



EUROPEAN
REGIONAL
DEVELOPMENT
FUND



NODEON

HUPMOBILE

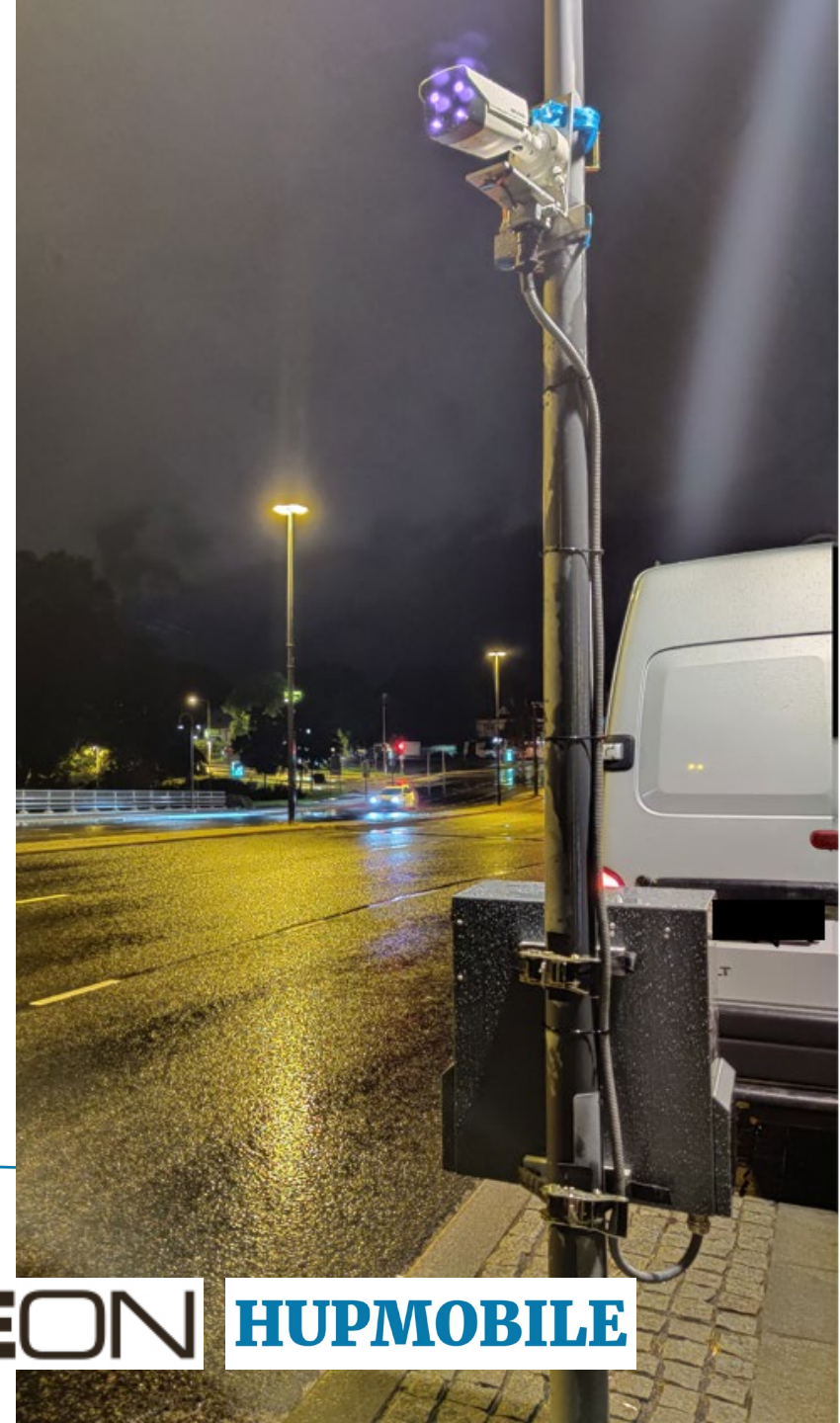
Through traffic of the Tuomiokirkkosilta Report

Nodeon Finland Oy

Jyväskylä, 2021

Methods used 1/2

- The purpose of this study was to examine traffic on Turku's central bridge, Tuomiokirkkosilta. Cameras that recognise licence plates were used to measure how much traffic was passing through, where it was coming from and where it was going to.
- Passing through traffic was measured with cameras recognizing license plates. Most of the cameras had also a radar installed that helped with measuring and calculating the amount of traffic.
- The number of passing through traffic was adjusted with the measurements provided by the radar as well as estimated recognition error of the camera (5%) and a small error of the radar (1%). Traffic amount figures reported were adjusted by radar error (1%).



