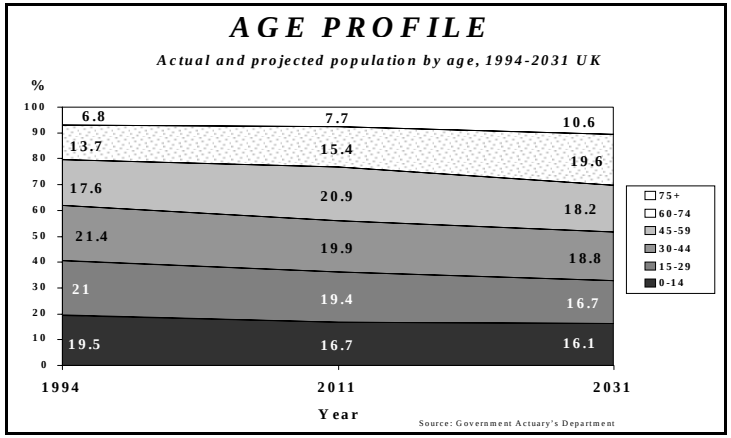
Social Concerns	Relevant Factors / Evidence	Some Implications
DEMOGRAPHIC TRENDS	Over the next 30 years the **UK population is projected to increase gradually by over 5 million** from 59.2m in 1998 to almost 65m by 2030[1]. Demographic projections indicate that the age distribution of the population will continue to change significantly, due to increasing life expectancy linked with declining mortality and morbidity.	Demographic factors will tend to increase the demand for travel as more households purchase cars for their individual use. Older drivers and smaller household units will continue to own and use cars.
Ageing population	**The average age of the population will be higher** by 2030 – the proportion of the population over 60 is expected to rise from 20% in 1998 to almost 30% by 2031[1]. The rate of increase is even more dramatic for the **over 80s**. ***AGE PROFILE*** *Actual and projected population by age, 1994-2031 UK*  	Driving life is likely to be extended due to innovations in cars and driving aids. Criteria will have to be found to judge a person's ability to drive. Infrastructure development will have to take account of the large number of elderly people who are particularly at risk when travelling. The needs of an ageing population will put greater demands on designing inclusive environments taking care of access, mobility etc.
More households and more people living alone	**The number of households in England is forecast to increase** from 20.2 million in 1996 to 24.0 million by 2021[2] – an increase of 3.8 million, or 19% due to population change, behavioural change, and greater life expectancy. The biggest increase is in the number of one-person households – which will account for 71% of the forecast total increase in households.	Substantial demand for new homes over the next 30 years. Increase in the area of land in urban use and hence a loss to the rural environment. Co-location of homes and jobs, thus reducing the need to travel is one of the major potential contributors to a more sustainable pattern of development. With increasing land shortages, both regeneration and new planning needs will become more dominant. Land shortages will require greater housing densities, particularly in urban areas. Need initiatives to keep family units together – tax and subsidy systems.
Regional variations	Although the numbers of households in all regions are projected to increase over the period 1996 to 2021, the size of the increases varies across England[2]. The South East, East of England and the South West are all projected to have around a quarter more households in 2021 than in 1996. For London and East Midlands growth is around a fifth and in other areas projected growth is significantly lower. The North East has the lowest projected growth of just 8%.	A greater proportion of new build building work will be carried out in locations where conditions are difficult and compromised – e.g. restricted access and congested transport arrangements.
HOUSING	**More households will require more housing** although there is much debate	Sustainability arguments suggest that the existing housing stock should be

