10 YEARS OF ACCESSIBILITY PLANNING IN THE UK - WHAT HAS BEEN ACHIEVED?

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1. INTRODUCTION

Although improved access is a key transport goal, it is not always clear if accessibility is getting better or worse. Following a political commitment in the UK to put accessibility at the heart of transport planning and delivery (Labour Party 1997), accessibility was introduced as an explicit strategic objective within national transport policy in 1998.

This paper reviews what has been achieved since then in six main sections:

- The development of accessibility planning policy
- Evolution of accessibility planning practice.
- Delivery of sustainable land use planning and development
- Distributional issues, social inclusion and appraisal
- Measuring accessibility
- Better informed decisions

2. BACKGROUND

Until the last 40 to 50 years accessibility had improved for most people, in most places, most of the time. Each new technology, capability, infrastructure and development allowed people and businesses to reach opportunities and places more quickly, safely, comfortably and cheaply than the generation before them. Step changes in access were achieved from the roads built by the Romans to the railway network, but it was the advent of private motoring that created the need for a new approach.

By the late 1980s it was widely recognised that not all demand for travel could be met. If some demand needed to be suppressed, then some approach was needed to manage this trip suppression. Three main approaches have emerged. All have made a contribution but none has been particularly successful:

- Using congestion to suppress demand – capacity constraints are the most inefficient and inequitable approach to demand management, but have been the most widely adopted. This is the default approach if other approaches fail.
- Managing demand by price – this is the most widely adopted approach on public transport to ensure that bus and rail networks can operate safely with manageable levels of demand. Although this approach has been widely discussed for roads it has been rarely acceptable in practice.

- Managing demand through an administrative or legislative approach – in principle travel could be rationed, and management systems put in place to control this, but at a practical level the only widespread approach has been to plan land uses to minimise the need to travel.

Before seeking to minimise travel demand it is important to reflect on the reasons for travel demand growth. In 1994 SACTRA reminded government that travel demand was at least partly a function of transport supply. Therefore planning transport supply to meet demand was a circular argument; if there was no transport supply then there would be no demand. In order to decide how much travel there should be, it is necessary to find a rationale for travel outside transport. Transport is largely a derived demand.

A popular starting point has been the concept of sustainable development. Achieving this is not simply providing the infrastructure for a strong economy, or minimising the amount of travel to reduce emissions, or ensuring that the travel needs of all sections of society are met. These sustainable development needs are contingent on maintaining an efficient relationship between transport supply and demand. This requires a new transport planning toolkit.

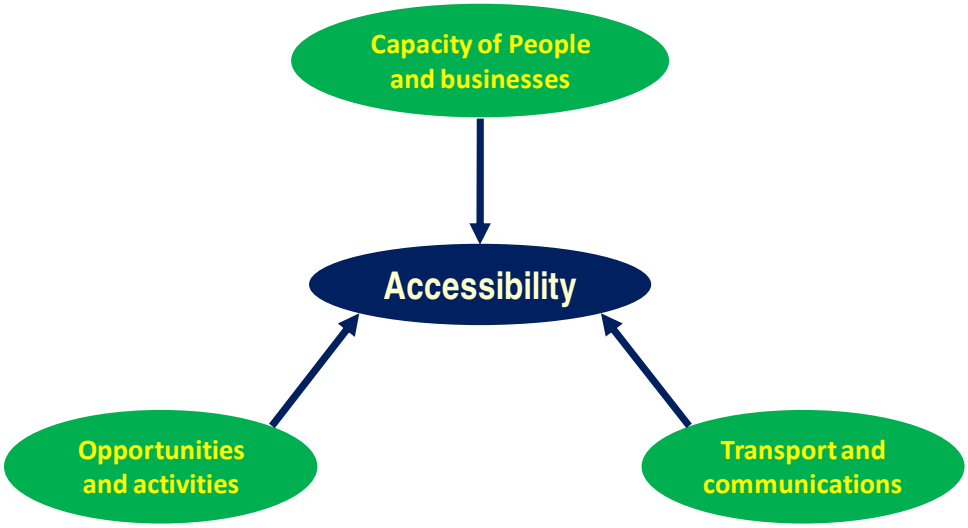
In the UK the implications of sustainable development policies for transport were explored in a joint Department of the Environment and Department for Transport Review (Ecotec 1993). This concluded that the concept of accessibility embraced all of the required dimensions. However accessibility planning required cross sectoral delivery arrangements within government. Given the wide ranging remit of land use planning, it was in National Planning Policy Guidance that the accessibility planning policies first emerged (PPG13). Since then, accessibility planning has become more widely integrated into the policies of many government departments, and was formally included in those of the Department for Transport (then DETR) in 1998 and subsequently the policies of other government departments from 2005.

