

Public transport users and usage trends

Public transport usage trends in Finland have been closely connected with the development of the society. Intense economic growth has increased the options available to people. Changes in population structure, community structure and employment have had an effect on the mobility of people.

Public transport as such was introduced in Finland in the early 1900s. Many changes and trends in our society along with technological advances have had a marked influence on the supply and use of public transport. The opportunity for individual mobility afforded by the passenger car has challenged public transport. Although urbanisation has fostered public transport, fragmentation of the regional structure has eroded its operating conditions.

In the early 1900s, public transport was the only means of making longer journeys. The main railway network was built between 1860 and 1920s and rail traffic flourished in the 1930s. The record in railway passenger numbers set in the 1940s was only beaten in 2005.

Horse-drawn trams and buses, which were soon replaced with electric trams, marked the advent of public transport in large cities. Buses were introduced in the 1930s. The first municipal transport corporation was established in Turku in 1908, with the City Transports of Helsinki and Tampere following in the late 1940s.

The supply and use of public transport has been markedly influenced by many of the changes and trends in our society as well as by technological advances, not only by changes in the transport system itself. The intense economic growth and motorisation experienced since the 1950s have in particular increased the options available to people and revolu-

tionised mobility habits in daily mobility and longer trips alike. Moreover, changes in population structure, regional and community structure and employment have had a material effect on the mobility of people and thus also on the use of public transport.

Passenger car density has risen from the few dozens of cars per 1,000 inhabitants seen in the 1950s to a current figure approaching 500 cars. This means that at present, approximately half the population of Finland owns a car, infants and the elderly included (Figure 1). Economic growth continues to boost passenger car stock. In 2005, less than one quarter of all households was non-car owning and the majority of these were single-person households. These households only accounted for 16 percent of the population, however, with 84 percent of the population living in car-owning households. Nearly one third of these owned at least two cars.

The number of buses and coaches has also climbed since the 1950s but less sharply. The figure has tripled over the half-century; the number of buses per 1,000 inhabitants in 1950 was 0.9 and now stands at 2.1.

The rise in the number of persons holding driving licences also materially impacts on the growth of the car stock and the use of passenger cars. In 2005, 81 percent of all persons over 18 held licences, up from 71 percent in 1990. The increase is particularly attributable to women obtaining licences, as currently more