Methods used 2/2

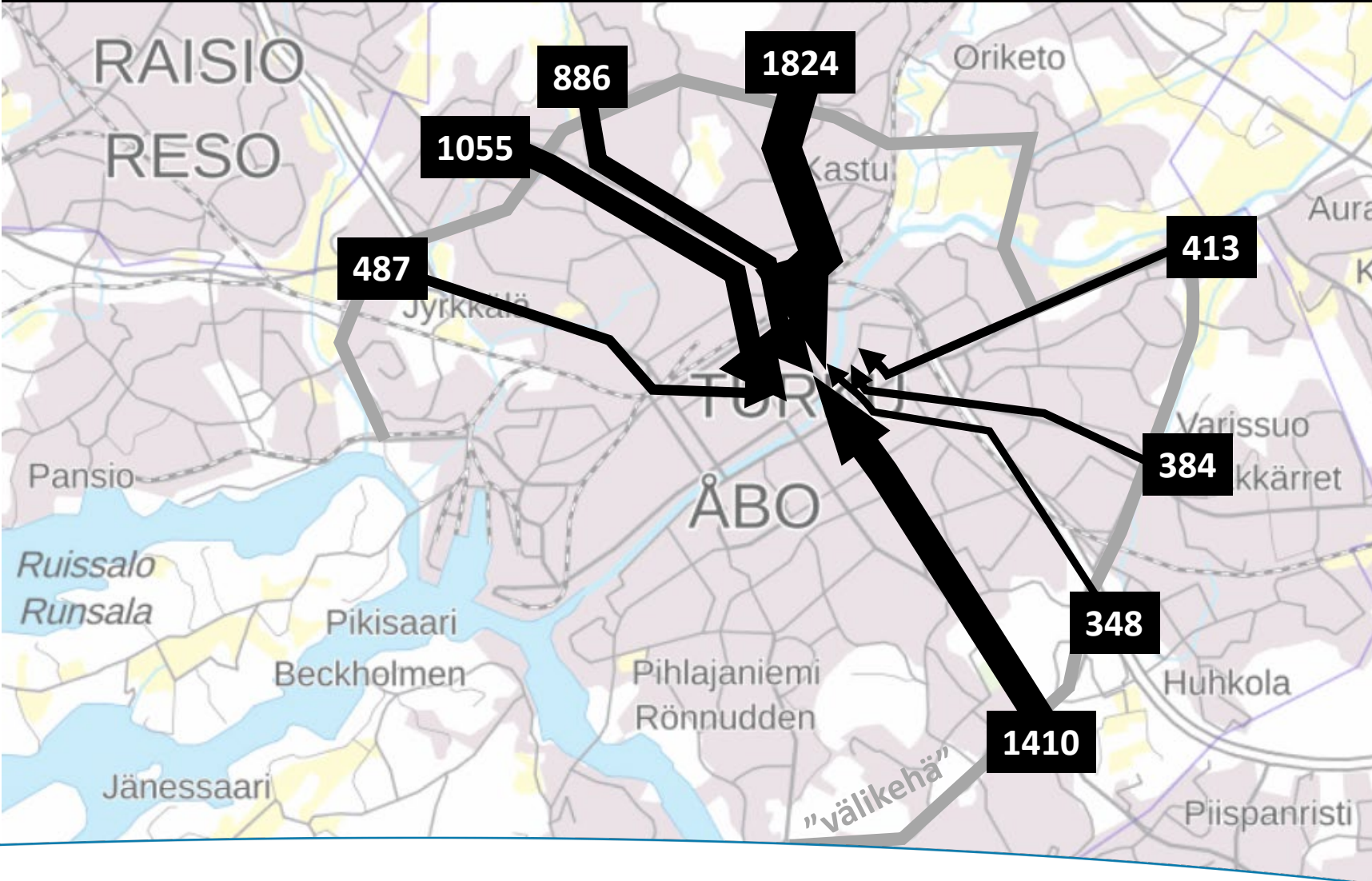
- Three measuring setups were used where inbound and outbound points were changing. This provides as good as possible overview of traffic in Tuomiokirkkosilta bridge.
- A passing traffic occurred when a licence plate was read at 1) Inbound point 2) Tuomiokirkkosilta and 3) outbound point within 15 minutes after licence plate was read at inbound point.
- Based on the license plate of the vehicle, the postal code where the owner of the vehicle lives was determined. With license plate identification, the vehicle type, propulsion power and emission class were also determined. After retrieving this information, the license plate information was deleted from the data.
- Emission classes were obtained from vehicle model information provided by Traficom's open data. Report describes information from all gathered data about emission classes of passenger vehicles.
- During the measuring period August–September 2021 the traffic volume was 0,4% smaller than before pandemic between August and September 2019.

