Traffic, Access and Parking in Winchester
WinACC Position Paper

The Traffic Problem

Most of the streets of central Winchester are dominated by car traffic. It is easy to see why this has happened. The benefits to users of cars are obvious – cars are convenient, quicker than most alternatives, immediate in availability, can carry heavy material and so far, during the age of abundant energy, they have been cheap. It has been easy, for those who can afford them, to get into a habit of dependence on them. While there are immediate and obvious benefits to motorists from having relatively cheap and generally convenient access to the street system, however, there are costs externalised to wider society that are rarely accounted for. These are costs to the convenience of the non-motorist, to the health, safety, well-being and arguably the wealth of all and to other wider things which much of society hold to be important.

Carbon Costs

Of the latter WinACC clearly has a particular concern for the future of the planet's climate, which, though the problem is of a scale that may make Winchester's efforts seem puny and futile, is nevertheless a problem that can only be addressed by aggregating millions of puny efforts – if it is not we who should act, then who should? There are no easy options for carbon reduction. Transport, though it represents around a quarter of our emissions, is actually more discretionary than most other economic sectors – it is more about choice – with a will to do it the path to reducing transport emissions is clear.[1]

Road traffic generally is a measure of failure of political will to embrace climate responsibility. Road traffic in towns, where alternatives are clear, is a still more reprehensible failure. Winchester District's transport emissions of carbon are amongst the highest in the country, though not all of this is to do with road traffic.[2]

Air Pollution Costs

Particulate (soot) emission from road vehicles in Winchester was identified as a problem at the time of the declaration of an Air Quality Management Area (AQMA), though recently this has slipped below the level of legal requirement for action. It does not alter the fact that the air in some streets in Winchester tastes of soot and anyone living in Winchester who cleans window ledges will know what is being breathed.

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[1] There are limited retro-fit options for reduction of domestic emissions from the great bulk of existing housing, whilst new housing even in the 'zero-carbon' requirement post 2016 will embody large amounts of carbon in its construction. Farming and agriculture are major users of machinery, artificial fertilizers, herbicides and pesticides with high carbon manufacturing content, buildings for intensive livestock rearing (and consequent greenhouse gas forcing through methane emission) etc. Carbon reduction in this area can be achieved by moves toward more localised and more organic farming and less meat production, but this requires significant changes to eating habits. Carbon emissions from traditional manufacturing processes are increasingly being exported – though still part of 'our' emissions they are increasingly beyond our direct control.

[2] Being a wealthy area Winchester can account for higher than average recreational air mileage. Increasing long distance rail commuting, though much better than road commuting the same distance, is nevertheless an undesirable and unsustainable trend.

The emissions of noxious gases remain stubbornly above legal thresholds[3]. At these levels there is a direct and at least partially quantifiable cost to health, particularly in relation to asthma and children's respiratory diseases. We discuss this in a separate position paper.[4]

Other Health Costs

The preponderance of road traffic in Winchester ensures a segregation of street space, an unpleasant sensory experience and a sense of danger (see below) for those outside cars, which inhibit healthier modes of transport like walking[5] and cycling, both for access and for leisure activity. Added to the generally unhealthy food habits of the population, this is probably a significant contributor to obesity and other pathology, which will have large quantifiable costs to health provision in the area.

And motor traffic results in real and immediate physical harm to other users of the streets, through accidents which remain a silently tolerated cost to society – a price apparently worth paying.[6] In the asymmetric road conflict in London, cyclist casualties are on a steep rising curve.

Quality of Life Costs

Winchester has an especially good inheritance of built and natural environment. It is a walkable town with great architectural assets and historical interest as well as attractive domestic architecture and easy access to fine landscape and rich and varied natural history. As a living place it aggregates distinct and socially cohesive 'villages'.

Traffic in streets detracts from this comfortable picture; it takes space away from people; it creates barriers to human movement; it corrals instead of permitting free wandering or lingering. Its noise, characterised by discordance and insistence, dominates over human bustle and intercourse; its smell and taste discourage tarrying. Noise, dust and smell impinge on the comfort of people in their houses and deter the doorstep lingering that characterised the streets of Winchester before the motor age.

