

TRANSPORT MASTER PLAN VIENNA 2003

Abridged Version

Produced by the staff of the Vienna City Administration

on behalf of the Vienna City Administration
Municipal Department 18 –
Urban Development and Urban Planning
Transport Planning and Regional Development Section

Imprint:

Owner and Publisher:
Stadtentwicklung Wien, Magistratsabteilung 18
info@m18.magwien.gv.at

Responsible for the contents:
DI Angelika Winkler, MA 18
wia@m18.magwien.gv.at
DI Sigrid Oblak

Technical coordination:
ECHO Werbeagentur GmbH

Design:
Isabella Posch, ECHO Werbeagentur GmbH

Lectorate:
ECHO Werbeagentur GmbH
DI Sigrid Oblak, MA 18

Translation:
eurocom Translation Services GmbH

Pictures:
Wiener Hafen, Bildarchiv MA 18

Print:
AV+Astoria

© Vienna 2006 (updated edition – see fig. 9, p. 29)

ISBN: 3-902015-58-6

Introduction	5
1. Starting Position	6
2. Transport policy model	10
3. Mobility	14
4. Traffic safety	19
5. The road network and public spaces	20
6. Pedestrian traffic	22
7. Cycle traffic	24
8. Public transport	26
9. Motorised individual transport	29
10. Stationary vehicles	31
11. Shipping	33
12. Air transport	34
13. Mobility management	36
14. Awareness raising	38
15. Steering instruments	39
16. Measuring and managing success	40
17. Effects of the programm of measures	41
18. Priorities, financing	42
Appendix	45
List of illustrations and tables	52
Staff	53

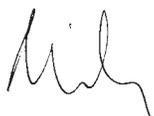




The last Vienna transport concept was decided on in 1994. Many measures have been implemented, for instance parking space management and the further expansion of the U-Bahn and cycle tracks. However, many of the underlying conditions have also changed significantly since 1994, and therefore it is time for a new plan: the Transport Master Plan Vienna 2003.

The Transport Master Plan Vienna 2003 closely addresses Vienna's role within the new Europe: Vienna as TEN node, Vienna as the potential main beneficiary of the expansion of the EU, Vienna as a technology metropolis and economic location. However, within this broad framework, the Master Plan 2003 also defines specific strategies and measures addressing the special transport needs of Vienna. In producing the Master Plan, new standards were set in terms of the participation of the population, district authorities and institutions: the everyday "transport experience" of Viennese citizens, as well as the opinions of transport experts, were incorporated into one of the most extensive public participation procedures in Austria. The result is a modern and future-oriented transport concept for the next 20 years.

The Transport Master Plan Vienna 2003 is innovative, but not utopian. It is oriented around clear priorities, but is not fundamentalistic. It is specific but not constrictive. It is open to the new Europe, but is a plan for the future of Vienna. The aim now is to implement the Transport Master Plan Vienna 2003 as fully as possible over the next 20 years.



Executive City Councillor for Urban Development and Transport
Rudolf Schicker



1. Starting Position

The City of Vienna's Transport Master Plan for 2003, in dialogue with its citizens, sets the direction of the development of the city's traffic systems for the next twenty years. On the one hand, the positive developments of the past will be maintained, while on the other hand Vienna is facing up to new challenges such as the imminent enlargement of European Union. The central focus of all aspects is the competitiveness of Vienna as a business location. In addition, inter-regional traffic flows need to be linked and managed. All of these factors need to be dealt with without adversely affecting the quality of life of the Viennese citizens.

On a professional level, the new Transport Master Plan has been conceived as part of a co-operative consultancy process, with active participation by the relevant municipal authorities and departments; the central responsibility lay with municipal department 18. A core working team was responsible for the organisation and for specialist input.

Citizens were able to express their suggestions, proposals and criticisms in respect of the traffic system by means of a wide-ranging participation and information process. About 80% of these suggestions provided a sound working basis, as they corresponded to the basic principles and objectives of the Master Plan and district traffic commissions.



The public participated in the development of Vienna's Transport Master Plan

Since the 1994 Transport Concept decision, **improvement measures** have been implemented, such as the expansion of parking space management and an increase in the scope of public transport available, with the extensions of the U3 and U6 lines; the quality of these has been made superficially **more attractive** by structural and operational measures. However, there is still a need for an expansion of the road and rail network and the construction of the Vienna Central Train Station – Centre of Europe and goods terminals. The increased density of stops on the Vienna regional rail network, the giving of priority to trams and buses, the expansion of the

bicycle lane network, are given top priority on the agenda. Improvements are also necessary in co-operation with the city and the regions. These include linking in with European and national transport policies and the harmonisation of spatial planning and traffic development in the Vienna region.

However, an essential prerequisite for the development of Vienna as an attractive location is the optimum incorporation in particular of rail station and terminal facilities into the Transeuropean Transport Network (TEN). In the rail sector absolute priority is given to the expansion of the Transeuropean Transport Network to include rail connections Vienna airport – Eisenstadt – Sopron and the rail destinations Paris – Munich – Vienna – Budapest and Berlin – Prague – Vienna – Trieste. The most important aspects of the road network are the regional line S1, the integration of the A5 and the incorporation of the A6 – Kittsee/Bratislava link road – into the Transeuropean network.

This transport infrastructure has to be financed. In accordance with the draft of the **European guideline for charging for transport infrastructure use**, which forms the basis for charging tolls for road traffic, at present tolls can only be charged for top-class, motorway-type roads. Vienna demands to be able to include all external costs in calculating toll levels and the option of **cross-financing** between road and rail.

In order not to put the integration of the underground, tram and bus systems at risk, in connection with liberalisation of public urban passenger transport systems, the City of Vienna advocates the position that there should be a choice between direct contracting and performance and controlled competition. Should decisions be given in the higher courts which make further liberalisation compulsory, exceptions must be made for rail transport systems.

On a national level the Federal government is responsible for ensuring sufficient **performance** of the traffic infrastructure; this is recorded in the General Transport Plan of 2002. From the point of view of Vienna, a tightening-up is needed of the timetables for implementation of the rail projects. In addition, innovative financing methods are needed.

It has already been noted in the **City Development Plan 1994** that it is essential for the spatial development of the Vienna region to align settlement structures with top-quality public transport. This traffic policy aim is directly linked to the economic necessity of major investment in the **extension of the underground** network in order benefit future residential developments. Only the combination of ready availability of building land and substantial development potential with effective connections to high-quality urban and regional road and rail networks, will be sufficient to attract top-quality residential and commercial developments, even though land prices are high in the urban core zone.



Table 1: Potential locations for peripheral development zones

Peripheral development zone	U-Bahn	Other development zones on this underground line	S-Bahn	Major road transport connections
22. Brachmühle	U1 – Northbound	Doningasse Zentrum Kagran Donau-City Nordbahnhof	S1 (Hohenau) S2 (Laa/Thaya)	B229 → S2
22. Former airfield at Aspern	U2 – Northbound	Hausfeld Stadlau-Mühlgrund Messe Wien	S80 (Marchegg)	S1 (“inner variant” of the NE bypass), B3d, A23
11. Simmering Süd	U3 – Southbound	Mautner Markhof-Gründe Gasometer Erdberg/St. Marx	S7 (Wolfsthal) S60 (Neusiedl) S61 (Aspangbahn, if as at present)	B225 → A23 B228
10. Rothneusiedl	U1 – Southbound	Südbahn-district	S11 (Pottendorf) S16 (Aspangbahn via Laxenburg connecting loop)	Connecting link A23 → S1

However, the **development of mobility** also depends on other factors, such as demographic trends. By 2020 the population in the wider Vienna district will have increased, while the population figures for the densely-populated inner city will have stagnated, the dynamic growth being concentrated in the suburban areas.

After a phase of becoming younger (since 1970), the Viennese population is once again “ageing”, and the mobility of older people will increase considerably. Their degree of motorised transport use is already increasing. This development will intensify over the next ten years. **Time patterns** which are at present fairly fixed, such as working hours, school start and finishing times, shop opening hours, are becoming ever **more flexible** and the trend towards individualisation is increasing (differing lifestyles and changing behaviour patterns depending on time of life). Good education opportunities and the trend towards a service-based society increase the employment opportunities for women. Independence and **motorised transport use among women will increase**.

Globalisation demands the international integration and networking of the economy. Increased spatial division of work will increase transport distances. The commercial zones find themselves competing to attract companies. The quality of the transport system is becoming an essential location criterion.



1. Starting Position

Telecommunications allow for **increased efficiency** in the transport system, including the provision of improved information, and optimisation of lane management. Teleworking from home and “desk sharing” at work are leading to a breakdown in fixed working hours and regular rush hours. It does not mean reduced mobility, but only a change in times and also changes between different purposes for journeys (e.g. more leisure trips).

Austria has committed itself to a 13% **reduction in polluting emissions** by 2010, compared with 1990. Regardless of this, however, emissions have **risen** by 9%, and traffic plays a disproportionate part in this.

To summarise: the city’s transport policy is confronted with numerous trends and conflicts between economic and planning policies, environmental and transport policies, which conflict with its aims. Intelligent innovations are required to overcome the challenges it faces and solve conflicts of objectives.

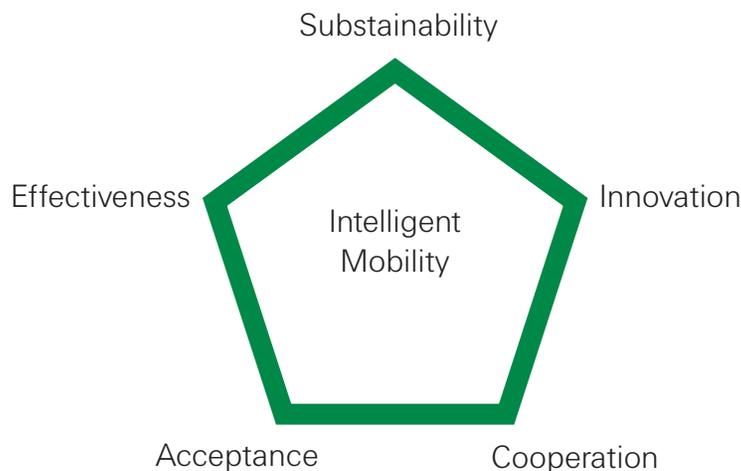


2. Transport policy model

A prosperous urban region – as the “Vienna Region” should be – depends on the activities of its citizens and the economy, and on mobility. As already established, this mobility should not adversely affect quality of life also of the following generation. The responsibility is represented by the term: **Intelligent mobility – intelligence “on the move”**.

Various factors are essential to achieve this intelligent mobility.

Fig. 1: Basic principles: the pentagon of “intelligent mobility “



Sustainability

means the methods of the present to be such as to leave future generations optimum satisfaction of their needs as well. The pillars of sustainable development are: social justice, future-oriented economic systems and sustainable use of the natural environment. The following principal objectives are derived from this:

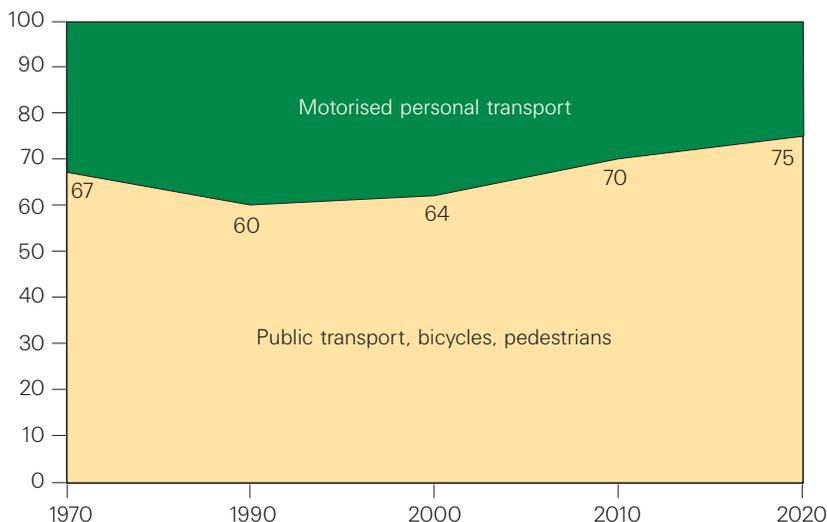
- **Traffic prevention:** in the sense of urban development and spatial planning which reduces the need for mobility while giving a high quality of life in the city.
- **Transport shifts** by modifying behaviour. In the Transport Master Plan 2003 the following transport mode distribution objectives are set for Viennese citizens:
 - Reduction of individual car journeys to 25% of all journeys.
 - Increase in cycle transport to 8% as quickly as possible.
 - Increase in public transport from 34% to 40%.



