PTV compass

THE PTV CUSTOMER FORUM FOR MOBILE PEOPLE
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ON FOCUS:

Traffic Congestion – An Everyday Certainty

HOW TO SAVE MILLIONS
Congestion Management on German Motorways

OPTIMIZED CONTENT ADMINISTRATION
Software Platform Delivers Boost in Performance

ECO-FRIENDLY COLLECTION AND DELIVERY OPERATIONS
Good Practice Guide on Urban Freight Transport

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traffic mobility logistics.

Contact

We welcome your enquiries and feedback. Please get in touch with us:

Traffic@ptv.de
Consulting and software for transportation planning, traffic engineering, public transport

Mobility@ptv.de
Mapping and routing services, mobile navigation, traffic information systems

Logistics@ptv.de
Trip planning, vehicle scheduling, fleet management

Geomanagement@ptv.de
Sales automation, sales and marketing planning

Public.Relations@ptv.de
Letters to the editor, partners interested in participating in exhibitions, contributions to our corporate magazine, address changes

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Stumpfstr. 1, 76131 Karlsruhe, Germany
Tel: +49 721 9651-0, Fax: +49 721 9651-699
www.ptvag.com

Editorial Team
Ira Steinhoff
Kristina Stifter: Responsible for the content according to the German press law
Corporate Communications

Designers
FINEST/MAGMA, Karlsruhe, Germany
www.finestmagma.com

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Editorial

"Don't get stuck in traffic!"

Dear Readers,

December is here once again and we're approaching the end of another year. Life is a bit hectic – people hurrying down the streets, weighed down with shopping bags, and spending hours stuck in traffic. Traffic congestion has become an everyday certainty – it no longer "knocks people off their feet." But we should still be aware of the amount of energy resources and money that are wasted in congestion. The cover story analyses the current situation by providing facts and evaluating appropriate problem solving measures.

Optimised traffic and transportation is actually based on the combination of many different measures. Road user behaviour, sufficient traffic infrastructure, good traffic and transportation management as well as the latest telematics technology are important factors which help to manage increasing traffic volumes. The "Cooperative Systems" research project, which focuses on vehicle-to-infrastructure communication, is funded by the European Commission. New developments in vehicle-to-vehicle communication allow drivers to warn approaching vehicles of potential danger. These warning systems help drivers to react faster to various scenarios – and possibly avoid another traffic jam.

An improved EU regulation concerning driving time and rest periods for drivers engaged in the transportation of goods is another important contribution to road safety. It was a challenge for our software developers to combine these guidelines with efficient vehicle scheduling, but they were successful – the entire range of PTV software systems for transport planning consider the new social rules.

Time always seems to just fly by this time of year. I hope that you can successfully juggle the myriad of daily tasks and still enjoy the festivities around you. I wish you a Merry Christmas and all the best in the coming year!

Best regards,

Hans Hubschneider

Hans Hubschneider
CEO, Spokesman for the PTV AG Board

Traffic Congestion – An Everyday Certainty

Germany – a winter wonderland? At least not on Germany's motorways where cars end up in a long queue, creeping forward in stop-go fashion and fighting their way through drizzle, fog, slush and snow. Visualize € 12 billion a day blown in the air through the car exhaust pipes in Germany alone. It seems reasonable to expand the road network, however present and future traffic volumes differ from region to region. The same applies to concepts which aim at solving the congestion problem. Numerous factors and measures have an impact on today's traffic flow.

"About 50% of all traffic congestion on our motorways is caused by road construction or other incidents, such as accidents or broken-down cars," says Dr.-Ing. Rainer Schwarzmann. "And the other 50%? Well, that's caused by traffic overload. As Head of Traffic Consulting at PTV, Germany, Rainer Schwarzmann knows what he is talking about. His responsibilities stretch across the full breadth of traffic and transportation consulting – from strategic transportation planning to traffic management solutions on motorways and from urban network management to control and optimisation of single nodes.

Traffic engineers refer to a traffic jam when the speed of the vehicles driving on a motorway drops below 30 km/h over a time period of at least 60 seconds. Normal traffic flow, which means vehicles permanently enter and leave a zone (the motorway/highway), is interrupted. More and more vehicles entering and not leaving the zone intensify this process. "Increasing traffic volumes have, of course, a major impact on the road network," explains Rainer Schwarzmann. "The number of vehicles quickly exceeds the capacity of a road section with high traffic volumes. Vehicles following each other too closely will generate so-called shock waves. The car that gets closer to the vehicle in front must slow down more often than the car in front. Then, all of a sudden, traffic flow comes to a standstill."

Studies reveal that the higher the number of lorries using the motorway, the more passenger cars drive on the middle or left-hand lane. Additionally, high congestion levels lead to an increase in traffic incidents. Particularly, entrances and nodes with additional lane changing manoeuvres have an effect on motorway bottlenecks.

The people factor

The "People Factor" must also be taken into consideration. "Incompressible liquids follow the hydraulic laws of fluids," says Rainer Schwarzmann. "The flow rate increases if a larger quantity of liquid has to flow through a tube of the same cross-section. This does not apply to traffic because people are involved in this process." Increasing traffic volumes have an impact on people's behaviour. And their individual reaction times as well as other parameters have a major effect on the number of traffic incidents. Minor braking manoeuvres can trigger a chain reaction which frequently turns a fast-moving stream of cars into a stagnant pool of frustrated motorists. During the eighties and nineties, when telematics was booming, people dreamt of vehicles electronically linked to each other. Thus, drivers' braking and acceleration habits would no longer affect traffic, allowing drivers to smoothly cruise down a crowded motorway. However, it was difficult to turn this idea into reality.

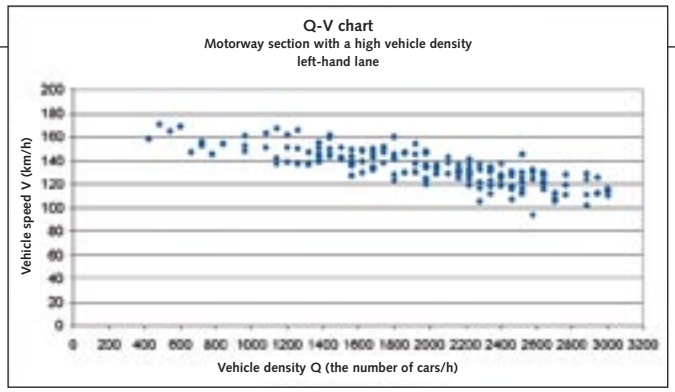
Minor manoeuvres can trigger a major chain reaction

Additionally, the people factor is, as always, an unpredictable element: frequent drivers have learned to cope with increasing traffic. As driving on busy motorways has become a "daily exercise", the average speed is quite high considering today's vehicle density. This means that the traffic volumes are higher than expected. In fact, they are a result of adaptive driver behaviour. Infrastructure, however, still leaves room for improvement.