3. WHAT IS ACCESSIBILITY PLANNING AND IS IT NEW?

Accessibility depends on three things: the capacity of people to travel or communicate (or the characteristics of goods for freight accessibility), the location of opportunities and activities, and the availability of connections using transport or electronic communications as shown in Figure 1.

Accessibility planning can therefore include the planning of any of these elements, from the location and quality of hospital services to the education of people to improve their ability to access opportunities. However the largest influence on accessibility is the availability of transport and electronic communications.

Figure 1 – The Dimensions of Accessibility



Until about the last 20 years it was assumed that an acceptable simplification was to treat the three dimensions of accessibility independently. However the pressure for an integrated or combined approach has grown, with recognition that the impacts of changes in one dimension of access are increasingly impacting within other dimensions.

Nevertheless it remains almost universal practice to plan transport separately. Pragmatism requires that accessibility planning aims are broken down into manageable chunks. Therefore it is common practice only to think about accessibility when considering:

- The distribution of benefits – winners and losers from transport change
- Electronic communications – access without transport
- Elements of the transport system that demand analysis cannot easily include such as walking, patient transport, community transport, etc.

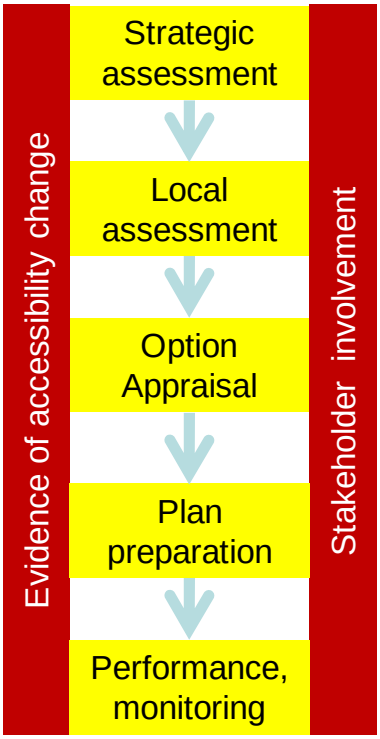
More mainstream transport planning activities such as planning travel time or cost savings are also key parts of planning better access to people. However, in many situations it is highly beneficial to set transport planning conclusions within the wider concept of accessibility planning to ensure that the wider benefits of transport changes are understood.

The management of accessibility planning is complex since it involves cross-sectoral working amongst bodies with different responsibilities, aims and funding streams. The key anchors that define and guide the process are:

- To anchor the process in common interests it is led by evidence about the needs of people and businesses.
- It is delivered through cross-sectoral partnerships involving everyone with a stake in making improvements.

Provided it is viewed as a solution focused approach, it can be highly successful. A five stage approach for adoption within local transport plan development in England was issued as guidance by the Department for Transport, Department for Health and Department for Education and Skills in 2005 (DfT 2005). The steps are shown sequentially in Figure 2, but in practice include multiple feedback loops.

Figure 2 – The stages in Accessibility Planning



4. DELIVERING SUSTAINABLE LAND USE PLANNING

The concept of accessibility planning is to deliver seamless connections for people and businesses between origins and destinations, and to influence land use and service planning to develop in accessible locations. As noted above, delivery of accessibility planning was originally viewed as part of the land use planning process. Accessibility criteria have been used by many planning authorities to encourage development of travel intensive development in accessible locations.

A clear accessibility framework for land use planning also improves clarity on who should pay for transport improvements associated with a new development. For example in Liverpool a replacement for the Royal Liverpool Hospital was planned moving from a city centre site to a more peripheral location. Merseytravel used analysis of the accessibility impacts of the change to identify where new bus services would be needed. Bus service investment sufficient to main standards of accessibility would have been very costly. When faced with these potential transport costs of the relocation, the health authority decided that it was cheaper to re-develop on the existing city centre site (DfT 2005).