2. Transport policy model

- In the area of transport extending beyond the urban boundaries, transport mode distribution between public transport and motorised individual transport from 35%/65% to 45%/55%.

Fig. 2: Targets for the distribution of modes of transport used by the Viennese (every day)



Sustainable economic development

In order to strengthen the regional economic basis and further develop export competence, the accessibility from outside and within the Vienna region must be assured. This is done by means of the TEN node already described and by improvements for the necessary commercial traffic (delivery journeys, stopping and parking places) and giving priority to this over private car journeys.

Sustainable social development

Social equality, equality of opportunity and taking account of the different lifestyle requirements of **men and women** (gender mainstreaming) are the central strategic focal points of the City of Vienna for **sustainable social development**. In Vienna priority is given here to the social- and gender-related distribution of mobility opportunities. These include the improvement of opportunities for people with mobility difficulties, design of traffic system in accordance with the “2 senses principle” (hearing/vision, hearing/touch, vision/touch), adjusting the transport behaviour of men to the more urban-friendly transport behaviour of women and the clear increase in traffic safety (reduction in the number of deaths and injuries).

Sustainable environmental development

In 1999 the Climate Protection Programme (Klimaschutzprogramm – KLIP) was adopted by



the municipal council. This contains as obligatory, forming defining objectives for the Transport Master Plan, a **reduction in CO₂ emissions** caused by traffic by 5% per head by 2010 and a reduction in noise pollution caused by traffic. 20% fewer citizens should feel affected by traffic noise nuisance by 2020.



Sustainability begins in the mind

Effectiveness

Mobility which conserves resources requires a high level of **conceptual imagination** at the organisational stage. For example **intelligent** car use (car sharing) and **HGV usage** (reduction in empty journeys). An important element in increasing economic efficiency in mobility development is the inclusion of external costs (environmental impact costs).

Acceptance

"**Intelligent Mobility**" requires permanent dialogue based on trust between all concerned; this means information, communication and motivation as prerequisites for **raising awareness**, which is the first step towards changing behaviour patterns.

Cooperation

In order to implement the objectives of the "Transport Master Plan 2003", the City of Vienna needs partners, which include the surrounding districts, the regional authority, the ÖBB (Austrian Federal Railways), public-private partnerships and other bodies beyond the national boundaries, the neighbouring countries to the north and east. All these partners must be included in projects at an early stage, to avoid conflicts of interest and therefore improve the overall plan quality.



Innovation

All objectives of sustainability, effectiveness, acceptance and cooperation can only be achieved through innovation in terms of **procedures, organisation, implementation, infrastructure and technology**. These must be promoted or developed by the City of Vienna itself. In the past, Vienna has always played a leading role in such matters. This tradition should continue and become a part of the city’s self-image.



ULF – Ultra Low Floor tram: step-in height 0

The claim of the Transport Master Plan 2003 is that it develops and prepares for the implementation of successful and feasible central aspects and carry on the issues of transport policy:

Table 2: Main points for negotiation

Main points for negotiation	
<p>→ Safer mobility (Vision Zero): Drastic reduction in the number of deaths and injuries</p>	<p>→ Great cycling: A leap forward in the quality of cycling</p>
<p>→ S-Bahn plus: Attractive public rail transport between the city and the region</p>	<p>→ Good and Available space: Claiming back public space</p>
<p>→ U-Bahn incentives for city development: Development zones well-connected by public transport</p>	<p>→ Mobility: The development of an all-inclusive transport and mobility management system</p>
<p>→ Fast public transport routes: Attractive tram and bus connections to outlying districts</p>	<p>→ Logistics competence: Spatial management of goods and commercial traffic</p>
<p>→ Stop only at designated stops: Systematic priority given to tram and bus</p>	<p>→ Road and rail for Europe: Road and rail systems to be developed to improve the location and make residential areas quieter, to speed up public transport and improve cycling and pedestrian traffic, while designing roads and paths to give in less overloaded road network</p>



3. Mobility

Mobility is not only limited by physical local changes, but is also determined by spatial structure and time (working hours, school hours, etc.). Mobility can also occur without changing location, e.g. due to telecommunications or the New Media.

Around **75% of all Vienna residents** undertake at least **one journey a day**, on average of 5 km, and taking their daily journeys into account they are travelling for just over one hour.

The environmentally-friendly modes of transport (walking, cycling, public transport) in built-up urban areas with a good mix of uses represent a substantially higher proportion than in the outlying districts. Of commuters into Vienna, 65% use individual cars and only 35% environmentally-friendly modes of transport. 71% of women use these modes of transport, but only 56% of men. The transport behaviour of **women** is thus considerably **more environmentally friendly** than that of men.

The **commuter traffic** of Viennese workers represented around **22% of all journeys** in 2001. Men make the journey to work substantially more frequently by car than do women. On the other hand, women more frequently use **public transport** for journeys to and from work. Increasing prosperity and economic structural changes have, together with increased car ownership, led to dynamic growth in journeys to work from beyond the city boundaries. A targeted programme in line with planning and traffic policies should halt the growth in distances **between place of residence and place of work**, increasing the proportion of environmentally-friendly modes of transport and the number of passengers per vehicle in private vehicles used for commuter journeys, and **reducing** the difference in the number of journeys to work made by **motorised individual transport** and public transport.

9% of all journeys by the population of Vienna are made for **training and education purposes** by men and women in more or less equal numbers. Two concurrent trends affect this traffic for training and education purposes: the declining birth rate and the lengthening of training and education periods. Taken together these two factors mean that the number of people in training remains about the same. Essentially here, too increasing of the quality of public space and environmentally-friendly modes of transport are to be preferred.

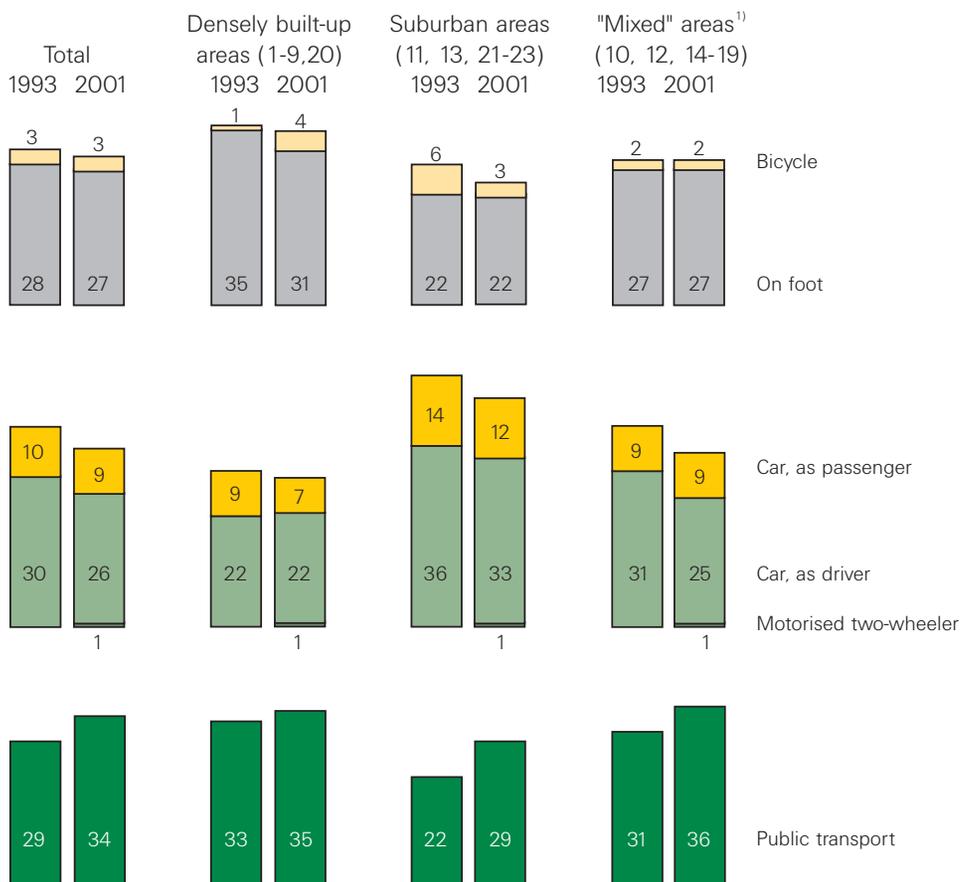
The population of Vienna makes **31% of all journeys** in connection with leisure activities. A number of changes, such as flexible working hours, longer holidays, lowering of the pension age and higher life expectancy, are reflected in this aspect of mobility. It is also relevant here to ensure that environmentally-friendly modes of transport are favoured, in addition to expan-



3. Mobility

ding the range of cultural and leisure activities available in the city and designing urban public spaces appropriately.

Fig. 3: Chosen means of transport used by the Viennese according to types of area (every day) in per cent



¹⁾ Districts with densely built-up and less densely built-up areas

Source: Socialdata, results of a mobility study carried out in connection with the development of the Vienna Transport Master Plan 2003, Vienna, 2002.

Similar factors apply to shopping trips. Approx. 26% of journeys by the Viennese are for shopping and private business, with women making around a third more journeys for these purposes than men, using environmentally-friendly modes of transport to a particularly high degree. The increase in services provided to high-quality very easily-accessible locations will continue. These include U-Bahn and S-Bahn stations in the built-up urban area and the major road network in the suburban and surrounding areas. The opening times of businesses and public buildings are becoming ever more flexible. The trend towards a "24-hour city" is also affecting Vienna. In this area, too, journeys are being shortened and such journeys are being compelled



towards the environmentally-friendly modes of transport. Priority should be given at present to a comprehensive range of local shopping facilities.



Morning rush hour on the Gumpendorfer Gürtel

Around **6%** of journeys are made for **commercial/official purposes and accompanying others** (fetching and carrying). Here, too the differences in roles between men and women are substantial. The proportion of women using environmentally-friendly modes of transport for this kind of journey is twice as high as that of men.

These **accompaniment journeys** are to a large extent for the **fetching and carrying** of children to and from nursery school, taking children to school and leisure activities. Because of the trend towards greater distances between home and school and leisure activities, a growth in the use of cars may be expected. And so in these areas measures should be taken above all to increase safety and promote better use of public spaces.

City tourism is an essential **economic factor for Vienna**. This has steadily increased over recent decades. Tourism traffic gives rise above all to problems which are limited in space and time. Further growth can be expected in future both in "normal" city tourism and congress tourism. In particular, organised "senior tourism" and event-oriented city tourism look set to boom. The effects can only be countered if the public transport system to attractions is promoted in order to minimise the negative effects of tourist coach transport. A bus tourism concept will be drawn up by 2004.



Mobility of goods

A well-functioning goods transport system is an **essential prerequisite** for the quality of Vienna as a **commercial location**. However, commercial transport does cause **problems**: 10% of car journeys are responsible for 20 – 25% of **CO2 emissions** and 70% of nitrogen oxide emissions. HGV transport contributes substantially to **noise pollution** and disproportionately to **road wear and tear**.

