



Verkehrsanbindung von Freizeitanlagen

Raccordement des installations de loisirs au réseau de transports

Access situation of leisure facilities

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Summary

The planning challenge

High traffic leisure facilities include establishments such as multiplex cinemas, water parks, zoos, theme parks, large museums and combined facilities for shopping and leisure. Just like high traffic shopping centres, large leisure facilities attract a considerable number of visitors and therefore place a strain on local transport networks. Compared to shopping centres, high traffic leisure facilities have a number of specific characteristics:

- Visitor flows vary greatly from day to day and from week to week, as well as from season to season. Many facilities attract extremely high visitor flows within a very short space of time. This poses particular challenges for accessibility and the planning of transport structures.
- A considerable number of visitors travel from a long way away, often using long-distance services. For this reason, great importance needs to be attached to the long-distance network.
- Depending on the type of services offered, leisure facilities can attract specific visitor types who may have a preference for a particular mode of transport. Target-group-oriented approaches are therefore required if the way people travel is to be influenced.
- High traffic leisure facilities can be found in city centres, in suburban areas, and in rural areas. Given this variety, the quality of transport links and the local environment parameters will differ greatly from facility to facility. The planning function for leisure facilities must therefore be designed in a highly context-sensitive way.

Recommendations as to how high traffic facilities should be planned have up until now been based mainly on the analysis of major shopping centres. The unique characteristics of leisure facilities, however, mean that proposed measures should be developed in a targeted way for precisely these high traffic establishments.

Objective and procedure

Up until now, no such comparative analyses have been available for the different types of leisure facility that exist in Switzerland. The purpose of this study is to undertake this task. It is restricted to leisure facilities that offer services of a permanent nature. It does not consider facilities that offer leisure services for only a certain time or for a particular season (e.g. winter sports establishments). The aim of the investigation is to develop empirically-derived recommendations for the optimization of transport connections and to resolve the problem of high traffic levels in the vicinity of leisure facilities. This is to be achieved through the following analysis:

- In a comparative study, the status quo of the access situation at 20 leisure facilities of different types is documented, with typical problem situations being identified.
- Analysis of the planning history of three leisure facilities (FCS Park Schaffhausen, Aquabasilea Pratteln, Westside Berne) has been undertaken to identify, on the basis of these actual examples, how the criterion of accessibility was taken into account in the search for (and development of) the location in question.
- Differences in the form of transport selected by visitors and in local area access provision – including for pedestrian and cycle traffic – are investigated with the aid of customer surveys, on-site questionnaires and supplementary expert discussions for four specific leisure facilities: the Kino MaxX multiplex in Emmenbrücke, the Maag site in Zurich, the Swiss Transport Museum in Lucerne and Technorama in Winterthur.

These analyses then feed into comprehensive recommendations that are formulated for the following three areas of action: spatial planning, traffic planning and mobility management. These recommendations are also documented in a separate guideline for planners, facility operators, and a wider specialist audience.

Accessibility via private motorised transport

For around half the leisure facilities investigated, the wider road network (national roads) experiences traffic bottlenecks in the vicinity of the facility. In such cases the capacity of local roads can simply be overwhelmed by the additional road traffic caused by leisure facility visitors. In subordinate local or regional road networks, problems are experienced above all in the following situations:

- A: Leisure facilities based mainly outside the centre of major conurbations or sometimes in peripheral urban locations where the road network in the environment of the facility in question comes under strain as a result of overlap with other high traffic facilities (example: the Kino MaxX multiplex in Emmenbrücke during the prolonged evening peak).
- B: Facilities located right in the heart of conurbations where there is already a significant volume of traffic on the road network in the immediate environment of the facility during the day, thus allowing virtually no extra capacity for additional facility-related journeys (example: Maag site in Zurich).
- C: Leisure facilities located in the centre of urban areas where there is parking pressure on neighbouring residential areas at times of high visitor numbers (example: Zurich Zoo).

The potential for managing the parking areas of leisure facilities is still not fully exhausted: Around a quarter of facilities with their own parking areas do not charge any parking fee at all, while at other facilities the parking fees are relatively low.

At facilities where leisure activity is particularly strong at certain times (e.g. in the case of fixed programme times or heavily weather-dependent demand) the overcrowding problems become even more severe.

Accessibility via public transport

Just under half of Switzerland's high traffic leisure facilities do not have a nearby rail connection, despite having trans-regional catchment areas. In terms of the quality of public transport access – as measured by the service regularity and distance of nearby public transport stops/stations – barely a third of the leisure facilities investigated achieved the highest quality rating "A" (data of 2005). This points to shortcomings in the planning process that were already apparent when the location in question was selected. In future, the criterion of accessibility should be accorded greater importance when planning of a new leisure facility. Moreover, at a significant number of existing facilities there is a need to take subsequent action to improve their accessibility by public transport.

