

Executive Summary

ACCESSIBILITY MODELS

In 1997 already IPE GmbH has prepared accessibility models for local and regional public transport as well as motorised individual transport (MIT). These models have now been recalculated on the basis of data of 2005 in order to show and analyse the current transport offer as well as the quality of supply of the Austrian population with central facilities such as public offices and schools.

The quality of supply is determined on the basis of the share of the population which is able to reach the nearest regional or supra-regional centre within a predefined acceptable period by MIT or local and regional public transport. All calculations are based on a 250 m population grid which represents the Austrian population very precisely. For each of these almost 270,000 populated grid cells the fastest connection to the nearest centre is identified. The calculations of accessibility in MIT are based on the travel time in the assigned road network (corresponding to the actual road traffic situation in late 2005). As to local and regional public transport travel times to the nearest centre are calculated with the help of station and timetable data (status 2005); however, only acceptable connections i. e. connections with a maximum distance of 1,500 m to the station, a maximum of three transfers and a transfer time of 15 minutes at most were taken into account.

Given that since 1997 the technical opportunities have been substantially further developed and due to more detailed data bases available, the new models can be calculated by means of improved methods. Appropriate adaptations guarantee the comparability of the results of 2005 and 1997.

The consistently high level of **accessibility values in MIT** of the year 1997 has only marginally changed. 98 % of the Austrian population can reach the nearest regional centre within 30 minutes. Between 1997 and 2005 the highest improvement in terms of accessibility has occurred in the Tyrol (the regions of Schwaz and Lienz show the highest increase Austria-wide). Nonetheless, with almost 93 % the Tyrol still occupies the last place among all Austrian provinces.

As many as 88 % of the population can reach the nearest supra-regional centre within 50 minutes. Equiva-

lent to the accessibility of regional centres the highest improvements occurred in those provinces with less favourable accessibility values (e. g. Burgenland shows the highest improvement, but with 69 % still has the lowest total level in 2005). Due to the dense centre structure (Bregenz, Dornbirn and Feldkirch) 98 % of the population of Vorarlberg may reach the nearest supra-regional centre within 50 minutes. In Vienna all citizens reach the nearest (both regional and supra-regional) centre within the pre-defined time frame.

The improvement of accessibility in MIT is above all due to upgrading and construction measures in the road network with upgrading measures in the high-level road network having the greatest effects.

But also local measures such as by-passes have noticeable effects on regional accessibility. Individual deteriorations are due to an overload of the road network as well as to speed limits.

In local and regional public transport different accessibility values have been surveyed. One such value is the access to stations. Here, the share of the population is determined who has **access to a station** at a distance of no more than 1,500 m. If this population is also provided with an acceptable connection to the nearest centre within the pre-defined time interval (in the morning) it is considered covered by local and regional public transport (degree of **coverage**). The degree of **accessibility** describes the share of the population which can reach a regional centre within 30 minutes and a supra-regional centre within 50 minutes.

95 % of the Austrian population have access to a station that is located within 1,500 m distance. Thus the public transport network is equipped with a sufficient number of stations. Compared to 1997 the value measuring the access to stations has slightly decreased as regards the 1,500 m catchment area, with Styria occupying the last place in 2005. This is on the one hand due to a rather disperse settlement structure and on the other hand to a disproportionately high share of railway stations with a relatively bad access to stations, as historically railway stations were located remote from the centre of the settlement.

Almost all those who have a station at their disposal also have an acceptable connection to the nearest regional centre (93 % of the Austrian population), which compared to 1997 is an increase of the degree of coverage of four percent (Vienna not included²). The coverage values are best in the provinces of Vorarlberg (97 %), Salzburg and Tyrol (96 % each). Lower and Upper Austria have seen the highest increase and have now reached values comparable to the Austrian average. In Lower Austria the Traffic Concept of Lower Austria 1997 is responsible for this development, whereas in Upper Austria the Regional Traffic Concept (implementation started in 2000, about half of the measures have so far been realised) has considerably contributed to making local and regional public transport more attractive.

Only 89 % of the Austrian population still disposes of a connection to a supra - regional centre. Here, too, the highest increase has occurred in Lower and Upper Austria, with Lower Austria (84 %) still being below the Austrian average. The worst coverage values have been identified in Burgenland (76 %) and Styria (78 %).

If we include Vienna in this survey (with an degree of accessibility of both regional and supra-regional centres of 100 %) almost three quarters (73 %) of the Austrian population can reach a regional centre within 30 minutes (67 % without Vienna). The values of large and dispersely populated provinces with an unfavourable centre structure are lower (Lower Austria: 65 %, Styria: 64 %, Upper Austria: 63 %). On the other hand provinces with a dense centre structure (Salzburg: 80 %) or smaller provinces with a compact structure (Vorarlberg: 80 %) have the best accessibility values.

With an improvement of eleven percent between 1997 and 2005 Salzburg has obtained the best result. In total the degree of accessibility of the regional centres increased by roughly ten percent.

More than half of the population (53 % Vienna included and 62 % without Vienna) can reach a supra - regional centre within 50 minutes. If we compare the degrees of accessibility with the degrees of coverage, Burgenland (42 %) and Styria (42 %) again bring up the rear. In the Tyrol, too, less than half of the population can reach a supra - regional centre within 50 minutes. In this respect Vorarlberg particularly profits from its small size and dense centre structure (three supra-regional centres: Dornbirn, Bregenz and Feldkirch): 89 % of the population in Vorarlberg can reach a centre of this category within 50 minutes. Thus Vorarlberg ranks on second place behind Vienna (100 %).

In total the degree of accessibility of supra-regional centres increased by five percent with Vorarlberg and Lower Austria (which with 56 % occupies the fourth place behind Carinthia with 57 %) showing the highest increase (seven percent) compared to 1997.

In local and regional public transport – which focuses on the centres – efforts of the past years to better coordinate the existing offer between transport modes and transport providers show results. Total travel times to the nearest regional or supra-regional centre have been reduced through improved transfer relations, shorter ride times and other optimisation measures. The public transport offer has mainly been reduced in low populated peripheral regions, which has little to no effect on the accessibility values (which are based on the share of the population), while connections to the centres have been improved (which has a clearly positive effect on accessibility values).

Concluding we may say that there are some provinces with excellent results regarding all accessibility values (local and regional public transport and MIT, transport to regional and supra-regional centres): e. g. Vienna and Vorarlberg. In other provinces, however, a more differentiated picture emerges: the Tyrol, for instance, shows very good values as regards coverage and access to stations, which is based on the concentrated settlement structure in the valleys (stations located in close vicinity to the centre of the settlement), while accessibility values are considerably below the Austrian average due to long ride and travel times to the supra - regional centres (and/or the low number of centres: Innsbruck is the only relevant supra-regional centre).

In the case of Upper and Lower Austria as well as Styria the topographic conditions (disperse settlement structure, large surface) are reflected in the results (worse values as regards accessibility and access to stations). Gmünd or Waidhofen an der Thaya, e. g., are two of the three regions without accessibility of a supra-regional centre within 50 minutes in MIT).

Summarising it has to be mentioned that the results of the accessibility models express the quality of local and regional public transport (through faster ride and travel times to the nearest centre). Detailed analyses of the current offer in local and regional public transport can be made with the present accessibility model, but were not part of this survey.

2 In 1997 Vienna has not been taken into account, thus the comparisons refer to Austria without Vienna.