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CREATING A HIGH QUALITY TRANSPORT SYSTEM
The case for a Cambridge congestion charge

INTRODUCTION

Greater Cambridge needs a good transport system now and for the long term. Improvements to infrastructure will be needed, but as local transport officers and other experts have acknowledged, they will not by themselves resolve the transport problem: they will encourage some, but not enough, people to switch away from the private car; they will improve conditions for buses, but they will not produce a high quality bus service.

Alongside infrastructure improvements, the City Deal needs to deliver two related solutions:

- A significant reduction in congestion through induced modal shift, and
- The creation of a comprehensive, affordable, quick and reliable bus service that enables people to choose public transport instead of the car

The Call for Evidence is focused on the first of these issues, but does not address the latter. Below I will argue that congestion charging is the best, indeed the only, option capable of solving both of these problems effectively and fairly.

Public acceptability is an essential factor in deciding public policy and there is a good deal of evidence that the public is willing to support congestion charging in some circumstances. I will comment on this issue below.

ASSESSING THE OPTIONS

The City Deal will need to assess the various congestion-reduction concepts arising during the Call for Evidence process and I offer the following list of criteria against which these could be tested. I will then set out a brief comparative assessment, which for space reasons covers only some key issues.

Alongside congestion charging, I refer to the other identified options as Gating, Workplace Parking Levy (WPL), Parking Restrictions and Road Closures. I will not use space here to define these ideas as that can best be done by City Deal officers and other contributors, so my observations apply at the general level.

Assessment Criteria

a) Reduces traffic congestion
b) Contributes to an effective local transport system for individuals, businesses and other organisations
c) Is fair across demographic groups (eg socio-economic, urban-rural, age spectrum, health and physical ability)

d) Is effective and resilient over the long term
e) Offers good value for money to individuals and society
f) Contributes to the protection of the local and global environment
g) Makes no adverse impact on local authority revenue funding position
h) Is consistent with City Deal objectives

Assessment

a) **Reduces traffic congestion**
Congestion charging schemes elsewhere have demonstrated that, by inducing people to leave the car at home (or at a Park & Ride), they have the power to reduce congestion significantly. In Stockholm, the scheme introduced in 2006 reduced traffic levels by 20%[1] and has since maintained that reduction. In London, traffic levels in 2013 were an estimated 10% lower from 2002 baseline conditions[2]. In Cambridgeshire, a detailed scheme designed in 2008 for the Transport Innovation Fund (TIF)[3] predicted a 10% reduction from a charge of £4 per day.

Other concepts:
Gating, whose alternative name is 'queue relocation', by definition shifts congestion to new locations, rather than reducing it overall. Likewise, parking restrictions and road closures will reduce traffic levels in the affected zones, but unless these schemes cover the entire urban area, may cause displacement to other currently uncongested zones. WPL appears to have little impact on congestion. The UK's only WPL scheme in Nottingham has reduced traffic levels by only 2.5%, which presumably reflects the fact that employers are willing to bear the cost rather than pass it onto employees.

b) Contributes to an effective local transport system
The potential for congestion charging to act as a balanced measure, as both 'stick' and 'carrot', makes it highly effective in creating a good transport system. The stick (the charge levied on driver) leads to reduced congestion and thus to quicker, more reliable journeys for people who choose to pay the charge. The carrot is the opportunity to access a high quality public transport alternative, supported by income generated by the charge. A transport system that offers these high quality choices (as well as good infrastructure) is what a good transport system looks like.

The London congestion charge was designed to be revenue neutral, though it achieves a modest budget surplus. In Cambridge, a scheme could be specifically designed to produce an income stream to fund a high quality subsidised bus service (and other popular measures eg road maintenance and traffic management improvements). The 2008 TIF scheme was designed to produce an income of around £30million per year; for a new scheme this model could be repeated or modified.

