# Summary

#### Journey time loss due to traffic jams nearly back to 2000 level

In 2012, journey time loss due to traffic jams and congestion on the main road network was 5 percent higher than in 2000. During the same period, traffic volumes on the main road network increased by 16 percent. Following the sharp 55 percent increase in journey time loss from 2000 to 2008, journey time loss subsequently decreased each year (except for 2010), until, in 2012, it had nearly reached the level of 2000. Local developments - in the numbers of residents, employment patterns and car ownership rates - ensured that traffic was heavier at certain times and locations. These local developments were the main contributors to increases in journey time loss. Journey time loss decreased as a result of the implementation of peak hour and extra lanes (*plusstroken*), roadway expansion and traffic management systems, with the effects of these measures particularly apparent in recent years. In 2012, journey time loss was 14 percent lower than in 2011, while traffic volumes remained at the same level. In recent years the economic crisis has also contributed to decreases in journey time loss.

Until 2010, journey time loss due to traffic jams in the Randstad's Noordvleugel was approximately double that of the Zuidvleugel, but in subsequent years the journey time loss in the Noordvleugel has decreased sharply, while decreases in the Zuidvleugel were more limited. Journey time loss in Noord-Brabant was much lower than in the other two regions.

### End of decreasing journey time loss in sight

In 2013, traffic volumes are expected to increase by less than 1 percent. For subsequent years, through 2017, KiM expects road traffic volumes to increase by an average of 1.5 percent per year as a result of an improving economy and falling fuel prices. In part due to expanding roadway capacity, journey time loss resulting from traffic jams on the main road network is expected to decrease by more than 13 percent in 2013 and by 1.5 percent in 2014. If no additional policy measures are implemented, journey time loss due to traffic jams during the years 2015-2017 is again expected to increase by an average of 2.5 percent per year, the result of forecasted increases in traffic volume.

### Growth of domestic mobility of persons flattened since 2005

Over the past 25 years, the number of kilometres travelled by residents of the Netherlands aged 12 years and older has increased by approximately 40 percent. This growth primarily occurred during the 1980s and 1990s. From 2000 to 2012, the number of kilometres travelled increased less sharply - by only 5 percent - than previously. Since 2005, a further flattening of mobility growth has occurred, particularly pertaining to car use.

#### Car use: more 'solo', less 'multiple passengers'

The primary reason for the flattening of car use growth rates is the decrease in the number of kilometres that Dutch people travel in the passenger or back seats of cars. This figure has decreased by 12 percent over the past 12 years, especially since 2005. More people in Dutch households have access to cars, which is primarily the result of women's increasing independence and labour market participation. Car drivers drove a total of 11 percent more kilometres in 2012 than in 2000, although since 2008 this growth has flattened. The economic crisis has seemingly had a further dampening effect.

#### Young adults traveled less by car

Developments in car mobility among young adults aged 18-29 years old are an additional factor contributing to flattening car use growth rates Car use of this group decreased between 1995 and 2009, both in terms of the number of trips undertaken and number of kilometres travelled. This was partly due to decreases in the number of employed young people and increases in the amount of students who especially reside in urban areas. The status of car ownership among young Dutch people however has as yet remained relatively unchanged; consequently, KiM does not expect a further decrease in car mobility among young adults.

#### Seniors traveled more kilometres

During the period 1997-2012, there was little development among senior citizens in terms of the number of journeys and journey times per day per person, although the number of kilometres travelled did increase, particularly among the 60 to 64 year-old age group. The primary reasons for this were an increasing number of people in this age group and higher labour market participation rates. The proportion of car drivers among the total number of trips undertaken by seniors increased, which was partly related to increases in drivers license possession and car ownership rates. The proportion of car passengers and pedestrians decreased, while bicycle use increased. The percentage of work-related trips for 55-64 year-olds increased from 18 percent in 1997 to 23 percent in 2012.

#### Internet society does not necessarily lead to less mobility

The rapid rise of the availability and use of ICT in society has had opposite effects on mobility. On balance, ICT's influence on total mobility is limited. This also applies to the role of internet society as an explanation for the flattening of mobility growth. Teleworking has increased, especially among higher educated professionals. The time spent on home-to-work travel has not markedly decreased, however. Many people telework, but often for only part of the working day. The scale of online shopping has also significantly increased, which for some people takes the place of mobility (for example, when booking a trip via internet instead of visiting a travel agency in person), while for others it has the opposite effect, resulting in extra mobility (visiting web-shops generates curiosity, which ultimately leads to people travelling more often or greater distances in order to shop at stores in person). The mobility effects of social media, which is primarily used by young people, are unclear.

