



Ruimtelijk beleid: Van invloed op het verkeerssysteem rond functies?



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Er is een onderzoek uitgevoerd naar de effecten van ruimtelijke inrichting op verkeer en vervoer in Twente. Daarbij staat de invloed van ruimtelijk beleid op het verkeerssysteem rond functies centraal. Het onderzoek behelst een literatuurstudie en een scenario-analyse.

Uit de literatuurstudie komen twee concepten naar voren: het ABC-locatiebeleid en stedelijke netwerken. Uit de analyse blijkt dat het ABC-locatiebeleid geen noemenswaardige mobiliteitsveranderingen oplevert.

Dit valt grotendeels te verklaren doordat er bij dit beleid geen reistijdverbetering optreedt. Het stedelijke netwerkenbeleid blijkt echter wel een invloed uit te oefenen. Er vindt een zichtbare mobiliteitsverandering plaats.

Duidelijk wordt dat de functiebundelingen in dit beleid dicht bij het hoofdwegennet dienen te worden gesitueerd, en gespreid over de stedelijke kernen in Twente, opdat de efficiency van het netwerk wordt gewaarborgd.

The share of trips between the city regions is in reality often even smaller than expected. The only networks in which the share of trips between the city regions is not smaller than expected, are Maastricht-Heerlen, Groningen-Assen and Eindhoven-Tilburg. These high scoring networks are the green areas in Figure S.1. In this map, also the three lowest scoring networks are shown: the Western Southwing of the Randstad (The Hague and Leiden), the Eastern Northwing of the Randstad (Utrecht, Hilversum and Amersfoort), and Tilburg-Den Bosch (two of the cities within Brabantstad). In these areas, the actual share of trips at network level (i.e. between the city regions) is 60% smaller than the expected share.

Compared to the low scoring networks, the high scoring networks are situated in relatively low-density areas. Especially for Groningen-Assen and Maastricht-Heerlen, the number of (Dutch) destinations that can be reached within a short distance is small. This may explain the results. Maastricht, Heerlen, Groningen, and Assen have few alternative destinations in their direct surroundings that can offer 'added value'. On the other hand, the Western Southwing and the Eastern Northwing are situated near respectively Rotterdam and Amsterdam. Besides this, it is investigated that the distances in the higher scoring networks can be covered faster than in the low scoring networks. Therefore, the barrier for travelling to the other city region is smaller in the green networks.

For the investigation, data from the national travel survey have been used. Based on this survey, a 'standard' was developed. By applying this standard an expected number of trips between two municipalities has been determined. It uses average travel behaviour of people with different travel purposes and level of education. The standard takes into account the size of municipalities (i.e. the number of origins and destinations), characteristics of the surrounding area (i.e. the density of destinations). Afterward, the number of trips between municipalities was translated into the share of trips in city regions and networks.



Results

The primary and remarkable result of the investigation is that in almost all of the networks, the overrepresentation of the share of trips *within* city regions is bigger than the overrepresentation of the share of trips *between* the city regions.

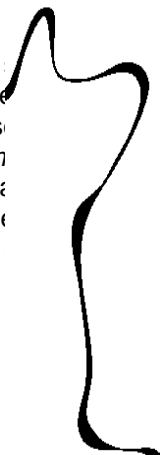
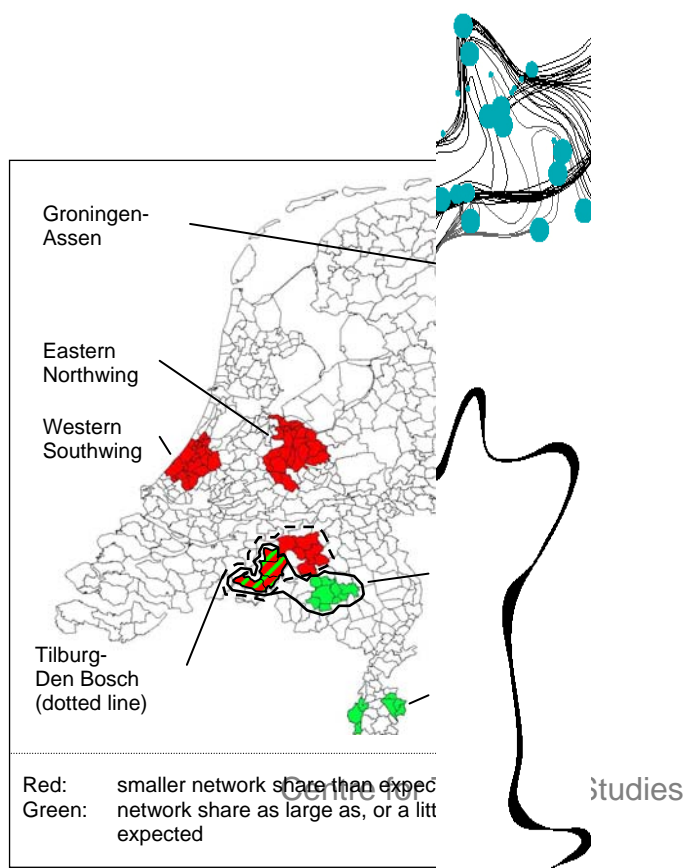