Other concepts:
Gating, parking restrictions and road closures all place controls and prohibitions on (some or all) drivers. None of them creates compensating opportunities in the form of good public transport. WPL in Nottingham is successfully raising funds which are being applied to public transport provision. However, the negligible improvement in congestion means that half of the transport problem remains unsolved.

c) Is fair to everyone
Fairness is extremely important. To be fair and regarded as fair, a Cambridge congestion charge must apply to everyone (other than the barest exceptions, perhaps the emergency services and blue badge holders) who drives within the charging zone. There are two other essential pre-conditions:

(i) the proceeds of the charge must be securely ring-fenced for spending on transport improvements

[1] https://www.ted.com/talks/jonas_eliasson_how_to_solve_traffic_jams?language=en
[2] https://en.wikipedia.org/wiki/London_congestion_charge
[3] City Deal officers have been requested to upload the TIF scheme documents to the City Deal website.

(ii) people must have the choice of avoiding the charge by switching to high quality public transport, cycling and walking provision or by changing their time of travel

Under these conditions, congestion charging will significantly improve fairness in transport, because its revenue can be used to provide the high quality public transport service that many people need. Some groups of people – those on low incomes, the elderly and the young, and people who are disabled or in poor health - are less likely to have access to a car and need good bus services to ensure they can access employment, services and a social life. In many cases, people on low incomes spend large proportions of their income on a car, or even two cars, because there is literally no alternative. There is nothing fair about that.

Drivers are the people who pay congestion charges, and the scheme can also be used to give motorists a sense that they are being treated fairly: devoting a share of the income to road maintenance provides safer and more convenient driving conditions and reduces the cost of wear and tear on tyres and damage to suspension systems. Statistics show that potholes and poor road surfaces cost drivers a lot of money. These benefits are, of course, over and above the quicker and more reliable journey times and saved fuel costs that result from reduced congestion.

Other concepts:

- Gating involves rationing access to road space for people entering the city. This principle is unfair because while these drivers spent time and money in queues, drivers inside the city can move freely about. Indeed city-based drivers will be incentivised to drive more because the penning in of outsiders' cars will reduce congestion on city roads.
- Parking restrictions in the form of controlled parking zones exist already in the more central areas of the city. The very difficult history of residents' parking in Cambridge suggests that extending them across most or all of the city would be seen as unfair by large numbers of city residents who do not have off-street parking and need to park on the public highway. The fact that many people working in the city would continue to have access to off-street parking at work would also be seen as unfair.
- Road closures have been implemented in the core area and some residential areas of the city after the most careful of processes. It is possible that there may be scope for more, but a major programme of closures sufficient to solve the congestion problem would create long and tortuous journeys and a displacement of traffic flows that would be highly disruptive to the communities of the city. City residents are likely to react strongly against such a regime, especially as they would have no way to avoid the controls.

d) Is effective and resilient over the long term

Congestion charging is by nature a flexible mechanism that can accommodate future transport needs and opportunities: the charging structure, level of charge and geographical scope can all be varied over time to maintain journey times and support for a high quality public transport network. There is even the possibility of borrowing against a share of the annual income to provide capital funds for infrastructure projects.

Other concepts:

No other concept presented to the Call for Evidence offers the long term resilience of a congestion charging scheme, though all of them could be gradually extended to increase their impact.

e) Offers good value for money to individuals and society

A key characteristic of a fund-raising congestion charge scheme is that it would widen travel choices and nudge, but not force people, towards making new choices. This is a strength because humans are highly adaptable good at making the most advantageous (overall) choices for themselves. The charging structure, hours of operation and other key features of a congestion charge must tune into

this tendency, to ensure that individuals and businesses are able to adapt to new conditions in a way that is affordable and appears to offer good value for money. Given the negative impact of time and money wasted in traffic jams and the constraints on life resulting from poor public transport, it will be possible to design such a scheme for the great majority of people.

