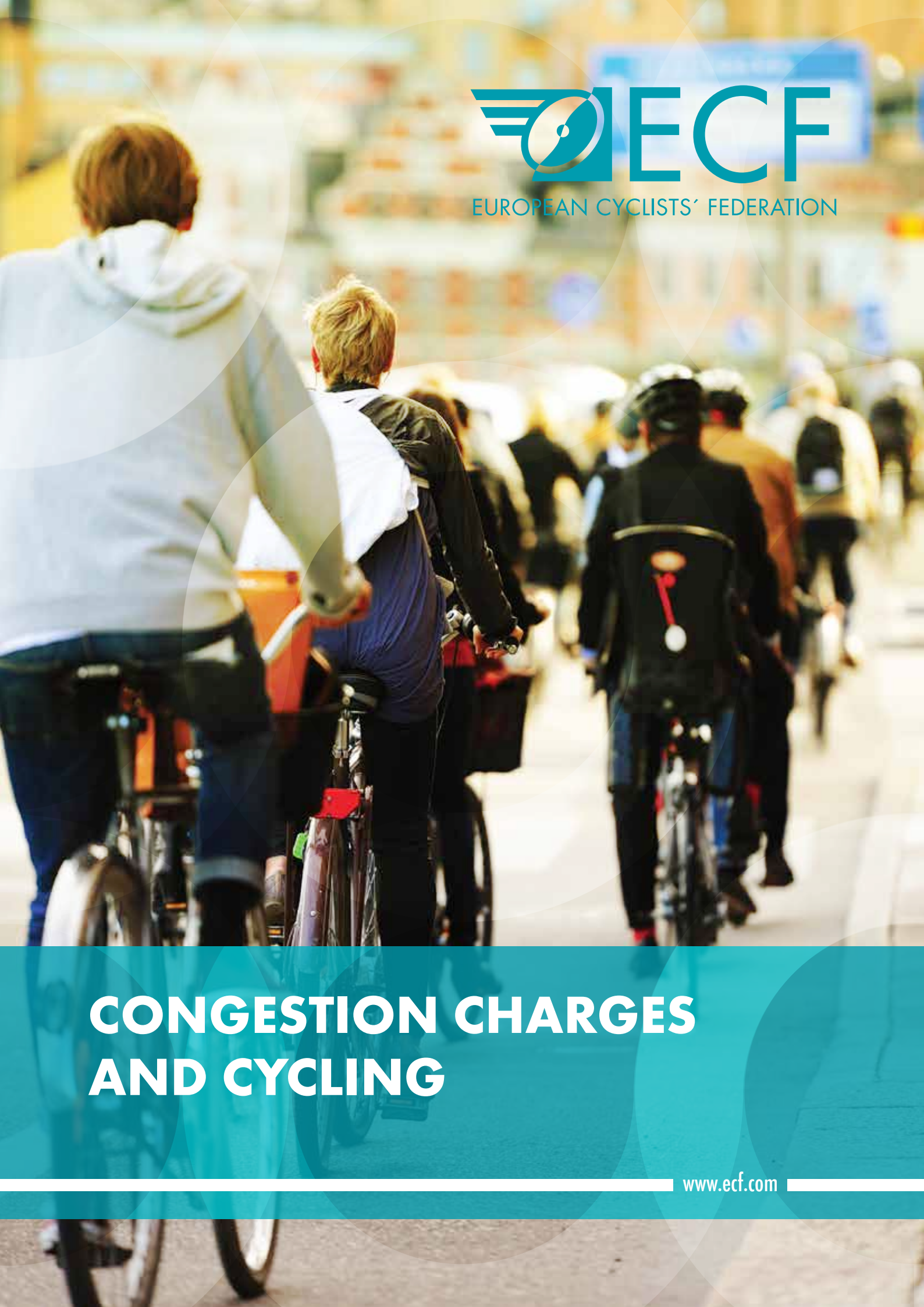

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About the European Cyclists' Federation

ECF is the umbrella federation of bicycle users' organisations in Europe and beyond. Our aim is to have more people cycling more often and we target to double cycling by 2020 in Europe. To reach this goal, we work with our members and partners on putting cycling on the agenda at global, European, national and regional level.


