

Summary

Following remarkable growth in the 1980s and 1990s, the total amount of national mobility of people in the Netherlands has not increased since 2005. This particularly applies to car use. Except for the credit crisis, the reasons for this remain unclear. Traffic congestion levels on the main road network increased in 2010 due to the economic recovery. In 2011, however, congestion levels decreased, partly as a result of road capacity enlargements. In contrast to the first few years of the 21st century, it appears that in recent years the relationship between traffic volumes and traffic congestion is no longer stable. Consequently, there is no simple rule of thumb that can be used for predicting traffic congestion levels. Train use is still increasing, but less pronounced than a few years ago. Air travel gets a boost again, but not to the level seen prior to the credit crisis. Regional airports in particular attract more passengers. Freight transport, and especially sea transport, recover from the credit crisis through a revival of world trade. The number of traffic fatalities fell in 2010, although the number of serious injuries rose, especially among bicyclists. CO₂ emissions over the past 10 years increased at a slower rate than traffic volumes.

Mobility of people in the Netherlands no longer increasing

In 2010, Dutch people travelled approximately 3 percent more kilometres within their own country than in 2000. The increase that occurred over the past decade is much smaller than in the 1980s and 1990s, however. Since 2005, national transport has stabilized, especially pertaining to car use, which was also apparent on the main road network, where traffic volumes even decreased slightly in 2009 and 2010. The credit crisis had an obvious dampening effect on the growth of mobility, although it still remains unclear why mobility had already stabilised prior to the credit crisis. Other western countries have also experienced the same situation. The stability of transport does not, per se, reflect what may transpire in future.

Half of all journeys in the Netherlands were undertaken using cars; a quarter by bicycle; one in five by foot; and one in 20 by public transport. Of the total amount of kilometres travelled, car use accounts for nearly three-quarters of this total, while public transport accounts for 13 percent and bicycles for

8 percent. This division of journeys among the various transport modes has remained relatively constant over the past 10 years. Approximately half of all the kilometres travelled had a social-recreational motive: visiting family or friends, going out or recreational trips. Since 2000, the largest growth has occurred in home-to-work travel: an increase of 18 percent.

Car use: more 'solo', less ridesharing

The stabilisation of car use is related to a decrease in the number of kilometres that Dutch people travel in the passenger or back seats of cars. This figure has decreased by 9 percent over the past 10 years, and especially since 2005. People more often ride alone in a car, which is attributed to the fact that households are increasingly becoming smaller, and within each household more people have access to cars. The latter point particularly pertains to women, who over the past 10 years have increasingly entered the workforce: of the half million jobs created between 2000 and 2010, the majority was taken by women. During the period 2000 and 2010, car drivers travelled a total of 9 percent more kilometres, although, starting in 2006, this growth has leveled off.

Leisure time mobility by car: less often, but further away

Over the past 25 years, leisure time mobility has increased enormously, owing to rising income levels, increased car ownership rates, a decrease in car operating costs, and an increase in the supply of leisure time services. This upward trend seems to have halted in recent years: people travel less often, but they do travel greater distances. The latter point is possibly a result of the increased scale of the leisure time sector: the supply of attractions has increased and become more varied. It also seems that journeys abroad have increasingly replaced leisure time journeys within the Netherlands. The increase in kilometres travelled by car drivers between 2000 and 2010 primarily stems from population growth and the fact that people more often travel for work and travel greater distances to their workplaces. Employees who are highly educated and have high incomes and full-time jobs, are willing to travel further distances in order to get to work. Rising fuel prices have had a dampening effect on this development, however.

Train use increases, urban and regional transport remain stable

On the national level, trains, buses and metros account for 5 percent of all journeys, thus making a modest contribution. Major differences exist on the local level, however, and as such the use of public transport in the five largest urban areas during morning rush hours hardly differs from car use rates. School children and students account for approximately 40 percent of all train, bus, tram and metro kilometres travelled.

Between 2000 and 2010, the number of kilometres travelled by train rose by 14 percent, with population growth and economic development the key factors attributed to this growth. The increase in train use was slowed however during this period by a rise of train ticket prices. Increased train use has leveled off in recent years. The annual growth figures of 4 to 5 percent that occurred in the years 2004 to 2007 have not been achieved in recent years. Train travel via NS Dutch National Railways grew by 0.8 percent in 2009 and by nearly 0.3 percent in 2010. This is related to the credit crisis and its aftermath, as well as perhaps to NS's poor performance in late 2010 regarding on-time departures and arrivals.

Between 2000 and 2009, train use on the Amsterdam-Eindhoven line grew at a faster rate than the national average, owing to increased frequencies of service and stronger economic development in those regions. In 2010, however, usage rates on these lines suddenly decreased. This downturn was probably due to the fact that latent car drivers once again began using their cars, as traffic congestion eased on the A2 motorway. Traffic congestion increased on the Limburg section of the A2 motorway, however, and train use also continued to increase in this region in 2010.