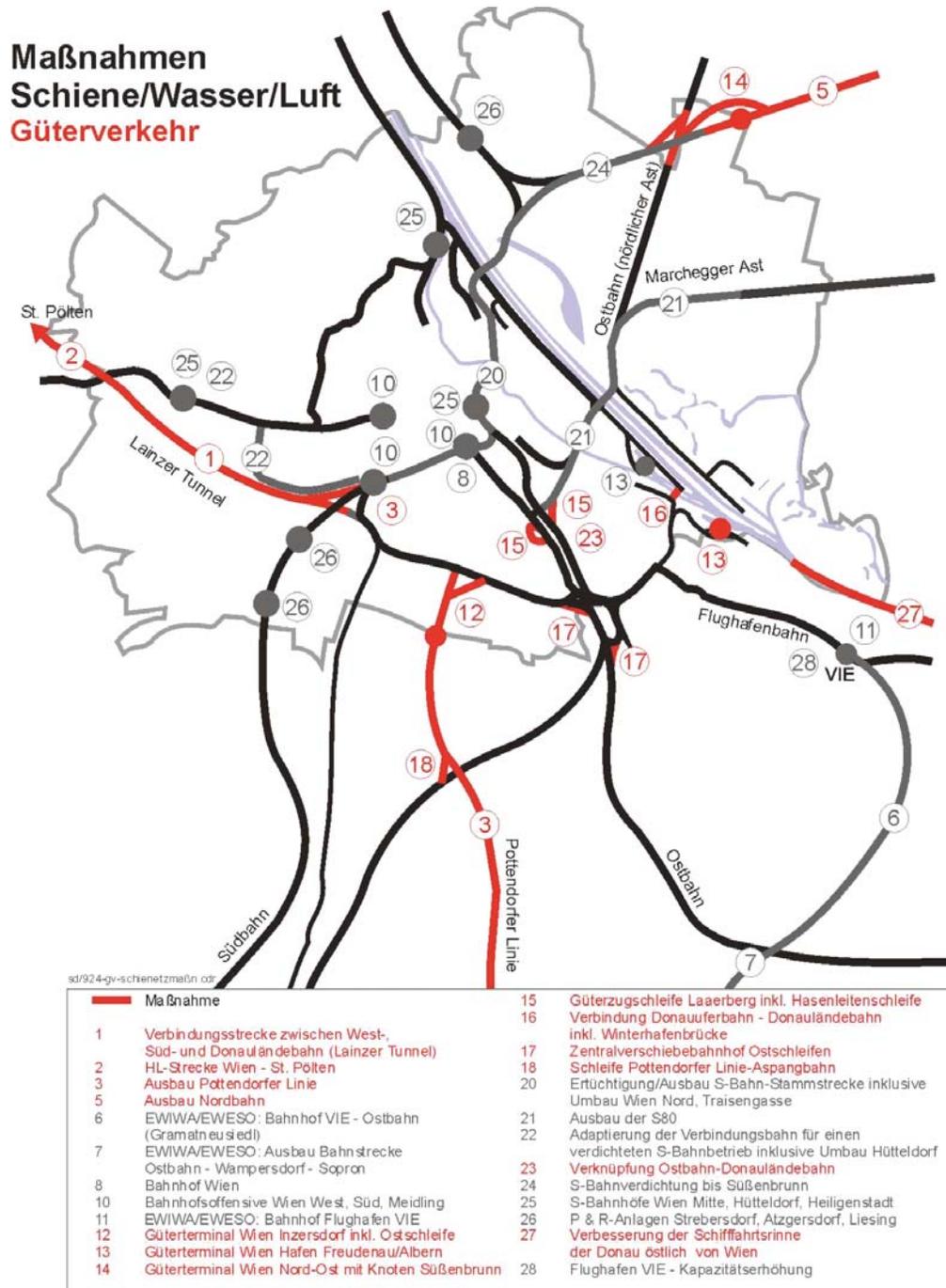
The traffic mileage and volume in the **domestic transport of goods** has **decreased** in recent years. Considerable increases in traffic volume were still seen in traffic to and from the region and through traffic. This growth was triggered by the opening up of the East, the inclusion of Austria in the EU and the continuing integration in the world economy. In the next ten to fifteen years, a continuation of this dynamic process is expected with the expansion of the EU.

The City of Vienna faces several challenges in the areas of goods transportation: on the one hand, with domestic transport, traffic systems should enable flows which are as free as possible from obstructions and hindrances, but on the other hand, stagnating traffic volumes notwithstanding, an **effective reduction in environmental pollution** and the alleviation of spatial and time-related key problems is needed. The development of the road network must facilitate a reduction in the risk of jams at particularly prone road intersections, while at the same time reducing the burden on the residential population and more sensitive uses, without encouraging people to turn to using cars.

A range of measures needs to be implemented for the development of the **TEN network in the Vienna region** in order to improve the infrastructure. This includes **expansion** of the railway lines and establishment of high-throughput goods terminals. The strengthening of the “**logistics competence**” of Vienna as a commercial location is a **central negotiation aspect** of the city’s transport and economic policies. The area of **City Logistics**, which should basically function as part of the private economy, will be strengthened by Vienna; obstructions to traffic should be reduced and logistics locations be ensured by the urban planning policies.



Fig. 4: Infrastructure for the TEN node region of Vienna (rail, water, air)



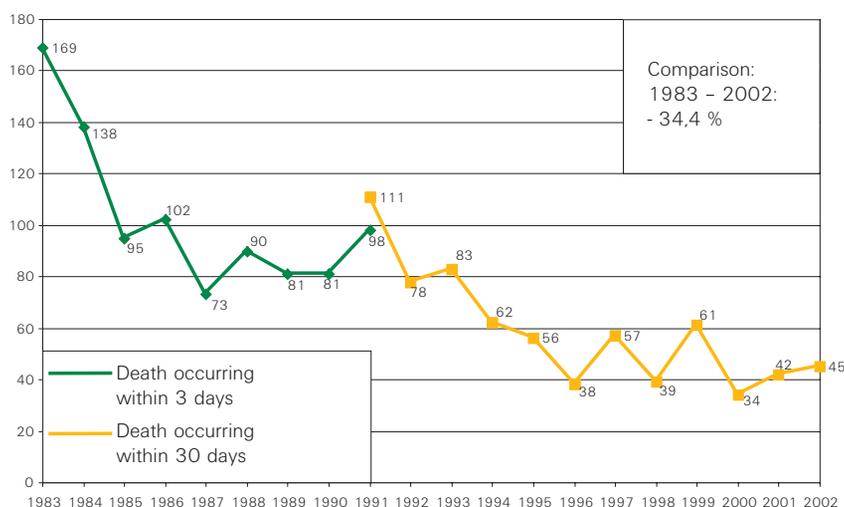
The measures for implementing the objectives connected with mobility will be found in the following sections.



4. Traffic safety

Europe-wide studies show that Vienna is one of the cities with the highest traffic safety rates. Safety has increased substantially on Vienna’s streets in the last 20 years. Between 1983 and 1988 the number of accidents involving personal injury has dropped by around 35%, and the number of deaths is down by as much as approx. 75%. Since 1998, however a turn-round in the trend has been noted, requiring stronger efforts towards improving traffic safety.

Fig. 5: Figures for deaths in Vienna 1983 –2002



Source: Vienna City Administration, MA 46, Vienna, 2002.

As a long-term traffic safety aim, Vienna is pursuing the “**Vision Zero**” – no deaths as a result of road traffic. The number of injuries should be reduced by 50% by 2020.

Traffic safety is a fundamental principle, which must be taken into account under all other implementation headings. With a **comprehensive traffic policy programme**, which also includes a change in traffic emphasis towards more environmentally-friendly modes of transport, reduction in road and street mileage and a reduction in car speeds overall, together with the implementation of road safety measures, the adaptation of legal frameworks and effective monitoring, this objective should be achieved. But other measures are also helpful here, such as the improvement of potential accident black spots through improving visibility. Street markings, kerb features and traffic islands, and safety audits when considering all planning issues, increased consideration of safety for the users of public spaces and the implementation of targeted awareness campaigns on traffic safety, all have a role. Vienna requires the federal government to undertake stronger monitoring of the flow of car traffic, the introduction of drivers’ licence penalty points systems and increasing fines for traffic offences.



5. The road network and public spaces

The road network serves the purpose of linking and providing accessibility to urban functions. In addition to traffic flows and stationary vehicles, public transport, cycles and pedestrian traffic, the road network also provides public space for spending time and meeting people. Finally, the streets are also an element of urban planning and have environmental roles (lighting, ventilation, provision of green space). Given limited space, these various requirements will inevitably lead to conflicts, which must be tackled using structural and organisational measures. The desired **increase in the proportion of public transport, pedestrian traffic and cycles**, means that investment and planning for the modification and expansion measures in the next few years must be in this direction. In expanding and increasing the main street network, the emphasis will be on **relieving existing residential areas**. In designating new residential areas a network should be ensured which is sufficient to link in public transport with the requirements of non-motorised traffic. The comprehensive existing main street network of the City of Vienna, at present extending to around 700 km, is structured around the criteria required for cars. A new **arrangement of the network should better correspond to the traffic policy aims** and contain clear rules on dealing with conflicts of use on the streets.

The new main street network should consist of higher-priority car transport streets, of streets with high sequenced tram and bus lanes and high frequenced pedestrian streets. The requirements of the road system arising from increased cycling must be fulfilled separately from the above main road network functions. A change to the existing main road network affects the division of financing responsibilities between the central government and the districts. In addition to the specialist criteria, it must also be considered in terms of the **budgetary requirements**. Thus the re-shaping of the street network must be undertaken together with the districts.

In addition to the re-evaluation of the street network, the increased provision of permanent and temporary traffic-free zones and generously-dimensioned pavements should provide a **tangible quality of life on the urban street scene**. Areas dedicated to meeting-places, seating, relaxing and more commercialised purposes such as small public gardens (Schanigärten), lead to a positive animation of the street scene (provide the necessary traffic circulation space is kept free). Special provisions for children include not only the best possible playgrounds, but also a wide range of safe and attractive play facilities in public spaces.





„Public space for all“

As the shortage of space in the public street network often leads to conflicts between the different traffic types and road users, when undertaking extension and modification measures, appropriate priorities should be set. The highest priority is given to **minimum standards for pedestrians**. Next, account must be taken of the **needs of public transport**. Next are comfort improvement considerations for pedestrians extending beyond the minimum standards even on those streets which are not considered part of the main pedestrian network. Following pedestrian and public transport requirements, the minimum standards for **cyclist traffic on the main street network** should be applied, e.g.: cycle lanes on main streets, shared use of bus lanes, safe systems around tram and bus stops, no diversions over neighbouring lane networks. Next in the chain of priorities is the **flow of car traffic**, which has **priority over parked traffic** in the motorised individual transport road network. A change in priorities is always possible on essential grounds (e.g. special requirements for commercial traffic).



6. Pedestrian traffic

Every road or path – whether destined for cycles, cars or public transport systems – begins and ends with a footpath. For this reason the requirements for pedestrian traffic affect all sectors of the population, but in particular those who have a lower travel radius in their everyday movements and make the majority of their journeys on foot, such as the elderly or children. **60% of all journeys on foot** are made by **women**; only 40% by men. The proportion of women injured in road traffic accidents in Vienna is around 20%, but as high as approx. 60% of deaths. In addition to children and young people, the elderly are particularly at risk. Increased **road safety for pedestrians** therefore has top priority.

For women and girls, **personal safety is of great importance in addition to road safety**. If too little emphasis is placed in the design of traffic areas on orientation, field of view and visibility, insecure and threatening situations can be created which limit mobility choices.

In order to **stabilise pedestrian traffic** at the present high level, to improve the quality of life for pedestrians, to increase their road safety and to increase the mobility choices for people with special needs, the following package of measures should be implemented:

Creation of a **comprehensive interconnecting pedestrian network**, which is designed to take account of the pedestrian-based economy. Thus in built-up areas the emphasis is on the targeted opening-up of gaps (e.g. opening up already dedicated passages) and the **possibility of unrestricted passage between different levels**. In less densely built-up areas, the creation of attractive pedestrian connections (**safe daytime and night-time routes**) is essential.

