

# Sustainable Urban Transport: Avoid-Shift-Improve (A-S-I)



## iNUA #9: Implementing the New Urban Agenda

“We will promote **access** for all to **safe, age- and gender-responsive, affordable, accessible and sustainable urban mobility** and land and sea transport systems, enabling meaningful participation in social and economic activities in cities and human settlements, by **integrating transport and mobility plans into overall urban and territorial plans** and promoting a **wide range of transport and mobility options** [...]”

New Urban Agenda #114

Cities today are challenged with meeting steadily increasing mobility demands. Providing additional road space has not helped to solve the pressing problems of unacceptable levels of congestion, air quality deterioration and increasing greenhouse gas (GHG) emissions in cities. In return, cities have not become more livable, and mobility remains far away from being human-centered. What is required, therefore, is a fundamental rethinking of the paradigm by which mobility and city planning is guided.

Inspired by the principles of sustainability, our alternative approach focuses on the mobility needs of people instead of car infrastructure. The approach, known as A-S-I (from Avoid/Reduce, Shift/Maintain, Improve), seeks to achieve significant GHG emission reductions, reduced energy consumption, less congestion, with the final objective to create more livable cities.

The A-S-I approach entails three pillars:

- ⊙ Avoid/Reduce
- ⊙ Shift/Maintain
- ⊙ Improve

Firstly, “avoid/reduce” refers to the need to improve the efficiency of the transport system as a whole. Through transport-oriented and compact development of cities, the need for motorized travel and the trip length can be reduced. Transport demand management plays into this objective as well. Residential, work and leisure districts must become more closely connected and intermixed.

## 25 Origin of the term:

The A-S-I approach was initially developed in the early 1990s in Germany and first officially mentioned 1994 in the report of the German parliament’s Enquete Commission. The approach serves as a way to structure policy measures to reduce the environmental impact of transport and thereby improve the quality of life in cities. In the development community, the A-S-I approach was first embraced by international NGOs, as well as multilateral and bilateral development organizations working on transport. It was considered a worthwhile alternative to the predict–provide–manage approach. The A-S-I approach is focused on the demand side and offers a more holistic approach for an overall sustainable transport system design.

Secondly, the “shift/maintain” instruments seek to improve individual trip efficiency. A modal shift from the most energy consuming and polluting urban transport mode (i.e. cars) towards more environmentally friendly modes addresses all the aforementioned challenges of transport systems. In particular, shifting to and maintaining the following transport modes is crucial:

- Active Transport: Walking and cycling – they represent the most effective and environmentally friendly options to increase sustainable mobility.
- Public Transport (PT): Bus, rail, etc. Although public transport also generates emissions, lower specific energy consumption per passenger-km and higher occupancy levels imply that the associated CO<sub>2</sub> emissions per passenger-km are lower compared to cars.

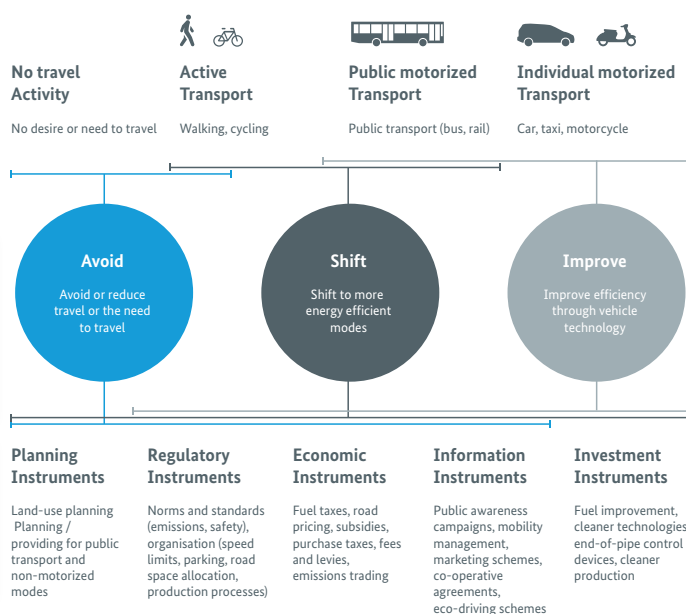
In many developing and emerging countries active and public transport are the main modes of transportation. Governments should seek to maintain and further improve this situation.