The total use of urban and regional transport in the Netherlands remained relatively constant from 2000 to 2010. Some new high-quality public transport lines (Zuidtangent Haarlemmermeer, RandstadRail, HOV Twente) reported substantial growth figures, which contrasted sharply with decreases on other lines. Comparison between the three urban regions of Amsterdam, Rotterdam and Eindhoven over the past 10 years shows a slight increase of the use of public transport in Amsterdam and Eindhoven, while in Rotterdam usage rates stabilized or even slightly decreased. That the Rotterdam region lags behind in population growth and job numbers is a contributing factor.

Bicyclists travel greater distances

Over the past 10 years, bicyclists travelled a total of 13 percent more kilometres. This is partly attributed to population growth, but is primarily owing to the fact that journey distances by bicycle have increased. The main reasons for this are the increased scale of the various service providers (schools, shopping malls, banks, sports accommodations, etc), and the expansion of urban areas. Home-to-work distances have also become longer. Bicycles are increasingly used in combination with train journeys, accounting for, at present, 4 percent of all journeys by bicycle. Approximately 40 percent of all train passengers use bicycles to travel back and forth from their homes and train stations. In late 2007, approximately

3 percent of Dutch people above 12 years of age used electric bicycles, and since then sales of electric bicycles have quadrupled. To a large extent, E-bike kilometres have seemingly superseded regular bicycle kilometres.

Aviation sector recovers from credit crisis

The Netherlands' aviation sector has recovered from the credit crisis. The number of passenger movements at Dutch airports increased from approximately 40 million in 2000 to approximately 49 million in 2010. Although a sharp 'drop' occurred during the crisis year of 2009, this was quickly followed by a recovery in 2010. Transport volumes however did not return to the levels experienced during the peak years of 2007 and 2008, when there were approximately 50 million passenger movements per year. In recent years, regional airports have experienced substantial growth, with their share of the Netherlands' aviation sector increasing from 4 percent in the 1990s to approximately 7 percent in 2010. Eindhoven is the largest regional airport. Dutch travellers also use various German and Belgium airports, owing to their close proximity. In the border regions, the Dutch air passenger tax had a noticeable effect. The recent implementation of an air passenger tax in Germany has seemingly contributed to the growth of Maastricht and Eindhoven airports.

Sea shipping leads freight transports' recovery

From 1985 to 2000, freight transport in the Netherlands grew by an average of 2 percent per year. From 2000 to 2010, the average growth rate was lower: 1.5 percent per year. In total, freight transport, as measured in transported tons, increased by 18 percents between 2000 and 2010. One reason for this lesser growth rate is the fact that the Netherlands increasingly generates its revenue from service provisions, and less from the manufacturing of goods. That more expensive, higher quality products are produced also plays a role: total revenues increase but the quantity of transported products does not.

Following a decrease in 2009 due to the effects of the credit crisis, freight transport once again began to recover toward the end of that year. This recovery continued in 2010. In 2010, sea shipping returned to pre-credit crisis levels, and that was virtually the case for aviation as well. Despite strong growth figures in 2010, it will still be some time before other transport modes completely recover.

Approximately two-thirds of all containers arriving or departing from Rotterdam by sea are transported by road. One-third travel by sea to or from European destinations. The decision to transport containers to or from Rotterdam by road, railways or inland waterways is determined by various factors, including journey times and transport tariffs. Traffic congestion and

new terminals in the hinterlands are also influential factors. Following a decrease in 2009, the total hinterland transport of containers increased in 2010. Feeder transport in particular has experienced strong growth. Road transport has not yet recovered from the credit crisis.

The transportation of dangerous materials has remained stable for years. This transport is conducted via relatively safe transport modes: pipelines, railways and inland waterways.

No stable relationship between increased traffic congestion and traffic volumes

From 2000 to 2010, travel time losses due to traffic jams and heavy traffic congestion on the main road network increased by 49 percent. This figure would have likely been 15 percent higher in 2010, had new traffic lanes, road expansions and traffic management regulations not been implemented. In 2009, travel time loss decreased by 10 percent, owing to the credit crisis. In 2010 however this figure increased by 6 percent, although there has still not been a return to pre-credit crisis levels. Travel time loss is greatest in the Amsterdam area, which is one of the country's three core economic areas. The effects of extra lanes and new roads were most apparent in recent years in the Amsterdam and Eindhoven regions.

Prior to 2000, travel time loss on the main road network was largely equitable to traffic volumes. Beginning in 2000, however, this pattern changed and travel time losses increased at a faster rate than traffic volumes, although fluctuations also occurred. There is no longer a stable relationship between travel time loss and traffic volumes, because traffic volumes on the main road network have reached maximum capacity at more locations and times of day, as especially witnessed in recent years. Small, local changes have led to greater fluctuations in travel time loss. Consequently, there is also no simple rule of thumb to follow for predicting travel time loss.