A constant freely-accessible **minimum pavement width of 2.00m** should also be ensured when planning new open spaces and temporary installations, such as car parking spaces. In the case of existing pavements, if the spatial prerequisites do not allow for a pavement width of 2.00m, a minimum accessible width of 1.5m should be ensured. A clear headroom of 2.20m should also be provided, to prevent head and chest injuries.



More space for pedestrians

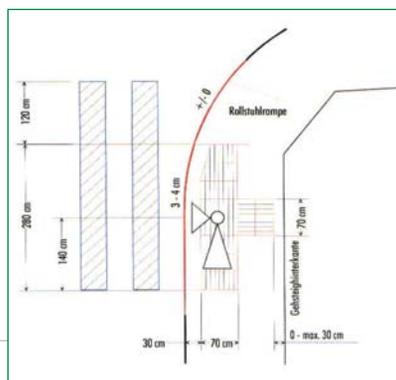
6. Pedestrian traffic

The interfaces between the main street network and the secondary street network should be clearly recognisable by means of special structural measures (e.g. continuous pavements, the removal of multi-level intersections). In the case of traffic-light-controlled pedestrian crossings, the average waiting time for pedestrians should be reduced to max. 40 seconds, and the green phase in seconds should be equal to the crossing length in metres. The solution to differences in levels should be improved by providing existing kerbs with ramps for wheelchairs and children’s buggies. Public transport stops and high-throughput under- and overpasses should be fitted as standard with lifts.

For individual car traffic, outside the main street network, the aim will be the introduction of interlinked “Tempo 30” 30 kmh speed limit zones. 30 kmh speed limits promote road safety and are a prerequisite for mixed transport systems.

The subjective feeling of safety should be increased by a lively environment giving rise to positive social control. It is important to ensure orientation, field of view and visibility, and sufficient lighting of public transport routes and stops.

In order to improve orientation for persons with limited mobility, light signals with additional audible and tactile signals should be installed in consultation with specialist representatives of organisations for the disabled, together with audible and tactile guidance and information systems on the streets.



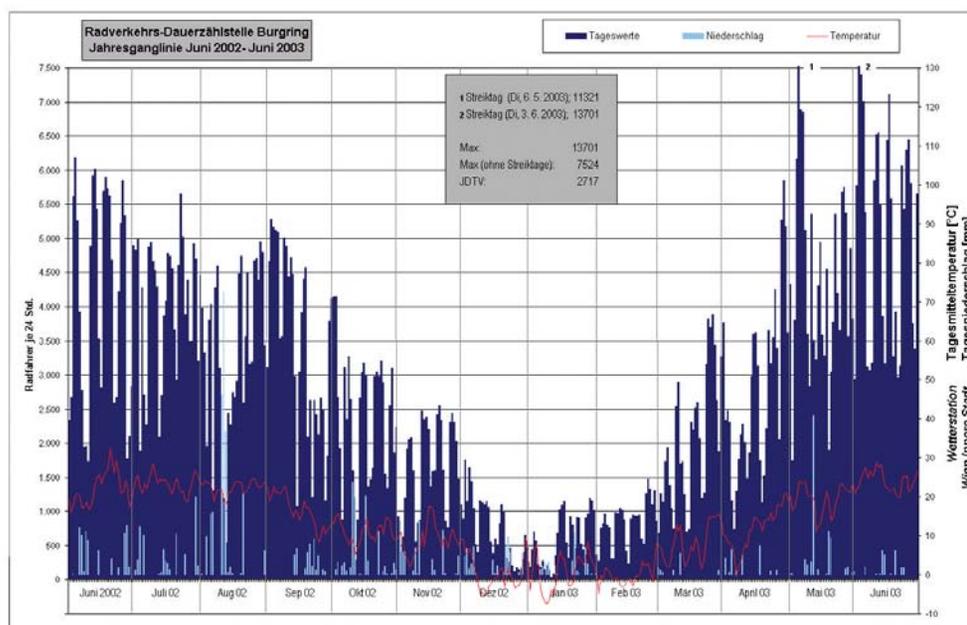
Graz “T” Source: Guideline for barrier-free planning of public space in the city of Graz.



7. Cycle traffic

The proportion of cyclists of the overall traffic volume in Vienna has varied in recent years between 3 and 4.5%. Traffic statistics show, however, that cycling has developed from a purely leisure and sporting activity to an everyday mode of transport. It is an alternative to motorised forms of transport, particularly in densely built-up urban areas for journeys of up to 5km.

Fig. 6: Annual chart of cycle traffic at the Burgring permanent measuring point, June 2002 to June 2003



However, with this increasing traffic volume, the proportion of **accidents** involving personal injury to cyclists has **increased**. This increase in cycle lanes, which are better laid out with a view to safety, could lead to a stop in this trend, but at present a noticeable increase is still observed. If the proportion of cycle journeys by the Viennese population is to be increased to 8% under these circumstances, then general **cycle-friendly conditions** must be created.

The cycling network of the future, which should be completed by means of the so-called “Gap-Closing Programme” (Netzlückenschluss-Programm) is characterised by top-quality provision and **unified standards**, which include clear signposting. In order to provide for the varied requirements of cyclists, a duty to designate cycle tracks should be included in the Road Traffic Regulations.

The spatial **provision for cycle traffic** should be in accordance with the **mix principle** (see Street Network Section – 30 kmh speed limit zones). Improvement of the crossing facilities in

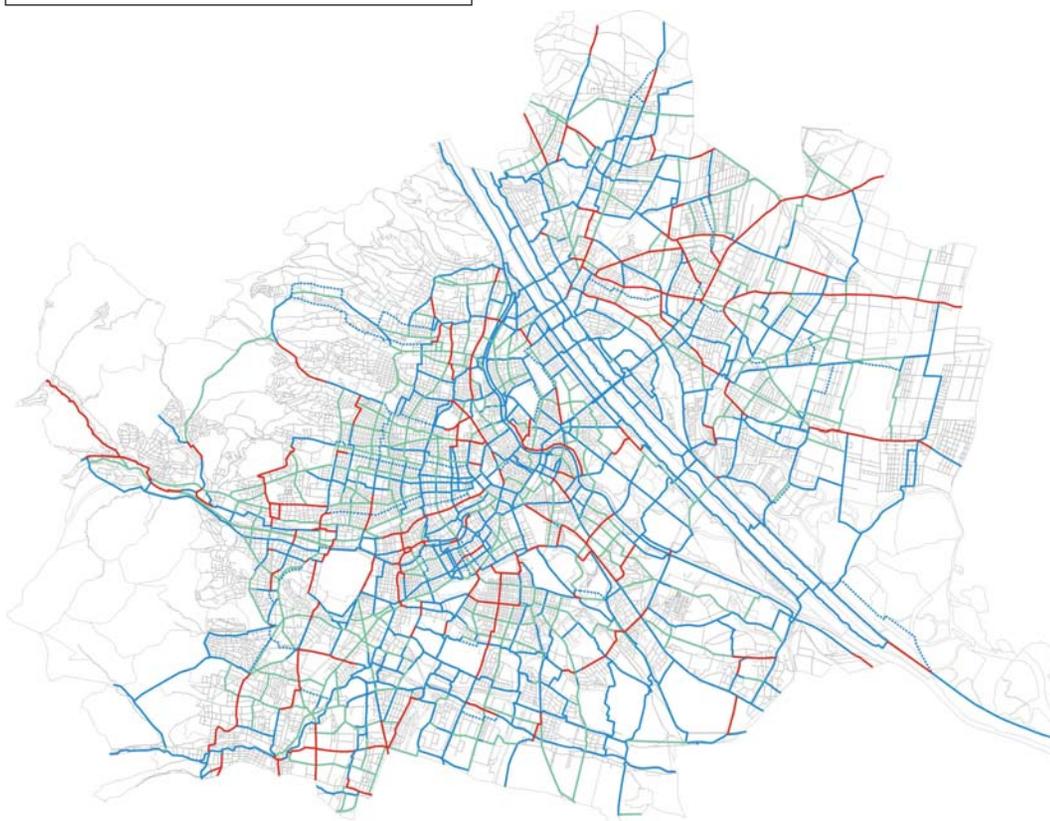
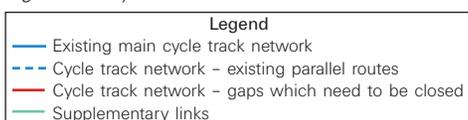


7. Cycle traffic

pedestrian zones and on main roads, and the opening up of one-way cycle lanes – cycle lanes contrary to the flow of traffic on one-way streets should be the norm – should provide additional support for cycling-friendly conditions.

Secure, comfortable cycle parking areas are also an important feature of the programme, forming a legal part of the construction or renovation of buildings, and promoted by the creation of cycle parking facilities in the densely built-up area, and in the case of the older building stock, by innovative pilot projects. At public transport stops and stations, in particular in the outlying districts, well-designed, secure “Bike & Ride” facilities should be established.

Fig. 7: Main cycle track network



Around € 30 million has been budgeted for the further expansion of the cycle track network by 2008. Some of the funds collected from parking meters may also be used for the establishment of cycle parking facilities.



8. Public transport

The attractiveness of **public transport** is evaluated differently depending on the area; in the built-up **inner city** in areas where priority is given to public transport and along the U-Bahn axes, the **public transport on offer is constantly becoming more attractive**, and passenger numbers are increasing. The proportion of public transport is increasing. However, in the case of **commuter traffic** between Vienna and the surrounding areas, **supply and demand is stagnating**. Only 35% of “journeys to work” across the city boundaries are undertaken using public transport.

Today’s requirements demand the optimum networking of different modes of transport and the activities of individual service providers, bringing together the individual services to provide a high-quality operation covering the whole of the city region. Cooperation within this networking strategy is the theme of the regional transport concept: S-Bahn plus, the fourth public transport expansion phase and prioritisation of trams and buses are particular points for negotiation.

In the European context Vienna should be **further developed** in its capacity as a **TEN node**. Together with the highway extensions, Vienna should become an attractive **transit and transfer point for passenger travel** (long-distance travel, personal public transport) and an **inter-mode goods transport interchange** with the prerequisite of the establishment of a logistics cluster. In the area of the **South-East station** a through travel station for **long-distance travel and public transport** (Vienna Central Train Station – Centre of Europe) should be established and attractively linked to the U1 Südtiroler Platz station which is to be modernised. For international bus connections a central bus station is needed. **The West Station**, essential for **long-distance and local connections**, should be made more attractive as part of the overall station strategy. Regarding frequency, the **range of services** to the centres of the regional capitals and **long-distance services** to EU entry stations should be **substantially improved**.

Concerning regional transport, by the end of 2003 the **S-Bahn concept** of 1998 will have been revised with the objective of **substantially increasing the proportion of commuter traffic** from the regions. In addition to infrastructure and operational requirements, quality-oriented measures should also be specified, such as a new S-Bahn train type and the redesign of the S-Bahn stations to a standard equivalent to that of the Vienna U-Bahn stations. For small-scale localised coverage, an **attractive regional bus service** is needed, whereby the accessibility of the end terminals of these regional bus lines – with the future terminals of the public transport network of Vienna – should be supported by the **provision of regional bus corridors**.

The **U-Bahn** is by far the most popular and – in terms of passenger increase – the **most successful inner-city mode of transport**. When the U-Bahn extensions of the 3rd expansion phase



8. Public transport

(U1 North, U2 Aspern) become operational in 2009, the Vienna U-Bahn will comprise around 75 km and around 100 stations. When undertaking the **line extensions and network expansions** priority is given to those sections where there is adequate potential for further urban development or an essential contribution to improve traffic mode split can be made, which affects in particular non-Viennese citizens.

These are:

- U1 South in the Rothneusiedl area,
- U2 North in the Aspern airport direction,
- U2 extension from Karlsplatz through the Aspanggründe area to the Arsenal and the South-East freight station,
- U6 North in the direction of Stammersdorf/Rendezvousberg.