More traffic on the roads than planned

Ageing infrastructure – a ticking time bomb

Economy-related factors, such as infrastructure, its costs for maintenance and expansion, are major weak points of the traffic and transportation system. Maintenance planning is divided into paved road projects (road surface layers) and civil engineering works (bridges, tunnels, noise protection bunds, etc.). A German directive ensures that minimum maintenance requirements for infrastructure have to be fulfilled. In the worst-case scenario this would lead to speed limits. However, infrastructure maintenance has been insuffi-



The chart shows the actual speed V (km/h) compared to the vehicle density Q (the number of cars/h) on the left-hand lane on a motorway used by many commuters between 6 – 9 am. The drivers' experience in coping with heavy traffic results in remarkably high speeds.

cient over the past decades. This has led to today's comprehensive maintenance projects which have a strong impact on the road network due to long-term road construction and congestion. A good example for late investments in road infrastructure is the A8 motorway between Munich and Karlsruhe. The two-lane motorway, parts of it even without hard shoulder, is often congested. The current construction phase worsens the traffic situation resulting in queuing.

Bridges have become another ticking time bomb. According to engineers the life expectancy of prestressed concrete bridges is about 70 years. The assumption itself is correct. However, in the early 1970s the concrete layers of the first bridges were too thin which has resulted in damage to today's bridge structures. Now bridge maintenance measures are urgently needed because there are not many alternative routes on the main road networks.

Better congestion management

What can be done to tackle traffic congestion? One solution might be to improve infrastructure management. A range of measures is intended to bring quick relief from congestion, e.g. temporarily opening the hard shoulder on motorways to traffic during peak periods (on the A3 motorway between Hanau and Offenbach, Germany). Signals above the lane would indicate when the hard shoulder is open. However, one problem remains: if the entire road network of a specific area is overloaded, the traffic jam will still occur a few kilometres later.

Situations which "congestion managers" have found in the Frankfurt urban area are also difficult to handle: most of the motorists know the route well and their driver behaviour changes a few kilometres before they get to the 3-lane motorway section. Drivers want to speed up, but then they have to slow down again. Finally, traffic comes to a standstill before they can enter the 3-lane section. „We cannot eliminate traffic congestion," says Rainer Schwarzmann. "But we can better manage traffic overload and congestion."

Rainer Schwarzmann thinks of state-of-the-art traffic control systems being systematically implemented throughout the road network. The system in Austria, Germany's neighbour, is a good example: ASFINAG is implementing traffic control and information technology throughout its entire motorway network. This includes traffic management and information systems, traffic control systems and nationwide traffic information systems collecting, processing and distributing traffic-relevant data which can be accessed on a dynamic road map at ASFINAG Road Pilot.

Traffic control and information technology significantly improve traffic operations

Another solution might be to use variable traffic signs which display alternative, less congested routes to help motorists avoid traffic jams. However, detours to another road network are not successful unless all alternative routes are integrated into congestion management systems. Currently, motorists only have access to information about traffic jams on motorways. Dynamic navigation solutions, which immediately integrate up-to-date traffic information into the routing applications, and dynamic signals meet the requirements for advanced congestion management. Traffic control systems and information about alternative routes provided by traffic management centres instantly help to tackle congestion within the road network.

Modern transportation management to better cope with future travel demand

Ramp metering is also a useful measure to manage traffic on very busy motorway sections. Traffic signals control the rate at which vehicles join a motorway from a slip road to reduce traffic volumes and avoid major traffic jams. This helps all road users save time. Ramp metering is becoming quite popular in Germany.

"50% of all traffic jams are caused by an overload of traffic," says Dr.-Ing. Rainer Schwarzmann, head of Traffic Consulting at PTV Germany.

Realistic traffic and transportation modelling using VISSIM, for example, support transportation planning.

Congestion-free State of Hesse?

In major urban areas, more and more agencies are adopting a range of measures. Tackling congestion has become a high priority in Germany's State of Hesse, for example. The "Congestion-free State of Hesse 2015" programme has the aim to keep motorways congestion-free. The project is scheduled to be completed by 2015. In addition to the introduction of new kinds of measures, such as temporary hard shoulder running or dynamic traffic signs at the Frankfurter Kreuz (a major intersection near Frankfurt), the government of Hesse has chosen intelligent solutions in order to use current infrastructure more efficiently. The pilot project DIANA (Dynamic Information And Navigation Assistance) is one of these measures. It aims to collect more highly detailed information about traffic overload and jams on all roads than before. Floating car data (FCD), for example, complement the information provided by stationary motorway sensors and supply up-to-date traffic information to the subordinate network. In the first phase in January 2005, 300 vehicles of the state of Hesse and other partners (e.g. Fraport, Continental) were equipped with the required technology - standard mobile phones using both online navigation software and the new FCD algorithm developed by PTV. The mobile phone is thus turned into both a complete navigation system and a data supplier.

Based on the PTV TrafficPlatform (an analysis and forecast tool for transportation management), traffic reports are automatically generated from different data sources. Hesse's traffic management centre, "DIANA" cars, traffic alert systems and the police provide all traffic data which is collected and processed by PTV to generate high-quality traffic information used by DIANA Online Navigation. Additionally, the traffic editorial office of Hesse's broadcasting company (HR) uses the data for the latest traffic updates.

More vehicles will gradually be added to the existing vehicle fleet so that DIANA will become even more effective. More detailed information about the traffic flow helps to better avoid traffic congestion.

Future traffic scenarios

Distances travelled by people are getting longer

What will be the future congestion hot spots? Traffic engineers have found different levels of demand. Travel demand is even stagnating in some areas; e.g. in the Ruhr area, where demographic changes have resulted in a decline in travel demand. Cities like Berlin, Munich and Dresden, however, expect the number of citizens to grow, which will lead to an increase in travel demand. However, traffic volumes on motorways are not expected to decline. Over the past decade people have travelled longer distances. Freight transport also has major growth rates according to the Mobility 2020 study by acatech. It will grow at a faster pace than private car traffic.

Pragmatic solutions

Road toll collection has an impact on travel behaviour

Sometimes simple measures help to cope with increasing traffic volumes. The state of Baden-Württemberg, for example, is considering an overtaking ban for lorries driving on two-lane motorways to ease traffic congestion. Another popular solution, which has a major impact on traffic, is the motorway toll. The HGV toll helps to maintain infrastructure by means of road user charging. A passenger car toll might considerably affect driver behaviour, at least of private motorists. If motorists chose the optimal route using a kilometre-based vignette, the toll rate could be minimized while safeguarding resources. Forwarders and service providers must optimise their routes in order to remain competitive. Software solutions, like those provided by PTV, help them to reduce costs.

Another measure, which aims at reducing traffic volumes, focuses on the modal shift from car to public transport. Climate change has recently risen to become one of the top political issues of our day and the use of public transport is once again a topic of public debate. However, it will be difficult to shift the flow of commuters to public transport unless commuters can choose from attractive services. Good public transport connections, short journey times as well as reasonable rates and individual preferences are decisive factors affecting mode choice. Traffic information services have a greater impact on route than on mode choice.

Factors affecting congestion

Congestion research has become highly interdisciplinary. Congestion on the roads is a complex problem which will need a range of measures in order to tackle it successfully. Forecasts about future traffic volumes and demands are based on databases, projections and surveys. Also, they must consider the people factor.

Traffic and transport modelling systems, such as PTV's VISSIM solution, have become useful tools for transportation professionals. "PTV provides the full spectrum of traffic and transportation solutions – from transportation modelling and traffic management technology to data survey studies and consulting services. We can access basic data, analyse situations and evaluate which measure would be appropriate to solve the problem," says Rainer Schwarzmann. Expertise in these fields is paramount for professional congestion management, even if ideal traffic conditions are never realized.

