VCÖ
MOBILITÄT MIT ZUKUNFT

factsheet

# Managing traffic and transport in urban areas

**The population of Austria's metropolitan areas is expected to grow considerably in the next decades. Traffic and transport steering measures are necessary to ensure that the resulting increased traffic volume does not bring cities to a standstill.**

Population forecasts show that the population of Austria's largest cities and the larger metropolitan areas will grow significantly by 2030. The city of Vienna will have 200,000 more inhabitants than today, and another 130,000 are predicted for the surrounding communities. Above-average growth rates are also expected for the larger Graz, Linz, and Innsbruck areas. Larger cities need more housing and have to meet climate and energy goals.

International examples show that congestion charges help alleviate the traffic situation and improve air quality.

## Improving air quality by reducing motor traffic

Mobility requirements will increase with the growing population and must be met more efficiently than today. The share of public transport must be increased significantly both within the cities and in the larger metropolitan areas. Private motor vehicles already contribute considerably to air pollution. 60% of nitrogen oxide emissions in Austria are produced by cars and lorries. More and more cities worldwide are introducing congestion charges, which are often combined with a low emission zone (green zone) with sliding scale charges.

# Clean and efficient mobility for Austria's metropolitan areas

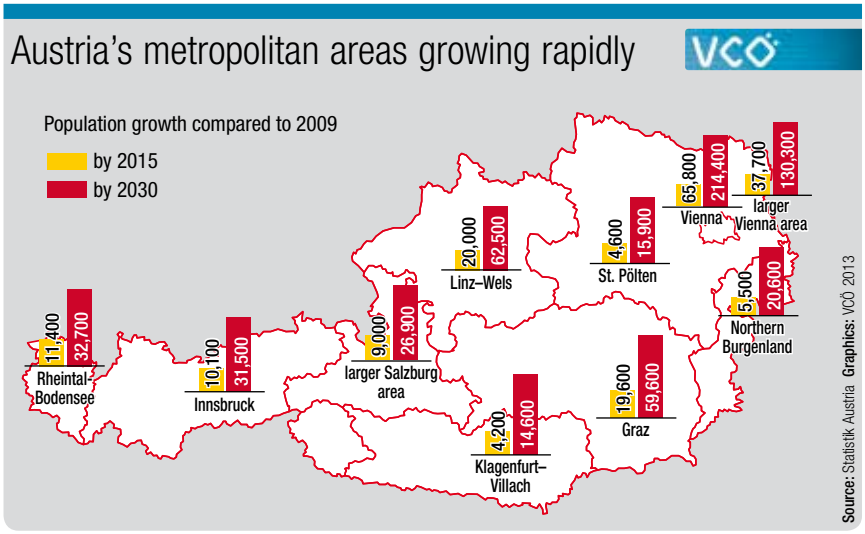
**Too many cars:** Cars take up too much space in cities.

Air quality in Austria has improved, but not enough, as an analysis of air quality in Austria's metropolitan areas shows. In 2012, weather conditions were favourable, leading to lower levels of particulate matter. Nevertheless, particulate matter threshold values were exceeded at multiple monitoring locations in several cities, including Graz, Vienna, and Klagenfurt, and the especially dangerous fine particulate matter (PM2.5, PM0.1) is hardly measured at all in Austria.

## WHO: Fine particulate matter especially dangerous

The World Health Organisation (WHO) and medical experts have warned that excessive fine particulate matter levels can have fatal consequences. These ultrafine particles can reach the alveoli and the bloodstream, leading to severe lung damage and cardiovascular diseases. They can cause asthma and bronchitis and adversely affect lung development in infants and young children, who have a higher rate of oxygen intake than adults. While these very fine particles only make up about 20% of total particulate matter, their large quantity and resulting large total surface make them particularly harmful to health. The current weight-based threshold values are not an appropriate metric for determining the hazard potential.

**More people:** The population of Austria's metropolitan areas will grow considerably in the next years.




## Older diesel engines are heavy polluters

Exhaust fumes from older diesel vehicles are the main source of fine particulate matter in cities. Some 1.7 million diesel cars in Austria are not equipped with particulate filters as standard, and older lorries emit vast amounts of fine particulate matter. If the pollution levels in Vienna stayed below the WHO threshold for fine particulate matter (PM2.5), people who are 30 years old today would live nine months longer. Living near busy roads causes a number of chronic diseases: One in three cases of coronary heart disease and one in four cases of chronic obstructive pulmonary disease (COPD) in over 65-year-olds in Vienna can be attributed to traffic pollution.

## Congestion charges and green zones on the rise

Germany and Italy, traditional car-producing countries with a high rate of vehicles per capita, have low emission zones in more than 150 cities altogether. High-polluting vehicles are not allowed to enter these zones. Since the introduction of a low emission zone in Berlin, diesel exhaust particulates from car traffic have been halved. The WHO has classified diesel exhaust particulates as carcinogenic. Cities are also increasingly introducing congestion charges. They reduce traffic jams and the revenue from these measures is used to improve public transport.

## Congestion charges reduce traffic volume

London introduced a congestion charge in February 2003. Within the first year of its introduction, waiting times in traffic decreased by 30%, and in 2006, the number of vehicles in the congestion charging zone was still 21% smaller than in 2002. Bus pas-

**Quality of living:** Public transport ensures urban mobility and quality of living.

senger figures increased by 38% during the first year and bus delays were reduced by 30%. Nitrogen oxide and fine particulate matter emissions went down by 12% each, and $CO_2$ emissions by 19%.