In the South the „Badner-Bahn“ – a local line – shall be **connected with the U6 line** to the north of Wr. Neudorf, providing a mixed-mode link, with a branch to be provided near the Tscherttegasse.

Fig. 8: 4. Public transport expansion phase



In order to increase the proportion of journeys made by public transport, the existing **U-Bahn network** must be **combined with another attractive mode of public transport** serving a wide area with a service which meets the demands of passengers both operationally and from the point of view of infrastructure.

Priority must be given to **trams and buses along the whole of the lines**, in particular in those districts of the city which are not served by high-priority public transport modes (commuter trains, U-Bahn). Dedicated tracks or bus lanes, reactive traffic signals and the staged implementation of a computer-controlled operating system should lead to faster journey times. **Attractive design of the stops** (lighting, weather protection, seating and information) and the use of modern rolling stock (ULF – ultra low floor tram) should support passenger comfort. In particular, during peak travelling times, the **intervals should be sufficient to meet demand**.

A particularly important aspect for people with mobility difficulties is more information, such as timely train announcements, and **increased comfort**, both in waiting areas and also in terms of immediate access facilities to the public transport network.

Network and coverage gaps should be **rectified** by means of the following line extensions:

- Line 16: Floridsdorf – Kagran – Stadlau – Eßling/Gross Enzersdorf
- Line 26: Strebersdorf – Floridsdorf – Kagraner Platz – Hirschstetten – Aspern (U2)
- Line 27: Grossjedlersdorf – Siemensstrasse – Kagran
- Line O: Extension over the North Station site to the Friedrich-Engels-Platz
- Line 65: Extension over the Wienerbergstrasse to Meidling Station
- Line 67/O: Link to “Monte Laa”
- Line 6: Extension to Schwechat



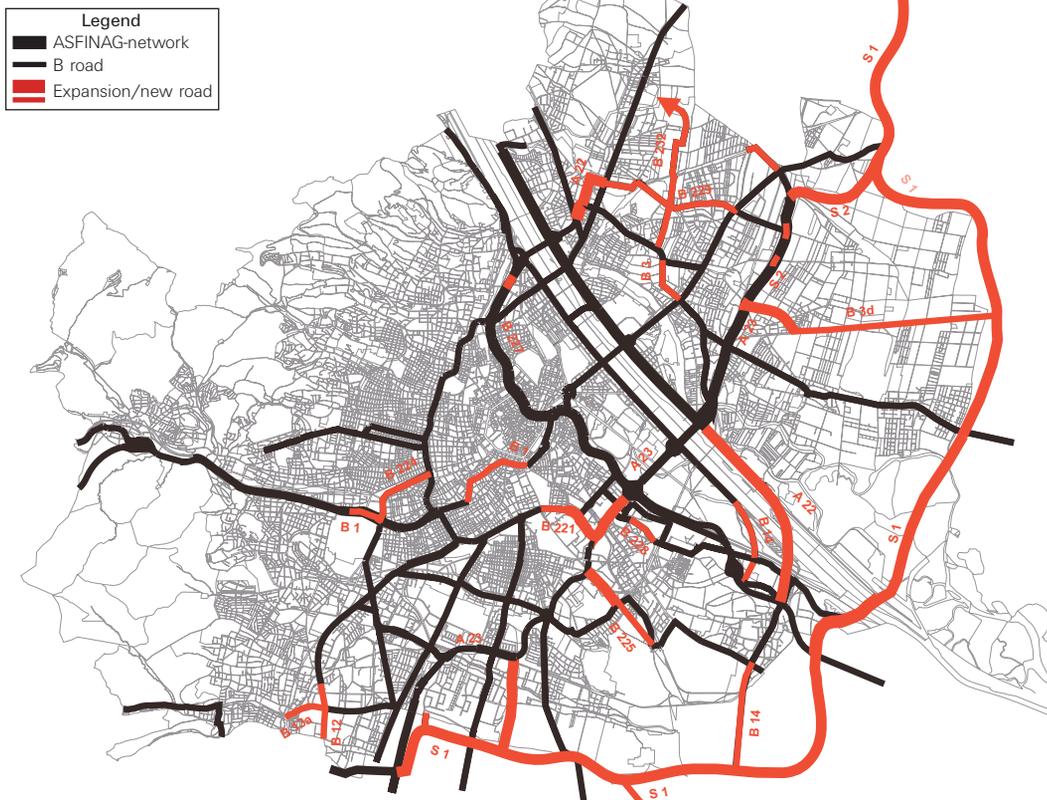
*Only stops at designated stops: priority for public surface transport
Photo: Wiener Linien, Ludwig*

In areas and at times of low demand for public transport the use of dial-a-ride buses, dial-up collective taxis and taxis should be increased further.

9. Motorised individual transport

Over recent years the development of traffic in Vienna has been characterised by the increase in motorised individual transport. An attractive public transport system, in particular the **expansion of the U-Bahn** and management of parking provision have **reduced the level of increase in motorised individual transport**, in particular in the densely built-up central areas of the city. Within the Gürtel the average loading has to an extent even decreased. However, **traffic on the urban motorways** and in the outer districts of the city is still **increasing**. The south-east tangent (A23) is the street in Vienna with the highest traffic density, with over 210,000 vehicles per 24 hours, and is therefore particularly liable to jams. But other stretches and intersections in the Viennese road network also have capacity bottlenecks which lead to jams at peak traffic periods. **The development of the main road network** must be carried out according to clear criteria and as part of a fully-integrated overall package. The arrangement of the projects into construction phases (see Appendix) has been made in accordance with **the improvement of accessibility of Vienna as a commercial location**, with a reduction in the burden of traffic on residential and leisure areas, the provision of sensitive urban spaces, the new development of residential zones, the contribution to the desired residential development and the desired modal split changes.

Fig. 9: Road building programme – updated version based on the STEP-resolution 2005 by the Vienna City Council on 24 May 2005



The **city-friendly** development of the traffic system cannot be achieved without technical **improvements to vehicles** nor without associated safety measures. These include **measures to reduce emissions** such as soot and NO_x filters for cars and commercial vehicles and increased monitoring of car emissions by mobile exhaust measuring schemes. **Noise reduction measures** such as low-noise road surfaces, noise insulating walls, the enlargement of 30 kmh speed limit zones are to be implemented together **with weight** limits for HGVs.

In addition, targeted traffic management measures should ensure a **smooth flow of traffic**.

10. Stationary vehicles

By means of the **parking space management system** introduced in 1994, traffic in districts 1 to 9th and 20th can be reduced by a reduction in long-term parking and parking space availability and the parking space situation of the residential population improved.

At the same time the Vienna **garage programme** has been developed. In the framework of this scheme to date 160 commercial garages have been built in Vienna with around 50,000 parking spaces. The **special "people's garages" programme** provides for the idea of reduced-rate resident parking.

The parking policy should contribute to increasing more available space on the public streets for planning and other uses. **City expansion areas** should be planned from the start to be pedestrian-friendly and give a high quality of life. Sufficient parking spaces should be provided for residents' cars and the businesses located there. The **parking space policy** should be used to **reduce car traffic**.

In order to achieve or maintain a high quality of life in the densely built-up urban areas the fundamental aim is to ensure that **long-term parking spaces** are moved **from the streets to garages** or **private parking areas**. When building new garages the parking spaces within a radius of 500m should be reduced in accordance with the existing parking space density in public spaces. Following on from the planning for public garages and collective garages for residential developments, it should be established in consultation with the district authorities what are the proposals for **reduction in open-air parking spaces**. In all cases the organisation of stationary traffic in the public street scene should be aligned with the standards for pedestrian traffic.

With regard to the **organisation of the available parking spaces** in the public street scene, the provision and use of private parking areas and the garage programme, and the **special programme for the promotion of garages** ("people's garages") should be developed further.

Over the next few years, **further P&R facilities** linking peripheral sites with the main public transport systems are needed, for employees from the peripheral areas of Vienna and surrounding districts to **change to public transport** in greater numbers. Within the Vienna city zone there are at present approx. 5,800 available P&R spaces. By 2010 the provision should be increased to approx. 14,000 P&R spaces. In the long term, further schemes are to be provided in particular along the extended U-Bahn lines. In addition, in **cooperation with the Land of Niederösterreich**, the P&R facilities which make it easier for commuters from Niederösterreich to transfer to the S-Bahn while still in their own residential district should be expanded. In addi-

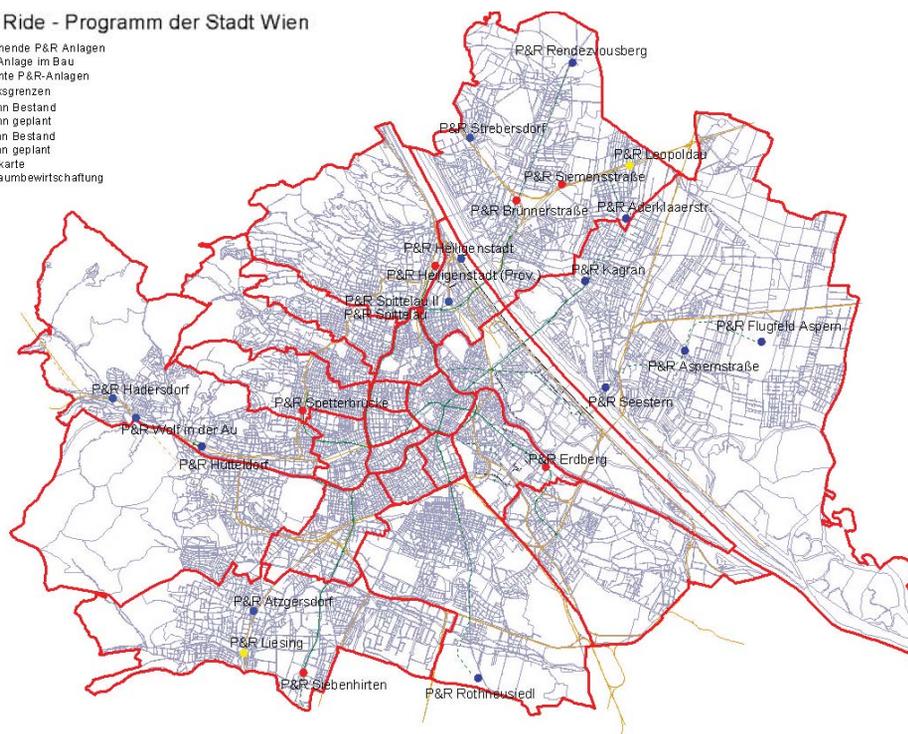


tion to the Park & Ride facilities in the region, Park & Drive facilities should also be provided at selected car parks along the main road network outside Vienna, facilitating the formation of travelling communities to Vienna.

Fig. 10: Existing and planned Park & Ride locations

Park & Ride - Programm der Stadt Wien

- bestehende P&R Anlagen
- P&R Anlage im Bau
- geplante P&R-Anlagen
- Bezirksgrenzen
- U-Bahn Bestand
- U-Bahn geplant
- S-Bahn Bestand
- S-Bahn geplant
- Blockkarte
- Parkraumbewirtschaftung



Source: City Administration – Urban Planning Directorate, valid: September 2003

The Viennese parking space management is a particularly effective instrument in the urban traffic policy, and is comparatively very successful internationally. Fee-generating parking should also be available in future without time limitation. But the parking space policy stands and falls with the monitoring. In the context of vehicle security and keeping the ways clear for pedestrians, the control of public parking areas should be expanded in future.

In order to control car traffic, a limitation of private parking spaces associated with commercial premises, office blocks and shopping centres is also proposed. To this end, governmental and fiscal instruments of control can be used (e.g. the introduction of maximum parking space limits, taxes on traffic-generating elements). However, all these measures must be agreed with Niederösterreich and the surrounding districts, in order to prevent migration of businesses for whom good accessibility by car is essential out to the surrounding Niederösterreich area.