Traffic volume of the Tuomiokirkkosilta was about 25 000 vehicles per day.

50 % of the vehicles using the Tuomiokirkkosilta were registered outside of the city of Turku and 27% outside of Turku region.

Assuming that traffic behaves similarly in both ways, about 54% of traffic on Tuomiokirkkosilta is heading through measuring points towards outside of the middle ring ("välikehä", gray route in the map). The highest number of through traffic came from Uudenmaantie, Tampereen valtatie, Satakunnantie, Kuninkojantie and Littoistentie. Vehicles were able to go past middle ring also through other streets.

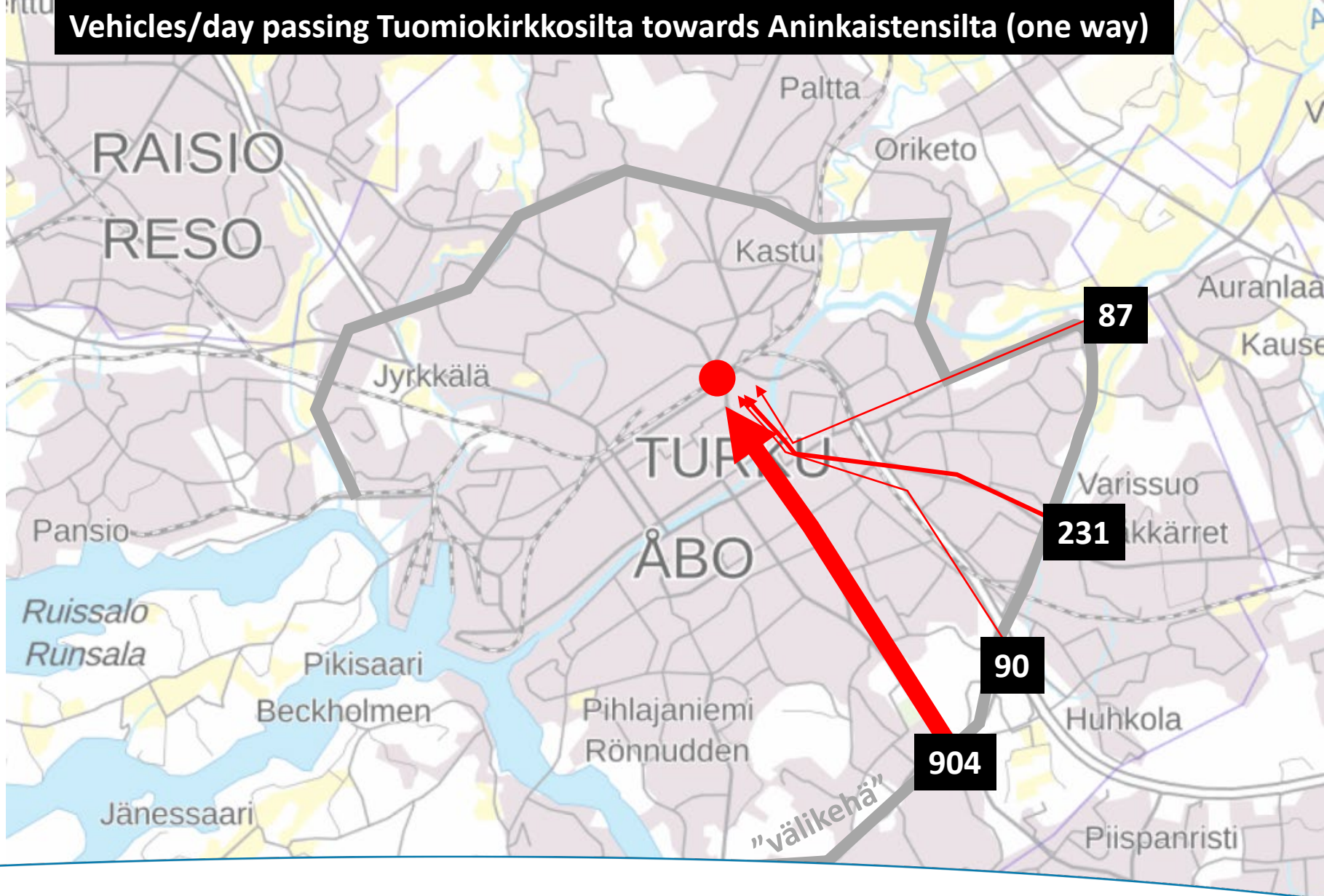
Average number of vehicles passing through per day from measuring points outside the middle ring towards the Tuomiokirkkosilta (one way).