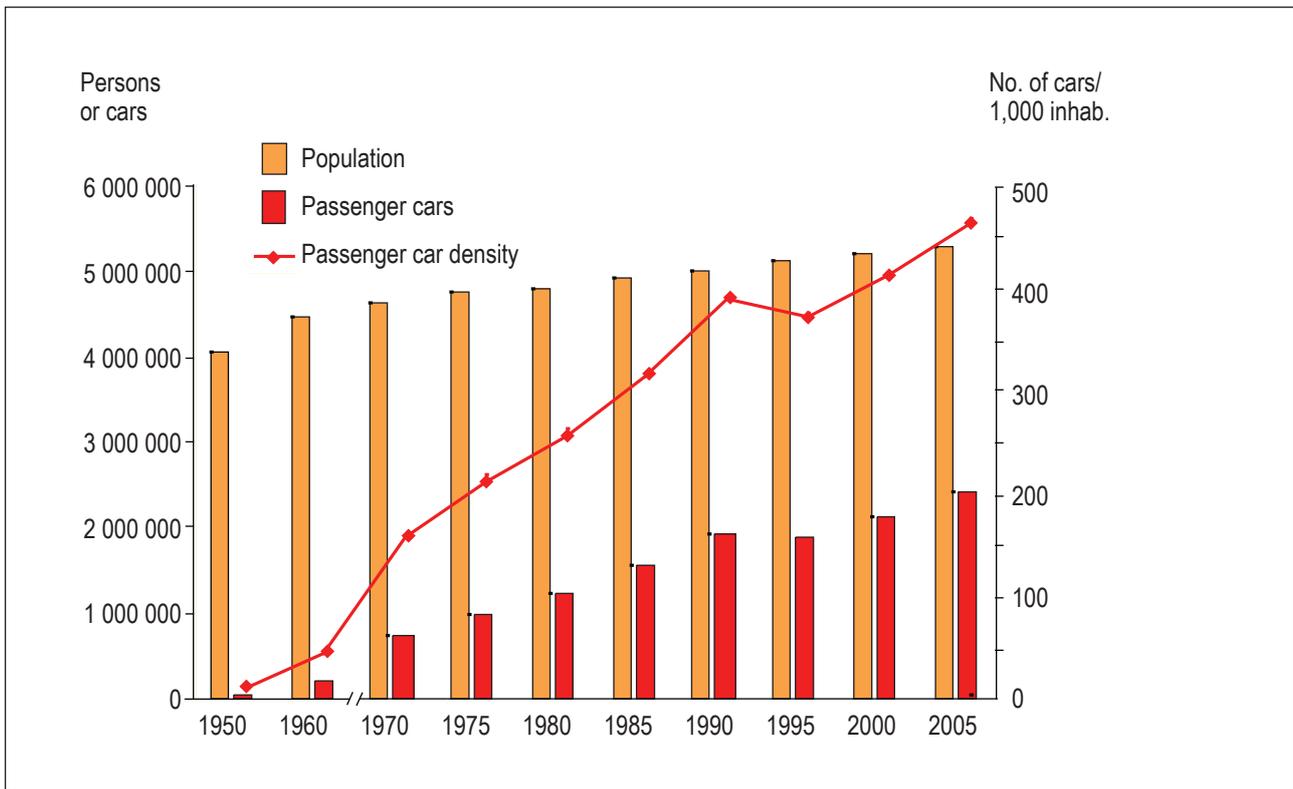


Figure 2–1. Population, stock of passenger cars and passenger car density in 1950–2005 (Source: Statistics Finland)

than 90 percent of both women and men obtain a driving licence.

The number of households has increased substantially in Finland in the past few decades. This is partly explained by population growth, but the major reason underlying the development is the smaller median household size. In 1970, households comprised 3.0 persons on average. In 1990, the figure was only 2.3 and by 2005 it had fallen to 2.1. The number of single-person households has simultaneously grown to make up well over one third of all households. Eighteen percent of the population live alone. One third of single dwellers live in large cities and the majority (60%) do not own a car.

Factors impacting on smaller family size include smaller numbers of children, longer life spans and a growing ageing population of baby-boomer generations. The relative share of children in the population is shrinking dramatically and that of the ageing rising while the numbers of working-age people are holding fairly steady. Smaller family size translates into fewer ties in decision-making and increased independent and differentiated mobility. Factors besides changes in population structure impacting on mobility and the use of public transport include changes in employment, employment rate, new forms of work and part-time work and the specialisation and concentration of jobs.

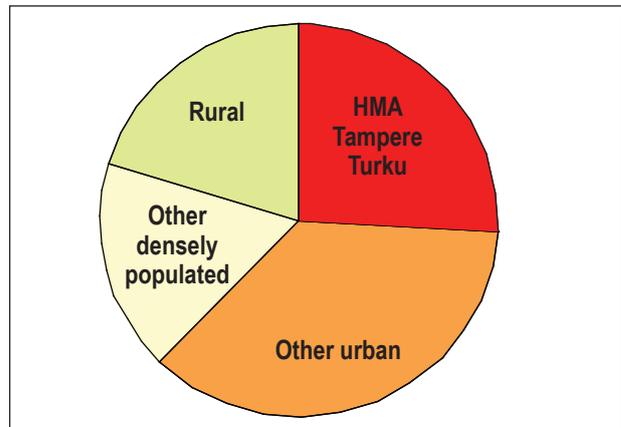


Figure 2–2. Distribution of population by type of municipality of residence in 2005 (Source: Statistics Finland)

Denser regional structure, i.e. the concentration of population into district centres and other densely populated areas enhances the chances of public transport being a competitive alternative to the passenger car. Access to services also improves and trips are shorter. In 2005, a total of 62 percent of the population lived in urban municipalities (57% in 1990), while the population of rural municipalities fell from 27 percent to 20 percent over the same period. In 2005, well over a quarter of Finland’s population lived in large cities: the Helsinki Metropolitan Area (HMA), Tampere and Turku (Figure 2).

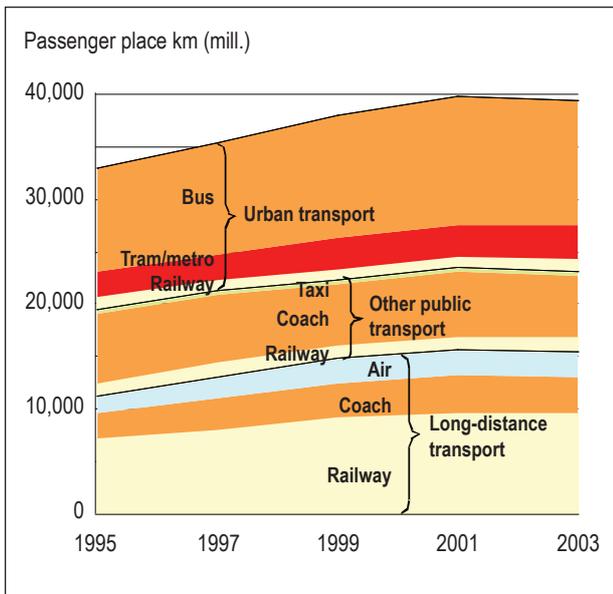


Figure 2-3. Domestic public transport supply in passenger place kilometres between 1995 and 2003 (Source: Statistics Finland)

