

# PTV RushHour

Traffic forecasts for intelligent travel planning



# Benefit from better traffic flow information

Drivers know for a fact that the same route during peak hours takes them much longer than on a Sunday morning when the roads are congestion free. Whether traffic moves fast or rather slowly largely depends on the time you're travelling.

Normal route planners and navigation solutions cannot take these parameters into consideration: the speed on which their route selection and travelling time computation rely ignores the time of day and only fluctuates according to the road category. The PTV RushHour data set, however, enables devices to additionally account for a dynamic, time-related speed which depends on the time and type of day you travel. It is then possible to predict the traffic flow for each section of the road at the current time. As a result, the announced arrival time is more accurate and the routes can be optimised accordingly.

## Use cases

PTV RushHour is meant for all private companies or government agencies who use, develop or provide traffic-related applications for end customers, especially for the following applications:

- ▶ Route planning in Internet portals
- ▶ Mobile and location-based services (LBS)
- ▶ GPS navigation solutions
- ▶ Trip planning for logistics
- ▶ Geo-marketing

PTV RushHour allows you to display complex traffic situations at a glance

## Display of the expected traffic situation

PTV RushHour provides speed and traffic information that can be shown as an animation, a graphic or in form of a traffic map in which road segments are highlighted in several different colours.

## Dynamic route planning

Compared to "static routing", "dynamic routing" takes the expected traffic situation into account. Using PTV RushHour, route calculation includes the speeds relevant for each road segment and time interval. Users therefore have the possibility of calculating the precise time of arrival and choosing the optimal route. Moreover, they can adjust their departure time to benefit from the best travel times. PTV RushHour thus allows you to optimise your route and trip planning!

## Navigation solutions

Intelligent navigation solutions use dynamic routing methods that are based on both real-time traffic information and traffic forecasts.



Mobile traffic information with a new dimension

This enables them to predict exact travel times and provide a relevant selection of routes. PTV RushHour integrates into all navigation solutions, whether they are based on onboard or offboard technology.

PTV RushHour can be used on all navigation platforms:

- ▶ Automotive embedded
- ▶ PND
- ▶ Smartphone



# Dynamic traffic time series

## What is PTV RushHour?

The PTV RushHour data set contains time series that represent the speeds or the traffic situation of a day (level of service/LOS) for every section of a road network. This data is available in different time intervals and weekday types. Time series data preparation also takes the impact of bank holidays and vacation times on the traffic into consideration.

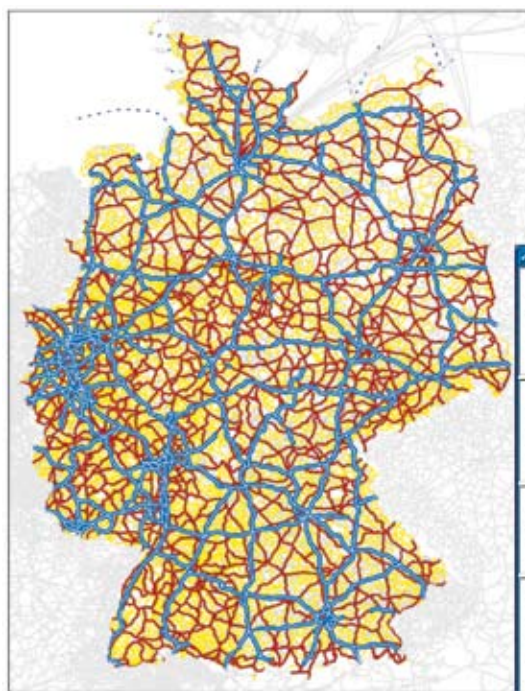
This detailed information about the expected traffic is either based on historical count data or on PTV Validate. The PTV Validate solution provides highest data quality since it contains all traffic attributes and allows users to actively react to any changes in the road network.

## The basis: PTV Validate

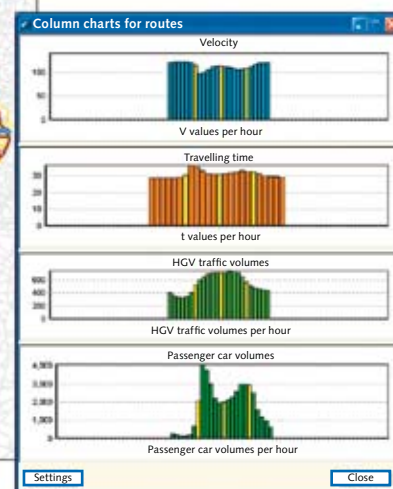
PTV is the worldwide leading provider of traffic model solutions. The traffic data platform PTV Validate has been developed on the basis of a navigation network. PTV Validate is the world's largest and most sophisticated traffic model.

