

# Thematic Guidelines 2013



**Clean air -  
it's your move!**  
Sept. 16-22

EUROPEAN  
**MOBILITY WEEK**

**European Info Point**

EUROCITIES

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**April 2013**

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# Introduction

European Mobility Week is the most widespread campaign on sustainable mobility in the world. It takes place every year from 16 to 22 September. The aim of the campaign is to encourage European local authorities to introduce and promote sustainable transport measures and to invite their citizens to try out alternatives to car use.

Since its introduction in 2002, the impact of European Mobility Week has steadily grown, both across Europe and around the world. In 2012, 158 cities participated. A total of 7,717 permanent measures have been implemented, mainly focusing on infrastructure for cycling and walking, traffic calming, improving transport accessibility and raising awareness about sustainable travel behaviour.

The Week culminates in the 'In Town Without My Car!' event, where participating towns and cities set aside one or several areas solely for pedestrians, cyclists and public transport for a whole day.

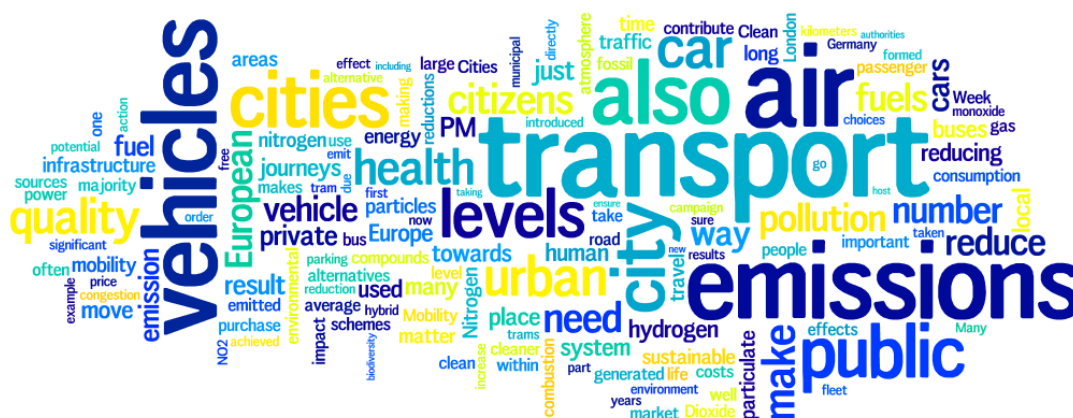
Every year, European Mobility Week looks at a different topic related to sustainable mobility. This year's theme, "Clean air – it's your move!" focuses on the effects of transport on urban air quality.

The aim of these thematic guidelines is to provide local European Mobility Week coordinators with background information on this theme and inspiration for suitable campaign activities. European Mobility Week encourages local authorities to take a look at the air in their cities and develop strategies to keep it clean.

These guidelines provide concrete ideas on how to implement this and will also help local European Mobility Week coordinators to develop activities that match the criteria of the prestigious European Mobility Week Award.

# Clean air – it's your move!

Every day we fill our lungs with city air – but what is it that we're breathing? European Mobility Week 2013 aims to clean up our air, and by doing so, create a healthier, happier Europe. The slogan for European Mobility Week 2013 is 'Clean air – It's your move!' which encourages the public to reflect on the impact transport has on urban air quality.



The facts are clear - cleaner cities are healthier cities. Air free from impurities leads to a longer life by an average of eight months, and has been proven to reduce the likelihood of respiratory and cardiovascular health issues. Conversely, air laced with pollutants such as particulate matter and nitrogen dioxide increases the risk of lung diseases, including asthma, pneumonia, and lung cancer.

And it's not only human health that is affected - air pollution harms the environment, resulting in acidification, biodiversity loss, ozone depletion and climate change.

A recent Eurobarometer survey of European's attitudes to air quality indicates that 96% of respondents felt that emissions from cars and trucks have an impact on air quality. 56% felt that air quality has deteriorated in the last ten years, with only 16% saying that it has improved. 72% say that they perceive emissions levels to have dropped, though the fact remains that one-third of city dwellers are still exposed to too much particulate matter.

At the legislative level much has been going on, though the survey indicates that citizens across Europe do not feel that public authorities are doing enough to promote good air quality. Surprisingly, almost six out of ten do not feel informed

about air quality issues. European Mobility Week is an excellent way to turn these figures around.

The Thematic Strategy on Air Pollution<sup>1</sup> was adopted in 2005, with its objectives for health and environment to be attained by 2020. As time progressed it became clear that these targets would not be reached and a review and update would be necessary<sup>2</sup>. The ongoing EU air policy review encompasses the 2005 Strategy, the existing air quality legislation, the national emissions ceilings directive of 2001, as well as possible measures to reduce further emissions for key sources, such as transport.

Following policy and legislation evaluation, a series of stakeholder meetings and online consultations, the review will be finalised and submitted for approval this year. These steps to reduce the impacts of air pollution, particularly from transport, will enhance protection for humans and vulnerable ecosystems. It is also an important step towards effective climate mitigation, given that the key air pollutants, such as black carbon, are major contributors to atmospheric warming – even more so than carbon dioxide.