Intimidation Costs

There is a profound sense of danger on many streets of Winchester, to pedestrians on narrow pavements (e.g. North Walls, Romsey Road, Bridge Street) or crossing roads, and to cyclists (e.g. North Walls, St George's Street, Romsey Road, Easton Lane). The intimidation is not just felt by the pedestrian or the cyclist *in situ*, but by the parent who fears to allow children out on their own.

There is a behavioural barrier between motorists and other street users that sometimes verges on conflict and is characterised by perceptions of difference of status. It sometimes manifests itself as actual physical aggression.

The intimidation is also reinforced by the sense that the car is the protected species – the local Council has made no attempt to reverse the priorities of Winchester's streets. The

[3] Technology improvements that reduced particle emissions in diesel vehicles have led to higher Nox emissions; and the proportion of diesels in the vehicle mix has been increasing – see footnote 4

[4] See http://winacc.org.uk/sites/winacc.org.uk/files/Air%20Pollution%20in%20Winchester%20v2%20WinACC%20layout_0.pdf

[5] http://winacc.org.uk/sites/winacc.org.uk/files/attachments/Walking%20position%20statement.pdf

[6] If we woke up one morning to discover 300,000 injuries per year resulted from gunshot accidents, would we demand that something be done about it?

civilised order would be that priority for space be given to pedestrians, then cyclists, buses, taxis and last of all, private cars.[7]

Intimidation is a psychological cost which would be difficult to quantify as a health cost, but it is real nevertheless and will have consequential effects on behaviour (e.g. deterrence of healthy alternative uses of the space) that may be more quantifiable.

Economic Costs

The assumption that road traffic is the essential and inevitable price of economic welfare in a town is highly questionable.[8] There are clearly many towns across Europe where economic success appears to be consistent with much less traffic dominance of their streets and there are undoubtedly towns choked with traffic that are a lot less successful economically than Winchester. However it quantifies, ambience must have an economic value. If 'footfall' in a shopping and tourist area is deemed to be a measure of economic benefit, then the length of time spent in an area is also likely to be a factor – a good quality urban environment is likely to increase that lingering factor.

We indicate under the *'Access Problem'* below that the possibilities of increasing access of people to the centre of Winchester are limited by the traffic that fills the streets. Indeed that access is already limited at peak times and that represents an economic cost.[9]

There is a specific economic cost of traffic to society arising from direct but hidden subsidy in car parks. The value of land and building asset dedicated to car parking in Winchester represents a capital value very much larger than would be suggested by the income (net of management and dedicated parking costs such as the Park and Ride buses) it returns. Car parking thus represents a resource cost to society. Subsidy of activity can often be appropriate in society, but it cannot easily be justified if it is regressive in nature. Subsidy for motoring clearly is regressive since it is the better-off who are most motorised and most stand to benefit[10].

Resource Dependence

In a world of finite resources there is a cost associated with their depletion – sustainability has a value. If we are close to or already on the descent of the Hubbert curve[11] in respect of energy, then future economic welfare demands that we move steadily and significantly away from fossil fuel dependence.[12] Communities and countries that make the move away

[7] Lorries have a different functional position in the mix, as discussed separately in this paper.
[8] A future WinACC position paper is expected on this subject.
[9] Since 'footfall' is the measure that traders like to use, reduced access means reduced footfall. Since the access in these circumstances has been limited by congestion it cannot be made good by alternative public transport access (indeed this would be worsened by congestion); and choked and polluted streets are likely to deter the cycling and walking alternatives.
[10] About a quarter of households in the UK have no car and that figure is growing again. In the South the figure is around 18%. This significant minority is positively disadvantaged by the majority's use of cars – that is regressive.
[11] See http://en.wikipedia.org/wiki/Hubbert_curve Essentially when any finite non-renewable resource is exploited, the technology of its extraction improves and the scale increases until a maximum is reached beyond which new resources cannot be discovered at a rate to replace those being exhausted. The result is a roughly bell-shaped curve. The discovery curve of oil reserves in the world peaked in the 1960s; the production curve of oil appears to be peaking now.
[12] In relation to transport this means moving steadily and significantly away from the inefficiencies of private motorised transport. Talk of electric cars is a dangerous distraction from this imperative and diverts us from the

from fossil fuel soonest are those most likely to acquire the habits and the wherewithal to survive the economic consequences of declining energy resources, which are finite. The current way of doing things is not sustainable?