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	on the rate of future house building[3]. An estimated 3.8m additional homes (comprising new and rehabilitated units) will be required in the next 20 years, mostly in urban areas[4]. The existing housing stock of 21m homes will also require major upgrading.	regenerated, refurbished, repaired and well maintained.
More land in urban use	The increased demand for housing will put pressure on current undeveloped land. The Green Belt has grown by almost 100,00 acres in the last three years[5]. 1.3% of England's land area is projected to **change from rural to urban land uses** between 1991and 2016. Land shortages will require greater housing densities and this requires spatial design solutions for property with modular, adaptable accommodation and flexible in built facilities.	Need to create circumstances in which the housing market itself favours urban areas. Greater emphasis on whole life appraisal with planning considerations taking a longer term view. Tighten legislative and advisory restrictions on the use of greenfield sites. Potential increase in self-build (e.g. IKEA flatpacks).
SMARTer housing	There is likely to be a major technology-led drive towards the **SMART house**. Advances in ICT (advanced information and telecommunication technology), construction materials and components will deliver **improved living conditions**, including better air quality controls, home-based (remotely controlled) health diagnostics, facilities for the elderly, infirm and disabled, intelligent, remote controlled household products for energy saving etc. Homes are likely to be fitted with internal and external local networks with a wide range of sensors and actuators. This infrastructure enables the householder, family members, carers, and/or emergency services to obtain information on the state of the house and its occupants.	Older people will be able to live comfortably in their own homes before moving into residential care. Key requirements include a common form of systems architecture that enables different types of devices to be connected as patterns of use change. Need to ensure that the design of the internet and its successor(s) meets customer needs and is free, reliable and fast.
LIFESTYLE	People will have **more leisure time** because of the ageing population, flexible working patterns and increased opportunities for being economically active beyond the present retirement age. Tourism will become more pleasurable with faster long distance travel, the use of intelligent luggage and luggage robotic transporters at airports and railway stations, and the ability to customise hotel accommodation surroundings. Details on travel, holidays etc. will be readily available from information kiosks, perhaps customised for a user's characteristics and preferences.	Older people will be the major users of leisure services through having a high disposable income and available time. Increased demand for leisure facilities and services including cycleways and walkways in scenic and natural areas. Faster travelling over long distances. Global warming might extend the "tourist season" although higher pollution levels could well lead to people being unwilling to remain outside for long periods.
Ageing	Several factors have been identified as fundamental in maintaining and improving the quality of life for an **ageing population[6]** stimulation, both physical and cognitive; flexibility to accommodate changes brought about by the ageing process; independence through choice and control; and, social interaction through family, friends, neighbourhood, and wider communities.	A lack of spending power could lead to a large section of the population becoming socially isolated, whether by not being able to afford the leisure activities themselves or the transport to reach them.
Household technology	Simple and reliable systems are required which are accessible in terms of cost and availability. There is potential for integration of different functions, and opportunities for customising for individual use. Design of adaptable equipment to meet changing needs over time will become a major growth area.	
ICT uptake &	The **potential impact of teleworking is unclear[7]**. Optimistic views expect that	Teleworking is likely to spread slowly as part of flexible working arrangements –