Looking at the issue from a transport perspective, the European Commission's White Paper of 2011<sup>3</sup> outlines a roadmap to a sustainable mobility system in Europe. Cities play a key role in this strategy. After all, urban transport accounts for 40 percent of all road transport in the EU and is responsible for a quarter of carbon dioxide emissions from transport. This paper was the first time that quantitative targets for emission reduction were set down.

The Clean Fuel Strategy<sup>4</sup> launched at the end of 2012 also makes clear the ambitious measures to promote clean vehicle uptake and make a dent in the level of transport-generated emissions, thereby contributing to making Europe a more resource efficient society.

In 2009, the European Environment Agency estimated that air pollution from all sources cost Europe €102-169 billion<sup>5</sup>. This sum takes into account lost lives, poor health, crop damage and other economic losses. Almost half of this figure is drawn from the effects of heavy-goods traffic<sup>6</sup>. The magnitude of the effects of poor air quality is truly immense.

So, as mobility demand increases and the need to drastically cut emissions becomes ever more pressing, cities need to be innovative and forward-looking.

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<sup>1</sup> [http://europa.eu/legislation\\_summaries/environment/air\\_pollution/l28159\\_en.htm](http://europa.eu/legislation_summaries/environment/air_pollution/l28159_en.htm)

<sup>2</sup> [http://ec.europa.eu/environment/air/review\\_air\\_policy.htm](http://ec.europa.eu/environment/air/review_air_policy.htm)

<sup>3</sup> [http://ec.europa.eu/transport/themes/strategies/2011\\_white\\_paper\\_en.htm](http://ec.europa.eu/transport/themes/strategies/2011_white_paper_en.htm)

<sup>4</sup> [http://europa.eu/rapid/press-release\\_IP-13-40\\_en.htm](http://europa.eu/rapid/press-release_IP-13-40_en.htm)

<sup>5</sup> <http://www.eea.europa.eu/pressroom/newsreleases/industrial-air-pollution-cost-europe>

<sup>6</sup> <http://www.eea.europa.eu/pressroom/newsreleases/reducing-the-20ac-45-billion>



They need to develop processes and approaches to creating an urban transport system that meets mobility demand, protects the environment, improves air quality and makes the city a better place to live. With some strategic thinking it is possible to make this vision a reality.

Changing our transport habits can go a long way to stemming urban air pollution. This year's European Mobility Week slogan, "Clean air – It's your move!" reflects the power that citizens have to clean up air quality through their mobility choices. It is a reminder that we all have a part to play, and that even small changes, such as commuting by bicycle rather than taking the car, opting for public transport, or choosing to walk, can enhance our quality of life.



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# Let's take a closer look at emissions

It's important to know your PM from your NMVOCs in order to communicate this year's European Mobility Week theme properly. Here are some explanations<sup>7</sup> to help you along.

## **Particulate Matter (PM)**

Particulate matter (PM) is the general term used for a mixture of suspended particles in air, with a wide range in size and chemical composition. PM<sub>2.5</sub> refers to 'fine particles' that have a diameter of 2.5 micrometres or less. PM<sub>10</sub> refers to coarser particles with a diameter of 10 micrometres or less. PM is either directly emitted as primary particles or is formed in the atmosphere as secondary particles from oxidation and transformation of primary gaseous emissions.

In cities, vehicle exhausts, road dust re-suspension, and burning of wood, fuel or coal for domestic heating are major local sources. Black carbon, or soot, generated from the combustion of fossil fuels is a primary contributor to the acceleration of atmospheric warming. Particulate matter is however also naturally occurring.

## **Carbon Monoxide (CO)**

Carbon Monoxide is a gas formed during incomplete combustion of fossil fuels and biofuels. Road transport previously emitted significant amounts of this gas, but the introduction of catalytic converters reduced these emissions significantly. Carbon Monoxide concentrations tend to vary with traffic patterns during the day. The highest such levels are found in urban areas, typically during rush hours at traffic locations.

## **Nitrogen monoxide (NO) and nitrogen dioxide (NO<sub>2</sub>) - NO<sub>x</sub>**

Nitrogen dioxide is a reactive gas that is mainly formed by oxidation of Nitrogen monoxide. High temperature combustion processes (e.g. those occurring in car engines) are the major sources of NO<sub>x</sub> - the term used to describe the sum of NO and NO<sub>2</sub>. Nitrogen monoxide makes up the majority of NO<sub>x</sub> emissions. A small part is directly emitted as nitrogen dioxide, typically between 5% and 10%

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<sup>7</sup> <http://www.eea.europa.eu/publications/transport-and-air-quality-term-2012> - Annex 4



for most combustion sources, with the exception of diesel vehicles. There are clear indications that for traffic emissions, nitrogen dioxide levels are increasing significantly due to increased penetration of diesel vehicles, especially newer diesel vehicles (Euro 4 and 5), which can emit up to 50% of their nitrogen monoxide as nitrogen dioxide.

