

Value for Money Assessment of Nottingham Workplace Parking Levy

Summary

1. The Nottingham Workplace Parking Levy will introduce a £306 (2008 prices) parking levy for each liable space that a business owns. The revenues from the schemes will primarily be used to fund Nottingham City Council's contribution to the extension of the tram in Nottingham (NET2). The income will also be used to contribute to other schemes such as the Nottingham Hub and the Link Buses.
2. The impact of the Levy will depend on the extent to which it is passed on by the employer to employee, the number of spaces the employer chooses to cut and how employees will react to the price of the levy or cuts in the parking provision. The wider impact on the economy of Nottingham will depend upon how businesses react to the increase in costs from the levy and the benefits of the overall transport package that the levy funds.
3. Key points from our assessment of the scheme are;

The planned revenue and overall scheme costs look reasonable. The scheme is expected to generate a financial surplus of £91.7 million (financial net present value, NPV) over 22 years. This falls to £84.5 million if the scheme (costs and revenue) started two years later with 2012 levy prices. The financial revenues have been tested against a range of sensitivities all of which, including a two year delay, leave the financial NPV above £80 million. There would need to be a reduction of 31% of the total eligible parking spaces – more than 11,000 parking spaces – before the Council would be unable to meet its contribution to NET2 from the WPL (this is assuming that 10% of levies would still be uncollectable).

The decongestion impact of the WPL is expected to be small but positive. The impact will depend on the number of car-driving employees who shift to other forms of transport as a result of the levy being passed on or workplace travel plans associated with the levy.

The financial burden of the levy will be met by employers and employees. However, the levy is estimated by the DfT to be less than 1.5% of salary costs for an employee commuting by car. This proportion is lower when all labour costs are taken into account (pensions, NI contributions etc) and lower still when it is considered as part of the overall costs of the firm. With fewer than half of Nottingham employees travelling to work by car, the levy is likely to be less than 0.4% of total costs to an average firm. Therefore, it is not expected to have a significant impact on activity or location decisions.

The administrative burden of the levy is also expected to be small. The Council estimates that the smallest businesses (those with fewer than

Firms with 10 or fewer parking spaces will be eligible for a 100% discount on the annual WPL charge , so most small businesses will be unaffected by the cost of the levy (although they will still have administrative costs). Overall, only 15% of businesses in Nottingham will be paying the levy, and they will have the option of reducing the number of parking spaces they provide.

The Council has provided a theoretical Value for Money (VfM) analysis of the WPL in isolation (using a model designed for the package as a whole), with a positive NPV of £28 million. In general, revenue-generating proposals, such as business rates and council parking, are not usually expected to offer a positive VfM as there are costs to raising public funds. Therefore the fact there is a small positive NPV suggests that the WPL is fairly efficient method of raising funds.

More significantly the WPL is a key funding element within the Council's local transport package, with NET2 tram extension and the Hub and Link buses. The BCR of the package is estimated to be 2.67, which is high value for money. Without the WPL, the package, and particularly the new tram is unlikely to proceed as planned.

The business community will benefit as a whole from the wider package. It is forecast to receive net benefits of £358 million (2002 prices and values) over the 60 year life of NET2 even after the costs of WPL are taken into account. These benefits mainly arise from the decongestion impacts of the tram.

These benefits will not be spread evenly among the business community and it may be the case that in some instances these will be insufficient to offset the increased costs introduced by the WPL scheme. However, even if some businesses get no benefit from enhanced public transports the costs of the levy will be fairly small (see above).

Section A. Introduction

1. The Nottingham Workplace Parking Levy (WPL) is a proposed £306 (2008 prices) levy which would be applied to all car parking spaces that businesses provide for commuting purposes. The net revenues from this scheme will be used to fund public transport improvements in the City.
2. This paper reviews the evidence which Nottingham City Council have used to justify the WPL proposals. The primary objectives of this review are to:

make an assessment of the value for money of the WPL scheme and the package it is intended to fund;

set out the likely impacts on the main groups affected by the WPL (employers and employees) and the economy of Nottingham; and

comment on the robustness of the assumptions underpinning the financial forecasts.

3. This paper is organised as follows:

Section B outlines the key features of the WPL and discusses how employers and employees are likely to react. The key assumptions here are the proportion of employers that are likely to pass the levy onto their employees, and the reaction of employees to these charges.

Section C discusses the impact of the imposition of the WPL *in isolation*. The impact on local authorities, businesses and employees are all considered. The longer-term impacts on the economy of Nottingham are also discussed.

Section D discusses the impact of the imposition of the WPL as *part of a package* of transport schemes in Nottingham.

Section E discusses alternative revenue generating schemes that were considered by Nottingham but rejected in favour of the WPL.

4. This assessment has been based on information published by Nottingham City Council and their response to additional requests made by DfT. This has been supplemented by information contained within the NET2 business case (awarded Programme Entry by DfT in 2006), a literature review on the impact of parking policies, and analysis by ERLT.
5. This will be the first WPL scheme in England if it is implemented. Inevitably, this increases the uncertainty about some of the key assumptions. As a result we have been conscious to consider the sensitivity of this assessment to changes in the key assumptions.