Accessibility on foot or by bicycle

Accessibility on foot or by bicycle is predominantly assured, although in a few cases there is a need to improve connectivity with the regional cycle network, signage for both pedestrians and cyclists, and the quality of bicycle storage options.

Modal split

The quality of data with respect to the "modal split", i.e. the breakdown of the different ways in which visitors travel to leisure facilities, is generally poor. For this reason, developing a location on the basis of transport objectives is not possible. This also means that the effectiveness of the measures taken with respect to a particular facility cannot be properly reviewed.

Planning practice: three examples

In two of the three planning examples investigated, a positive planning approach was applied in the sense that the areas where the leisure facility might in principle be situated were identified in advance: Westside Berne and Aquabasilea Pratteln. This also involved taking into account transport criteria. For FCS Park Schaffhausen, by contrast, locational analyses were conducted that took transport criteria into account (excluding pedestrian and bicycle transport). However, in all three examples the locations actually selected now require costly additional measures to improve accessibility (new public transport stops, new timetabling and new lines, roadwork expansion, new infrastructure for pedestrians and cycles).

At both Westside Berne and in the neighbourhood plan for Pratteln (Aquabasilea), traffic contingency models (limitation of motorised trips in an area) were used that help restrict car travel. As part of the building approval process for the FSC Park in Schaffhausen, the constructors were ordered to draw up a detailed mobility concept in which – among other things – the goal of a 50/50 modal split between public transport and car travel would be stipulated along with an effectiveness analysis of the measures to be taken. This should be viewed as an example of good practice for other leisure facilities to follow.

The investigated cases reveal that the accessibility of high traffic leisure facilities needs to be viewed not from a local perspective, but at the very least from a regional or cantonal perspective: Leisure facility-related transport concepts need to be incorporated into the overall transport concept at regional or cantonal level. Very drawn-out planning and implementation timeframes mean that conceptual transport plans need to be continually adjusted to changed parameters and new planning alternatives. It must be possible to develop accessibility measures in separate stages in the event of leisure services being expanded at existing locations.

Detailed analysis of transport connections and demand

The detailed analysis of transport supply and demand at four recreational facilities covers establishments of very different types and locations: Two based centrally in a core municipality of a conurbation (the Swiss Transport Museum in Lucerne and the Maag site in Zurich) and two based at the periphery of a conurbation (Kino MaxX multiplex at Emmenbrücke and Technorama in Winterthur). In addition, the Emmenbrücke multiplex has pronounced programme start and finish times that are particularly geared around the evening.

Traffic load curves/visitor turnover:

- Significant daily and weekly variations in visitor turnover are evident. In the busiest three-hour period, the visitor turnover at two facilities was 12-fold and 23-fold the turnover of the weakest investigated periods respectively.
- At two facilities (MaxX multiplex and the Swiss Transport Museum), visitor numbers can rise to some 2,000 people in a busy three-hour period.

Visitor travel distances:

- The museums in particular – and on Saturday also the Maag site – have a significant proportion (more than half) of visitors coming from a different region of the country (for example, the median distance travelled to Technorama is 56 km).

Modal split at four facilities:

- At the four facilities investigated (Kino MaxX multiplex, Maag site, Swiss Transport Museum and Technorama), the modal split has a strong bias towards private motorised transport, the proportion of which ranges from 40% (Maag site) up to 71% (Kino MaxX multiplex).
- Where the proportion of public transport is concerned, the facilities break down into three groupings: A high public transport proportion (57%) at Zurich's Maag site, an average proportion at the Swiss Transport Museum (42%), and a rather low proportion at the Kino MaxX multiplex (28%) and Technorama (27%), both of which are located some distance from their respective urban centres.
- The proportion of visitors making their way to these facilities independently on foot or by bicycle (i.e. without combining these with other forms of transport) amounted to 4%. In other words, public transport combined with pedestrian or cycle transport is the most popular way of accessing these facilities.
- Important factors influencing the modal split include the centrality of the establishment in question and the quality of access (including via rail).

Action required

Based on these analyses, the following need for action at Swiss leisure facilities is particularly evident:

- Improvement of the planning process: Optimization of the process of determining/selecting the location; better use of the opportunities provided by spatial planning instruments; clear determination of the objectives and transport-related measures; financing with the participation of leisure facilities themselves; review of the success of spatial planning decisions taken and traffic planning measures implemented
- Management of the strain caused by peak periods of road congestion and public transport usage, particularly at leisure facilities where event start times are crucial
- Reduction of congestion and traffic build-up on access roads
- Ensuring that the local public transport system in the vicinity of a leisure facility can cope
- Management of parking space at and in the immediate environment of leisure facilities
- Preventing facility-related parking pressures spilling over into neighbouring areas
- Increasing the proportion of public transport in visitor travel preferences
- Ensuring high quality of access for pedestrians and cyclists, taking particular account of the routes connecting the leisure facilities with the nearest public transport stations/stops

Recommendations for spatial planning

In the recommendations, great importance is attached to the spatial planning instruments of the cantons and municipalities. These need to be used to review the appropriateness of the location and (at a later stage) to optimise access to the location and its further development. The question of accessibility needs to be tackled at the earliest possible stage in the planning process so that optimum solutions can be identified right from the outset. Only then can costly adjustment measures in the area of transport be avoided further down the line.