Lorries

Lorries are a part of the traffic mix in towns and they present some problems. But the common perception of the lorry problem is entirely misplaced. Lorry unloading is frequently seen as a hindrance to the free flow of traffic, especially in St. George's Street. This is entirely to misunderstand the role of lorries in the economic equation of a town.

A single lorry can bring into Winchester a weight of goods that 5000 cars will take out. A town can function without any private cars (there are several wealthy tourist towns in Europe that do so – e.g. Zermatt or Saas Fee[13]) whereas all towns must have the means of importing goods. The problem of cars held up in St George's Street is a problem caused not by the lorries but by the car traffic that does not really need to be there. It is hard to see a justification for restricting lorry unloading times to avoid inconvenience to other motor traffic, especially since such suggestions often seem aimed at putting lorries on the streets at more anti-social times for residents.

Long distance lorry traffic has a carbon consequence and involves significant other externalisation of costs. Society and the planet would benefit from such long-distance goods transport making a modal shift (e.g. to rail or water) or even from being discouraged from happening altogether.[14] But realistic charging of road freight is a matter for national governments and the European Community to address.

Local options for tackling lorry problems are limited. Heavy lorries are damaging to foundations of buildings and long lorries can hit buildings in streets with tight corners. Lorries driven fast or carelessly are intimidating or physically dangerous to other street users. Oversized or very heavy lorries could be excluded from central Winchester by regulation requiring transhipment, though there is a balance to be drawn between the size of lorries permitted on Winchester's streets and the increase in the number of smaller lorries carrying out the same job.

The Access Problem

Congestion Limitation

Winchester's streets are for the most part fairly free-running, but with peak congestion problems, especially in St George's Street and at the junctions into or out of the radial routes. We should define what congestion means, particularly at junctions where it is most manifest. At peak hours controlled junction queuing is such that motorists tend to wait

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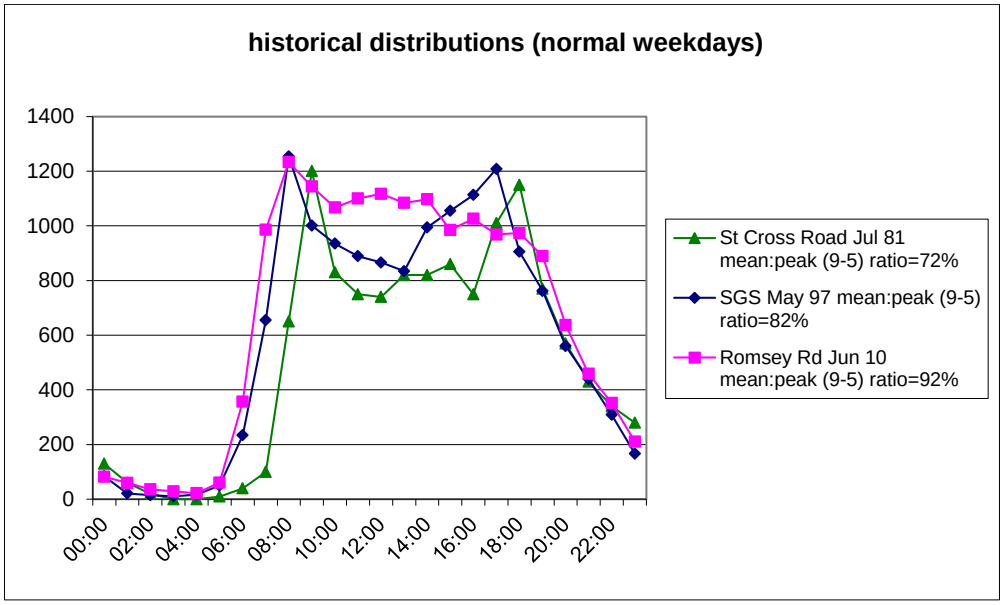
action that should be taken. There is little enough prospect of decarbonising the power industry for its current demands without burdening it with the expectation of providing sustainable electricity for private transport.

[13] We are not suggesting Winchester should be car-free, merely pointing out that car-free towns can function perfectly well.

[14] The current subsidisation of road freight is such as to cause significant distortion of distribution patterns.

more than a single cycle of traffic lights before getting through.[15] Peak periods can run from half an hour to two hours on the average weekday.

