

**URBAN STRATEGY WITH PTV VISUM:
GEARING TOWARDS HEALTHIER,
SMARTER CITIES**

A COMPREHENSIVE SOLUTION

FOR HOLISTIC AND SUSTAINABLE URBAN PLANNING

Over the last decade, developments all over the world have changed drastically. Around the world, small and large metropolitan areas are ramping up efforts to reinforce their attractiveness to their people and visitors. To achieve this, they strive for a balance between accessibility, safety and environmental quality, which in turn necessitates a holistic approach. By identifying people as the central element of any city, conventional city-making discipline together with architecture and engineering needs to recognize the influences of social issues, economic development, culture, recreational area as well as technology to provide an all-encompassing smart city dashboard.

THE PROBLEM

The urban spatial planning methods currently used are sub-optimal and unable to calculate these requirements interactively as they work in silos and are very time-consuming. The different aspects are calculated individually which causes inaccuracies and inefficiencies. This leads to unguided urban expansion that perpetuates non-inclusive and unsustainable growth.

THE SOLUTION

The Netherlands Organisation for Applied Scientific Research (TNO) offers a powerful tool to combat the traditional method. Called Urban Strategy, this tool offers a complete package to balance the urban sustainable trinity that consists of Urban Planning, Environmental Quality and Transportation.

Together with Urban Strategy, PTV Visum brings trusted multimodal modelling of the transport system with instantaneous calculation of the impacts on various environmental aspects. PTV Visum has, for over three decades, provided cities and governments around the world with a powerful tool to support strategic and operational decision making for the entire transport system.

Although Urban Strategy and PTV Visum are both existing technologies, they are now combined to create a unique, innovative and powerful decision-making tool. For example, when selecting an area for urbanization, the platform will be able to simulate impacts such as increase in traffic, noise or air pollution and will point to the ideal scenario. From a holistic to a detailed view, Urban Strategy with PTV Visum enables policy makers to zoom in on a specific neighbourhood to calculate the impacts of measures planned and concurrently take into account the effects on all adjacent areas.

THE AIM

Thanks to its comprehensive interface and its powerful 3D visualization, Urban Strategy powered by PTV Visum allows decision making for different stakeholders from different city departments on all levels. They will instantly see the integrated impact of each scenario across all disciplines and simulate the benefits of any policy as it is updated in real-time as soon as anything changes.

MAIN KEY INDICATORS

Traffic: Flow/Capacity; travel times; mode shares; demand distribution; routes



Air Quality: NO2; PM10; PM2,5 [$\mu\text{g}/\text{m}^3$]; exposure above limit values



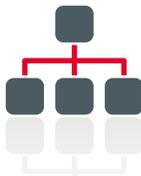
Noise: (road, rail, industry): Noise levels [dB]; exposure; annoyance [%HA]



5 GOOD REASONS FOR URBAN STRATEGY

WITH PTV VISUM

BENEFITS



INTEGRATED TOOL

The use of Urban Strategy with PTV Visum offers a holistic, shareable view on interrelated impacts. It allows you to compare different scenarios to determine the next course of action.



POWERFUL VISUALIZATION

2D and 3D visualization of effects of urban design choice makes it intuitive to extract information. Together with visualization of Key Performance Indicators (KPIs), they help to provide insights and effectiveness of measures to achieve sustainable developments of cities.



REAL-TIME RESULTS

The tool makes use of massive parallelization of calculations, thus more simulations can be run in the same timeframe, while feedback can be provided in real-time. This makes complex challenges look easy and is a vast improvement from the traditional method where it takes days or weeks to generate results.



INTERACTIVE APPROACH

Due to the transparency in decision-making, Urban Strategy with PTV Visum allows for cross domain expertise to work in sync by bringing all stakeholders - council members, administrators and even citizens - to add their inputs.



INTEGRATION CAPACITY

Being an open platform, the tool is constantly growing and new models and inputs can be easily added. Once in the system, all data can easily be re-used.

PTV. THE MIND OF MOVEMENT

PTV Group takes a holistic approach that integrates all aspects of traffic, transport and logistics to create and promote sustainable mobility. Recognised as global market leader, PTV develops intelligent software solutions for transport logistics, traffic planning and traffic management. Thus cities, companies and people save time and money, enhance road safety and minimise the impact on the environment. Based on its unique expertise in every facet of mobility, PTV ensures that people and goods arrive at their destinations safe and sound, and on time.

www.ptvgroup.com

TNO. INNOVATION FOR LIFE

TNO is an independent research organization. We connect people and knowledge to create innovations that boost the sustainable competitive strength of industry and well-being of society. This is our mission and it is what drives us, the over 2,900 professionals at TNO, in our work every day. We work in collaboration with partners and focus on five transitions that we have identified together with our stakeholders. TNO is established by law and exists as a legal entity by public law. The TNO-law gives us a number of special tasks and frameworks and linking it to specific conditions under which we have to perform our work. Based on these preconditions, we create independent and reliable solutions to the grand challenges our societies face.

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