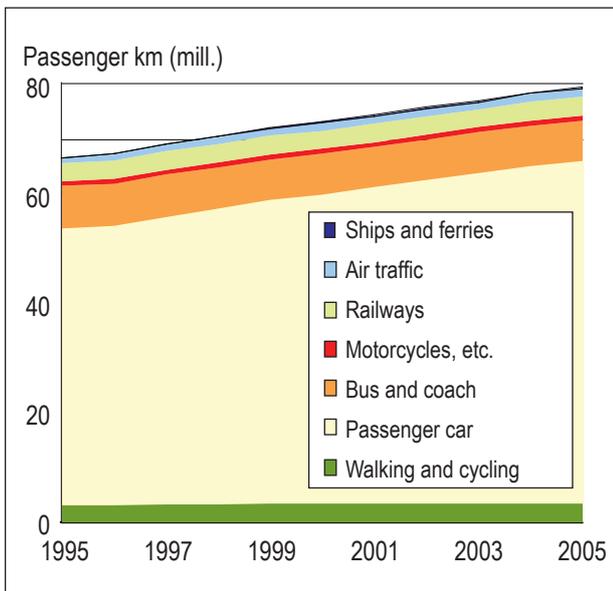


Figure 2-4. Domestic total travel distance by mode of transport in 1995–2005 in passenger kilometres (Source: Statistics Finland)

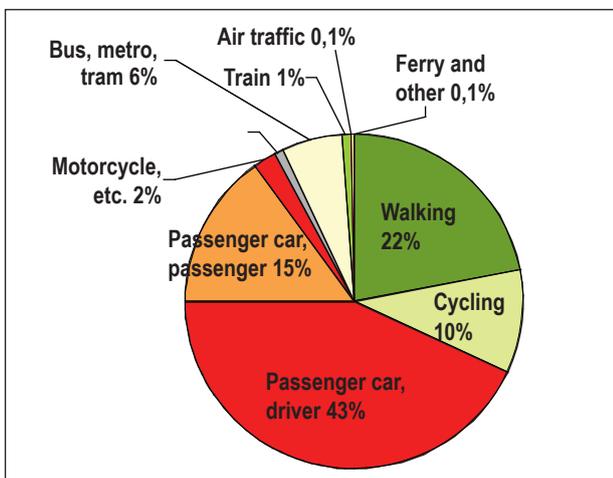


Figure 2-5. Average modal split shares of a person's travel in the course of one day (Source: National Travel Survey 2004–05)

The positive impact of denser regional structure on the possibilities of public transport is partly counteracted by the fragmentation of community structure in larger urban regions. Fragmentation need not directly affect total travel distance and choice of transport mode to favour the passenger car, however. Total travel distance may see only a modest increase as the outlying districts of population centres develop and begin to offer amenities; and trips are linked. As development plateaus, the position of public transport in new areas becomes clearer and competitive public transport services can be provided through the use of new systems. This is also suggested by the sharp fall in total travel distance in the outlying areas of the HMA over the past six years (Figure 6).

Public transport today

The overall supply of long-distance and urban public transport increased until the 2000s, while public transport in sparsely populated areas in particular has seen some cuts (Figure 3). Increased supply has not resulted in increased total travel distance, however. The total supply of public transport today comes to some 40 billion passenger place kilometres and the average utilisation rate is 32 percent.

Every year, Finns walk and use the various modes of transport to travel a total of nearly 80 billion kilometres. Domestic total travel distance in public transport in general has remained fairly steady in the past decade. The share of public transport in total passenger travel distance has fallen due to the constant growth in passenger car mileage, however (Figures 4 and 6). Public transport held a share of 16 percent in 2005, compared to 18 percent a decade earlier (the EU average in the early 2000s was 17%). The number of trips by passenger car has also risen, at the expense of both public transport and walking and cycling. Maintaining the competitiveness of public transport against the passenger car is a challenging task indeed.

