

Terms of reference for the city documents for the member cities for the Project URB-AL:

" Integración de la bicicleta en la planeación del tráfico en ciudades medianas en America Latina y Europa. Un programa participativo y interactivo"

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1 Introduction

Parts of the following texts have already been published in the brochure City Traffic in Graz (within the Pacte Hermes project).

1.1 General characteristics of the city, culture and history

With 240,000 inhabitants, Graz is the second largest city in Austria. Almost 360,000 people live in the greater Graz area (Graz and its environs) - i.e. roughly one third of the total population of Styria. The capital city is the cultural, economic and university centre of Styria province.

Graz, the city that is easy to get familiar with, the city with Mediterranean, Italian flair is a stimulating blend of tradition and modernism.

Due to the favourable geographical location, the provincial capital of Graz is an ancient settlement area. The oldest evidence dates back to roughly 2000 BC. The name of the city is Slavic in origin. Roughly translated, "gradeč" means "little castle". The first documentary evidence of Graz goes back to 1128, in 1230 it obtained town status. Even today, magnificent Renaissance buildings bear witness to the fact that the town was for a time the residence of the Habsburg dynasty.

As of the middle of the previous century, the wealthy bourgeoisie ushered in a new period of progress, the so-called "Gründerzeit". The lush green spaces in the inner-city residential areas, the parks and the grid of roads and tramlines are still characteristic features of the centre of Graz.

The city underwent its greatest expansion in 1939 as the result of a process of incorporation. The "young" districts have meanwhile developed into "district centres". In recognition of the consistent effort of preserving the Old Town, Graz is today the seat of the International Town Forum.

But Graz not only has a vital, intact Old Town featuring styles from numerous different eras, it also prides itself on striking examples of contemporary architecture that cause a stir far beyond the boundaries of the city.

Centre and focal point of South-East Europe

As a result of recent geopolitical upheaval in Central and Eastern Europe, today Graz is once again faced with a new challenge. The historically evolved good relationships with its neighbours make the city an interface between the south-east and the north-west of Europe.

City of dialogue and communication

In addition to enhancing the classical infrastructure measures, Graz also promotes new communication and information technologies.

Graz was the first Austrian city on the Internet. It also aims to be a centre of communication for science, economy, politics and culture.

Intellectual and cultural diversity

Graz is the home of three universities. The Academy of Music and Performing Arts has the only chair of jazz anywhere in Europe. The more than 40,000 students attending Karl-Franzens University and the University of Technology lend youthful dynamism to the entire city.

The provincial research association Joanneum Research ensures an active exchange between researchers and the business world. The Cultural City Network, combining the most important cities of the Alps Adriatic Pannonian region, is chiefly organised from the base in Graz.

The almost 30 year old avantgarde festival "Steirischer Herbst" is still setting the course in all things cultural. The centre of literature "Forum Stadtpark" made Graz the literature capital of the German-speaking world. The star of the summer festival "Styriarte", centred around classical music, is conductor Nikolaus Harnoncourt from Graz.

Within Europe, too, Graz has been recognised as a central node in the south-eastern European city network. For its intensive cultural contacts with other nations, the city was awarded the European Prize by the Council of Europe in 1979.

In 1993, Graz was commissioned to carry out the "European Culture Month".

In 1999 the mediaval city centre of Graz became a UNESCO colutural world heritage.

The city is striving to obtain the title of "Cultural Capital of Europe" by 2003.

0.2 Demographic characteristics

Graz is the second largest city in Austria with a population of about 240.000 (greater Graz area 360.000). The share between men and women is about 115.000 to 125.000. The share of foreigners is at 12,4 %.

Due to an ongoing urban sprawl the population of the city itself is slightly shrinking. The population of the greater area is raising.

The share of the population in different stages of ages is:

One – 15 years:	13,8
15,1 – 60 years:	63,6
older than 60 years	22,6

0.3 Geographic characteristics

Graz is situated in the South-east of Austria with a distance of about 60 km to the border of Slovenia and also about 70 km to the border to Hungary. The city is surrounded by mountains (500 m up to 1500 m) in the North, West and East. Only the Southern part is open for expansion. Due to this location the weather conditions show very seldom a windy situation. Therefore the current air pollution reamins longer than in other cities. This problem especially occurs in winter when Graz shows inversions.

The city itself has an area of 127 qkm and is devided in two parts by the river Mur. In the middle of the city is the Schlossberg, a huge dolomite rock where the medieavel castle has been built.

What is very positive for the use of the bicycle are ths short distances and almost the the lack of altitude differences.

The climatic situation in Graz provides warm summers and cool winters. The average yearly temperature is about 9,5 degrees Celsius. Graz is in influence of moderate climate mixed with Pannonian climate which means that the annual precipitation is about 830 mm.

A view on the split of precipititation of all month (between 7:00 and 9:00 in the morning, which is the time of home-to-work trip) show that at least 23 days per month are free of rain at that time.

