

3. Urban Transport – shift to more efficient modes

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Bangkok, 2 April 2019

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3. Urban Transport – Shift to more efficient modes

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Scenario: Demand for mobility in your city/municipality is increasing

Question: What are the ways to increase mobility through more efficient forms of transport?

Training Overview

1. Energy use, drivers, and impacts of transport

- Urban transport issues and impacts
- A case for action in urban transport
- Transport Concepts: Avoid, Shift, Improve

2. 'Shift' policies

- Policy case studies on 'shift'
- Strategies to shift to more sustainable modes of transport

3. Activity



30 mins

3

10 mins



1. Energy use, drivers and impacts of transport

Transport issues in urban areas



Where to start?

Tools

What are the steps?

Urban mobility is an increasingly critical issue



Low level of bus services in Hanoi, Viet Nam



Congestion in Jakarta BRT Station



Congestion in Hanoi, Viet Nam

Transport issues in urban areas





Tools

What are the steps?

 Asian cities occupy three of the top four places; over half the world's top ten most congested cities are located in Asia.



Top 10 most congested cities across Asia

A case for action in urban transport: air quality



NEWS > CITY

Jakarta has most polluted air in Southeast Asia: Study

Where to start?

News Desk

The Jakarta Post

Jakarta / Fri, March 8, 2019 / 03:29 pm



Smog blankets Jakarta's skyscrapers. Air pollution in the city is the worst in Southeast Asia. (The Jakarta Post/Wendra Ajistyatama)

Air Quality Index: PM2.5 Air Pollution – March 19, 2019 (WHO PM 2.5 guideline - 25µg/m³ 24-hr mean)



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Transport concepts: avoid, shift, improve





Global transport activity is rising and behaviours are shifting to less efficient practices. Strategies to address this could be classified as Avoid, Shift, and Improve

Avoid-Shift-Improve Concept



Municipalities can encourage an **integrated approach** to sustainable urban mobility that encompasses '**avoid**', '**shift**' and '**improve**' actions:



Source: Adapted from ESMAP - https://openknowledge.worldbank.org/bitstream/handle/10986/21305/936760NWP0Box30oralNote0Transport04.pdf?sequence=1 IEA 2019. All rights reserved.

Avoid Options

Where to start?

Tools



- Urban design and mixed land-use planning
- Compact development policy



We covered these in SESSION 2 Energy Efficient Urban Planning

Why Shift?





Energy intensity of transport can be separated based on the form of transport used (i.e. mode).

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Where to start?

Tools

What are the steps?

- These strategies and policies enable and encourage movements from motorised travel to more energy efficient forms of transport, such as public transit, walking, cycling and freight rail:
 - Increasing the public transport capacity (e.g. BRT)
 - Improved bus routes and services
 - Congestion and road charges (e.g. roadway tolls)









2. 'Shift' policies

Sustainable shift mode policies in cities









































2. 'Shift' policies



2. 'Shift' policies



Regulatory / Institutional

Available to use

Case Study: BRT Planning in Jakarta



Where to start?

Тос

What are the steps?

• ITDP Project: Increasing public transport given limited funds (1/3)



Koridor BRT 426 km



14 Km Elevated Metro



Available to use



40 Km LRT



7 Km Underground Subway

What can you build with \$ 1 billion?



Case Study: BRT Planning in Jakarta



What are the steps?

• ITDP Project: measuring based on existing frequency and occupancy (2/3)



Case Study: BRT Planning in Jakarta



What are the steps?

• ITDP Project: Proposed BRT line and execution (3/3)



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2. 'Shift' policies



- Congestion pricing
- Road pricing to reflect environmental cost of road use
- Taxes on private vehicle use, or subsidies for public transport investment



Congestion Charging

ere to start?

Tool

What are the steps?

Congestion charge as pay for service:









Congestion Charge: The Case of London





Cheaper to use

Congestion Charge: The Case of London



Economic

Cheaper to use

- Centralised institutional structure and strong political will
- Extensive public communication and consultation
- Improved public transport and fare integration

Change in Surface Transport Shares, London 2000-2016



What are the steps?



Congestion Charge: The Case of French Cities



France proposes congestion charges in big cities to tackle pollution

() 18 October 2018

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 Announced by French government in draft transit bill in October 2018

What are the steps?

- To introduce London-style city centre tolls
- Would require car drivers to pay a toll in cities with more than 100,000 people
 - \rightarrow Limit car traffic and fight against pollution
- Local authorities...