### **Ozone (O<sub>3</sub>)**

Ground-level ozone is not directly emitted into the atmosphere, but formed from a chain of chemical mechanisms following emissions of other gases: nitrogen oxide, carbon monoxide and volatile organic compounds. In the summer months it is a major problem in Europe, as sunlight is involved in the chemical process of ozone formation.

### **Sulphur Dioxide (SO<sub>2</sub>)**

Sulphur dioxide is emitted when fuels containing sulphur are burned. The key manmade contributions to sulphur dioxide in the air derive from sulphur-containing fossil fuels and biofuels used for domestic heating, stationary power generation and transport.

### **Non-methane volatile organic compounds (NMVOCs)**

Non-methane volatile organic compounds, important in the formation of ground level ozone, are emitted from a large number of sources including road transport. Certain types of NMVOC, such as benzene (C<sub>6</sub>H<sub>6</sub>) and 1,3-butadiene, are directly hazardous to human health. For benzene, incomplete combustion of fuels is the largest source. It is an additive to petrol and 80% to 85% of benzene emissions are due to vehicular traffic in Europe.

### **Ammonia (NH<sub>3</sub>)**

Commonly naturally occurring and generally coming from agriculture, ammonia levels have significantly increased in the last number of years. The reason being that catalytic converters, put in place to reduce NO<sub>x</sub>, actually create a chemical reaction at tailpipe level that creates ammonia.

### **Carbon dioxide (CO<sub>2</sub>)**

Road transportation is responsible for one-fifth of the total carbon dioxide in our air. These levels have increased nearly 25% in the years 1990 to 2010. Though also naturally occurring, the combustion of fossil fuels rapidly increases concentration of carbon dioxide in the atmosphere and accelerates global warming.

### **Persistent organic pollutants (POPs)**

Compounds that are resistant to environmental degradation through chemical, biological and other processes are called persistent organic pollutants. These often travel via particulate matter and are discovered far away from where they were created. These pose serious risks to human health.

### **Heavy metals**

Also extremely toxic to humans are the heavy metals cadmium, lead and mercury. This toxicity, quite long-lasting at ecosystem level, is one of the reasons that we now have unleaded petrol.



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# Effects of emissions generated by transport

## Health

Over the years, a wealth of research has outlined clearly the adverse effects that traffic-driven pollution has on people's health. Finding a balance between the need of people to move and ensuring the right conditions for their health is the challenge that is faced at local, national and international level and stakeholders from many sectors need to join the discussion to find solutions.

The emissions generated by transport lead to the creation of a cocktail of substances with negative effects on humans:

- Particulate matter gets into lungs and causes inflammation and/or exacerbates existing cardio-pulmonary conditions. It may contain elements of carcinogenic substances
- Decreased resistance to pulmonary infection
- Increased instances of respiratory illness in the fragile, namely children and elderly
- Exacerbates asthma, decreases lung capacity
- Certain compounds can cause cancer, central nervous system illness, liver & kidney damage, reproductive disorders, birth defects
- Carbon monoxide can reduce the levels of oxygen in the blood.
- Health of an unborn child can be compromised, ending up with a host of serious illnesses. Child development can also be affected.

It's time to take action. Air pollution is estimated to cause 100 million sick days and 350,000 premature deaths in Europe<sup>8</sup>. Other studies, such as the World Health Organisation's Global Burden of Disease study 2010<sup>9</sup>, indicate that that figure could be even higher.

Interest groups are calling for the health effects of pollution, which we know is contributed to greatly by the transport sector, to be treated in the same language as other public health stressors, such as alcohol, obesity, and cigarette smoking. Emissions from transport should be seen as a societal "bad" that needs to be addressed. People need to be educated about the issue and its effects so that they can make choices and alter their behaviour.

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<sup>8</sup> <http://www.eea.europa.eu/pressroom/newsreleases/reducing-the-20ac-45-billion>

<sup>9</sup> <http://www.thelancet.com/themed/global-burden-of-disease>.

Tackling the effects of transport-generated emissions on human health will also serve to reduce instances of asthma and cardio-pulmonary diseases, alleviating the already burgeoning pressure on public health spending.

The World Health Organisation has stated exposure to air pollution “is largely beyond the control of individuals and requires action by public authorities at the national, regional and even international levels<sup>10</sup>.”

Cities and towns need to make choices that benefit their citizens and European Mobility Week wishes to give some inspiration on how to tackle this.

## Environment

Along with the very serious consequences for human health, emissions from transport also wreak havoc with the natural and urban environments.

It is not just human beings that suffer from transport-generated air pollutants. Animals also suffer greatly, with both their health and **ecosystems** affected. Pollutants, including heavy metals, find their way into the food chains of animals and humans alike. Particularly in urban areas, it is important to preserve **biodiversity**, which is an indicator of general ecosystem health and for some, the only contact urban dwellers have with nature.