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Telecommuting	teleworkers will ease traffic congestion mainly by saving fuel. Results from the EU TELDET[8] project suggest that the potential for teleworking in Europe is around 1/5th of the labour force. Initiatives such as DIPLOMAT[9] are attempting to support and encourage greater use of ICT enhanced working practices in Europe. Alternatively, the widespread application (ICT) may **generate** new types of transportation as well as reduce the need for physical transport. ICT facilities provide increasing opportunities to make contacts beyond geographical boundaries which may gradually result in face-to-face meetings. Some argue that people often combine work trips with other trips and that leisure travel will be extended. This argument is in line with the long-term observation that the **daily travel time budget has remained constant** over past decades – despite substantial technological transformations. A critical view is that other travellers may take the space vacated by teleworkers e.g. family members who usually take the bus may start to use the car instead.	people still need groups for social interaction, team working and problem solving. Radical increases in vehicle prices or driving costs would be likely to increase telecommuting. Reduction in the need for daily travel to fixed office locations, in favour of home working and prospect of increased local working facilities and living/working communities. People may seek homes in rural areas to improve their quality of life – deurbanisation. With more people working from home, ageing population etc. there will be a growing need for housing to provide a higher quality of life and greater flexibility of adaptable living and space requirements. Technology will need to be integrated into the fabric and construction of buildings.
Social exclusion	Reducing social exclusion needs to take account of basic accessibility needs of all sectors of society. Initiatives include[10] accessible public transport in rural areas; ICT for distributed sheltered housing in the community; customised housing stock, accessible environments; technologies for telecare in the home; and realisation of life time homes. Transport problems will vary according to where people live. Problems in rural areas (e.g. for very elderly), where people depend heavily on cars, will be harder to resolve[11].	Ensure that housing is encouraged across the range of the housing market to avoid social polarisation. Elderly people will be easier to look after in cities. Moving the elderly back to the city centre would not be easy were it to be promoted. Ensure that no one is socially excluded because some services will only be delivered through electronic means.
PUBLIC BUILDINGS AND SPACE	Public space and amenities are adapting to accommodate a multiplicity of uses. Availability of space remains a source of tension, with waste disposal concerns becoming serious. Vandalism and other crimes are likely to be minimised through GPS/CCTV systems.	Need long term integrated planning.
URBAN FORM	**Urban land use and transport are closely inter-linked**. Many 'ideal' land-use transport systems have been proposed.	Transport policies are likely to be more direct and effective than land-use policies in achieving sustainable urban transport. However supporting land-use policies are essential in the end for creating less car-dependent cities.
'Ideal' city form	**Point** structures are city types oriented towards the central point of the urban system, usually the inner city; **Linear** structures are built along a line, usually a large transport infrastructure (e.g. Polycentric Linear City [12]); and, area structures have low density development lacking a clear spatial hierarchy and central structure. There are other variants on these designs including the six-lobe city design proposed by Carfree cities[13] where there are no cars and the worst-case travel time between any 2 points in the city is 35 minutes. The Venus Project[14] suggests that it would be far easier and would require less energy to build new, efficient cities than to attempt to update and solve the	A synergy needs to be achieved between government commitment and community awareness and motivations. Action may be spurred on from either direction but in the end they must converge. Major contributors to that process are a widely held conviction that change is required, and preparedness to accept the costs in return for the perceived gains. Individual municipalities play a vital role in culture change and local implementation. Information programs and the media are likely to have a strong role in changing perceptions and motivation.

Social Concerns	Relevant Factors / Evidence	Some Implications
	problems of the old ones! It proposes a geometrically elegant circular arrangement surrounded by parks and gardens. The city is designed to operate with the minimum expenditure of energy using the cleanest technology available. All the facilities are available to everyone without cost in a resource-based economy where all resources become the common heritage of all the inhabitants, not just a select few. Venus also proposes **cities in the sea** on floating megastructures.	perceptions and motivation.
Successful policies	The TRANSLAND[15] project summarises the empirical and theoretical evidence on successful land use and transport policies: **land-use and transport policies need to make car travel less attractive** (slower, more expensive) in order to achieve sustainable urban areas. Land-use policies to increase urban density or mixed land-use without measures to make car use less attractive have little effect as people will continue to make long trips to maximise opportunities within their travel cost and travel time budgets.	
Out-of-town	**Large out-of-town retail and leisure facilities increase the distance travelled by car and the share of car travel.** Land-use policies which prevent the development of such facilities (push), are more effective than policies which promote high-density mixed-use development (pull).	
Access control	Fears that **policies designed to constrain the use of cars in city centres have not proved to be detrimental to economic viability** (except in cases where massive retail developments at peripheral greenfield locations have been approved at the same time).	Transport policies to improve the attractiveness of public transport have in general not led to a major reduction of car travel.
Reducing car dependency	Many cities are looking at ways of reducing car dependency by providing services in different ways and by different approaches to urban development e.g. the **Car Free Cities Network**. LPAC looked at available traffic reduction mechanisms[16] and cited **improving public transport**, improving other alternative transport modes (cycling, walking), increasing **taxation on car ownership**, **imposing road user charging**, increasing **parking charges**, **reallocating road space**, introducing **Green Travel Plans**, **Safer Routes to School**, reducing car dependency, **positive land use planning** and **travel awareness**. The Edinburgh **City Car Club** is the first UK example of a new organisational approach to "Pay as you Drive Car Sharing" which can provide a "car on demand" without the need for everyone to own their own car[17]. However establishing such a scheme has had many teething problems.	Need to consider a package of policy measures to achieve the desired outcome.
CRIME	Crime costs the UK economy up to £50 billion a year[18]. Crime is highly **spatially concentrated** with 35-40% occurring in the most prone 10% of areas. The following characteristics of society are thought likely to influence crime in the future[19]: **individuality and independence** - crime will become more common as more people live alone and traditional family forms are no longer	Increasing urbanisation could lead to increased levels of crime. Those who commit crimes may operate outside the jurisdictions where the crime occurs. Violence, disorder and destruction may result from growing social exclusion