#### **Cars remain dominant**

Since 2000, the division of mobility across the various transport modes has remained relatively unchanged. In 2012, half of all trips in the Netherlands were undertaken by car, a quarter by bicycle, one in five by foot, and one in twenty via public transport. Of the total number of kilometres travelled the car accounts for nearly three-quarters, public transport for 13 percent, and bicycles for 8 percent. Approximately half of all kilometres travelled were for visits to family or friends, and for entertainment or recreational purposes. Since 2000, home-to-work travel experienced the largest growth rates: an 18 percent increase. As of 2011, home-to-work travel had stabilised, primarily as a consequence of the economic crisis.

#### Train use also increased in 2012

From 2000 to 2012, the number of kilometres travelled by train increased by over 19 percent, with the leading factors for this being population growth, economic development, increasing numbers of students possessing OV student public transport passes, and an expanded number of trains in service. Conversely, increases in train ticket prices slowed train use growth rates during this same period. Over the years, rates of train use have been erratic: between 2004 and 2007, the annual growth rates for train use were 4 to 5 percent, while between 2008 and 2010 the annual growth rates were less than 1 percent. In 2011 and 2012, however, growth resumed, partly owing to an increase in the use of OV student public transport passes, as well as to various marketing campaigns.

#### No recent data available about urban and regional transport

From 2000 to 2011, the total use of urban and regional transport in the Netherlands increased by approximately 7 percent, which was largely in line with population growth rates. This growth primarily occurred from 2009 to 2011, whereas previously patronage was stable. From 2012 onwards there were no reliable statistics available regarding the use of urban and regional transport. The research that had been used for years to measure urban and regional transport usage rates was cancelled, and smart card (*chipkaart*) registration data (the intended successor) have not yet been published.

## OV student public transport passes a major share in the total public transport market

In 2012, some 670,000 students possessed OV student public transport passes. Since 2005, the number of pass holders has increased by an average of 2.5 percent per year. Pass holders do not have to pay for the large majority of kilometres they travel. These 'free travel kilometres' account for a quarter of all kilometres travelled via public transport. Approximately 14 percent of these 'free travel kilometres' were unrelated to the pass holders' study programs. Less than 5 percent of the kilometres travelled using OV student public transport passes involved trips undertaken at a discount pass fare (kortingskaarttarief).

#### More bicycle kilometres mainly due to the rise of electric bicycles

From 2000 to 2012, bicyclists travelled a total of 14 percent more kilometres, with the largest share of this growth accounted for by electric bicycles (pedelecs), which have rapidly increased in popularity over recent years. The number of kilometres travelled by 'regular' bicycles however remained almost unchanged compared to population size. This increase in bicycle use applies to all motives for travelling, except for shopping. Senior citizens in particular travelled more kilometres by bicycle, which is not only a result of the fact that there are presently more senior citizens, but also that per person these seniors bicycled more kilometres. The journey distances per bicycle trip have increased, which is the result of an enlargement in the scale of services offered, expansion of urban areas and the rising popularity of pedelecs. The current estimate is that 5 percent of Dutch people own pedelecs, while among people aged 60+ that figure is 10 percent, with the latter group of pedelec users travelling twice as many kilometres than those in the same age group who ride regular bicycles.

#### Mobility development differs in three large regions

A comparison of mobility developments in the Noordvleugel, the Zuidvleugel and Noord-Brabant reveals that cars are relatively more often used in Noord-Brabant. Train use rates are higher in the Noordvleugel than in the other two regions. Since 2000, the total number of kilometres travelled in the three regions particularly increased in the Noordvleugel and in Noord-Brabant. The proportion of car drivers also increased during the same period, especially with regard to the connections between the largest cities and the rest of the region. Trains seem to have fortified their role, particularly for interregional journeys. Since 2000, bicycle use has increased, but not equally everywhere. In the city of Utrecht, the percentage of bicycle trips and kilometres travelled by bicycle currently stands at around 40 percent, while that figure is approximately 35 percent in Amsterdam and Eindhoven, and 23 percent in The Hague. Bicycles are used less frequently in Rotterdam.

#### Aviation also experienced growth in 2012

The number of passenger movements at Dutch airports increased from approximately 40 million in 2000 to nearly 56 million in 2012. Of these passenger movements, 51 million occurred at Amsterdam Airport Schiphol, and the rest at regional airports. Approximately 40 percent of the passengers at Schiphol were transfer passengers. Two-thirds of Schiphol's passenger movements had an origin and destination in Europe, while North America and Asia both accounted for 10 percent of the total number of passenger movements. These ratios have remained constant in recent years. However, over the past 12 years there has been a shift in the travel motives of passengers at Schiphol, with visits to family and friends increasing in comparison to other travel motives. Approximately one-third of the people starting or ending their trips at Schiphol travel to and from the airport by train. The share of aviation claimed by regional airports in the Netherlands increased from 4 percent in the 1990s to more than 8 percent in 2012. Eindhoven is currently the largest regional airport.