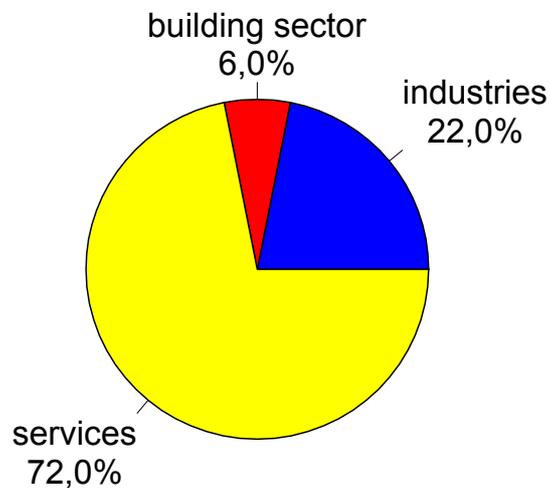


0.4 Economic characteristics

Dynamic economy - successful companies

More than a third of all Styrians work in the provincial capital. Graz has a fine international reputation thanks to its motor vehicle industry (Steyr-Daimler-Puch, Chrysler-Eurostar, engine designer AVL List or Siemens-SGP-Verkehrstechnik).

The unbundling in Graz show the following picture:



2 Traffic and transport

2.1 Description of the actual traffic and transport situation

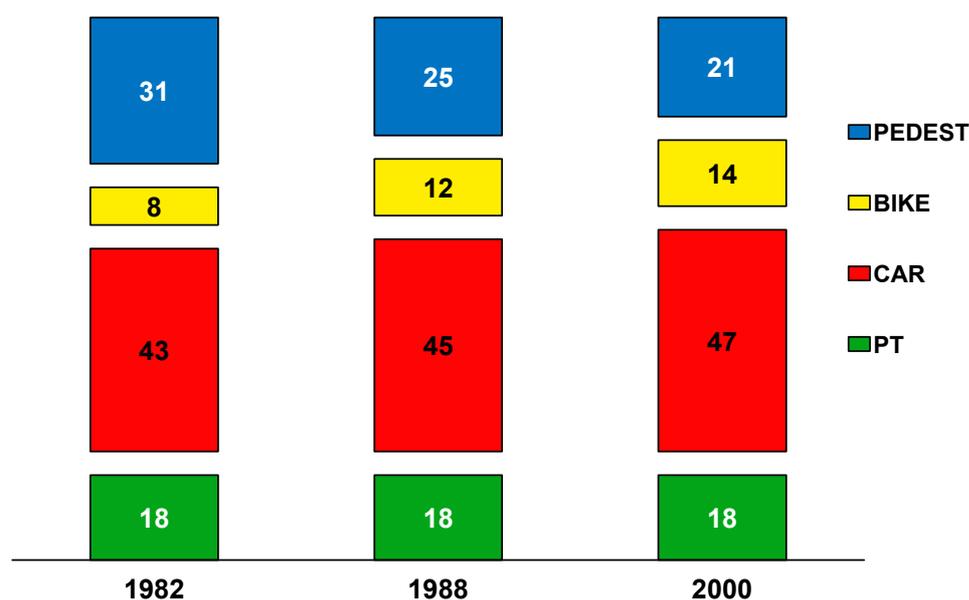
2.1.1 description of the actual situation

In general Graz has a slightly positive modal split concerning the use of environmental friendly modes of transport.

The modal split in Graz show a very stable share for public transport (18%). The share of pedestrians is decreasing rapidly (1/3 within the last 20 years). The share of bicycle use has increased from 8% in 1982 to 14% in 2000.

In the city centre the share of bicycle use is already at 22%.

Despite of all efforts the share of car use is still increasing.



Statistics on the city of Graz and traffic¹

Area	12,758 ha
Population	240,066
Gainfully employed	156,475
- commuters	66,868

Private transport

Total vehicles	135,454
- cars	110,808
Average cars per household	1.23
Road network	875 km
- major roads	201 km
Traffic signal facilities	117
Pedestrian push-button traffic lights	109
Short-term parking spaces	9,600
Car park spaces	4,500
Cycleway network	84 km
Pedestrian zones	48,000 m ²

¹ Data as available between 1991-2000

Inner-city public transport

Tramline network	49.5 km
Bus route network (GVB)	192.6 km
Number of tramlines	7
Number of bus lines	30
Passengers	98 million
- by tram	56 million

Modal split (data from 2001)

Car drivers	39 %
Car passengers	8 %
Public transport	18 %
Cyclists	14 %
Pedestrians	21 %

Road safety (data from 1999)

Accidents with injuries	2336
Pedestrian accidents	273
Bicycle accidents	369
Death	16

Commissioned by the city of Graz Stadtbaudirektion - Referat für Verkehrsplanung. With the support of the EU/GD XVI as part of the "Pacte Hermes" project - modified.

2.1.2. vehicle congestion

One of the big problems of Graz concerning vehicle congestion are the about 70.000 commuters coming to Graz every day.

Another problem is the park search traffic in the city centre.

A third big traffic generator and therefore responsible for vehicle congestions are the big shopping centres in the outskirts of the city.

2.1.3 parking space

Stationary traffic

The concept of parking space management in Graz is proving to be an effective instrument for controlling car traffic. The aim is to shift commuter traffic to public transport.

The main objectives are to facilitate necessary car trips for business and shopping purposes and to improve parking facilities for local residents.

The resulting free public space can be used for public transport, pedestrians and cyclists.

