

Annex A – Updated Methodology and Results

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1. Introduction

This document outlines the analysis and re-ranking carried out in response to the consultation feedback, and presents the resulting options.

In summary, the options presented are as follows:

- 1) **Consultation Option 1:** withdraw all bus subsidies
- 2) **Consultation Option 2:** reduce subsidised bus services by £2.3million, and prioritise off-peak services where possible
- 3) **Updated Option 2 - Off Peak:** reduce subsidised bus services by £2.3million, and prioritise **off-peak** services where possible. In addition, rural services are prioritised and special exemptions made for deprived areas and school routes

- 4) **Updated Option 2 - Peak:** reduce subsidised bus services by £2.3million, and prioritise **peak** services where possible. In addition, rural services are prioritised and special exemptions made for deprived areas and school routes

2. Methodology Consulted On

We followed a strict methodical process to calculate which bus subsidies are 'best value for money', and which are 'worst value'. 'Value for money' is judged upon how many addresses are served by a subsidised bus, where an address has no commercial alternative.

The results provide a ranking of all subsidised bus services. The ranking is based on the cost of each subsidy to the council, compared to how many unique addresses it is enabling the bus network to serve.

This entire process was repeated three times to prioritise services at different times of day (time band), allowing evaluation of potential impacts on different types of bus user.

Option 2 in the consultation document refers to the results of the analysis for the daytime off-peak time band. The alternatives analysed were services running at peak hours during weekdays, and services running in the evening and at the weekend.

Bus timetables are never static, and subsidies undergo routine reviews. The bus subsidy and timetable data analysed was the most up-to-date version available at the time of the analysis.

3. Additional Variables Considered

Throughout the Consultation, there were a number of suggestions made and constructive questions posed relating to the methodology used to rank bus services under Option 2. These typically involved suggestions of additional variables that could be used to assess bus subsidies.

In response to these suggestions follow-up analysis was carried out.

This included examination of rural isolation, access to shops, deprivation, disability, older people, younger people, car ownership, and tourism.

On the whole, it was found that the majority of these additional variables produced overlapping results, and they tended to be closely aligned with those of rural isolation and deprivation.

The typical method used to assess these variables was to build on the methodology consulted on by excluding certain addresses from contributing to the score of a subsidised bus within the ranking table. Addresses were included or excluded depending on whether they met the particular criteria of the variable being assessed.

Data sets used included Experian Mosaic Data, the National Land and Property Gazetteer, Lower Super Output Area Boundaries and the Office for National Statistics Rural/Urban Classification, and Ordnance Survey Strategi. Explanations of how these data sets were used can be found in section 6.

4. Updated Methodology

Having deduced that the inclusion of the rural isolation and deprivation variables encompassed many of the other variables and addressed the feedback from the consultation, these were selected to re-rank the bus subsidies.

a) Rural Isolation

The methodology used in the consultation analysis (for Option 2) was adapted to assess whether the geography of rural isolation across Oxfordshire could be used to prioritise bus services.

Firstly, each address in Oxfordshire (from Address Point data) was assessed as to whether it falls into a rural area or not (based on rural LSOA).

If not, the address is removed, because for this criterion we are interested only in rural addresses.

The subsidised bus services were then ranked according to how many rural addresses they uniquely serve. This was carried out in the same way as the original Option 2 methodology (Annex W of the consultation), but this time only for rural addresses.

b) Deprivation

Any bus service that serves a large number of “deprived” addresses was made exempt from withdrawal. Specifically, this is any bus service that uniquely serves more than 25 deprived addresses within the specified time band.

Note that “deprived addresses” includes both rural and urban addresses that are not already served by a commercial bus service.

To achieve this, firstly each address in Oxfordshire (from Address Point data) was assessed as to which Mosaic Lifestyle Type it falls into. See section 5a for full details of the Mosaic dataset.

The Mosaic Grand Index was interrogated to find which Lifestyle Types had a likelihood of being deprived of at least 50% above the national average. This was based on the Index of Multiple Deprivation (sourced from The Department for Communities and Local Government).

This defines which Oxfordshire addresses should be considered as "deprived", and which shouldn't.

c) Students on Subsidised Buses

As part of the consultation, we proposed to protect subsidised bus routes which are used to take entitled students from home to school, where on the whole it is cheaper for us to do so instead of paying for separate dedicated school transport.