Other concepts:
Parking restrictions are likely to produce costs for city residents who have to pay the cost of parking enforcement of residents parking schemes. Road closures can create long and tortuous journeys that cost more in time and fuel. WPL may be cost neutral to employees if their employers bear the cost, but the cost to businesses would be substantial. Indeed, WPL can be regarded as a tax on business, which seems undesirable and unjustifiable in the context of a city region seeking economic growth.

f) Contributes to the protection of the local and global environment

Any measures that reduce traffic movements and congestion will benefit the environment in terms of reduced air and noise pollution and reduced carbon emissions. Reducing local air pollution has value because at present some city streets regularly breach air quality regulations, an issue which must be addressed. Congestion charging clearly achieves benefits on both fronts, and a scheme could bear down even harder on that goal if it imposed lower charges on less polluting vehicles. This would complicate the scheme, but is an option for consideration.

Other concepts:
Gating might offer benefits to the urban environment if it created freer flowing traffic (though this effect would not occur if city-based vehicles filled the space left vacant by incoming ones). However, the creation of queues of traffic just outside the urban area will increase pollution in those locations and the road building required to accommodate the queues will damage the visual environment. In their effect on carbon emissions, gating and also WPL may be roughly neutral. Parking restrictions and road closures could damage the local environment in areas to which vehicles are displaced.

g) Makes no adverse impact on local authority revenue funding position

This criterion is important in the context of tight local authority budgets and the inability of the City Deal to fund 'revenue' costs. A congestion charging scheme that did not meet its own set up and running costs would therefore represent a prohibitive cost to the local authorities. It would be possible to design a scheme that, like the London charge, is intended to be roughly 'revenue neutral', but the advantages of a scheme that produces a surplus to fund bus services and services such as road maintenance are clear, as already described.

Other concepts:
Gating would require management and enforcement funding, but produces no income to pay these costs. Road closures would give rise to modest operational costs. Parking controls might meet their costs of operation if residents bear the cost of residents parking schemes and pay and display is provided, but there is no previous experience in Cambridge of whether a geographically widespread scheme could be viable. A WPL scheme would clearly be required and able to fund its own running costs.

h) Is consistent with City Deal objectives

The City Deal is focused on economic growth and the housing growth and skills development needed to support it. A congestion charge would contribute significantly to all three of these objectives. Businesses and other employers have the most to gain from reduced congestion because, for them,

time is money. Businesses bear direct costs if their own vehicles experience congestion (taxis, delivery vehicles and trades people are good examples, but there are many more), but they also bear indirect costs if congestion makes life costly and stressful for their employees. Improved travel options for employees (eg better public transport) are a significant benefit to businesses because they increase the size of the travel to work area (staff can travel to work from further afield), they increase the size of the labour pool (enables people without a car to access employment) and they enable employees to work more flexibly. The increase in size of travel to work area is very important in the Cambridge context – it means that building homes in towns, villages and new settlements beyond the protected green belt is a more sustainable option and therefore more acceptable in planning terms. This can help increase the rate of housing growth in the sub-region.

Other concepts:
WPL in Nottingham appears to act as a tax on business, which seems hardly consistent with the City Deal's objectives, although the public transport improvements it funds will be of benefits to employees. Gating, parking restrictions and road closures are all measures that control traffic without matching investment benefits and it seems fair to say that their contribution to City Deal objectives is limited.

PUBLIC ACCEPTABILITY

In my oral evidence to the Call for Evidence (see below, Appendix 1), I talked about how congestion charging would affect three ordinary local people. These case studies indicate that when people understand congestion charging and think about what it means for them, they understand that good transport creates a wide range of financial and non-financial benefits which they can tap into by using the system most advantageously for themselves.

I believe these real life stories are replicable many thousands of times amongst the people of Greater Cambridge. Different people will experience a different mix of costs and benefits, but overall there are significant advantages for our society and for all types of individuals.

It would appear that the people of Stockholm found that this pattern of overall benefit applied to them, because that city undertook a unique democratic experiment: six months after the introduction of a congestion charge, the scheme was suspended and, in a referendum, the people voted to reinstate it. They had a free choice and they chose the charge.