Parking space management

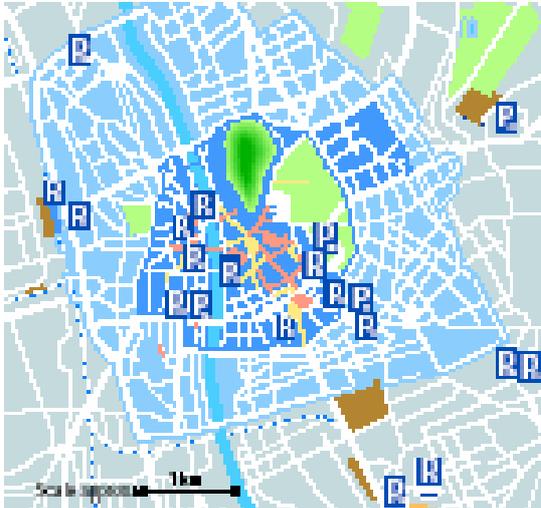
In 1995, 12,500 permanent roadside parking spaces were available in the belt zone. Of these, approximately 8,000 were short-term parking spaces for 1.5 to 3 hours ("blue zones"). In May 1997, the number of short-term parking spaces had increased to 9,600.

The maximum parking term was extended to 3 hours for all spaces. Costs: 1 Euro per hour. A private firm ensures optimum monitoring. the net proceeds from the parking space management system are earmarked for expansion and enhancement of public transport facilities.

The money earned from parking space management (fees and fines) is used directly for public transport).

Car parks

In the period from 1995 to 1997, the number of car park spaces rose from 3,400 to 4,500. At the periphery of the historical Old Town, the aim is to create a maximum of 1,500 car park spaces as a result of private sector initiatives. These spaces must be located on major roads so as not to attract additional traffic to the traffic calmed inner-city area.



Areawide paid parking in the city centre.

Future projects

A parking commission comprising representatives of all affected parties will continue to develop on the parking space management concept.

The parking space management system is planned to be extended to embrace all highly developed zones of the belt and district centres. The park&ride facilities (currently located at the Ostbahnhof and Weblinger Gürtel) at the edge of the city are to be increased. By providing regional park&ride facilities, the aim is to make public transport more appealing than the car even in the outlying areas of Graz.

2.1.4 public transport

Public transport

By consistently promoting public transport, the aim is to reduce the percentage of trips by car to 41%. Currently it is 46%: If no suitable measures are taken, it could increase to 49% by the year 2005.

As a result of overdevelopment and the growing residential population, above all car traffic to and from the outlying areas of Graz has rocketed in recent years. We can expect to see an increase by more than 25% in the next decade.

Along the lines of the objectives of "Gentle Mobility", this increase must be cushioned by shifting over to public transport. In 1991, the percentage of trips by public transport in Graz was 18%. The "Guidelines 2000" aim to step this level up to 21% by 2010. In order to do so, it will be necessary to increase the capacity of regional public transport by approximately 50%.

Making public transport more attractive

Buses and trams run at regular intervals. Measures aimed at speeding them up and increasing comfort must go hand in hand. The modernisation of public transport vehicles will involve promoting the user-friendly low-entrance technology. Several model routes have already enhanced the efficiency of public transport. They are characterised by separate lanes, traffic light signal influencing by means of priority systems, attractive shelters and park&ride facilities (e.g. at the Ostbahnhof railway station), and also low-noise turf-cushioned rails for trams in residential areas.

The net surplus obtained from the parking space management system is used for optimizing and expanding the public transport network.

Expansion of the tramline network

In 1999, the electric tram in Graz was 100 years old. Today its network of lines is the basis of all public transport. The aim is to break up the inner city, to build a new tramline to the south-west of Graz and to extend the number 6 line. Optimizing operation of public transport has always been the prime concern in our planning work.

Reconstruction of Jakominiplatz

Jakominiplatz is not only a central node of public inner-city transport, but is also a major interchange location for regional buses. Every day it is frequented by more than 100,000 people. Reconstruction of this square was the most important public transport building project in Graz in this decade. It was a necessary prerequisite for the planned increase of frequency and expansion of the tramline grid.

The FGM-AMOR (Forschungsgesellschaft Mobilität- Austrian Mobility Research) co-ordinated the EU-wide CENTAUR traffic project for Graz from its headquarters in Graz.

With its 5 projects, the city of Graz is the biggest partner in Europe. A mobility centre designed to be an extensive service and information office for all matters of public and non-motorised transport was opened in autumn 1997.

Grazer Anruf-Sammel-Taxi

One innovative project is the "Grazer Anrufsammeltaxi" (GAST). This service has been tested in two sparsely populated fringe areas with inadequate public transport links.

Taxis bring passengers to and from public transport terminus stops during evening hours until the lines stop running. Owing to its great success, the GAST system has been provided all over Graz at the end of 1997. It is accompanied by a night-taxi system. Meanwhile different kind of night taxis exist such as special women taxi or taxi for young people. Also event related taxi systems are available like theatre taxi.

"Verkehrsverbund"

After many years of preparations, the first stage of implementation of the "Verkehrsverbund Großraum Graz" (south, east and west of Styria) was put into effect. Even in the first years of operation, the number of passengers rose by 16%.

Since March 1997 (second stage of implementation), the Verkehrsverbund area has covered the entire province of Styria and its 1.2 million inhabitants. In addition, services and facilities have been improved. At last count, 51.9 million passengers were transported.

The costs of the Verkehrsverbund are borne by the local authorities of Graz, Styria province and the federal government.

Improved international and regional links

A crucial criterion for the provincial capital of Graz is coming to terms with commuter traffic in an environmentally friendly manner. This is why the expansion and construction of a regional rail system is being pushed ahead. The new design of Graz main railway station will ensure train users improved rail/tram links.

Link-up with the high-speed rail network

The extension of the Südbahn from Vienna, via Graz and Klagenfurt to the Italian border according to the criteria of a high-speed route seems to be an urgent necessity.