Vehicles/day passing Tuomiokirkkosilta towards Aninkaistensilta (one way)

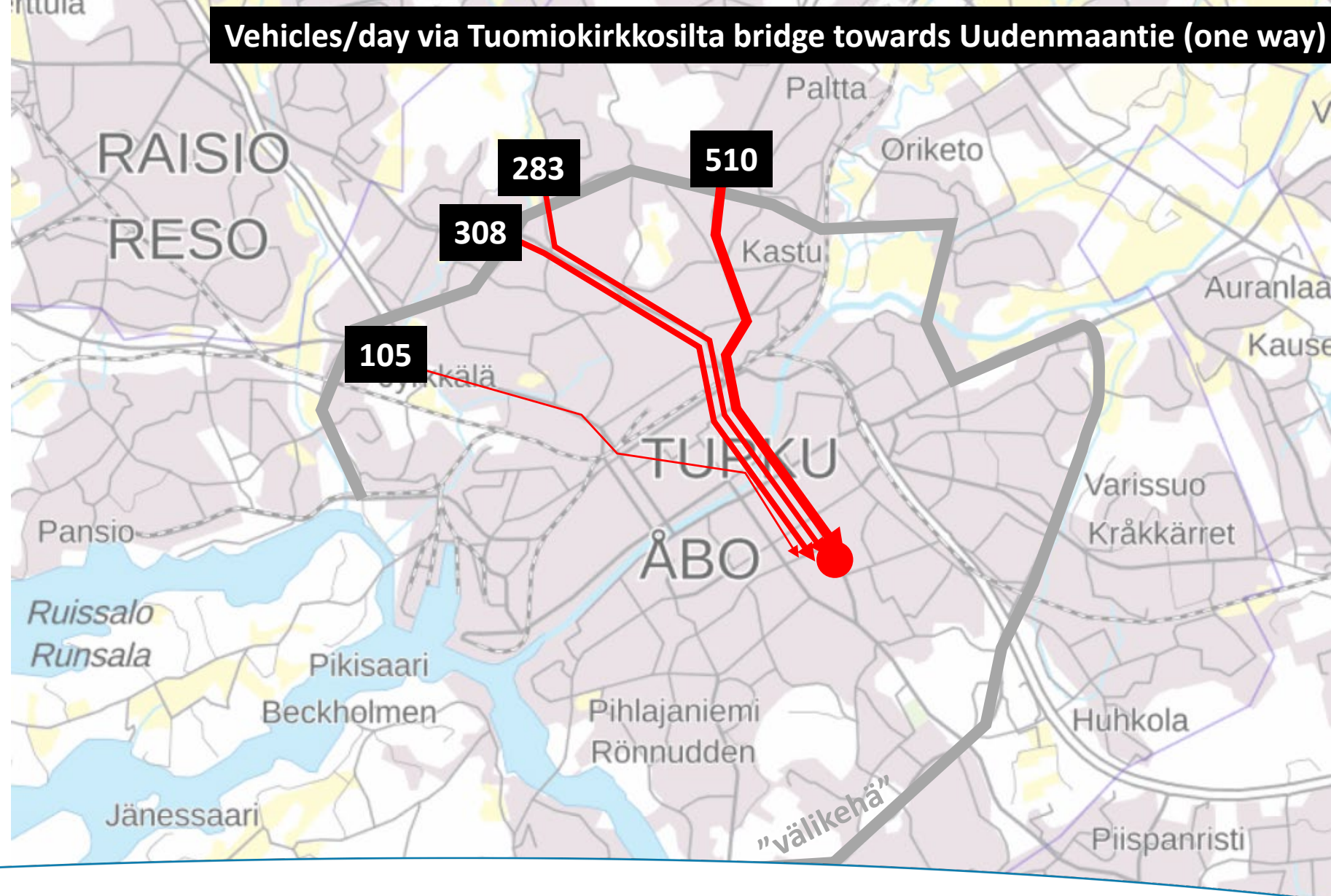
1 300 vehicles/day
were coming from the
east side of the
middle ring via
Tuomiokirkkosilta
towards
Aninkaistensilta.

Most of the through
traffic (69%) was
coming from
Uudenmaantie.