On a more theoretical basis, the people of Cambridgeshire have also had a chance to express a view about congestion charging and came to a similar conclusion. The TIF scheme public consultation indicated a remarkable 59% approval rating, provided the revenue was ring-fenced to provide an excellent range of alternative travel choices.

There is a considerable body of evidence about the public acceptability of congestion charging, including a report commissioned by the RAC Foundation in 2011[4]. If the City Deal decides to investigate congestion charging further, it may find the following considerations, adapted from that report, useful:

Factors affecting the public acceptability of congestion charging

a) **Recognition of problem**
There must be general recognition of a problem (such as congestion) that requires a solution, and

[4] http://www.racfoundation.org/assets/rac_foundation/content/downloadables/acceptability_of_road_pricing-walker-2011.pdf

that road pricing is capable of reducing that problem.

b) **Part of bigger plan**
Charging needs to be part of a coherent transport strategy, including better public transport, infrastructure improvements, parking management and green travel plans.

c) **Compensating factors**
Motorists need to feel that there are adequate compensatory factors, eg less time wasted, saving in fuel costs, safer and better maintained roads.

d) **Good travel alternatives**
Good quality travel alternatives must be available from the outset of the scheme, to facilitate choice and enable people to avoid the charge.

e) **Revenue used to improve transport**
All revenue should be used to improve the transport system, including public transport services and traffic management. The scheme's set-up costs should not be borne by motorists.

f) **Simplicity**
The scheme must be easy to understand, with excellent public information to enable people to make the best choices about their travel.

g) **Fairness**
The scheme must be fair to all demographic groups (eg socio-economic, urban-rural, age spectrum, health and physical ability) and to businesses and other organisations.

h) **Reliable technology**
The technology used must be reliable and offer minimum opportunity for evasion.

i) **Privacy**
Concerns over privacy and data protection must be addressed.

j) **Trusted responsible authority**
The local authority (or other lead organisation) must be trusted to deliver, manage and run the scheme.

Public consultation

The TIF scheme consultation was a thorough and statistically reliable exercise and something like it could be repeated. There is, however, potential to do something better. If people were able to use an interactive simulation, in the form of a computer "game", to assess the pros and cons of congestion charging for them, their family, business and community, they could be more confident of understanding the impacts and their conclusions would carry more weight.

Working in 2013 with a team of academics from the University of Cambridge and other relevant experts, I produced a outline document for such a project. In summary:

Transport Future is a participatory design project enabling citizens to investigate transport problems and solutions and to measure their personal costs and benefits from funding options including road pricing

This project could be revived.

CONCLUSION

Congestion charging is once again on the radar in Greater Cambridge and appears to be enjoying support from many quarters, including the business community. This is not surprising: after a hiatus in traffic growth in Cambridge, congestion is on the rise and people want something done about it. They are also experiencing the loss of public transport subsidy (as a result of shrinking county council budgets) and at the same time are facing up to the fact of future population and economic growth.

There is a perfect storm brewing as regards transport in Cambridge. The City Deal infrastructure programme will make a vital contribution, but it will not alone solve the problem and will not give Greater Cambridge the high quality, future-proofed transport system that it desperately needs.

Congestion charging, applied effectively and fairly, is the best, indeed the only, solution to the problem, and it offers Greater Cambridge the opportunity to enjoy one of the best local transport systems in the world.

Appendix 1

City Deal Call for Evidence

Oral evidence of **Nichola Harrison**

I am a former city and county councillor with a longstanding interest in local transport. In 2011, I undertook a project to explore how congestion charging would affect ordinary people and businesses.

What I found out made me determined to try to bust the myth that road pricing is a punitive, unfair and damaging tax on individuals and businesses.

In my few minutes I will tell you about 3 of the people I talked to at that time, and I hope their stories will leave you agreeing that a congestion charge for Cambridge is an opportunity not a threat - a potentially popular opportunity for our whole community to make an investment in better transport and in our economy and society.