In future, planning scenarios need to focus above all on the redevelopment of existing sites and the development of areas with new leisure facilities in urban areas. Another planning scenario that has not been considered very frequently up until now is the improvement of accessibility to existing leisure facilities as required by modifications to these existing facilities or as a result of inadequacies in existing access structures. The most common scenario up until now – a focus on the construction of leisure facilities from scratch on "greenfield sites" – is likely to become less common in the future when viewed in relative terms.

When implementing spatial planning measures, plans for high traffic leisure facilities must rely even more strongly on the instruments of cantonal planning, on municipal plans for special use for leisure facilities, as well as on the construction approval process.

According to cantonal plans, appropriate locations for high traffic leisure facilities should be identified on the basis of a comprehensive review of their suitability. Planners need to ensure that these facilities are integrated into local settlement structures, that the local environment can handle the anticipated visitor flows, and that the location itself has a high level of design quality. The master plan should also contain commentary on existing leisure facilities. Instead of such commentary being formulated in a general way, clear facility-specific guidelines should be laid down:

- Target figures for the modal split should be established
- The maximum number of permissible journeys should be defined
- Access to public transport – in particular the railway network – as well as integration into the regional and local pedestrian and cycle network should be ensured

When it comes to the planning of high traffic leisure facilities, municipalities should make decisions that at the very least cover the following issues:

- Basic and detailed transport access, including the cost contributions made by third parties
- Parking spaces for both cars and bicycles and their maintenance

- Form of public transport access and measures to increase the proportion of public transport in the modal split, including comments on the financing of new services
- Limits on the maximum number of additional car journeys as part of traffic contingency models (also extended for the first time to existing leisure facilities with high traffic volumes), elaboration of sanctions to apply in the event of limits being exceeded, and commentary on the use of funds arising from such sanctions
- Further construction provisions depending on the location in question, e.g. documentation of traffic volumes, accompanying measures with respect to the neighbouring road network, and noise abatement

When an application is submitted for the construction of a high traffic leisure facility, the construction approval process should incorporate a comprehensive review of the appropriateness of the location from the transport perspective in the following areas (among others):

- Evaluation of visitor traffic and the modal split; assessment of the traffic situation in the event of further development of the location
- Evaluation of the repercussions on traffic flow, traffic load curves, air and noise pollution, and road safety in the neighbouring road network
- The degree to which the selected access concept and the necessary traffic management measures are fit for purpose
- The quality of public transport; what should be strived for here is achievement of the highest rating, while the distance from the leisure facility to the nearest station/stop should be a maximum of 300 m
- Access concepts for pedestrian and cycle traffic, requirements for cycle storage areas

It is recommended that leisure facility-related mobility concepts be requested from the investors as part of the construction approval process itself.

Recommendations on transport planning

Where private motorised transport is concerned, the instruments of parking space management at the leisure facility and at any further high-volume facilities in the immediate area need to be deployed to better effect. An element that should also be incorporated here is the management of demand according to the time of day (with the use of staggered tariffs). The revenues generated should increasingly be used to finance other measures that impact on visitor behaviour in the area of road traffic management, public transportation, and pedestrian and cycle transport, as well as mobility management. If nearby residential areas are affected by a potential spillover effect from visitors looking for parking alternatives, measures should also be taken here too (e.g. in the form of access restrictions, the introduction of resident parking zones, etc.).

In addition, road traffic management measures (e.g. documentation of traffic levels, smart parking systems with spillover parking spaces, variable traffic signs) should always be implemented in the vicinity of high traffic leisure facilities if temporary or lasting capacity overload becomes apparent in the road network. Areas home to high traffic leisure facilities and potentially also other high traffic establishments should be included in all pilot projects relating to road pricing.

The shifting of a substantial proportion of visitor traffic to public transport alternatives or to pedestrian and cycle transport will help to counter road congestion at peak times as a result of visitors travelling to leisure facilities, as well as reducing the burden of facility-related road traffic on local residents and the environment.

Further improvements in local public transport access need to be implemented at many leisure facilities: Possible alternatives here include alterations to the way existing public transport lines are managed, changes to the location of public transport stations/stops, and an increase in the frequency of existing public transport services. In view of the high number of visitors making the journey the best possible station/stop rating should be targeted, ideally involving a railway connection. The leisure facility in question should also

be as directly accessible as possible from the long-distance transport network.

