Measure title : "Fahrtenmodell" Trip Contingent Model for Parking Standards Policy
City, Country: Zurich, Switzerland
Year(s): 1999 up to 2012

A1 Objectives

The City Canton of Zurich adapted its own flexible parking regulation in order to avoid non-efficient use of urban space and traffic generation of a new urban development that would be incompatible with, for example, neighbouring housing areas. The mechanism was first used mainly to save money for investors where a high parking demand is not expected in urban areas.

A2 Description of the CS

The City Canton of Zurich adapted its own flexible parking regulation in order to avoid non-efficient use of urban space and traffic generation of a new urban development that would be incompatible with, for example, neighbouring housing areas. The mechanism was first used mainly to save money for investors where a high parking demand is not expected in urban areas.

A specific regulation, combined with monitoring and the obligation for mobility management measures was developed that responds to the specific location. In these cases the issue of traffic generation annoying the housing neighbourhood directly was the main motive.

The Fahrtenmodell (trip contingent model) is a tool to have a better planning of the traffic generation from highly frequented sites and to use the parking space in a more efficient way. The Fahrtenmodell regulation allows a more flexible private parking management, compared to parking standards and parking limits (minimum or maximum numbers of parking spaces to provide) in the building legislation. The model calculates the traffic generation of short term and long term parking dependent on the land use at the location, and defines a threshold of allowed traffic generation from this. In the case that this permitted traffic volume is exceeded, measured by monitoring, mobility management measures become mandatory for the operator of the garage to get the trip generation back to the assigned traffic volume.

B Costs and who paid them

By managing the traffic/parking volumes in a specific way to the location and conditions the measure is more targeted and accurate for the purpose.

- Main effect: budget savings by providing not more parking than necessary / compatible to the local environment.
- Compared to other infrastructure measures the mobility management measures are less costly.
- Monitoring shows that the traffic generated normally does not exceeding the level permitted. Monitoring costs are low from local survey or even lower by analyses of the data of barrier organized parking.

C Project objectives, indicators, data and impact/results

Example Sihlcity

Best known example is Sihlcity, a shopping centre on a former factory site not far from the inner-city of Zurich and with excellent access by tram and regional rail. Neighbouring housing areas that would have complained about the project (with good chance to succeed in the Swiss direct democracy) were convinced that the new traffic generation would be very low by the regulation's mechanisms. This limit had a major influence on the high price per hour for parking in the remaining parking facilities. New public transport stops funded by the city encouraged the developer to accept the "low car traffic generation" approach that was contrary to the overall shopping centre policies elsewhere.

There are 850 parking lots offered (50 park and ride spaces and two Car sharing locations included), and charged parking is obligatory. In consequence the employees of shops in Sihlcity do not have parking allowance. The maximum car trip contingent is 8,800 trips / day (to be achieved within 5 years, starting from 10,000 trips / day in 2007). Further specific thresholds are 1,300 trips / night and 800 trips / peak hour. The Sihlcity offers 41,000 m^2 rentable space for shopping, additional space for cinema, services, fitness etc.. Visitors were counted at 19,000 per day, whilst 2,300 persons are working there. There was a volume of investment of 600 Mio €. Already in 2002 Sihlcity was regulated by contract. Part of the building permission were complementing parking regulations: e.g. 600 bike parking spaces and financial contribution to public transport improvements. Tram line no. 5 extension to Sihlcity was financed for the first two years from 2007 by Sihlcity, and afterwards by the public transport company

OBJECTIVE	INDICATOR	DATA USED	IMPACT/RESULTS
Reducing the amount of (parked cars, therefore traffic generating) cars by building permit regulation for the Sihlcity development	*Car parking was not fully occupied during the week (only on Saturdays full occupied). Traffic generation was approximately 3,600 trips per day (8,800 trips by car per day are allowed).*	*The barriers at the garage entrances are counting cars steadily anyway. Very cheap to monitor by an consultancy biannually.*	*. Only 28% use the car the shoppers frequency (19,000 visitors per day) were stable*

D Implementation process

D1. Stages

In 1999 the “Fahrtenmodell” (trip contingent model) was adapted first as an unique exception for the enlargement of the ETH University in Zurich. The higher density of buildings meant significant additional construction costs for parking according to the legal parking standards at that time. Due to the fact that the university has a high share of non-car based access anyway and of being a public institution the denser institute buildings got construction permits without additional parking.