Social Concerns	Relevant Factors / Evidence	Some Implications
	common as more people live alone and traditional family forms are no longer the "foundation" of society. Increasing **ICT usage** offers scope for increased speed and scale of crime on a global scale e.g. electronic theft and fraud. Technology is providing more opportunities for people to be isolated in public places. People have greater choice whom they "meet" and how. Physical society may become a more hostile place. Ageing population may point to increased numbers of elderly victims of crime. Family values are seen as the factor most likely to deter young people from committing crime[20].	through technological exclusion – coupled with an increasingly individualised society. Danger of society being at the peril of a small technologically knowledgeable elite! There are opportunities for technology to be developed before counter-measures can be identified. Consider the implications for civil liberties. How to handle ever increasing amounts of information. Consider the implications for law enforcement.
Crime prevention	Innovative technologies are likely to improve **crime prevention** e.g. improved DNA sequencing, the development of "chemical cameras" which not only record visual images but also detect and record other elements. **Biometrics** is the automatics identification of living individuals using physiological and behavioural characteristics. **Magnetics** also has a role to play in identification and electronics. **Smart cards** are convenient devices for carrying personal information and offer more advanced security features than traditional magnetic strips. **Smart materials** which can detect if they have been tampered with also have huge crime reduction possibilities.	Education may provide solutions to potential problems. Acceptability of digital evidence in court - and the ability for it to be understood - are issues to consider. ICT knowledge amongst the young may mean that law enforcement is at a significant skills disadvantage.
HEALTH	**Healthcare is the largest employer** in many travel to work areas. Mass public transportation is rarely appropriate to provide access to healthcare and economic high quality care is highly dependent on the flexibility of staff and patient access. If individuals do not drive themselves, providing public transport access is likely to involve many "dead legs" and one to one driver passenger ratios.	Need to encourage health employers develop "green travel plans". Although healthcare will become more efficient, its use of people is unlikely to decline due to expanded requirements of an ageing population. Transporting people to healthcare facilities will become increasingly difficult.
Older people	Emerging needs of older people include the **health impacts of climatic change**[21]. Societal trends may lead to increasing isolation, especially for those living in deprived areas. Advances in technology (including telecare) offer considerable benefits for older people. Substandard housing is a health risk for older people. Opportunities to improve the living environment include the provision of purpose-built housing, improvement to existing housing, aids and adaptations, provision of help with household tasks, care and repair. Outside, lighting, pavements, road crossings, the availability of public transport and its accessibility to people with impairments, air quality, the perception of personal safety, and the proximity of shops and social facilities all contribute to creating a favourable living environment.	Older people, especially in poor housing, will be vulnerable to the expected scenarios of climatic change (thermal extremes, increased flooding and gales). Buildings that are designed from the outset to be accessible or adaptable to a range of levels of disability provide the opportunity to remain long-term in the same home. To accommodate increasing travel requirement of ageing population, either the years of individuals' safe driving lives must be extended, or alternatives to self-drive must be provided. Local authority planning rules and guidelines need to provide positive reinforcement of the specific needs for an "older person-friendly" environment.
Telemedicine	**Telemedicine** - the use of telecommunications and information technology to provide clinical care at a distance – encompasses the delivery of healthcare	Need to ensure that some sectors of the population are not socially excluded from access to IT facilities – perhaps by adopting an "industry standard" IT