This is normal and unremarkable. What is noteworthy, however, is how close to capacity the network is now between peaks.



Older data is hard to come by but the graph above shows some daily traffic distributions over the last 30 years. In 1981 on a radial route there is a strong rush-hour peaking pattern to the daily traffic (mean:peak ratio 07:00-19:00 = 0.67). In 1997 on St George's Street the peaking effect is somewhat less (mean:peak ratio 07:00-19:00 = 0.76). And in Romsey Road in 2010 the graph is decidedly less peaky (mean:peak ratio 07:00-19:00 = 0.88).

Since the peaks correspond to significant congestion then total access of cars to the centre of Winchester is saturated at those points. The plateauing of the distributions in recent times signifies that Winchester is close to saturation for car access throughout the shopping and employment day. If there were more car parking to be had the network would not permit access to it.

If the Silver Hill ambition is to attract more visitors coming by car to the centre of Winchester (rather than expecting to divert trade from existing central shops) then the present transport system is unlikely to deliver it. If the Barton Farm development is expected to provide a greater catchment for activity in the centre of Winchester then such expectations may be disappointed if a significant number come by car. Car-borne domination of access will become unsustainable.

Social Exclusion

A clear consequence of the above would be that the saturation of the network would not simply limit the ability of additional car access but would also limit further access by road-based public transport. Furthermore, though it does not absolutely prevent additional cycle

[15] DfT definition of 'at capacity' junctions: *' Major/minor junction flows, some of which are intermittent turning movements, are considered to be at "Capacity" when there is continuous queuing feeding a particular turning movement.'*

access (since there are ways through the network that car drivers cannot use), it must have a deterrent effect simply by making the experience of cyclists on the network more unpleasant.

Thus when a dominantly car-based access system fails, part of the burden of its failure is borne by non-car-users. The unfairness of a system that burdens those who cannot benefit from it with the consequences of its failure, is an example of social exclusion.

But even in the uncongested state, a car-dominated network is an engine of social exclusion. If more services and facilities move to places suited to car access (e.g. out-of-town and edge-of-town retail) they tend to become less accessible to those without cars. This is especially true for rural village dwellers, who lose their local shops.

Bus services lose custom to car journeys and enter a vicious circle of decline – less patronage, higher fares or fewer services, even less patronage and so on. Road traffic impedes bus services and reduces their efficiency. Little of the subsidy[16] that motorists enjoy is available to the non-motorist and what subsidy there is has been steadily eroded as Recession continues. Those without cars have less ready access to their basic requirements than their predecessors had 60 years ago. A car-dominated transport system is unfair and regressive.

Inefficiency

Above all the present way of doing things is inefficient. If we were setting out from scratch with the built structure of Winchester and we were asked to design a transport system to serve it, the present system would not even be imagined. Designers of Olympic Parks or Disney World would never consider filling the majority of their concourses with bulky vehicles each carrying one or two people and confining the rest of their visitors to narrow walkways. As a system design it is absurd.

People would be expected in such places to walk or, if concourses were of great extent, some kind of bulk transport would naturally be conceived – buses, trams, trains. Efficiency of movement would be one of the prime criteria that a systems design would be expected to meet. The 2012 Olympics discouraged car access and provided a public transport system that worked – it increased access enormously.

The Received Wisdom

Considering that car domination of Winchester has so many demonstrable problems we have to ask why we do not do something different. Part of the answer is undoubtedly force of habit - we have gone down a route that started easy and we made small adjustments here and there which seemed to make travelling along that route a little easier (some extra car parking every now and then, quite a lot of demolition of houses to make bigger roads, some one-way systems to try and increase capacity etc.).

[16] There have been several studies of cost externalisation (most notably the Blueprint studies; e.g. Blueprint 5 The True Costs of Road Transport ; Pearce et al 1996 Earthscan Publications), all of which have shown a significant level of subsidy for both private motoring and road freight. Blueprint estimates the degree of externalisation of costs on society in general as between 2 and 3 times the total taxation on vehicles and fuel. The estimates of externalised pollution costs were largely made before the current level of concern about carbon emissions.

The problem is that this route has taken us to a *cul-de-sac* far away from what we know could be a more efficient system. Reinforcing an initial mistake by a continual process of well-meaning *'improvements'* is an example of the Fallacy of Composition – the sum of the individual benefits may be a disbenefit.