The result of this is that a handful of services were made exempt from having their subsidies withdrawn. These are highlighted in the results in Annex B.

d) Other minor amendments and evaluation outcomes

i. County Connect

During the consultation, the service "County Connect" was marked as "At Risk - Under Review". This is because it is a demand-responsive transport service with no fixed timetable, and so could not be subjected to the full analysis.

Based on some investigation and discussions with County Connect (<http://www.county-connect.co.uk/>), an estimate ranking was arrived at: the County Connect would be "Withdrawn" under all Options.

Full details of the estimate calculations can be found in section 5e below.

ii. Swindon Shopper Bus

The Swindon Shopper Bus is another demand-responsive service with no timetable that could therefore not be subjected to the full analysis. It was marked as "At Risk - Under Review" for the consultation.

Upon review, it was revealed that this service is funded from a separate Oxfordshire County Council budget, and should therefore not be subject to withdrawal as part of this consultation. The service has therefore been removed from the list in Annex B of this paper.

iii. Community Transport

Under Option 2 of the consultation, community transport operators were treated as exempt from analysis. In other words, they were automatically listed as "Very Low" risk of having their subsidy withdrawn.

This runs counter to the general methodology which is to examine each service individually based on strict objective criteria. In the updated methodology, subsidised community transport services have been included in the analysis and ranked accordingly.

5. Technical Details and References

a) Experian Mosaic Data

Mosaic draws on a wide range of data sources to characterise residents into 15 broad lifestyle groups and 66 more detailed lifestyle types. For each lifestyle type we can glean an insight into their likely needs and motivations.

More details of the dataset, including a full list of the groups, are available here: <http://cld.bz/RUfDTGu>

This data was used to assess a range of factors including deprivation, age, employment, car ownership, etc. Specifically, the Mosaic grand index was used to define whether an address has a high chance of having a particular characteristic, where "high" was defined as 50% greater than the national mean.

It is worth noting that the Mosaic dataset provides a statistical estimate to approximate the characteristics of people who live in a particular place. Real attribute data on individuals or households across Oxfordshire is not collected or held and so an approximation must be used.

b) National Land and Property Gazetteer

The National Land and Property Gazetteer (NLPG) contains a table of all addresses in the UK. It holds some additional characteristics that were not available in the original Address Point dataset.

A full definition of the NLPG, and the classifications it includes, can be found here: <http://www.iahub.net/docs/1400255321051.pdf>.

Within the NLPG, the Basic Land and Property Unit (BLPU) field enabled the identification across Oxfordshire of facilities including shops, schools and other places of education, medical facilities, banks, and libraries. Within the document linked to above, section 6 contains full information about the BLPU.

c) Lower Super Output Area Boundaries and Rural/Urban Classification

The Office for National Statistics Lower Super Output Area Boundaries were used as part of the 2011 census. They consist of polygons containing between 400 and 1200 households. A full definition can be found here: <http://www.ons.gov.uk/ons/guide-method/geography/beginner-s-guide/census/super-output-areas--soas-/index.html>

The Office for National Statistics Rural/Urban Classification 2011 was matched to the LSOA to define whether an address is classified as rural or urban. The full definition of rural and urban can be found here: <http://www.ons.gov.uk/ons/guide-method/geography/products/area-classifications/2011-rural-urban/index.html>

d) Ordnance Survey Strategi

This dataset was used to assess Tourism. In summary, the Tourism Layer of the Strategi dataset includes the locations of tourist facilities across Oxfordshire. There

are 226 points across Oxfordshire. The full specification of this dataset can be read here: <http://www.ordnancesurvey.co.uk/docs/user-guides/strategi-user-guide.pdf>

e) County Connect Estimate Calculations

To arrive at an estimated cost index for the County, the following steps were taken (for full details of cost index, please see the consultation full methodology, found in Annex W of the consultation):

- 1) It was established that the County Connect covers 6 key villages (Claydon, Cropredy, Great Bourton, Little Bourton, Wardington, Mixbury)
- 2) These villages collectively were calculated to have approximately 620 addresses within Oxfordshire with no commercial bus stop within 400 metres.
- 3) Based on discussions with County Connect, it was established that the bus typically visits Oxfordshire "once or twice" per day. Overcompensating for this to allow for higher demand, estimates were based on the bus visiting each village twice per day (return journey to each). This is 12 stops per day, 60 per week, 3120 per year.
- 4) The subsidy value is £15,000 per year.
- 5) It is therefore £4.80 cost per stop visit, which gives a cost index of 0.007.

This ranks as "Withdrawn" under all options.