Section B. Scheme Description and Impact

Scheme Description

6. The WPL will be applied to every liable space at Nottingham City workplaces. The liability criteria are applicable to all firms/spaces with the exception of emergency service vehicle parking, disabled parking, and spaces at firms with 10 spaces or less.
7. The levy that is applied will be increased, in real terms, over the first 5 years of the operation of the scheme. The initial price will be £185 (2008 prices) per space going up to £306 (2008 prices) per space by 2015. After this, the real price of the levy will be maintained, with only RPI increases applied to the levy to reflect general price inflation. It is anticipated that the levy will continue to be collected until at least 2030.
8. Compliance will be monitored and enforced by city council officers visiting various sites over a year to check the number of parking spaces being used for employees.

Scheme Impacts

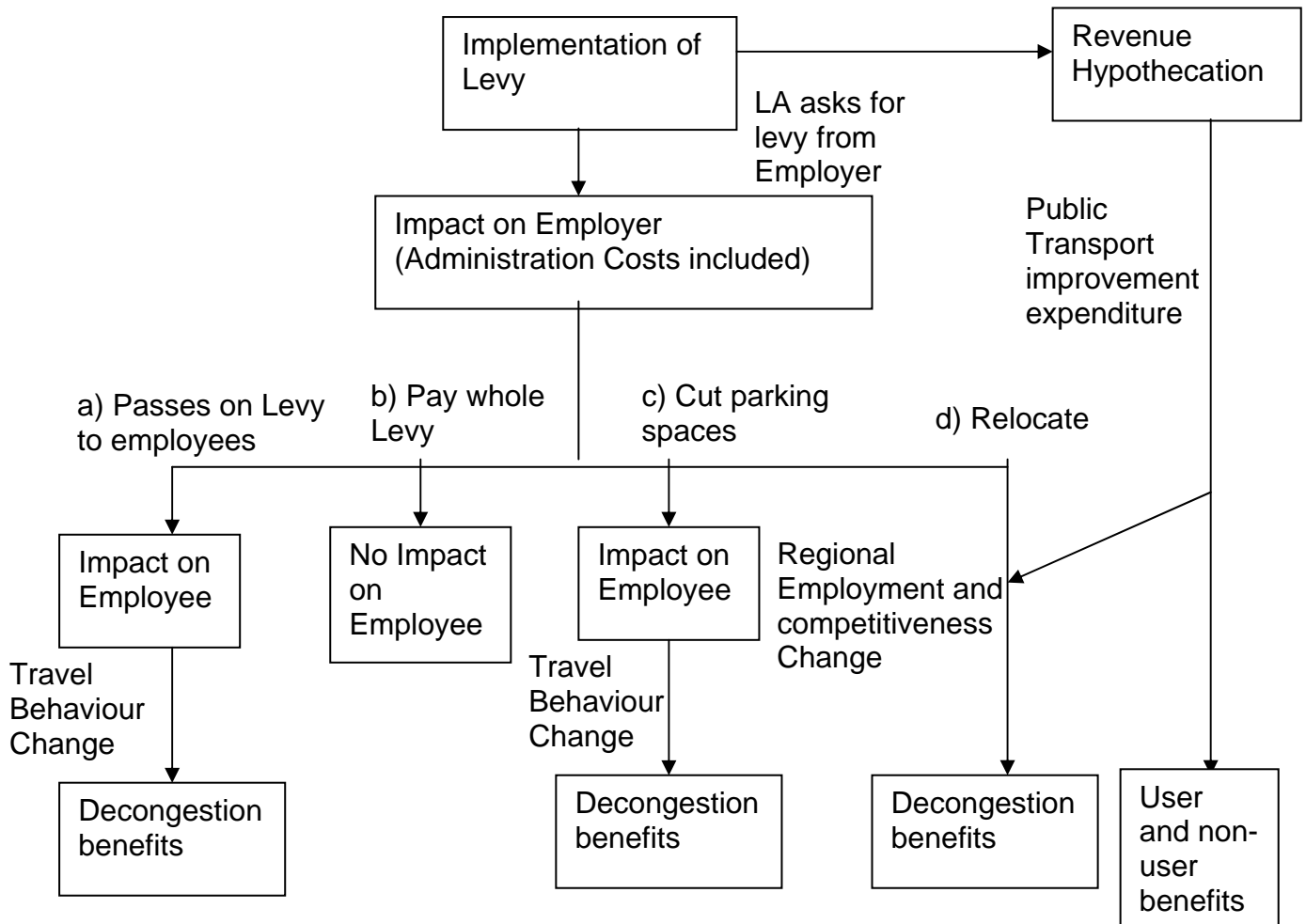
9. The impact of the WPL will depend on decisions made by employers and employees in response to the introduction of the levy. The overall impact of the WPL is best described in a flow diagram (below) because it will depend on the actions and decisions of a number of groups.

Employer Response

10. The first-round impact of the WPL is an increase in costs to employers. These additional costs comprise of the levy itself and the administrative costs of levy application and compliance. We would expect the levy and administration costs to be treated in different ways by businesses:

The total levy fee paid by a business will vary in direct proportion to the number of car parking spaces provided. The number of car parking spaces provided will, in turn, be heavily influenced by the number of employees. Businesses can take action to reduce the total levy fee paid by reducing the number of parking spaces but the extent to which this can be achieved will depend on how employees view any inconvenience associated with fewer spaces.

The cost of levy administration is effectively fixed for employers i.e. it doesn't change if an employer makes fairly modest changes to the number of liable spaces. We would expect larger employers to have higher administration costs, but we would not expect these costs to affect a businesses decision to hire an additional worker.



