

## TECHNICAL NOTE

### HOW MUCH WILL FREE BUSES FOR GLASGOW COST AND WHAT ARE THE BENEFITS?

*It would cost just over £110 million a year in additional funding to make Glasgow's buses free for everyone if operators current profit levels were maintained, but only just under £82 million if no profits were made. If all of Strathclyde was provided with free bus transport it would cost just over £245 million annually with current profit levels and £182 million if operated without profit. These annual costs could be reduced if all bus operations became electric. The additional costs could be seen as worthwhile as the benefit to society would be equivalent to £1.7 for every pound spent.*

#### **Introduction**

This Technical Note seeks to provide the Get Glasgow Moving campaign, an estimate for the costs and benefits of developing a free bus network for Glasgow and the wider Strathclyde area. It is an exploratory analysis and much more comprehensive analysis will need to be undertaken with much more specific cost and benefit data for this policy approach to be translated into to reality. The analysis follows a series a steps to develop the costs and benefits. In terms of costs it focuses on bus operations and not on passenger costs and fares. For costs the following steps are followed:

1. How much does it cost to run a bus for a kilometre?
2. How many kilometres do buses in Glasgow and Strathclyde travel in a year?
3. How much do operators in Glasgow and Strathclyde earn in revenue?
4. How much would it cost to make buses Glasgow and Strathclyde free for everyone?

In addition, this Note also draws on studies and evaluation from similar policy measures implemented in the UK to estimate the rate of benefits that will accrue from public money being spent on making buses in Glasgow and Strathclyde free for everyone. The Note draws on studies that were developed for subsidies to bus operators to increase the availability of bus services and measures to make buses free for different social groups.

#### ***How much does it cost to run a bus for a kilometre?***

The latest Transport Scotland statistics for 2018/19<sup>1</sup> show that the operating cost for a bus in Scotland on average was **£1.83 per km**. This includes driving staff costs; admin and management staff costs; insurance; fuel; maintenance; vehicle depreciation and other costs but significantly does not include profit. It is not possible to find more detailed Glasgow or West of Scotland data for this, so the average for Scotland has been used but obviously if SPT have reliable figures for Strathclyde they can be included instead.

However, the operating costs for buses in English metro areas outside of London are higher than the Scottish average. In English Metro areas operating costs are £2.22 per km in 2018/19 compared to

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<sup>1</sup> Transport Scotland (2020) Scottish Transport Statistics No 38 2019 Edition

<https://www.transport.gov.scot/publication/scottish-transport-statistics-no-38-2019-edition/chapter-2-bus-and-coach-travel/#tb23a>

£1.83 per bus km in Scotland. The revenue each bus km generates is also higher, as more people will want to catch a bus than often found in rural areas.

It may, thus, be more sensible to use the operating costs and revenues earned per bus km of English metropolitan cities outside of London in order to calculate operating costs for Glasgow and Strathclyde rather than the Scotland averages. There may be more commonality in terms of costs of wages and levels of congestion and stop/start bus driving between Glasgow/ Strathclyde and Liverpool/Merseyside than there may be between Glasgow and Fort William. An average Scottish value will include a large amount of rural operations where brake wear may be less, rural driver wages may be lower and engines may be more efficient on longer rural runs, thus bringing the average costs down. As a result the analysis contained in this Note uses operating costs and revenue data from English Metropolitan areas outside of London in the absence of detailed local data for Glasgow and Strathclyde. The operating costs for buses in English metro areas outside of London are higher than the Scottish average at £2.22 per km that a bus travels in 2018/19 compared to £1.83 per bus km in Scotland. The revenue each bus km generates is also higher. The revenue each bus earns in English Metro Areas outside of London is £2.66 per bus km as opposed to £2.05 per bus km across Scotland.