It is also well known that **climate change** is very much influenced by emissions from transport. Gases combine and react with each other to exacerbate the greenhouse effect – the warming of the Earth’s atmosphere. Not a new phenomenon, it was first discovered by French physicist Joseph Fourier in 1824. In fact it is essential for life on earth, though the problem now is the speed at which the heating is happening. Sadly, this immense acceleration is a direct result of humans burning large amounts of fossil fuels and emitting other contributing compounds into the atmosphere. Transport has a large role to play in this respect.

High levels of nitric and sulphuric acid from exhausts contribute to the formation of **acid rain**. This affects vegetation growth and causes growth problems and increased susceptibility to disease. It also contributes to elevated nitrate concentrations in soil and surface waters, which in turn prompts the growth of algae. The result is **eutrophication** - reduced oxygen levels in the water to the detriment of the plant and animal life present.

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<sup>10</sup> Air quality and health - Fact sheet N°313 - Updated September 2011  
<http://www.who.int/mediacentre/factsheets/fs313/en/index.html>

In terms of the **built environment**, grime from vehicle exhausts gathers on facades and windows, muting the street scene and often resulting in high cleaning costs. Acid rain also erodes building facades. The result is that intricate detailing on buildings is lost, which particularly affects historic cities.

Being in a city in times of high pollution can also be a bother for pedestrians and drivers alike due to **haze**. This mirage effect, which makes it quite difficult to see, is actually the reflection of the sun on tiny particles suspended in the air, as well as due to the presence of certain gases.

The choices we make about how we move have a real effect on the environment that surrounds us. This year it's our move for clean air. Let's make sure we do it right!



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# Keeping the air in our cities clean

Cities and towns can employ a host of technologies and techniques to reduce the impact of air pollution generated by transport. There is no recipe for success and each city needs to find the mix that works for them. In this section we will explore some of these and see what other cities have tried out.

## Establishing a baseline

As part of their wider environmental strategies, most cities and municipalities actively **monitor air quality** to ensure that emission levels do not exceed limitations that would make them harmful to human health and to our climate. Keeping a close eye on trends is essential if positive changes are to be achieved or indeed, if corrective measures need to be introduced. Plans and strategies should be developed in consultation with stakeholder groups.

The results observed should be communicated widely to inhabitants, either through digital displays or through applications, such as the Clean Air App London<sup>11</sup>. The city council of [Brighton & Hove in the UK](#) combined monitoring with education by monitoring air quality near schools to develop pupils' interest in science and better understand the impact of different mobility initiatives on local air quality. This unique programme comprised lessons on the impact of air pollution, the local significance of biodiversity and visits to Imperial College and the Science Museum in London.

## Planning for air quality

Let's first take a look at how people move and gather, specifically the idea of planning a city and its transport so that the majority of people live in close proximity to public transport, and schools, universities, hospitals and retail districts are all well served by busses, trams and other public transport options. The city of [Freiburg in Germany](#) has taken this approach with the result that 80% of the urban population live within 600 metres of a bus or tram stop<sup>12</sup>. By

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<sup>11</sup> <http://londonair.org.uk/LondonAir/Default.aspx>

<sup>12</sup> Beim, M. & Haag, M., [Freiburg's way to sustainability: the role of integrated urban and](#)

presenting citizens with a viable alternative to the car, congestion and air pollution levels can be kept in check.

Planning the city and designating specific areas that cannot be accessed by private vehicles can contribute to reducing pollutant levels, as well as congestion and noise in urban centres. The city of [Iasi in Romania](#) took the step to close its historic urban centre to cars. It was necessary to enter into extensive negotiations to pass the regulation, however, it was successful. Three years after its introduction, daytime carbon monoxide levels have fallen almost 8%, with daytime nitrogen dioxide levels down by 7.5%. Public acceptance of decision is at 90%.

The pedestrianisation of city centres is often controversial at first, though generally acceptance rates do grow significantly among the business community as well as citizens. [Copenhagen in Denmark](#) was presented as such an example at the European Mobility Week workshops in 2012 and [Bologna](#), the 2011 European Mobility Week Award winner, has also implemented such a scheme at holidays and on weekends.

Another planning tool that can go a long way towards reducing particulate matter (PM) peaks within already sensitive urban areas are [low emissions zones](#)<sup>13</sup> (LEZ). Cities in Germany, Austria, Italy, Hungary, Norway, Sweden, Denmark, the Czech Republic, the United Kingdom and the Netherlands have already implemented these. In these areas only vehicles emitting below a given level of particulate matter are allowed access to the LEZ. Others must pay a charge. Many cities across Europe now require vehicles to display stickers declaring their emissions class.

Taking steps to tackle the parking situation in a city can also have a positive impact on congestion levels and public health. Decreasing the number of cars in a particular area can be achieved by revising the charges for parking while also promoting alternatives to bringing the car into town, such as park and ride. The city of [Aalborg in Denmark](#) implemented a revision of its parking charge structure to discourage long-term parking, free up short-term capacity and thus, the unnecessary kilometres generated by those searching for spaces.

