MOBILITY
A city in motion

Living in a good location and in an intact environment; having easy access to your job, knowing that your kids can reach their schools quickly and safely, having access to shopping and leisure facilities - isn't that what we all dream of?

But what's the best way for you personally to reach that dream? On foot, by bus or rail, or by car? How safe and how swift is your route? What does it cost the individual and what does it cost society as a whole? After all, traffic does not only consume energy - one must build streets and lay tracks; bus stops and parking spaces must be constructed and maintained. If we are all underway, aren't we also in each other's way?

No problem? OK then, why not plan and build your own city and manage its mobility! Design an attractive, economically successful and ecologically sound environment for its inhabitants. Just watch while your city grows and prospers. We wish you many hours of fun and success in the process!

Of course, this is all just a game. Or is it? The measures used in this game to influence traffic, spatial planning and environmental impact are all based on professional spatial and traffic planning. This has been made possible by the ongoing assistance given to the project by the Weimar Bauhaus University, as well as the traffic research department of DaimlerChrysler AG. Many thanks to all those involved in the project!

An initiative by	DaimlerChrysler AG, Stuttgart,
together with	Rhein-Main-Verkehrsverbund GmbH, Hofheim am Taunus
and	Verkehrsverbund Rhein-Ruhr GmbH, Gelsenkirchen
realised by	Glamus GmbH, Bonn
with scientific input from the	Bauhaus University, Weimar
promoted by the	Federal Ministery for Education and Research, Bonn

MOBILITY

Important: the game CD includes a file called README.TXT. This contains important information which was not yet available when this manual went to press. Please first read this file carefully!

Note: if you have any technical problems or questions concerning MOBILITY, please mail our hotline at hotline@mobility-online.de. Remember to include all important system data relating to your computer in your e-mail, such as the sound and graphics card installed, your main memory as well as any additional hardware such as graphics accelerators. To facilitate quicker analysis of driver problems, you should also include information regarding your software. You can find further tips, tricks and updates regarding MOBILITY on the Internet at 'http://www.mobility-online.de'.

1 Technical requirements

In order to play MOBILITY, Windows® 95 or 98 must be installed on your computer. The installation requires 70 Mbytes of space on your hard drive. You will also need an installed version of DirectX 6.1 or higher on your computer. Note : DirectX 6.1 is included in the delivery.

Minimum configuration

- 133 MHz Pentium
- 48 MB RAM
- 2 MB PCI/AGP graphics card /DirectX™ 6.1compatible
- Quadspeed CD-ROM
- 64,000 colours/16 Bit; 640 x 480 screen resolution
- 70 MB free hard disk space
- Windows® 95, 98
- Mouse
- Windows-supported sound card

If your computer is slower you should set the screen resolution to 640 x 480 (see page 8, **Console, game settings**).

Recommended configuration

- 233 MHz Pentium II
- 64 MB RAM
- 64,000 colours/16 Bit; 800 x 600 screen resolution
- 100 MB free hard disk space
- AGP 4 MB graphics card

Important: MOBILITY CANNOT be installed under MS-DOS™and Windows® NT

This program only runs under Windows® 95, 98. Installation under MS-DOS™ or Windows® NT is not possible.

2 Installation

Switch on your computer and place the MOBILITY-CD in your CD-ROM drive. The installation program will start automatically. All necessary programs will be installed automatically, and MOBILITY will be set up in accordance with your computer's hardware configuration (e.g. sound and graphics card, accelerators etc.).
NOTE: DirectX™ 6.1 is also supplied.
During installation the progress of the installation procedure will be displayed.

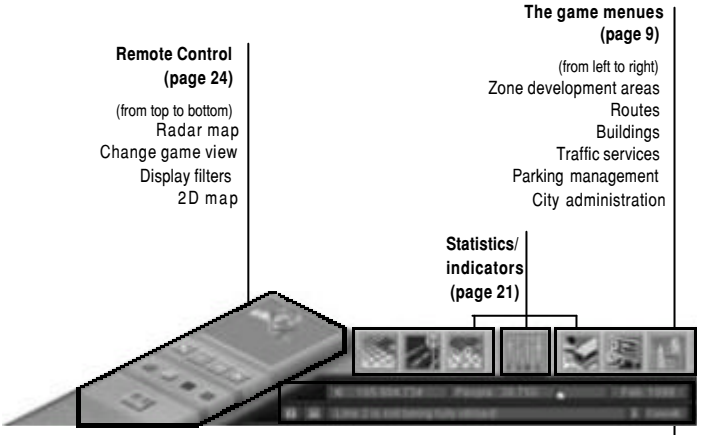
Once you have installed MOBILITY, inserted the Game CD and activated the auto run function on your computer, you will see a menue with a 'Start game' button. This menue appears automatically as soon as the MOBILITY-CD has been inserted in your CD-ROM drive. Just click on this button to start playing.

If you have installed MOBILITY and inserted the Game CD, but the auto run function is inactive, you will not be able to start playing automatically. In this event you can start MOBILITY using the 'Start' button on your Windows® 9x user interface. You will then find MOBILITY using the sequence 'Program/MOBILITY/MOBILITY'.

3 Game entry

3.1 General game overview

The following illustration gives you an overview of the most important game functions:



3.2 What you should know about MOBILITY

MOBILITY is a simulation game which requires you to construct a city in a virtual world, bring it to life and control yourself the associated traffic volume. The issue of mobility is central in this regard.

You will find yourself confronting the issue of mobility as soon as you start playing. You'll have to consider how to proceed - which houses, factories, streets, stops and stations etc. to build. You'll find that the main action leads you to a deeper understanding - albeit while playing. You'll find yourself more aware of the inter-connected issues associated with traffic. This will allow you to relate mobility and traffic to one another, and thus to understand them better. And that, in turn, should motivate you to be more aware when dealing with traffic issues.

Mobility and traffic. We associate terms like car, bicycle and bus with these two concepts. But that only represents a small selections of the concepts available to us. For example, a car driver is able to head for a park and ride facility, and leave his or her car there in order to continue on to his destination using bus or rail. Mobility centres and car sharing systems are also on offer for a fee - thus increasing the options available.

Your game world

Your game world consists of a city with infrastructure. Your city may have up to 300,000 inhabitants and corresponds to a diameter of 13 kilometers. Your city's detailed streetscape is depicted in the abstract. This means that, for example, you will not see small access streets. Your city's environs are not depicted directly.

Your game world is populated by:
- Traffic users (city inhabitants),
- Planners
- and Service providers.

Your city inhabitants constitute the group of traffic participants/users. They react to the framework conditions established by the planners. This means they are themselves able to select transport means. In addition, they determine their location and select a desired destination. As in real life, they must obey all applicable laws if they want to avoid prosecution.

The planner determines the city's structure. He can control all aspects which have a direct or indirect bearing on traffic behaviour. In your game world, the planner is responsible for developing streets, rail routes, parking spaces, residential areas, shopping centers, stops and stations, mobility centers and the like. This means that he or she is responsible both for building the infrastructure and for spatial planning. The planner is also responsible for traffic and statutory regulations, including traffic light switches/prioritisation of local public transport lines, speed limits, taxes, penalties and environmental policy decisions.

The service providers provide the city's inhabitants with traffic services. They establish the bus and train lines available to the city's inhabitants. New systems such as car sharing or mobility centers are also offered. In order to maximise the services offered to the city's inhabitants, high-technology and state-of-the art navigation systems, schedules and fully equipped stops/stations are also built into the program.

3.3 Time in MOBILITY

Time passes in the game just as it does in the real world. The game simulates the progress of working days, displayed on-screen in animated fashion.

A working day consists of 14 hours (from 6 a.m. to 8 p.m.; night-time is not simulated due to the low volume of traffic), broken down into single hours in individual simulation steps. A real time year takes five minute or less in the game. In concrete terms, just one simulation day is played through, representing a year. The end of a 'game day' also represents the end of a year.

You thus receive up-to-date statistics regarding the day, reflecting the aspect of short-term changes. The statistics for a completed year also show you the changes you have effected over a longer period.