In 2010, the costs associated with traffic congestion and delays on the Netherlands' main road network were estimated to be between 2.8 and 3.7 billion euros, or an average of 8 percent more than in 2009.

More bicyclists injured

From 2000 to 2010, the number of traffic fatalities decreased by 45 percent, to 640 deaths, despite an increase in mobility during this period. This decrease was primarily a result of safer cars (due to airbags, for example), safer road designs (roundabouts, 30 and 60-km speed limit roads), information and enforcement. The number of serious traffic-related injuries during the period 2000-2006 remained stable, but rose by 20

percent between 2006 and 2009, with this increase primarily resulting from an increase in the number of accidents involving bicyclists, in which no motor vehicles were involved.

Relative decrease in CO₂ emissions

From 2000 to 2010, CO₂ emissions from passenger cars rose by approximately 6 percent, which is less than the percentage increase in the number of vehicle kilometres during this period. This disparity is partly attributed to the increased use of biofuels. The effect of more fuel efficient engines was offset by an increase in the number of heavier vehicles and the use of air-conditioning. Emissions from air pollutants decreased between 2000 and 2010.

Social importance of mobility and transport remains largely undiminished

The social importance of mobility and transport can be determined by assessing the willingness to pay of citizens and companies. For citizens, the importance of mobility costs a minimum of 66 billion euros, which is a sum comprised of the transport costs and journey times, as expressed in euros. The importance of transport for companies is worth at least 54 billion euros, as measured in time and costs.

Most journeys over short distances

Seventy percent of all journeys are shorter than 7.5 kilometres, of which bicycles and cars both account for approximately a 35 percent share of such journeys. Public transport is largely insignificant for short distances. Bicycles are used for nearly half of all home-to-work journeys of up to 7.5 kilometres, and for more than half (55 percent) of all short journeys to and from school or educational courses. When engaging in daily leisure activities situated close to home, people primarily walk or ride bicycles. For business-related journeys (73 percent) and daily household activities (41 percent), cars are the dominant mode of transport.

In the three urban areas of Amsterdam, Rotterdam and Eindhoven, peoples' travel behaviour when travelling short distances varies greatly. Cars are more often used in Eindhoven and Rotterdam, while bicycles predominate in Amsterdam. Within Amsterdam city limits, cars are much less often used than they are in Rotterdam and Eindhoven. For journeys between city centres and other municipalities in these urban regions, the car predominates. Differences between the various urban areas are found in their parking policies, the spatial structure of the city (region), the composition of the population, car ownership rates, and the supply of public transport. The precise contribution that each of these factors makes towards regional mobility cannot be stated at this time.

Developments for 2011 and 2012

Travel time losses due to traffic jams en heavy congestion on the main road network decreased by over 9 percent up to september 2011. This is partly a result of road extensions that were realized. GDP is expected to grow bij 1.5 percent in 2011 and by 1 percent in 2012. Fuel prices for road transport rise sharply in 2011, but are expected to fall again in 2012. With these assumptions, road traffic will increase by nearly 2 percent in 2012 as compared to 2011 levels, while travel time losses will hardly change.

There is great uncertainty surrounding the future forecast. Consequently, the CPB Netherlands Bureau for Economic Policy Analysis has also developed a 'crisis variant', in which global trade pertaining to the Netherlands comes to a standstill in 2011 and 2012, with GDP contracting by 1.4 percent in 2012. The expectation then is that increases in road traffic on the main road network in 2012 will decrease to approximately 1 percent. If plans for implementing new lane kilometres remain unchanged, traffic congestion in 2012 will be reduced by over 7 percent, as compared to 2011 levels. Given such severe mutations in economic growth, the relationship between the development of mobility and that of traffic congestion remains even more uncertain.

The demand for freight transport reacts strongly to economic developments. In 2011, freight transport will increase by approximately 2 percent, in 2012 by 1.5 percent. This is substantially less than the growth achieved in 2010. According to the CPB's 'crisis variant', in 2012 freight transport is expected to decrease by 2¾ to 5 percent.

In the coming years, we expect that developments in train use will result in a growth rate of 0.9 to 1.5 percent per year. In the 'crisis variant', the ultimate growth rate could be below the lowest projected figure of 0.9 percent.

For the aviation sector, the initial figures available for 2011 reveal a growth rate of 8.5 percent, as compared to the previous year. Amsterdam Airport Schiphol's projected growth rate is 7 to 10 percent, or nearly 50 million passengers. Regional airports will experience even stronger growth due to the relocation of charter flights and greater use by low-cost carriers.

As expected, in the coming years, the various traffic safety trends will continue: a decrease in the number of traffic deaths and a rise in the number of people seriously injured in accidents that do not involve motor vehicles. In the years ahead, CO₂ emissions from road transport will

decrease slightly, owing to EU CO₂ standards pertaining to vehicle fleets and increased use of biofuels. EU emission standards will also result in a further decrease in the emission of air-pollutants.