11. As set out in the flow chart above, the employer can take one of four actions (or a combination of these) in response to the levy:

- a) Pass the costs on to employees;
- b) Absorb the costs themselves but maintain the same number of parking spaces;
- c) Absorb the costs but reduce the number of spaces; and/or
- d) Relocate to a location outside the area covered by the WPL¹.

12. Nottingham City Council has assumed that 50% of businesses would pass on the levy fee onto employees. The basis of this assumption is a survey response from businesses in the Economic Impact Report which was carried out by PwC in 2005.

13. The assumption about this “pass-on” rate is the biggest single unknown about the impact of the WPL. However, there is some evidence to

¹ Employers may also choose to reduce the number of people employed on sites within the city. The extent to which this occurs will be influenced by similar consideration as a relocation decision.

suggest that the assumption made by Nottingham City Council is high. In a previous study in Scotland², only 8% of businesses reported that they would pass on the levy. Charging employees for use of a parking space would also create additional administrative costs (e.g. collecting charges from payroll) and have additional tax complications which businesses might seek to avoid. Employers may also find it difficult to impose a charge for a service (free car parking) which many employees would consider a right.

14. The impact on the number of employees who choose to drive to work (discussed below) will be sensitive to how the employer passes on these costs. If the employee is charged for use of the parking space then they will have an incentive to change their behaviour.

15. Businesses may choose to relocate outside of Nottingham (option d) as a result of the imposition of the WPL. This may occur for two reasons:

Costs of operating in Nottingham have become too high; and/or

Fewer potential employees are willing to work in Nottingham if they have to pay for parking or accept lower wages for working in the City.

16. We have reviewed the size of the levy and estimated that this is typically likely to be less than 0.4% of total costs for firms operating in the city (although this will vary by firm):

For an average salary of £20,680³ in Nottingham City, a £306 parking levy represents less than 1.5% of average salary costs to an employee commuting by car (and less than half of employees in Nottingham travel to work by car).

This, however, would be lower when all labour costs are taken into account (pensions, NIC contributions etc.) and lower still when it is considered as part of the overall costs of the firm. With the average share of business expenditure on labour costs being less than 50% of total expenditure (and more specifically, less than 20% in the manufacturing industry: Eurostat 2004), the total payment of the levy will be less than 0.4% of total expenditure to an average firm. However, labour costs as a percentage of total costs will vary according to the industry that the firm is in.

Not all employers or all employees travelling to work by car will pay the levy, where the business has less than ten spaces.

Some employers will pass the costs onto employees.

² Wang T, Sharples J, TRL Report 399, WPL, 1999

³ ASHE 2008, ONS

17. The likelihood of employers leaving Nottingham as a result of the WPL has been assessed by Nottingham City Council in the Economic Impacts Report (EIR). The EIR reports that 60% of businesses would at least consider moving away from the city area if the levy was imposed. There are two key issues when interpreting this result:
- a. The questionnaire may have led to answers that were influenced by the potential outcomes of the survey. The report mentions a potential for policy bias in the answers but also states that the questions asked were designed to find balanced facts and perceptions from the respondents.
 - b. The impact of the levy is considered in isolation. The benefits of the schemes funded by the levy have not been factored into the initial responses on the likelihood of passing on the levy.
18. This estimate is higher than reported in an academic paper by Wang and Sharples (1999). They estimated through a survey that 35% of businesses may relocate as a result of the implementation of a WPL in Scotland. As with the survey in the EIR, the interpretation of this result needs to consider the potential for response bias and the lack of consideration given to other aspects of the package.
19. As discussed in section D, the extent to which businesses decide to leave the City as a result of the WPL will depend on both the levy itself and the benefits that businesses get from the investment in public transport. This is consistent with research by Gerrard, Still and Jopson (2001)⁴. They found that businesses of Cambridge, York and Norwich (as part of a business survey) did not necessarily view WPL in isolation but as part of a package. As a result, failure to achieve the benefits of the wider package would be a reason for relocation, rather than just the WPL.
20. Through the assumptions laid out in the business case, it is estimated by Nottingham City Council that 10% of parking spaces will be cut as a result of the levy being imposed. It is not clear whether this is supply led (i.e. business cut spaces to reduce costs to them) or demand led (i.e. in response to fewer car journeys).

Employee Impacts

21. The extent to which WPL might deliver reductions in commuting by car will depend on whether the employer:

Charges for the use of a parking space – this will increase the costs of driving to work

⁴ Still B., Jopson A., Gerrard B., The impact of road pricing and workplace parking levies on the urban economy: results from a survey of firms, AET Conference, 2000

Reduces the number of parking spaces available – this will tend to increase the time taken to drive to work as search times increase

Implements workplace travel plans and other “smarter measures” – this would help reduce car commuting and potentially allow the employer to reduce the spaces offered without any increases in search time