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SUMMARY AND RECOMMENDATIONS

	LONDON	MILAN	GOTHENBURG	STOCKHOLM
Year of introduction	2003	2012 (pollution charge 2008)	2013	2007
Net income per year (EUR, latest available data)	238 million	13 million	74 million	63 million
Part of net income used for Cycling measures	ca. 5 per cent	ca. 23 per cent	not quantified, minor part	practically none
Cycling measures supported	various measures (infrastructure, local transport plans, road safety measures)	extension of public bike sharing system	infrastructure (including parking)	only minor improvements in the framework of road works
Development of Cycling	66 per cent increase; less accidents	large increase in use of public bike sharing system	will be measured in the future	66 per cent increase, but in line with earlier trend

The evaluation shows that three of the four cities applying a system of congestion charging use part of the revenues from their respective scheme for measures related to cycling. Especially London and Milan support the development of cycling through the congestion charging system and have positive results.

• In London, the number of cyclists has increased substantially and cyclist accident rates have gone down in the congestion charging zone.

• In Milan, the public bike sharing system financed partially through the "Area C" charge has developed very positively, and now even includes e-bikes.

• Gothenburg also has cycling infrastructure measures in its transport package funded through the congestion charge; however, it seems that the role of cycling is much more prominent in the communication of the package than in the actual funding.

• In Stockholm, the financing of investments in cycling is not an explicit part of the transport investment package linked to the congestion charge. There is other funding available for cycling, and cycling is increasing; however, the strategy of the city to invest all revenues from the congestion charge in the construction of motorways may induce more traffic in the future and neutralise the positive effects of the system in the long term.

For cities planning to introduce congestion charging in the future, the examples from this report show that it is important to plan the use of the revenues from the charging scheme for measures improving sustainable mobility right from the beginning, both to make the reduction in car traffic more effective and permanent, and to win public support for the scheme. Cycling should play an integral role in this process.

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INTRODUCTION

IRoad congestion is a major issue for many European cities. The costs of road congestion are estimated at around 100 billion EUR, or 1% of the EU's GDP, per year [1]. Congestion also creates numerous other problems, such as increased air or noise pollution. To ease these problems, several cities in Europe have decided to introduce congestion charging, a system where users of motorised vehicles are charged a fee to enter a certain, heavily congested zone of the city during times when there is most traffic (usually daytime during weekdays). These schemes are a form of traffic demand management, because only vehicle users with a willingness to pay higher than the fee will enter the charging zone. They are also an application of the user pays principle in transport and a step towards the internalisation of external costs, because the external costs of car use in highly congested city centres are much higher than elsewhere [2].

However, wherever a congestion charge was introduced or planned, it has been a controversial topic in public debate, with opponents arguing that it constitutes an extra burden for car drivers and that there are no viable alternatives for car driving in place. Therefore, accompanying the introduction of a congestion charge by re-investing its revenues in alternatives to individual motorised transport such as public transport and cycling is not only reinforcing the initial goal of reducing road congestion, but can also be a way of gaining public support for the measure. The aim of this short report is to look at the European examples for congestion charging to see whether and how revenues have been used for cycling, and with which results.

1. http://ec.europa.eu/transport/themes/urban/urban_mobility/index_en.htm
2. http://www.epomm.eu/newsletter/v2/content/2015/0415/doc/eupdate_en.pdf

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LONDON

DESCRIPTION OF THE SCHEME

The congestion charge in London was introduced in the beginning of 2003. It is applied in the inner city, an area of 21 square kilometres, delimited by the Inner Ring Road [3]. There was a westward extension of the zone between 2007 and 2010, but after local elections brought a change in the city government, this extension was abolished. Plans to transform the flat-rate congestion charge into a pollution charge based on vehicle emissions were also abandoned by the new city government. At the introduction of the scheme, the regular daily charge was at £ 5 per day. It was raised several times since then and stands at £ 11.50 per day at the moment (end of 2015).

