MEDIA BACKGROUNDER

Since the Kyoto protocol (1997), transport is now responsible for 23% of energy-related CO2 emissions globally and for 13% of all GHG emissions and urban population has significantly risen. There is therefore an urgent need to include transport and more specifically urban transport in the climate change discussions. Public Transport is certainly part of the solution.

PUBLIC TRANSPORT AND CO2 EMISSIONS

CO2 emissions from passenger transport: correlation between mobility patterns and CO2 emissions

Figure 1 shows that cities with a **higher** modal share of **public transport**, walking and cycling produce **less CO2** from passenger transport per capita than cities which rely mainly on **private** motorized mobility.

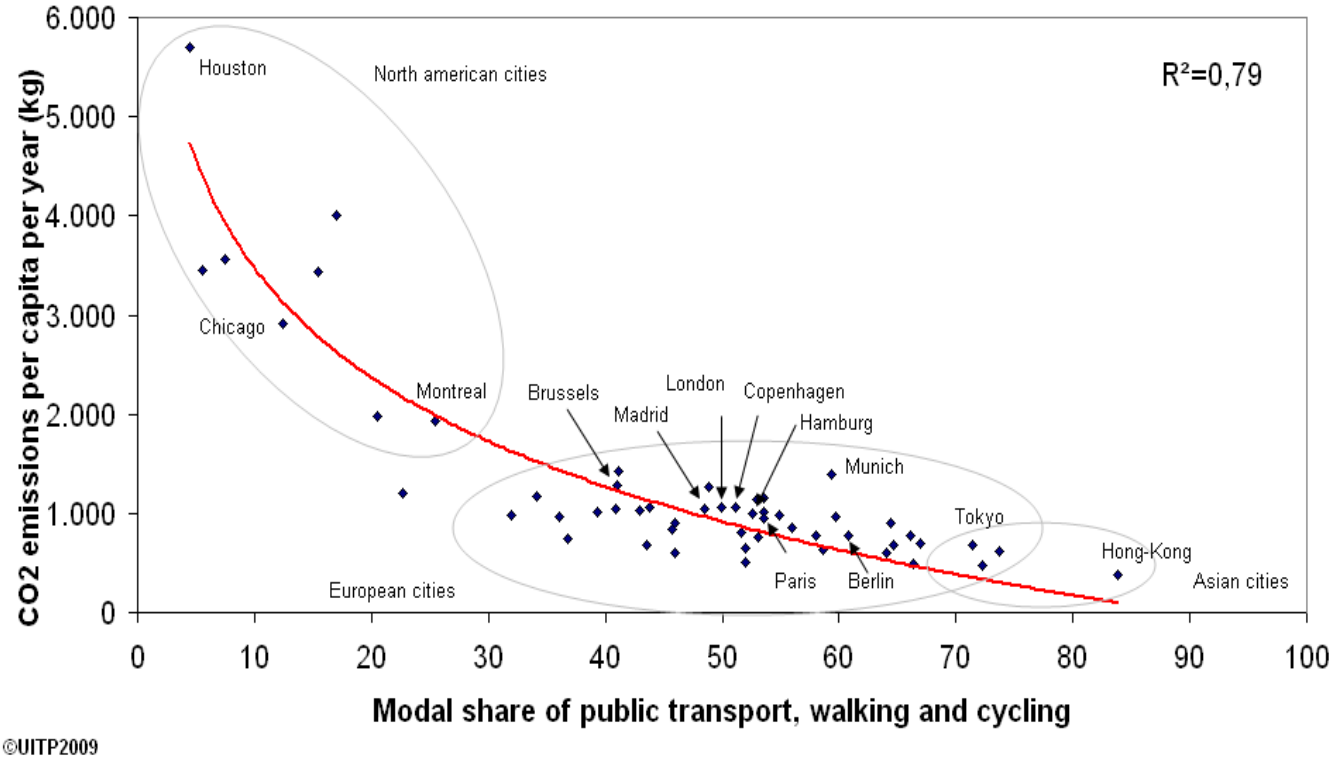

Figure 1: CO2 emissions from passenger transport: correlation between mobility patterns and CO2 emissions - graph

Figure 2 illustrates this relationship for selected cities.