Promoting a pedestrian culture within a city can also go a long way towards shifting mindsets away from the car. Follow in the footsteps of [Pontevedra in Spain](#) and create walking routes along pleasant roads without heavy traffic, produce maps that measure time rather than distance and launch an upbeat communication campaign to mobilise citizens to complete their journeys by foot - the ultimate zero emission mode.

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[transport planning](#), 2010.

<sup>13</sup> <http://www.lowemissionzones.eu/>

## Finding mobility alternatives

Getting people to abandon polluting vehicles in favour of more sustainable modes starts with making sure that realistic, affordable alternatives are available. Some cities such as [Vitoria-Gasteiz in Spain](#) have made significant investment in turning their public transport network into an efficient and well-used service. Deploying a participatory process to determine the shape of the network, the result has been a 45% increase in the number of trips per month. Frequency, coverage, safety, and price all contribute towards making travelling with public transport more attractive.

Making sure that public transport meets the expectations of travellers often requires a reorganisation of routes by the operating company. In many cities in Western Europe transit corridors, for example, are a common sight, allowing buses priority in order to make transit times as short as possible, thus reducing hassle for commuters. [Iasi in Romania](#) recently took the decision to implement green light priority for buses, trams and taxis within a specially allocated corridor. The result has been an increase in traveller satisfaction of 45%. Of these services, 88% arrive on time, with average bus speeds also increasing during peak travel hours.

[Tallinn in Estonia](#) has taken the ultimate step in making public transport a real economic alternative to running a car by introducing free public transport for residents. The decision was based on a referendum won with a 60% majority. Time will tell if this results in a significant modal shift away from the car. Visitors to the city will still need to purchase a ticket however! Reducing the number of cars in circulation is another way to reduce the burden of transport-generated emissions on air quality levels.

Car sharing has become an ever more popular means of providing the flexibility of a car to citizens that don't necessarily use a vehicle as often as it would take to make the financial investment worth its purchase. Not only do users of the service pay the true cost of travel, yet save money overall by only using a vehicle when needed, they also make a positive environmental contribution. Municipalities such as [Bremen in Germany](#) pioneered these schemes and now many private operators are also offering the service.

## Financial incentives to change behaviour

[London](#) has one. Stockholm, Gothenburg and Milan also. What can that be? Correct – a **congestion charge**. This is a very proactive method to reduce traffic and associated emissions. But implementing a congestion charge is a

major step to be taken after extensive research and dialogue. Ljubljana in Slovenia and Zagreb in Croatia are two such cities that are exploring whether this solution could work for them. These cities, coping with a recent swell in traffic volume, are taking steps to ensure that their centres don't become crowded with vehicles, private and commercial. Acceptance levels in exploratory phases have been muted. Zagreb will aim to have acceptance levels of 60% plus before implementing anything. The experience in Stockholm has shown that carbon dioxide levels can be reduced by up to 14%<sup>14</sup>.

[Bologna in Italy](#), combined **access restrictions** in the city centre, with road pricing and intelligent transport systems. To make the system more flexible, the road pricing aspect allows occasional users to enter the limited traffic zone (LTZ) by paying an access toll. Also limiting the circulation of polluting vehicles, this combination of techniques serves to open up the city centre for pedestrians and cyclists.

## Avoiding unnecessary car journeys

With the majority of urban car journeys taking less than six kilometres, avoiding journeys that could otherwise easily be accomplished by foot, bike or public transport goes a long way towards reducing emissions from transport and improving air quality in our cities. Such journeys are also doubly damaging, as the short duration prevents certain components of fuels being combusted properly, resulting in higher emissions levels than a longer journey.

**City bike schemes** and cycling infrastructure are two more alternatives to getting around by car. Bike schemes have become a common sight on Europe's streetscape. [Paris](#), [Brussels](#) and [Dublin](#), – the list goes on. But it's not just capital's that are getting in on the action. [Donostia – San Sebastian](#) introduced their scheme in 2009 and has seen the number of users rise year-on-year, reaching over 5,000 in 2011. This is a sure sign that short-distance car trips are being dropped in favour of more sustainable modes.

Where there are bikes there needs to be the appropriate infrastructure. Like many cities, [Szczecinek in Poland](#) set about closing the gaps in its **cycle path** to promote cycling and achieve a modal split of 15% in favour of bikes. Technical documentation, designs, construction permits and procurement activities were all compiled to realise the construction of the path and associate features such as lighting and signage. However, there are discussions currently about whether provision of infrastructure alone is sufficient to mobilise people to

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<sup>14</sup> Experience with congestion charges, By Márton Herczeg, Copenhagen Resource Institute (CRI), 22 September 2011, presented within the framework of the CORPUS SCP workshops.

take the bike. The consensus seems to be that the provision of sufficient infrastructure in combination with a targeted awareness raising campaign yields more success.