In addition to linking up with international routes, it would also be possible to increase the efficiency of regional traffic in the Graz area. By modernising and expanding the other major rail lines (e.g. Graz-Maribor, two-rail), more efficient day-to-day passenger services from and to Graz could be guaranteed.

The planned construction of a future-oriented goods terminal in the south of Graz will also entail a noticeable relief in the provincial capital in terms of goods traffic.

2.1.5 public space

2.1.6 the actual situation of non motorized transport (cycling and walking)

Pedestrians

Walking is the oldest, simplest and most environmentally friendly means of locomotion.

The percentage of pedestrians in Graz has been steadily dropping in recent years. The reasons for this development are the destruction of urban structures by car traffic, increasing overdevelopment, and growing motorisation.

In 1991, the percentage of trips on foot was 24%, a further drop in pedestrians to 21% is forecast by the year 2000.

"Space for people"

In 1986 the city of Graz began to implement an innovative inner-city traffic concept based upon the philosophy of "Gentle Mobility". The historical Old Town and the Mur suburbs were designed as interconnected pedestrian zones and partly made accessible to cyclists. Pedestrians are less exposed to hazards in traffic-calmed zones. The inner-city was recovered as a space for diverse activities.

A shining example

Graz was honoured as "Austria's most pedestrian friendly city" in 1992. In 1993, the provincial capital distinguished itself as the winner of the "road traffic safe for children" scheme of the "Kuratorium für Verkehrssicherheit". In 1994, the city was again distinguished within the VCO scheme "children on the road".

Future prospects

Work is continuing with regard to creating an extensive, convenient, safe network of pedestrian walkways, above all in the peripheral and outlying districts. The aim is to link up the different parts of the city with the aid of pedestrian "axes". Small footpath grids make housing areas more accessible. All the major destinations of the nearby residential area (shops, schools, public transport stops) should be easily accessible on foot.

Cyclists

As a "gentle" means of transport par excellence, the bicycle plays an essential role in the holistic traffic concept of Graz. In recent years, a complex cluster of measures has been implemented for cyclists.

Starting from the city centre, an extensive network of cycleways runs out into the peripheral districts. 190 km of cycleways and cycle routes are in planning. 80 km had already been completed by 1994. A well aimed image building campaign helped increase the percentage of cyclists to 12% in 1991. Currently at 14%, the aim is to step up this level to 16%.

Right of way for cyclists

In order to shorten distances for cyclists, one-way streets were opened up for bicycle traffic and exceptions of no-entry regulations and restrictions were approved.

Room was made for cycleways and cycle parking spaces by reducing the road area dedicated to motorised traffic. Adequate service facilities are available for cyclists. The socio-economic "bicycle" project backed by the Areitsmarktservice hires bikes and runs a bicycle garage.



Velo-city 1999

Graz and Maribor organised the "Velo-city congress" in April 1999. For Graz, this was an additional incentive to push ahead expansion of the city's cycleway network.

After completing the inner-city grid, the radial links between outlying districts and the city centre are to be expanded and also tangential links and leisure routes to the surrounding regions.

2.2 description of actual and existing policies

2.2.2 traffic policies

The long road to "Gentle Mobility"

As early as the seventies, strategies were conceived with the aim of catering for the urban need of mobility and, at the same time, minimising the negative effects on human beings, the city and the environment.

City inhabitants are underway on average for just one hour a day. The other 23 hours they are subjected to the consequences of other people's mobility.

In the urban area it is thus a question of finding a balance between fast, reliable accessibility of destinations and the need of quality of life.

Cross-transport concepts

Road construction and public transport concepts were long closely linked. But all elements of urban traffic are interdependent. Supply and demand influence both mobility behaviour and the means of transport selected by the population and, thus, in the end urban development as a whole. This realization induced those responsible to devise cross-transport concepts.

Turning away from car-orientated mobility

In the period between 1977 and 1985, the city of Graz elaborated a "cross-transport solution for the east of Graz" (VÜP). This concept took into account all the means of transport and their specific strengths and weaknesses. The results of this analysis made it clear that a one-sided promotion of motorised private transport must be renounced.

Only by making public transport services more attractive (trams and buses) would it be possible to better come to terms with traffic and to enhance the quality of the environment (without interfering with the accessibility of the inner-city).

The cluster of measures unanimously approved by the local council plans to promote buses and trams in combination with introducing a car parking space management system.

The road grid is only to be extended if the burden on local residents becomes unbearable. It is not planned to increase capacities.

Guidelines 2000

The principles of "Gentle Mobility" acted as the basis of the "Traffic policy guidelines 2000" that were approved by Graz council at the end of 1992.

The "Guidelines 2000" define the five objectives of "Gentle Mobility" as well as strategies of implementing them. They are fine-tuned to the Austrian holistic traffic concept of 1991 and the Styrian holistic traffic concept of 1991.

GUIDING OBJECTIVES

Good accessibility of all destinations for city, regional, long-distance and goods traffic

The accessibility of the city in general and also specific inner-city destinations should be improved for all road-users. It is essential to boost the attractiveness of public transport in view of the vast amount of catching up to be done.

Short distances

Overdevelopment and shopping centres "in the countryside" always involve flows of motorised traffic. A suitable zoning policy should take corrective action and promote the infrastructure in affected district centres.