However for every situation where accessibility has been maintained or improved through the planning system, there remain many more examples where development has been allowed to proceed in unsustainable locations. Transport authorities then end up facing the economic, environmental and social consequences of decisions over which they have little control. This happens because planning authorities faced with many competing demands have sacrificed the accessibility objectives since:

- The accessibility policy framework for an area may not be clear making accessibility criteria unenforceable in a planning appeal situation. Increasingly authorities have clearer frameworks but even in the late 1990s this was the most common problem.

- Other planning criteria such physical design can be easier to understand and closer to the skill sets of the planners. They therefore receive more attention during the planning process.
- There is competition for development and accessibility aims are deliberately ignored in order to attract the investment.
- Decisions affecting accessibility can be complex. Even a well specified accessibility indicator such as the total average travel time to hospital for residents of an area includes many complexities about walking, public transport schedules, road congestion, the travel time being replaced, time of day factors, etc.
- Improving accessibility can conflict with growing the transport economy. In financial terms the UK transport sector loses income when people walk to a local destination (at no cost) rather than use motorised transport. At key stages, the accessibility planning agenda has been driven from outwith transport (e.g. Cabinet Office 2003) since there has been a perception that the transport industry prioritises motorised modes.

Even today planners often do not ask for quantified accessibility impact assessments as part of the transport assessment for new development. There remains a need for more training, and in some cases action to challenge bad practice.

5. DISTRIBUTION, INCLUSION AND APPRAISAL

Perhaps the most significant change in attitudes towards accessibility planning has come from policy aims for greater equity. It is within the inclusion and distributional policy arena that it is easiest to see how transport can be integrated into wider policy for: access to education, employment, health, and other services. It is much easier to have a dialogue with a health authority on access to health, which is seen as a shared agenda, than about road congestion near a hospital which is seen as a transport problem.

Until 2000 the UK Treasury had resisted the idea that distributional issues should be included in government spending appraisal. This changed with a revision to the “Green Book” (Treasury 2003). Treasury decided that it mattered for the economy not just how much was spent, but where it was spent.

Accessibility concepts therefore became essential within public spending decisions to determine the distribution of transport impacts (as well as parallel changes in other policy areas such as health inequity appraisal).

In England, transport appraisal kept the new distributional appraisal separate from other analysis (DETR 2000), unless the consequences of the distributional effects could lead to additional value not measured through travel demand analysis. One example of this was transport option value, where the value of having transport available had not resulted in more travel but in other economic benefits such as higher land values. Although access was often a key part of

separate distributional appraisals, these were seen as separate from the main decision making analysis.

In Scotland a different view was taken. Perhaps due to the greater remoteness of many parts of the country, accessibility appraisals of impacts of transport were reported alongside travel demand appraisals. Findings about possible and planned changes in access to employment, shops, healthcare and education were viewed as a key part of the decision on where to invest. Since 2003 Scottish appraisal has looked at accessibility in four ways:

- Expressed accessibility (i.e. travel demand) is covered under the economy criterion in appraisal.
- Comparative accessibility looks at the distribution of accessibility impacts. The impacts on different groups in society can be compared by gender, geographical location, income, mobility characteristics etc. and are considered within social inclusion appraisals.
- Community accessibility describes the extent to which the social needs of communities are being served by the transport systems. Different communities have different needs, and community accessibility includes the "option value" of transport. Community accessibility is reported under two categories. Local accessibility by walking and cycling (for which demand data are rarely available) and transport network coverage. Gaps in access to work, shops, health and other facilities are therefore identified.
- Stated accessibility - Because accessibility describes transport from the viewpoint of users, members of the public often describe the changes they would like to achieve in terms of accessibility. Consistency of project proposals with these "stated accessibility" issues are covered in the implementability section of appraisal.

This more comprehensive approach means that transport appraisal becomes more balanced across all modes (including walking and cycling) and integrated with wider benefits.

6. MEASURING ACCESSIBILITY

Travel time and cost are often used in transport planning as a proxy for accessibility. If the interaction between travel time/cost and the travel behaviour of people at the origin and the interaction with the opportunities at the destination are insignificant then this can be an acceptable simplification. In practice travel behaviour is highly dependent on accessibility (time, cost, comfort, safety, etc), and service provision at destinations interacts with transport in many ways. This has led many professionals to conclude that simplified representation of accessibility within transport and land use models is inadequate in many situations.

Fully specified activity based land use and transport models are not yet a practical prospect and even if they were would probably not be affordable for many planning decisions. Accessibility indicators are a helpful way to support decisions and are scalable in complexity and the breadth of issues included to ensure they are affordable in all situations.

