The main goal of most 20th-century road developments was to adapt towns and cities to cars²¹⁴, not only in the suburbs, where available space resulted in the construction of large access roads, but also in city centres and districts, in cities which were traditionally sized for journeys made by foot or by horse. Buchanan's Traffic in Towns Report, commissioned by the British Department for Transport, set out this statement as early as 1963, calling for solutions to what was defined as "the problem of traffic in urban areas", i.e. to roll out a series of developments so that cars could circulate in towns and cities²¹⁵. Today, major cities are once again considering traffic in urban areas, but this time with the opposite starting assumption: how can the space taken up by cars in cities be reduced? This turnaround is predominantly due to the fact that cars are increasingly judged by the externalities they generate. There are three categories of externalities: congestion, disturbances (noise, pollution, stress, loss of productivity, etc.) and the deterioration of road networks. To reduce them, several global cities have introduced city tolls, obliging drivers to pay in order to increase the share of total traffic levies in urban areas.

EFFECTIVELY

The results of this type of system are promising in a number of respects. Firstly, city tolls have a real effect on car traffic and its externalities. In London, the volume of traffic decreased within the congestion charge zone from 185,000 vehicles per day to 125,000 vehicles today, representing a 15% drop in traffic density. It is also the case that traffic jams fell by 30% initially. In Stockholm, the city toll reduced traffic across the cordon per day by 28%. The effect is even more notable as the population grew by almost 22% between 2005 and 2015. The corollary of this reduction in traffic is a clear improvement of air quality with, for Stockholm, fine particle emissions cut by half over the period²¹⁶.

→ AN INSTRUMENT TO FUND AMBITIOUS MOBILITY POLICIES

City toll revenues also enable municipalities to increase their investments in mobility services and infrastructure. However, the city toll is not a yield tax but an incentive instrument. For the incentive to work, the introduction of the city toll must be preceded or followed very quickly by an enhanced public transportation system in terms of quality and quantity. Stockholm was endowed with approximately one billion Swedish Krona (around €95 million) by the State to develop alternatives to cars alongside the introduction of its city toll system²¹⁷. Successful city tolls are generally part of a broader mobility policy. Since 2003, London has allocated the revenues from its congestion charge to the Transport for London (TfL) authority. The net revenues of the congestion charge account for 5% of TfL's total revenue. Over the 2016-2017 period, revenues from the toll, representing £164million (roughly €185 million), were allocated to funding mobility services and infrastructure: improvement of the bus network (81%), roads and bridges (9%), road safety (1%), cycling and walking and local transportation (7%).

The search for resources to fund mobility in a post-carbon world

In Stockholm, revenues resulting from the spatial extension and revised pricing of the city toll are allocated to co-funding new underground lines (46% of total costs), thereby adding to the contributions of municipalities of the Stockholm region (27%), from Stockholm County (3%) and the national government (24%)²¹⁸. In 2018, 50% of toll revenues were allocated to funding the Förbifart Stockholm, the road bypass of the Swedish capital set to open in 2025. The city toll is said to contribute SEK 23 billion (€2.5 billion) out of a total of 28 billion, with the State paying the remainder.

→ A TECHNICAL, FINANCIAL AND ABOVE ALL POLITICAL CHALLENGE

The city tolls that have lasted for longer periods of time stand out for their incremental approach (gradual installation), which is flexible and able to adapt to real movements. Durham (United Kingdom) introduced a toll on one street. Before selecting this solution, the city council tested many other forms of toll systems. The incremental approach fosters user understanding and future acceptability for the project. The approach was accompanied by communication regarding the effects brought about by the introduction of the road user charge zone and in particular improved traffic speeds and public transportation, which is something that London has fully understood and carried out.

The introduction of a city toll system must ideally be supported by a process of acculturation and awareness-raising of the population and road users regarding the positive impacts of the system. Cities in the United Kingdom and Norway have focused their communication on the issue that the city toll intended to tackle: for Bergen, in Norway, this was infrastructure funding while for London, it was congestion reduction. For users, the toll system then becomes

a solution to an urban problem rather than a mere tax. Toll system acceptability is conditional on users understanding the situation at the outset congestion, pollution and/or the lack of funding for new infrastructure must be perceived as real problems for the city.

Lastly, one of the factors of the city toll's success is its financial viability. The initial investment costs and operating costs depend on technological choices and on the area defined. This statement can be underscored by comparing London and Stockholm. London made lower levels of initial investment than Stockholm but the operating costs in the city are fifteen times greater²¹⁹. The system's operating costs account on average for 50% of total revenues of London's congestion charge, compared to only 7% in Stockholm. The Swedish municipality has successfully improved its toll's balance sheet by reducing operating costs since the introduction of the system in 2006 (SEK 250 million per year in 2006 compared to SEK 100 million per year in 2016) and by increasing revenues through an extension of the toll area and an upward revision of rates voted in 2016.

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REVENUES

COST



STATE

COMPANIES

TAXPAYER

\bigcirc | What scale of implementation?