City	% public transport + walking + cycling	CO2 emissions (kg per capita per year)
Houston	**5%**	**5690 kg**
Chicago	**13%**	**2910 kg**
Montreal	**26%**	**1930 kg**
Brussels	**41%**	**1290 kg**
Madrid	**49%**	**1050 kg**
London	**50%**	**1050 kg**
Copenhagen	**51%**	**1070 kg**
Hamburg	**53%**	**997 kg**
Paris	**54%**	**950 kg**
Munich	**55%**	**1390 kg**
Berlin	**61%**	**774 kg**
Tokyo	**68%**	**818 kg**
Hong-Kong	**84%**	**378 kg**

Figure 2: CO2 emissions from passenger transport: correlation between mobility patterns and CO2 emissions – selected cities

Comparing cities on both ends of the spectrum

Modal share of public transport, walking and cycling	Less than 25%	Between 25% and 40%	Between 40% and 55%	Above 55%
Average CO2 emissions (kg per capita per year)	3130 kg	974 kg	953 kg	735 kg
Examples of cities	Houston Chicago Melbourne	Glasgow Manchester Lille Nantes	Madrid London Copenhagen Paris Hamburg	Berlin Tokyo Singapore Krakow Hong Kong

Figure 3: CO2 emissions from passenger transport vs. modal split – categories

Figure 3 shows that cities with a modal share of public transport, cycling and walking above 55% produce on average about **2.4 tons** less CO2 from passenger transport per capita per year than cities where the modal share of private motorized modes is above 75%. If two cities of 1 million inhabitants have those contrasted mobility patterns, the city with high use of public transport will produce about **2.4 million tons** less CO2 from passenger transport than the other.

*In order to balance the extra amounts of CO2 emitted, cities relying mainly on private motorized mobility should plant about **200 trees** per capita (as the annual CO2 absorption ability of a tree is about 12kg according to UNEP). To use the example above, about **200 million** trees should be planted in the city relying mainly on private cars to balance the extra CO2 emitted.*

URBAN TRANSPORT AND CO2 EMISSIONS

Urban areas are home to 72% of the European population, cover 4% of the EU's territory and are the origin of 85% of the EU's GDP.

In the **medium and large size cities** of the Mobility in Cities Database[1] sample (50 cities), which are located mostly **in developed economies**, the **average** amount of CO2 emissions from passenger transport per capita is about **1240 kg** per year.
In the European cities of the sample, this average is about **907 kg**.

The **transport** sector accounts for about **25.5%** of total CO2 emissions in the EU27.

Urban passenger transport accounts for about **8.5%** of total CO2 emissions in the EU27.

Urban passenger transport accounts for about **34%** of CO2 emissions due to **transport** in the EU 27.

Public transport accounts for **10%** of CO2 emissions due to **urban passenger transport** in the EU 27 (while private motorized modes account for 90%). This figure is also valid at a global scale.

[1] The UITP Mobility in Cities Database (MCD) contains 120 indicators on public transport and urban mobility in 50 medium and large size cities for the year 2001. It is available on CD-rom with an analysis report and fact sheets on urban mobility in 30 cities. For further information on UITP Mobility in Cities Database please contact: Jérôme Pourbaix
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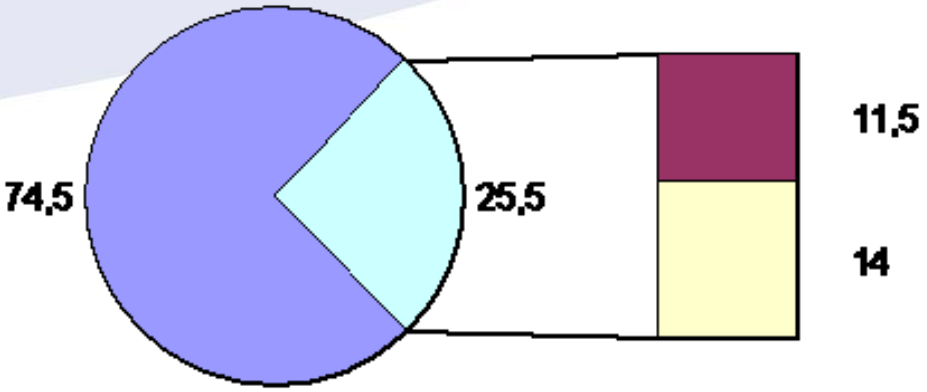
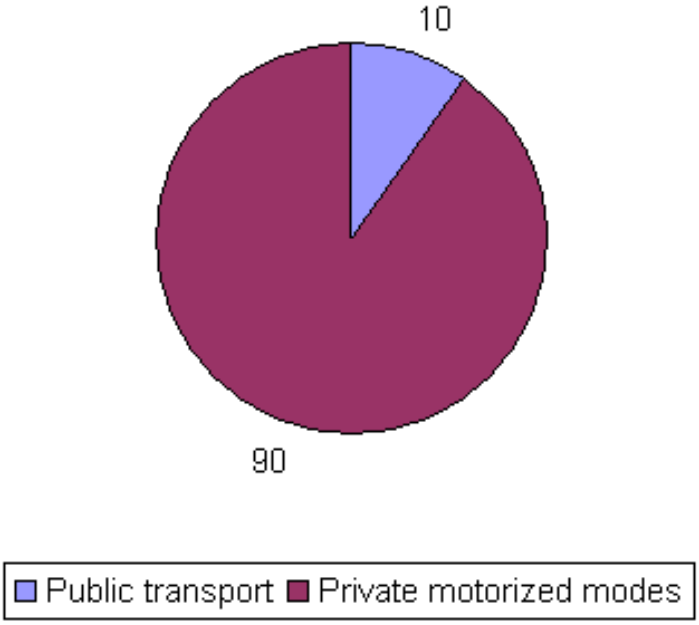
% of CO2 emissions by sector (EU 27)