## Congestion charges improve air quality

Stockholm has a very successful congestion charge system as well. In 2011, there were 20% less cars on the roads than before its introduction in 2005. Adjusted for population growth and excluding vehicles that are exempt from the charge, the traffic reduction is 29%. The congestion charge reduced traffic in the larger Stockholm area as well and improved air quality. In the centre of Stockholm, particulate matter levels (PM10) were 15 to 20% lower in the first two years of the measure than in the comparison period before its introduction, and nitrogen oxide emissions decreased by approximately 10%. Diesel exhaust particulates went down by some 13% in the first year alone.

## Growing support for congestion charge

Another indicator of the success of the congestion charge is the population's support: in Stockholm, it increased from 36% before the introduction in 2005 to 74% in 2011.

## Congestion charge an option for Austria

Feasibility studies for a congestion charge in Graz predict positive results: Vehicle-kilometres would be reduced by nearly 20% and travel times by up to 30%. Road traffic injuries could be expected to go down by 16%, and the revenue to cost ratio would be 7 to 1. In Vienna, a traffic reduction between 8% and 22% could be expected, depending on the congestion charging zone. A congestion charge would also be feasible for cities such as Linz, Salzburg and Innsbruck.

**Positive experiences:** In Stockholm, the congestion charge reduced traffic jams, air pollution, and consequential costs of traffic.

## Congestion charges around the world

Congestion charges improve traffic flow and reduce the negative impacts of motor vehicle traffic, such as traffic jams, noise and air pollution, and accidents. Singapore was the first city worldwide to introduce a congestion charge in 1975. In London, a congestion charge was introduced on 17 February 2003. The fee for each vehicle entering the congestion charging zone is approximately 12 euro. Some 60% of the car trips avoided because of this measure were instead undertaken by public transport. Durham, with 45,000 inhabitants, also has a congestion charge. Such a system has also been in use successfully in Stockholm since August 2007. In a referendum held after a six-month trial period in 2006, the majority of the population voted in favour of its introduction. In Italy, the cities of Bologna and Milan have introduced congestion charges. In Milan, the traffic volume in the first six months of 2012 was 30% lower than in the same period in 2011, and road traffic accidents have gone down by 28% in the congestion charging zone. Bergen and Oslo in Norway also have congestion charges. Congestion charges are usually combined with a low emission zone.

## Successful congestion charge in Stockholm

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|---|---|
| Traffic reduction in 2011, from 2005 | 20% |
| Traffic reduction in 2011, from 2005 (excluding exemptions, adjusted for population growth) | 29% |
| Net annual revenue (after costs)* | 36 million euro |
| Reduction in annual cost of congestions* | 62,5 million euro |
| Reduction in annual consequential costs (accidents, environmental damage, health care)* | 22,5 million euro |
| PM10 emission reduction** | 15% |
| Nitrogen oxide emission reduction** | 10% |

* 2008
** 2007 and 2008

**Source:** Centre for Transport Studies Stockholm 2012 **Graphics:** VCÖ 2013

# VCÖ: Sustainable solutions for traffic problems

**A liveable city:** Congestion charges reduce traffic and create more space for people.

Austria's metropolitan areas are booming and their population is growing rapidly. The number of commuters will continue to grow as well. To ensure that traffic does not come to a complete standstill, it is necessary to implement measures that make traffic and transport in our cities more efficient, more climate friendly, and cleaner. An important factor in reaching this goal is the expansion of public transport services both in the city centres and the surrounding areas. Additional incentives are required to get people to switch from their cars to public transport. As numerous international examples show, a congestion charge can be such an incentive. It improves traffic flow, which benefits not only commercial traffic, but also those people who are reliant on their cars. Travel times will be shorter and people will get to their destinations faster.

## Improving public transport with congestion fees

An important aspect of congestion charging systems is how their revenue is used. It should be dedicated to improving public transport and cycling and pedestrian infrastructure. The success of congestion charges in Stockholm, Oslo, Milan, and London is also visible in their public acceptance. In Stockholm, the population voted in favour of the system after the trial period despite strong initial opposition. One year after its introduction in London, 75% of businesses said it was a complete success and good for the city's image.

VCÖ recommends the introduction of congestion charges in larger Austrian cities, such as Vienna, Graz, Linz, Salzburg, and Innsbruck.

**Sources (inter alia):** The Stockholm congestion charges – five years on. Stockholm 2012; Transport for London: Congestion Charging. Impacts Monitoring. London 2008; VCÖ: Gesundheitsfaktor Mobilität, Wien 2012. VCÖ: City-Maut in Österreichs Städten, Wien 2006. Neuberger M.: Human health effects of aerosols, Vienna 2011.

## vcö recommendations

### Congestion charge is suitable for Austrian cities

Congestion charges reduce traffic and air quality problems noticeably and prevent congestions in our growing cities.

### Expand public transport services

A considerable expansion of public transport services both in the centres and the outskirts of Austria's metropolitan areas is necessary to prevent future capacity issues.

### More monitoring locations and lower threshold values for fine particulate matter

Diesel exhaust particulates are smaller than the comparatively coarse particulate matter. They are carcinogenic and can enter the bloodstream. The number of monitoring locations in Austria needs to be increased considerably, and stricter threshold values for fine particulate matter should be introduced.

### Diesel particulate filters for construction equipment and older lorries

Particulate filters reduce emissions of diesel exhaust particulates considerably.

### Low emission vehicle fleets

Municipal vehicle fleets, taxis, and delivery vans should have easy access to infrastructure such as refuelling stations for natural gas or charging stations for electric cars.

**Markus Gansterer, VCÖ traffic policy expert:**
"The population of Austria's metropolitan areas will increase considerably in the coming years. To prevent cities from becoming permanently gridlocked, we need measures that support the shift from cars to more efficient modes of transport. An increasing number of cities do this by introducing congestion charges."

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