

<b>Title:</b> Accessible Information Requirement <b>IA No:</b> DfT00361  <b>RPC Reference No:</b> <b>Lead department or agency:</b> Department for Transport  <b>Other departments or agencies:</b>	<b>Impact Assessment (IA)</b>			
	<b>Date:</b> 31/08/2016			
	<b>Stage:</b> Final			
	<b>Source of intervention:</b> Domestic			
	<b>Type of measure:</b> Primary legislation			
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<b>Summary: Intervention and Options</b>	<b>RPC Opinion: Green</b>
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Cost of Preferred (or more likely) Option				
Total Net Present Value	Business Net Present Value	Net cost to business per year (EANDCB in 2014 prices)	One-In, Three-Out	Business Impact Target Status
£2,016.7m	-£9.7m	£1.1m (non-validated)	In scope	Qualifying provision

**What is the problem under consideration? Why is government intervention necessary?**

Audio and visual announcements on buses can help a range of passengers, including those who are disabled, to feel confident when taking the bus. Despite this, provision of such services in the de-regulated bus market outside of London is low. There are positive benefits to society from the provision of such services mainly in the form of social inclusion of those whose primary mode of transport is the bus but who are prevented from using it because of the lack of such services. However, it may not be in the commercial interest of private operators to audio visual announcements. Government intervention is necessary to address this equity issue.

**What are the policy objectives and the intended effects?**

The overall aim is to ensure that all passengers have the information they need on board to travel by bus with confidence. Specifically, we wish to ensure that people with a range of impairments can travel in safety and with confidence, whilst giving bus operators the flexibility to choose solutions which will work for them. The intervention is expected to increase bus patronage by improving the ease of travelling by bus for all people, but specifically increase the accessibility of buses for disabled people and thereby improve their access to employment and services, and their general independence.

**What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)**

1. Do nothing: Operators continue to have discretion over all aspects of information provision.
2. Industry led code of practice with Government accreditation to incentivise adherence.
3. Accessible Information Requirement affecting all local services
4. Accessible Information Requirement excluding SMEs.
5. Accessible Information Requirement, with mitigation measures supporting SMEs (**Preferred option**).

Options 1 and 2 would be inappropriate as similar non-legislative approaches have had only limited effect in the past. Option 3 would provide a consistent level of information but put marginal bus services at risk. Option 4 would improve information in many areas, but would fail to help many passengers in rural loactions. Option 5 is preferred as it reduces the burden on small businesses in comparison to Option 3 but will still deliver a comparable level of coverage for services throughout the country.

<b>Will the policy be reviewed?</b> It will be reviewed. <b>If applicable, set review date:</b> 04/2025				
Does implementation go beyond minimum EU requirements?			Yes	
Are any of these organisations in scope?			<b>Micro</b> Yes	<b>Small</b> Yes
			<b>Medium</b> Yes	<b>Large</b> Yes
What is the CO <sub>2</sub> equivalent change in greenhouse gas emissions? (Million tonnes CO <sub>2</sub> equivalent)			<b>Traded:</b>	
			<b>Non-traded:</b>	

**I have read the Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) that the benefits justify the costs.**

**Signed by the responsible Minister:** Andrew Jones **Date:** 19.10.16

# Summary: Analysis & Evidence

# Policy Option 3

**Description:** Accessible Information Requirement for all operators

## FULL ECONOMIC ASSESSMENT

Price Base Year 2014	PV Base Year 2015	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: 778.5	High: 3,960.6	Best Estimate: 2,364.9

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	1.6	5.4	46.0
High	53.7	19.8	197.4
Best Estimate	24.5	14.7	135.4

### Description and scale of key monetised costs by 'main affected groups'

**Bus operators:** Familiarisation costs (£0.05m); Equipment costs (£1m-£48m); Installation costs (£0.1m-£6m); Back office costs (£54m-£198m)

### Other key non-monetised costs by 'main affected groups'

**Traffic commissioners:** Costs of enforcing requirement

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	0.0	105.1	778.5
High	0.0	551.2	3,960.6
Best Estimate	0.0	329.1	2,364.9

### Description and scale of key monetised benefits by 'main affected groups'

**Bus users:** Benefits from improved journey quality (£1,033m-£5,273m) **Bus operators:** Increased profits as a result of increased patronage (£7m-£115m); Advertising benefits (£18m-£165m). **Government:** Indirect tax benefits (£6m-£29m). **Wider society:** Negative impacts associated with net additional bus kms travelled including congestion impacts and infrastructure impacts (-£13m to -£70m)

### Other key non-monetised benefits by 'main affected groups'

### Key assumptions/sensitivities/risks

Discount rate (%)

3.5

The biggest uncertainty is around the number of buses in which operators would install audio-visual technology (AV) under business as usual. The evidence on this is weak and so a range of values have been used in the high, low and best estimate scenarios presented to reflect the uncertainty in this key factor. Other assumptions for which there is poor evidence have also been varied between the three scenarios presented.