In particular, areas that are home to several high traffic establishments or leisure facilities with evenly spaced visitor flows are suitable candidates for the introduction of facility-specific public transport lines leading to the location in question. Expansion of public transport services should be aligned with usage planning in the vicinity of such locations; a robust local public transport system is best achieved through integrated locations and a usage mix in the surrounding environment, as this will enable high capacity levels that are evenly spread across the day to be met. By contrast, special services to leisure facilities that are otherwise poorly integrated to the main line network (e.g. shuttle buses) should only be considered as a last resort in exceptional situations.

For leisure facilities that attract a significant level of evening traffic, a proper evening/night-time public transport service is an important requirement if people are to be able to return home easily after their visit. Public transportation timetables should clearly be geared around the opening times of the leisure facility or around the start/finish times of the specific events taking place.

At certain leisure facilities, congestion-free access by bus needs to be ensured. This can be achieved with separate bus lanes, traffic light signal-triggering systems and specially designed bus stops, for example. Operational public transport measures need to be more strongly supported than they have been to date by complementary measures in the communication and tariff areas (see section on mobility management below).

Leisure facilities should also be cooperated into the supra-regional and local networks of pedestrian and cycle paths. In view of the great importance played by public transport in facility access, the paths connecting facilities to local stops/stations should be optimally designed: integration into the local signage system for pedestrians and cyclists, direct routing, sufficient dimensions and illumination, a high-quality environmental design and a high level of road traffic safety (road crossings, etc). The immediate points of access to the facility in question constitute another important area of focus. They should be easy to locate with high-quality bicycle storage spaces at the entrances to the leisure facility that offer protection against inclement weather as well as sufficient illumination.

Recommendations on mobility management

Where leisure-related traffic and high traffic leisure facilities in particular are concerned, a mobility management concept should be developed with a view to increasing even further the effectiveness of the infrastructural and service-related measures already taken. The potential offered by mobility management measures is not even close to being fully exploited.

On the local government side, therefore, the function of a mobility manager should be created with responsibility for initiating a strategy for leisure-related traffic and mobility plans for high traffic leisure facilities.

The existing service units responsible for passenger traffic in the public sector or at transport companies – so-called mobility centres – should be used or if necessary built up from scratch to offer information services for leisure mobility, including in relation to leisure facilities.

However, mobility management must also increasingly become a task assumed by the leisure facilities themselves and their service providers. They will after all be the first port of call for visitors, and an entire array of measures could be implemented most effectively in this respect. Furthermore, leisure facilities and their service providers have a particular responsibility to fulfil in view of the significant traffic flows they give rise to.

At each leisure facility, mobility officers should take on the task of optimizing accessibility and the management of traffic flows at the leisure facility in question on the basis of facility-related (and potentially also area-related) mobility plans. These mobility plans should set out the objectives, the measures to be implemented, the responsibilities and the im-

plementation steps, as well as the measures required to review the success of action taken. With this end in mind, the mobility officers of leisure facilities should collaborate with other relevant players (e.g. leisure service providers at the facility, transport companies, and public sector mobility managers). Measures that should be taken by the leisure facility itself or in cooperation with third parties should be elaborated in the following particular areas:

- Available public transport options
- Price incentives for visitors (e.g. staggering of entry fees/prices according to time of day)
- Information and communication measures
- Transport infrastructures/parking & storage alternatives and their management
- Other mobility-related services (e.g. combined leisure/travel tickets)

Sales points or customer desks at the leisure facilities should assume the function of "mobility offices" and actively communicate existing mobility services, including through the available multimedia channels (websites, applications for mobile phones).

For visitors from the supra-regional and regional catchment areas, standardised combined tickets for travel by public transport and entry to the leisure facility should be available and bookable online. Leisure facilities and their service providers should be looking to iron out spikes in visitor demand themselves through facility-related time management (e.g. parking fees that vary according to the time of day, avoiding the coincidence of start times of parallel events, or drawing up special offers for "early birds" or latecomers).

Financing

The cantons and municipalities should agree cost participation with leisure facilities at an early stage if additional measures in the area of access, transport management or mobility management are to be required as a result of the strain placed on transport networks by leisure facility visitors.

Controlling

Up until now, there has been virtually no controlling work undertaken with respect to the impact of spatial planning decisions and traffic planning measures on leisure facilities. The traffic-related objectives stipulated in the various planning documents and the specified measures should be subjected to a systematic controlling process in the future. Here the degree of implementation of measures stipulated (implementation controlling), their effectiveness (effectiveness controlling) and the degree to which targets have been achieved as a result (success controlling) should be evaluated at fixed intervals. In many cases the methodological basis of such approaches has yet to be developed.