A second part of the answer is more beguiling and more difficult to counteract. It is the belief that necessarily the use of cars must be beneficial to a local economy. There may be two explanations for this. Firstly the undoubted correlation between growth of car ownership and growth of the economy can readily be mistaken to signify that the first is the cause of the second rather than the other way round. Secondly there may be a perception lingering from a past where car ownership was an indicator of wealth and the world of trade, always seeking to attract wealth, would be inclined towards attracting car trips.

Even if those who press for further facilitation of motoring demand were persuaded by evidence that towns less dominated by traffic can have healthier economies than ours, there would remain the fear that changing our course now would be hazardous.

Parking Mythology

Nevertheless such research as there is does not support the idea that cheap and convenient car parking is essential to economic welfare. A report (2013) *'Re-Think! Parking on the High Street: Guidance on Parking Provision in Town and City Centres'* by, amongst others, the *Association of Town & City Management* and the *British Parking Association*[17], states:

> *"Parking is not a universal panacea and free parking certainly is not. There is evidence that suggests towns and cities can thrive in cases where parking has been significantly reduced. Parking carries an opportunity cost for other uses such as leisure, business and residential. Yet, the car cannot transport the same quantity of people as public alternatives."*

Another literature review report (2012), *'The Relevance Of Parking In The Success Of Urban Centres: A Review For London Councils'*, stated:

- *There is no such thing as 'free' parking. The costs of developing and maintaining parking spaces and then enforcing proper use to ensure good traffic flow have to be borne by somebody. In the case of local authority operated parking (on street or off street) any costs that are not covered by parking revenue falls to local Council Tax payers.*
- *Shopkeepers consistently overestimate the share of their customers coming by car. In some cases, this is by a factor of as much as 400%. In London, as well as other cities, the share of those accessing urban centres on foot or by public transport is much greater. Walking is the most important mode for accessing local town centres; public transport is the most important mode for travel to international centres, such as Oxford Street.*
- *Car drivers spend more on a single trip; walkers and bus users spend more over a week or a month. In 2011, in London town centres, walkers spent £147 more per month than those travelling by car.*

[17] Hardly organisations one would expect to promote radical transport policy.

- *A good mix of shops and services and a quality environment are some of the most important factors in attracting visitors to town centres. If both these are poor, then changes to parking or accessibility are very unlikely to make a town centre more attractive.*

Indignation over car park charges does appear to be a common phenomenon and generates a fear amongst shopkeepers that severe behavioural changes will occur if radical price changes are imposed. But even a campaigning motoring organisation, the RAC, does not attempt to substantiate either the indignation or the fear. In its report (2012), *'Spaced Out – Perspectives on parking policy'* it finds:

> *Nevertheless, the evidence produced in this report shows that personal expenditure on parking is actually very low. Total local authority revenue from parking in England works out at about £60 per year per vehicle, and includes penalties – which represent about half of the total revenue. By contrast, the amount spent on fuel alone is about £1600 per vehicle …… Thus despite the outcry in the local press which has often accompanied the introduction of residents' parking charges, or changes in fees for local authority car parks, the average parking costs cannot be considered significant. Perhaps this is the reason why parking is rarely cited as an issue affecting travel choice in surveys of travel difficulties.*

Vision

We can envisage a Winchester where the overarching priority for public and open spaces is that they should be for the benefit of people and not motor vehicles. Not surprisingly, this is more radical than the recently updated Vision for Winchester Town 2010-2020, adopted by Winchester's Town Forum. Although it proposes 20mph speed limits, travel plans, better walking and cycling routes and improving air quality, it gives too much emphasis to car parking provision and access to the city by car, to be compatible with our aspirations. However there are policies in the Local Plan Part 1, which are more supportive of a more radical approach to reducing the dominance of cars for travelling into Winchester.

There is no contradiction between this vision and economic well-being. The economic activity that would characterise a town with this kind of ambience[18] might well be different from that pertaining at the moment but a good environment attracts people who value it and there is no reason to suppose that their spending power would be less than those who do not.

Indeed the proposals for the Winchester economy in Local Plan Part 1, adopted by Winchester City Council in 2013, are dependent on a high quality environment which attracts people. This includes tourism (*'the visitor economy'* as it is described), and *'knowledge-based'* industries like higher education, creative and media industries. So this is an added reason for improving the ambience by reducing the number of cars in the centre of Winchester.'

