

Sustainable Transport Options for Cities

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Plan for Presentation

1. Sustainability-Definition
2. Sustainable Transportation-Definition
3. Sustainable Transportation- Options



Definition of Sustainability

The term sustainability is a **buzz** word.

There is NO denied definition and NO generally accepted definition.

The UK government's 1998 policy statement (DETR, 1998) defines sustainability as:

- Social progress which recognizes the needs of everyone;
- Effective protection of the environment, limiting global effects;
- Efficient use of natural resources; and
- Maintenance of high and stable levels of economic growth and employment.

Sustainability can also be defined by the 'good' things that must grow in the future (like jobs, productivity, wages, profits, capital and savings, information, knowledge and education) and the 'bad' things that must not grow in the future (like pollution, waste, poverty, energy and material use per unit of output) (Ryan, 2003).

In the definitions mentioned above one can see that sustainability can be interpreted differently, but all the definitions seem to have a lot in **common** as well.

They all provide *environmental, social and economic indicators* to describe sustainability.



Definition of Sustainable Transportation

A sustainable transportation system is one that:

- allows the basic access needs of individuals and societies to be met safely and in a manner consistent with human and ecosystem health, and with equity within and between generations.
- is affordable, operates efficiently, offers choice of transport mode, and supports a vibrant economy.
- limits emissions and waste within the planet's ability to absorb them, minimizes consumption of non-renewable resources, limits consumption of renewable resources to the sustainable yield level, reuses and recycles its components, and minimizes the use of land and the production of noise.



Sustainable Transportation

GLOBAL PERSPECTIVE



Sustainable Transport Options –At Global

| Ways or Methods for Sustainable Transport | |
|---|--|
| 1. Use Smaller Vehicles | 7. Dedicated Transit Right-of-Way |
| 2. Optimize Vehicle Usage | 8. Discourage Sprawl |
| 3. Use Electric-drive Vehicles | 9. Promote Mixed Use of zones |
| 4. Consider Alternate Fuels | 10. use Congestion Pricing |
| 5. Promote Telecommunicating | 11. Educate your whole community |
| 6. Make PT System Convenient | 12. Make streets safer for Pedestrians |



Sustainable Transport Options

1. Use smaller vehicles for Travel

- Depending on the size of the group, the vehicle could be used (for smaller group, smaller vehicle)

The Advantage is....

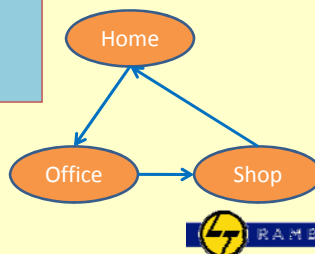
- Consumes less space fuel (high efficiency).



2. Optimize Vehicle Use

In a single trip try to cover as much work as possible. This will...

1. Reduce pollution
2. Save time & money
3. Save fuel



Sustainable Transport Options Cont...

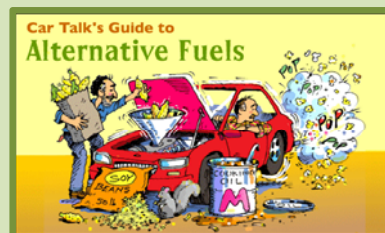
3. Use Electric-drive Vehicles

1. Battery-powered EVs, have much lower greenhouse gas emissions.
2. Fuel-cell vehicles powered by hydrogen are even better and are increasingly becoming available.
3. The only emission from these vehicles is water!

4. Consider Alternate Fuels

Fuels from non-petroleum resources.

- LPG, CNG, and ethanol (limited use)
- Natural gas derived fuels, such as methanol, dimethyl, and ethers (clean fuels)
- Electricity (limited use)



Sustainable Transport Options Cont...

5. Cut the Size and Use of Your Fleet

Encouraging use of transit, bicycles, and walking enable cut in size of the fleet.

It is very usual practice in 'European' countries



6. Maximum Efficiency

Maintaining correct tire pressure, a tuned engine and regular oil changes can save over a ton of CO2 per year!



