Global Alliance for
EcoMobility

# Fact sheet 1.1 - What is EcoMobility?

## Featured in this Fact sheet:

1) **What is EcoMobility?**

EcoMobility is environmentally sustainable mobility. It guarantees accessibility and allows people to move around without relying on private motor vehicles. It includes non-motorized transport, such as walking and cycling, public transport, and other new modes of transport that will help us move away from relying on fossil fuel and private motor vehicles.

2) **Why EcoMobility?**

Modern life requires us to be mobile, but our present behavior and the complex nature of mobility today impacts on the environment, health and infrastructures, counteracting the benefits it should bring. When considering these cross-sectoral impacts and economic cost of transport we need to provide for comprehensive solutions. EcoMobility offers as a solution combinations of different transport modes to reduce dependency on private motorized vehicles and the negative environmental and social costs. EcoMobility also brings accessibility and easy commute to all. This will increase transport sustainability in terms of: climate impact, health problems, urban development, reduced time wasted and economic cost savings.

3) **Examples and good practices.**

More than 50% of urban trips are under 5km and could easily be changed to more sustainable modes. Therefore, local government authorities must lead the charge on transport policies, in close cooperation with other local organizations and institutions representing different stakeholders. The concept of EcoMobility can be easily implemented in relatively smaller cities (see for instance Stockholm) but it is not limited to smaller communities. Large cities are now showing significant results from adopting comprehensive policies and integrated actions. New York and London are two examples.

4) **What are the main conclusions?**

It is clear that we need to change our mobility behavior, shift to more sustainable modes and improve energy efficiency. Scattered transport initiatives, single transport mode focus and haphazard funding over the past 30 years have limited results and are way below what we need to do to keep our level of mobility in a carbon restricted world. This can only be achieved with less conventional means. Integrated, rather than modal based, strategies, incorporating a wide variety of modes, will provide much more effective solutions to our transport problems.

## 1) What is EcoMobility?

### EcoMobility:

**a)** integrates all environmentally sustainable forms of mobility

**b)** combines non-motorized transport, public transport, car sharing and other forms of energy efficient transport

**c)** allows everybody to have better choices of how to move around, in particular in the local environment

**d)** reduces the use of privately owned motorized vehicles.

### Note

Non-motorized means of transport include:

- walking - cycling - wheeling: walking, using the bicycles, tricycle, velo-mobile, wheelchairs, mobility scooter, walking aids, scooters, skates, push scooters, trailer, hand carts, shopping carts/ trolleys, carrying aids and the above vehicles with supporting electrical drive (preferably powered by renewable energy sources);

The use of public transport is referred to as "passengering" and includes:

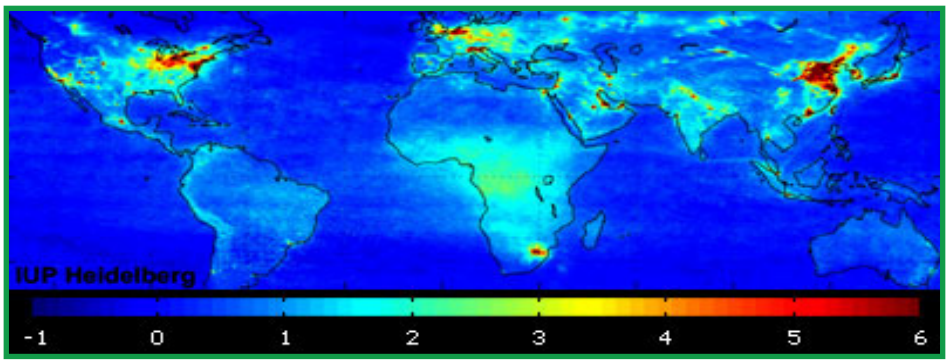
- the use of buses, trams, subways, light rail, trains, ferries, collective taxis and taxis (if low-emission)