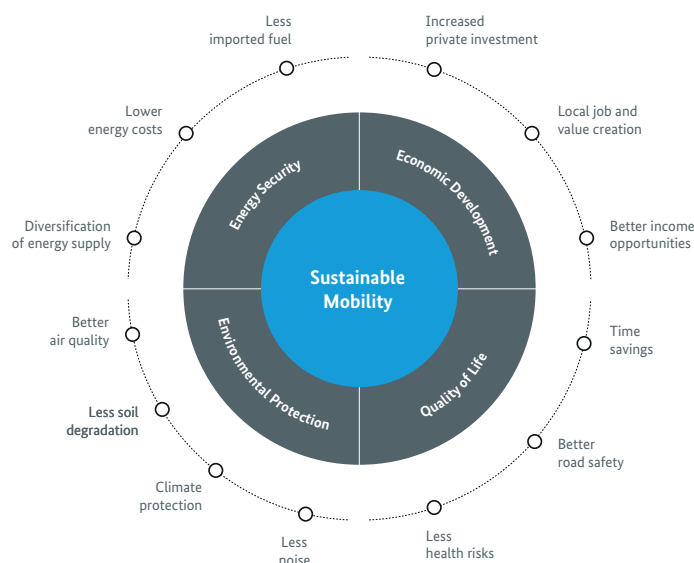
Thirdly, the “improve” pillar focuses on vehicle and fuel efficiency as well as on the optimization of the operational efficiency of public transport. This includes the attractiveness of public transport. Additionally, improvement of the energy sources required for their operation is key. Introducing renewable energy sources into the transport sector must become a basic principle for motorized transport.

The A-S-I approach follows a hierarchy: “avoid” measures should be implemented first, secondly “shift” and finally the “improve” measures.

### Avoid Shift Improve - Instruments



### Benefits of Sustainable Mobility



### Climate change: A new agenda

The A-S-I approach also contributes to addressing climate change. It allows developing synergies between mitigation and adaptation:

- Mitigation: It enables decision-makers to develop transport strategies that increase the efficiency of transport systems, thereby supporting climate change mitigation.
- Adaptation: Through improving infrastructure and technology, it allows for transport systems to become more resilient to the effects of climate change and to contribute to effective disaster risk management.

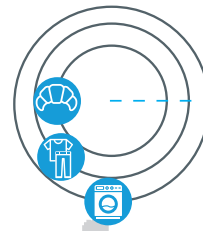
A successful climate change strategy in transport requires the adoption of a comprehensive and coherent approach centered on humans instead of cars. The A-S-I approach is a suitable framework for that.

# An Example: Buying goods

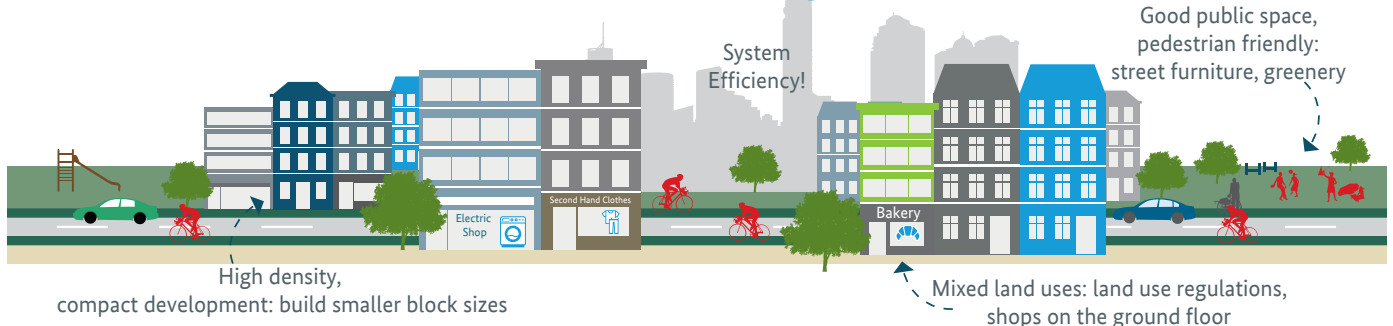
## 1. AVOID

### First decision

How far do I have to go to get the good?



Taking into account:  
Trend towards online shopping  
Transit oriented development (TOD) - Shop concentration around transport hubs

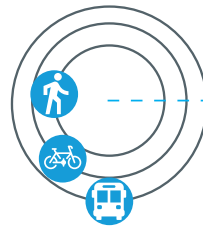


**AVOID/REDUCE:** By implementing an integrated land use planning policy and fine-grained urban fabric (high density and mixed land use areas with shops on the ground floor) travel distances to go shopping can be reduced.