3.4 The different game modes

Playing a scenario

In the scenario mode you - the player - are faced with various challenges for which you must devise optimum solutions.

For this purpose you are given a specific timeframe and a limited budget. Once the time has expired you will see a game evaluation, providing an insight into the success or failure of your mission.

Playing a free game

In a free game you assume control of the planners and mobility service providers. You set yourself various challenges in a free game. These may include increased mobility requirements caused by urban growth, limited available funds, and direct coupling of the evaluation indicators to growth and requirement fulfillment (such as residential units, schools etc.). Although there is no time limit, you should attempt to increase or at least halt the mobility indicators.

Your starting point may be either a city with around 30,000 inhabitants, or a green field site. The cities are determined by chance and vary from game to game. Of course, you can also backup and load a city you have already played before. This allows you to watch as your own personal city grows and prospers, or even to swap cities with other players.

Playing in master mode

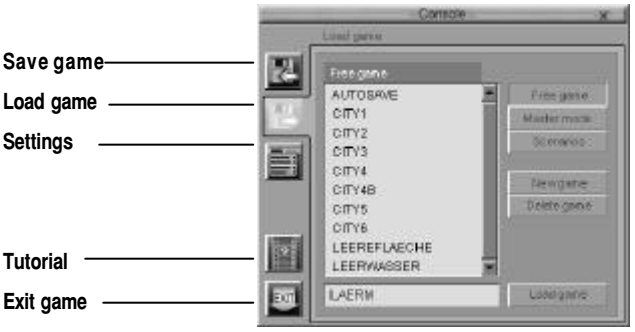
You have an unlimited budget when playing in master mode. As in the free game, you control the service providers and planners. In addition, you can directly affect the various simulation parameters. Thus, for example, you can determine the priority utilization of a transport means, set traffic concepts and their public utilization level, directly prescribe urban growth or check function types.

And this is the main difference from the free game: although finances are displayed, you can go into debt and carry on building.

The game time is variable rather than fixed, but please note: one in master mode, you cannot switch back.

3.5 The console

Clicking on the little computer icon at the bottom edge of the game interface will take you to the console. This is where you can administer your game, make basic settings or exit MOBILITY.



Save game
Please note: You can save your game status at any time, regardless of game mode. The program will automatically detect your game mode and will assign the game stati to the various game modes.

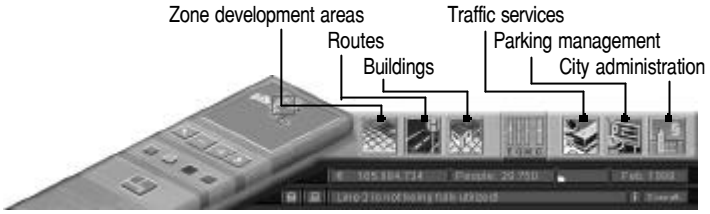
Load game.

Game settings. The game settings comprise basic settings such as screen resolution, simulation speed and sound settings.

Tutorial. Here you will find a video waiting for you with initial game instructions, facilitating rapid game entry.

Exit program. If you want to exit MOBILITY, click on the small icon at the bottom edge of the game area and select the 'Exit' icon.

4 Game menues



4.1 Zone development areas

Note: You can take any menue's bar and put it anywhere you want on the game interface. This means you have rapid access to your most important tools.

Click on the 'Zone development areas' button. Below this button you will find a menue with all areas available for zoning. These include residential, commercial and industrial areas. You can position these in your game world, and your city's inhabitants can build in these areas as required. These building areas must be connected to streets so that they can be accessed by their inhabitants. The construction depth (the distance of an area shown to the nearest street) should not exceed three fields. An area can be created by clicking and dragging with your mouse in your game world.

This is how you zone **residential areas**. Two different construction densities are available. Although residential areas with a higher construction density can accommodate more inhabitants, they require a higher-performance traffic infrastructure. The lesser density costs 5,000 euro per area, while the higher density costs 10,000 euro per field.

This is how you zone **commercial areas**. Again, two different construction densities are available. Denser office construction allows you to create more workplaces for your city's inhabitants than you can using lower density. However, you have to ensure good traffic connections and you'll have to meet increased demand for parking spaces. The lesser density costs 7,500 euro, while the higher density costs 15,000 euro per field.

This is used to zone **industrial areas**, which are only available in a single density. Although industrial areas create jobs, their emissions create other problems. The quality of life in neighbouring residential areas is also adversely affected by indu-

strial settlement. Your city's inhabitants don't want to live next to industrial facilities. A distance of four fields is necessary to ensure that residents are not negatively affected. One field costs 7,500 euro.

Remove areas. That's how you turn the fieldsplaced on the game field back into green field sites. Restoring one field in this manner costs 1,000 euro. If construction has already taken place on the area shown, you will have to use the 'Remove building' tool (see also **4.3 Construct buildings,** page 11 f.).

4.2 Construct routes / stops & stations

If you select the 'Routes / stops & stations' button, the subsequent menue will let you build your city's infrastructure using various types of streets, tracks and stops/stations.

You may build three types of streets: side streets, main streets and four-lane streets. **Important:** a street/rail network must be constructed coherently. Thus, you must always ensure that a new street or track is linked to an existing one. In addition, when building streets/tracks near end-pieces, intersections or four-way intersections you must always leave a distance of two fields before inserting or extending street or track.

Streets have properties which can be changed to meet the needs of changing traffic volumes (see also **8.2 Actions in your game world,** page 29).

Side street. This type costs 25,000 euro per segment to construct. It can take 50% fewer cars per hour than a main street. Removing it costs 1,000 euro per segment.

Main street. This type costs 50,000 euro per segment to construct, and can carry twice as many cars per hour as a side street. Removing it costs 1,000 euro per street segment.

Four-lane street. This type costs 75,000 euro per segment to construct, and can carry twice as many cars per hour as a main street. Removing it costs 1,000 euro per street segment. This street type facilitates increased driving speed and can be equipped with a designated bus corridor, in which case its passenger car capacity will be the same as that of a main street.

Track. A track segment costs 30,000 euro, and the removing it costs 2,000 euro per segment.

Remove streets and tracks. This tool allows you to remove streets/tracks. **Important:** a street/track segment generally comprises several individual segments forming a stretch of street. These must be removed in full. The start and end of this stretch of street is defined by an intersection, four-way intersection or endpiece. Removing costs thus come to 1,000 euro times the number of street/rail segments.

Stops/stations. This button brings up a submenue where you will find various tools for constructing and removing stops and stations. The basic constructing regulations are the same as those for streets and tracks: you must leave a distance

of two fields in the vicinity of intersections, four-way intersections and endpieces. **Important:** you can only establish bus lines once you have built stops.

Stop sign at the side of the street. This stop costs 40,000 euro to construct and is thus the cheapest type. Although not as attractive to your passengers as a sheltered stop, it has the great advantage that it can be built at any point on the street, without having to have an empty segment of a green filed site to the left and right of the street. It costs 1,000 euro to remove .

Sheltered stop This stop costs 160,000 euro to construct, and is significantly more attractive to your passengers than the simple stop sign. However, it has the disadvantage that at least one segment of a green field site must be available for construction at each side of the street. It costs 1,000 euro to remove.

Railway station This station costs 1,500,000 euro to construct and 50,000 euro to remove. This type can only be built on tracks.

Remove stop/station This tool is used to remove stops/stations. It will cost you 1,000 euro for street-side stop signs and sheltered stops, and 50,000 euro for a railway station.

4.3 Construct buildings

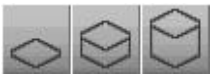
Click on the 'Construct buildings' button to open a menue with the various building types.You can choose between **'traffic-relevant'** and **'traffic-technical'** buildings (so-called special buildings). You will also find the tool for removeing your buildings here.

Traffic-relevant buildings. If you click on this menue item you will find the group of buildings needed by your city's inhabitants for a variety of requirements and activities. You will be told if your city has too few of one type or another. These buildings generate traffic in your city, and the right number is decisive for urban growth. **Important!** You are only responsible for the construction costs of these buildings (except for the parks). Afterwards, these buildings are in private ownership. This results in very high demolition costs since the operators will demand compensation.