***How far do buses travel in a year in Glasgow and Strathclyde?***

We can calculate the total cost of an area’s bus operation if we know how they travel as well as the cost per km travelled. Unfortunately, it appears difficult to get an easily available figure for bus km travelled across a year for either Strathclyde or smaller urban areas such as Glasgow. The data produced by Transport Scotland for 2018/19 combine annual bus kilometres for both SPT and SWTrans area which is “dictated by commercial sensitivities around the disclosure of bus operator financial information” (Transport Scotland, 2020). For 2018/19 142 million km were travelled for the whole area. However, there is a risk that the large areas and long distances of bus operations in rural southwest Scotland will represent a significant proportion of this mileage. **The fact that it covers 2 regional transport partnerships also makes it not that useful in estimating costs to make buses free just for Strathclyde.**

Bus kilometres travelled has been declining across the Scotland for many years since 2007 and is now largely back at levels seen 1987 at the time of bus deregulation. It is for this reason that it may be possible to use the detailed data for Glasgow and Strathclyde from 1986 produced in a 1989 report by the Transport Research Laboratory (TRL). This report sets bus distances travelled for 6 different sub-regions of the old Strathclyde PTE which largely equate to travel to work areas.

<b>Sub-region</b>	<b>Annual Bus Distances Travelled (million kms)</b>
<b>Glasgow</b>	64.20
Argyll	2.90
Ayr	18.50
Dumbarton	15.77
Lanark	23.49
Renfrew	18.18
Strathclyde	143.04

Of course, if SPT were able to release current data on bus distance travelled across Strathclyde that will help the accuracy of these estimates

### ***How much do operators earn per bus kilometre?***

In 2018/19, according to Transport Scotland, 159 million passenger journeys were made across Strathclyde and South West Scotland and 380 million made across the whole of Scotland. The revenue this generated for operators is not reported at anything below the whole of Scotland for operators commercial sensitivities. **We do know that total revenues, in 2018/19, for all operators across Scotland was £694 million.** As we know how the distance travelled by the bus network across Scotland in 2018/19 was 334 million km.

However, we also know that bus operators receive government support in various forms. This support comes in the form of Concessionary Bus Travel support, Bus Service Operator Grant and Local Authority Commissioned Services. This support across Scotland in 2018/19 amounted to £314 million or 45% of total revenue earned by bus operators.

On a per km basis that is 94 pence per km a bus travels is paid for in government support. Moreover, across Scotland operators are making 22 pence per km (the difference between an operating cost of £1.83 per bus km and revenue per bus km of £2.05) or 12 percent operating profit on operations.

However, for the purposes of this Note, we have drawn on the data from English Metro Areas outside London, where the revenue each bus earns in English Metro Areas outside of London is £2.66 per bus km. This means that it has been assumed that operators for Glasgow and Strathclyde as operators across Metropolitan Areas of England are making 20 percent operating surplus over revenue.<sup>3</sup>

This means the amount of extra subsidy required for Glasgow or Strathclyde to cover just operating costs may be higher and may also be higher if required to recompense the operators who are used to some profit.

### ***How much would it cost to make Glasgow buses free?***

As stated, 45 percent of all operators' revenues already comes from Government support. This analysis has thus calculated the amount of **EXTRA** money that would be required in order to deliver free buses across Glasgow and other areas covered by SPT. Using the same distance travelled figures as above, the answer to the question depends on whether a) just operating costs of the buses are covered or b) commercial operators are contracted to deliver services at rates that approximate to their current levels of profit. The costs for either approach are set out below:

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<sup>2</sup> Perret, Hopkin and Ferguson (1989) Some Early Effects Of The 1985 Transport Act In Strathclyde, RR 168 Transport Research Laboratory <https://trl.co.uk/sites/default/files/RR168.pdf>

<sup>3</sup> <https://www.gov.uk/government/statistical-data-sets/bus04-costs-fares-and-revenue>

Sub-region	Annual Bus Distances Travelled (million bus kms)	Existing annual govt support to bus co's (£millions)	Extra Annual Cost for Free buses @ operating cost of £2.22 (£millions)	Extra Annual Costs for Free buses incld operator profit @£2.66 per km (£millions)
Glasgow	64.20	60.54	81.98	110.23
Argyll	2.90	2.73	3.70	4.97
Ayr	18.50	17.45	23.63	31.77
Dumbarton	15.77	14.87	20.14	27.07
Lanark	23.49	22.15	30.00	40.33
Renfrew	18.18	17.15	23.22	31.22
<b>SPT</b>	<b>143.04</b>	<b>134.89</b>	<b>182.66</b>	<b>245.60</b>

It can be seen that for Glasgow, for example, the cost of delivering free buses for everyone would be over £28 million less, annually, if the current level of operator profits did not have to be covered. Franchising and greater public control would give greater control over what profit rate is recovered by operators from such a policy. Even if franchising included providing operators with an appropriate profit, it is understood that estimates for franchising in Greater Manchester are based on a 7-8% profit margin which is considerably less than profit levels at the moment.