22. Should the levy be passed on to the employee as a charge for car parking spaces, we must consider the potential choices that the employee faces. They can pay the levy and continue travelling in the same fashion as before; they could take public transport instead or participate in a car-pooling/car-sharing club. In extreme circumstances, they could leave Nottingham and find work elsewhere, but given the disruption of moving jobs and the relatively low cost of the levy, this is likely to be a factor in only a small number of cases. Employees will only make changes to their travel behaviour if the levy is passed on as a charge linked to their use of a car parking space.
23. Nottingham City Council’s assessment of the impact of the charge uses data and assumptions about how employers will respond to estimate the impact on employees. No separate analysis was undertaken with employees themselves. Their prediction is that the overall effect on employees will be very small and the PwC levy survey for the EIR was limited to businesses only.
24. Past examples of workplace parking charges include Sheffield⁵ and Dublin. In both cases the daily cost of parking was more than Nottingham’s and led to a modest level of modal shift (7% and 20% respectively). Examples from the USA⁶ in the 1970’s estimated that WPLs will cause a greater scale of modal shift levels but it must be noted at this point that US car ownership and public transport usage is significantly different to that in the UK.
25. ERLT has undertaken a simple generalised cost exercise to produce an indicative order-of-scale estimate of the reduction in car journeys from the imposition of the levy. However, this exercise is only used as an indication of potential modal shift and is not a substitute for detailed modelling.
26. For a given group of affected drivers (i.e. those who have had the cost of the levy passed on to them), if they are subject to a £306 levy (2008 prices), their generalised cost of travel will increase by 16%.
27. It is estimated that a 16% increase in generalised cost will cause a 24% decrease in the number of drivers travelling to work by car. The assumptions behind this are as follows:

⁵Watts E, Stephenson R, Evaluating an Employer Transport Plan: effects on travel behaviour of parking charges and associated measures introduced at the University of Sheffield, Local Environment, 2000

⁶Wilson and Shoup, 1990

Element of Generalised Cost	Value ⁷
Average Car Fuel efficiency	0.0644 Litres per Km
Non-Fuel VOC	4.45 pence per Km
Price of Fuel	85.2 pence (average pump price in Nottingham, January 2009)
Average Speed	26 km per hour (DfT data for East Midlands, Urban, AM Peak)
Average Journey Distance to Work	9.5 km (19 km return journey)(DfT data for East Midlands)
Value of Time	12.9 pence per minute
WPL	122 pence per day (250 working days per year on a £306 levy)
Generalised cost elasticity	-1.5 ⁸

28. This decrease in demand will only apply to those employees that now face a charge for parking. If you apply Nottingham City Council's estimate of 50% pass on rate to employees, this could mean that 4,800 cars are taken out of the morning peak into Nottingham. This is equivalent to a 12% reduction in the total number of people commuting to workplace parking by car.

29. This is broadly consistent with the 10% reduction in spaces estimated by Nottingham City Council in the business case although we think fewer than 50% of employers will pass on the levy in the form of a parking charge.

30. ERLT has also attempted to monetise this impact in the form of decongestion benefits. An indicative top-end estimate of £5 million a year has been estimated using the 50% PwC pass on rate and the 24% modal shift on those employees that have had the levy passed on to them. In practice we would expect this to be lower. This is a small but still positive and important decongestion benefit, and will have broader benefits for the local economy.

31. Previous research on modal shift indicated that whilst a 2002 DfT review of Workplace Parking showed that there would be a 14% decrease in drive alone commuting, a theoretical study⁹ indicated that there would be a 44% decrease in drive alone commuting, should a parking charge be imposed. A survey in Paris¹⁰ indicated that only 5% of commuters would pay for parking, if parking was taken away. There is a large range of analysis here, but our estimate of 24% lies between 14% and 44%. Using the 50% pass-on rate, the decrease in the number of cars could be between 7%

⁷ Unless otherwise specified, assumption values are based on the DfT's appraisal guidance documents - WebTAG

⁸

http://www.dft.gov.uk/pgr/economics/rdg/coll_reviewofincomeandpriceelast/ewofincomeandpriceelasti3104.pdf

⁹ Willson 1992; Shoup & Willson 1992

¹⁰ Young, Thompson and Taylor, A review of urban car parking models, Transport reviews, 1991

and 22% of all cars parking at workplaces. It can be argued that the 20% reduction in revenue in Nottingham City Council's financial model for uncollectable revenue and cuts in parking could contain this range.

Conclusion

32. Nottingham City Council has considered all the main impacts of the WPL.
33. The assumptions that Nottingham City Council use appear to be at the top-end of a central case risk scenario, if a little cautious (particularly in relation to compliance). Should these assumptions be inaccurate and the reduction of parking space and parking growth lower than currently assumed, then the sensitivity testing (both Nottingham City Council's and our analysis) shows that the scheme can still provide the required amount of revenue to fulfil NET2 requirements.
34. There is relatively little data to verify whether 50% of employers will pass on the costs of the levy to employees. However, even with 50% of spaces being paid for by employees, the implication is that this will lead to some (very modest) decongestion benefits and that the modal shift that results from the increase in cost to the affected employees is limited to 24% of those who have had the charge passed on and therefore, 12% of all those who drive and park at Nottingham workplaces.

Section C. Value for Money of WPL

Overall assessment of value for money

£m PV 2002 Prices	WPL Only
User Benefits	
Consumers	-13
Businesses	-18
Environmental	2
Total PVB	-29
Public Accounts	
Local Government	74
Central Government	-18
PVC	56
NPV	28
BCR	N/A

Nottingham City Council, Response to DfT, April 2009

35. Nottingham City Council conducted theoretical 'levy only' tests to appraise the impact of the WPL in isolation. However, due to the legislation that the levy can only be charged with revenue hypothecation to local transport schemes, this particular appraisal remains theoretical.
36. The WPL results in a positive net present value of £28 million. In isolation, the WPL will result in a large surplus for promoters but at a cost to businesses and individuals. Likewise, local government benefits at a cost to central government. The scale and distribution of benefits and costs changes dramatically when the full package of transport interventions are considered alongside the WPL (see section D).