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	including clinical diagnosis, direct care delivery, patient education, and the movement of medical information electronically. It is being driven by the need to decrease costs of care through increased efficiency and decreased provider time in travel; the need to increase access to care for under served populations; patient convenience and the desire to capture new markets. Ultimately we may all be equipped with PDHAs -Personal Digital Health Assistants – multimedia devices that know our medical history and can produce all sorts of different diagnoses and advice based on reports of our symptoms and complaints gathered by micro-miniaturised real-time health assessment monitors implanted in each of us.	connection to be installed in every home, analogous to the provision of other essential services (e.g. gas, water, electricity). Developments in telemedicine might reduce the need for physical travel for healthcare.
EDUCATION	About **a third of all journeys to school are by car** and this figure is rising[22]. Up to 1 in 5 cars at peak time is doing the school run, four times as many as 20 years ago[23]. School journeys are also getting longer[24]. School journeys cause a lot of localised congestion. Not walking or cycling to school also means that **children get less exercise** and is likely to breed **car dependency** amongst this generation[25]. School crossing patrol officers have an important role to play in helping road safety around schools – the UK legislation is being strengthened so that they can help children below school age and adults to cross the road. School buses carry more than 50 m daily trips in the US[26]. In Greece the public bus timetables are structured around school journeys. **SafeRoutes to Schools[27]** supports projects throughout the UK which enable and encourage children to cycle and walk to school by improving **street design**, **calming traffic**, creating **traffic free spaces** and linking with the **National Cycle Network**. Safe Routes to School is also recognised as a health promoting initiative.	Need to reduce the need for children to be driven to school by encouraging safer routes for walking and cycling, and giving priority to public transport. Safe Routes to Schools schemes need to be incorporated in Local Transport plans.
Workforce skills	To support changing lifestyles in the future, people will need to reskill and sharpen existing skills throughout their life. In work there will need to be new ways of learning using digital TV and computers. Educational providers such as the University for industry and the Open University will be the models for the future. There will be increasing demand from employers to reskill older workers which will encourage employees to look for training opportunities.	The planning of new facilities for education, leisure and learning should explicitly address the needs of older people - the workplace will need to be redesigned to ensure that it is ergonomically suited for older workers. Employers will have to change their attitudes to employees, ensuring that the varying personal and professional needs of their employees are met. Reskilling and retraining of older workers will become a priority. Education providers need to develop ways of effectively encouraging people, including older people, to sign up for courses. A major challenge will be persuading the traditionally non-academic elements of the population to participate.
Leisure	With all sectors of the population having more leisure time, there will be demand for more learning opportunities, and scope for it to be delivered using local facilities. Rising numbers of older people will seek “third” and “fourth” age educational opportunities.	Local venues might be required for intellectually based community activities. Every community might have its own “Life-Long-Learning (LLL) university. In terms of resources, education may be relatively cheap to provide, especially if significant parts of it are by distance learning.

Social Concerns	Relevant Factors / Evidence	Some Implications
	The growth of new technologies will open up new opportunities. Not only will information become much easier to access on a wider variety of activities, but also people will be able to plan their time much more efficiently through electronic booking systems, organising transport connections etc.	A lack of spending power could well lead to a large section of the population becoming socially isolated; whether by not being able to afford the leisure activities themselves or the transport to reach them.

Other relevant factsheets:

Travel substitution

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