**The estimates in this Note assume that there are no extra costs to running a free bus network.**

Extra costs may come from more passengers using the services and hence more seats and more buses are needed. However, people may switch from cars to bus making the roads quieter and bus journeys quicker so the number of buses needed to deliver the service may decrease. The actual effects will need more in-depth analysis.

***What are the economic benefits of Free Buses for All?***

The benefits to us all from making all fares free will come in different ways. Many of the benefits will be directly and immediately to bus passenger in the form of money saved from not having to pay fares. There will also be significant benefits to us all in terms of

- benefits to all road users from transport network improvements
- improvements in economic productivity,
- easier access to jobs
- safer roads
- greater social inclusion through volunteering and community wellbeing,
- environmental sustainability and
- improved health.

Estimating the benefits from extra public expenditure on buses to deliver free fares for all is not a straightforward calculation and would need careful calculation. However, it may be possible to draw from some similar examples that have been used to estimate the benefit of different forms of subsidy to the bus industry.

There hasn't been any explicit analysis done for the UK, that I can find, of the costs and benefits of free fares for everyone. The closest analysis we have for the economic benefits we have for free travel for all is the analysis that was done in two possible areas:

- Work at the time of the development of the English National Concessionary Travel Scheme for older and disabled passengers which gives a subsidy to operators to allow eligible passengers to travel free and
- Work assessing the value of the Bus Service Operators Grant which gives a subsidy to bus operators to offset the value of fuel tax.

*The work associated with the introduction of concessionary fares*

This has produced a number of estimates of the value for money for such a scheme prior to its implementation. There were also a range of approaches taken and some included quite wide definitions of what benefits can be included in such analysis and some stuck to quite strict interpretation of what can be included according to Govt rules. Furthermore, some of these studies were undertaken for proposers of the scheme and so may be a bit more optimistic and some for regulators and may be deliberately pessimistic.

The most robust analysis prior to the operation of the concessionary fare scheme was, a report by University of Leeds and KPMG for Greener Journeys<sup>4</sup> suggest that **for every £1 pound spent on bus revenue such as free fares for all schemes there would be £3.62 in benefits to the society and economy as a whole**<sup>5</sup>. This is much more attractive for investment by government than many road schemes.

This study estimated the economic impacts and benefits on the following:

- impacts for concessionary bus passengers
- impacts for other bus passengers and other road users
- wider economic impacts, especially those associated with volunteering
- physical health impacts.

The Department for Transport also undertook their own evaluation after the scheme<sup>6</sup> was launched and found a much lower benefit level by sticking to a very limited interpretation of what could be included as benefits. They found that outside London every £1 spent generated only £1.40 of benefits.

The DfT analysis includes:

- **Change in consumer benefit:** This is a measure of consumers' (travellers) benefit brought about by free bus travel. This represents every individual's reason for travel – whether it is socialising, shopping, education or something else.

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<sup>4</sup> Greener Journeys (2016) A Study of the value of Local Buses to Society <https://greenerjourneys.com/wp-content/uploads/2016/10/Greener-Journeys-Value-of-Bus-to-Society-FINAL.pdf>

<sup>5</sup> <https://greenerjourneys.com/wp-content/uploads/2014/09/Concessionary-travel-costs-and-benefits-September-2014.pdf>

<sup>6</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/876395/evaluation-of-concessionary-bus-travel.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/876395/evaluation-of-concessionary-bus-travel.pdf)

- **External benefits:** All benefits to individuals other than the travellers, and the environment. This includes the net benefit from people switching from cars to buses such as savings in congestion costs and greenhouse gas emissions. However, concessionary travel creates extra journeys and also adds to the overall demand for transport – in fact we find that the external benefit is negative i.e. a cost to other road users and the environment. External benefits also include indirect tax benefits - the tax revenue the Treasury receives from bus passengers who no longer spend money on a fare, which does not include VAT, and can spend this money on other goods and services that do.
- **Health benefits** to both pass-holders and society for travelling by bus instead of driving. Service enhancement: small saving in bus waiting times as additional ENCTS passengers lead to increased bus frequency.
- **Cashless benefit:** small reduction to boarding times, felt by all passengers, as concessionary travellers travel cashless with a smart card.