Traffic-technical buildings. If you click on this menue item you will find all the buildings required for the various alternative traffic concepts (see also **4.4 Traffic services,** page 14). You will also find the tool for constructing parking facilities here.

Remove building You can use this tool to remove buildings. The costs vary according to the building type, and are generally substantial.

Traffic-relevant buildings



Note: each of these buildings is available in three different sizes. You should take all relevant factors into account before deciding whether a particular size is suited to a residential area or would be more appropriate on the fringes of a residential area.

Shopping center. Your city's inhabitants need this building to do their daily shopping. Shopping centers generate a lot of traffic and should not therefore be directly located in residential areas. They should, however, be in the vicinity so your city's inhabitants don't have far to go to do their shopping. In respect of large shopping centers, in particular, there is substantial traffic volume, so you should take care to construct extra parking spaces.

small:	construction costs	500,000 euro,	demolition costs	2,000,000 euro.
medium:	construction costs	1,000,000 euro,	demolition costs	5,000,000 euro.
large:	construction costs	1,500,000 euro,	demolition costs	10,000,000 euro

Schools. Your city's inhabitants need schools to educate their children. They shouldn't be too far away from residential areas, nor should they be situated on major streets or main traffic arteries for reasons of traffic safety. You should also ensure that there are good local public transport connections from residential areas to your schools.

small:	construction costs	500,000 euro,	demolition costs	2,000,000 euro.
medium:	construction costs	1,000,000 euro,	demolition costs	5,000,000 euro.
large:	construction costs	1,500,000 euro,	demolition costs	10,000,000 euro.

Theaters/cinemas.Your city's inhabitants want to be entertained in their leisure hours, and for this purpose various entertainment facilities are available to you. These generate traffic and should not be directly situated in residential areas, but should have good traffic connections.

small:	construction costs	500,000 euro,	demolition costs	2,000,000 euro.
medium:	construction costs	1,000,000 euro,	demolition costs	5,000,000 euro.
large:	construction costs	1,500,000 euro,	demolition costs	10,000,000 euro.

Sports facilities. Just like entertainment facilities, your city's inhabitants expect and appreciate sports facilities. Of course, these generate traffic and noise pollution and should not be situated in residential areas.

small:	construction costs	500,000 euro,	demolition costs	2,000,000 euro.
medium:	construction costs	1,000,000 euro,	demolition costs	5,000,000 euro.
large:	construction costs	1,500,000 euro,	demolition costs	10,000,000 euro.

Parks. Parks increase the quality of life and provide a good balance for areas with high levels of noise and emissions.

small:	construction costs	1,500,000 euro,	demolition costs 15,000 euro.
medium:	construction costs	2,500,000 euro,	demolition costs 25,000 euro.
large:	construction costs	5,000,000 euro,	demolition costs 50,000 euro.

Traffic-technical buildings

Car sharing center. This center is necessary to introduce the car sharing system to your city. Your city only needs to have one of these buildings, but it should be easily accessible for your inhabitants, since it also has the greatest number of parking spaces for car sharing vehicles. Construction costs: 1,500,000 euro, demolition costs: 10,000 euro.

Car sharing station. If car sharing is to function, it is vital that a sufficient number of car sharing vehicles is provided. You should distribute these sensibly around your city's residential areas, to facilitate optimal access to car sharing vehicles by your city's inhabitants. You can check this using the 2D map (see also **6.3 2D map,** page 25). Construction costs: 50,000 euro, demolition costs: 10,000 euro.

Transmitter mast. Transmitter masts are required for **active navigation;** they form the basis of the **Personal Travel Assistant.** Good radio coverage within your city is important for this type of function, and you can check this using the 2D map (see also **6.3 2D map,** page 25). Construction costs: 1,500,000 euro, demolition costs: 10,000 euro.

Mobility center. The mobility center provides your inhabitants with diverse information on the issue 'How do I reach my destination as quickly, cheaply and efficiently as possible?'. A mobility center increases the mobility level within your population. Since this information is mainly provided by telephone and on the internet, you only need one building of this kind in your city. Construction costs: 5,000,000 euro, demolition costs: 10,000 euro.

Parking facilities. These tools allow you to construct three different sizes of parking facilities. In this regard you should ensure good parking space coverage in your city. (see also **6.3 2D map,** page 25)

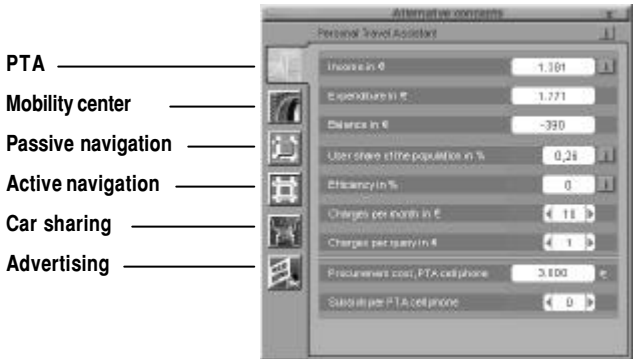
small: construction costs 300,000 euro, demolition costs 10,000 euro.
medium: construction costs 750,000 euro, demolition costs 10,000 euro.
large: construction costs 2,500,000 euro, demolition costs 10,000 euro.

Park & Ride parking lots. These parking lots should be constructed in the immediate vicinity (maximum three fields distance) of bus and rail stops/stations. You should plan for P&R parking lots at an early stage to avoid unnecessary demolitions costs caused by a lack of lots. Construction costs 750,000 euro, demolition costs 10,000 euro.

4.4 Traffic services

This menue item refers to the administration of Traffic services. These are broken down into **alternative traffic concepts** and **local public transport**.
Please note: You can also use your mouse to click on traffic technical buildings in your game world; this will bring you directly to the relevant administration window.

Clicking on this button will bring you to the administration area for the **alternative traffic concepts**. A window divided into two areas will appear. At the left there is a list with buttons for the various administration areas. At the right you will see the actual administration area with the various setting options.



Personal Travel Assistant (PTA). A PTA is simply a cell phone with a special function scope. As well as the current traffic situation, this cell phone transmits all the information which the user needs to reach his or her destination. (E.g.: which busses and trains go where and when, route descriptions, traffic jams, construction sites etc). A PTA comprises the service of a mobile center together with active route planning. Using a PTA enables you to optimise and reduce traffic in your city while increasing your inhabitants' comfort. Since purchase costs for such a cell phone are very high, you can increase the utilization level within the population by subsidising the purchase.

Mobility center. A mobility center informs your inhabitants regarding the available mobility concepts. These include local public transport and car sharing. Please remember that you will first have to construct an administration building in your city. You can use the user charges to control public acceptance. This option significantly increases your city's inhabitants' level of comfort (see also **4.3Traffic-technical buildings**, page 13).

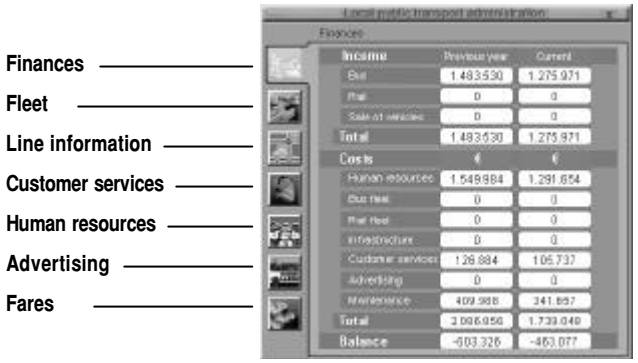
Passive navigation. Passive navigation is a navigation system installed within a passenger car. It contains digital city maps which the driver can use to find his or her way around. These digital data must be updated from time to time; you charge your users for this updating service. You can subsidise the purchase of this system to increase its appeal. This system has the advantage of reducing the number of wasted trips and hours spent searching.

Active navigation. In addition to passive navigation services, active navigation includes the transmission of current status and obstacles with the relevant bypass recommendations. Good radio coverage by means of **transmitter masts** is important for this function. You obtain income from this system by imposing monthly utilization fees. You can increase this system's use by subsidising the installation costs.