Within public transport, buses and coaches account for slightly over half (55%) and trains for a third (30%) of total passenger kilometres. Air travel accounts for 10 percent and tram and metro traffic in the HMA for approximately four percent. The share of air traffic as well as railway traffic has increased at the expense of coaches.

Of the more than five billion domestic trips taken each year, seven percent are currently taken on public transport. Passenger cars and other private vehicles hold a share of 60 percent while walking and cycling account for roughly one third (Figure 5). In trips over 100 km in length, public transport accounts for slightly

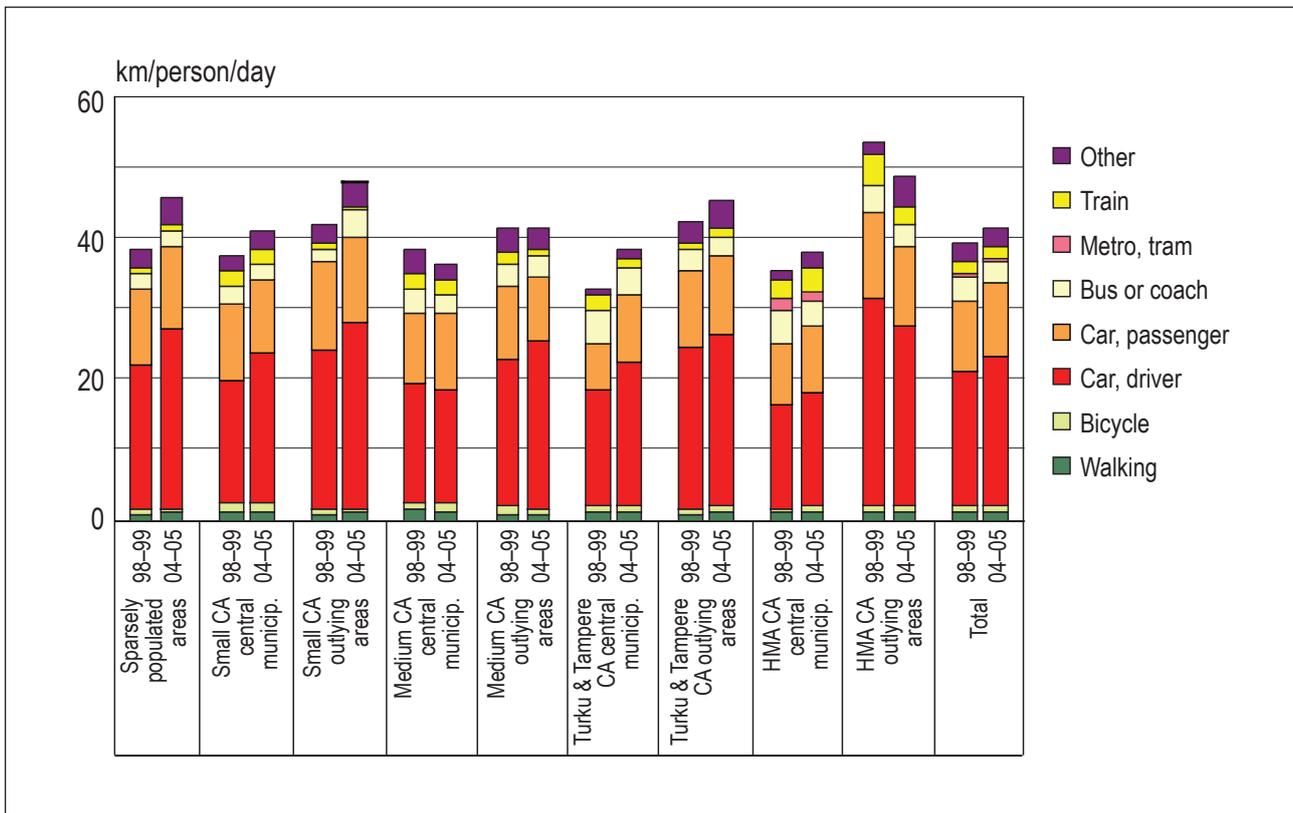


Figure 2-6. Domestic total travel distance by transport mode according to type of area of residence (CA=commuting area) (Source: National Travel Survey 1998-99 and 2004-05)

under one fifth, with the greatest share seen in commuting and the smallest in leisure travel, especially trips to and from the holiday home.

Of trips on public transport, two thirds (67%) are taken by bus and coach, one eighth by train (HMA commuter traffic 10% and long-distance traffic 2%), one fifth by metro and tram traffic in the HMA (20%) and one percent by air. Considering rail traffic, a distinct rise is seen in passenger figures in HMA commuter traffic as a result of sustained development of the system.