REVENUES AND THEIR USE

The London congestion charging scheme created revenues of £ 257.4 million (ca. 324 million EUR) in Traffic for London's financial year 2014/2015. With operational costs at £ 84.9 million, the net income amounted to £ 172.5 million (ca. 238 million EUR) [4]. When the congestion charge was introduced, it was stipulated by law that the revenues be reinvested in measures to improve transport in London. In the time between 2003 and 2013, the scheme generated revenues of more than £ 1.2 billion (ca. 1.65 billion EUR). Of this total amount, £ 960 million were invested on improvements to the bus network, £ 102 million on roads and bridges, £ 70 million on road safety, £ 51 million on local transport/borough plans and £ 36 million (ca. 50 million EUR) on sustainable transport and the environment [5]. This means that ca. 3% of the total net income was invested under the title where cycling would specifically fall under, although it might also have a share in local transport plans, roads and bridges, and road safety. The total share of cycling investments from congestion charge revenue could therefore be estimated at around 5 per cent.

IMPACT ON CAR TRAFFIC AND AIR QUALITY

According to Transport for London, the introduction of the charge has led to a significant reduction in traffic in the charging zone. Traffic entering the zone was reduced by 18% and traffic circulating within it by 15% after the first 12 months of existence of the scheme. During the same period, congestion was reduced by 30% [6]. When it comes to air quality, the introduction of the congestion charge has led to an emission reduction of 12% for both NOx and particulate matter (PM10) in 2003, the year it was introduced [7].

IMPACT ON SUSTAINABLE MOBILITY

London, and especially central London, has seen a significant shift in traffic modes towards sustainable mobility since the introduction of the congestion charging scheme. This development is unique in the world for a city of the size of London. In 2013, road traffic by motor vehicles had decreased by 19 per cent in central London compared to 2002, while it had increased by 1% in Great Britain as a whole during the same period. There was a 10.6 percentage point shift in net mode share towards public transport, walking and cycling between 2000 and 2013 in the whole of London [8], and cycling levels in the Congestion Charging zone went up by 66 per cent since the introduction of the scheme [9].

Research also showed that introducing the congestion charge made cycling safer by reducing cycling crashes in Central London by 30 a month, a 40% reduction. This was matched by similar reductions in those killed or seriously injured, meaning that the congestion charge saved lives and the costs associated with crashes [10].

3. http://content.tfl.gov.uk/cclez-online-factsheet-jul15.pdf
4. http://content.tfl.gov.uk/annual-report-2014-15.pdf
5. https://tfl.gov.uk/info-for/media/press-releases/2014/may/congestion-charge-changes-to-improve-customer-service
6 https://consultations.tfl.gov.uk/roads/cc-changes-march-2014/user_uploads/cc-impact-assessment.pdf
7 http://content.tfl.gov.uk/impacts-monitoring-report-2.pdf
8 http://content.tfl.gov.uk/travel-in-london-report-7.pdf
9 http://content.tfl.gov.uk/congestion-charge-factsheet.pdf
10 http://road.cc/content/news/145124-congestion-charge-made-londons-roads-safer-cycling-researchers-find


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MILAN

DESCRIPTION OF THE SCHEME

The city of Milan had introduced a first form of paying urban access restriction, the so-called "Eco-Pass", already in 2008. This system was more of a pollution charge than a congestion charge, as the amount that had to be paid was based on the emissions of the vehicle. The charges ranged from free access for "clean" vehicles to 10 EUR per day for the most polluting vehicles.

After a successful referendum in June 2011 (79.1% of yes votes), the "Ecopass" pollution charge was transformed into a fully-fledged congestion charge in 2012 under the name "Area C". Instead of differentiating charges according to emission levels, the same charge is now levied for all vehicle types. Currently, the regular charge is 5 EUR per day. Discounts apply for residents of the charging zone and service vehicles [11].

REVENUES AND THEIR USE

Already with the previous "Ecopass scheme", revenues not used for the operation of the system were invested in measures to promote sustainable mobility, i.e. the bus network, cycle paths and green vehicles [12]. However, during the first year of operation of the scheme in 2008, the operation costs (13 million EUR) were almost as high as the revenues (16.2 million EUR) [13].

The Area C congestion charging zone in Milan created revenues of 20.3 million EUR in 2012, with administration costs of 7.3 million EUR. The net income was spent entirely on measures to promote sustainable mobility in the city. Of the 13 million EUR available for public budgets, ca. 10 million EUR were spent on public transport and 3 million EUR on the second phase of instalment of the city's bike sharing system "BikeMi" (ca. 23 per cent of the total net income). The number of stations was increased from 120 to 190. At the moment (end of 2015), the system counts 263 stations and includes 3 600 conventional bikes as well as 1 000 pedelecs (electric bikes).