Sustainable Transport Options Cont...

7. Use Parking as a Lever

Target specific motor vehicle users by varying parking charges according to time of day



8. Promote Telecommunicating & Flexible Scheduling

Computers, modems, the Internet, telephones and fax machines allow employees to work at home.

Change the work week—to ten hours a day for four days, for example - reduce commuting.



Sustainable Transport Options Cont...

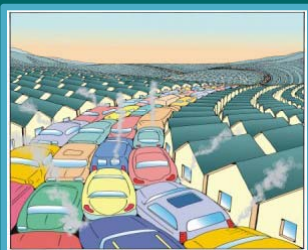
9. Offer Parking Cash-out

"Parking Cash-out" is an innovative twist on parking charges. It offers an employee a choice—keep your free parking place or give it up for cash.



10. Guarantee a Ride Home

Address this concern by guaranteeing employees a ride home—by taxi or company car—when needed.



Sustainable Transport Options Cont...

11. Make Fares Low: Keep Them LOW

Low Transit Fares making the cost of taking a train, trolley, bus, or ferry lower than the cost of using a car.



12. Provide Amble Funding

Funding mechanisms have long tilted the playing field toward private automobiles and away from public transit.

Local governments should work to get significant portions of revenues from gas taxes, tolls, motor vehicle fees, and similar sources permanently earmarked for public transit.



Sustainable Transport Options Cont...

17. Provide Financial Incentives for Bicycle use

Provide interest-free loans for the purchase of bicycles and bicycle equipment for employees commuting by bicycle.



Sustainable Transport Options Cont...

18. Discourage Sprawl

Sprawl means continual expansion of the urban boundary ever outward to accommodate new development.

Sprawl leads to more driving, as houses, shopping centers, and factories are located farther from each other, farther from urban centers, and farther from public transit.



Sustainable Transport Options Cont...

19. Promote Transit Oriented Development

Maximize the utility of mixed-use developments by revising your general plan and zoning laws to favor dense developments near transit corridors and stations.

Setting minimum density requirements for projects within a set distance of public transit stations.

Coordinate with transit agencies to ensure that transit lines serve new housing and commercial developments.



Sustainable Transport Options Cont...

20. Make Streets Safer for Pedestrians

Confusing lane design, bad striping, poorly timed signals — local government's traffic department should analyze available facilities for pedestrian hazards, and then eliminate them.

These kinds of improvements generally cost very little but have the potential for attracting more people towards walking.



Overall Global Perspective

Sustainable Transport Option in Middle-East Case Study: U.A.E.

The rapid increase in road congestion has led to the serious consideration of PT options by all the Gulf States. Dubai is leading the field in the planning and ongoing provision of new services and this section focuses on the current proposals in Dubai and neighboring Abu Dhabi – the largest of the Emirates and the richest city in the world.



Country: United Arab Emirates
Location: Dubai, Abu Dhabi

Dubai:

1. Metro Rail System introduced in September 2009
2. Dubai Metro aims to become the most advanced rail system in the world



Abu Dhabi:

1. Local bus system is introduced in 2008.
2. It is operated with 20-min headway to all the areas and with 10-min headway in high dense corridors.
3. Metro Rail system is under progress.



Overall Global Perspective Cont....

Sustainable Transport Option in Thailand Case Study: Bangkok



The key Options are:

1. Private sector participation in Urban Transport infrastructure provision
2. Preparation of Mobility Management Plans
3. Introduction of Mass Transit system
4. Preserving and expanding the role of NMT
5. Intelligent Transportation System



Overall Global Perspective Cont....

Sustainable Transport Option in USA

Past Scenario (1950-2000)

1. Modal Share in major Cities: Car – 96%; Transit – 4% (Except New York)
2. Major motor companies bought transit & completely closed in 1960s
3. No parking/congestion/pollution

Present Scenario (After 2000)

1. Policy towards encouraging Non-Motorized Transport
2. Encouraging ridership in public transport



**THANK YOU FOR YOUR
ATTENTION**

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