In regional terms, public transport use is highlighted in large cities and their commuting areas, where local transport offers a competitive alternative to passenger car use not only on longer trips but in daily mobility as well (Figures 6 and 7). The distribution of total travel distance and of numbers of trips in particular among the various transport modes clearly shows the increasing use of passenger cars throughout the nation, regardless of type and location of area of residence. The only exception here is the municipalities outlying the HMA, where the higher-than-elsewhere passenger car kilometres have fallen but the number of trips has risen at the expense of walking.

Trips by public transport are longer on average than by passenger car. The average length of public trans-

port trips on all domestic trips is slightly under 30 km while for passenger cars, the figure is under 20 km. The average length of trips by tram and metro is seven km and by coach or bus 22 km. The average length of train trips is 60 km in the entire country; for those living in the HMA commuting area, it is 35 km compared to 70 km elsewhere. The average lengths of trips by public transport have remained fairly steady while the average length of trips by passenger car has slightly increased. According to the most recent national travel surveys, trips by public transport in the HMA commuting area have grown shorter while they have increased in length in the Turku and Tampere regions. Elsewhere, slight growth has been seen especially in the outlying areas of commuting areas, with reductions in the central municipalities.

Large cities lead the way

The HMA and other large urban regions clearly differ from other parts of the country in terms of the supply and use of public transport. HMA residents use public transport for more than one third of all trips by vehicle and those in Turku and Tampere for one sixth. Public transport use has been declining in large cities as well in recent years, however. A permanent increase in the