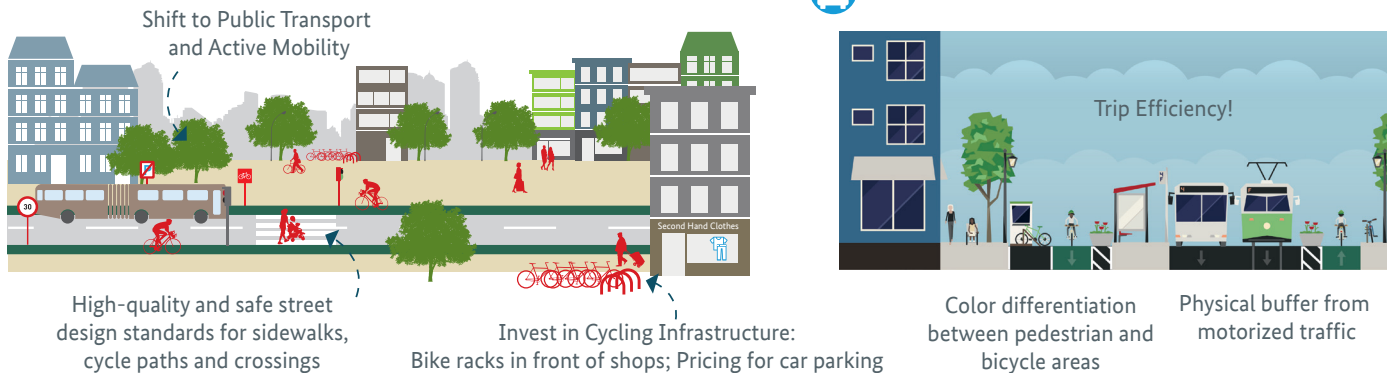
## 2. SHIFT

### Second decision

Which transport mode is available and most convenient to me?



Taking into account:  
Travel Demand Management (TDM)  
Car parking restrictions  
Speed limits  
Availability, affordability and quality of public transport options

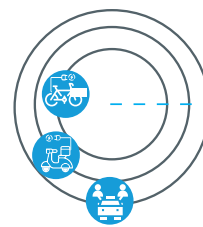


**SHIFT/MAINTAIN:** Short travel distances can be more easily undertaken by active transport or public transport. By increasing the operational efficiency and infrastructure of public transport, as well as safety, design and infrastructure for active transport, the individual may regard these modes as more convenient for the daily shopping trip.

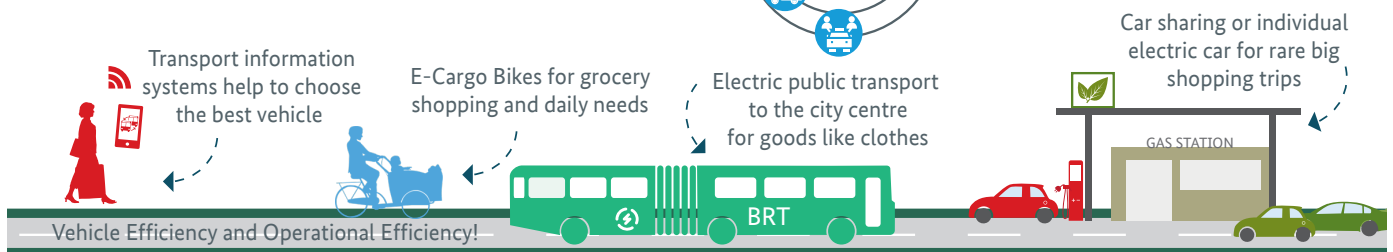
## 3. IMPROVE

### Third decision

Which type of vehicle do I use for which purpose?