### Some key data:

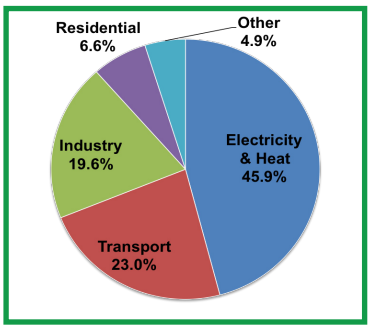
- 20Gt: the increase of global $CO_2$ emissions between 1900 and 2000 (Source: World Resources Institute)
- 6.45 Gt (23% of the total): the amount of emissions from transport in 2006 (Source: IEA)
- 3,644,732.33Gg $CO_2$ equivalent: the amount of $CO_2$ emissions from transport in 2006 in the 40 most developed countries. 85% of this was produced by road transport. (Source: UNFCCC).
- 13%: the percentage of total GHGs emissions deriving from transport in 2004 (IPCC).
- 4.3 Gt: the amount of $CO_2$ emissions from road transport per year in 2004 (IPCC).
- Between $1,000 and $200: the annual cost of traffic jam (in wasted time and fuel) per driver in the United States: (Source: Texas Transport Institute).
- 1% of EU GDP: the cost of traffic congestion within the European Union
- Less than 5km: the length of 50% of the total number of daily trips. 65% of these trips are made my car (Source: Eurostat)
- 80%: the percentage of all GHGs emissions produced in cities. These figures will rocket in the next 20 years.
- 5 billion: the number of people who will be living in cities by 2030 (i.e. 60.5% of the total world population)(Source: UN).
- Particular attention should be paid to developing countries: between 2000 and 2030, Asia's urban population will increase from 1.36 billion to 2.64 billion, Africa's from 294 million to 742 million and that of Latin America and the Caribbean from 394 million to 609 million (State of the Worlds Cities Report, UNDFP)
- 3.1 million: the number of motor vehicles in Beijing. China is now the largest emitter of GHGs. About 1,000 to 1,200 vehicles added to the Chinese cities congested roads every day.

## 2) Why EcoMobility?

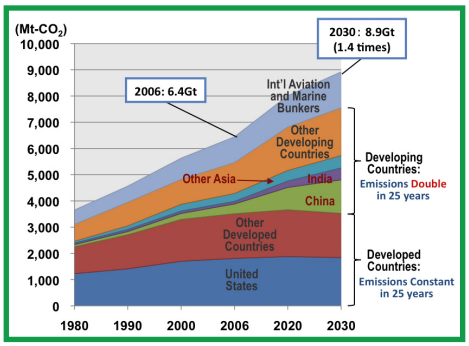
- Current road transport level increases are unsustainable. The percentage of $CO_2$ emissions from transport is steadily rising. In 2006 global $CO_2$ emissions were 28 billion tons. Of this, the transport sector was responsible for 23%, or 6.45 billion tons. Moreover, according to IEA estimates, worldwide transport $CO_2$ emissions will increase by almost 1.5 times to 9 billion tons by 2030.




**Map of global air pollution. The map clearly shows a high concentration of air pollution in the most densely populated areas (Source: European Space Agency)**