Choosing the right measure is important. Table 1 shows a categorisation of accessibility measures (DHC 1999, DHC 2009). These range from simple measures such as the travel time between an origin and destination to complex utility based measures.

Table 1 – Types of accessibility measure

Measure	Description	Examples
Threshold indicators		
Travel thresholds	These count the number of people/ jobs/ opportunities within a threshold travel time/ cost/ distance/ or other criteria from a defined location.	Time thresholds are widely used e.g. The number of people within 20 minutes of a secondary school
Activity thresholds	These look at the sets of opportunities and choices available within defined travel time/cost /distance/ or other criteria.	Not yet widely used since joint working to plan people's activities is less common. Applications include employability assessments e.g. the opportunity to access childcare and employment within 60 minutes
Opportunity thresholds	These thresholds are used to simplify opportunities based on the scale of the opportunity	Thresholds used in some destination specifications e.g. hospitals with more than 300 beds with an out patient department
Continuous measures		
Travel time/cost	From any location the travel time or cost can be calculated to a set of opportunities. These can also be summed to calculate the total travel time for a set of people or households to reach a set of opportunities.	Widely used for example in the accessibility domain of the indices of multiple deprivation in Scotland and Wales e.g. the travel time to reach the nearest post office.
Total opportunity	For any set of opportunities, each opportunity is weighted by a deterrence function based on the time/cost/distance/barriers to travel.	Continuous opportunity measures are used in England in the core national accessibility indicators e.g. population catchments of hospitals.
Value/Utility measures		
Economic and social value	These more complex measures can have many forms and are all based on the threshold and continuous measures. All such measures seek to represent the value that a service	The ranking of the continuous measures in the English core national accessibility indicators and the allocation of scores for each decile is a very coarse way of

	provider/ user places on the measured level of access being available.	representing value.
Composite value	Accessibilities for different types of opportunity are combined to calculate an overall measure of access that represents provider/user views of access.	The core indicators include the composite measure calculated by weighting each separate trip purpose and summing the weighted indicators.

Perhaps the most important points in the context of this paper are that:

- Simplified accessibility measures showing changes in travel time by motorised modes will often not present an accurate picture of the value of transport systems.
- Travel time is valued differently by each group in society. Average values of time can lead to very misleading findings.
- It is relatively straightforward to place a value on having a catchment population available (e.g. accessibility for a destination like a hospital or a school). It is also straightforward to value the opportunities for people to be able to access services and facilities (e.g. origin accessibility to further education or leisure services). The sum of these origin and destination opportunities is the value of the accessibility benefit.
- Representing accurately the range of spatial, financial, environmental, temporal, physical conditions, information and skills factors is within reach with the rise of digital information systems.

In England core national accessibility indicators are calculated annually for origin and destination travel time accessibility covering employment, schools, GPs, hospitals, colleges and shopping. Cost data is not yet available and even data on road speeds by time of day from vehicle tracking data is patchy. Nevertheless the development of comprehensive national databases of the factors affecting accessibility is a major step forward in more integrated working within government.

7. BETTER INFORMED DECISIONS IN THE FUTURE

There are three main administrative levels for accessibility planning:

- The site based level such as for schools, hospitals and businesses to ensure safe and efficient access for staff, customers and suppliers.
- Area level planning (particularly for local authorities, regional planning authorities, passenger transport bodies, transport operators and others) ensuring that appropriate action is being taken to improve access to opportunities for residents and businesses.
- At a national level to ensure that the policy, funding and legislative framework helps to improve access.

In addition travellers and residents of the UK rely on accessibility information to make their decisions.

Widespread and growing data availability means that increasingly accessibility analysis is helping to inform better decisions from an individual journey plan through to a change in national policy. This will also facilitate a better dialogue between users and providers of transport with users able to add information to network links in accessibility models about their experiences of their journey on that link and providers able to communicate the cost, time, safety or other benefits of particular journey options.

Accessibility planning is making more connections across the UK each year. Although integrated working will continue to be complex and sometimes slow to develop the accessibility planning toolkit in the UK is becoming increasingly influential over funding decisions, travel behaviour, integrating transport into the wider economy and society.

UK transport is progressively moving towards investment in end to end journeys improving access to places. 10 years of accessibility planning appear to have laid the foundations from which the management and investment of integrated transport systems can be planned into the future.

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