## BUSINESS ASSESSMENT (Option 3)

Direct impact on business (Equivalent Annual) £m:			Score for Business Impact Target (qualifying provisions only) £m: -2.9
Costs: 15.7	Benefits: 12.8	Net: -2.9	

# Summary: Analysis & Evidence

# Policy Option 4

**Description:** Accessible Information Requirement excluding SMEs

## FULL ECONOMIC ASSESSMENT

Price Base Year 2014	PV Base Year 2015	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: 485.9	High: 3,211.9	Best Estimate: 1,851.4
<b>COSTS (£m)</b>	<b>Total Transition (Constant Price) Years</b>		<b>Average Annual (excl. Transition) (Constant Price)</b>		<b>Total Cost (Present Value)</b>
Low	0.0		3.6		31.4
High	48.0		16.8		170.6
Best Estimate	20.8		12.1		113.2
<b>Description and scale of key monetised costs by 'main affected groups'</b> <b>Bus operators:</b> Familiarisation costs (£0.004m); Equipment costs (£0-£43m); Installation costs (£0-£5m); Back office costs (£36m-£168m)					
<b>Other key non-monetised costs by 'main affected groups'</b> <b>Traffic commissioners:</b> Costs of enforcing requirement					
<b>BENEFITS (£m)</b>	<b>Total Transition (Constant Price) Years</b>		<b>Average Annual (excl. Transition) (Constant Price)</b>		<b>Total Benefit (Present Value)</b>
Low	0.0		63.6		517.3
High	0.0		446.1		3,382.5
Best Estimate	0.0		256.6		1,964.6
<b>Description and scale of key monetised benefits by 'main affected groups'</b> <b>Bus users;</b> Benefits from improved journey quality (£616m-£4,226m). <b>Bus operators:</b> Increased profits as a result of increased patronage (£5m-£103m); Advertising benefits (£18m-£165m). <b>Government:</b> Indirect tax benefits (£4m-£23m). <b>Wider society:</b> External impacts including congestion impacts and infrastructure impacts (-£7m to -£56m)					
<b>Other key non-monetised benefits by 'main affected groups'</b> None					
<b>Key assumptions/sensitivities/risks</b>					<b>Discount rate (%)</b>
The biggest uncertainty is around the number of buses in which operators would install audio-visual technology (AV) under business as usual. The evidence on this is weak and so a range of values have been used in the high, low and best estimate scenarios presented to reflect the uncertainty in this key factor. Other assumptions for which there is poor evidence have also been varied between the three scenarios presented.					3.5

## BUSINESS ASSESSMENT (Option 4)

<b>Direct impact on business (Equivalent Annual) £m:</b>			<b>Score for Business Impact Target (qualifying provisions only) £m: -0.9</b>
<b>Costs: 13.2</b>	<b>Benefits: 12.3</b>	<b>Net: -0.9</b>	

# Summary: Analysis & Evidence

# Policy Option 5a

**Description:** Accessible Information Requirement, with mitigation measures supporting SMEs (expected outcome)

## FULL ECONOMIC ASSESSMENT

Price Base Year 2014	PV Base Year 2015	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: 778.5	High: 3,960.6	Best Estimate: 2,364.9

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	1.6	9.7	78.4
High	53.7	24.3	231.4
Best Estimate	24.5	19.1	168.6

### Description and scale of key monetised costs by 'main affected groups'

Costs to bus operators: Familiarisation costs (£0.05m); Equipment costs (£1-£48m); Installation costs (£0.1m-£6m); Back office costs (£54m-£198m)  
 Costs to government: Costs of providing financial support to SMEs (£43m-£45m)

### Other key non-monetised costs by 'main affected groups'

Costs to traffic commissioners: Costs of enforcing requirement

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	0.0	109.4	856.9
High	0.0	555.7	4,192.0
Best Estimate	0.0	333.5	2,533.5

### Description and scale of key monetised benefits by 'main affected groups'

Bus operators: Increased profits as a result of increased patronage (£7m-£115m); Advertising benefits (£18m-£165m); Benefits to SMEs from financial support (£43m-£45m). Bus users; Benefits from improved journey quality (£1,033m-£5,273m). Government: Indirect tax benefits (£6m-£28m). Wider society: External impacts including congestion impacts and infrastructure impacts (-£13m to -£70m)

### Other key non-monetised benefits by 'main affected groups'

None

### Key assumptions/sensitivities/risks

Discount rate (%)

3.5

It is expected that the government will provide support for SMEs to help them to cover the costs of providing AV announcements and these impacts are shown here. If the government is unable to provide support, SMEs will be required to provide aural announcements only and so will not face such high costs (these impacts are shown in option 5b below). The expected impacts used on the first page of the impact assessment are for option 5b rather than 5a. This is because option 5b results in a larger net cost to business and so this shows the worst case scenario for businesses although option 5a is still considered to be a more likely outcome. Because the policy details for small and micro businesses will not be finalised until the secondary legislation stage, the EANDCB presented is will not be validated at this stage. Therefore, it should be taken to be a guide to the potential costs for businesses rather than an indication of the expected costs.

