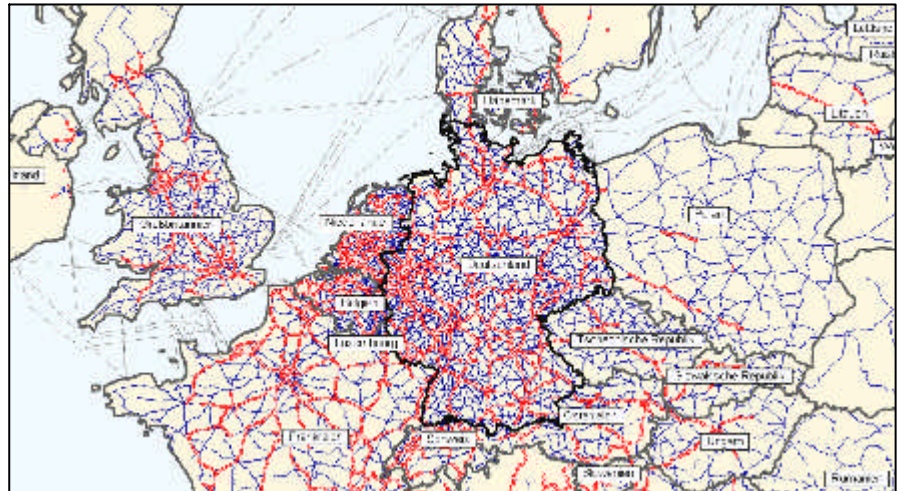


How strong are the traffic flows on major roads in Europe?

With the aid of the PTV Validate traffic model PTV experts in transportation planning have been able to calculate the traffic volumes of motorised individual traffic in Germany and the surrounding areas for some years now. This model is gradually being developed for use in other countries as well.

With the road networks size and level of detail in PTV Validate, PTV sets new standards in the field of traffic data processing and transportation modelling.

## PTV Validate – Platform for international traffic data



### Pushing the Bounds of What is Possible

Currently PTV Validate is the world's largest transportation model. With 1.4 million links and almost 10.000 traffic zones, PTV Validate reaches for the limits of technical feasibility. Traffic flows for the entire German main road network are calculated for both passenger and goods transport. The model approach provides an opportunity of simulating versatile scenarios and various developments without additional effort.

### Scope of Application

The network model as well as the generated traffic data of PTV Validate have a broad range of applications:

- ▶ Providing traffic data for urban and regional transportation models (origin, destination and through traffic) e.g.

to improve the utilisation of existing infrastructure or to evaluate new transportation projects

- ▶ Generating regional transportation networks for research in transportation planning, e.g. toll forecasts or long-term traffic forecasts
- ▶ Planning and evaluation of commercial areas and accessibility analyses
- ▶ Environmental impact studies, e.g. emission surveys or noise mapping
- ▶ Dynamic route guidance
- ▶ Determining strategic locations for effective advertising
- ▶ Realistic travel time calculation using the hourly data from PTV RushHour
- ▶ Fast and easy transport network modelling based on subnetworks of PTV Validate

Due to the flexibility of this model, PTV Validate can be used whenever questions about traffic flows, traffic distribution or traffic frequencies arise.

### Road Network – Detailed and Ready for Routing

The network model used in PTV Validate is based on detailed NAVTEQ navigation networks. In addition to their high reliability, these networks have many other advantages:

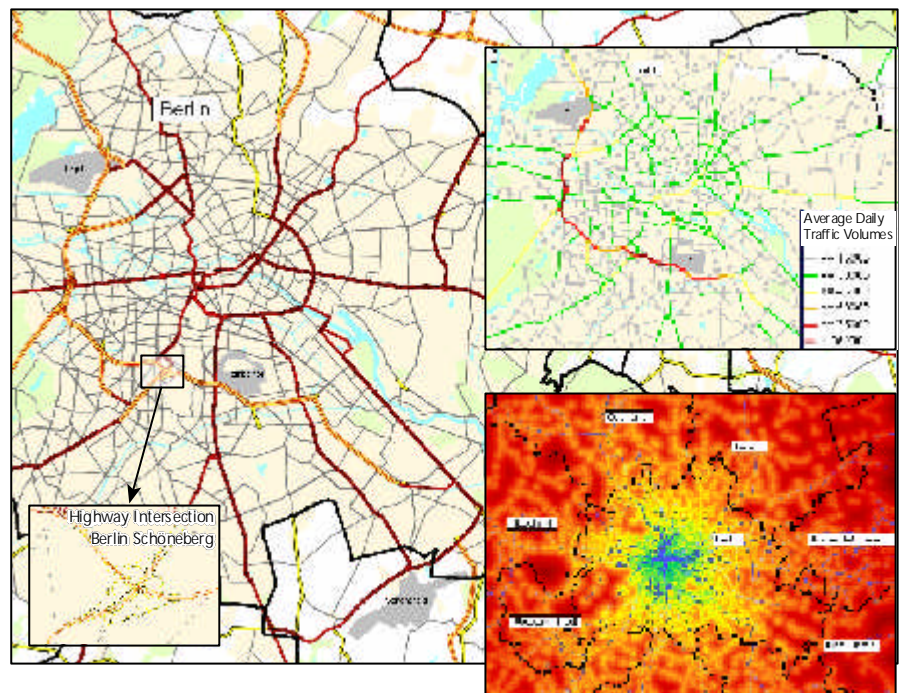
- ▶ Continuously high and up-to-date quality by means of professional data collection and periodic updates (by NAVTEQ in three months intervals)
- ▶ Ready for routing – information on one-way streets, ramps or banned turns are taken into account

PTV has developed a special technique to reduce these highly detailed navigation networks to a computable size while keeping all relevant information of the original data.

The result of this unique automated method is a quality-ensured network model that contains all required transportation attributes. As this procedure is reversible, all results can be transferred back to the detailed network after computation.

## PTV Validate – Your Advantages at a Glance:

- ▶ Area-wide traffic volume data
- ▶ Detailed and ready-for-routing network model which includes all major roads
- ▶ Continuous update of the network model and demographic and traffic demand data
- ▶ Hourly traffic data (speed and time) from the dynamic model PTV RushHour



Accessibility Analysis

## Spatial Traffic Distribution

The traffic flows are calculated by assigning the origin and destination volumes between traffic zones onto the network. In order to determine these traffic zones, PTV has developed a special method for PTV Validate, where regional and traffic-related data as well as geographic and topographic information are taken into account. PTV Validate Germany is divided into 9.600 traffic zones that represent approximately 8.500 inhabitants each on average.

## Traffic Demand

The knowledge of the number of persons who want to travel from A to B is an essential element of PTV Validate. This demand of private transport is calculated by means of the simultaneous traffic demand model VISEVA using demographic information and empiric parameters like trip length distributions.

The PTV commuter matrix which is gained from official data is used to enhance the resulting matrix. The goods traffic demand is calculated separately.

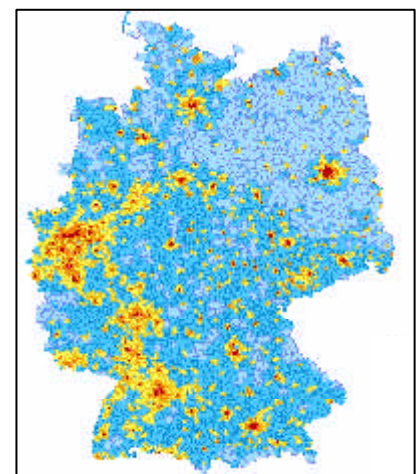
## Traffic Volume Calculation

Combining the network model and the transportation demand, it is possible to calculate traffic volumes for every single link of the network by using VISUM. Both official count location data and existing traffic models are used to calibrate the results of PTV Validate.

Thus PTV Validate provides the average daily traffic for every link in every direction and differentiated by car and HGV. In addition to that, PTV RushHour provides a dynamic version with data that is differentiated by the hour.

## Future Prospects

Following its introduction in Germany and Great Britain, PTV Validate is now being developed for several other European and non-European countries. Meanwhile the quality of the existing Validate models is continuously being improved. The recent roll out of VISUM in a 64bit version provides new possibilities for enhancing and upgrading PTV Validate. Therefore the scope of applications can be developed further, especially in cooperation with our partners.

Traffic Volumes per km<sup>2</sup>