% C02 emissions from urban passenger transport (EU 27)



TRANSPORT AND CLIMATE CHANGE (general information)

The transport sector is responsible for **23%** of all energy-related CO2 emissions globally and **13%** of all GHG emissions (International Energy Agency 2008).

Between 1990 and 2006, CO_2 emissions from the transport sector increased by 28%.

Emissions from transport are expected to rise by some 120% from 2000 levels by 2050.

Increases from the transport sector are offsetting efforts being made in other sectors.

In order to even attempt to keep global temperature rise to **2°C** (which is already the high end of an overall increase in temperature – with this being already dangerous for some more vulnerable parts of the world and 1.5°C would be the maximum) emissions world wide need to peak in 2015 (only 5 years from now) and then **reduce by 80% in the developed world and by 50% in the developing world by 2050.**

The majority of GHG emissions now come from urban areas and urban transport emissions are on the increase (especially from the developing world).

Transport related CO_2 emissions are expected to increase by 57% worldwide in the period 2005 – 2030, much more than in other sectors. In contrast to this, global GHG emissions must be reduced by more than 80% by 2050 from 1990 levels in order to avoid a dangerous climate change. It is clear that the transport sector needs to contribute more to mitigation efforts and that short, medium and long term goals should be put in place.
This includes a clear contribution from the industrialized countries and ambitious GHG reduction targets that include meaningful activities in the transport sector. Around 60 percent of global road transport emissions currently originate from North America and Western Europe.

Comments

The 4 post-2012 instruments to tackle climate change are:

- Mitigation
- Financing
- Adaptation
- Technology.

The current stake is to stabilise CO2 emissions. It would be a mistake to concentrate all efforts on technology only as technology would not deliver in medium and short terms.

Furthermore, the cost of reducing emissions only via technology is both expensive per tonne of CO2 reduced and will also take a long time.

Therefore efficiencies and gains will also come from other actions:

- proven existing affordable and 'relatively' clean (even clean diesel) should be promoted in the short and medium term
- behaviour change can only occur if there are adequate options and alternatives

- public transport combined with fiscal reforms and land use policies can provide efficiency gain of between 5-25% and can be affordable. (Eco driving of PT 5-15%; land use avoiding the need to make short trips by car and more PT use; reduction in congestion, better air quality and fiscal reforms on urban pricing, carbon pricing, parking fees, ownership of company cars, employer benefit schemes, development incentives to include PT can add 5-10%).

Transport and Climate change in the European Union

The European Union has managed to reduce emissions in almost all sectors except transport.

Some countries have managed to either plateau or slightly reduce intensity but not enough.

If transport emissions had followed the same reduction trend as in society as a whole, total EU-27 GHG during the period 1990–2006 would have fallen by **12.6%** instead of **+7.7%.** (Source Transport Research Laboratory and European Environment Agency)

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Notes to Editors

UITP (International Association of Public Transport) is the international network for public transport authorities and operators, policy decision-makers, scientific institutes and the public transport supply and service industry. It is a platform for worldwide cooperation, business development and the sharing of know-how between its 3,100 members from 90 countries. UITP is the global advocate for public transport and sustainable mobility, and the promoter of innovations in the sector. For more information, please visit www.uitp.org.

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