Before that, I just want to say that I believe a congestion charge must and can apply to people living in the city and outside it, it must and can be fair to people of all incomes and ages and in all states of health, and it must and can help businesses operate more efficiently and help our economy to grow.

So first let's talk about Mark. Mark is a self-employed builder. He lives in Barton and for about 80% of his work he needs to drive his van into and around Cambridge. He says that his business is being held back: traffic congestion reduces his working hours and his suppliers and sub-contractors suffer from the same problem. He reckons he wastes at least an hour every day, sometimes much more, plus wasted fuel. He says that paying a daily £5 charge in return for less congested roads would be a no-brainer. He would like to see some money from the charge spent on road maintenance, because that would reduce wear and tear on his van.

Mark has another transport problem. His teenage children want to get into Cambridge in the evenings and at weekends, but poor bus services mean that he and his wife have to drive them in and pick them up later. Mark says that if the congestion charge produced better and cheaper bus services, he would save time, hassle and money, and the kids would have more independence.

Mark and I tried to estimate the financial impacts of a congestion charge for him and concluded that he would save around £100 per week after his payment of £25 in charges.

Next, meet Cat. Cat is a single mother living in Cottenham. In the morning she drives her young son to a local child-minder before setting off to her job in central Cambridge. To get there she drives in congested traffic to a street off Histon Road, where she parks because parking in central Cambridge is too expensive. From there, she walks or gets the bus, depending on the weather. She says the bus service is unreliable and slow.

Cat says that she would get rid of her car if she could live in Cambridge, but she can't afford a house there. She says her difficult commute means that she has to work shorter hours than she would like, and has to pay for more hours with the child-minder. It also cuts down the time she has with her son, and that worries her.

Cat and I looked at how a congestion charge would affect her. We reckoned that if she continued to drive into the city, paying £20 in charges over her 4 day week, she would break even financially because of reduced child-minding costs, plus she would have 30 minutes more with her son each day. Cat thought that was a good deal for her, but she would also consider leaving the car at home and using a good bus service, in which case she might be £10 per week better off . Interestingly, she thought that having a better journey to work would encourage her to work longer hours sometimes, increasing her earned income.

Cat also pointed out that other people she knows, like her elderly neighbour, desperately need better bus services.

The third person I want to introduce you to is Sean, who is 18 and lives with his mother in Cambourne. After leaving school at 16 he has been mainly unemployed. He recently completed a Prince's Trust course at Cambridge Regional College and has landed an offer of work experience and a possible job at a city centre restaurant. But Sean hasn't been able to start work because he can't get home: there's no bus at that time, and Sean and his mother have no car. He is willing to try cycling, but his mother feels it's too dangerous at that time of night.

Of course, it's easy for Sean to see, and it's easy for us to see that he would be a major beneficiary of a congestion charge whose funds are used to provide better bus services. And the thing about Sean is that he's in very good company because amongst the poorest quarter of people in the UK, more than 40% have no access to a car.

So there are 3 stories of real people and I could give you many more. In a way I find them heart breaking because they are about wasted time and money and lost opportunities, because we have a bad transport system that doesn't meet people's needs.

But in another way I think they are grounds for huge optimism, because they help demonstrate not only that congestion charging can improve the transport system, but also that once people understand how a charge would affect them, they see that it could be very positive for them, their business, their family and their community.

In fact this shouldn't really surprise us. There is plenty of evidence to show that congestion charging can be acceptable to the public -

- Stockholm's referendum in favour
- the extraordinary result of the 2008 public consultation here in Cambridgeshire showing 59% acceptance for a congestion charge if it would provide high quality public transport.

People aren't stupid. We can all see that if paying out money saves us money, that's good for us, not a punishment.

So to conclude I would say: yes, it’s marvellous that the City Deal is going to provide lots of new infrastructure - but to make that investment pay off, we’ve got to improve our overall transport system, and that means tackling two severe problems - traffic congestion and poor bus services.

A congestion charge could achieve that and the City Deal has the powers to deliver it. I very much hope that will be the outcome.