IMPACT ON CAR TRAFFIC AND AIR QUALITY

The introduction of the congestion charge led to clear reduction in traffic compared to the previous scheme: In 2014, the average daily number of entries into the restricted zone was almost 29 per cent lower than in 2011, the year before the introduction of "Area C". Air quality also improved significantly during the time the congestion charge has been in place: The concentration of particulate matter in the air went down by 38 per cent between 2010 and 2014 [14], and the number of days when EU pollution limits for PM10 were surpassed decreased from 132 in 2011 to 81 in 2013 and 68 in 2014 [15].

IMPACT ON SUSTAINABLE MOBILITY

The development of the public bikesharing scheme supported by the revenues from the Area C has been very positive. The number of daily journeys has risen from 3 000 in 2011 to 4 000 in 2012 (year of the introduction of the congestion charge), and to around 6 800 in 2014 [16]. What is more, data collected by the provider of the system, Clear Channel, shows that travel destinations of the bike sharing system were concentrated in the area covered by the congestion charge [17].

11 https://www.comune.milano.it/wps/portal/ist/it/servizi/mobilita/Area_C
12 http://news.bbc.co.uk/2/hi/europe/7167992.stm
13 www2.units.it/danielis/conf_paper/LEcopass%20a%20Milano.ppt
14 http://www.thesan.com/iaq/blog/inquinamento-atmosferico-a-milano-oggi-si-respira-meglio/
15 http://www.leggo.it/NEWS/MILANO/milano_smog_diminuito/notizie/1120862.shtml
16 http://www.weforgreen.it/boom-del-bike-sharing-a-milano-grazie-a-bikemi/
17 http://wp.demm.unimi.it/tl_files/wp/2015/DEMM-2015_01wp.pdf

GOTHENBURG

DESCRIPTION OF THE SCHEME

In Gothenburg, congestion charging was introduced in 2013 according to a decision by the Swedish Parliament from May 2012 [18]. In a referendum in September 2014, the continuation of the congestion charging scheme was rejected by 57 per cent of the voters. However, since the referendum was not binding for the legislator, the city council of Gothenburg decided in May 2015 to keep the scheme despite the negative result [19]. After the introduction of the charge, the amount to be paid has already been increased once and stands now at 22 SEK (ca. 2.40 EUR) per entry into the charging zone in peak traffic hours, 16 SEK (ca. 1.70 EUR) before and after the peak and 9 SEK (ca. 1.00 EUR) in off-peak hours. The daily maximum that has to be paid is set at 60 SEK (ca. 6.50 EUR) [20].

REVENUES AND THEIR USE

In 2013, the congestion charging scheme created gross revenues of 801 million SEK (ca. 86.2 million EUR). With operational costs of 117 million SEK (ca. 12.6 million EUR), the net income generated by the congestion charge reached 684 million SEK (ca. 73.6 million EUR) [21]. The incomes from the scheme are used entirely for the so called "West Swedish Package", which comprises a large number of projects to improve the transport system in and around Gothenburg for all modes, including car traffic, public transport, walking and cycling. The goal is to reduce the modal share of car traffic in and around Gothenburg from 60 per cent in 2005 to around 48 per cent in 2025 [22]. A number of concrete projects for improving cycling infrastructure, including bike parking, are included in the package. There is however no detailed information available on how big the share of cycling in the package is in reality [23].

IMPACT ON CAR TRAFFIC AND AIR QUALITY

The introduction of the congestion charge led to a reduction of car traffic in the charging zone of 17-20 per cent in the two months after the installation of the charging system, and 7-8 per cent a few months later [24]. Regarding air quality, there was a general reduction in PM10 levels during the first months after the introduction of the charging scheme, but no significant effect on NOx levels. However, the corresponding report states that it is too soon to draw conclusions on the effects of the scheme on air quality [25].

IMPACT ON SUSTAINABLE MOBILITY

In 2013, the year of the introduction of the congestion charge, there was a significant increase of 10 per cent in public transport trips in and around Gothenburg [26]. No data is available yet on the development of cycling since the introduction of the scheme, but the assessment of the "West Swedish Package" financed partially by the congestion charge will include data on e.g. cycle traffic flows or the occupation of bicycle parking stations [27].