Balanced distribution of means of transport

- The percentage of pedestrians and cyclists in the total traffic volume should be increased
- the percentage of public transport should be increased and
- the percentage of motorised private transport should be reduced to an ecologically justifiable level without interfering with business.

Socially and environmentally compatible traffic

The total volume of traffic should be adjusted to the setting by means of transport-specific speed limits with the aim of making traffic safer, more ecologically compatible, and in keeping with the requirements of the city.

Grass-roots planning and public participation - public awareness

Traffic policy is democracy in its "purest" form. A changing situation of mobility has a noticeable impact on citizens every single day. New traffic concepts can only be successful if they are backed by grass-roots PR work. The guidelines of "Gentle Mobility" are thus the result of a long public debate between politicians, traffic experts and the general public. Traffic policy has become a "laboratory" of democratic decision-making in Graz. The high level of acceptance of the measures became evident in June 1995 when two referendums clearly approved the concept of "Gentle Mobility".

GIVE

Another step on the road to "Gentle Mobility" is the holistic traffic concept "Grazer Integrierte Verkehrs-Entwicklung" (GIVE), approved by Graz council at the end of 1995.

Experts elaborated and discussed with the public a 215-point "General Programme of Measures" designed to implement the objectives. These measures include all road-users.

GIVE comprises emphasis projects, guidelines for routine action, and co-ordinated traffic policy measures in collaboration with neighbouring regions, the provincial authorities and federal government.

Traffic organisation concept

The regulations designed to restrict car traffic to a "necessary" level (business and shopping traffic) are concentrated in an integrated traffic organisation system for the city centre. Additionally, a speed limit of 30 km/h has been introduced for all roads with the exception of major roads.

Traffic organisation in the city centre is based on the centrally located pedestrian zones, some of which are also used by trams. These pedestrian zones are surrounded by areas that can be used by pedestrians and cyclists. This area is adjoined by roads that can be accessed all day for loading purposes and by local residents, but which are closed for all other traffic. Outside this area there is a closed zone with uniform parking regulations. Parking is allowed up to a maximum of three hours. This closed short-term parking zone is adjoined by an area with some short-term parking roads.

2.2.3 objectives of existing traffic plans

Quo vadis Graz - a city for people or for cars?

Up until well into the sixties, the car promised mobility for everyone. But the dream of unlimited mobility soon turned into a nightmare.

Owning one's own car was the surest sign of successful reconstruction after World War II. At that time, as in most other European cities, too, traffic and urban development policy in Graz was geared to the needs of motorised private transport.

Traffic policy was seen as a cluster of measures designed to expand the road network. With the aid of high-performance roads, the aim was to step up the flow of traffic and thus reduce fuel consumption and pollution. In order to make room for cars in Graz, tramlines were discontinued or shortened, the only trolley bus line was shut down. Courtyards were turned into car parks. Unspoilt residential areas, green spaces and avenue trees had to yield to the car, historically evolved urban structures were destroyed.

Yet traffic is not a matter of statistics. More and better traffic facilities mean more traffic. The basic problem remains unresolved and reoccurs all the more seriously with a certain delay.

The rapidly increasing number of cars on the roads and the growing pollution were recognised as a menace to the quality of life, aggravated by the fact that Graz is located in a basin which makes car exhausts all the more noticeable. Particularly in winter, inverted atmospheric conditions often engender periods of smog. There seemed to be no way out of this disastrous vicious circle.

The noise caused by the traffic was felt to be more and more of a nuisance.

To make matters worse, Graz had run up an adverse traffic safety record in the eighties compared to other regions in the country and other countries.

A time of change and decisions

The impending traffic disaster soon motivated politicians in Graz to renounce their car-friendly road planning policy. The decision to do so was certainly facilitated by the fact that the inner city of Graz is by no means suitable for cars, with its narrow streets whose appeal was rediscovered by more and more people.

In order to be able to forecast and control the future traffic development and the consequences for the Graz area, the first step was to survey the current traffic situation and to analyse the problem areas. The aim was to enhance traffic and living conditions in the city. To this end, experts devised three scenarios concerning the effect of traffic policy measures by the year 2010. The most compatible scenario in terms of the needs of people and the city was to become the foundation of a forward-looking model and, at the same time, the basis of a general concept of measures.

A major problem in Graz - roughly 70,000 people commute into the city every day

Car traffic from the surrounding area has rocketed in recent years. The trend is still upwards. The reasons for this can be found in ongoing overdevelopment, increased motorisation, and the unsatisfactory public transport services.

By consistently implementing the guiding principles of "Gentle Mobility", the aim is to shift the rise in car traffic to public transport.

Plans for the future - three scenarios as a basis for traffic policy decisions

The starting point for investigations was a motorisation forecast estimating an approximately 25% increase of motor vehicles in the greater Graz area by 2010.

"Trend" scenario

If the traffic infrastructure is adapted to the needs of the fast growing number of motor vehicle users, the percentage of motorised private transport rises by 30%. The percentage of public transport, pedestrians and cyclists drops noticeably.

Urban quality of living and life worsen badly, inner-city zones are devaluated and overdevelopment pushed ahead. Noise and pollution increase, road safety continues to deteriorate for pedestrians and cyclists.

