

# MOBILITY

## the world on your doorstep

A symbol of power and freedom, transport plays a fundamental role in society. It makes possible the movement of goods and people, and promotes the expansion of trade, employment, education and leisure. Countries in the North and South have not experienced the same rate of development in transport, an indicator of economic health. Although there are some 700 million vehicles on the world's roads, ten times more than in 1950, 80% of the planet's population has no access to motor vehicles. Their sole means of transport are horses, bicycles, rickshaws or their own two feet ... Elsewhere, cars are the most popular form of motorized transport (53%), ahead of buses (29%), trains (9%) high-speed trains and planes (9%). A symbol of progress, motor vehicles also cause pollution. The energy they use (mainly from oil) accounts for more than a quarter of world demand. They contribute to climate change, add to air pollution, and use up natural resources. They also disfigure landscapes and create noise pollution that can make life unbearable for local populations. Over recent years, industry and governments have gradually adopted a new line of conduct to encourage the planet to move towards "greener" transport.

## IMPACTS

### Air pollution and health

Coaches, buses, trucks, motorbikes, boats, trains and planes: these different forms of motorized transport account for half the air pollution in the world. In built-up areas in developed countries, this can rise to 80%, made worse by an increasing problem of traffic jams (+60% in ten years). Motor vehicles emit large quantities of carbon monoxide, hydrocarbons, nitrogen oxide and fine particles: how much depends on the type of fuel being used. All around the world, cities are wrapped in a suffocating blanket of pollution while the World Health Organization (WHO) estimates that these emissions kill 500,000

people each year and cause respiratory diseases. One in seven European children is asthmatic... and the ratio is increasing.  
<http://europa.eu.int/scadplus/leg/en/s15004.htm>  
[www.envirohealthaction.org/pollution](http://www.envirohealthaction.org/pollution)  
<http://airnet.iras.uu.nl>



1 LITRE OF ENGINE OIL CAN PREVENT OXYGENATION OF FLORA AND FAUNA OVER 10,000 SQ. M. OF WATER, AN AREA THE SIZE OF A FOOTBALL PITCH.

### A blot on the landscape

Roads and railways change the face of the countryside; they also break up natural habitats, meaning animals can be cut off from other members of their species and their living environment.

### Road accidents on the rise

Each year, 1,2 million people are killed on the roads and 50 million are injured worldwide. In developed countries, as the number of vehicles grows and average speed increases, traffic accidents have become the main cause of death among young people. The WHO has warned that if current trends continue, the number of deaths and disabilities due to road accidents will rise by 60% between now and 2020. Hardest-hit will be developing countries, where a growing share of the population uses motorized transport in an area that offers no protection, sidewalks or safe crossings for pedestrians.

[http://www.who.int/world-health-day/2004/infomaterials/en/brochure\\_jan04\\_en.pdf](http://www.who.int/world-health-day/2004/infomaterials/en/brochure_jan04_en.pdf)



### CARS IN EVER-GROWING NUMBERS

People in developed countries change cars too often. New models may be less polluting, the problem of how to dispose of them remains. A European directive has set a target to increase from 70% to 85% re-use and recovery of end-of-life vehicles.

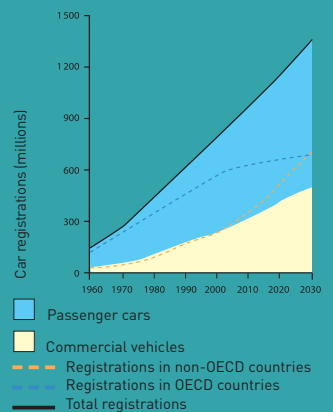
[http://europa.eu.int/comm/environment/waste/elv\\_index.htm](http://europa.eu.int/comm/environment/waste/elv_index.htm)

→ **+9%**  
per year: the increase in air traffic since 1960



→ **1**  
car journey in 3 in cities is for less than 8 km

### NUMBER OF CAR REGISTRATIONS WORLDWIDE FROM 1960 TO 2030 (FORECAST)



↓ Few people in developing countries have access to even modest transport services. Instead they walk, or cram into small trucks that are especially polluting. Second-hand cars and buses, often sent from Western countries, are poorly maintained, overloaded, and sometimes have inexperienced drivers.

## ON THE RIGHT TRACK

### → Car-sharing

The car is a terrific means of personal mobility. However, it also has numerous drawbacks that are all the more evident in our city centres. In many countries, car-sharing has shown it is possible to satisfy the need for a car without necessarily owning one. The basic principle is that of car hire but for very short periods (sometimes just an hour or two). The cars are owned by a group of people, or by a company or non-profit group. Money-saving and less polluting, car-sharing also helps solve parking problems (cars spend significantly more time parked than on the road), brings people into contact. One shared vehicle replaces six cars, considerably reducing bottle-necks and traffic in built-up areas. Along similar lines, car-pooling and taxibuses - provided they are well-maintained- offer valid alternatives to individual car ownership.

[www.carsharing.net](http://www.carsharing.net)  
[http://eartheasy.com/live\\_car\\_sharing.htm](http://eartheasy.com/live_car_sharing.htm)

THERE ARE 2 KINDS OF ECO-FRIENDLY, GAS-BASED FUELS: LPG, A BLEND OF PETROL AND NATURAL GAS WHOSE MAIN COMPONENT IS PROPANE, AND NGV, OR NATURAL GAS FOR VEHICLES.

### → Intermodal transport in Europe

Created from the Maastricht Treaty, the Trans-European Network exists to better connect European transport networks by encouraging intermodal transport (roads, railways, airports). Guidelines help structure national strategies and develop transport on a Europe-wide scale. The Lyon-Turin-Trieste high-speed train connection is one of the priority projects.