Have a look at our realistic traffic simulation at http://www.english.ptv.de/cgi-bin/traffic/traf_vissim.pl

Consulting – Comprehensive competence under one roof

PTV's Traffic and Public Transport Consulting unit offers a broad spectrum of services. Its portfolio of services includes:

Traffic and transportation planning

If you wish to develop and implement complex solutions or you have questions about a specific task, PTV will be your competent partner. Our highly qualified and dedicated team of transportation experts will support you every step of the way using planning software developed and continually upgraded by PTV. Precise, state-of-the-art planning tools are used for basic research as well as design and analysis of plans and concepts. Our range of services includes:

- Market and mobility studies
- Strategic traffic and transport models
- Object forecasts
- Feasibility studies for road
- Data services for PTV Vision
- Environmental impact analysis

Traffic engineering

PTV also covers a broad spectrum of services in this field: from the design of signal control systems, priority schemes for public transport and performance analysis by means of transportation modelling to planning traffic management systems and developing integrated traffic control concepts and solutions with the help of traffic management centres and traffic information systems.

- Design of signal control systems
- Performance analysis based on transportation modelling
- Planning data collection and traffic management systems
- Planning traffic management centres
- Planning traffic management solutions for tunnels
- Risk analysis of tunnels

Public Transport

Planning and operation of public transport systems are demanding optimisation tasks and a balancing act between attractive services and economic operation. PTV Public Transport has many years of experience in the optimisation of line networks, timetables, vehicle and crew scheduling as well as creation of fare schemes. We help companies to establish tendering procedures for transportation and traffic services including legal advice. Moreover, we offer consulting services to newly established transport operators and agencies, and provide profound analyses required for decision-making processes concerning revenue sharing agreements. Our services in the business field Public Transport include:

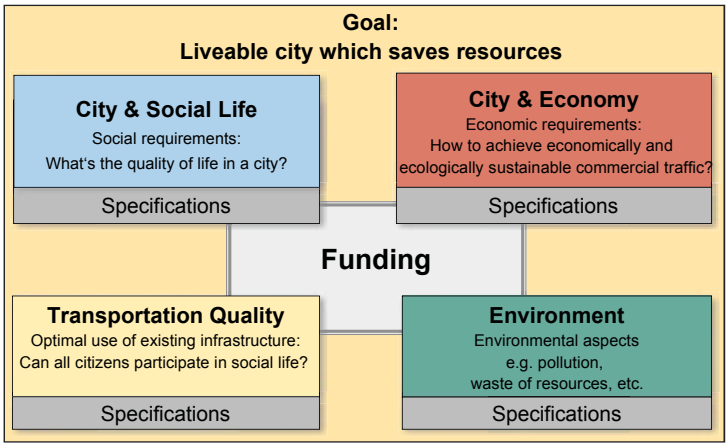
- Data and passenger surveys
- Economic feasibility studies
- Creating and assessing tariff systems
- Performance analysis
- Transportation models and concepts
- Local transport plans
- Public transport network and service planning
- Tendering procedures

Your contact:
Dr.-Ing. Rainer Schwarzmann
rainer.schwarzmann@ptv.de
www.ptvag.com

Business Unit Research Traffic and Transportation / PTV AG

Assessing the Overall Economic Impact of Transportation Systems

It is extremely difficult to measure the quality of life in urban areas; there are no exact key indicators. So what is the best way to make cities liveable? Urban transportation systems and the traffic and transportation quality are certainly major factors. Communities are continually investing in maintenance and expansion of their systems to improve the well-being of their citizens – a constant challenge. Germany's Federal Ministry of Transport, Building and Urban Affairs (BMVBS) asked PTV to develop a special method which helps communities to cut costs associated with surface transportation without negatively affecting the quality of life in urban areas. The new concept also had to take all aspects of sustainability into consideration.



Schematic overview of the future system, including the three dimensions of sustainability (Social dimension: The city with a focus on social life, Economic dimension: The city with a focus on business and economy, and Ecology: The city with a focus on environment), the factors "Transportation quality" and "Funding" to reflect the impact of the measures on costs.

"To achieve sustainable urban development we need to draw up strategies, which consider both non-motorised traffic as well as the interaction between traffic and land use development," says Tanja Schäfer, Project Manager and Consultant, Research Traffic and Transportation at PTV Germany: "Additionally, it is important to identify the most efficient allocation of a community's transportation funds."

Traffic and transportation planners must again manage the balancing act between necessary and economically viable projects. "Therefore, the aim of the current research project was to develop a general method to evaluate strategies for long-term traffic and transportation planning," explains Tanja Schäfer. "All transportation and settlement development aspects as well as resulting costs had to be taken into consideration."

As the method will forecast and identify the costs and benefits of different measures at an early stage, while also considering future demand, it provides information that is vital to assist the process of local traffic and transportation decision-making.

Result: an application-based method

The result of the research project was an application-based method. It helps communities to choose the "best" transportation planning strategy, using transportation systems which make contributions towards cities that are both ecologically and socially sustainable.

Indicators, divided into five categories, include for the first time all important aspects related to sustainable transportation planning. The method can easily be transferred to other cities while also considering specific local factors. It allows users to define town-specific goals, sub-goals and indicators.

The system clearly shows how the different measures for each category influence each other. Conflicting goals can be identified at an early stage. If required, it is possible to define a new strategy in order to avoid conflict. Each single analysis is part of the total result.

"The method was tested by the city of Görlitz, Germany, and proved to be a stable tool which provides realistic results," says Tanja Schäfer. "The detailed description of how different measures of the strategies impact each other provides extremely meaningful information. The results might help the city of Görlitz to make it even more liveable. Further projects allow us to compare the research results on an international level."

The method is described in a free user-friendly compendium which can be downloaded at http://www.ptv.de/cgi-bin/traffic/traf_fooek.pl

Free compendium in German available to download

Substainable traffic and transportation in communities

Your contact:
Tanja Schäfer
tanja.schaefer@ptv.de
www.ptvag.com

Business Unit Traffic / PTV AG

Having Fun with the New Versions

Svt consult's customers were extremely pleased when Joachim Pohnke presented his simulation on time. He was thrilled as well, stating in a message to the PTV Vision team "I thought you should know that working with VISSIM is always fun – even late in the evening or on the weekend." The new VISUM and VISSIM releases, components of the PTV Vision Suite, confirm PTV Vision's position as the world's leading transportation planning software system.

VISUM 10.0: The user is king

It took PTV software developers nearly a year to radically overhaul its transportation planning software. Strong emphasis has been placed on user-friendliness. The new release includes a newly redesigned user interface and the advanced Network Editor, which makes working with VISUM faster, simpler and absolutely intuitive. The new Quick View window allows users to view and edit attributes of the currently marked objects without opening any additional dialogue boxes. Now workflow can be sped up and streamlined by using the new Network Object Toolbar and context menu options, activated with a simple mouse-click.

New procedures provide better private and public transport assignments. Another new highlight: the 64-bit compatible VISUM release for Windows Vista and Windows XP 64-bit systems.