Financial Impact on Nottingham City Council

(a) Revenue

37. Nottingham City Council has provided a summary of their financial outcomes and also a full financial model to verify their revenue patterns.
38. The WPL will be introduced at £176 per annum in the first year (April 2008 Prices) and will increase to £306 (April 2008 prices) per annum from the sixth year of operation onwards.
39. The following assumptions have been applied by Nottingham City Council to estimate the total number of parking spaces from which revenue will be collected:

- a. It is assumed that before the implementation of the levy, there are 36,899 liable workplace parking spaces
 - b. It is assumed that 10% of these spaces will be removed by employers once the levy is implemented.
 - c. The number of eligible parking spaces will grow in line with employment: 4.1% over 10 years (0.39% per annum).
 - d. It will not be possible to collect the levy from 10% of liable employers.
40. The estimate of the 36,899 parking spaces comes from a city council audit of off-street parking in 2004/05.
41. The 10% reduction in eligible parking spaces on implementation is informed by a study of the Perth Workplace Parking Levy but reflected in survey results produced by PricewaterhouseCoopers in their Economic Impact Report (EIR) of 2005.
42. There are two reasons why we believe the assumption about the growth in the number of spaces is optimistic. First, given the current economic climate growth in employment may not occur as quickly as assumed. Second, rising employment may not lead to a proportionate increase in parking spaces given the constraints of limited land and the planning system. Whilst these assumptions could be subjected to further study, analysis produced by Nottingham indicates that the financial case is not sensitive to changes in these (see paragraph 53 below).
43. We have been unable to identify the source of the assumption that levies will not be collected from 10% of eligible spaces. Whilst forecasting the level of non-payment is difficult for a new scheme, given that 44% of eligible spaces are at sites with more than 500 spaces¹¹ (large employers for which compliance should be easier) this rate appears high. As a result, our judgement is that the estimate of net revenues is conservative.
44. The business case does not provide any information about any additional revenue which may accrue to the City Council as a result of the scheme e.g. fines and requests for licence changes.
- (b) Cost*
45. The gross total cost of the scheme over 22 years is not stated in the business case. The financial model, however, verifies that the total cost of the scheme over 22 years is £12.8 million (2008 prices).
46. The annual operating cost to local government is estimated to be £600,000 by Nottingham City Council. Operating costs include operating staff, infrastructure, project management, advertising, monitoring and

¹¹ OSPA Survey V, Nottingham City Council

evaluation. In addition to this, the yearly operating costs include staffing IT and legal requirements for the enforcement of the scheme.

47. In addition to the operating costs Nottingham City Council have provided a breakdown of scheme development; implementation and running costs for the first three years.

48. The business case states that there will be a comprehensive review of operation/associated costs after the 3rd year of the scheme start.

(c) Financial Net Present Value

49. The financial NPV refers to the net present value of the net revenue of the WPL scheme based on revenues received and costs incurred by the city council.

50. The financial NPV is reported to be £91.7 million (April 2008 prices). This has been calculated using a treasury-guided discount rate of 6.0875% applied.

51. The robustness of the financial NPV figure has been demonstrated by Nottingham City Council in a number of sensitivity tests in which the key assumptions were varied. The business case includes sensitivity tests on changes in uncollectable levies, changes in the number of spaces reduced on implementation of the levy, changes in the growth rate of spaces and differing inflation rates. The results from the test indicated that changes in the above conditions were unlikely to change the NPV of the scheme by more than 10%.

Sensitivity	Net Income generated by proposed WPL scheme
	<i>2005 NPV (£m)</i>
Base Assumptions	91.7
RPI on Levy: +0.5%	97.5
RPI on Levy: -0.5%	86.2
Inflation on Opex: +0.5%	91.2
Inflation on Opex: -0.5%	92.2
Uncollected Levy on 5% of spaces	97.5
Uncollected levy on 15% of spaces	85.9
Levy reduces spaces by 5%	97.5
Levy reduces spaces by 15%	85.9
Spaces increase by 0% pa	86.3
Spaces increase by 0.77% pa	97.2
One Year Delay in scheme start	84.8 ¹²

Source: Nottingham City Council, WPL Business Case, April 2008

¹² In producing this estimate Nottingham City Council have assumed that all revenues are delayed by one year whereas costs remain fixed. Therefore, we think this is likely to represent a fairly conservative estimate.

52. Our own analysis using Nottingham City Council's financial model has allowed us to calculate the tipping point at which the WPL does not generate sufficient revenue to fund Nottingham City Council's contribution to NET2 (£67 million NPV). It was estimated that on top of the 10% uncollectable assumption, 31% of parking spaces would have to be cut to decrease the NPV below £67 million (the base assumption is a 10% cut). Whilst there is always a risk that this could occur, our judgement is that this is very low particularly given that the levy is going to be set at a fairly low level (less than £1 per day).

Business Impacts

(a) Administration costs

53. The administration costs of the levy were estimated by PwC on behalf of Nottingham City Council¹³. The results of this work would suggest that the yearly average administration spend per firm is £280 for the first year and then £210 afterwards (source: Nottingham City Council, Response to DfT, April 2009).

54. PwC estimated the number of hours firms of different sizes would take in complying with the levy regulations and multiplied this by an average hourly rate. PwC assumed that larger firms require more hours of administration. For every hour that a large firm (151+ spaces) requires, a medium firm (51-150 spaces) requires 0.6 hours and a small firm (0-50 spaces) requires 0.4 hours.