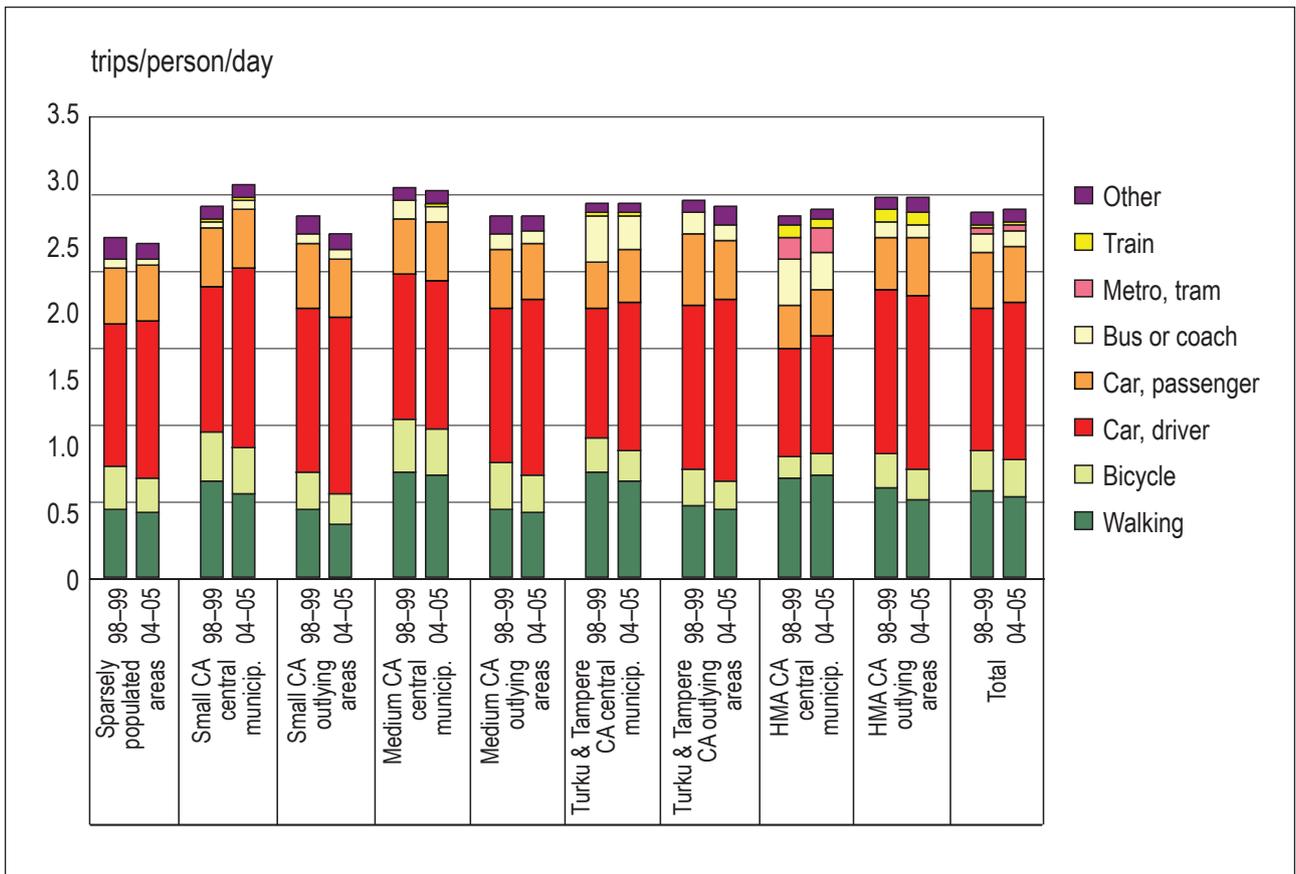


Figure 2-7. Average number of trips by transport mode according to type of area of residence (CA=commuting area) (Source: National Travel Survey 1998-99 and 2004-05)

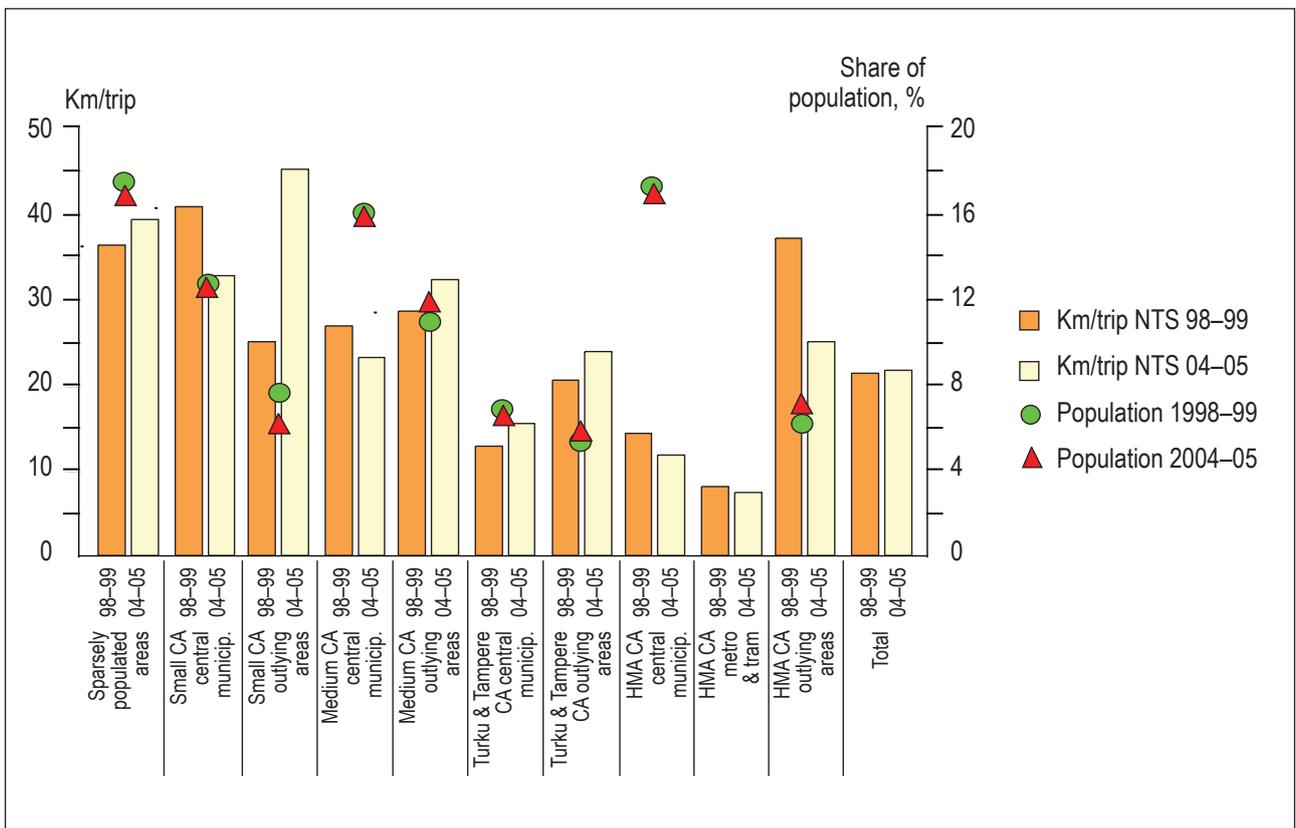


Figure 2-8. Average length of domestic trips by bus or coach and of metro and tram trips in Helsinki according to type of area of residence (CA=commuting area) (Source: National Travel Survey 1998-99 and 2004-05)