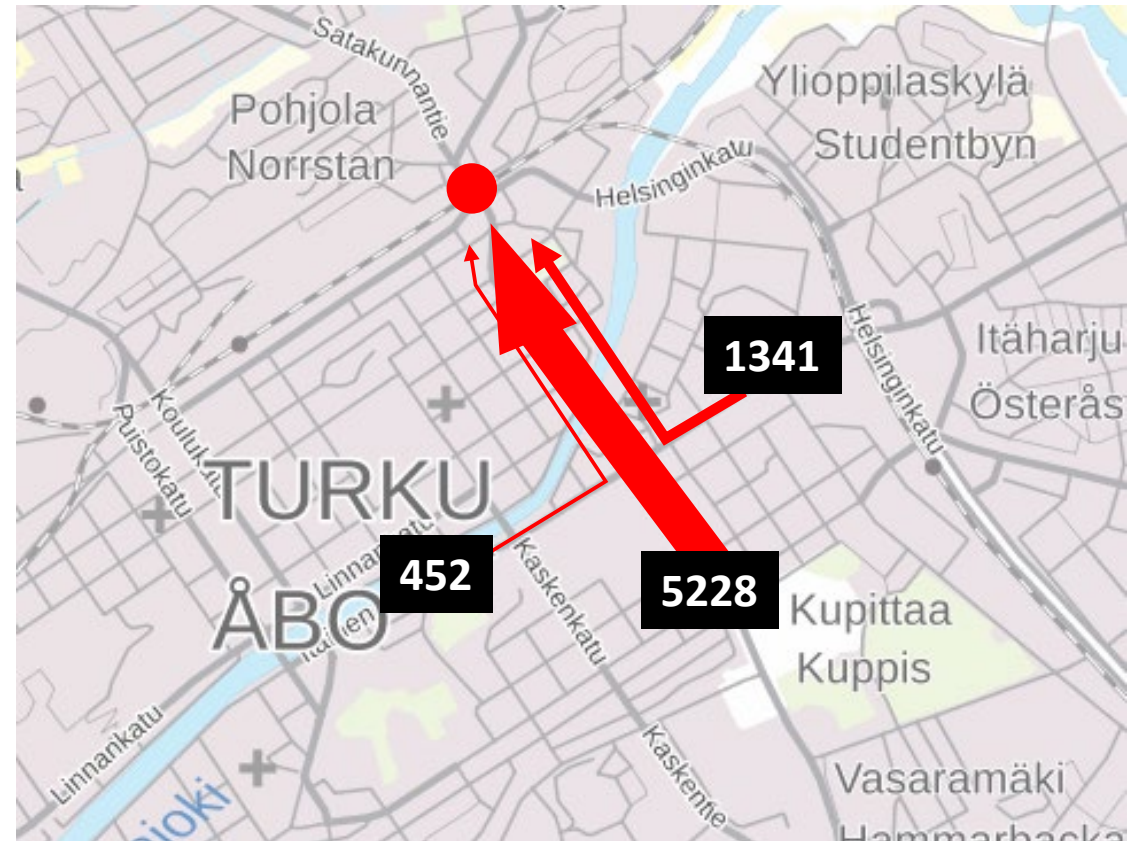


1200 vehicles/day were coming from the west side of the middle ring via Tuomiokirkkosilta towards Uudenmaantie.

Most of the traffic was coming from Tampereen valtatie, Satakunnantie and Kuninkojantie. Along with Uudenmaantie, there might be plenty of traffic towards Kupittaa.