Car sharing. The car sharing system consists of a central administration office and parking stations for car sharing vehicles spread throughout the city. Your city's inhabitants can then use these cars for a charge. You will only achieve optimal effectiveness if you have provided a sufficient number of parking stations in your city. Car sharers leave their own cars in the garage and use local public transport for their regular trips. Implementing this system, you reduce the number of cars in your city, and also reduce the number of car trips made (see also **4.3 Traffic-technical buildings**, page 13).

Advertising. In order to ensure that your inhabitants are aware of the advantages of the different traffic concepts, you can advertise them in the media. Radio, television and the print media are available to you for this purpose. The green bar shows you how long the campaign has been running. The utilization level of a particular traffic concept can be increased by advertising.

Clicking on this button takes you to the **local public transport** administration area.



Finances. In the financial area you will receive a precise list of all income and outgoings together with the balance for the current year. To facilitate easy evaluation, you will also see the figures for the previous year.

Fleet. This window shows you the administration of your fleet. This is where you can buy or sell new vehicles. You'll get a list of resources and you'll see what vehicles may still have to be procured. Purchase costs or sales proceeds are displayed. **Note:** You can only use electric or hydrogen drive buses once you have completed at least one research stage in this area.

Line information. This is where you can establish new lines (see also **8.4 Bus stops, establish new bus line,** page 30 ff.) and administer existing routes. For this purpose you will see all the lines available in your city with the relevant important information, and you can set them as follows:

- **Edit line**. You'll jump to the relevant line in your game world, where you can edit it. (see also **8.4 Actions in your game world,** page 30)
- Set **interval in minutes**. This is where you can set the intervals at which the vehicles arrive at your bus stops.
- **Vehicles actual/target**. This shows you the number of vehicles currently being used on the line in question (actual figure) and the number needed for optimal operation of this line (target figure). To redistribute the vehicles, just click on the buttons to the right and left of the actual/target figure (the button to the right of the target/actual figure allocates more vehicles to the line, while the button the left withdraws vehicles from the line). If no vehicles are available for redistribution, you can also buy new ones. By selecting the 'Buy' button you will be taken automatically to the fleet administration area, where you can then purchase the new vehicles.

Customer services. This window allows you to set up various services for your city's inhabitants:

- **Dynamic passenger information** at stops/stations.
- **Providing information on the Internet**. This information includes schedules, line information and pricing information.
- Setting up **information terminals at stops/stations**. These provide your inhabitants with a variety of information regarding the line network and the schedules of the relevant buses/trains.

The annual operating costs are displayed in respect of each of these points. If you set up point one and/or point three, all stops/stations in your city will be equipped accordingly.

Human resources. This is where you administer your local public transport human resources. You will see the human resource numbers available or required for the various areas, as well as your human resources expenditure.
Your **service quality** is an important indicator here. You will only achieve 100% service quality once you have employed more personnel than currently required. Only then will you be protected against downtimes and able to guarantee smooth running of your local public transport operation.

Advertising. To ensure that your inhabitants are more aware of your various local public transport sectors, you can advertise them. You will thus increase the appeal of your local public transport system, raising the level of public utilization. Three different advertising media are available to you, their effectiveness (and thus costs) increasing from print media (newspapers, magazines) to television (ad spots). You can also run the various advertising campaigns more than once.

Fares. Your fares are made up of two components: the basic price and the price per kilometer. In addition, you can issue discounted monthly tickets. But take care! Your customers react angrily to fare changes and you'll have to approach the matter with care and sensitivity.

4.5 Parking management

This button leads you to the **parking management** administration window, where you will see all the parking facilities in your city. The data display gives you a quick overview of the situation.

Parking space utilization. You will see the general utilization of your parking facilities in the upper sector of the window. Below that you will see a list with all parking facilities and the relevant figures:

- **Parking facility**. This is the name of your parking facility.
- **Spaces**. Here you will see the size in terms of parking spaces.
- **Utilization**This list shows you the utilization of your parking facility at a glance: from red (low occupancy) to green (full occupancy).
- **Parking guidance systems**. Here you will see which guidance system is installed for this parking facility. **Please note:** in order to set up a system, please click on the relevant parking facility (see also **8.5 Actions in your game world** / **parking space,** page 32).
- **Go to** You will jump to the parking facility in question. You can make more precise settings after clicking on the parking facilitiy in the game world.

Balance. Again, this window is divided into two: in the upper sector you will see your total income or outgoings and the resulting balance in respect of all parking facilities in your city. Below this you will again find a list of parking facilities. This balance allows you to obtain a quick overview of the financial situation of each individual parking facility. As required, you can again use the 'Go to' button to jump to the relevant parking facility in order to make more precise settings.

Charges. Here again, the administration interface is divided into two. In the upper sector you can change the prices globally for all parking facilities. Since this operation has a relatively substantial effect and cannot be easily reversed, it must be confirmed using the 'OK' button. You will see all current prices and discounts in the overview list. If you want to change these individually for a specific parking facility, click on the 'Go to' button and then use your mouse to click on the relevant parking facility in your game world.

4.6 City administration and finances

This menue item takes you to your city's administration area. This comprises finances, research, traffic regulations, taxes and subsidy regulations.

Finances
Research
Traffic regulations
Taxes
Subsidies

Finances. Here you will find yourself in your city's 'bank'. You will see all your city's income and outgoings for both the current and the previous year. You will also see the current account balance, and you can take out credits as required.

Research. You can initiate various research projects here. These are focused on different issues, and in each case you can carry out the research in three stages. You can stop a current research project at any time (e.g. in the case of funding bottlenecks), and start it again at a later date.

- **Emissions.** Serves to reduce the exhaust outputs of vehicles with combustion engines.
- **Reduction in consumption.** Serves to reduce the fuel consumption of vehicles with combustion engines.
- **Electric drive.** Electric drive buses are available to you in your fleet. However, you can only use these once you have completed at least one research stage in this area. Additional research will increase the range and usage duration of your electrically driven buses. Furthermore, you can thus increase the proportion of electric drive cars in your city.
- **Hydrogen drive.** Hydrogen drive buses are available to you in your fleet. However, you can only use these once you have completed at least one research stage in this area. Additional research will increase the range and usage duration of your hydrogen drive buses. Furthermore, you can thus increase the proportion of hydrogen drive cars in your city.
- **Teleworking.** Your city's inhabitants have a home office and are able to work from their home computer. For this purpose they need a good data connection to their

office. You can conduct research into this area here, improving the network connections in your city step-by-step. The result will be that your city's inhabitants work from home more, reducing the volume of commuter traffic.

Traffic regulations. This window allows you to set the level of penalties for parking violations. At the same time, it allows you to employ traffic wardens to monitor the situation and hand out fine notices. But take care! Your inhabitants will be annoyed if you set the level of fines too high. A further item in this administration area relates to the imposition of a global speed limit in your city. You can reduce this to 30 km/h. Take care when using this setting option, since all streets will remain at the preset figure if you increase the global speed limit again.

Taxes. This is where you can set the taxes for your city's inhabitants, and you can see your tax revenue at a glance. In this regard income relates to:

General tax and VAT. You receive 10% of total revenue from these taxes for your budget.
Traffic taxes/car and energy taxes. 100% of this revenue is available to you.

You also have the option of indirectly favouring microcars in your city by means of a reduced tax rate. But take care: just as in the real world, your inhabitants are very sensitive to changes in the various tax rates. If they are too high your city will become unattractive and your inhabitants will emigrate.