11. Shipping

Over the last ten years shipping on the Danube has been experiencing **permanent exceptional circumstances** because of the **political crises in the Balkans**. This means that transport on the Danube has not developed as was expected. River-borne transport compares favourably ecologically with the transport of goods by road, and so **incentives should be introduced to improve domestic river transport**, a move which is supported both by the EU and the Federal government. The objective of the City of Vienna is to increase the proportion of transport via the Danube waterway away from road transport and further extend the **port of Vienna as a multi-modal goods transportation centre**.

Only a few of the measures along the Danube which are necessary for achieving these transport policy objectives lie within the decision-making sphere of the City of Vienna. However the **City promotes** and supports **the ecologically-sustainable expansion of the whole of the Rhine-Main-Danube waterway** in accordance with the international agreements which have been made. The improvement of the conditions for container ship transport, the introduction of the "Danube River Information Service" (DORIS) to improve performance and safety on the Danube waterway, the improvement of the Danube between Vienna and Bratislava and the quick removal of the pontoon bridge at Novi Sad and the associated recalculation of navigation fees, should all contribute to the improvement of the **Danube as transport route and commercial waterway**.

With an area of 350 ha, the port of Vienna is the Austria's biggest public port on the Danube. With a concentration of over 100 companies on the interface where water, road and rail transport systems meet, the **port of Vienna is also the biggest goods transport centre in Austria**. The Port of Vienna should have a key role in developing Vienna into a modern, high-capacity, inter-modal transport interchange. Essential to this is the construction of the Winterhafen bridge for rail traffic, the shift of the B14 to the dockside road and the connection to the future S1, and the expansion of the tri-modal terminal for combined traffic in the Freudenau docks, the hundred-metre extension of the quays in the Albern docks to increase the handling capacity, the construction of a new depot for the storage of bulk goods, and the improvement of the high-water defence systems for the Freudenau and Albern docks.

Also important is the continuing of the already started cooperation with other Danube river terminals.



12. Air transport

During the period 1995 – 2002 the numbers of **passengers** terminating at **Vienna Airport** increased by approx. **40%** to around **12 million**. This increased has essentially resulted from the successful positioning in recent years of the airport as a West-East and increasing also as a West-Far East hub. Due to the expansion of the EU the catchment area of the airport has increased from 5.6 to 14.3 million. The current forecast of the Flughafen Wien AG airport company shows a further **increase of passenger throughput by 4.6% per annum**; in any case, growth will be above the European average.

However, Vienna Airport is also a **dynamically growing commercial location**, the significance of which extends far beyond the mere development of air traffic (e.g. "Office Park" – a high-quality office development with associated services for the cargo sector). The **strong growth generates considerable traffic problems** on the ground – both on the airport site and also the routes which feed it. The Prater intersection (A4, A23) is already overloaded with traffic at peak times.

At present access to and from the airport is insufficiently served by public transport. Growth of the airport can only continue if the proportion of personal public transport (trains, buses) is substantially increased. The "**City Airport Train (CAT)**", co-financed by ÖBB (Austrian Federal rail operator) and Flughafen Wien AG, which will run between Station Vienna Landstraße (with check-in facilities) and the airport station, will be operational **from December 2003**. This train will run at **30-minute intervals** and reach the airport in 16 minutes.

Fig. 11: City Airport Train (CAT)



However in the medium- to long-term, from the point of view of Vienna, high-speed connections must be created with the surrounding conurbations – in particular with Bratislava (and the airport), but also with Győr, Sopron, Brno, Linz and Graz – and the high-speed rail lines between the airport and Vienna and the Bruck/Leitha – Neusiedl/See – Eisenstadt areas expanded with the addition of new lines. Whether the rail system feeds or competes with air traffic, it is essential that it has modern rolling stock offering comparable comfort to that of an aeroplane. In addition to an attractive range of public transport, it is essential to provide good parking management by the airport, in particular for regular commercial commuters.

Since the beginning of 2001, within the scope of the “Vienna Airport Mediation Procedure” work has been carried out to find mutually-acceptable solutions, acceptable to all the parties involved, which can be contractually assured, with the objective of planning in an acceptable way for the present and future pollution and other problems caused by air traffic to the local population and the environment. From the Viennese point of view, factors of particular interest were assuring the long-term success of Vienna Airport, to maintain Vienna as a prosperous commercial location while minimising adverse effects on the environment which may be caused in the future by the airport and its air traffic.

13. Mobility management

Attempts to increase the efficiency of the transport system by means of operational and organisational measures have been under way in Vienna for years. Since 1995 the Vienna Lines company has been building up a **computer controlled operations management system (rechnergesteuertes Betriebsleitsystem – RBL)**, which at present includes 20 daytime and all night lines. In the traffic control centre of the Vienna Police and the motoring associations, all information on the flow of traffic and stoppages is collected and passed on. All traffic information is passed on via the Federal Ministry of the Interior's **All-Austria Traffic Information System (österreichweite Verkehrsinformationssystem – VIS)**. Information on construction sites is displayed on the Internet by Municipal Department 46 by means of a graphic construction site information system. The electronic parking management and information system currently supplies real-time information on around 24 car parks and garages. ASFINAG, the motorway financing company, is in the process of building up a **traffic control system** for the Vienna conurbation. Since 1991, passenger information has been available from the electronic journey plan information (Fahrplanauskunft – EFA) system of the East Region Transport Association (Verkehrsverbund Ost-Region – VOR). Austrian Railways (Österreichischen Bundesbahnen – ÖBB) and Vienna Airport (Flughafen Wien – VIE) have their own rail – air travel plan information.

For several years, the „Wiener Linien“ and the ÖBB, in cooperation with car hire companies, have been offering **special packages for daily mobility needs**. The City of Vienna, the province of Niederösterreich and motoring associations established the **Travel Community Exchange (www.fahrgemeinschaften.at)** in 2002.

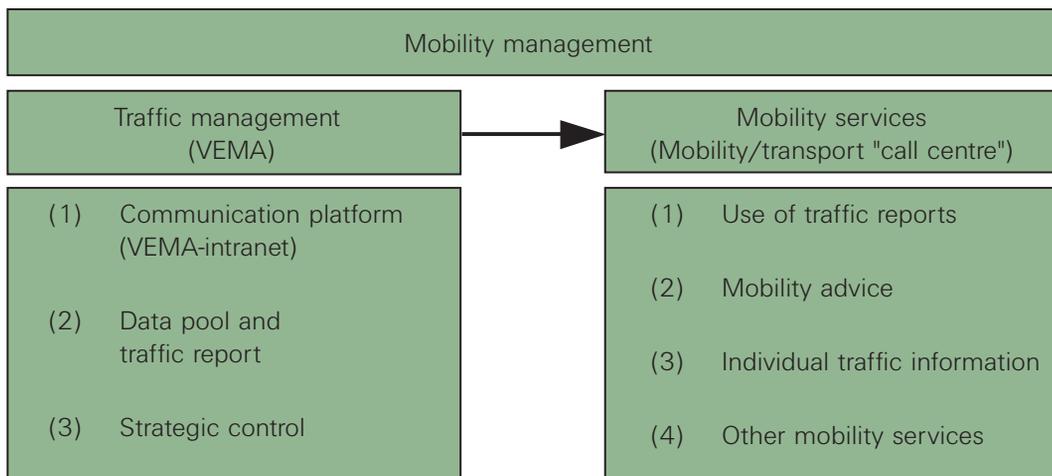
Mobility management includes management of and between different transport systems, information on users, communication between the transport users and operators and the range of mobility-related services. Transport users should be motivated to seek city-friendly alternatives when choosing their mode of transport. Under control by the City of Vienna, as part of the VEMA (Verkehrsmanagement Wien – Vienna Traffic Management) Project, an organisational structure is being built up to ensure a **systematic exchange of information**, the collation and use of traffic data and a strategic traffic control system. As an initial stage a **communication platform and data pool** between all involved is being developed.

Within ten years Vienna should have a modern, **inter-modal and regional traffic information system**. This system must benefit from developments with the Internet, mobile phones and navigation systems, in order to make **information** available to citizens **quickly and cost-effectively**. The renewal of the traffic control centres and the dynamic traffic information system will ensure effective inter-modal control of traffic developments. Also, in Vienna in future there will

be a **mobility advice** service (e.g. "Mobility Call Centre") whose field of responsibility does not end with that of the transport companies, but bundles together various hotlines (a free hotline for people with mobility difficulties, a cyclists' phone line, a Travel Community Exchange, etc.).

The core services of a mobility consultancy scheme are information on products and services in the areas of transport, publicity work and awareness-raising. Mobility management and advice in schools will be an important area, as will operational mobility management and SMS – real-time inquiries on the arrival of the next bus or train (stop code). Incentives must be created which encourage operators to make use of mobility consultancy. An **implementation of a mobility effectiveness test in the Internet** is possible, where individual journeys can be tested for economic efficiency and environmental friendliness and compared (energy consumption, costs, etc.). The development of mobility concepts for major events to encourage car-free travel by participants is also part of this subject.

Fig. 12: Mobility management



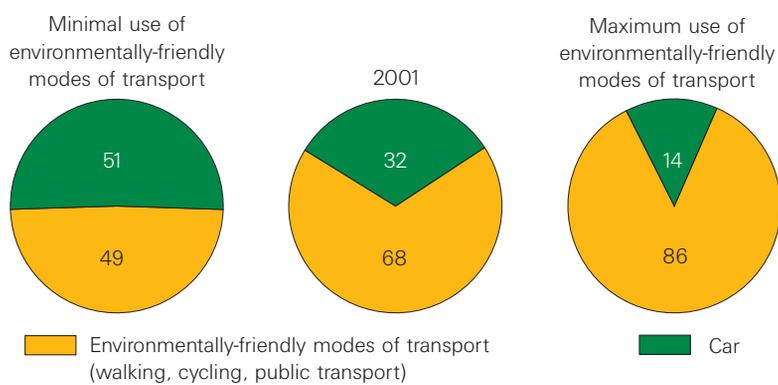
"Soft" mobility measures include organisational measures with the objective of **sustainable transport behaviour patterns**. These are primarily information measures (e.g. basic mobility information packages for those moving into the area) and marketing (public transport operators' ticket, car sharing, car pooling, teleworking) which can substantially increase the effectiveness of expensive infrastructure expansion works.



14. Awareness raising

In the case of 37% of all journeys in the urban system, Viennese travellers have had a possible choice **between the car and an environmentally-friendly mode of transport** (walking, cycling or public transport).

Fig. 13: Potentials for change in the choice of modes of transport through changes in the local transport habits of Viennese citizens which are possible at any time



Source: Socialdata, results of a mobility study carried out in connection with the development of the Transport Master Plan 2003 for Vienna City Administration, Vienna, 2002

The potential for changing from the car to environmentally-friendly forms of transport is about the same at 18% or 19%. This shows that **changing travel behaviour** by Viennese travellers involves both opportunities and risks. The effectiveness of continued, targeted publicity is shown by the example of the Vienna Lines: in 1992 they began undertaking continued targeted marketing. They improved not only **substantially increased passenger numbers**, but also significantly the level of satisfaction.

The **improvement of the information** on the traffic policy objectives made available to citizens, opinion-formers, politicians and the administration, and the acceptance of this information, should lead to a change in transport behaviour. In order to ensure that these objectives can be achieved, **packages of measures in the area of publicity** (e.g. communication of the Transport Master Plan 2003, event-oriented publicity, road safety campaigns, publicity modules for the districts, marketing initiatives for walking, cycling and urban parking policies), management of information and mobility education (e.g. education in comprehensive mobility instead an excessively car-dependent way of thinking, schools project days) should be pursued.

15. Steering instruments

In addition to planning, organisational, operational and structural measures, mobility developments can also be influenced by legal, fiscal and financial control instruments.