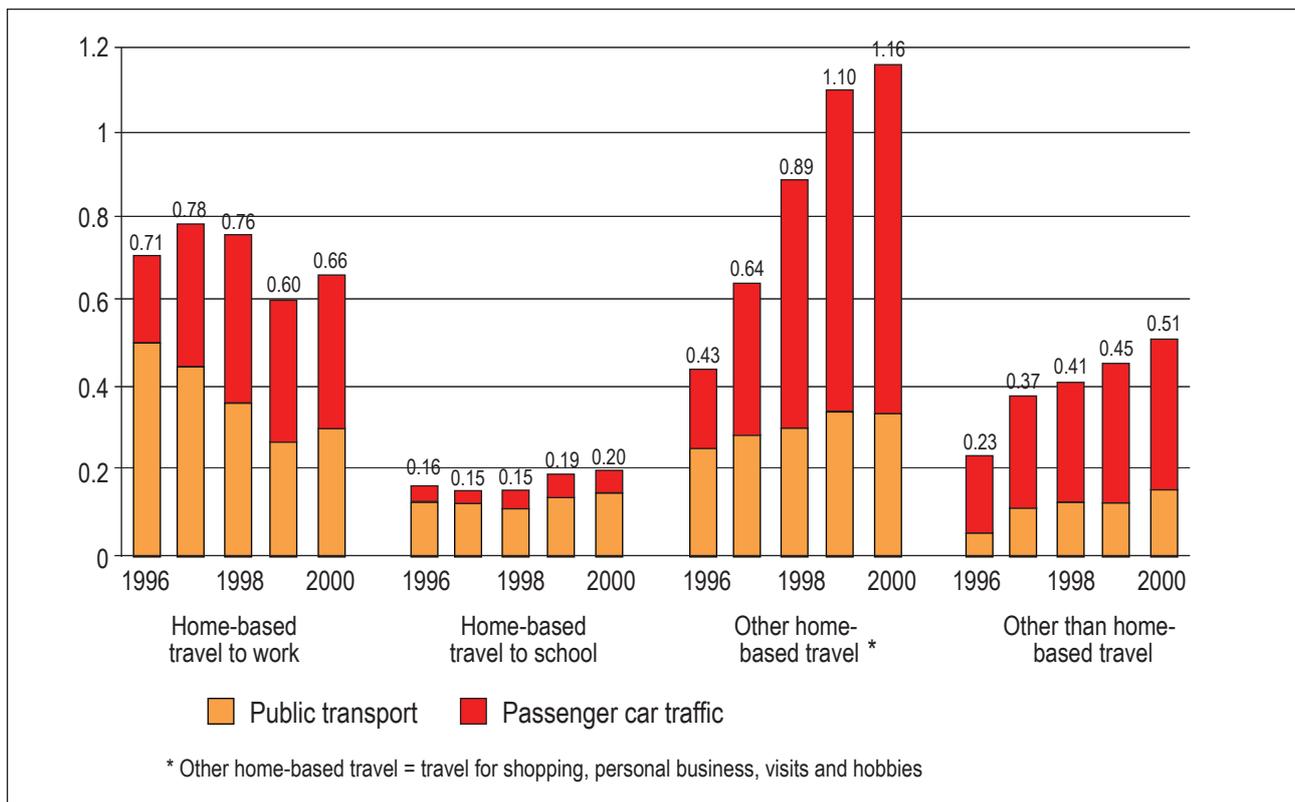


Figure 2–9. Trend in the number of trips and share of public transport per inhabitant according to trip purpose in the HMA (Source: YTV)

popularity of public transport is indeed a major goal. The target level in the HMA has been set at 40 percent of all vehicular trips within the area. The decrease of the modal split share of public transport is largely attributable to the expansion of urban areas. Traffic has grown especially in the outlying areas, where passenger cars are used more than in the city centre. The modal split share of public transport in the various parts of the region has remained relatively unchanged.

More than 60 percent of all trips by bus or coach in Finland are taken in large cities while smaller towns account for some 20 percent of trips. The share of the train in trip figures shows only in the HMA commuting area, where separate commuter train traffic plays a major role in daily mobility with a share of five percent of all vehicular trips. Elsewhere in Finland, train travel has an average share of less than one percent (Figure 7).