**World's $CO_2$ Emissions by Sector in 2006**[*1 *2]




**Trends in Transport $CO_2$ Emissions: 1980-2030**[*1 *2]

- The **direct and indirect** costs of inefficient road transport are highest in the urban environment. It is also here that the negative effects of transport are borne mainly by those not inside the motor vehicles. In both developed and developing countries the highest levels of air pollution are registered and it is mainly traffic related. Traffic is responsible for road congestion, delays and associated costs. According to Forbes Magazine, car speed in the 20 most congested cities in Europe range from 19km/h in Berlin and London to 46km/h in Vienna, with an overall average of 30.5 km/h. The average commercial speed in most cities has hardly changed since the time of the horse and carriage as there are few cities (over 500,000 population) that are not suffering from congestion.
- The EU has estimated that the cost of congestion in Europe amounts to 1% of EU GDP per year (European Commission, COM(2007) 551).
- The correlation between traffic density and greenhouse gases emissions from urban areas is clear.
- In order to make urban road traffic more sustainable, we need to develop strategies that focus not only on the development of fuel-efficient cars but also on more effective uses of alternative transport and mobility solutions. If vehicle numbers do not decrease, many congestion-related problems will remain. Implementing a comprehensive change towards EcoMobility requires the adoption of a new culture in land use and urban transport planning altogether.
- An urban-focused starting point makes sense. According to UN estimates, by 2030 about 5 billion people out of 8 billion will be living in cities and private motorized transport will increase accordingly. A Eurostat study shows that in most European countries each passenger undertakes, on average, 3 trips per day. Most of these (between 20 and 50%, depending on the country considered) are work or school related and 50% of the total trips are shorter than 5 km. For these journeys, the car is the most popular means of transport, accounting for 66% of them. More eco-friendly transport modes could easily become an alternative, provided that they offer similar levels of flexibility and reliability.
- A fundamental prerequisite for success is the ability to reduce the number of motorized trips without sacrificing the ability of people to move quickly and conveniently within their local areas. EcoMobility also has a challenge to develop special service solutions for certain groups like the elderly and handicapped to provide them with better travel options.
- Every city has different characteristics and needs. Local authorities/ governments are the key players in cultural change through more environmentally friendly transport systems. Other stakeholders have to be included in the reform process as well, namely policy makers, members of the transport business sector, technical expertise, and users. EcoMobility requires the coordination and cooperation between all these groups to become truly effective.
- EcoMobility can act as a catalyst in building cooperation among different stakeholder groups. It promotes the implementation of a new mobility culture through its integrated and comprehensive approach to transport. The result - harmony amongst various mobility sectors and community segments.

# 3) Examples and good practices

## a) Examples

| CITY | NEW YORK | LONDON |
|---|---|---|
| **CHARACTERISTICS OF THE CITY** | It is the most densely populated major city in the United States, with an estimated 8,274,527 people, occupying just under 790 $km^2$. The population of greater metropolitan New York is also the nation's highest, estimated at 18,815,988 people occupying over 17,400 $km^2$. | London is the 3rd most densely populated capital in Europe. Its metropolitan area counts 7,556,900 people distributed on 1.577 $km^2$. A density of 4,792 inhabitants per $km^2$. |
| **DATA ON TRANSPORT AND MODAL SPLIT** | Of all people who commute to work in New York City:<br>– 32% use the subway<br>– 25% drive alone<br>– 14% take the bus<br>– 8% travel by commuter rail<br>– 8% walk to work<br>– 6% carpool<br>– 1% use a taxi<br>– 0.4% ride bicycles to work<br>– 0.4% travel by ferry.<br><br>54% of households in New York City do not own a car, and rely on public transportation. | London has a large and complicated transport system. In Greater London there are 13,600km of roads, 3,730km of bus routes, 329km of metro lines, 28km of new tramways and 788km of national rail lines. Every day 23.8 million journeys are made on this transport network.<br>Of all the journeys made within London:<br>– During 2006/07 public transport accounted for 36%<br>– 18% were by bus, which equated to approximately 6 million journeys made every weekday, and this figure is growing<br>– 10% were by London Underground in 2006, totaling 4 million journeys per weekday or 1 billion trips per year<br>– Rail and DLR journey stages increased by 6% each;<br>– Over 480,000 are made by bicycle every day. Since 2000, the number of recorded cycle journeys has increased by 83%.<br><br>38% of London households do not own a car, compared to only 23% of households across Great Britain as a whole. |
| **MAIN ACTIONS** | The city is implementing PlaNYC 2030, a comprehensive long-term sustainability vision.<br><br>Public transport:<br>– A select bus service was implemented. New York has now one of the largest fleets world wide of hybrid buses. The majority of other buses use natural gas<br>– From 1995 to 2005, ridership on city buses and subways grew by 36%, compared with a population gain in the city of 7%. In the suburbs a 14% increase in ridership on Metro-North and the Long Island Rail Road outpaced a suburban population gain of 6%. With dramatic increases in fuel prices in 2008, as well as increased tourism and residential growth, ridership on New York buses and subways grew 3.1% up to a 2.37 trips a year compared to 2007. This is the highest since 1965<br>– A new central terminal, PATH World Trade Center station, is under construction. It will allow easy transfer between the PATH system, several subway lines and proposed new projects. It is expected to serve 250,000 travelers daily. | On November 2008 the Mayor of London's transport strategy, "Way to go!", was released. This document assesses past achievements and envisages a long-term plan to develop London transport system. The strategy addresses different issues.<br><br>Public transport:<br>– Major investments are going to be made for the development of the railroad and underground networks. (Crossrail, 30% increase in the capacity of the tube)<br>– Implementing of improved bus services and increases in coverage<br>– Introduction of Oyster cards, adoption of further security measures, adoption of strict bus lane enforcement measures. |