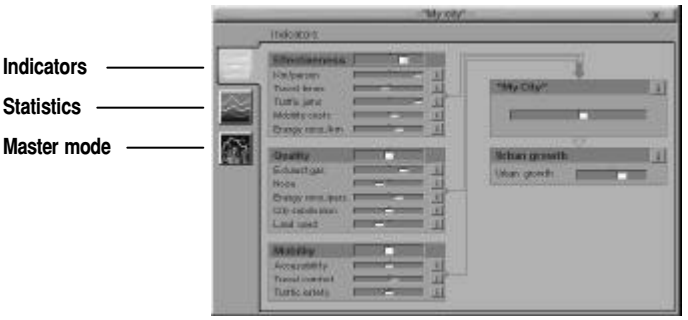
Subsidies. This area is divided into two fields. You can use the upper field to subsidise the purchase of the various environmentally-friendly passenger car types, thus increasing public willingness to purchase such a vehicle. As well as being able to set the subsidy level, you will see how many inhabitants have bought such a car as a result, as well as the costs you have incurred thereby. At the end of the year these figures will be reset to zero.

The second field allows you to give your inhabitants money to purchase a computer for teleworking, thus increasing the number of home offices in your city. In addition, you will see the number of inhabitants who have bought a computer as a result, as well as the costs you have incurred thereby.

The last item lets you create an incentive for foregoing private cars by granting a subsidy in this regard. However, you should only do this if your local public transport network is very well developed and additional alternative traffic concepts have been set up.

5 Indicators and statistics

This button has two functions.
On the one hand it shows you your city's current situation in the form of four small bars. In this regard, the letters **E**, **Q**, **M** represent the three most significant evaluation criteria in MOBILITY: **effectiveness, quality** and **mobility**. When consolidated these result in a city evaluation, represented by the bar with the letter **C.**
On the other hand, it takes you to a very important area of MOBILITY: the game evaluation and analysis of all factors important to the game. You also have the chance here to switch to master mode, but more of that later.



5.1 Indicators

Here you will find the evaluation of your current game status, broken down into the three main indicators **effectiveness, quality** and **mobility.** Taken together, these result in your city's evaluation.

You can use the coloured boxes and their position to see immediately how the individual items are evaluated: the evaluation runs from left to right, with the colours changing from red via yellow to green. Red is bad while green is good.

The evaluation items relating to **effectiveness**:

- **Kilometers per person.** This indicator shows the number of kilometers your city's inhabitants must travel to reach their destination.
- **Travel times.** This indicator represents the time required by your city's inhabitants to reach their destination.
- **Traffic jams.** Here you will see an evaluation of your city's traffic jam situation.
- **Mobility costs .** This indicator provides information regarding transport costs per kilometer, showing you the amount of money your inhabitants must spend on their mobility.
- **Energy consumption per kilometer.** This indicator shows the amount of energy your city's inhabitants consume per kilometer.

The evaluation items relating to **quality**:

- **Exhaust gas.** This indicator provides information regarding exhaust gas figures in your city.
- **Noise.** Here you will see the level of noise pollution to which your city's inhabitants are subjected as a result of traffic.
- **Energy consumption per person.** This indicator provides information regarding the energy per person consumed for mobility.
- **City subdivision.** The city subdivision item shows the extent to which your inhabitant's living space is divided by streets and tracks.
- **Land used.** Here you will see the amount of land in your city devoted to traffic routes and traffic buildings.

The evaluation items relating to **mobility**:

- **Accessibility.** Your inhabitants are on the move in various ways through your city. Here you will see how easy or difficult it is for them to reach their destination.
- **Travel comfort.** Here you can see how comfortably and easily your inhabitants move through the city and reach their destinations. If necessary you can check alternative traffic concepts and invest in a more attractive local public transport system.
- **Traffic safety.** Accidents will increase if you have a lot of traffic in your city. As appropriate, you can install traffic light at major four-way intersections or impose speed limits in residential areas or in front of schools.

Urban growth.

Urban growth results both from the indicators and from the tax ratio. You will see the extent to which your city is either growing, or losing inhabitants to emigration because they don't find the city attractive. This is not always a reliable means of evaluating your city, because your city may prosper even without growth. Of course, you should be concerned if this indicator is frequently in the negative range, since this points to a high emigration level which is generally caused by problems in the city.

5.2 Statistics

This area allows you to review all the factors with a bearing on the game. This window is divided into two areas. The top area is intended to display line diagrams. Here you can change the period which you want to view or, in the case of small diagram figures, you can use the 'zoom' button to enlarge to full display size.

In the lower area you will see all the control and analysis options with a bearing on the game. These are broken down into seven groups. In each group you can switch the individual diagrams on or off using the relevant buttons. You can also use the 'GRP all on' or 'All off' buttons to switch all items in the open group on or off. The following groups are available to you:

- **General.** Basic data on your city, such as inhabitants, percentage employed, leisure facilities.
- **Passenger cars.** Various analysis options relating to passenger cars in your city, such as street network lengths, passenger car kilometers and average speed.
- **Local public transport.** This allows you to analyse your local public transport system.
- **Traffic.** You will find an overview of all urban traffic aspects in this group.
- **User shares.** This group will provide you with an insight into the various alternative concepts and the take-up of those concepts in your city.
- **Indicators.** This group contains all the items with which you have already become familiar as game evaluations in the 'Indicators' administration area. You can evaluate the development of these figures here.
- **Finances.** You'll find all you need to know regarding the financial situation and its development in this group. Thus you will see, for example, the income and outgoings of the various areas such as your local public transport system and alternative traffic concepts, as well as the development of your balances and your bank account.

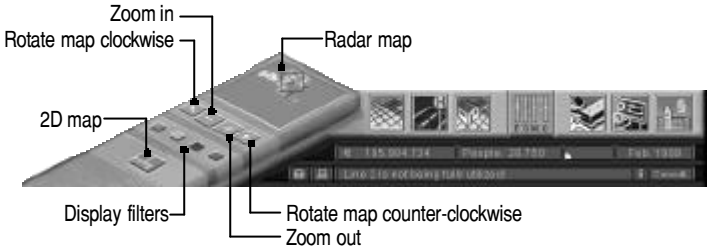
5.3 Master mode

This button takes you to the master mode setting options. As already described in Point 3.4 of this manual, this game mode offers you the option of prescribing the simulation behaviour in specific areas. These areas include pre-setting the number and behaviour patterns of your city's inhabitants, the preferred deployment of transport means, as well as the user shares of the various alternative traffic concepts.

But please note: once in master mode, you cannot switch back to other game modes.

6 Remote control

'Remote control' allows you to administer the view of your city, and you will also receive access to the 2D map.



6.1 Navigating in the game

Before we go into more detail on using remote control to navigate within the game, a few basic points on using your mouse to navigate within your game world. You can move the game world by holding your right mouse button down. If you hold down your CTRL-key, you can right click on your mouse to center the map on the point which you clicked with your mouse.

For the rest, you can click on any point in the radar map; in this regard the small rectangle shows you which section you are currently looking at. If you want to view a larger section of your city, you can use the 'Zoom out' button to reduce your view of the game world in three stages. You can enlarge your view in exactly the same manner, by using the 'Zoom in' button.

Please note: The display of animations is switched off in the smallest view (largest section). In addition, you can rotate the view ('Rotate map clockwise' and 'Rotate map counter-clockwise' buttons).

6.2 Display filters

Four display filters are available to you:

- **Local public transport**. You can use this filter to display bus and rail lines.
- **Show/hide buildings**. This filter switches the display of all buildings (except for stops/stations).
- **Show/hide special buildings**. Only displays the special buildings (car sharing center, parking areas, transmitter masts, mobility center, parking facilities, Park & Ride parking lots)
- **Show/hide animations**. Switches off the display of all animations.

Please note: You can also switch on several filters simultaneously.

6.3 2D map

This button takes you to a two-dimensional reduced display of your city. Here you can filter the various aspects of your city very precisely, facilitating a more detailed analysis of them. Three maps (groups) are displayed for closer examination: **infrastructure, traffic and environment**. A specific number of topics is associated with each map; you can overlay these on your city in the form of filters. Below the map you will, in each case, find a legend relating to the set topic; this will explain the colour coding in the two-dimensional map. By clicking on the map with your mouse, you can jump to this point in your game world.

Infrastructure. Here you will find all your city's infrastructural themes.