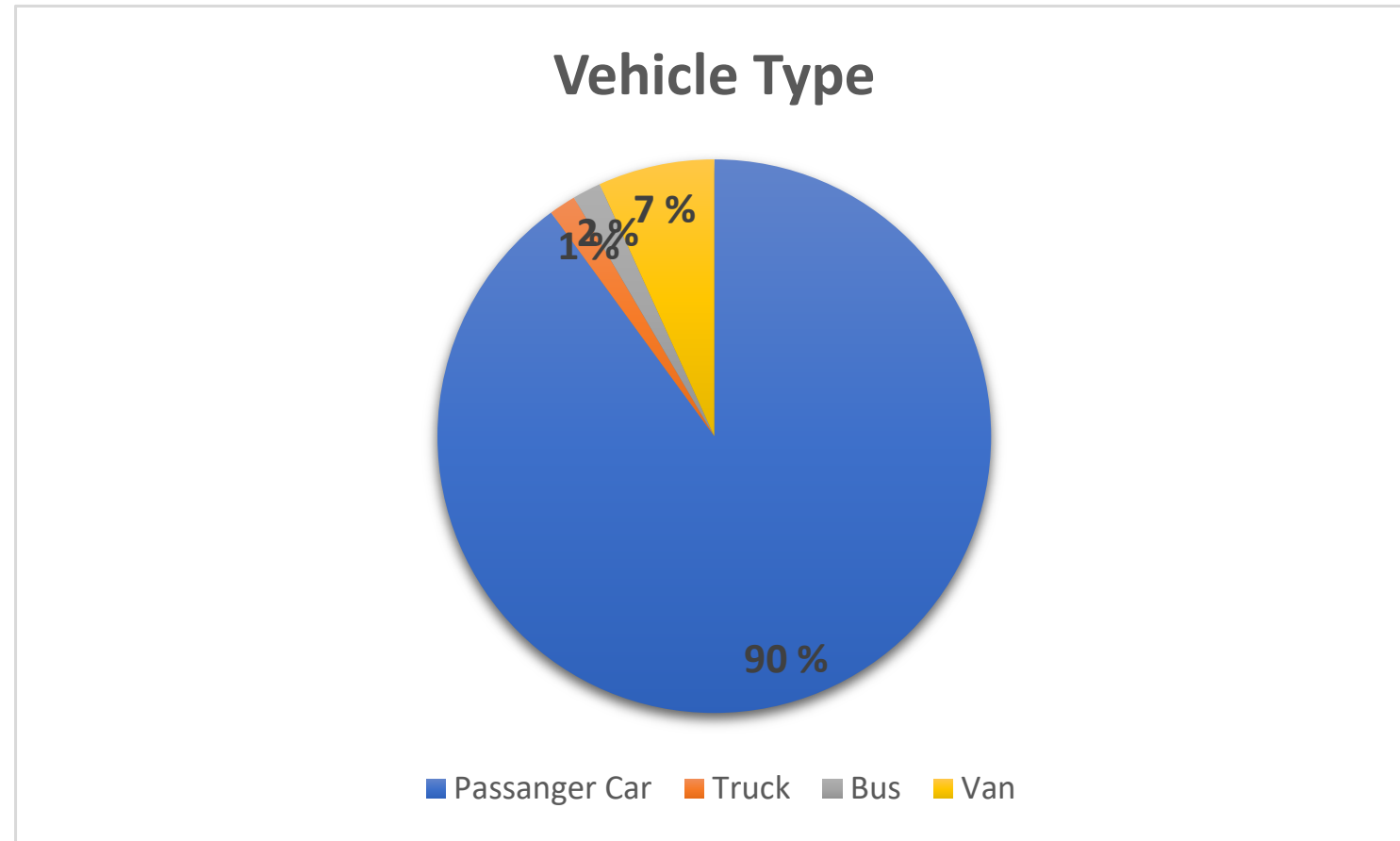


56% of the vehicles coming through the measuring points at Hämeenkatu, Uudenmaankatu and Itäinen Rantakatu were passing through Tuomiokirkkosilta and going towards Aninkaistensilta within 15 minutes.