**Teleworking**, i.e. working from home agreements, is another way to reduce commuter kilometres. Finland celebrated its second [National Teleworking Day](#) in 2012. In total, 17,300 participants from 267 companies took part. A total of 568,994 kilometres that would have otherwise been travelled were saved, demonstrating the potential of teleworking to contribute to cleaner air in our cities and towns.

With the majority of the journeys in a city being the trip from home to the workplace, business **travel plans** are a good place to start to reduce the number of kilometres travelled by private cars and so emissions levels. The city council and individual companies develop together a commuter travel plan which encourages car pooling, cycling and public transport. Furthermore, it's not just businesses that can implement such a plan. Schools, universities, hospitals and other institutions can put a plan in place for their students, visitors and staff, as has been the case in [Brescia in Italy](#) for example. Encouraging travellers to think about different ways to make their journeys can bring about an enduring shift towards sustainable modes.

In many large cities such as London, Paris, Berlin or Amsterdam, commuting with public transport comes with a hefty price tag. **Public transport loans** to cover the cost of cheaper yearly tickets are a good way to ensure that bus and trams are favoured over the car.

Many cities have taken the step to provide a number of municipal services online, allowing citizens to avoid trips to the town hall to accomplish administrative tasks. Another Italian city, [Perugia](#), has a city centre that is quite inaccessible to private vehicles. By redesigning the municipal website and offering a host of services digitally it was possible to **reduce the need to travel**, saving time, reducing fuel consumption and thereby emissions.

Regular **awareness-raising campaigns** are also necessary to continually remind citizens that alternatives to taking the car do exist. The [“Think before you drive”](#) campaign run by the Federal Environment Ministry of Germany was launched to change travel behaviour, and saw 13,650 tonnes of carbon dioxide prevented in four cities as a result of its public information campaign .



## Alternative fuels and cleaner vehicles

Alternative fuels have the potential to decrease local air pollution and greenhouse gas emissions, both of which help improve quality of life for citizens. Biodiesel or biogas vehicles are seen as an element on the path towards energy independence from fossil fuels and relief from unstable oil prices. Cities test, for example, the use of biodiesel, biogas, compressed natural gas (CNG) and hybrid vehicles to see what works best for them.

Both private vehicles and municipal fleets can benefit from this testing and research. [Donostia – San Sebastian in Spain](#) is one of many cities that have set themselves the aim of **reducing the amount of fossil fuels used** within its city fleet. By experimenting with the introduction of various biofuel/diesel mixes, the city has reduced pollutant emissions by over 20%, with a 20% reduction in carbon dioxide and a 45% reduction in particulate matter levels.

Many cities are looking to **electromobility** as a means to reduce emissions from transport in urban centres. Electric vehicles are increasingly popular. Their small size makes them ideal for use in tight city streets. As a result, municipal strategies need to be in place on how to deal with such vehicles and their associated infrastructure. [Oslo in Norway](#) is one such city. It is important, however, that the electricity used comes from renewable sources.

Hybrid vehicles, both passenger and heavy vehicles, are increasingly finding market share as technology improves and becomes more affordable. Private citizens are incentivised to purchase hybrid cars through the provision of exceptions to restricted access zones, such as congestion charging areas. However, this seems to be a temporary measure being reversed in many cases, as was recently the case in London, and is planned in Milan.

More and more municipalities are testing hybrid solutions, with enhanced environmental vehicles proving that greater reductions can be achieved in fuel consumption and maintenance costs in comparison to traditional hybrid vehicles. Reduced fuel consumption translates to reductions in emissions levels. Good news for urban air quality.

Taking the alternative fuel discussion further leads us naturally to hydrogen. A hydrogen based transport energy system has the potential to be highly efficient and virtually emission free. Fuel cells can use hydrogen extremely efficiently - far more efficiently than internal combustion engines - and their operation can be without any emissions.

Fuel cells in vehicles commonly require very pure hydrogen and this can be very difficult to produce. The manner in which the energy used to produce the hydrogen also goes a long way towards determining how sustainable the ultimate product is. A number of cities in Europe and around the world have

implemented [hydrogen fuel cell buses](#) – Amsterdam, Luxembourg and Hamburg to name just a few.

The rising price of oil and the negative consequences of traffic pollution and energy inefficiency have made a transition to more sustainable energy policies inevitable. [Coimbra in Portugal](#) has explored the potential of a small-hydro plant to power its trolley bus network and electric minibus fleet. The study results were very encouraging and demonstrated that financially and technically local renewable energy sources can indeed be a power source for public transport.

Since 2007 strict limits have been placed upon the level of nitrogen oxides and particulate matter that vehicles can emit before they can be offered for sale. The current [emission standard](#), Euro 5, reduced particulate matter levels by 80% on previous levels and nitrogen oxide by 20%. Further plans for reaching Euro 6 are in place and scheduled for deployment in 2014 for passenger cars and 2015 for heavy-duty vehicles such as lorries and buses.