VISSIM 5.0: Simplified and improved work flow integration

VISSIM 5.0 now includes the second-generation VISUM/VISSIM interface SUMSIM. A new common data exchange format (ANM) enables simplified and improved data integration in both VISUM and VISSIM and makes the workflow of integrated projects more efficient. "Until now, it has been rather complicated to re-export a changed VISUM network to VISSIM. All manual changes in the VISSIM network were lost and had to be redone," says Dr.-Ing. Peter Vortisch, Director of Traffic Engineering Products. "With the new VISUM / VISSIM interface, all edits are maintained."

The "conflict areas" functionality is a new alternative to priority rules. Defining priority in intersections thus becomes easier and driver behaviour is more intelligent. The VISSIM Analyzer helps the user to quickly define and produce report-ready evaluations of simulation runs.

Joachim Pohnke says:" The software program provides a wide range of options, which allow us to create a very realistic model of the traffic situation. Embedding my flexible signal control in PROVIS format was easy thanks to the extended key file. The new background files were clearly displayed in 3D mode. As a result, I was able to clearly explain to my client the significant difference between vehicle-actuated control and fixed time control in terms of congestion, especially in highly saturated conditions."

Completely redesigned user interface for network modelling showing isochrones highlighted in colour. The Network Object Toolbar provides users with direct access to the data, graphics parameters and filters of all network elements. The Quick View Window allows them to simultaneously view and edit the attributes.

VISUM 10.0 and VISSIM 5.0 are now available!

Your contact:
Dr.-Ing. Peter Vortisch
peter.vortisch@ptv.de
www.ptvag.com

Käfer, the dome's roof garden restaurant in Berlin's Reichstag building – a breathtaking venue for the evening event.

Business Unit Traffic / PTV AG

Users Group Meeting 2007 – Highlights and Awards

Some 230 steps lead up to the large dome of Berlin's Reichstag building where visitors can enjoy the spectacular view over Berlin. All 140 attendees of this year's users group meeting enjoyed the breathtaking view. Käfer, the dome's roof garden restaurant was the venue for the special evening event – one of the many conference highlights of this year's PTV Vision Users Group Meeting with its special focus on sustainable transportation solutions.

"'Powering transportation visions' was the theme of this year's conference. And I think that UGM 2007 was once again a great success," says Thomas Friderich, Director PTV Vision Services. He was in charge of the entire event management. The parallel sessions, which were held in English (140 attendees) and German (110 attendees), provided insight into the latest trends and developments impacting the market. The workshops focused on traffic management, transportation surveys and public transport planning. Leading transportation experts participated in a panel discussion and answered all questions regarding sustainability in traffic and transportation, and users had the opportunity to share their experiences.

Doha, the capital city of Qatar, was one of the main conference topics, concentrating on a booming region, which has implemented a national development plan to become a premium location in the Arabian Peninsula. The multimodal traffic model of Ljubljana/Slovenia, the link between the Australian Scats controllers and VISSIM, as well as the integration of VISUM with the land use model in Portland, Oregon, were part of the agenda. London was represented in the program twice: with the VISSIM model of Parliament Square focusing on bicycles and motorcycles, and the VALID model by Transport of London, a VISUM application in congested areas with a focus on intersection capacity analysis.

Conference attendees also had the opportunity to creatively learn more about pedestrian modelling. Based on empirical information it is now possible to edit different routes similar to real-life situations. For example, traffic and transportation planners can visualize pedestrian flows in underground stations by using animated figures moving on a simulated catwalk.

Wilco Burghout and Johan Wahlstedt, Keith Yu Kit Leung and Philipp Fröhlich won first, second and third prize of this year's Scientific Award. All winners were rewarded for outstanding accomplishment in research, using the PTV Vision software suite. A total of 24 papers were judged by a jury composed of interna-

All presentations are now available to download.

tionally acclaimed transportation scientists. Wilco Burghout and Johan Wahlstedt won first prize for their research on "Hybrid Traffic Simulation with Adaptive Signal Control". This included a EUR 2,500 cash award and free admission to the users group meeting. The high number of submitted papers on modern and visionary transportation solutions holds great promises for our future. Congratulations!

"Powering Transportation Visions has many facets," says Thomas Friderich. "We are very pleased about the positive feedback from our users. The conference provided an excellent platform to get deep insights in sustainable traffic planning and solutions for future-orientated transportation. We already look forward to next year's PTV Vision Users Group Meeting!"

Your contact:
Thomas Friderich
thomas.friderich@ptv.de
www.ptvag.com

Leading transportation experts discussed the topic "Sustainable traffic and transportation concepts start in the computer". (left to right) Moderator Carlos Arce, NuStats, USA, Jason Robinson, Transport for London Surface, Great Britain, Dr. Alan Brownlee, City of Edmonton, USA, Prof. Dr.-Ing. Martin Fellendorf, Technical University of Graz, Austria, Prof. Dr. Markus Friedrich, University of Stuttgart, Germany, Kai Robert Kornmesser, IBM Global Business Services.

The lucky winners Keith Yu Kit Leung, Wilco Burghout, Johan Wahlstedt and Philipp Fröhlich with their Scientic Award Trophy (left to right).

Wilco Burghout and Johan Wahlstedt won first prize in this year's Scientific Award Competition: a EUR 2,500 cash award and free admission to the users group meeting.

Business Unit Mobility / PTV AG

Research on Vehicle-to-infrastructure Communication Funded by the European Commission

The European Commission has devoted EUR3.62 billion of the EUR17.5 billion Sixth Framework Programme budget to one of the main research projects concentrating on "Information society technologies". Also, over EUR20 million are dedicated to research on next-generation electronic information systems for road networks in Europe. PTV is a member of the CVIS consortium (Cooperative Vehicle Infrastructure Systems), which consists of 60 project partners. Together they concentrate on solutions which allow vehicles and infrastructure elements to co-operate and to exchange up-to-date traffic-relevant data.

Vehicle-to-vehicle communication: The passenger car damaged by falling rocks alerts approaching vehicles to the potential danger.

The aim is to show how this new communication, interaction and co-operation system can help improve traffic safety and reduce congestion and pollution.

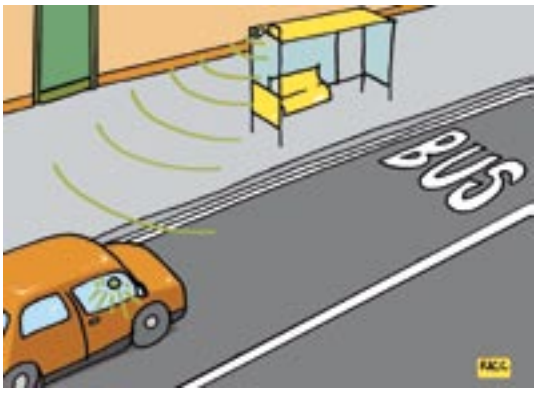
Communication is the basis for a broad range of services

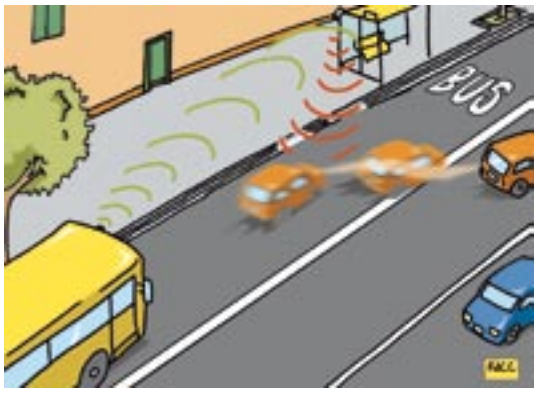
All communication platform participants create both ad-hoc and permanent networks. Each vehicle and road infrastructure element (e.g. traffic lights) sends and receives information from other "nodes" within the network. This will result in a wide range of services – from real-time traffic information during the trip and route planning to traffic management services – all based on the actual traffic situation.