- **Structural map** The structural map provides information regarding the distribution of the various areas in your city.
- **Population density**. You can see your city's population density using a colour coding system ranging from black (no inhabitants) to green (10,000 inhabitants/km²).
- **Jobs**. This colour coding shows you the distribution of jobs in your city, ranging from black (no jobs) to green (10,000 jobs/km²).
- **Vacant apartments**. This will show you the number of vacant apartments in your city. The colour coding in this respect ranges from green (no vacant apartments) to red (10,000 vacant apartments/km²).
- **Vacant commercial/industrial space**. This setting shows you the vacant commercial/industrial spaces in your city. The colour coding is the same as that in respect of vacant apartments: green (no vacant commercial/industrial spaces) to red (10,000 vacant commercial/industrial spaces/km²).

Traffic This allows you to analyse the various aspects of your city with a bearing on traffic.

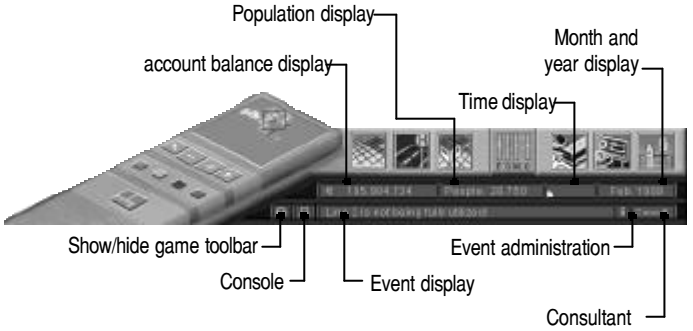
- **Type of street**. This shows you the various street types in your city. In addition, the speed limits relating to the streets and, if present, bus lanes are also displayed by means of different colour codes.
- **Street utilization** The street utilization in your city is displayed using colours ranging from red (high utilization level) to green (low utilization level).
- **Local public transport network**. The coverage of your local public transport network; the colours range from red (bad coverage) to green (good coverage).
- **Local public transport usershare**. Here you will see the proportion of your population using local public transport. The colour coding ranges from red (no one uses local public transport in this area) to green (60%, the maximum possible number of users using local public transport in this area).
- **Transmitter masts**. This setting shows the coverage in terms of radio aerials (see also **4.4 Traffic services/active navigation,** page 15 ff**)**. Bad coverage is denoted by red, while good coverage is denoted by green.
- **Car sharing** Shows coverage in terms of car sharing stations. Bad coverage is denoted by red, while good coverage is denoted by green.
- **Parking space**. Shows your city's parking space coverage. Bad coverage is denoted by red, while good coverage is denoted by green.
- **Passenger car accessibility**. Since the accessibility of a particular place in your city depends on the starting point, you must first define that starting point. You can do this with the help of the small purple rectangle which you will find on the reduced two-dimensional display of your city. Move your mouse to a point on the two-

dimensional map (not in the game world), in order to define the starting point. Starting from this point, you will see the level of accessibility by means of colour coding ranging from red (bad accessibility) to green (good accessibility).

Environment. You will find the various filters relating to the environment issue in this group.

- **Emissions**. the impact of industrial and car emissions on your city is shown by colour coding ranging from green (low emission impact) to red (high emission impact).
- **Noise**. Noise pollution in your city is primarily generated by excess traffic on your streets. Here you will see the areas in your city affected by this. The colour coding ranges from high noise levels (red) to low noise levels (green).
- **Housing quality**. The housing quality in your city is impaired by excess traffic noise and close proximity to industrial facilities. This item shows you the level of impairment. Reduced quality of life is denoted by red, while a high quality of life is denoted by green.

7 Status display



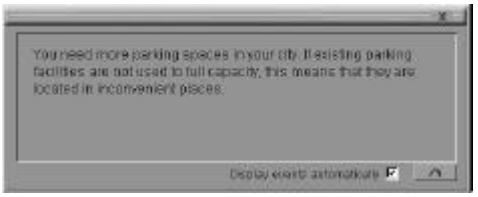
This area keeps you up to speed on the most important data and events in MOBILITY. It is divided into two lines. The upper line shows you (reading from left to right) your current account balance, your current population, the time of day, the current month and the year. The second line starts with a lock icon (for showing/hiding the game toolbar) and the small computer icon (your access to the console, see also **3.5 Console**, page 8), followed by the event display together with its administration (the button with the small **i**) and the button for the consultant system.

7.1 Event administration

Events are always displayed if something in your city is wrong and could do with improvement. If possible, you should react to an event and seek advice (see **7.2 Consultant**, page 28).

There are three types of event displays in MOBILITY. They can be displayed in the event display within the status display, in the form of an additional window which appears automatically on the game interface as required, and they can also be displayed within the event administration. The following two illustrations show you the **event display window** and the **event administration window**.

Event display window



Event administration window (showing event text)

The **event display window**. This contains two small buttons. You can switch off automatic display of this window. For this purpose just click on the tick next to the text 'Show events automatically'.

The second button - the 'Go to' button - is only displayed if required. In the case of location-related events, you can use this button to jump to the relevant point in your city.

This button takes you to the **event administration window.** Here you will see a list of all previously shown events in short form. You can scroll through the events using the arrow keys at the top right and bottom right corner of the list. All events which have not yet been processed are identified with small red exclamation marks. Just click on the short event text to see the full event text again (you can close this window either by clicking on the button with the small 'x' or by clicking on the short event text again). Once you have processed the event, you can click on the exclamation mark to identify this event as having been processed. The highlighted event can still be deleted using the 'x' button, or you can use the 'Go to' button to jump to the relevant point in your city, just as in the event display window. If you have switched off the 'Show automatically' function in your event display window, you can switch it on again using the button next to the 'Show events automatically' text.

7.2 Consultant

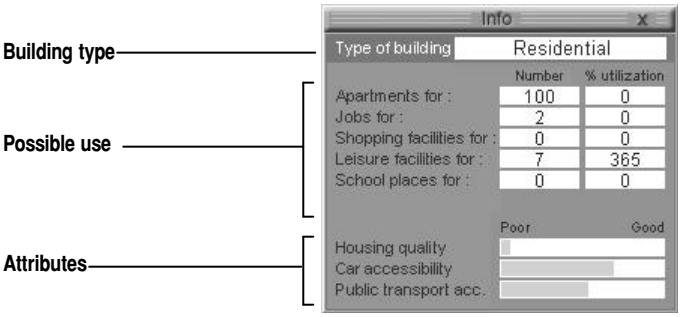
Here you will find consultants with information and tips. You can use the 'Consultant' button to consult them whenever your indicators in a particular area exceed a specific value.

8 Actions in your game world

You can click with your mouse on the various elements in your game world such as streets, intersections and four-way intersections, stops/stations, houses and parking facilities to obtain further information regarding the element in question or to carry out various settings with regard to (for example) bus stops, streets, intersections and four-way intersections. You will first see the elements with a pure information content in order to then access the elements with setting options.

8.1 Buildings

You will see the following information window after clicking on a building (generated by identified spaces or by the 'construct buildings' menue).



Right at the top, the **building type** will show you the kind of building involved. Below that you will see the **possible use**. The maximum number and the percentage utilization are always displayed. In this regard, you will notice that some fields contain no figures. This is simply because there are some buildings which you do not yet have (for example, an apartment house may have no shopping facilities).

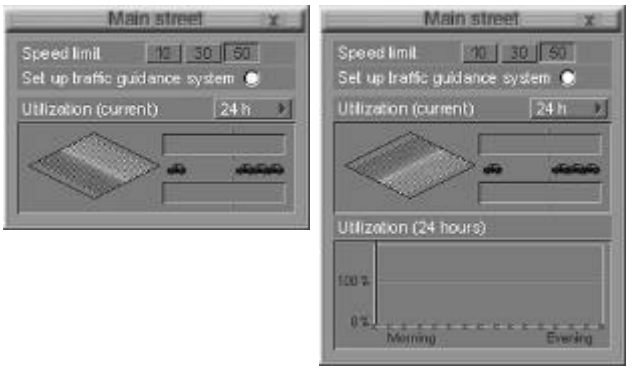
You will see the **attributes** in the lower part of the window. With the help of a green bar, you can see at a glance how good the housing quality is in this building, and how easily the building can be accessed by car or local public transport.

