Case Study

Helsinki study on traffic flow relies on TomTom historical traffic data

Customer	Location	Product/Service
City of Helsinki Urban Environment Division Traffic and Street Planning	Helsinki, Finland	Traffic Stats

Overview

Transport and traffic planning in Helsinki embraces all modes of transport: public transport, cars, cycling and walking. There is a special emphasis on public transport to ensure smooth and high-quality service. Traffic safety is the key goal in all transport and traffic planning

The Challenge

Increased traffic congestion is an unavoidable problem in almost every growing city in the world. Peak-hour stop-and-go traffic is therefore a characteristic result of how our metropolitan areas function. As urbanization is expected to further grow the world's population living in cities by up to 80%, the problem of increasing traffic and congestion is a serious challenge for policy makers. Some cities are beginning to 'move the curb' by investigating options that will lead to a reduction of congestion.

The city of Helsinki recently published a study on traffic flow authored by traffic specialist Petri Blomqvist. It is an example of best-in-class problem solving initiatives created using TomTom's data. This study, based on seven years of data between 2010 and 2017, uses TomTom Traffic Stats commercial data to measure delay times per kilometer and identify high-congestion streets or areas throughout the city. Published earlier this year, Blomqvist's analysis provided detailed results to the city government to show how traffic flow improved over the study period. Besides studying individual streets and the overall situation, Helsinki also studied pre-defined corridors using TomTom's Route Analysis. Compared to similar studies, Blomqvist was able to deliver stronger results while lowering the cost of production by using data from TomTom.

Prior traffic studies were performed by installing probes in three cars that drove through traffic along 14 predefined routes. This probe data was extremely limited and caused problems with variability, as it only measured point studies. In comparison, TomTom Traffic Stats data are based on millions of anonymous probes which are evaluated and analyzed automatically. These data are highly precise and reliable. In fact, several independent studies have confirmed the accuracy of TomTom's traffic data. A Masters thesis performed by Samuli Kytö in 2016 studied TomTom's commercial data and found it to be very accurate for Finnish traffic analysis; The Helsinki Regional Transport Authority (HSL) also studied TomTom's data and published a report in 2017 with equally positive results. With this high-quality data, Blomqvist created a meticulous and factual report.

The Solution

The Helsinki study selected ten predefined time intervals each consisting of 45 days, resulting in highly reliable data with an impressive 800% growth in probe count in only three years. From this data, Blomqvist identified the top ten most congested streets based on delay in hours over the period of 45 days. One example revealed by the analysis suggests that the traffic delays on Mannerheimintie – the most congested street – add up to 145 days; in other words, the time spent driving 4.3 times around the equator at an average speed of 60 km/h. And that's only for one street over a period of 45 days of measurement.

The Results

Blomqvist's study was only possible to this extent thanks to the highly granular and precise data from TomTom Traffic Stats. TomTom's data is well-suited for any kind of evaluation on traffic congestion. With Traffic Stats, it is easy to perform city, city section, and street-level traffic analysis for an accurate understanding of what makes traffic slow down or stop. Ultimately, this analysis can help cities take measures to reduce congestion and improve traffic flow.

"The City of Helsinki monitors/follows the development of the traffic flow using TomTom data. Monitoring produces information that is used to support traffic planning and related decision-making."

Petri Blomqvist

Number	Street	Delay 2017 (hours, total number of observations)
1	Mannerheimintie	3.494
2	Vihdintie	2.318
3	Mechelininkatu	2.279
4	Mäkelänkatu	2.277
5	Hämeentie	1.771
6	Porkkalankatu	1.689
7	Huopalahdentie	1.332

Morning Peak
(Extra travel time)

Evening Peak
(Extra travel time)
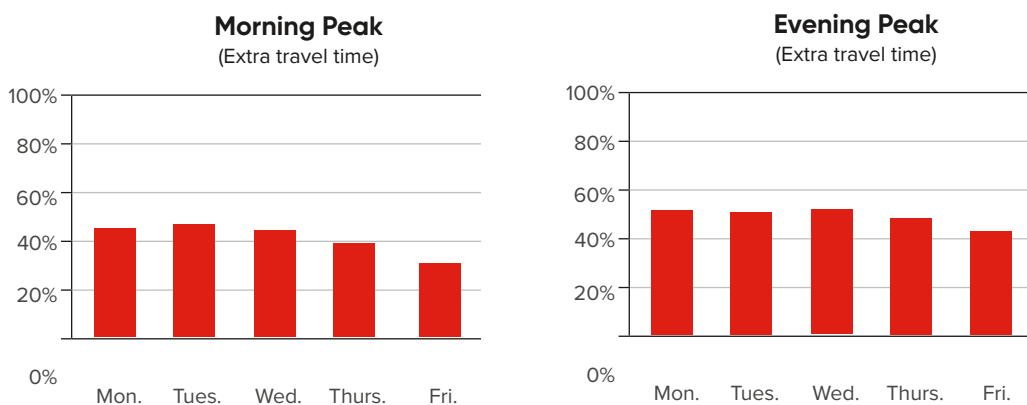
For more information about the traffic situation in Helsinki, check out TomTom's Traffic Index:

https://www.tomtom.com/en_gb/traffic-index/helsinki-traffic

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