Standardised communication and network technology

The project's aim is to provide cooperative services throughout Europe. "A standardised technical basis is essential in order to provide and utilize co-operative systems on a European scale," explains Andreas Schmid, Senior Consultant at PTV Germany. The researchers therefore concentrate on the development of a standardised technology for vehicle-to-vehicle and vehicle-to-infrastructure communications. They are setting up a multi-channel router, using numerous potential carrier technologies, such as cellular networks, (e.g. GPRS/UMTS), or mobile, wireless, local networks (e.g. WLAN 8011.2p) and infrared communication, just to mention a few. All carrier media help to either have permanent access to the "new" IPv6 Internet or to constantly provide the neighbour with important information about vehicle movements or dangerous situations in the local area.

Communication will be based on the new international CALM standards (Continous Air Interface for Long and Medium Range). CVIS is currently testing this technology with the aim to create a solution allowing vehicles from different brands and traffic management





Communication between vehicle and infrastructure: The bus stop identifies the approaching bus and transfers this information to the vehicle allowing the driver to change lanes early.

systems from various European manufacturers to communicate with each other. CVIS applications and core technologies will be tested at different test sites in six European countries, covering urban, inter-urban and commercial environments.

Technologies and applications required for this project will be developed in close cooperation with other project partners involved in European ITS projects, such as SAFESPOT, COOPERS, SEVECOM or SISTER. In addition to the communication platform, CVIS also provides an open Middleware platform based on JAVA-OSGi.

Important prerequisite: Close cooperation between all parties involved

All parties involved in the project need to cooperate with each other, not just in terms of technology. This is the key to ensure success of cooperative vehicle-infrastructure systems. Andreas Schmid says: "Motorists must, for instance, be ready and willing to share data with other road users, or car makers must equip new vehicles with in-vehicle communication devices. This is indeed a major challenge for the project partners who have to create a pan-European solution!"

Your contact:
Andreas Schmid
andreas.schmid@ptv.de
www.ptvag.com

Business Unit Mobility / PTV AG

Easy Riding with the International Motorcycle Trip Planner

MapIT with PC-based route planners for South Africa

Jacques, a French road rider, is meeting a group of motorcyclists while taking a break at a hotel located on Schwarzwaldhochstraße, a very popular scenic road through Germany's Black Forest. He tells them how he has planned every detail of his 4-week summer trip around Europe with the PC-based route planner MOTO Journal. The software provides users with a wealth of useful information – from the most popular biker hotels and greatest mountain passes to plenty of information about highlights along the route. Jacques read about the desktop product in the MOTO Journal published by Motor Presse France. Although riders in Germany have been using the MOTORRAD trip planner for many years, it has not been available in France until 2007.

For more than eight years, PTV AG (until the middle of this year under the roof of its subsidiary MAP&GUIDE GmbH which recently re-merged with its parent organisation PTV) and its business partner Motor Presse have successfully marketed premium products for riders in Germany. PTV's MOTORRAD trip planner is the leading motorcycle route planning software in Germany. In early 2007, the company therefore started several projects focusing on Motorcycling and Camping in France, Spain and the Netherlands. Dutch motorcyclists plan their trips using a licensed release of promotor onroute, which PTV's business partner WayPoint, in cooperation with ANWB, offers its customers in the Netherlands. Customers can select between Dutch and English when using this bilingual product for route planning.

Target group specific products

"Not only do users benefit from versions translated in the language in use in their country, but also from tailor-made products to best suit our customer's unique needs. These customized products result from our market expertise and close co-operation with our business partners. This is also the reason why our special-interest products, such as the MOTORCYCLE trip planner, have become a great success," says Sylvia Römer, Product Manager for PC Route Planners at

PTV's PC-based route planners offer a memorable riding experience.

The PC route planner MOTO Journal is very popular in France.

PTV Germany. The software includes additional information relevant to the country where it is launched. Sylvia Römer is confident that further international projects will follow. She explains: "The demand for motorcycle trip planners is rising, especially in Great Britain. With the support from our product partner, whose brand is well established in the travel sector, we aim to enter this market as the next step of our internationalisation process.

Combined knowledge based on strong business partnership

Motorcycle-specific information is currently being collected for Great Britain. This includes scenic routes, height data, motorcycle-friendly accommodation and plenty of information for touring motorcyclists. Experts are also designing new motorbike tours in addition to the 800 trips in 14 European countries. PTV planners already have up-to-date maps of these countries.

Sylvia Römer says: "Our strong business partner supports us by providing additional information for motorcyclists, such as motorcycle dealerships. Our partner also examines riders' accounts of their journey and produces videos showing the most famous scenic routes from a motorcyclist's viewpoint . This information allows us to develop software products which exactly meet the motorcyclists' requirements. The business partner should have close contacts to distributors or dealers in his or her country. This is paramount for the success of a motorcycle product," explains Sylvia Römer.

MapIT, the leading provider of digital maps in South Africa is our business partner outside of Europe. The company has licensed two PTV travel planners: MapStudio Digi-Route and Street by Street Navigator. The later includes maps of southern Africa, covering South Africa and its neighbouring countries. MapIT supplies its own maps for these products. The European maps for the other projects are provided by the map suppliers NAVTEQ and Teleatlas.

Internationalisation has just started

A PC-based route planner, which is successfully sold in a country, will normally be updated on a regular basis. Many motorcyclists buy the latest version every year and benefit from new features, additional maps and up-to-date information, such as closed roads or recreation facilities. Different export and connection options are also available, which means that routes can easily be exported to Garmin systems and to different mobile navigation devices. If users wish to preview their journey in 3D, they simply export their routes to Google Earth.

PTV's route planners provide users with complete packages for individual and professional trip planning, whereas free routing services on the Web allow motorcyclists to just plan their routes and use the printed route description during the journey.

Jacques will certainly plan his next summer trip with MOTO Journal again. He is already dreaming of thrilling motorcycle tours on Europe's most spectacular roads.

Your contact:
Sylvia Römer
sylvia.roemer@ptv.de
www.ptvag.com

Business Unit Mobility / PTV AG

Software Platform Delivers an Absolute Boost in Performance

The new central platform 4.0 released by PTV's business field "Mobility" now provides enhanced content management functionalities. It helps users to easily integrate data into geo-applications and to manage data more efficiently. The new PTV MobilityPlatform also uses AJAX maps, a typical Web 2.0 technology, designed to speed up Web applications.

Customers use PTV's mobility platform for a wide range of applications - from dealer locator services to route planning and other mobility services on the Internet. The platform also builds the basis for call centre applications used by insurance companies and assistance providers, such as breakdown services or emergency call functions. Additionally, it supports the navigation sector by providing traffic information services and connecting local search functions and other online services.