You can make further settings with regard to your street network by using your mouse to click on a street, intersection or four-way intersection.

8.2 Streets

Once you have clicked on a street, you have various setting options. You can impose a **speed limit** or install a **traffic guidance system**. This will improve the traffic flow on that street and reduce the danger of traffic jams. In the case of a large street you can also set up a **bus lane**. Although this will reduce individual traffic by half the capacity, buses will be able to travel along this street at the maximum permitted speed. If the bus line is well-utilised, this will significantly improve the load situation.

The setting options include the street utilization display. The colour coding will show you the side of the street involved, and you can read the traffic load from the colour bars. You also have the option of tracking the load throughout the day: just click on the '24 hrs' button.



8.3 Intersections and four-way intersections

Just as with streets, you can also click on intersections and four-way intersections, and you will then be given various setting options. In the upper area you will see the current **right of way regulation**, set to '**right over left**' as standard. You can change this by defining a **right of way street**. Just click on one of the two little buttons at the top left. The right of way street will be highlighted in green and the 'right over left' display will jump to the 'right of way street' display.

You can construct a set of traffic light: just click on the button next to the **'Construct light'** text. You will be able to see in your game world how the intersection has been equipped with a set of traffic lights. Once you have constructed a set of traffic lights, you can set it. Just click on the button with the letter '**E**' (for Extended settings) next to the 'construct light' text. You have the option of setting the total **light cycle** in seconds, as well as setting the **light interval** for the right of way street and side street. Your last option is to set up local public transport prioritisation for this crossing. That means a 'green wave' for your local public transport system, reducing the travel times of the various bus lines which have to pass this crossing.

8.4 Bus stops

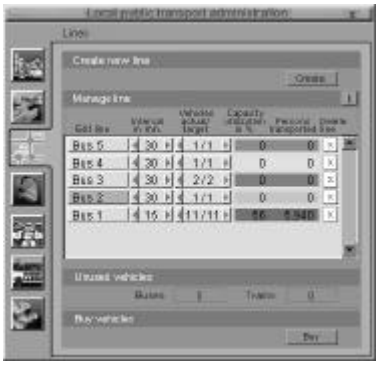
Please note: The following descriptions apply to railway stations in exactly the same way.

Clicking on a bus stop with your mouse will bring up the line information window, showing you all bus lines available in your city. The selected bus stop will be highlighted. You can either edit it, or set up a new bus line.

Setting up a new bus line. As you already know, you must build bus stops before you can set up bus lines (see **4.2 Routes/construct stops and stations,** page 10). So, once you have positioned these at the various points, you must define one (or more) lines as the next step. In order to do so, click on the bus stop:

You will then be brought to the local public transport administration area, and from there to the 'lines' area. In order to **setup a new bus line**, click on the 'Create' button under 'Create new line' (see also the illustration on the following page). The window will then be hidden and you can click on the first bus stop, then on the subsequent one and so one. Once you have defined all the bus stops, close the little window (needed to edit an existing bus line), in order to return to the starting window. Here you will see the bus line you

have just created (it will be highlighted).



Now you can use the column with the **'interval'** text to determine the intervals at which a bus should run on this line. That will show you the number of buses needed, which you can read in the column below the **'Vehicles actual/target'** text.

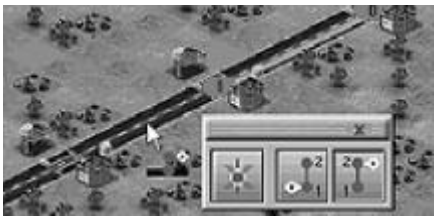
This column also provides information on whether, given the currently set interval, you have sufficient buses available to operate this line on schedule. At the beginning, no busses will be running on a newly set up line. Your next step, therefore, is to allocate vehicles to this new line. You now have two options, depending on whether you still have vehicles available in your fleet or have to purchase new ones.

Allocating vehicles. If you already have vehicles available, you can simply allocate them to the new line (you'll see the number of vehicles available from the figure in the 'Vehicles actual/target' field). For this purpose just click on the button with the small triangle to the right of the 'actual/target' figure. The vehicles will be immediately assigned to the new line. **Please note:** the button with the triangle to the right of the 'actual/target' figure serves to withdraw surplus vehicles from a line and return them to the fleet. These withdrawn vehicles will then appear in the 'unused vehicles' display, and can be reallocated or even sold in the fleet administration area.

Buying new vehicles. If you don't yet have any vehicles (or if all vehicles have been allocated to lines), you must purchase new vehicles. For this purpose select the **'Fleet'** button to switch into the relevant administration area (you can also click on the 'Buy' button, which will also take you to the fleet administration area). Here you can now buy new vehicles. In the 'Purchase/sales' area you can determine how many vehicles of a particular type you want to buy. Finally, confirm your purchase using the 'Execute' button. Now that you have procured your new vehicles, go back to line information and allocate the newly-purchased vehicles to your line.

You have set up a bus line, but it will be a while before your city's inhabitants react to this new bus line. Once this period has elapsed, you will be able to gauge public acceptance of this line in the columns '**Utilization in %**' and '**Persons transported**.

Editing an existing bus line. Of course, you can edit an existing bus line as well as creating a new one. Three tools are available for this purpose: **Delete stop/station**, **insert new first stop/station in existing line** and **insert new terminal stop/station in existing line**. Click on the line you want to edit (you'll find the lines in the column with the text '**Edit line**'). The starting window will be hidden and the following window will appear with the tools mentioned above.

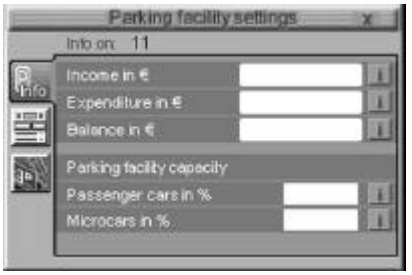


You can see the current route of your bus line from the red line between the bus stops and the numbering. Use your mouse to select one of the three tools and click on the bus stop to be edited.

8.5 Parking space

You can use your mouse to click on any parking facility in your game world; you will then receive more detailed information and setting options.

This window contains the administration area for the relevant parking facility, and is divided into three sectors.



General information

Settings

Systems

General information. This area provides you with information on the income and outgoings relating to your parking business, and shows you the utilization of this parking facility, broken down into normal cars and microcars.

Settings. In this area you can make settings regarding the parking facility sub-division. You can determine the number of parking spaces reserved for microcars. Since microcars require around 1/3 less parking space, the parking capacity of your parking garage or par-

king lot will increase accordingly if you allocate more parking spaces to microcars. Of course, this only makes sense if there are sufficient microcars in your city. If you want to check the number of microcars in your city, take a look at the 'Traffic' map in'Statistics'. On the traffic map you'll find the 'Microcars share' button (see also **5.2 Statistics/traffic,** page 23). You can also set the hourly parking charges per car, as well as the microcar discount. Among other things, you can use this to promote the 'microcar' concept.

Systems. You can use this button to set up a parking lot reservation system or a parking guidance system for this parking facility. A parking space reservation system will allow your inhabitants to reserve a parking lot in advance.
If a parking guidance system is installed, information signs will lead your inhabitants to this parking facility, and they will receive further information regarding the utilization of this parking lot or parking garage.
Both systems reduce the time spent searching for a parking space, thus helping avoid unnecessary traffic caused by such searches. You will receive an overview of the systems installed at your city's various parking facilities in the **parking management** administration area(see also **4.5 Parking management/parking facility utilization** and the parking facility list there, page 18).

9 Tips & tricks regarding the indicators

The evaluation of your city is based on the following three criteria:

- **Effectiveness**
- **Quality**
- **Mobility**

These criteria are crucial to your city, since they form the basis for its growth.

Your city's growth is calculated from two components:

- The **tax ratio** and the
- 13 traffic-related **indicators**.

These traffic-related indicators consist of the data calculated during simulation, which have been standardised for use as indicators:

0 = indicator is negative

0.5 = indicator is neutral

1 = indicator is positive

All traffic-related indicators are added together. If the resulting total exceeds 6.5, the city can grow. If the total is less, the city's inhabitants will leave for another city. All indicators equally weighted.