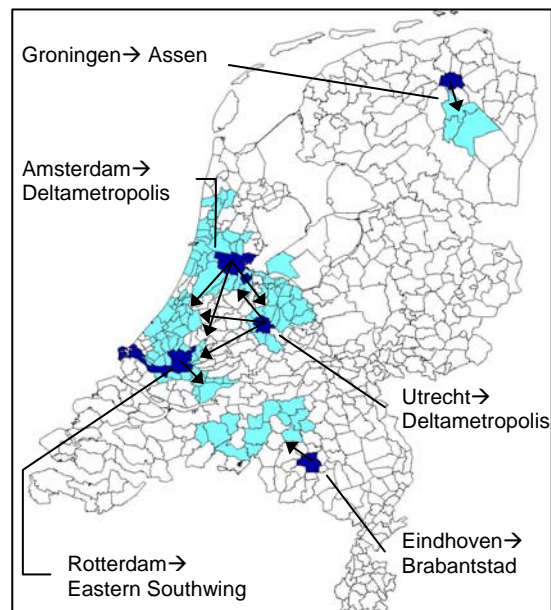
Figure S.1: High and low scoring networks

The distinction between trip purposes learns that people who travel for business purposes and people who travel to work, are least focused on their own city regions (not only in absolute, but also in relative terms). These purposes have the highest financial interests, and may therefore be influenced less by the traditional travel patterns. It was also found out that people with a high level of education travel relatively more at network level than people with a lower education level. Partially, this is caused by the fact that higher-educated people are overrepresented in the purposes 'business' and 'travel to work'. Social trips, 'facility trips' - the combined group of trips to all kinds of facilities (e.g. recreation, school, shopping)-, and low-educated people are focused more on the city region level. These trips and people do not find a surplus value outside the region.

One of the main factors that stimulated the network concept, has been the continuous increase in land consumption between the cities. These areas (in the suburbs) used to be empty, but their built-up area is increasing its size rapidly. It was supposed that the inhabitants of these areas were important contributors to the rise of networks. This study states that this is not the case. As written before, for (the majority of) networks as a whole, the actual share for traffic to other city regions was significantly lower than expected. This applies even stronger to the suburbs. From the central cities of the city regions, the share of trips to other regions is as large as expected, or even larger. Especially from the largest cities, see Figure S.2, the actual share of network trips is larger than expected; this ranges from +50% until +200%.



and young people, who are used to travelling more than on average, can explain the results. Infrastructure can play a role



too. Outcomes of the TNO Inro model SMART show that the speeds by which the distances (in straight lines) between city regions are higher for central cities than for the suburbs. Suburbs are less congested, but not always are they situated favourably regarding the national highways.

Figure S.2:

Larger share of network traffic from the big cities than expected

It is the trips made for facility purposes and by middle-educated people that score particularly high from the central cities. The presence of (university) students, who are middle-educated, can (amongst others) explain this. Compared to the original inhabitants, they have less affinity with the city and its direct surroundings. Furthermore, students travel less for work and business purposes than the average middle-educated person, so that the 'facility purpose' can become the highest scoring purpose.

Future developments

Mobility increases. The service industry grows. The number of dual-income households rises. These are all developments that lead to more trips between the city regions. Partly, these developments will decrease the number of trips that are made in the direct surroundings of the house and workplace. But whether network relations will be intensified substantially depends on more aspects. The city regions will have to become more complementary. Co-ordination at network level can result in a more varied supply of houses, facilities, inhabitants, and jobs. But also in the near future the Dutch will not be prepared to travel over big distances for the larger part of their activities.

Several explanations can be given for the phenomenon that the cities achieve high scores. In the first place, many facilities in a city are the Therefore, when an inhabitant of a city 'wants something' the most likely option is that the destination will be in a city or urban area. It is not probable that many small suburbs are able to realise highly specialised facilities that offer a service compared with the central city facilities. Also the fact that the urban population consists of relatively many highly educated



intended networks however, contain both the central cities and suburbs, in order to create a mass as big and divers as possible. Especially, this relates to the housing market. From an economic point of view, it can be stated that the biggest centres are connected in a relatively strong way. But the complementary functioning of the larger suburbs, many of which have higher economic growth rates than the central cities, is partly absent.

An important recommendation regarding the way this study has been carried out is refining the input data. These data are used to determine the expected number of trips, and are therefore highly important in this study. An administrative recommendation is that policy makers have to realise that, despite the ongoing scale enlargement, the local and city region levels remain the most important playing fields for the larger part of the activities. The city regions are big enough to create sufficient mass for most of the daily activities and facilities. The further development of stronger regional administrative bodies, a hot topic in the Netherlands at this moment, can lead to more fine-tuning and complementarity at the level of urban networks, but in the near future this will mainly relate to (inter)national top facilities and activities with a strongly space-consuming character (as a result of environmental and/or noise nuisance or safety).

Conclusions and recommendations

The most important conclusion is that urban networks only exist partially. For as far as they exist, they are 'networks of cities'. To a large extent, the suburbs are excluded from the networks. The