| CITY | NEW YORK | LONDON |
|---|---|---|
| **MAIN ACTIONS (continued)** | Cycling:<br>– As of February 2009, about 170 miles (260 km) of painted lanes run in streets, and the network is growing<br>– 49 acres of roads and parking spots have been converted to bike lanes, pedestrian areas, and public plazas since PlaNYC 2030 has been enacted<br>– Bike riding has increased by 35 percent over the past year<br><br>Walking<br>– Over 98,000 trees have been planted<br>– Car free Sundays introduced<br>– As part of its standard operations, the city's Department of Transportation also recycles 40 percent of its asphalt. | Cycling:<br>– Creation of the London Cycle Network. Over 550km of the 900km network completed to date.<br>– Communication and informative campaigns put in place in order to incentivize the use of bicycles and more responsible behaviors<br>– Installation of 10,000 cycle parking spaces at schools and colleges, 40,000 spaces on London's streets, and a further 1,600 at stations across the capital<br>– Set up of the Cycling Centre of Excellence in 2001 to guide the development of cycling initiatives in London.<br>Walking:<br>– Ongoing programme to improve pedestrian crossings across London;<br>– Different initiatives for the promotion of walking and walking paths in London (e.g. Six Strategic Walking Routes and Walkfinder)<br><br>These achievements were spurred by the introduction of the "congestion charge", a fee applied to access the city center. The congestion charge led to:<br><br>- reduction of traffic entering the original charging (21 per cent lower than pre-charge levels, 70,000 fewer cars a day);<br>- there has been a six per cent increase in bus passengers during charging hours;<br>- there has been a 12 per cent increase in cycle journeys;<br>- £137m being raised, in the financial year 2007/08, to invest back into improving transport in London. |
| **STAKEHOLDERS INVOLVEMENT** | PlaNYC is supported by Campaign for New York's Future, a coalition of civic, business, environmental, labor, community and public health organizations. | One of the most relevant developments is Crossrail, a new railway crossing London and connecting the area West of London with that on the East. This project is brought about with the support of the Crossrail Railway Stakeholders Forum.<br><br>Three years of discussions with the different stakeholder bodies was undertaken before the initial congestion charging scheme was introduced. Particular efforts were made to get the business community on board. |
| **ACHIEVEMENTS** | - New York is amongst the least polluting cities in the US (taking into account its population) and its $CO_2$ emissions amount to 1/3 of the US average.<br>- New York $CO_2$ emissions over the last year have remained stable, in spite of the increase in population and traffic.<br>- 2009: New York is the first American city to win the ITDP Sustainable Transport Award | - London has experienced a 16.4% reduction in $CO_2$ emissions over the last three years, despite the overall increase in traffic flows within the city.<br>- London transport plan has the ambitious objective of cutting $CO_2$ emissions by 60% by 2030<br>- 2008: London wins the Institute for Transportation and Development Policy (ITDP) Sustainable Transport Award |

The two case studies illustrated above prensent the potential of sustainable transport and mobility within two large Western cities. However, traffic and mobility management is ranking high on the list of priorities of smaller municipalities, too. Many European medium-sized cities are also engaging in plans to increase transport accessibility and sustainability. A particularly relevant example is the city of Stockholm, Sweden.