An essential basic principle of the Transport Master Plan is, moreover, an efficient design of the transport system. The principle of “**true cost**” including the external costs of mobility developments (consequential costs of accidents, damage from noise pollution, air pollution, climate change, etc.) should be implemented in stages. Existing instruments need to be adjusted with the **City of Vienna adopting the role of proposer, appraiser or lobbyist** and drawing on the readiness of other institutions to participate. In this context it will take an active role in achieving the desired changes or preventing undesirable developments.

In the area of the **Federal Road Traffic Order** there is a **need for change** regarding overtaking or passing a train or tram stationary at a stop, both in relation to the priority rules in favour of public rail transport turning to the left and with regards to cycle lane use obligations.

The Vienna **Land state laws** should specify the introduction of **upper limits for parking space numbers for non-residential use, and also** the prerequisites for the introduction of a **fee-based car park management system** will be put in place.

So-called “Job tickets” should be issued tax-free, and a **restructuring of the fiscal** promotion of a shift in commuter traffic towards environmentally-friendly modes of transport should be forced; the tax on diesel should be made equal to that on petrol, and together with Niederösterreich the introduction of a traffic connection **tax system and a “tax on traffic-generating elements”** should be examined.

From the point of view of the City of Vienna, the level of tolls for Road Pricing should be at least 29 cents per km and the legal penalties for offences which **endanger road safety and increase environmental impact** (e.g. failure to observe speed limits, entering junctions before the exit ways are clear) **should be increased**. The short-stay parking rates and consumption taxes, unchanged since 1986, should be reviewed, and the award of grants for residential development should depend on areas with good public transport connections.

In addition to legal, fiscal and financial instruments, the City of Vienna can also increase change to sustainable mobility development on a contractual basis – for example by **concluding mobility contracts**.



16. Measuring and managing success

Every five years, checks should be made to see to what extent objectives have been achieved and measures implemented. Key criteria with quantitative target quantities (measures of success) are proposed for the checks, which should be compulsory and must be published.

Table 3: Guiding criteria and success benchmarks for regular monitoring of success

Criterion	Measure of success (relevant year in brackets)
Modal split (journeys of Viennese citizens every day)	Reduction of the proportion of motorised individual transport to 25% by 2020 (2001)
	Increase of the proportion of cycling to 8% by 2020 (2001)
	Increase of the proportion of public transport to 40% by 2020 (2001)
	Keep the proportion of pedestrian traffic at 2001 levels (2001)
	By 2020 the choice of mode of transport should reach 75% environmentally-friendly modes by both men and women (2001)
Modal split (journeys of commuters every day)	Change of distribution of modes of transport between public transport and motorised individual transport by 2020 from 35 to 65% to 45 to 55% (2001)
Traffic density in Vienna	The number of journeys made by car (car km) should not increase further (2002)
Density of car traffic	No further increase in traffic crossing the Gürtel (2000) Reduction in averages within the Belt/Danube channel (2000)
Mobility choices	By 2010 100% of inhabitants to live within 15 minutes of a public transport stop (2002)
	The annual network season ticket price for Vienna to remain at least constant in relation to the average income (2002)
Transport safety	The number of deaths and injuries to be reduced by 50% by 2020. (2002)
Emissions	The instances of exceeding the maximum NO _x limits at road intersections to be reduced to zero by 2010. (2002)
	The proportion of residents affected by noise pollution to be reduced by 20% by 2020. (1996)
	5% reduction in traffic-caused CO ₂ per capita by 2010 (1987)

There are additional criteria which give a better estimate of the effectiveness of the implemented measures.



17. Effects of the programme of measures

With the help of traffic model calculations and qualitative evaluations by experts the effects of the proposed package of measures on the modal split and the pressure on the network will be estimated, with the effects also dependable on the non-assessable extent of implementation.

The **estimate of effectiveness on choice of mode of transport** clearly shows that structural measures are not sufficient, but that a package of measures including “parking space management”, “mobility management”, “awareness raising” and the “use of steering instruments” has a leading role in achieving the desired objectives. There is an essential risk factor in the fact that the **City of Vienna** above all is only **partially able to make decisions** concerning the steering instruments. Also the extent to which desired environmental objectives can be achieved is determined by technical standards and steering instruments, over which the City of Vienna has only little influence.

The checking of measures for their effect on generating equality of opportunity between the sexes shows an **improvement in gender mainstreaming**. Compensatory and follow-up measures are proposed for potential conflict areas.

The measures contained in the Transport Master Plan **have a positive effect on Vienna as a commercial location**.

In summary, it can be said that the **objectives set are attainable**, but that success depends on good cooperation between all responsible parties.



18. Priorities, financing

For measures with trans-regional effects, the following projects are particularly important:

- Paris – Munich – Vienna – Budapest and Berlin – Prague – Vienna – Trieste rail routes
- Connection to Rail Corridor V: Vienna – Airport – Sopron – Szombathely
- Vienna Central Train Station – Centre of Europe
- Vienna-Inzersdorf and Freudenau Port goods terminals
- Expansion of the road network: A5 North motorway, A6 Kittsee Link, S1 Vienna orbital road

Measures with special significance for the development of transport in Vienna are defined by the main points for negotiation in the Transport Master Plan. Within the scope of the main points for negotiation, during the next three to five years the following measures should be introduced:

Table 4: Focal points for action and priority measures

Point for negotiation	Measures
Safe mobility (Vision Zero)	Section control, digital monitoring cameras, improvement of accident black spots, lighting campaigns, safe route plans, cycle tests at high schools, safety audit at the planning stage, street design to take account of the needs of the elderly
Good and Available space	Model intersections, 50-location programme Increase attractiveness of public space when building garages (people's garages) Continual quality improvement
Great Cycling	Concentration on the expansion of the main cycle route network: expansion and renovation of existing routes, 5-year programme with € 30 million
S-Bahn plus	Improve attractiveness of main routes, S80, S 45 to Ostbahnbrücke, increased frequency to Süssenbrunn Links between Donauländebahn-Ostbahn lines Station campaigns: Vienna Central Train Station – Centre of Europe, Wien Mitte, Hütteldorf, Heiligenstadt New stations: Unterdöbling (S45), Gudrunstrasse (S80), Leberstrasse (S7/S80), A. Blamauer Gasse (main lines) Expansion of Park & Ride facilities at Heiligenstadt, Kaiser Ebersdorf
U-Bahn incentives for city development	Construction to begin on U1 South, U2 North, U1 Südtiroler Platz Station
Fast public transport routes	Line 67 to Monte Laa, Line 16 Floridsdorf – Eßling/Gross Enzersdorf, Line 26 Kagraner Platz – Aspern, Line 6 (71) to Schwechat, Line O Vienna North – Friedrich-Engels-Platz



Point for negotiation	Measures
Stop only at designated stops	Priority and increased speed of public transport the length of the lines
Systematic mobility	Traffic management, mobility advice (e.g. transport call centre) car sharing, travel communities, awareness raising
Logistics competence	Vienna – Inzersdorf, Vienna – Freudenau goods terminals, City logistics “Loading zone management”: e.g. bundled delivery times in shopping street
Rail and road for Europe	Vienna Station – Central Europe, Pottendorfer Line, Wien – St. Pölten high-density section, Donauuferbahn – Donauländebahn connection (Winterhafenbrücke), A23 expansion from trunk road intersection to Prater intersection, A22 + B3 to Brünner Strasse, A23 Ast Simmering + B225, extension of A23 + B3d, Seyring Link, B221 from B230 to A23, B229 4-lane from A22 to B8, B1 Karlsplatz and Schloss Schönbrunn

During this period, the planning will also be begun of those projects whose implementation is proposed at a later date (e.g. U2 Eurogate, U6 North, U6 South, Line 27 Grossjedlersdorf – Kagran, 6th Danube crossing/North-East orbital, etc.).

In addition, programme already begun will be continued. These include in particular

- ➔ the provision of 5,000 – 6,000 additional commercial parking spaces by 2010,
- ➔ the provision of approx. 8,000 Park & Ride spaces by 2010 in Vienna and 5,200 spaces in the region,
- ➔ further development of parking space management for the outlying district: Stadthalle Pilot Project and
- ➔ the adaptation of legal, fiscal and financial steering instruments to ensure the improved implementation of transport policy principles and objectives.

Financing

The financing of investment projects has been undertaken in various ways:

For A and S Federal highways this is undertaken by **ASFINAG**. B routes (formerly B Federal highways) are financed from the **budget** allocated to the **City of Vienna** after the transfer of part of the responsibility for the Federal highway network to the Land authorities. The remainder of the road network is divided into that part of the main road network which, in the case of new roads, is partially paid for by the central City budget, and secondary roads, for which the **district councils** are responsible. The **Federal government** is responsible for financing the rail infrastructure. The operation of the S-Bahn services is also the responsibility of the Federal government, in accordance with the Public Regional and Local Transport Law of 1999 – at the



level set for the 1999/2000 transport plan year. The financing of the fourth public transport expansion phase should also be undertaken 50% each by the **Federal and Province** governments for the U-Bahn, in accordance with the "Vienna Contract". The expansion of the tram network is the responsibility of the City of Vienna.

The inclusion of private investors and operators – Public Private Partnership – should be examined and pursued, in particular in contracts for traffic and mobility management, the construction of stations, goods terminals, logistics centres and the connection of major projects on the periphery of the city with the public infrastructure.

Projects, and their costs and implementation timetables can be seen in the appendix.



Appendix

The tables below show the major investment projects with costs, insofar as these can be estimated, and implementation timetables. In addition they show the ongoing implementation of smaller measures (e.g. pedestrian schemes, public space, mobility management), agreed with the district authorities and partially financed from the district budget. No definable costs and implementation timetables can be given for these measures. Projects already under construction (e.g. Lainzer Tunnel, 3rd phase of the U-Bahn expansion, S1 – Southern by-pass, etc.) are not shown here.

Table 5: (1) Non-motorised transport and transport safety

Project	Cost	Implementation timetable for the period		
		2003–2006	2007–2011	2012–2021
Transport safety	1)			
Pedestrian traffic	1)			
Public spaces	1)			
Cycle routes – main network	30	x ²⁾	x ²⁾	
Cycle routes – remaining network ³⁾	1)			

¹⁾ Ongoing implementation of measure for which no definable costs or implementation timetables can be given.

²⁾ 5-year programme to 2008

³⁾ District competence

■ ongoing measures and activities

X Implementation of projects

Table 6: (2) Long-distance passenger and goods transport by rail

Project	Cost in Vienna (Millions of Euros)	Target implementation timetable in the period			
		2003–2006	2007–2011	2012–2021	after 2021
Connection between West, South and Danube regional railway incl. Lainzer Tunnel	950	X	X		
Inzersdorf terminal, 1st phase	37,7	X			
Inzersdorf, East loop	5,1	X			
Donauuferbahn-Donauländebahn, Winterhafenbrücke connection	43,6	X			
Pottendorfer line	58,2	X	X		



Project	Cost in Vienna (Millions of Euros)	Target implementation timetable in the period			
		2003– 2006	2007– 2011	2012– 2021	after 2021
Vienna – St. Pölten high-density section	50	X	X		
Freudenau goods terminal	72,7	X			
West station	¹⁾	X	X		
Vienna Central Train Station – Centre Europe ²⁾	406	X	X	X	
Central marshalling yard East loop	14,5		X		
Laaerbergtunnel/ Hasenleiten loop	181,7		X		
Brunn – Atzgersdorf 3rd track	13,8		X		
North line extension	NÖ		X	X	
Absdorf – Hippersdorf and Tulln loop	NÖ		X		
Pottendorfer Line – Aspangbahn loop	NÖ		X		
Inzersdorf terminal, 2nd phase	152,6			X	
Vienna West – Penzing 3rd track	14,5			X	
Vienna North Station, phase 2	58,1			X	
EWIWA/EWESO: VIE – Gramatneusiedl	NÖ			X	
EWIWA/EWESO: Gramatneusiedl – Wampersdorf – Sopron	NÖ, Bgld.			X	
North-East goods terminal	87,2			X	

