nhân
30,000 đồng/taxi
(có đăng ký tại TP.HCM)
50,000 đồng/xe tải, xe buýt thương mại
(kể cả xe biển xanh)
*Không thu phí chiều xe ra trung tâm TP

“Shift” Strategies

- *To improve trip efficiency by shifts to more environmentally friendly modes*
- Improvement of city bus services to integrate with urban railways
- Development of waterbus system to diversify public transport and leverage tourism
- Improving intermodal public transport to (integrated fare, information, interchange)



“Shift” Strategies

- *To improve trip efficiency by shifts to more environmentally friendly modes*
- Development of (public) bicycle system to reduce private vehicle use
- Improving walking environment (pedestrianizing) to enhance accessibility to public transport

Bicycling in Hue City



Bicycling in Hoi An City



Nguyen Hue Walking Street



Bui Vien Walking Street

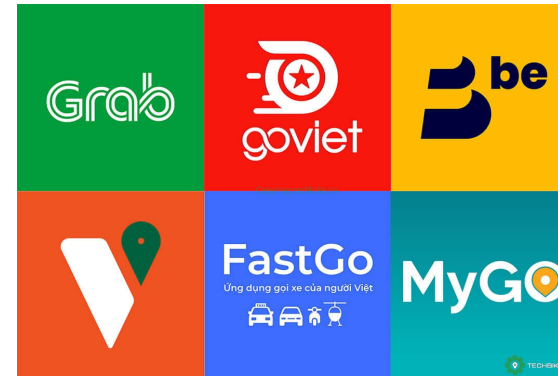


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“Share” Strategies

➤ *To share mobility resources*

- Car-sharing service
- Ride-hailing service
- First- and last-mile service
- Home delivery service
- Smart Post/iLogic Box (pickup points)



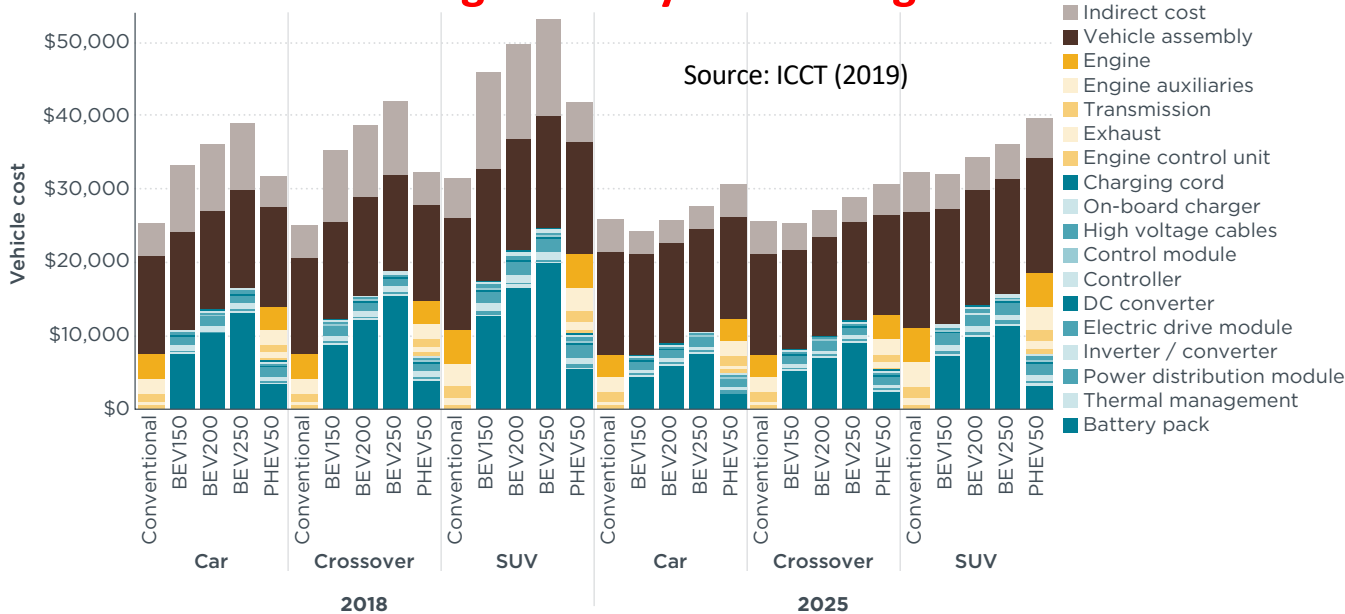
“Improve” Strategies

➤ *To improve the efficiency and emissions by Infrastructure and Technology*

- Developing E-bus fleet in urban areas
- Accelerating production, sale and use of electric vehicles (new factory, battery lease, charging station network, etc.)



EV Cost is significantly decreasing!



Recommendations for Cities

- Increasing interest in E-Mobility roadmap in Asian cities ...
but insufficient to achieving the target of GHG emission reduction and the other targets

Vietnam's Action Program for Transition to Green Energy and Mitigation of Carbon Dioxide and Methane Emissions from Transportation

(Decision 876/QĐ-TTg, dated 22 July 2022)

Strategic Objectives:

- Develop green transportation systems to contribute to the net-zero GHG emission goals by 2050

Specific Objectives:

- By 2030, improve energy efficiency, transition to green and EVs in transportation as committed in the NDC.
- By 2050, rationally develop transport systems, complete the transition to green/EVs and associated infrastructure

Period 2022-2030

- From 2025: all new buses will be electric and use green energy
- PT's modal share: Hanoi 45% - 50%, HCMC 25, Da Nang 25% - 35%; Can Tho 20%; Hai Phong 10% - 15%; Class-I cities >5%

Period 2031-2050

- By 2040: > 50% buses and 100% taxi will be electric and use green energy
- By 2050: 100% buses and taxis are electric; PT's modal share: major cities > 40% and Class-I cities 10%

Recommendations for Cities

- Conduct a contextual analysis
- Formulate a comprehensive framework for low carbon urban mobility
- Focus primarily on measures that can be implemented at the local level
 - Integrated Urban Planning
 - Sustainable Urban Mobility Planning
 - Urban Access Regulation
 - Public Transport (Infrastructure, Operation, and Vehicles)
 - Car/Motorcycle-Sharing
 - Parking Management
 - Supporting Walking and Cycling
 - (Vehicle) Registration Management
 - Prioritizing Electrification Options for Land Transport