An integral part of PTV Validate is the knowledge of when and why certain groups of people use certain modes of transport to get from a start point to a destination.

This traffic demand data of motorised passenger transport is computed using commuter relations extracted from official traffic count data. It is then complemented by traffic demand for commercial transportation.



In Germany alone, PTV Validate covers over 9,600 traffic cells. On average, one traffic cell represents approx. 8,500 inhabitants.



Time series are generated by projecting O-D routes to the network. The speed per time interval is shown for each route.

By combining network model and traffic demand data, you can determine the traffic volume on individual route segments. The process requires fine calibration on the basis of official count data and existing local models. As a result, you obtain an average daily traffic volume for each direction, with cars and trucks listed separately.

For PTV RushHour, the traffic volume data is broken down into five weekday types and time intervals of an hour to five minutes. This data is then used to calculate the speed per route segment and the level of service (LOS).

## Alternative: historical count data

PTV RushHour time series can also be derived from historical count data and

information from various sources. In this case, speed data collected by local detectors as well as travel time and reports for the respective routes can be used.

## Generation of representatives

Using all the speed attributes and LOS information, the program bundles and assigns the data to individual road segments. This clustering process creates representative time series for specific times and weekdays. The data transferred can then be compressed and for instance easily integrated into mobile devices.

▶ Traffic Software  
Logistics Software  
Transport Consulting

**PTV AG**  
Stumpfstr. 1  
76131 Karlsruhe  
Germany

Phone: +49 721 9651-500  
its@ptv.de  
www.ptvag.com

# PTV RushHour – for intelligent travel planning

The PTV RushHour data set accounts for dynamic, time-related speed changes that depend on the time of day you travel. This means, it is possible to predict the traffic flow for a certain route at the exact time of travel. Using this information, the navigation device can calculate more reliable arrival times and optimise routes accordingly.

## Benefits:

End users benefit from various advantages: their travel information is more accurate and they know in advance where to expect recurrent traffic jams or slow traffic. Moreover, they save time and money by avoiding traffic disruptions and taking a quicker alternative route depending on their departure time.

- ▶ High quality ensured by ground-truth data
- ▶ Time granularity (up to 5-minute intervals)
- ▶ Detailed road network
- ▶ Significant geographical coverage
- ▶ Scalable
- ▶ Compatible with real-time traffic information

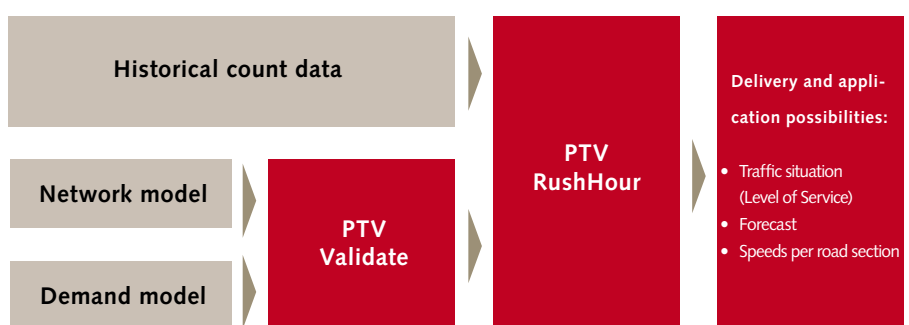
- ▶ Allows traffic forecasts
- ▶ Seamless integration into PTV product family and third-party applications (e.g. GPS Navigation)

## Target group:

Displaying data on a traffic map, as a graphic or an animation or using it for route calculation and navigation is

relevant for providers of:

- ▶ Internet services
- ▶ Navigation solutions
- ▶ Logistics fleet management
- ▶ Map-orientated LBS
- ▶ Call centres
- ▶ Media
- ▶ Geo-marketing



The PTV Group provides cutting-edge software technology and consulting to enable customers to meet their mobility needs. It helps people plan and manage traffic and transportation, provides them with the latest traffic reports and assists them in optimising their long-term

resource allocation. The ITS division sees to an efficient and sustainable use of the traffic infrastructure by supplying intelligent traffic management tools. PTV aims to optimise traffic by offering solutions for analysis and simulation in real-time and for forecasts.