Such an environment would facilitate access by healthy modes of cycling and walking. Public transport, unencumbered by other motor traffic, could provide an efficiency of access

[18] The Slow City movement would make similar arguments for prosperous, liveable towns.

far greater than at present[19]. The economics of public transport would be much healthier – the vicious circle of decline would be made virtuous – patronage increasing, fares decreasing, service improving, patronage increasing ….

The wasteful use of land for car parks would be avoided and such land could be made available for more socially useful purposes.

From Here to There

Incrementalism

The fear of change that prevents us from doing anything seemingly risky is certainly a barrier to overcome. If we are to alter our transport system radically we should strive to do it incrementally and experimentally. There are difficulties with this.

Incremental change of transport suggests that we gradually deter centre-bound private transport at the same time as providing alternative public transport. The simple mechanism of change would be that of moving subsidy from car parking to support of the alternatives. Increased car parking charges can be used to fund improved bus services. Existing over-supply of car parking[20] also means that capital value can be released from some land which could be invested to provide running support for public transport.

A problem with this is that incremental application of traffic deterrent produces an incremental revenue which, when spread generally over all existing bus services, may be seen to do little in the way of providing visible alternative. Minor improvements to lots of bus services, for example, would not be as noticeable as the disappearance of a city centre car park. We address this under *'Focused investment'* below.

Another problem of incremental change is that incremental reduction of centre-bound traffic will tend to provide more road capacity for cross-town traffic and would probably release suppressed traffic. In the long run, where the centre of town would be street-shared, the very presence of people in the road space would increase cross-town journey times and hence deter growth in such traffic. In the short term, however, it might be necessary to physically limit the ability to cross town through the centre. Schemes for forcing motor access and egress by the same radial are one way of tackling this problem.

Not all problems need to be solved urgently

A common objection to radical action is that there is a rurally distributed catchment for Winchester of people for whom public transport access will always be unavailable. Hard cases make bad law. It is only necessary to address the transport modes required for the bulk of those seeking access.

[19] A bus occupies the road space of two cars and without need for central parking space. The car will on average carry fewer than 2 people. Where bus transport is well-used, average occupancies can be as high as 15 people.

[20] WCC has recognised a need to remove 500 spaces from the City centre, though in terms of specific plans it only proposes the removal of 52 places and, with the Silver Hill plans this actually equates to an overall increase in parking. WCC has also in the past undertaken to the Highways Agency a total removal of 1855 spaces, but has only removed 67. The average peak weekday occupancy of Winchester's central car parks signifies that almost 400 spaces could be removed before there would be any measurable change in car traffic accessing them.

Focused Change

A sensible incremental approach would be to match sticks (car park charges and availability) to carrots (good public transport service) for a specific area of catchment and to concentrate on the largest problem first.

In the Appendix it is shown that the bulk of the catchment for Winchester is likely to be to the south; it is concentrated and is reasonably threaded by existing public transport routes that serve Winchester. Assuming that car park charges could be increased or that the capital value of some central car parks (including that significant capacity mostly unused) be realised investment money becomes available to improve public transport to that catchment which has the greatest potential for modal shift.

Those living in other areas of Winchester's catchment, and who would not benefit from this focused bus support, could be allowed discounts on their parking, e.g. by means of swipe card access to car parks with the card registered to an allowed address.

Once the modal transition is made for one section of the catchment the bus services there will be on a virtuous circle of increased patronage and increased viability, i.e. there will be less need of continuing subsidy. Subsidy can then be focused on another area of catchment.

As car parking demand reduces, the revenue from charges available for bus support will decline, but car parks will then increasingly become disposable assets, earnings on which can be used for further support. As the central public car parks become less used, the private non-residential car parking will be contributing more to the generation of access trips (though there are not a large number of such parking places in the centre and they are likely to have a much smaller turnover than public car parks). These trips can be deterred and moreover the car parking can be a source of revenue. For the last two years the City of Nottingham has been running a workplace parking levy to support its public transport[21].