The individual indicators are assigned to the criteria mentioned above as follows:

Effectiveness

- Kilometers per person and day
- Travel times
- Traffic jams
- Mobility costs per kilometer
- Energy consumption per kilometer

Quality

- Emissions per person
- Noise
- Energy consumption per person
- Subdivision within your city
- Land used

Mobility

- Accessibility
- Travel comfort
- Traffic safety

All indicators are standardised to fit a city with around 50,000 inhabitants. However, you do have the option of changing some of the indicators. Other indicators, such as city subdivision and land used, are dependent on the prevailing infrastructure. This can only be changed or improved in the long term.

Effectiveness

- Kilometers per person

  This states the number of kilometers a person must travel in the city to reach their destination. The fewer kilometers they have to travel, the better.

  In this regard, the following are important bases for this indicator:

  - the destinations spread across the city,
  - the local public transport structure,
  - the routes used by your city's inhabitants to reach their destination.

  The share of teleworkers reduces the number of kilometers accordingly.

  However, the number of kilometers per person will increase in a heavily populated city, since the inhabitants tend to have to travel longer routes.

  This poses a significant challenge to you as a player!

- Travel times

  This indicator states the length of time an inhabitant is on route in order to reach his or her destination. The shorter, the better!

  This indicator is made up of:

  - the travel times for the local public transport system, and

  - the travel times for passenger cars.

  The passenger car speed/travel time, in turn, depends on the speed limit setting, appropriate traffic light settings, and sufficient availability of parking spaces.

  The travel speed for the local public transport system can also be influenced - for example by extending the line network (simultaneous time reduction for the routes to the individual stops/stations), setting up bus lanes and/or tracks (trains are quicker than busses) and reducing the intervals of individual lines.

- Traffic jams

  This indicator states the frequency of traffic jams in your city, and thus the utilization level of your streets. As in the real world, the fewer jams the better.

  The danger of traffic jams can be significantly reduced by a few interventions and actions. These are:

  - extending the street network (in this regard pay particular attention to the land used - otherwise you'll simply be shifting the problem!),

  - extending the local public transport system,

  - extending the car sharing system,

  - expanding the number of Park & Ride parking lots, and

  - investing in the mobility center (will impact positively on the car occupancy).

- Mobility costs per kilometer

  This indicator states the amount of money your inhabitants must spend to get from A to B.

  Mobility costs are made up of the passenger cars' costs per kilometer and the local public transport system's user costs per kilometer.

  You have the option of influencing the passenger car costs by properly setting the car tax, the gasoline tax, VAT, and the subsidies for purchasing microcars, hydrogen drive or electric drive cars.

  This indicator is heavily influenced by the transport means chosen by your city's inhabitants. This may express itself in different costs per kilometer being stated for passenger cars and for the local public transport system.

- Energy consumption per kilometer

  This indicator states the amount of energy - i.e. fuel - used by your inhabitants per kilometer to reach their destinations.

  The energy consumption can be kept low if you offer your inhabitants close destinations which can be reached on foot or by bicycle. You can also keep consumption low if you invest in research.

Even with a well-utilised local public transport system you can achieve a reduction, because your city's inhabitants will now use less energy per kilometer as a whole - in contrast to each individual travelling a route by car.

Increasing the share of microcars is another option for reducing energy consumption.

Quality

- Emissions per kilometer

The 'emissions per kilometer' indicator is made up of the routes travelled by your city's inhabitants and the necessary fuel consumption in the form of passenger discharges

You can keep the 'emissions per kilometer' figure to a minimum by offering your inhabitants close destinations.

You can also keep the emission figure low by investing in research.

You can also achieve a reduction in pollutants with a well-utilised local public transport system, since as a whole your city's inhabitants will produce far fewer emissions per kilometer - in contrast to each individual travelling a route by car. Why not also use more electric or hydrogen drive vehicles in your local public transport system and ensure that your track network is extensively developed?

You can also reduce the emission figure by increasing the share of your population using microcars, electric drive or hydrogen drive cars, since these are significantly more environmentally friendly.

- Noise

The noise indicator shows the degree of noise pollution to which your city's inhabitants are exposed.

The less noise pollution, the happier your inhabitants - and the 'greener' the indicator.

You should therefore take care to keep passenger car traffic away from residential areas, building as many bypasses as possible. It would be even better if you imposed a 10 km speed limit in residential streets.

Of course, if you can significantly reduce passenger car traffic as a whole, your city will suffer less noise pollution.

- Energy consumption per person

This indicator is closely related to the energy consumption indicator and the 'kilometers per person' indicator under the 'Effectivity' item.

It states the amount of energy which each individual inhabitant must expend per day to reach his or her destination.

The energy consumption per person can be kept low if you offer your inhabitants close destinations. You can also keep consumption low by investing in research.

You can also achieve a reduction by means of a well-utilised local public transport system, because your city's inhabitants will now use much less energy individually per kilometer - in contrast to each individual travelling a route by car.
A further option for reducing energy consumption is to increase the share of microcars.

- Land used

The space consumption states whether your city has too many traffic spaces, such as

streets and parking spaces, in relation to its population. After all, traffic spaces reduce your city's appeal to its inhabitants.

You can help here by increasing the number of inhabitants.

In this respect, take care to construct new areas with as few streets as possible.

However, you can only improve this indicator in the long term by setting up as few traffic spaces as possible in your city.

- City subdivision

The city subdivision indicator provides information on the extent to which streets and technical traffic facilities break up your urban spaces. The more streets you have in your city, and the more you enclose built-up areas with streets, the more difficult it becomes for your inhabitants to cross those streets.

Please remember that four-lane streets, as well as tracks, present a far greater obstacle to your inhabitants than, for example, smaller side streets!

Mobility

- Accessibility

This indicator provides information on whether, and how easily, your inhabitants can reach the various parts of your city.

Thus you can see here how well your city is served by the local public transport system. You can also see how well your buildings are connected to streets. If you have too many residential streets, and have set speed limit zones of 30 km, the accessibility of individual parts of your city will be significantly worsened.

- Comfort

This indicator shows how easily your inhabitants use the traffic facilities, and how easily they can reach individual parts of your city.

You must make sufficient parking facilities available to your inhabitants, and you should also offer them additional systems such as

- traffic information by means of the PTA,
- Mobility center,
- passive navigation,
- active navigation, and
- special local public transport services such as Internet information, terminals and dynamic passenger information.

You should also offer your inhabitants alternative concepts such as Park & Ride parking lots and car sharing stations.

- Traffic Safety

This indicator provides information on the frequency of accidents, with and without casualties.

This area certainly poses a challenge: it is up to you to increase your city's inhabitants' safety by reducing speed and equipping busy four-way intersections with traffic lights.

Pay particular attention to this at and near kindergartens, schools and the university!

10 Shortcuts

F1 . . . . . Load
F2 . . . . . Save
F3 . . . . . Options
F5 . . . . . Quick save
F6 . . . . . Quick load
Backspace . . . . . Pause
Esc . . . . . Close current window, exit game
Numeric keypad +/ d . . . . . Zoom in
Numeric keypad -/ c . . . . . Zoom out
y . . . . . Rotate clockwise
x . . . . . Rotate counter-clockwise
Arrow keys . . . . . Move game world

1 . . . . . Zone low density residential area
2 . . . . . Zone high density residential area
3 . . . . . Zone low density commercial area
4 . . . . . Zone high density commercial area
5 . . . . . Zone industrial area
6 . . . . . Construct side street
7 . . . . . Construct main street
8 . . . . . Construct four-lane street
9 . . . . . Construct stop/station (sign only)
0 . . . . . Construct stop/station (shelter)

o . . . . . Open local public transport window
p . . . . . Open parking management window
s . . . . . Open city administration window
a . . . . . Open alternative concepts window

m . . . . . Open 2D map
i . . . . . Open indicators/statistics window
e . . . . . Open event window
b . . . . . Open consultant window