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- … expressed opposition (Toulouse & Marseille)
- ... would charge visitors but not residents (Lyon)
- ... might consider (Paris)

Congestion Charge: The Case of French Cities





Automation of the Electronic Road Pricing Scheme, Singapore





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Source: International Best Practices for Congestion Charge and Low Emissions Zone (Energy Foundation, 2014)

Automation of the Electronic Road Pricing Scheme, Singapore

• The Electronic Road Pricing (ERP) Scheme has been a key policy tool in reducing and keeping low sharp peak traffic volumes



2. 'Shift' policies



- KnownPopular
- Easy to understand

Behaviour change to incentivise shift mode

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- Using 'nudging' to promote sustainable travel behaviour
 - Bounded rationality: Our decisions are restricted by time, energy and willpower
 - Heuristics and Biases: We use mental shortcuts heuristics in our decision-making process but we are vulnerable to biases



Information / Capacity

Organ donor rates

- Known
- Popular
- Easy to understand

InterContinental Bangkok
The Berkeley Hotel Pratunam
Time Berkeley Hotel Pratunam
Avoiding motorways
Avoiding motorways
The Berkeley
Hotel Pratunam
Supprise A
Supprise A
Supprise A
Supprise A
Supprise A
Tail World A
Supprise A
Tail World A
Supprise A
Tail World A



Making walking option the default

What are the steps?



Tools

Behaviour change to incentivise shift mode



Where to start?

Tools

What are the steps?

- Promoting behaviour change for sustainable transport modes in Vienna
 - Large city-centre festival for citizens on car-free streets
 - Rickshaw cycling for residents through recreation zones
 - 'Walking cafés' walking groups through city with lectures and activities
 - Resident gatherings at intersections cheering passing cyclists
 - Safety training for children

VIENNA (AUSTRIA)



Information / Capacity

- Known
- Popular
- Easy to understand



Behaviour change to incentivise shift mode



What are the steps?



- deliver incentivised behavioural change programmes through a smartphone app



How ICT brings informal transport services into mainstream



Where to start?

Tools

What are the steps?

- Significant usage of informal public transit in southeast Asia
 - Carry millions of passengers daily
 - Not easily regulated sector
 - Provides public transport capacity that puts a check on vehicle congestion



- Popular
- Easy to understand

How ICT brings informal transport services into mainstream



Where to start?

Т

What are the steps?

- Opportunities:
 - Streamlined routes mapping the informal system
 - E.g. smartphones and GPS to document routes and translate data into info for traffic Apps



- "Apping" where informal transport options can be hailed with an app
 - E.g. request EZGo tuk tuks via PassApp in Cambodia



Multimodal Integration, a mobility management concept





• Case Study: Kochi India – transport hubs to integrate different transport services



Multimodal Integration, a mobility management concept



Mobile based

Payments

E-Commerce

Parking

enablement

Retail Payments

"Shift" policies

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What are the step

• "Shift" objectives and policy responses:

Objectives	Policies
Shift passenger travel to public transport and NMT Prevent passenger shifts to motorised transport	 Integrated public transit and land-use planning Improved bus routes and services Parking restrictions Pricing strategies (<i>e.g.</i> congestion charges, vehicle quotas/bidding system for plates, and fuel/vehicle taxes) Traffic restrictions and travel bans in city centres
	 Road space allocation: dedicated lanes for buses, BRT and bicycles. More sidewalks, crossings and overpasses for pedestrians Congestion and road charges (<i>e.g.</i> roadway tolls)
Shift freight transport from trucks to rail and water transport	 Standards for size and weight of vehicles authorised on roads Logistics management technology



4. Activity

ACTIVITY



- 1. Think about the context of public transport and modal shares in your city \
- 2. On post-its, write down the avoid/shift strategies that fit in your city to increase the share of non-motorised transportation (1 idea per post-it; 3 ideas)
- 3. Stick it here \rightarrow



4. In 4 groups – one per city type – what factors might limit the uptake of public transit and non-motorised transport in these contexts? How might they be overcome?

Policy Pathway



ools

What are the steps?

IEA policy pathway to improve energy efficiency in urban transport systems

		DONE
PLAN	Identify transport needs and define objectives	0
	Identify and engage stakeholders early on	0
	3 Address potential barriers and secure necessary resources	0
	Establish policy framework and action plan	0
IMPLEMENT	Engage actors and begin implementation	0
	Raise awareness and communicate targets	0
	Manage implementation process	0
MONITOR	Collect, review and disseminate data	0
EVALUATE	Analyse data and evaluate effects of transport policy	0
	Adapt transport policy and plan next steps	0

Key Resources

International <td

Integrating Urban Public Transport Systems and Cycling Summary and Conclusions

OECD

<u>https://www.itf-</u> oecd.org/sites/default/files/docs/integratingurban-public-transport-systems-cyclingroundtable-summary 0.pdf



QIZ Deutsche Desellschaft für Internationale Zusammenarbeit (BIZ) EmbH

The SUTP Sourcebooks investigate the key areas important for a sustainable transport policy framework in

Resources

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SUTP Sourcebook Modules

Federal Ministry for Economic Cooperation and Development

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https://www.itfoecd.org/sites/default/files/docs/shared-mobilityliveable-cities.pdf







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