Another robust analysis by Prof Mackett of UCL using another approach argued for £1.50 of benefit for every pound spent.<sup>7</sup>

#### Work associated to the area of the Bus Services Operator Grant (BSOG)

Another area of possible area that we can take costs and benefits from is in the area of the Bus Services Operator Grant (BSOG) given by DfT to bus operators as a way of rebating the fuel tax paid on diesel. Here again several studies have been undertaken to estimate the costs and benefits of such subsidy from government to operators. These studies include similar benefits as identified above. The values range from £1.70 of benefit to the economy for every pound spent estimated by DfT<sup>8</sup> to work by Greener Journeys arguing for reform to BSOG highlighting that for every £1 spent there are between £2.50 and £3.50 in benefits, including wider economic and social impacts<sup>9</sup>

#### Conclusions

In light of the range of estimates, I thought it prudent to suggest a level of benefit based only on professional judgement that was closer to the level that DfT's own analysis and can be defended. I therefore suggest a value closer to £1.70 to every £1 spent, though detailed analysis will prove this to be a conservative estimate of the benefits that will accrue.

#### **How could it be financed?**

One funding mechanism would be from greater levels of long-term and sustainable central govt support for local transport.

An alternative funding mechanism would come from higher levels of council tax. To fund free buses in Glasgow it would equate to around a **20 per cent increase on the 2019-20 council tax revenue** for the city of £290 million<sup>10</sup>. It is interesting to note that the contribution that councils across

<sup>7</sup> [https://discovery.ucl.ac.uk/id/eprint/1443617/1/Mackett\\_B60%2526%20CS%20in%20TP%20on%20concessionary%20travel.pdf](https://discovery.ucl.ac.uk/id/eprint/1443617/1/Mackett_B60%2526%20CS%20in%20TP%20on%20concessionary%20travel.pdf)

<sup>8</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/91110/impact-assessment.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/91110/impact-assessment.pdf)

<sup>9</sup> <https://greenerjourneys.com/wp-content/uploads/2014/10/BSOG-cost-benefit-analysis-report.pdf>

<sup>10</sup> <https://www.glasgow.gov.uk/CHttpHandler.ashx?id=44878&p=0>

Strathclyde (with a its population over 2.5 million) make a significantly smaller contribution from the council tax than the residents of West Yorkshire (with its population of 2.3 million). SPT receives £30 million annually and West Yorkshire Combined Authority receives £90 million from its member local authorities<sup>11</sup>. A significant increase from SPT member authorities to the transport authority to bring it line with other metropolitan authorities may also be another way of packaging the funding increase.

If the entire bus fleet across Glasgow became electric, this would bring a further £19.3 million annually in direct government support due to the Low Emission Incentive elements of the Bus Service Operator Grant available from Transport Scotland. This in turn would reduce the amount of extra central or local annual government support needed to deliver free buses. If all bus operations in the SPT region were electric this extra government support would amount to £42.9 million annually. The move to electric buses for the whole fleet would require a substantial investment, but this would be capital investment and it would be possible for SPT to justify such investment from central government in a similar manner to the capital funds that are secured for the Regional Transport Strategy.

Transport for Quality of Life report that In France, the *Versement Transport* local payroll tax is used by most urban transport authorities to fund public transport. It raises £5 billion per year for public transport (of which £2.6 billion is raised outside Paris / Ile-de-France).

Prepared by

Jeff Turner

Independent Transport Consultant

[jeffreymturner@hotmail.com](mailto:jeffreymturner@hotmail.com)

9<sup>th</sup> March, 2020

Revised version 14<sup>th</sup> September, 2020

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<sup>11</sup> <https://www.westyorks-ca.gov.uk/about-us/democracy-and-governance/funding-and-spending/>