55. The administration costs are mainly attributed to enforcement co-operation. This is the assistance of reporting to and informing Nottingham City Council audit officers during inspection visits. This can be up to 50% of all administration costs.

56. Other costs include the application cost (20-30% of total administration costs) and variation (where parking circumstances change but not including the £100 fee to Nottingham City Council when this happens during the financial year) administration costs.

57. As noted above, it is assumed that small firms will incur lower administration costs than larger firms. Firms with less than 50 spaces would be spending just over £200 per annum on administration; firms with between 51 and 150 spaces will spend over £300 and the largest firms will spend in excess of £600¹⁴ per annum. Even the largest of firms will only be devoting a maximum of 54 hours a year to levy administration. The conclusion is that it will only lead to a small impact on business finances.

(b) Cost of levy

¹³ PricewaterhouseCoopers for Nottingham City Council, Workplace Parking Levy - Administrative Burden, 2007

¹⁴ Based on figures calculation by DfT, verified by Nottingham City Council estimations

58. The levy will cost £185 per space in the first year of operation increasing up to £306 per space (2008 prices) after the first five years of operation.
59. We estimate that a small company with up to 50 liable spaces will pay up to £9,260 (2008 prices) in the first year of the WPL, which will increase to £15,300 per annum. A large company with at least 151 spaces will face levy costs of at least £27,935 in the first year of operation and at least £46,206 from the fifth year onwards.
60. The average annual cost of the WPL to all businesses in Nottingham is approximately £12.8 million (2008 prices) (source: WPL Financial Model, April 2009). The extent to which these costs are taken on by businesses is dependent on businesses' decisions as to whether to pass on costs to employees or reduce parking spaces. If 50% of businesses are able to pass on the cost of the levy then we estimate that the net cost will be £6.4 million per annum.

Employees

61. Likewise, the extent to which employees take on the cost of the levy is dependent on whether businesses pass on the costs of the levy, where employees would pay the cost of the levy if they wanted a parking space, or not.
62. However, the average salary of Nottingham of £20,680 per annum, where the £306 levy will represent less than 1.5% of the total salary per person, should the levy be passed onto the employee.
63. The levy is only likely to affect a small number of employees – even with the large 50% pass-on rate, the 36,000 spaces that will be liable only represents 18% of all commuters in Nottingham and with the 50% pass-on rate applied, it means that 9% of all commuters will pay the levy. If 50% of businesses are able to pass on the cost of the levy then the net cost to employees will be £6.4 million per annum.

Economy of Nottingham

Viewed in isolation a WPL will have a negative impact on employers in Nottingham due to the increased costs that have come about as a result of the levy. They will find it harder to recruit employees and retain them if the cost of the levy needs to be passed on to employees. Employees may look elsewhere in the region to work. Implementing a WPL provides some decongestion benefits but these alone will not offset the negative impacts on employees and employers that come from the cost of the levy. In isolation, the WPL will have a negative impact on Nottingham's economy as seen in the first table of section C, where the present value of benefits is negative (-£29 million). However, the WPL will be used to fund a package of public transport improvements in Nottingham which would not otherwise take place. Therefore, in the next section, we have considered the impact of the WPL as part of a wider package.

64.

65. Employees' reactions to the levy being passed on to them would be lagged. If they face the levy, the cost of it is something that may be considered when an employee chooses to find their next job. Firms outside of the WPL charging area would be most likely to gain and those within the charging area may possibly have staff recruitment and staff retention problems due to the individual's increased cost of employment (Whitehead, 2005)¹⁵.

¹⁵ Tim Whitehead, Transport charging interventions and economic activity, Transport Policy, 2005

Section D. Value for Money of Package

The WPL will be used to fund a package of public transport improvements in Nottingham which would not otherwise take place. Therefore, we have considered the impact of the WPL as part of a wider package.

Package Description

66. It is intended that the net revenues produced by the WPL will fund the following schemes:

Project	Total Estimated Cost	WPL Funding Required
NET Phase Two	£400 million	£67 million
The Hub	£65 million	£10 million
Link Buses	£2.7 million per annum	Up to £2.7 million per annum

Additionality

67. A number of the Link buses to be funded by the WPL are already operational and funded through other sources (e.g. Experian and the NHS Hospital Trust). Nottingham City Council has notified us that most of the contracts for current funding are due/will terminate in March 2010. After this, it was always planned that the WPL would be the main source of funding.

Net Benefits

68. Cost Benefit analysis has been undertaken by Nottingham City Council for the WPL package (including NET2, the Hub and Link Buses) and NET2.

69. Both the WPL package and NET2 in isolation have high value for money when analysing the quantitative aspects of appraisal. It is apparent that the package provides a higher BCR than NET2 by itself. This is because of benefits from the Hub and the Link buses and also because of the travel behaviour change focus attached with the WPL implementation.

£m PV 2002 Prices	WPL Package	NET2 Only
User Benefits		
Consumers	718	644
Businesses	358	401
Environmental	23	19
Total PVB	1099	1064
Public Accounts		
Local Government	-22	-81
Central Government	-324	-303
PVC	-346	-383
NPV	753	681
NATA BCR	3.18 (2.37 with 40% OB)	2.78 (2.07 with 40% OB)

Source: Nottingham City Council, NET.P3/A, David Carter, October 2007

70. Nottingham has considered a broad range of impacts consistent with the NATA framework. The key non-monetised impacts are improved accessibility through the increased number of tram and bus stops and also integration, as NET 2 provides, along with Link buses, interchange opportunities. These are primarily delivered by NET2.