Figure 9 examines the trend in the number of trips and modal share split according to trip purpose through an example from the HMA. The effects of changes in society and motorisation since the 1960s are especially evident in the substantial increase of trips for leisure taken by passenger car. The number of trips for work and school per inhabitant (all persons over the age of 7) has remained fairly constant but the heyday of motorisation is clearly evident as a decrease in the share

of public transport. The number of vehicular trips for shopping, personal business, hobbies or visits has increased by a factor of 2.5 compared to 1966; when the passenger car is specified as the vehicle, the factor climbs to 3.5.

Public transport passengers

Approximately four percent of the total adult population of Finland may be categorised as committed users of public transport while 16 percent count as mixed transport users. Most of these reside in the HMA or in another large urban region. Committed users of public transport take 1.4 trips on public transport per day on average, while the figure for mixed transport users is half that or 0.7 trips. Slightly under one third of all Finns never use public transport.

The public transport passenger profile is highly female-dominant. Women use public transport more than men at all stages of life and in all age groups. The most enthusiastic users of public transport are young persons aged 13–17, who use public transport for an average of one fifth of their trips. In this age group, more than half of all trips are taken on foot, by cycle or moped or motorcycle and the remainder, i.e. well over 25%, by passenger car. Among adults aged 18–50, public transport was used most by childless

women, of whose trips an average of one in eight was taken by public transport (0.4 trips/day, 13% of trips). Among childless men, the figure was only seven percent. Persons aged 18–50, both men and women, living in household with children under school age used public transport on more than four percent of their trips. Among the parents of children of school-age, the figure for women was six percent while men's usage of public transport is only 2 percent. This is probably explained by a strengthening of traditional gender roles (men have the car), as public transport usage rate at 4 percent remained on average the same among parents of schoolchildren as among parents of small children. Among women over the age of 50, public transport use increased somewhat, but the greatest change is the increase in the share of walking and cycling to more than half of all trips. The share of public transport among men over the age of 50 remains low until the age of 75, when it rises to 5–6 percent. As men age, the share of walking and cycling in their trips also increases as car use falls.

The future of public transport

Awareness of global warming and the effect of greenhouse gas emissions have stepped up the pressure to curb the rise in car usage. Travel behaviour and choice of transport mode can be influenced through education to change attitudes and various kinds of steering measures related to transport policy as well as changes in the transport system.

Public transport has fared rather poorly against the passenger car in recent years. The ease of passenger car traffic often trumps public transport service when the trip chain is examined from door to door. Car access should not, however, automatically translate into car usage on all trips. The mobility habits of people should be knowingly steered in a direction in keeping with sustainable development. This means fostering the use of public transport and walking and cycling, and seeking to curtail the unnecessary use of passenger cars. According to the most recent national travel

survey, roughly seven percent of all trips by passenger car were less than one kilometre in length and nearly one third were less than three kilometres.

Functioning public transport guarantees equal mobility opportunities to all citizens regardless of access to a car. The rise in the ageing population, as baby-boomer generations retire, poses a challenge to the development of public transport, especially now that the current ageing population has grown up in the era of the passenger car. In cities and large cities in particular, public transport offers mobility free of traffic congestion and parking problems. On longer trips, public transport offers leisurely travel time that may be put to use in the manner desired, whether for work, reading or resting. Moreover, the constantly evolving real-time information systems enable the modern public transport passenger to plan for smooth travel and also increase reliability en route, in connection with transfers or special circumstances, for example. In sparsely populated areas where traditional fixed routes are not economically viable, new forms of administering public transport such as various kinds of demand-responsive systems provide an economical, energy-efficient and functioning alternative for all parties concerned.

Many of the trends of social change presented above impacting on mobility are approaching a turning point and are set to plateau in the foreseeable future. The conditions for their continuance no longer exist. Population growth in Finland is forecast to turn down in the 2030s. Population structure will continue to change while the baby-boomer generations play a role but will settle thereafter. Family size is already so small as to not allow any major changes. Neither can the proportion of driving licence holders see any substantial growth. Trends in Sweden and the United States indicate that the number of cars will continue to rise but mileage per car will fall. Changes in regional and community structure should be subject to management and steering so that a goal-oriented transport system can be implemented. The future trend in public transport use depends on the shared resolve of society. ■

Sources

National Travel Surveys 1998–99 and 2004–05

Statistics Finland, Finnish Vehicle Administration AKE, Helsinki Metropolitan Area Council YTV, City of Helsinki