Providing content is another important aspect in the navigation and telematics industry. An increasing number of vehicles and navigation devices are equipped with communication interfaces. This means that they can receive location-based and dynamic data, which range from POIs to traffic information and up-to-date maps.

Frank Felten, Director Product Management Mobility, says: "Each of the core functions delivers an incredible performance boost – with up to five times the performance of the previous system."

The PTV MobilityPlatform allows users to implement a wide variety of Web applications.

More features for international users

Global market players, such as Audi, ATX, Motorola and Telekom have chosen this unique platform. Full Unicode support has been included in the new version to extend the global reach of the application. It also provides access to worldwide maps.

Detailed documentation at www.developer.ptv.de

Increased performance

Version 4.0 of the technology platform is based on powerful PTV xServer modules, improving the performance of major geo-functionalities, such as routing, map display, radius search and geo-coding.

The new software version, which can also be used as a web service hosted by PTV, is now available. PTV's online portal provides developers with a wealth of information in English. www.developer.ptv.de provides a variety of documents and code samples as well as technical support.

Your contact:
Frank Felten
frank.felten@ptv.de
www.ptvag.com

PTV technology supports customer services team

Business Unit Mobility / PTV AG

Fast Response to Calls for Assistance

ROLAND Assistance's call centre agents provide about 20 million customers with 24-hour emergency services, which include night, weekend and holiday hours. Each year they respond to two million incoming calls and process 270,000 cases being reviewed for benefits. ROLAND Assistance GmbH is one of Germany's leading assistance providers.

PTV technology was installed at ROLAND's Assistance in 2005 to support its customer services team. Call centre agents can track a caller's exact location and search for the repair service responsible for the specific area where the caller is broken down. This allows them to help customers find the shortest route to the next service garage or the nearest control centre in case of emergency.

Ralf Gilges, responsible for network management at ROLAND Assistance, Germany, describes why they implemented the new PTV technology: "The system we used to work with was no longer supported by the software provider. So, we needed a new solution."

It did not take him long to decide: ROLAND Assistance is an associate of assistance partner (AP) and uses AP's "Silver Fleet" for its breakdown services. AP was already using PTV's vehicle routing and scheduling software (at that time provided by PTV's subsidiary MAP&GUIDE) when Ralph Gilges started searching for a new system. Therefore, it seemed reasonable to choose the same technology.

Smooth transition and excellent support

The software was quickly implemented. Ralph Gilges says: "The transition to the new system went smoothly. Minor problems were encountered at the beginning, but they were immediately resolved."

The employees quickly became familiar with the new system. And he continues: "I must say, it was a real pleasure working with PTV."

Fast processing of breakdown calls and notification of claims

By tracking the caller's exact location, distance-based search for service providers and exact routing, PTV's CallCenter Solutions are tailor-made to meet the assistance providers' individual requirements.

Ralph Gilges is very pleased with the results: "PTV technology enables our team to consistently provide immediate care, concern and assistance. We also wish to thank PTV for their excellent support. I would definitely recommend the software solution for assistance applications."

Your contact:
Dirk Weingärtner
dirk.weingaertner@ptv.de
www.ptvag.com

Business Unit Logistics / PTV AG

Going Global with a New Set of Planning and Visualisation Tools

PTV's new geomanagement software suite PTV Map&Market 7.0 is scheduled to be launched in autumn 2007. The French and German language versions will be available at the same time as the English version. PTV's Geomanagement business unit now places an even stronger emphasis on deeper access to global markets.

Companies in different markets and industries have chosen this professional geomanagement software, offering maps with world-wide coverage. BSH Bosch, a manufacturer of household appliances, and Siemens Hausgeräte GmbH, for instance, use PTV Map&Market/Premium for geomanagement and sales planning in numerous European countries as well as in the U.S, Canada, South Africa and Australia.

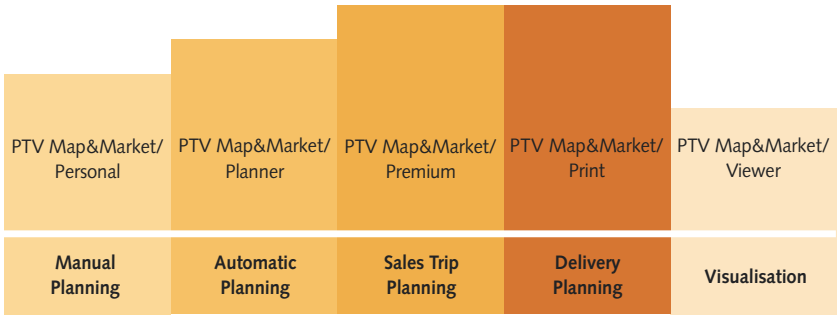
PTV Loxane, PTV's Paris-based subsidiary, offers customers in France an extensive portfolio of geomanagement software solutions to suit their specific needs. In addition to the company's own entry-level solutions providing basic features, planners can now benefit from the feature-rich PTV software suite for their business applications. The software version is now available in French.

Modular architecture for flexible upgrade capabilities

The entry-level solution PTV Map&Market/Personal allows users to display information on customers, locations and territories on detailed digital maps and to manually plan locations and territories. Prices for the basic version start at EUR 5,000.00. It now includes new features, which enable the customer to use both territories and addresses in planning.

If a company wishes to expand its business, it can use the automatic planning features of PTV Map&Market/Planner which analyse, change and visualise existing territories and data on market potential according to the user's specifications. The planning results and their impacts on the entire process are immediately displayed.

PTV Map&Market/Premium is the perfect planning tool for sales force organisations. In addition to the Map&Market/Planner functions it includes an efficient trip scheduling tool for scheduling customer visits and other mobile workforce activities. The software calculates trips that are based on sales force capacities, considering restrictions such as the employee's working hours, area boundaries as well as opening hours, frequency and duration of customer visits.



The geomanagement software system and its modules for marketing and sales at a glance

PTV Map&Market/Print supports mail delivery and advertising material distribution services as well as publishers. The territories divided into publications, distribution and inserts can easily be planned, visualised and analysed.

If colleagues or business partners have to be informed about the current planning results, PTV Map&Market/Viewer helps to quickly provide the required information on the Web.

Your contact:
Thorsten Reiter
thorsten.reiter@ptv.de
www.ptvag.com

"PTV's geomanagement software suite helps our customers to plan, visualise and analyse their locations and territories with maps covering the whole world," says Thorsten Reiter, Product Manager Geomanagement and Field Force"
"We're expanding into a much broader global market than we had been in before with the new PTV Map&Market 7.0."

Business Unit Logistics / PTV AG

PTV and SAP Extend Partnership

The new deal will benefit SAP users: PTV is the only software firm able to integrate its geographic and logistical services into SAP standard software. Standardised integration helps users streamline project execution, save time and money, and improve quality.