18 http://www.riksdagen.se/sv/Dokument-Lagar/Utskottens-dokument/Betankanden/Arenden/200910/SkU39/
19 http://www.expressen.se/gt/trangselskatten-blir-kvar-i-goteborg/
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21 https://goteborg.se/wps/wcm/connect/ef1af3c9-b56f-4fae-b03b-31c5cae79925/Bilaga_4_TK_Underlag+om+tr%C3%A4ngselskattens+finansieringsfunktion.pdf?MOD=AJPERES
22 http://www.trafikverket.se/contentassets/a5e8258ae4b041b2a355da57547d3f00/vastsvenska_paktet_carl_anton_holmgren_amhult_12-05-07.pdf
23 http://trafikistan.se/vastsvenska-cykelpaketet/
24 http://www.trafikverket.se/nara-dig/Vastra-gotaland/Vastsvenska-paketet/Trangselskatt-i-Goteborg---Vastsvenska-paketet/
25 http://www.trafikverket.se/contentassets/79c3a9c3cb2c447594dc0dac33bb048c/luftkvaliteten-i-goteborg-efter-inforandet-av-trangselskatten-oktober-2013.pdf
26 http://www.trafikverket.se/nara-dig/Vastra-gotaland/Vastsvenska-paketet/Trangselskatt-i-Goteborg---Vastsvenska-paketet/
27 http://www.trafikverket.se/contentassets/97c2fb1c96584f56aea03b01d5a6f61b/gang_cykelmatningar_varen_2013.pdf

STOCKHOLM

DESCRIPTION OF THE SCHEME

In Stockholm, congestion charging was first introduced by means of a seven-month trial phase in 2006, after which a referendum was held. A majority voted for the permanent introduction of the scheme, which was carried out in August 2007 [28]. The amount to be paid depends on the time of the day and has been increased several times since the introduction of the scheme. Currently, the amount per entry into the charging zone varies from 11 SEK (ca. 1.20 EUR) in off-peak hours to 35 SEK (ca. 3.80 EUR) in peak hours. The maximum amount that has to be paid per day is 105 SEK (ca. 11.30 EUR) [29].

REVENUES AND THEIR USE

During the first years of its existence, the Stockholm congestion charging system created yearly gross revenues of 804 million SEK (ca. 86.5 million EUR) with operational costs of 220 million SEK (ca. 23.7 million EUR), meaning that there was a net income of 584 million SEK (ca. 62.8 million EUR) [30]. In the years between 2008 and 2013, the total net income after deduction of initial investments and operational costs was 1 987 million SEK (ca. 213.7 million EUR). These were invested entirely into road projects, mainly the construction of a system of underground motorway tunnels around the city centre ("Förbifart Stockholm"). Some of these projects included infrastructure for public transport (bus lanes), and, to a very small extent, "measures for unprotected road-users" [31]. The improvement of public transport, walking or cycling is however not the explicit goal of the measures financed through the congestion charge incomes.

IMPACT ON CAR TRAFFIC AND AIR QUALITY

The introduction of the congestion charging scheme in Stockholm led to a stable reduction of car traffic passing into the charging zone by around 20-22% in the years after 2007 compared to 2005. In terms of air quality, the same report states an emissions reduction of 10-14 per cent for airborne pollutants (particulate matter) and 8.5 per cent for NOx [32].

IMPACT ON SUSTAINABLE MOBILITY

After the introduction of the congestion charge, passenger numbers in public transport increased by 4-5 per cent [33]. For cycling, there was an increase of 66 per cent in the inner city between 2005 and 2014; however, there was a high increase of cycling already before the introduction of the congestion charging scheme (48 per cent between 1996 and 2005) [34].

28 http://www.transportportal.se/swopec/CTS2014-7.pdf
29 https://www.transportstyrelsen.se/sv/vagtrafik/Trangselskatt/Trangselskatt-i-stockholm/andrad-trangselskatt-stockholm/
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32 http://www.transportportal.se/swopec/CTS2014-7.pdf
33 http://www.transportportal.se/swopec/CTS2014-7.pdf
34 http://miljobarometern.stockholm.se/key.asp?mo=7&dm=1&nt=3&tb=2

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