Impact on Business

71. Businesses are estimated to gain net benefits of £358 million NPV over 60 years, through improvements in transport economic efficiency, where improved journey times come about through decongestion benefits and improved transport options and tram services. There are also other non-monetised impacts through improved accessibility for the major employers at some notable employment sites such as the universities and Queen's Medical Centre.

72. The extent to which an individual business will benefit or lose out from the package will depend on the total cost of levy they face and the benefit they receive as a result of better public transport and lower congestion in the city. It is possible that in some cases businesses will the benefits of investment in public transport will be insufficient to outweigh the costs to business. We expect that even in the extreme case where a business does not benefit from public transport and decongestion at all the net costs will be fairly small (as explained in paragraph 17).

Impact on Employees

73. The modelling of the package set out in paragraph 71 does not allow commuters to be separately identified from other non-work trips. Given that commuters are a significant segment of travel demand we would expect employees to benefit from the package as a whole. Employees will also benefit from greater accessibility to the major employment sites as

74. As with businesses the extent to which individual employees benefit or lose out from the package will depend on whether the levy is passed on to them and the benefit they receive in lower congestion and better public transport. It is possible that in some cases the additional costs of parking at work will not be outweighed by the decongestion benefits and greater accessibility associated with the extended public transport system. However, this needs to be weighed against the estimated benefit to consumers of over £700 million (present value, 2002 prices and values) from implementation of the package.

Impact on the Economy

75. NET2, along with other parts of the package, is designed to provide high quality and fast services to support an ever-increasing level of economic activity in Nottingham. It supports regeneration in deprived areas by providing public transport to the city centre and employment areas and allows for interchange opportunities for those travelling in from the wider region, thereby enabling Nottingham to remain as the regional centre for employment and services.

76. Walley (CEBR, NET Document: NET.P4/A, 2007) estimated that the NET2 tram scheme will result in accessibility benefits for the wider region of Nottingham and an increase in employment activity. It is estimated that there will be a 4% increase in the number of people willing to commute to Greater Nottingham for employment – with an increase of 5.8% for Nottingham City. There will be an increase, by 2021, of 11,800 jobs in Greater Nottingham (8,800 in Nottingham City) which translates to a 3% increase in employment (4.3% in Nottingham city). The NET2 aspect of the WPL package has positive impacts on the long-term growth of the Nottingham economy.

Social & Distributional Impacts

77. Nottingham City Council raised issues in consultation including:

- Impacts on Low-Paid Workers
- Impacts on those with childcare/caring responsibilities
- Impacts on the less mobile/informally disabled

78. With a lack of previous research into parking levies' effects on SDIs, there has been no quantification of the impacts. However, Nottingham has committed to a mitigation strategy, which allows for future consultation with special interest groups and employers, should problems arise.

Section E. Consideration of other options

Alternative Specification

79. Nottingham City Council considered alternative revenue generation methods as laid out in the business case. Some involve alternative grants that will be an issue of transfers from one government project to another. We will concentrate on the two options that affect businesses and employees.

80. Alternative revenue generation mechanisms fall into two groups: alternative demand management tools and alternative funding sources with no direct impact on congestion that will obtain sufficient revenues to fund Nottingham City Council's contribution to the NET2. One alternative they considered was a road user charging scheme. The assessment Nottingham City Council undertook identified that the decongestion benefits of a RUC would be greater than a WPL. However, this was rejected in favour of the WPL for the following reasons:

Higher implementation costs

The timescales involved in setting up the RUC would mean delaying the implementation of NET2

Lower public acceptability and wider distributional issues

81. Whilst we have not reviewed this analysis in detail this assessment of the likely drawbacks of a RUC scheme is consistent with our understanding of congestion charging schemes in other areas.

82. The second option to be considered is the idea of supplementary business rates. Local authorities have the power to levy a supplementary business rate from 2010 onwards.

83. Nottingham City Council estimate that a supplementary business rate of 2p in the pound could generate revenue of £4.2 million per annum. The council believes that the supplementary business rate is not suitable in this case because it targets businesses irrespective of their contribution to congestion; it would not be able to create as much revenue as the WPL for PT improvements and the timing of the process would mean that funds would not be available for the implementation of NET2.

84. In present value terms, a supplementary business rate of 2p would only be able to achieve between 50-60% of the revenue estimated to be gained from the WPL. Also, the 2p business rate will be an additional cost for all businesses, whereas the levy will not affect small businesses with less than ten spaces.

Alternative WPL Specifications

85. There is little information in the published documentation setting out an analysis of different boundaries, prices and liable space eligibility.