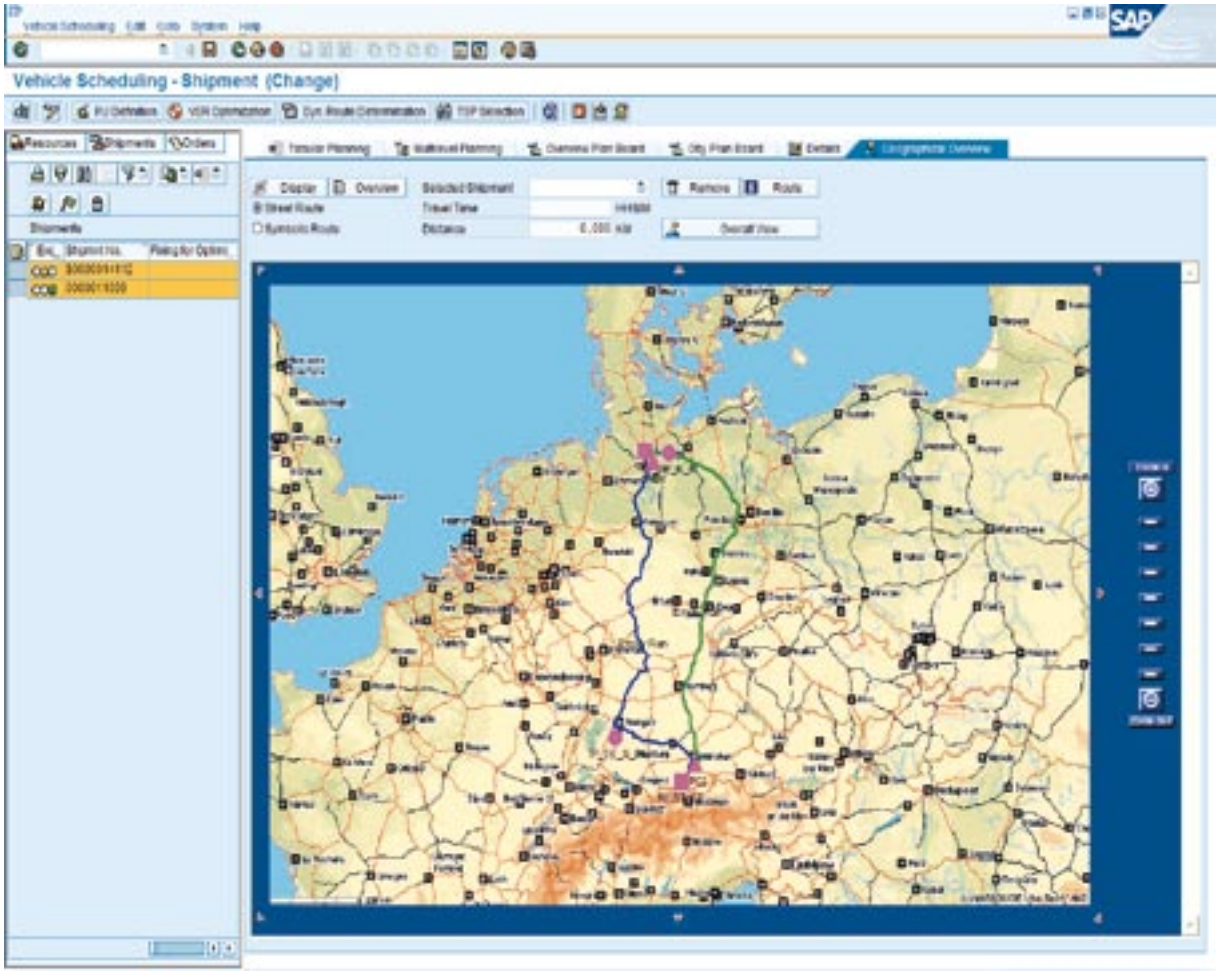
SAP and PTV have been working together for many years. The latest deal to extend partnership will provide SAP customers with seamless and easy access to transport logistics solutions, such as PTV Intertour, integrated into SAP systems.

The geographic and logistical PTV components offer many advantages, one of which allows users to geocode even incomplete addresses precisely. Additionally, they provide exact route data by means of a detailed route list. Interactive features meet the users' needs regarding ergonomic design and usability. With PTV's map technology they always have access to up-to-date maps. There is no need to change SAP software features. The calculated distances are used as reference kilometres. This method has become an accepted industry standard.

Users benefit from joint development of software components

Your contact:
Jörg Jonas
joerg.jonas@ptv.de
www.ptvag.com

PTV map and routing features seamlessly integrated into SAP's standard solution



Dispatchers save time with the new map&guide software packages, which already include the new social legislation relating to road transport.

Business Unit Logistics / PTV AG

Trip Planning with New Driving and Rest Times in Germany

New, stricter and more complex describe the new regulation concerning driving time and rest periods for drivers of HGVs over 3.5 tonnes. PTV's map&guide software solutions have now been updated to help dispatchers take these new guidelines into account when planning.

"Our planning programs consider the regulation on new driving and rest times in Germany, so that dispatchers can still efficiently schedule the trips despite the revised guidelines," says Sebastian Wehowski, Transport Logistics product manager at PTV Germany.

The new scheduling program map&guide planner with its numerous helpful planning options is the ideal tool for the entire trip scheduling process. The remaining driving and shift time are taken into account for each driver and route. "The software helps dispatchers to efficiently plan the vehicles and crews and create realistic schedules in compliance with the new regulation.

The new driving time and rest periods are also included in many other map-based PTV software programs, such as map&guide professional and the calculation tool map&guide calculate.

map&guide software solutions consider new legal regulation on driving time and rest periods

Background information:

The new regulation on driving time and rest periods for all drivers of HGVs over 3.5 tonnes came into effect in Germany on April 11, 2007. Main changes are as follows:

Driving time – the weekly maximum is now 56 hours compared to 74 hours in the past.

The daily driving time is still 9 hours and can be increased to 10 hours twice a week.

Breaks – a 45 minute break after 4.5 hours, or two breaks of 15 minutes and 30 minutes, in that order.

Daily, rest is still 11 hours, but the period of rest taken en bloc must be 9 hours instead of 8 hours. A driver may have at most three reduced daily rest periods between any two weekly rest periods.

Completely new: The weekly working hours shall not exceed 48 hours on average over a period of 4 months, the total accumulated driving time during any two consecutive weeks shall not exceed 90 hours. Within this period a driver shall take two weekly rest periods of not less than 45 hours or at least a break of 48 hours and a break of not less than 24 hours.

Your contact:
Sebastian Wehowski
sebastian.wehowski@ptv.de
www.ptvag.com

Business Unit Logistics / PTV AG

Good Practice Guide on Urban Freight Transport

Urban freight transport has a direct bearing on the efficiency of the economy: it contributes to the competitiveness of industry in the region concerned and is a major employer in its own right. The future success of town and city centres, which face increasingly severe competition from out-of-town retail parks, depends on how effectively they can cope with problems of congestion, pollution and noise. Therefore, it's important to take into account commercial interests and the environmental lobby as far as urban logistics is concerned. The new Best Practice Guide published in 17 languages provides useful solutions for urban freight transport.

Narrow streets often jammed with lorries

The guide is intended to give guidance to freight transport, logistics companies and urban planners. It will help to develop measures which may be implemented to improve the flow of goods in urban areas and to reduce the environmental impact of the operation. BESTUFS project experts have produced the good practice guide within the BESTUFS project (BEST Urban Freight Solutions), which is coordinated by Karlsruhe-based PTV AG and funded by the EU Commission (DG Energy and Transport).