¹⁾ No precise cost estimate is yet available

²⁾ Long-distance and local traffic



Table 7: (3) Public transport measures (regional transport, local transport)

Type	Project	Cost in Vienna (Millions of Euros)	Target implementation timetable in the period			
			2003–2006	2007–2011	2012–2021	after 2021
S-Bahn	Vienna North Station, 1st phase	14,5	X			
	Hütteldorf station 1st phase	29,1	X			
	Leopoldau station, track restructuring U1	7,3	X			
	VIE Airport station	NÖ	X	X		
	Wien-Mitte, Heiligenstadt, Hütteldorf, Meidling S-Bahn stations	¹⁾	X			
	Improving attractiveness of main S-Bahn lines	150	X		X	
	Improving attractiveness of existing S-Bahn stations	¹⁾	X	X		
	Higher density of S-Bahn stops following infrastructure expansion	44	X			
	Construction of Adolf Blamauer Gasse (Stammstrecke), Gudrunstrasse (S80), Leberstrasse (S7/S80), Unterdübling (S45) S-Bahn stations upgrading	60	X	X	X	
	S80 – construction phase 1	310	X	X		
	Extension of S45 from Nordbahnbrücke to Ostbahnbrücke/S80	60		X		
	Adaptation of S45 connecting line incl. renovation of Hütteldorf station	109		X		
	Linking of Ostbahn – Donauländebahn lines	22		X		
	S80 – upgrading phase 2	¹⁾			X	
	Extension of Ostbahn, eastern line (Marchegg, Bratislava)	NÖ			X	
	S15 Meidling – Hütteldorf	14,5			X	
	Extension of Ostbahn (northern branch)	¹⁾			X	
Extension of Parndorf – Petrzalka	NÖ				X	



Type	Project	Cost in Vienna (Millions of Euros)	Target implementation timetable in the period			
			2003– 2006	2007– 2011	2012– 2021	after 2021
U-Bahn	Optimisation of Südtiroler Platz U1 station	25		X		
	U2 North Flugfeld	250		X		
	U1 South Rothneusiedl	610		X	X	
	U6 South/Badner Bahn	100		X	X	
	U6 North	644			X	
	U2 Arsenal – south-east freight station	520			X	
Tram	Line 67 to include Monte Laa	15	X			
	Line O North Station – Friedrich Engels-Platz	26	X			
	Line 16 Floridsdorf – Eßling/Gross Enzersdorf	168		X	X	
	Line 26 Strebersdorf – Aspern	50		X		
	Line 6 (71) after Schwechat	30		X		
	Line 65 to include Wienerberg	120		X		
	Line 27 Grossjedlersdorf – Kagran	35			X	
	Ongoing improvement measures (lifts, stops, etc.)	²⁾				

¹⁾ The costs are dependent on other measures and at present cannot be estimated.

²⁾ Ongoing implementation of measures for which no definable costs and implementation timetables can be given.

■ Ongoing measures and activities



Table 8: (4) Major road network measures

Project	Cost in Vienna (Millions of Euros)	Target implementation timetable in the period			
		2003– 2006	2007– 2011	2012– 2021	after 2021
A22 + B3 bis Brünner Straße	73	X			
A23 Ast. Simmering + B225	23	X	X		
A23/A4 Prater intersection expansion	11,5	X	X		
S2 Levelling of Breitenleer Straße/Rautenweg incl. Süßenbrunn bypass	104	X	X		
A6-Kittsee Link	NÖ, Bgld.	X	X		
A5 North motorway	NÖ	X	X		
S1: S2 – A5 north-east bypass	NÖ	X	X		
S1: A5 – A22 north-west Link	NÖ	X	X		
S1: A4 – A22, 6th Danube crossing (tunnel)	450 ¹⁾		X		
S1: A22 – S2 north-east bypass	750 ¹⁾		X	X ³⁾	
A23 + B3d extension to national border	200 ²⁾		X		
A4 between S1 and airport	NÖ		X		
S1 – A23 junction Hansson curve	109		X	X	
A22 Kaisermühlen intersection to S1	230 ¹⁾		X		
B1 Karlsplatz: Layout improvement	4)	X			
Junction Seyring between Seyringer Straße and S2	6	X			
B229 4-lane from A22 to B8	15	X	X		
B1 Schloss Schönbrunn	4)	X	X		
B14 Seitenhafenstraße	9	X	X		
B14 Rannersdorf west junction	15		X		
B221 from B230 to A23	60		X		



Other major road network measures

Project	Cost in Vienna (Millions of Euros)	Target implementation timetable in the period			
		2003– 2006	2007– 2011	2012– 2021	after 2021
B228	25		X		
B1 Karlsplatz – Pilgramgasse Naschmarkt improvement	11		X		
B1 Karlsplatz – Sezession bundling of directional lanes	14			X	
B13a Liesinger Platz	⁴⁾				
B232 B3 – Stammersdorfer Straße	⁴⁾				
B224 B1 – Winckelmannstraße – belt	⁴⁾				
B227 Ast. Muthgasse Link with Muthgasse district	⁴⁾				
Aspern airport link	⁴⁾				
Südbahnviertel link	⁴⁾				
Schlachthofareal link	⁴⁾				

¹⁾ Rough cost estimate according to SUPerNOW for the Lobau and Aspern/Eßling interchanges variants preferred by Vienna.

Overall cost of the north-east bypass system: € 1.4 - 1.6 billion

²⁾ of which A23 € 136 million, B 3d € 64 million

³⁾ Open to traffic 2012

⁴⁾ Implementation timetable and costs dependent on the local area development and detailed planning which is still to be completed



Table 9: (5) Ship and air transport

Project	Cost in Vienna (Millions of Euros)	Target implementation timetable in the period			
		2003–2006	2007–2011	2012–2021	after 2021
Optimisation of navigable channel to the east of Vienna	NÖ	X	X	X	
VIE Airport – capacity increase	NÖ		X		
VIE Airport – noise reduction	¹⁾	X			

¹⁾ Organisational measures

Table 10: (6) Stationary traffic

Project	Cost in Vienna (Millions of Euros)	Implementation timetable in the period			
		2003–2006	2007–2011	2012–2021	after 2021
Commercial garages	¹⁾	X	X		
Park & Ride facilities in Vienna	¹⁾	X	X		

¹⁾ Public Private Partnership Projects

Table 11: (7) Mobility management and publicity

Project	Cost in Vienna (Millions of Euros)	Implementation timetable in the period			
		2003–2006	2007–2011	2012–2021	after 2021
ASFINAG traffic control system	44	X	X		
Traffic control centre	58 ³⁾	X	X	X	
Dynamic traffic information system	¹⁾	X			
Mobility advice	²⁾	—			
Support for “soft” mobility measures: car sharing, travel communities, etc	²⁾	—			
Publicity and awareness raising	²⁾	—			

— Ongoing measures and activities

¹⁾ The costs cannot be precisely estimated.

²⁾ Ongoing implementation of measures for which no definable costs and implementation timetables can be given.

³⁾ Overall project: 3 new traffic control computer plus new traffic light systems



List of illustrations

Figure 1: Basic principles: the pentagon of "intelligent mobility"	10
Figure 2: Targets for the distribution of modes of transport used by the Viennese (every day)	11
Figure 3: Chosen means of transport used by the Viennese according to types of area (every day) in per cent	15
Figure 4: Infrastructure for the TEN node region of Vienna (rail, water, air)	18
Figure 5: Figures for deaths in Vienna 1983 to 2002	19
Figure 6: Annual chart of cycle traffic at the Burgring permanent measuring point, June 2002 to June 2003	24
Figure 7: Main cycle track network	25
Figure 8: 4. Public transport expansion phase	27
Figure 9: Road building programme	29
Figure 10: Existing and planned P&R locations	32
Figure 11: City Airport Train (CAT)	34
Figure 12: Mobility management	37
Figure 13: Potentials for change in the choice of modes of transport through changes in the local transport habits of Viennese citizens which are possible at any time	38

List of tables

Table 1: Potential locations for peripheral development zones	8
Table 2: Main points for negotiation	13
Table 3: Guiding criteria and success benchmarks for regular monitoring of success	40
Table 4: Focal points for action and priority measures	42
Table 5: Non-motorised transport and transport safety	45
Table 6: Long-distance passenger and goods transport by rail	45
Table 7: Public transport measures (regional transport, local transport)	47
Table 8: Major road network measures	49
Table 9: Ship and air transport	51
Table 10: Stationary traffic	51
Table 11: Mobility management and publicity	51



Staff

The Transport Master Plan 2003 was produced by a core team consisting of staff from the City of Vienna's Municipal Council, Vienna Lines, VOR and experts responsible for content and organisation. In addition, experts from the Chamber of Commerce and the Chamber of Industry were involved in individual working groups. The public participation was organised, led and advised by the team "Mobile in Vienna". An editorial committee was formed for the editing of the Transport Master Plan, carrying out the final editing of the Transport Master Plan in close consultation with councillor Rudolf Schicker and taking into account the opinions of district authorities, representatives of interested parties, transport initiatives and council associations.

The core team included the following staff members:

Alexander Elisabeth, Amadori Fulvius, Arnost Karl, Berger Horst, Berger Thomas, Blaha Franz, Burkhart Wolfgang, Coffey Antonia, Dangl Robert, Deix Franz, Domany Bruno, Dorner Alfred, Edinger Andreas, Emrich Hans, Engleder Bernhard, Ertl Günther, Favry Eva, Gerlich Wolfgang, Gielge Johannes, Haimböck Johanna, Hala Bernd, Haselberger Rainer, Häusler Dieter, Heimbuchner Klaus, Hermann Erich, Hiess Helmut, Hillinger Bernhard, Höfling Kurt, Höger Peter, Jilka Brigitte, Kail Eva, Kautzner Andreas, Khutter Wolfgang, Klimmer Astrid, Klotz Arnold, Köhler Werner, Kunisch Peter, Layr Vera, Leodolter Sylvia, Lettner Susanne, Loimer Hannes, Müller Rainer, Nuß Andreas, Oblak Sigrid, Orasche Wolfgang, Petuelli Erich, Polan Rudolf, Posch Hanna, Rauscher Beatrix, Rauter Andreas, Reinagl Alexandra, Riedel Roman, Rosinak Werner, Salomon Rudolf, Schicker Rudolf, Schipany Martin, Schulz Hannes, Sedlmayer Helmut, Semela Harald, Skoric Bernd, Snizek Sepp, Spiess Christine, Steinbach Gabriele, Steiner Marianne, Stocker Gunter, Stratil-Sauer Gregor, Sturm Walter, Stütz Andrea, Theuermann Alfred, Unger Thomas, Vollmost Martin, Wagner Ernst, Weber Gerhard, Weingartshofer Ursula, Weninger Andrea, Wismühler Hanna.

The following staff members were involved in the "Mobile in Vienna" team:

Berger Thomas, Blaha Franz, De Riz Roland, Emrich Hans, Enner Michaela, Glotter Karl, Götz Anja, Hala Bernd, Kalss Winfried, Kanelutti Walter, Kinninger Brigitte, Löwenstein Alexander, Mahringer Willi, Marcinek Sigrid, Mayr-Ebert Michael, Niederkofler Heidi, Oblak Sigrid, Poznanski Barbara, Rauscher Beatrix, Ristl Franz, Scharinger Irina, Schipany Martin, Selinger Gerhard, Stockinger Günther, Stückler Dominikus, Tadler Johanna, Theuermann Alfred, Vogler Gerhard, Wessely Richard, Wolf Arno.

The editorial committee consisted of the following staff members:

Alexander Elisabeth, Ertl Günther, Hiess Helmut, Kail Eva, Lettner Susanne, Oblak Sigrid, Posch Hanna, Rauscher Beatrix, Rosinak Werner, Snizek Sepp, Theuermann Alfred.

The following were responsible for the steering of the overall Transport Master Plan project in terms of content and organisation:

Hiess Helmut, Oblak Sigrid, Rosinak Werner, Snizek Sepp.