[http://europa.eu.int/comm/transport/intermodality/index\\_en.htm](http://europa.eu.int/comm/transport/intermodality/index_en.htm)



↓ In Europe, car manufacturers are committed to reducing carbon dioxide emissions from 170 to 140 g/km.

### → Local biofuels

A village cooperative in Mali produces Diester from jatropha oil (a local crop) which it then uses as tractor fuel. Elsewhere, diesel engines run on rapeseed, sunflower, soya and peanut oils. In the United States, drivers might fill their tanks with a blend of corn ethanol (1% of total fuel consumption). In Brazil, thanks to a government-sponsored scheme, a major part of vehicles run on ethanol, this time made from fermented sugarcane. Plant-based biofuels are now a viable alternative to petrol.

[www.greenfuels.org/index.html](http://www.greenfuels.org/index.html)



### NEW ENGINES

As part of a global environmental protection strategy, for several years car manufacturers have been working on various types of low-pollution engines. Vehicles can now be electric, hybrid (petrol and electricity), high-pressure direct diesel (HDI), direct injection petrol, or run on fuel cell (known also as hydrogen cell). This last solution looks especially promising as it emits neither carbon dioxide nor other polluting gases. The electric engine runs on hydrogen, leaving behind nothing but water vapour. Research must now focus on solutions that will overcome the difficulties involved in storing and producing this gas.

Recommended reading: *UNEP's Natural selection: alternative fuels and vehicle technologies.*



## AT UNEP

### → GREENER DRIVING

UNEP, in conjunction with partners from the automotive industry, has put together a campaign to promote greener driving, with videos and comics to encourage a change in behaviour. Themes include choosing the right form of transport, checking tyre pressure, changing tyres, and driving styles ... Following this advice should cut down the number of accidents, avoid stress at the wheel, and reduce fuel consumption by 25%.

[www.greener-driving.net](http://www.greener-driving.net)

## PUTTING IDEAS INTO PRACTICE

### Individuals

→ CHOOSE THE MOST EFFICIENT AND ECOLOGICAL MEANS OF TRANSPORT FOR EACH JOURNEY, E.G. WALK OR CYCLE SHORT DISTANCES → TAKE THE TRAIN WHEN TRAVELLING BETWEEN CITIES → TAKE ADVANTAGE OF CAR-POOLING AND CAR-SHARING SERVICES → BEFORE BUYING A NEW CAR, FIND OUT ABOUT ITS FUEL CONSUMPTION, CO<sub>2</sub> EMISSIONS, AND CLEAN ENGINES SUCH AS ELECTRIC, HYBRID AND LPG → AUTO-DIAGNOSIS YOUR CAR → HAVE YOUR CAR REGULARLY SERVICED, AND DRIVE SMOOTHLY (CUTS FUEL CONSUMPTION BY AROUND A QUARTER)

### Companies

→ MAKE IT EASIER FOR STAFF TO COMMUTE BY PUBLIC TRANSPORT, E.G. PROVIDE A SHUTTLE SERVICE BETWEEN THE COMPANY AND THE NEAREST TRAIN STATION → PREFER "CLEAN CARS" FOR THE COMPANY FLEET AND HAVE THEM REGULARLY SERVICED → SET UP RATIONALIZED TRANSPORT PLANS FOR STAFF THAT COMMUTE TO WORK OR FOR BUSINESS TRIPS; PREFER THE TRAIN FOR SHORT AND MEDIUM DISTANCES → DEVELOP PARTNERSHIPS WITH LOCAL AUTHORITIES WITH FINANCIAL INCENTIVES TO PROMOTE PUBLIC TRANSPORT

### Local authorities

→ PROPOSE QUALITY TRANSPORT TO SUIT DIFFERENT PEOPLE'S NEEDS, E.G. SET UP A CAR-SHARING STRUCTURE, PROMOTE CYCLE-TAXIS AND TAXIBUSES → IMPROVE EXISTING SERVICES (PUNCTUALITY, CUSTOMER INFORMATION...) → ENCOURAGE ECOLOGICAL PUBLIC TRANSPORT: TRAMS AND ELECTRIC BUSES → CUT DOWN CITY-CENTRE TRAFFIC AND DEVELOP PARK-AND-RIDE SERVICES → FACILITATE THE CREATION OF INFRASTRUCTURE SUPPLYING ALTERNATIVE FUELS → ENCOURAGE ALTERNATIVE TRANSPORT WITH CYCLE LANES, ROLLERBLADE TRACKS, AND PEDESTRIAN ZONES AS PART OF AN URBAN MOBILITY PLAN

## FIND OUT MORE

A complete listing of light rail, tramways and subways around the world: [www.lrta.org/world/worldind.html](http://www.lrta.org/world/worldind.html)

International association of public transport:

[www.uitp.com](http://www.uitp.com)

European cyclists' federation:

[www.ecf.com](http://www.ecf.com)

Association of European cities interested in electric vehicles:

<http://citelec.vub.ac.be/en>

Alternative Fuel Data Center:

[www.eere.energy.gov/cleancities/afdc](http://www.eere.energy.gov/cleancities/afdc)

Canadian renewable fuels association:

[www.greenfuels.org](http://www.greenfuels.org)

The Institute for Transportation and Development Policy:

[www.itdp.org](http://www.itdp.org)

Eurocities for a New Mobility Culture:

[www.access-eurocities.org](http://www.access-eurocities.org)

US carsharing network:

[www.carsharing.net](http://www.carsharing.net)