"Car friendly" scenario

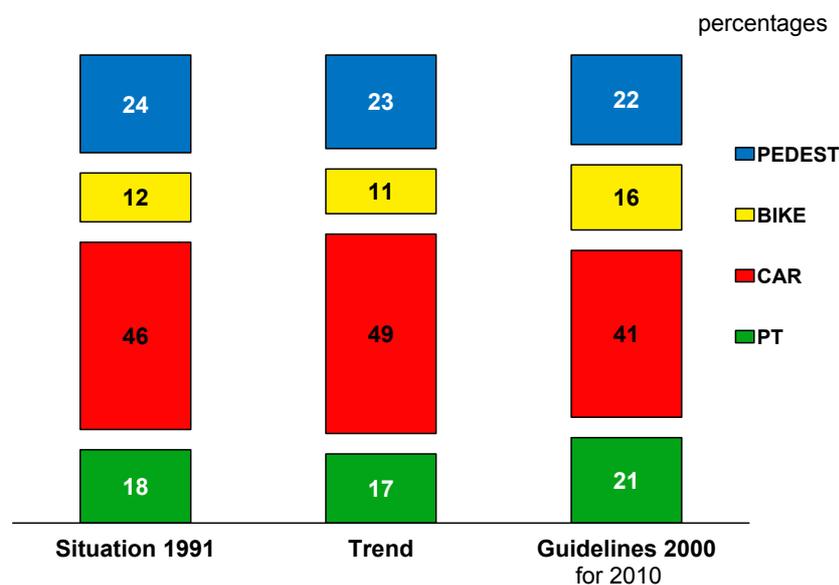
If car traffic is intentionally promoted, the negative effects forecast by the "Trend" scenario become all the more evident. Even parts of the historical Old Town would have to make way for roads and car parks.

"Gentle Mobility" scenario

This scenario means consistently promoting pedestrians, cyclists and public transport. It also plans regulatory measures aimed at restricting car trips to a tolerable minimum and facilitating indispensable trips.

A slight reduction of CO₂ emissions and a clear lessening of all other measurable emissions are the result. An analysis of these scenarios led to a clear realization. Only by implementing the guiding principles of "Gentle Mobility" would it be possible to preserve and enhance the quality of life and the mobility required by the business world in Graz.

It was thus approved as the "Traffic Policy Guideline 2000" by the local council in December 1992.



Source: G. Sammer; G. Röschel, V. Saurugger; Ziviling.-Büro sammer, Graz

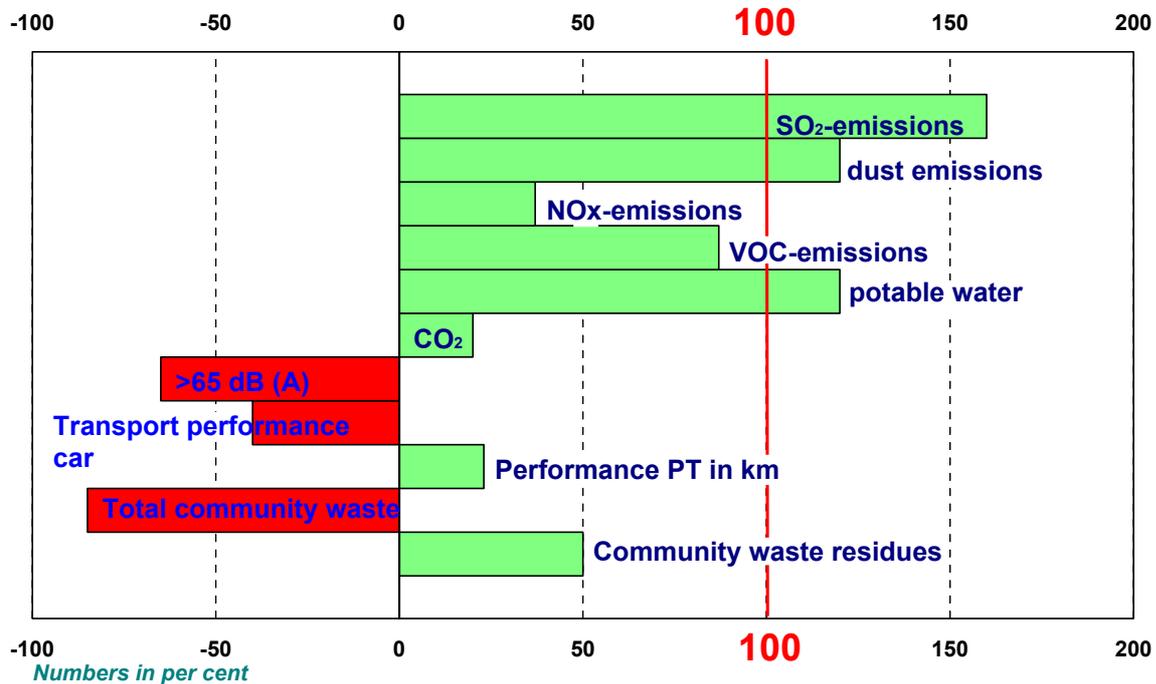
Graz and the Local Agenda 21

In 1995, Graz passed a Local Agenda 21 which included a comprehensive action programme with ecological, economic and social aspects.

The programme contains clear quantitative objectives (so-called sustainability parameters) for the fields of noise, air, energy and climate, transport, waste, water, soil, nature and green areas, which are to be implemented on the basis of 9 action programmes and 224 measures in total (see chapter 2.2.2. – GIVE); the active participation of the people is regarded as highly important. An evaluation of the measures and actions in 1999, which was undertaken under the umbrella term "Eco-City 2000", has shown that certain measures (e.g. the reduction of harmful substances or water protection) proved to be very successful and that it was even possible to outstrip the initial objectives. In other areas, however, such as for instance in the field of traffic and noise reduction, it was not possible to bring about a change. To be able to guarantee sustainable development in these fields as well, the City Council of Graz decided to pay greater attention to these areas.