The second case was in the brownfield development Neu-Oerlikon for retail and business, where a limitation of 5,000 car trips /day traffic generation was fixed for a block. This was result from an Environment Impact Assessment (EIA) for the entire area.

The regulation was practiced by the city administration more often from 2002 to 2012 in several cases of highly traffic generating land use. It was integrated part of the building permit procedures. The investors and developers applying for a building permit are asked to reflect their policy and management on parking capacity in order to get a more efficient and sustainable urban development.

D2 Barriers – what were the key problems or difficulties in implementing the CS?

Barrier: Business community feeling restricted in their strategies to offer maximum parking capacity to keep all options in future, this led to confrontation in the city council. The main objection to this “push measure” came from the shopping retailers and developers community who expected long term disadvantages from non-build parking volumes. In another case (combined stadium / shopping mall) the investor stepped out of the project for other reasons. But the image of projects failing because of restraint based parking standards was discussed in the business community.

Direct public reaction on the Trip Contingent Model was rare, the matter more an expert issue. It was supported by the transport & environment consumers association VCS (Verkehrsclub der Schweiz) who helped to disseminated the model to other regions in Switzerland. Nevertheless the general interrelation of traffic and environment / climate change mitigation action, made dynamic by parking policy, is in public discussion, due to the right of the citizens to influence the strategy to a large extend by referendum. (SEE OTHER ZURICH CASE ON PARKING POLICY IN GENERAL).

Basically the model is a legally allowed planning instrument, according to the cantonal legislation. It is not explicitly incorporated in the parking legislation as a rule yet, therefore penalties are not easy to implement, however it worked in practice without a case for penalty. In advance during the planning phase the model showed its power and was challenged legally. But the judiciary clarified the situation in a critical case on a shopping location in favour of the model. The judgement confirmed the right of the City of Zurich to introduce such a regulation in the public interest.

A key supportive factor was a general restrictive parking policy in the city canton of Zurich, which was a kind of door opener for acceptance of the specific moderate regulation. The regulatory frame works in this sense well as the threshold was never exceeded up to now in

the monitoring. This means that the parking management at low level of parking facilities achieved the goal to limit the traffic generation to a level that was tolerable before.

D3 Drivers – what factors really helped in implementing the CS?

Driver 1: Long term orientation of administration in the Zurich city government to integrate transport planning and urban development for sustainable development (environmental policy) reasons:
Key supportive factor was a general restrictive parking policy in the city canton of Zurich, that was a kind of door opener for acceptance of the specific moderate regulation. Main objection on this “push measure” came from the shopping retailers and developers community expecting long term disadvantages from non-build parking volumes.

Driver 2: The Zurich urban society, non-regarding the specific Fahrtenmodell cases, after long time of “historic parking compromise” in Zurich, were confirming a new parking policy by referendum and urging on climate change mitigation action. Recently therefore the model’s practice was substituted by a less flexible.

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Sihlcity (source: City of Zurich)

Sihlcity in comparison with an car-oriented shopping centre in Zurich

Table 1. Two shopping centers in confrontation: facts and figures about two shopping facilities of Zurich (IBV)

	Glattentrum Zürich Nord (1975)	Sihicity Zürich Sud (2007)
Surfaces of shops etc.	43,400 m^2	65,600 m^2
No. of shops	96	80
No. of restaurants	9	13
No. of cinemas	0	10
No. of employees	1,250	1,300
No. of visitors/year	8.1 Mio	6.0 Mio (estimated)
No. of parking lots	4,750	850
No. of car trips/day	26,000 (13,000+13,000)	8,800 (4,400 + 4,400) trip limit
Modal split car	83%	40% est. 28% (1^{st} 100 days)
Supply public transport	3 bus lines (mittle-low frequnecy)	2 tram lines (hight freq.) 1 bus line 1 Commuter train stop
Motorway supply	Direct	Near by

Sihlcity compared to car oriented other shopping centre in Zurich (source: Hüsler / Urbani 2009)