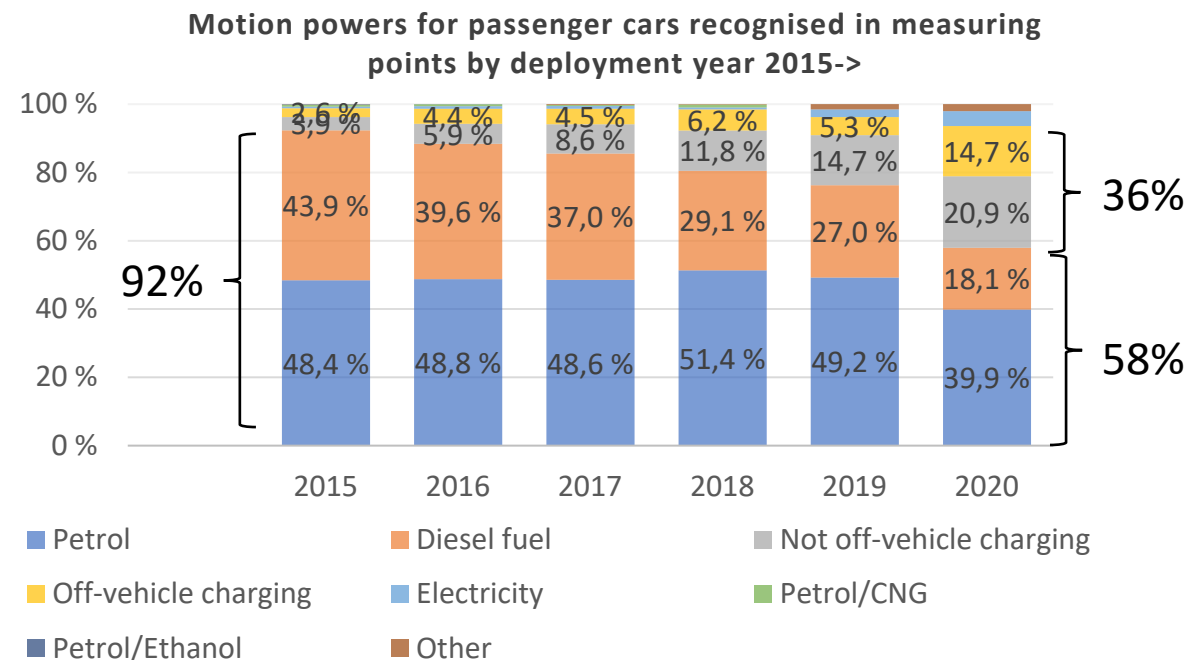
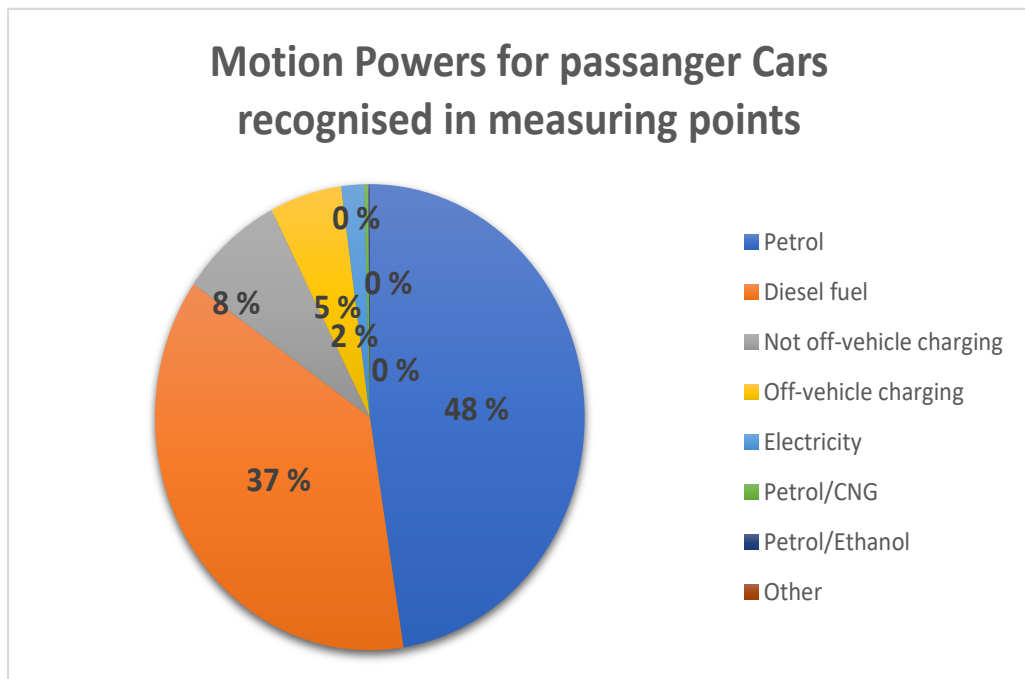


90% of the vehicles recognised at the measuring points were passenger cars.

90% of the traffic were passenger cars, 7% were vans, buses and trucks were both about 2% of the traffic.



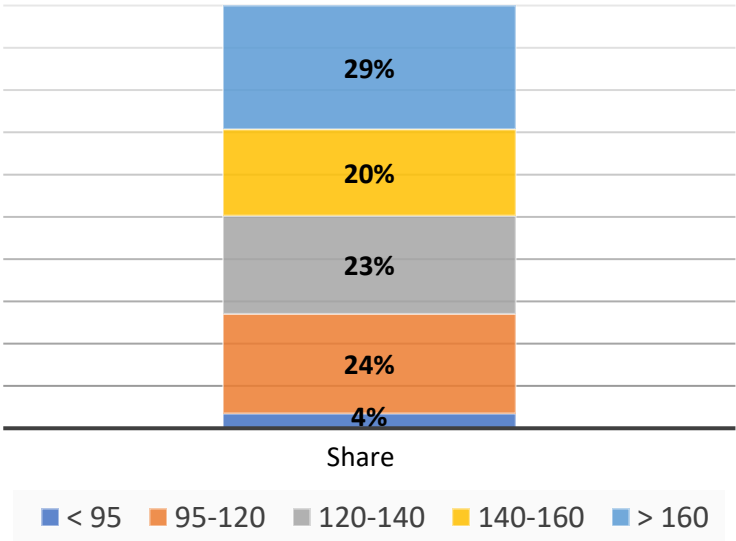
Hybrids are becoming more common in passenger vehicles