For cars, manufacturers are obliged to ensure that their new car fleet does not emit more than an average of 130 grams of carbon dioxide per kilometre (g carbon dioxide/km) by 2015 and 95g by 2020. This compares with an average of almost 160g in 2007 and 135.7g in 2011. While for vans the mandatory target is 175g carbon dioxide/km by 2017 and 147g by 2020. This compares with an average of 203g in 2007 and 181.4g in 2010.

Further advancement of emission standards involves extensive negotiation and technical innovation. This long running and delicate process of the European Commission, national governments and vehicle manufacturers has the power to further reduce tailpipe emissions and in our atmosphere.

Public sector demand can be an important driver to increase the number of cleaner vehicles on the market. Every year, about 110,000 passenger cars, 35,000 trucks and 17,000 buses are purchased by public authorities in the EU. The public sector alone accounts for almost one third of the European market for buses. In October 2008, the European Parliament endorsed a proposal from the European Commission that requires all public and private authorities, who contract for public transport, to consider the environmental impact of the vehicles they purchase in addition to their price. As such the [public procurement of cleaner fuels and vehicles](#) can be a large factor in creating a market with affordable prices for innovative vehicle technologies and alternative fuels. Stockholm, Rotterdam, Lille and Cottbus are just some examples of cities that have created a market for innovative vehicle products to address environmental concerns.

## Making the most of vehicle technology

Not all vehicles driving around city streets are of the latest technical specification. A number of older, more polluting vehicles are still in circulation. Often badly maintained, these highly emitting vehicles are best taken off the road. Low-emission zones go some way toward identifying these and restricting their access to urban centres, however not all countries or cities have these in place. In recent years a number of national governments have introduced vehicle [scrappage schemes](#) for private vehicles in order to stimulate the purchase of newer models with higher emission standards. Governments, often in partnerships with car manufacturers, offer subsidies to those buying new vehicles of between €1,000-2,500 depending on the country.

It is not just passenger cars that need to be upgraded - air quality improvements are achieved through the **retrofitting** of buses also. This is the action of adding components or accessories to an engine that wasn't present at the time of manufacturing. It is often done to achieve emission reductions. [Trials last year in London](#) were piloted with equipment to reduce particulate matter and nitrogen oxides. Results were significant with reductions of 77% and 88% respectively. The efforts are in line with London's mayoral air quality strategy.

Trams also can benefit from an **energy-efficient** overhaul. [Craiova in Romania](#) was in the position that its electric tram system and infrastructure belong to the 1980s. Improvements were required in order to increase passenger safety and comfort and make substantial reductions in costs. The electric transport fleet is represented by 36 tramways and 36 kilometres of tram tracks. Twenty seven of Craiova's trams are in operation, but nine lines were not in use as they had an outdated driving system with high electrical consumption. By installing a chopper system, a 40% reduction in electricity consumption was achieved on the upgraded trams.

It's not just what one drives but how one drives that can also make great savings in the amount of fuel used to get from A to B, and emissions generated. Municipalities, such as [Funchal on the Portuguese island of Madeira](#), have been giving **ecodriving training** to bus drivers, showing them how to drive in an energy-efficient manner. To stimulate public transport (PT) drivers to drive in this manner, the local operator even introduced an incentive scheme. As well as lowering emissions levels, municipalities can also save on fuel costs – an attractive proposition. Many are also making such trainings available to private citizens also.

# How to get your campaign started

Start this year by analysing the theme, looking at what it entails and **seeking out a focus** that suits your city and national context. Choose an environmental, emotional, economic or other hook that can transfer into the other areas. Create empathy value. Perhaps look at our most vulnerable members of society and see how this issue affects them. Then plan how to change this. Define your plan and set SMART<sup>15</sup> objectives.

**Secure political support.** If your administration finds it difficult to connect with the theme of air quality because they do not perceive it as a problem in your city, ask your national coordinators for a letter of support. They themselves will have received one from the European Commissioners responsible for Environment and Transport.

**Don't be too polemic or negative** in the messages you choose to transmit. We cannot realistically expect to put cars, trucks and other vehicles off the road to abate the negative effects of transport on air quality, but we can demonstrate that there are a variety of options open to citizens and businesses to move ourselves and goods around. Build on the material being developed in our sister campaign, [Do the Right Mix](#).

**Gather your evidence.** What are the facts and figures relating to the effects on air quality from transport in your city and/or country? Use these as proof points to underline your messages for your different target groups.

**Build effective partnerships.** Look at your campaign plan and its objectives. Who are the best placed groups to make the campaign lively and relevant for the highest number of citizens? Bring them in! Has your city got a strong Agenda 21 community? Work with them. Need some expert backing? Look once more at your campaign plan. Focusing on health? Bring in some medical doctors. Taking a close look at climate? Bring in meteorologists, climatologists, local environmental groups.

**Build on existing initiatives.** Be it locally, regionally or nationally, there are certain to be a number of existing initiatives around that in some way relate to your campaign focus. Aligning with these can strengthen your case, amplify your messages and save some effort.

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<sup>15</sup> S-specific, M-measurable, A-assignable, R-realistic, T-time limited

# What activities to organise?

Once your campaign strategy is in place, you are going to need some tactics or activities to draw attention to what you are trying to achieve. Here are some ideas!