WinACC Transport Action Group

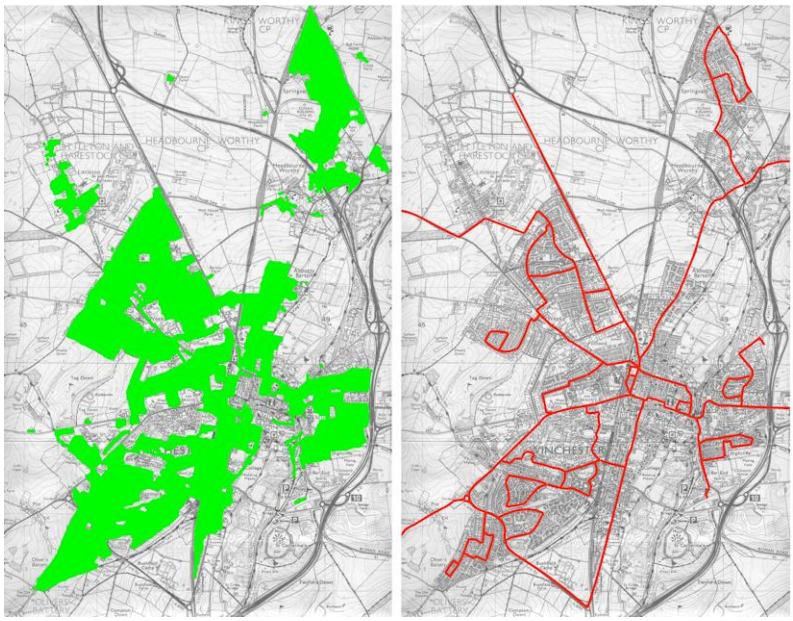
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[21] See http://www.nottinghamcity.gov.uk/index.aspx?articleid=905

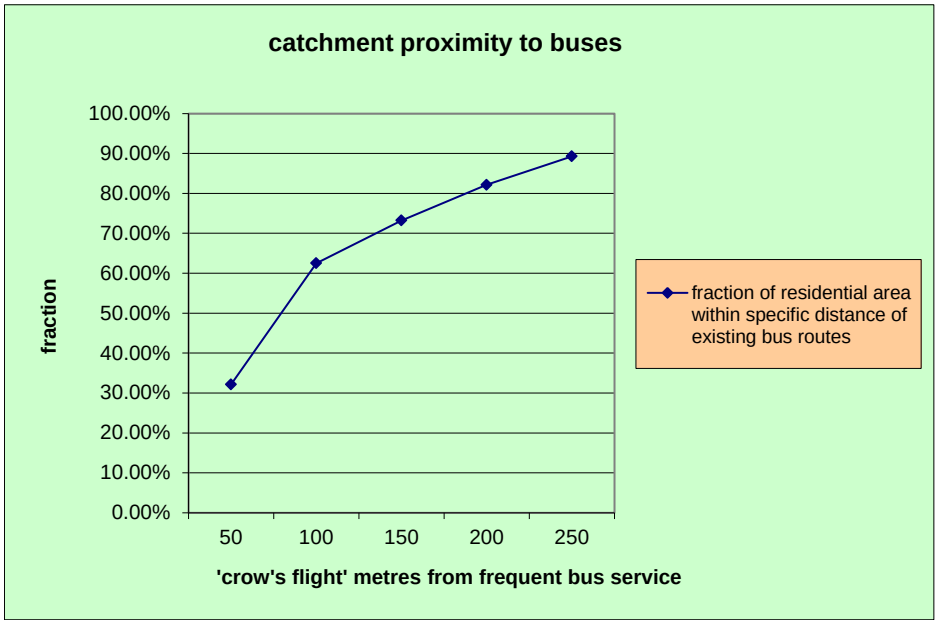
Appendix

Catchments and Public Transport

We could map the main residential areas of Winchester and compare them with existing (1hr or better frequency) bus routes. Such an exercise is susceptible to changes in bus services and in recent years County Council support for bus services has decreased. The following exercise was carried out with the bus services pertaining in 2006 and should be regarded as illustrative of what coverage could be obtained from a typical distribution of bus services:

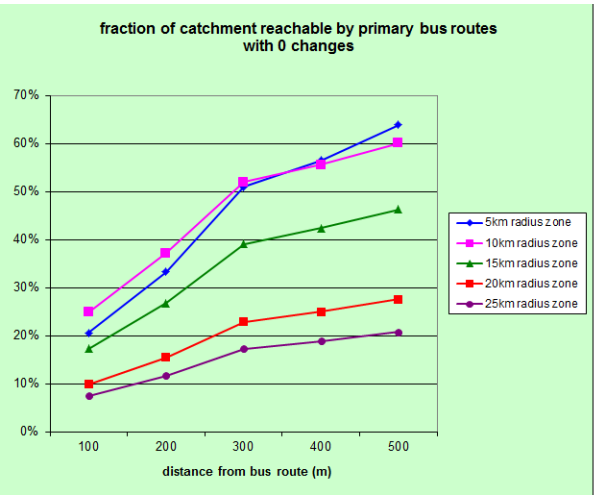


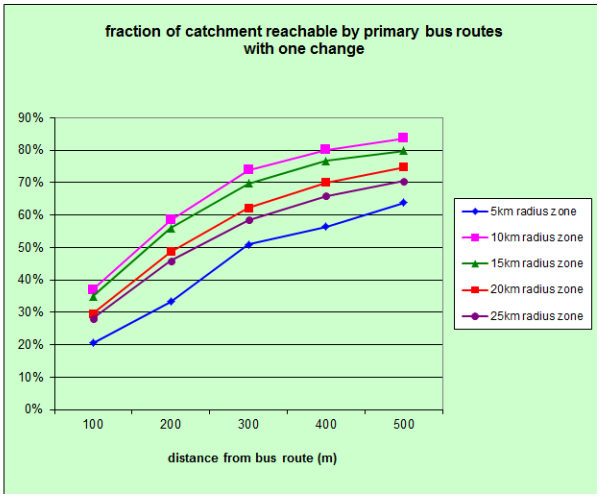
From this one can compute the 'crow's flight' distance from a residential location to an existing bus route:



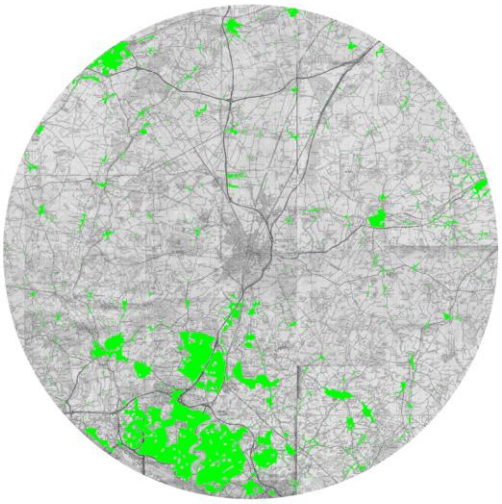
This suggests that 90% of the residential population (assuming uniform population density in the mapped areas) of Winchester is within 250 metres (crow's flight) of a bus service.

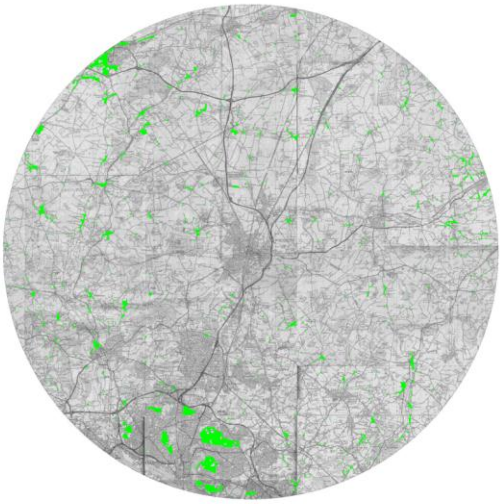
A similar exercise can be carried out with the wider catchment of Winchester, comparing residential area maps with existing bus routes (both those accessing Winchester directly and those intersecting such routes):





One can compute 'crow's flight' distances to bus routes that access Winchester or other bus routes that intersect such routes:





On the simple criterion of geographical areas of residential population, the main potential for catchment in Winchester lies to the south and its concentration with respect to existing bus routes and railway is apparent. In the figure the residential area on the right is that part which is not within 500 metres of a bus or train journey to Winchester, involving 0 or 1 change. The remaining, large part of the southern population seems reachable if existing services were made more attractive. Public transport resources aimed at this area would be likely to be most effective at bringing about modal shift.