Degree of fulfilment of sustainability parameters

(objectives achieved = 100%)



Objectives in numbers (from the TRENDSETTER project)

TRENDSETTER's objectives are to meliorate urban air quality and noise levels, and congestion while supporting exceptional mobility and urban quality of life. It will help other cities see how they can curb unsustainable traffic growth by using advanced mobility management schemes combined with clean vehicle fleets. TRENDSETTER is a project under the EU-DG TREN CIVITAS call. TRENDSETTER aims to promote the use of public transport and other alternatives to private cars but also show new ways to improve goods logistics and efficiency. TRENDSETTER will contribute to these objectives by meeting

Environmental objectives:

- Reduction of fuel consumption of 4700t per year when the measures of TRENDSETTER are introduced.
- Reduction of transport related CO₂ emissions by 24.700t/year.
- Reduction of transport related emissions (HC 103t/y, NO_x 69t/y, and particulate matters 8t/y)
- Duplication of the volume of collected edible oil in households

All reductions are calculated against the prevailing trend.

Safety goals:

- 3% reduction of the accidents with bodily injury within TRENDSETTER.
- 20% increase of compliance with speed regulations.
- Mobility goals:
- 20% increase of participation of handicapped people in public transport.
- Break the trend of decrease of public transport use from the last three years.
- Increase of bicycle traffic of about 5% within TRENDSETTER.
- Increase of combined modes B&R and P&R of 25%.
- Reduction of car use for the home to school traffic of 20%

Awareness goals:

- Increasing level of satisfaction with the quality of PT of 15% (users)
- Increasing level of satisfaction with the quality of bicycle policy of 12% (users)
- To reach a recognition rate for edible oil collection actions of 70% of the households.

This will be done through a combination of measures aiming at a:

- 100% CO₂ free bus fleet (bio-diesel, unique in Europe). Combination of collection of waste (edible oil), mobility consultancy and supporting of sustainable modes
- At year 2005: 60% of the taxis in Graz run on locally produced bio-diesel
- Increase in the use of public transport beyond the city borders by introduction of new PT services.
- 50% increase in car occupancy with respect to commuters crossing the city borders in Graz and a reduction of cars used for the ways to school by 20-30 %
- Increase of bicycle use by implementing a bicycle quality plan (bike&ride, digital bicycle map, bicycle training, reduction of barriers).
- Reduction of environmental negative effects by encouraging social and environmental friendly modes (awareness campaigns).
- Reduction of congestion hours by keep the traffic flowing and by reduction of parking search traffic (traffic management system, guidance system).
- Improved logistics in inner urban freight transport.
- Improvement of collection system for edible oil for households and restaurants.
- Implementing of quality assurance for PT and improving the linkage of PT with other modes and PTstops.
- Increase of punctuality of Public Transport by prioritisation by using telematics for PT

2.2.4 policies for public transport

In general Graz is consistently promoting pedestrians, cyclists and public transport. Among others there are some specific policies that should make public transport services more attractive:

- closing the gaps in the tangential public transport system. Graz has a very good public transport system which is orientated radial to the city centre. The direct connection of suburban districts without going through the city centre is one of the policies that will be implemented in the moment and in the future.
- Graz is modernizing it's fleet by purchasing low floor vehicles.
- The whole public transport bus fleet will be replaced with clean vehicles driven by biogas (edible frying oil).

2.2.5 legal laws and institutional aspects

The 30/50 km/h speed limit in Graz

The decisive, fiercely debated "Gentle Mobility" approach was backed up in 1992 by the "30 km/h limit for all residential areas in Graz - excepting major roads" experiment.

The 30 km/h speed limit applies to more than 75% of all roads in Graz. A limit of 50 km/h applies only to major roads and collector roads with important public transport lines. In addition to an information campaign, the police have been closely monitoring adherence to these limits.

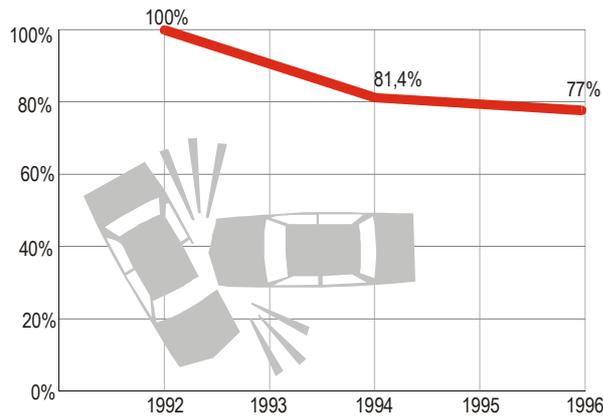
Extensive traffic calming

An experiment on this scale is the only one of its kind in Europe. That is why a two-year test phase was conducted between September 1992 and August 1994, combined with a scientific analysis of all effects. At the initiative of Ruth Feldgrill-Zankel, vice-mayor of Graz, it was also possible to obtain a regulation backed by federal legislation, too.

Positive effects

During this experiment, the number of injured persons and the severity of accidents dropped dramatically. The number of injured pedestrians dropped most. The selection of routes opted for by car drivers has changed only marginally, as also exhaust gas pollution. Fuel consumption was not negatively influenced. The subjective noise burden on local residents in traffic calmed streets dropped noticeably. Average speeds also decreased demonstrably.