86. Nottingham have decided to use the Nottingham City boundary in order to keep the scheme as simple as possible. There are strong administrative arguments for this approach as businesses are registered within a council boundary. Any WPL scheme which is applied across more than one boundary would also need to set out revenue and cost sharing arrangements between the relevant authorities.
87. The level of charging will increase incrementally from £176 per annum in the first year of operation to £306 after the fifth year. The pricing will ultimately depend on the requirements for NET2. Nottingham's pricing strategy has been implemented to raise enough revenue to fulfil package funding requirements.
88. It appears that the charge has been set to raise a certain amount of net revenue. The scheme does not necessarily result in maximum net benefits but there is no requirement for the scheme to achieve this.
89. There is a final question on scheme design regarding liable spaces. Whilst the Transport Act 2000 sets out particular rules about exemptions for emergency services premises, it is up to Nottingham City Council's discretion how they charge employers with a small number of spaces.
90. There was a recommendation from the council officers (18 December 2007) which advised the executive board of Nottingham City Council to award a 100% discount to the first 10 spaces belonging to every employer. This was subsequently rejected because it was intended for small businesses only, the pursuing of this change would result in a shortfall in revenue and very few employers found this change meaningful.
91. There is a worry about the "cliff-edge" nature of the 10 space exemption in that a firm with 11-20 spaces will have a tendency to reduce their spaces to the exemption level of 10 spaces and thus there will be a loss of revenue for Nottingham City Council. However, the proportion of spaces that fall into the 11-20 bracket is 11% of the total eligible parking spaces in Nottingham. The likelihood of all 11% cutting their spaces to 10 is low so Nottingham City Council believe that they can contain the potential loss in revenue in their 20% contingency.

Appendix. VfM Assessment Q+A

Value for Money Assessment

- 1) How robust are the estimates of revenues and costs?
 - a. What analysis of the parking levy has been undertaken?
 - b. How confident are we in this analysis?

Nottingham City Council (NCC) have estimated the annual revenues and costs of the scheme to 2030 (the end of the operating concession for NET2). These estimates have been prepared on the basis of a detailed survey of parking spaces in central Nottingham and an assessment of the likely costs of administering and enforcing the scheme. When fully operational the scheme will generate annual revenues of £9.5 million at an annual cost of £0.6 million (plus £0.5 million pa support schemes)(2008 prices). The levy will provide a net income of £91.7 million to invest in public transport in the City¹⁶.

Whilst there is some uncertainties around assumptions (in particular how many car parking spaces will be removed from the City Centre) the sensitivity tests produced by NCC show that the scheme will generate significant income under different plausible scenarios. The number of parking spaces would need to fall by 31% before Nottingham would be unable to fund their contribution to NET2.

A two-year delay to the start of the levy collection would, in particular, would result in a loss decrease in net revenue to £82.6 million unless the scheme was also postponed, which would just result in a decrease in net revenue to £84.5 million .

- 2) Has the Local Authority demonstrated that the proposed scheme offers value for money as a way of raising funds?
 - a. Has the Local Authority made reasonable attempts to estimate the impact of the WPL on businesses and their employees?
 - b. Has the Local Authority identified the administrative burdens placed on workplaces? Have they taken reasonable steps to minimise these?
 - c. Have any potential distortionary impacts been identified and what processes/solutions have been put in place to rectify these?
 - d. Have they considered alternative specifications of the WPL scheme?

The impact of the WPL on businesses, who will be liable for the levy and demonstrating compliance with the scheme, has been assessed by NCC. [NCC's analysis of the impacts on employees is more qualitative and ultimately sensitive to whether employers pass on the costs of the levy. NCC assumes that 50% of employers will pass on the costs – the levy represents

¹⁶ Financial NPV.

about 1.5% of the salary of the average worker if they pay the car parking space costs.]

NCC has separately considered the impact on small businesses. Many small businesses will not pay the levy as a 100% discount will apply to businesses with 10 parking spaces or less (estimated to apply to 85% of businesses in Nottingham). Analysis of administration costs shows that the burden on businesses is small – at approximately £200 a year for a company with up to 50 eligible parking spaces.

A potential distortionary impact of the scheme is that the imposition of the levy increases the number of cars parked on-street. The 100% discount for premises with less than 10 spaces should help avoid this (it would be more difficult for larger employers to ask employees to park in the street). In addition NCC have allocated funds in their operating costs for additional parking controls.

There would be a small but useful decongestion benefit from the scheme. Generally revenue raising measures by themselves would not offer value for money (vfm), as this incurs economic costs. In this case there is a small benefit from the scheme alone reflecting the positive benefits. However, its contribution as part of a high vfm package is much more important.

NCC have considered the potential for road pricing but due to the expensive set-up and the nature of the NET2 package, a WPL scheme was preferred.

- 3) Has the authority identified what the net revenues will be spent on and have they assessed the impacts of these proposals? Are the benefits of these proposals likely to outweigh any costs associated with the WPL?

The income from the scheme will be used to fund NCC's contribution to NET2, the Nottingham transport hub interchange and Link Buses. The majority of the net revenue is for the NET2 tram extension (£67 million from the £91.7 million WPL net revenue). NET2 was awarded Programme Entry by the DfT. The package of public transport improvements and WPL has been appraised and will deliver high value for money. This is primarily attributable to NET2 which will deliver high levels of benefits to the residents and economy of Nottingham.

- 4) Are there any important factors not covered by the above?

The business community will benefit as a whole from the wider package. They are forecast to receive net benefits of £358 million (2002 prices and values) over the 60 year life of NET2 even after the costs of WPL are taken into account. These benefits mainly arise from the decongestion impacts of the tram. These benefits will not be spread evenly among the business community and it may be the case that in some instances these will be insufficient to offset the increased costs introduced by the scheme. However, even if businesses get no benefit from enhanced public transports the costs of the levy will be fairly small.

NCC has committed to a mitigation strategy for potential negative effects to low paid workers, those with childcare responsibilities and the informally disabled, which allows for future consultation with special interest groups and employers, should problems arise.

ERLT, 24 July 2009