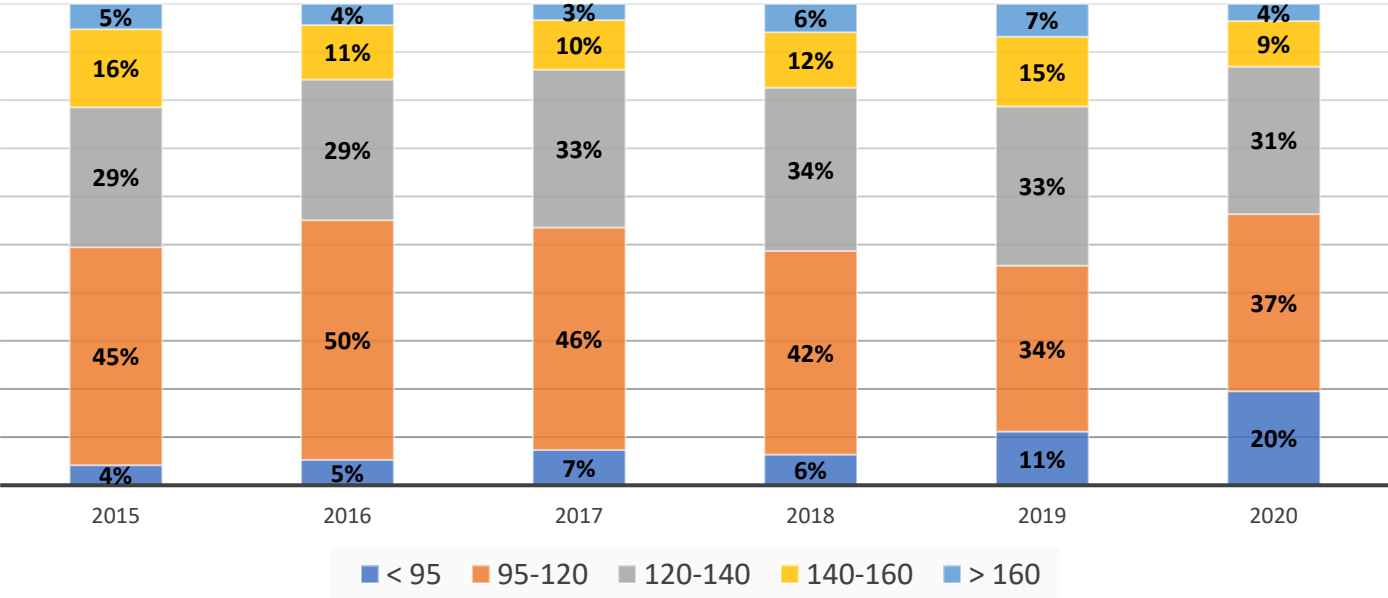
Passenger cars are still predominantly petrol- and diesel-powered. The share of petrol and diesel in newly registered cars has decreased significantly from 2015 (92%) to 2020 (58%). Hybrids have grown in popularity, accounting for 36% of the passenger cars introduced in 2020.

New passenger cars have lower emissions

Emissions (CO2) of passenger cars identified at the measuring points (%)



Emissions (CO2) of passenger cars identified at the measuring points by year of commissioning 2015-2020



Conclusions

- During the measurement period, the traffic volume of the Tuomiokirkkosilta turned out to be around 25,000 vehicles per day
 - 50 % of the vehicles using the Tuomiokirkkosilta were registered outside of the city of Turku and 27% outside of Turku region.
 - 54% of the traffic at the Tuomiokirkkosilta is heading through measuring points towards outside of the middle ring (Suikkilantie-Markulantie-Halistentie-Jaanintie-Skarppakullantie-Eteläkaari)*. Vehicles were able to go past middle ring also through other streets.
- The amount of through traffic at the Tuomiokirkkosilta bridge depends on the definition of through traffic:
 - Over 2500 vehicles/day/one way* coming from outside the middle ring going through measuring points at the main streets were passing Turku center via Tuomiokirkkosilta towards Aninkaistensilta or Uudenmaantie within 15 minutes. This is about 20% of total traffic volume in Tuomiokirkkosilta*
 - 36% of the vehicles coming from outside the middle ring and passing through center via Tuomiokirkkosilta are registered in Turku. 27% of these vehicles are registered in Turku region and 36% outside of Turku region.
 - Vehicles that were passing through center via Tuomiokirkkosilta and were coming from outside of the middle ring were mostly originating from Uudenmaantie (904 vehicles/day/one way*) and Tampereen valtatie (510 vehicles/day/one way*). This traffic was also coming from directions of Satakunnantie, Kuninkojantie and Littoistentie (231-308 vehicles/day/one way*).
 - About 56% of the car traffic arriving at the Tuomiokirkkosilta from the junction of Hämeenkatu and Uudenmaankatu continued to Aninkaistensilta within 15 minutes.
 - Share of the passing through traffic of the total traffic seems to be quite constant regardless of the day of the week.
- 90% of the traffic at the measuring points was passenger car traffic. Passenger cars are still predominantly petrol and diesel powered, but the propulsion of the latest passenger cars is shifting to hybrids in particular.

* Assuming that traffic behaves similarly in both ways.