On the strength of the effects that were observed, the 30/50 km/h speed limit was firmly established in Graz. The majority of the population has meanwhile overcome any initial rejection. In June 1994, even 2/3 of car drivers were in favour of this measure - just 1/3 in June 1992.



Reduction of accidents after the implementation of T30 speed limit in Graz.

Mobil Zentral - The mobility centre in Graz

Mobil Zentral, the first Austrian mobility centre opened in September 97. It mainly offers information for all 50 public transport companies of Styria on tariffs, timetables by phone, fax and personally. Since then it is possible to receive comprehensive information and services from one service point. Other activities include marketing for special target groups, sale of tickets and maps, bike and bike trailer rental. An additional offer is the car sharing information and membership.

Zweckbindung der parkeinnahmen in ÖV Investitionen

2.3 objectives and policy on urban growth

The nucleus of the city of Graz within the city ring is dominated by high-density buildings, and many of the city's public administration and education facilities are located here. In contrast to this, the area outside the city ring is characterised by extensive, low-level, heterogeneous developments, interspersed with some high-density clusters of greatly varying scale, and generally appearing to lack structural order. This leads to a lot of problems in the urban development. With the new urban development concept of the year 2002 the city wants to countersteer this developments.

Like in a lot of European town Graz is in competition with its surrounding communities in matters of the settlement of industry and shopping centers. Graz also losses inhabitants to a strong growing periphery. One of the main political objectives is a regional co-operation with the adjacent communities to solve the problems of urban sprawl, sub urbanisation and transport. Therefore an overall development concept for the region of Graz and its environments (approx. 350.000 inhabitants) was worked out in the year 1999. Also a regional development association was founded to assist the reaching of this goals. The function of Graz as capital of the province of Styria and as "core city" of the regional should be strengthened. On the other side the recreation function of the surroundings should be conserved but also a development of residential areas and industry in qualified location should be possible.

In the light of recent political developments, and particularly the eastern expansion of the EU, Graz and the region hopes to emerge in the near future as a new hub between the South and the East. It will thus not only maintain its dominant position in southern Austria but will also increasingly serve as a centre for the industries and services of Slovenia, Croatia and Western Hungary. The southern part of the city of Graz is expected to play a central role in the future economic development of the Province of Styria due to its excellent transport facilities and connections (an airport, two railway lines and two motorways).

Within the city boundaries Graz wants to mobilise the reserves of land for residential and industrial areas. The future development and increase of inhabitants of the regions should be focused within the city boundaries.

There is also the need for an overall regional transport concept in the whole region because Graz is not able to solve the traffic and transport problems on its own. One of the main goals is the extension of the Public transport to the region. Dense residential areas should be focused along the main PT-corridors.

There is also given a priority to the protection of agricultural surfaces and the so called "Green-belt" in the periphery of Graz.

3 General focus of the study

3.1 objectives

3.2 socio- economic factors

4 the study

4.1 characteristics of the actual cyclists

4.1.1 age and gender

In Graz the whole population is cycling there aren't big differences between gender and ages. But no special survey has been carried out. – Therefore no data available.

4.1.2 education level

No special survey has been carried out. – Therefore no data available.

4.1.3 occupation and economic situation

No special survey has been carried out. – Therefore no data available.

4.1.4 motives for using the bicycle

Bicycle use in Graz is a kind of culture. It may be traced back to the fact that Graz has a lot of students (more than 40.000) who used their bicycle when studying and kept on using it after the finalisation as a habit.

Surveys on special kind of trips, like the home to work trip, showed that the criteria

- cycling is fast on distances up to 5 km.
- cycling is good for health / fitness (especially for persons who have an office job)
- cycling is flexible (concerning the availability, use in the city centre and the parking)

are the most often mentioned ones.



Besides this many persons argue pro-cycling because they say “cycling is fun”.

4.1.5 origin and destinies most frequent

The bicycle track network shows three main routes which are heavily occupied besides a lot of connection routes.

- 1.) The first one is the North-South – Route along the river Mur which is actually a part of the comprehensive bicycle route for leisure trips which accompanies the river from its origin to the border of Slovenia. In Graz it is also the main North-South-Connection which passes the city centre.
 - 2.) The second one is the access to the main railway station via the Keplerstrasse.
 - 3.) The third ones are the routes which make the centre accessible.
- Additional mentioned should be the bicycle routes which lead to the Universities.



4.1.6 estimation of quantity of bicycles in the city

Within the city centre the modal share on bicycle is already 22%. An estimation for the future is quite difficult but an increase from 14% bicycle up to 19% seems to be possible.

Second part (after the first seminar)

Towards a new policy for cycling promotion

5 The potential for bicycle use

5.1 Strengths for promoting bicycle use

5.2 Weaknesses for promoting bicycle use

5.3 Opportunities for promoting bicycle use

5.4 Threats for promoting bicycle use

6 Policies for promoting bicycle use

6.1 How to start ?

6.2 objectives

6.2 How to define a network ?

7 Realizing the objectives: Institutional aspects

7.1 Integration of focus groups

7.2 Integration of departments

8 Realizing the objectives: Infrastructure

8.1 *Bicycle lanes*

8.2 *Parking facilities*

8.3 *Maintenance*

8.4 *Traffic signals*

8.5 *Legal aspects*

9 Flanking policies: Promotion and traffic education

10 Financing to realize objectives

11 Continuity