#### Growth trends in freight transport flattening

The growth trend in freight transport has long remained above 1.5 percent per year for transported weight and 2.0 percent per year for freight tonne kilometres. Due to the economic crisis, starting in 2007 the long-term growth figures decreased to an average of 0.9 percent annually for transported weight and 0.5 percent for freight tonne kilometres. In 2012, the transported weight for all modalities combined decreased by 1 percent, while the tonne kilometres on Dutch territory decreased by 2 percent. Domestic freight transport decreased by 3 percent in 2012, owing to decreases in the domestic spending of Dutch citizens, companies and the government. International transport stagnated due to the slowdown in world trade growth. In 2012, air cargo reacted strongly to the dip in world trade, decreasing by more than 3 percent. Throughput volumes at Dutch seaports increased by 1.3 percent in 2012, in the process setting a new record: 586 million tonnes. In 2012, Dutch seaports gained ground compared to the other ports in the Hamburg-Le Havre range.

#### Freight transport via road suffers greatly from economic crisis

2012 marked the fifth year in a row that the transported weight for road freight transport decreased. It is now approximately 15 percent lower than the pre-economic crisis levels. The share of road transport in total freight transport declined in recent years due to sluggish domestic consumption and a slump in the construction sector. For container transport to and from the Rotterdam hinterland, the share of road transport also decreased in favour of transport via inland waterways.

#### Moderate prospects for freight transport

In 2013, freight transport's development will be further slowed by slight growth in the relevant world trade and by decreases in domestic spending. Increases in freight transport volumes will remain limited in 2013, at 0 to 1 percent. A continuing decline in domestic transport is expected in 2013. International transport will increase however due to the influence of economic recovery in the neighbouring countries. In 2014, increasing global trade is expected to create more room for higher growth rates in freight transport. In 2014, air cargo will profit the most from this occurrence, followed by sea shipping. The growth of freight transport via road, rail and inland waterway ships will have a somewhat slower start and also remains limited to 1 percent in 2014.

## Nearly 6 billion euros in government expenditure allocated to transport infrastructure

In 2012, via the Infrastructure Fund (*Infrastructuurfonds*), the Dutch government allocated 5.9 billion euros for motorways, railways, inland waterways and for regional and local infrastructure programs. Within the Infrastructure Fund, the funds are further divided according to destination, in terms of construction versus management and maintenance.

#### Further increase in the number of people seriously injured in traffic

In spite of increases in mobility from 2000 to 2012, the number of traffic fatalities decreased during this period by approximately 44 percent, to 650 fatalities in 2012. This

decrease was primarily a result of safer cars and safer layouts of roads. Following an increase in 2011, there were 11 fewer fatalities in 2012. The number of people seriously injured decreased slightly during the period 2000-2006, but increased by a total of 30 percent between 2006 and 2011. The number of people seriously injured while travelling in cars decreased, whereas for bicyclists this figure increased sharply, especially in accidents in which motor vehicles were not involved.

## CO<sub>2</sub> emissions: lower emissions per kilometre outweighed by increases in car kilometres

Traffic accounts for one-fifth of the total CO<sub>2</sub> emissions in the Netherlands, with passenger cars accounting for more than half of these emissions. From 2000 to 2012, CO<sub>2</sub> emissions from passenger cars increased by approximately 12 percent, which was particularly due to an increase in number of car kilometres travelled. Per travelled kilometre, passenger car CO<sub>2</sub> emissions decreased by 2 percent, a decrease that at times resulted from opposing developments. Consequently, while the improved engine efficiency of new cars decreased the per kilometre CO<sub>2</sub> emissions of the national car fleet by approximately 9 percent, an increase in the average weight of passenger cars led to an increase of approximately 9 percent. Regarding air pollution caused by traffic, 2012's downward trend continues. The number of people disturbed by traffic noise remained relatively constant. The number of traffic noise bottlenecks on national roadways decreased, owing to the construction of quiet road surfaces, noise protection screens, and other factors

#### Social costs of traffic: accidents the highest cost factor

In 2012, the costs associated with traffic jams and delays, traffic accidents and environmental damage caused by traffic amounted to between 19.9 and 20.9 billion euros, a figure which does not include the associated costs of noise disturbances. The total amount of these costs has not changed significantly over the past ten years, but the development does differ per cost factor. The highest cost factor was traffic accidents: amounting to between 13.0 and 13.4 billion euros, which is approximately 6 percent more than in 2011. The costs associated with traffic-related CO<sub>2</sub> emissions and air pollution amounted to 5.1 billion euros in 2012, which is approximately a quarter less than in 2000. In 2012, traffic jams and delays on the main Dutch road network cost between 1.8 and 2.4 billion euros, which on average is approximately 14 percent less than in 2011.

#### Social importance of mobility considerable

The social importance of mobility and transport is determined by estimating what citizens and companies spend on mobility. For citizens, the importance of mobility amounts to a minimum of 68 billion euros. This sum is calculated based on the costs incurred for transport and the time spent travelling, as expressed in monetary terms. The importance of transport for companies amounts to at least 56 billion euros, which is also calculated according to time and costs.