In developing countries, big diffences exist. While emerging countries (e.g. India and Brasil) show a significant degree of commitment to greening transport and promoting more environmentally efficient transport, other developing countries do not include at all this theme among their priorities.

## b) Good practices

**Car sharing**

Car Sharing (sometimes called Car Clubs) is still not widespread but it is rapidly gaining ground with considerable growth in Europe, Canada and the USA. As one car, a shared car replaces 8.3 vehicles (Communauto, one of the fastest growing and most successful schemes in Canada) or even 15 cars in a dense city such as Amsterdam (Greenwheels, a leader in carsharing in the Netherlands). As a rule of thumb a shared car replaces 4 to 12 private cars.

Car Sharing started in Switzerland in 1987 and now there are some 75,000 members (from a total Swiss population of 7.3 million) with some 1,950 cars at 1,050 locations in over 400 cities, making it one of the leading Car Sharing enterprises with by far the highest customer density in the world. This shows that Car Sharing is not for those who cannot afford a car but rather for those that choose not to. The Swiss are a rather rich nation with a high national average of car ownership per capital; underlining that fact that Car Sharing really takes cars off the road as the purchase of second or third cars becomes less attractive when compared to the flexible offer of a “car club.

**Bike Sharing**

Bike sharing schemes such as Vel’lib in Paris or Bici in Barcelona are run along similar lines but without prior booking required. In some schemes the first half hour is free or membership is sometimes bundled with other services such as a public transport season ticket and carsharing membership, as in Brussels or Hannover.

## 4) Summary and conclusions

- EcoMobility proposes an innovative approach to urban mobility to help create a more sustainable environment and positive effects on climate change, citizens’ health, time consumption and transport costs.
- This new concept is based on the great potential that environmentally sustainable transports have to be further developed and to substitute motorized transports, when adequate technological, logistical and infrastructural arrangements are provided.
- Local authorities and policy makers play a strategic and crucial role in spurring new strategies and in transforming ideas and projects into feasible and concrete actions.
- However, in order to be effective, EcoMobility must take place on a much larger scale: all sectors (businesses, users, experts, apart from policy makers) and segments must be involved in the decision-making process as much as in the implementation phase.
- A change in mobility behavior is only possible if people are offered attractive alternatives. In the majority of cases, the most sustainable option will be preferred if adequately presented.
- An effort is required to imagine lives and cities less dependent on cars, but if such a path is undertaken, there is room not just for improvement, but also for a deep change in habits and trends. Some cities have started adopting an EcoMobility approach and are already experiencing significant improvements.

## 5) References


**For further information on EcoMobility**:
Global Alliance for EcoMobility, www.ecomobility.org;
Wikipedia, Global Alliance for EcoMobility, http://en.wikipedia.org/wiki/Global_Alliance_for_EcoMobility;

**For further insights and data on CO2 emissions:**

- CAIT, http://cait.wri.org/figures.php
- EEA, http://www.eea.europa.eu/
- IEA, http://www.iea.org;
- MEET Conference webpage, http://www.mlit.go.jp/kokusai/MEET/data_en.html;
- OECD, www.oecd.org;
- UNFCCC, http://unfccc.int/2860.php
- UNFCCC Greenhouse Gas Inventory Data, http://unfccc.int/ghg_data/items/3800.php;

**For a more detailed presentation of New York City and the City of London transport policies:**

New York:

- US Bureau of Transportation Statistics

http://www.bts.gov/publications/highlights_of_the_2001_national_household_travel_survey/html/executive_summary.html

- New York City, Department of Transportation: http://www.nyc.gov/html/dot/html/home/home.shtml;
- Wikipedia: en.wikipedia.org/wiki/Transportation_in_New_York_City

London:

- City of London, list of links to transports related pages: http://www.cityoflondon.gov.uk/Corporation/LGNL_Services/Transport_and_streets/;
- Mayor of London Transport Strategy: http://www.london.gov.uk/mayor/strategies/transport/index.jsp;
- Facts and figures: http://www.london.gov.uk/mayor/transport/facts-and-figures.jsp
- Congestion charge: http://www.london.gov.uk/mayor/congest/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