Best practices in European cities

Many European cities have successfully introduced new strategies in order to reduce urban freight transport. Loading zones, for example, were introduced in Aalborg's narrow pedestrianised area. Each of the loading zones can accomodate several vehicles and allow other vehicles to pass, easing traffic congestion during the early morning delivery window. Local shopkeepers agreed to wait until 11.00 am before placing showcases in the streets and rolling out sunblinds.

Better conditions for night deliveries

The PIEK ("peak noise") programme in the Netherlands focuses on improved conditions for night deliveries, which refers to the deliveries to shops made in the evening, early morning or during the night. Typical times are between 10.00 pm and 6.00 am, when the city is usually quiet and inactive. In several cities, such as Barcelona and Dublin, successful experiences with trials on night delivery are made replacing a higher number of vehicles operating during day time by a fewer number of vehicles operating during night time. Noise disturbance from delivery activity must be avoided in order to increase the acceptance of night time transport operations.

Research has revealed that many loading and unloading activities exceed the noise standards of 60 and 65 dB(A) proposed during the evening and night. A law was set up to address noise nuisance. It states that the noise emission generated when loading and unloading goods must comply with strict noise emission standards. The Dutch government supports the PIEK programme to help develop techniques and equipment

Night deliveries to reduce the number of vehicles operating during day time

ELP in Bordeaux for eco-friendly urban freight transport

for the market to meet the noise standards. Promising solutions include optimum loading/unloading locations, quiet distribution vehicles up to and exceeding 7.5 tonnes, quiet transport-refrigeration installations, quiet on-board forklifts, noise reduction of rolling containers, pallet trucks and hand pallet trucks, noise reduction to shopping trolleys, and electric propulsion or a combination of electric propulsion with diesel or gas propulsion.

Kiala's collection point service in Belgium, Luxembourg, France and soon in the UK aims to improve last-mile deliveries. Parcels are stored in a locker at a nearby Kiala collection point, where customers collect their own goods, making them responsible for the final distribution leg. Collection points result in fewer delivery locations and improved drop density.

In Bordeaux, for example, local collection and distribution points have been installed to enable eco-friendly dispatching of consignments for the last mile (inner city). In so-called ELPs (Espace de livraison de proximité), goods are unloaded from incoming vehicles and can be loaded onto trolleys, electric vehicles and bicycles for the final distribution leg. La Petite Reine in Paris uses tricycles with electrical assistance for the delivery of food, flowers, parcels, etc. to customers throughout the city. The use of tricycles has saved 156,248 vehicle kilometres (standard diesel fuel), which is equal to 43.3 toe (tonnes oil equivalent) of energy consumption, 112 tonnes of CO2, 1.43 tonnes of CO, and 280 kg of Nox.

New ideas for eco-friendly collection and delivery operations within the urban area

European cities need to act

Most active cities implementing freight transport innovations tend to be the largest metropolises. These conurbations have the resources to access support for innovative transport solutions, to participate in city networks and to exchange knowledge and experiences with each other. An important objective of BESTUFS and this guide is to also reach small and medium sized cities. The guide provides instructions on how to develop and implement customised solutions to meet the cities' specific requirements regarding urban freight transport. For more information about the project visit the English BESTUFS pages at www.bestufs.net. The document is also available for download.

European countries covered by BESTUFS

Non-European countries covered by BESTUFS

BESTUFS

PTV AG is in charge of the coordination of the EU-funded BESTUFS project (BEST Urban Freight Solutions). The European Co-ordination Action, which has a budget of EUR4.35m, is active from 2000 until 2008. The main objective is to identify, describe and disseminate best practices, success criteria and bottlenecks of urban freight transport solutions. Furthermore, BESTUFS aims to maintain and expand an open European network between urban freight experts, user groups, associations, researchers, ongoing projects, the relevant European Commission Directorates and representatives of national, regional and local transport administrations and transport operators. The project team organises regular workshops and conferences all over Europe and reports about interesting urban commercial transport related developments, demonstrations and events on European, national, regional and local level. BESTUFS has received considerable attention from both practitioners and researchers. All results are publicly available at www.bestufs.net.

The BESTUFS consortium consists of the following companies: PTV (coordinator, Germany), NEWRAIL (Great Britain), NEA (The Netherlands), RappTrans (Switzerland), Transman (Hungary), CDV (Czech Republic), LET-ISH (France) and the University of Westminster (Great Britain).

The Good Practice Guide on Urban Freight Transport is available in English, German, Bulgarian, Czech, Danish, Dutch, Finnish, French, Greek, Hungarian, Italian, Lithuanian, Polish, Portuguese, Slovene, Spanish and Swedish.

Your contact:
Claudia Eichhorn
claudia.eichhorn@ptv.de
www.ptvag.com

PTV wishes you a Merry Christmas and a Happy New Year!

Miscellaneous

USA: PTV America celebrates its 10th anniversary

Congratulations! PTV America celebrated its 10th anniversary in September. ITC (with founding member PTV) was established on September 1, 1997 and renamed PTV America, Inc., in 2004.
More: http://www.ptvamerica.com/main.html

Benelux: PTV Ordis changes its company name

On 1 September 2007, PTV-Ordis changed its company name to PTV Nederland and PTV België for the Benelux market. Ordis, founded in 1989, has always maintained close ties with PTV AG in Karlsruhe, Germany. PTV became a shareholder in Ordis in 1999. The company name was changed to PTV-Ordis.

In 2004, PTV-Ordis became a 100% subsidiary of PTV AG. Today it is the market leader for transport planning systems, mapping & routing and professional navigation solutions in the Benelux countries.

"We are convinced that a clear company name, an international logo, well-known product brands and a recognizable corporate identity will promote powerful brand clarity and recognition in the European market," says Dyon van Gaans, Managing Director. "We have joined forces to provide our customers with the most innovative software solutions for transport planning, fleet management and navigation. Clients will benefit from PTV's comprehensive range of products and our consultants' local market knowledge."
More: http://www.ptvbenelux.com

Meet PTV at these International Trade Fairs

Jan, 13-17, 2008	TRB	Washington, USA	www.trb.org
Feb, 11-14, 2008	3GSM	Barcelona, Spain	www.3gsmworldcongress.com
Feb, 13-15, 2008	IT-Trans	Karlsruhe, Germany	www.it-trans.org
Feb, 17-19, 2008	Post Liberal	Hanover, Germany	www.postliberal.de
Feb, 18-20, 2008	Andinatraffic	Bogota, Colombia	www.andinatraffic.com
Feb, 18-21,2008	Callcenter World	Berlin, Germany	www.callcenterworld.de
Mar, 5-6, 2008	Heureka	Stuttgart, Germany	www.stiftung-heureka.de
Mar, 4-9, 2008	CeBIT	Hanover, Germany	www.cebit.de

For more information about events and exhibitions in 2008, go to http://www.english.ptv.de/cgi-bin/news/messen.pl

We welcome your enquiries and feedback.
Please get in touch with us!

PTV AG
Stumpfstraße 1
76131 Karlsruhe / Germany
+49-721-9651-0
public.relations@ptv.de
www.ptvag.com

traffic mobility logistics.