Taking into account:  
Time of use  
Infrastructure for clean fuels  
Vehicle sharing

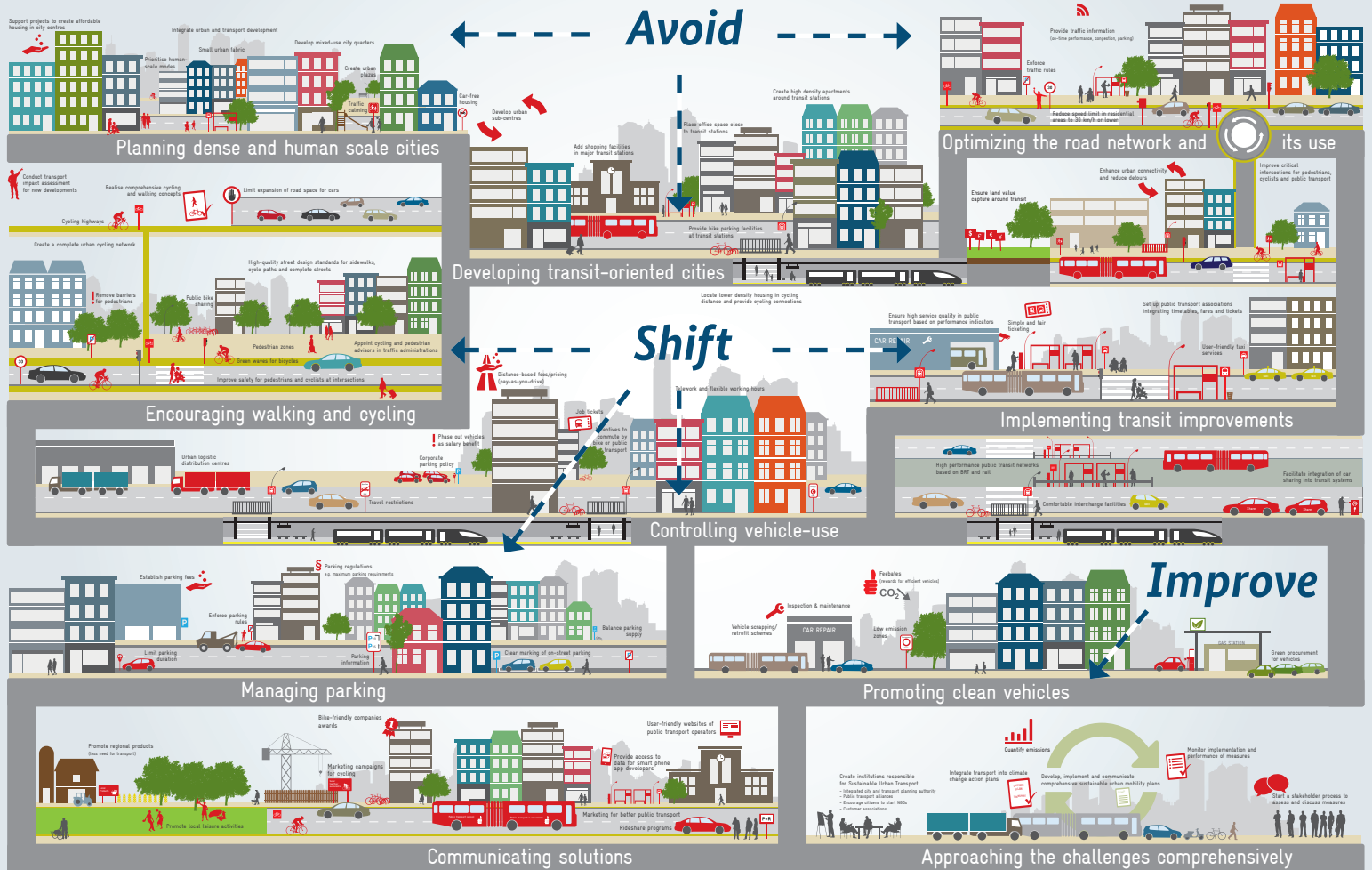


**IMPROVE:** In the medium/longterm the individual may consider reducing the car size or using vehicles with improved energy and carbon efficiency. Innovations in transport information systems, priority schemes for public transport (BRT/LRT), electrical bicycles or car sharing will further improve the transport sector. Subsidies and a good charging infrastructure can encourage people to use the electric version of a vehicle.



You can find the A-S-I approach integrated in our 10 Principles for Sustainable Urban Transport - Have a look!

# 10 PRINCIPLES FOR SUSTAINABLE URBAN TRANSPORT



- Find a Prezi on the A-S-I approach here: <https://prezi.com/7ufnp8rczcl/10-principles-sut/>
- Download the 10 Principles Poster in 35 different languages here: [www.sutp.org/en/](http://www.sutp.org/en/)
- For more details on the A-S-I approach, please check GIZ' Sourcebook for decision-makers in developing cities, Module 5e Transport and Climate Change at: [www.sutp.org](http://www.sutp.org)



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