- Car-free day on 22 September offers a particularly good hook to promote and experiment with new traffic models and sustainable transport. Many cities use the opportunity to set up environmental and pedestrian zones for the day and organise big open events in the freed up public space.
- Measure the air quality in your city throughout the campaign week and actively involve school children and students in the monitoring process. Communicate the results to the public and point out the positive impact of sustainable transport initiatives on air quality.
- If your city has an air quality management or action plan, share and promote it. Be transparent about what you have achieved and what is still to do.
- Raise awareness of the fact that short journeys have big impacts on air quality. Launch a poster campaign to get people to leave the car at home for trips under 6 kilometres.
- Encourage people to reduce their exposure to pollutants by not walking or exercising near emission hotspots. Develop a map to show citizens where these are.
- Develop your own metrominuto/walking-time-distance maps for your cities!
- Promote the benefits of public transport and non-motorised forms of transport.
- Pop idle? Make it part of your campaign to encourage people to stop engine idling at traffic lights, or outside school gates.
- Set up an info-mobility point to offer free advice to citizens about their mobility options. Use it as a base for events, as Zagreb did with their info point, which is housed in an old tram.



- Offer individualised mobility planning. Make sure to take a targeted approach that is tailored to the individuals or specific groups, such as commuters.
- More and more local governments are using social media channels as another way to reach out. Let people know how the plan is developing and what measures are about to be launched through twitter. Post on your Facebook page.
- Develop an app to let people know about air quality in your city.
- Create a personal emissions calculator on your municipal webpage or travel planning website.
- Launch the [traffic snake game](#) in schools. The school with the least amount of car journeys to and from school wins!
- Reward citizens that use sustainable transport during European Mobility Week (in cooperation with local shop owners).
- Promote teleworking.
- Organise photo, video or drawing competitions on visions for mobility in your city twenty years from now.
- Arrange urban street art initiatives to bring attention back to public space.
- Show people what a car-free city centre can look like. Get people used to leaving their cars at home more than one day a year. Establish car-free Sundays!
- Make a special offer on monthly tickets for September, or at least for European Mobility Week.
- Take a leaf out of Tallinn's book and make public transport free on In Town Without My Car Day.

- Work with car sharing companies to launch a cut-price sign-up offer during European Mobility Week 2013.
- Reward citizens for the right behaviour – Check out Bologna’s mobility credits system.
- Organise a cycling challenge between neighbourhoods or workplaces.
- Offer bike repair workshops.
- Offer safe cycling training for children.
- Arrange tours of the facilities of the local transport operator.
- Work with the media to get a regular feature on the local radio. Some radio stations offer reduced rates for local initiatives, but perhaps you can even negotiate some free coverage or sponsorship.

### Whatever your city is doing this year, make sure that you...

- Join cities throughout Europe in organising a car-free day with big public events on 22 September! But plan well enough in advance – closing streets to traffic can be a bureaucratic challenge!
- “Like” European Mobility Week’s facebook page and follow @mobilityweek on twitter. Share your photos with us through flickr.
- Use the European Mobility Week logo widely!

These are only some ideas of what you could do. The European Mobility Week Handbook that is available for download on [www.mobilityweek.com/resources](http://www.mobilityweek.com/resources) provides participation criteria and general ideas for measures and activities that are not specifically related to this year’s theme.

Get creative and think of other measures and activities for European Mobility Week 2013 in your city!

Clean air – it really is your move.

# Resources

The contribution of transport to air quality - TERM 2012: Transport indicators tracking progress towards environmental targets in Europe – *European Environment Agency*:  
<http://www.eea.europa.eu/publications/transport-and-air-quality-term-2012>

Review of the EU Air Quality policy – *DG Environment*:  
[http://ec.europa.eu/environment/air/review\\_air\\_policy.htm](http://ec.europa.eu/environment/air/review_air_policy.htm)

Attitudes of Europeans towards air quality – *Eurobarometer*:  
[http://ec.europa.eu/public\\_opinion/flash/fl\\_360\\_en.pdf](http://ec.europa.eu/public_opinion/flash/fl_360_en.pdf)

Health effects of transport-related air pollution – *World Health Organisation*:  
[www.euro.who.int/document/e86650.pdf](http://www.euro.who.int/document/e86650.pdf)

Urban air quality toolbox – *United Nations Environment Programme*:  
[http://www.unep.org/urban\\_environment/pdfs/handbook.pdf](http://www.unep.org/urban_environment/pdfs/handbook.pdf)

CIVITAS Initiative for Cleaner and Better Transport in Cities:  
[www.civitas.eu](http://www.civitas.eu)

ELTIS – The urban mobility portal:  
[www.eltis.org](http://www.eltis.org)

Healthy air where you live – community campaign pack:  
<http://www.healthyair.org.uk/documents/2013/02/healthy-air-community-campaign-pack-2012.pdf>

[www.mobilityweek.eu](http://www.mobilityweek.eu)