The biggest uncertainty is around the number of buses in which operators would install audio-visual technology (AV) under business as usual. The evidence on this is weak and so a range of values have been used in the high, low and best estimate scenarios presented to reflect the uncertainty in this key factor. Other assumptions for which there is poor evidence have also been varied between the three scenarios presented.

## BUSINESS ASSESSMENT (Option 5a)

Direct impact on business (Equivalent Annual) £m:			Score for Business Impact Target (qualifying provisions only) £m: 0.9
Costs: 15.7	Benefits: 16.7	Net: 0.9	

# Summary: Analysis & Evidence

# Policy Option 5b

**Description:** Accessible Information Requirement, with mitigation measures supporting SMEs (alternative outcome)

## FULL ECONOMIC ASSESSMENT

Price Base Year 2014	PV Base Year 2015	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: 508.7	High: 3,669.4	Best Estimate: 2,016.7

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	0.0	4.0	34.6
High	48.0	17.2	174.3
Best Estimate	20.8	12.5	116.7

### Description and scale of key monetised costs by 'main affected groups'

Costs to bus operators: Familiarisation costs (£0.05m); Equipment costs (£0-£43m); Installation costs (£0-£5m); Back office costs (£40m-£172m)

### Other key non-monetised costs by 'main affected groups'

Costs to traffic commissioners: Costs of enforcing requirement

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	0.0	66.9	543.4
High	0.0	505.6	3,843.6
Best Estimate	0.0	278.3	2,133.4

### Description and scale of key monetised benefits by 'main affected groups'

Bus operators: Increased profits as a result of increased patronage (£5m-£110m); Advertising benefits (£18m-£165m). Bus users; Benefits from improved journey quality (£650m-£4,818m). Government: Indirect tax benefits (£4m-£26m). Wider society: External impacts including congestion impacts and infrastructure impacts (-£8m to -£64m)

### Other key non-monetised benefits by 'main affected groups'

None

### Key assumptions/sensitivities/risks

Discount rate (%)

3.5

It is expected that the government will provide support for SMEs to help them to cover the costs of providing AV announcements. If the government is unable to provide support, SMEs will be required to provide aural announcements only and so will not face such high costs. The impacts shown here are for the worst case scenario in which SMEs do not receive government support but only have to provide aural announcements. If the government is able to provide support as expected, the costs to business will be lower and the overall benefits will be higher (see option 5a above). Because the policy details for small and micro businesses will not be finalised until the secondary legislation stage, the EANDCB presented is will not be validated at this stage. Therefore, it should be taken to be a guide to the potential costs for businesses rather than an indication of the expected costs.

The biggest uncertainty is around the number of buses in which operators would install audio-visual technology (AV) under business as usual. The evidence on this is weak and so a range of values have been used in the high, low and best estimate scenarios presented to reflect the uncertainty in this key factor. Other assumptions for which there is poor evidence have also been varied between the three scenarios presented.

## BUSINESS ASSESSMENT (Option 5b)

<b>Direct impact on business (Equivalent Annual) £m:</b>			<b>Score for Business Impact Target (qualifying provisions only) £m: -1.1</b>
Costs: 13.6	Benefits: 12.4	Net: -1.1	

# Evidence Base (for summary sheets)

## 1. Background

The Public Service Vehicles Accessibility Regulations 2000 (PSVAR) prompted a revolution in the accessibility of bus and coach services for disabled people and others with reduced mobility. Introducing for the first time, legal requirements for the provision of a designated wheelchair space and boarding facilities, priority seating, colour-contrasting handholds and a range of other features to help disabled people to travel in safety and comfort, it began a process which by 2015 saw 89% of buses in England meeting accessibility standards<sup>1</sup>. Unlike its equivalent in the railway sector, the Rail Vehicle Accessibility Regulations, PSVAR did not include any requirement for the provision of accessible information on-board buses – due in part to a lack of development in technological solutions for providing it.

Accessible information can help a range of passengers to feel more confidence when using bus services. This includes tourists, people new to an area or bus route, older people, and those who are disabled. For many disabled people in-particular accessible information is not just a nice-to-have, but can be vital in giving them confidence in their ability to complete journeys safely and independently, free from the fear of alighting at the wrong stop and being left stranded in an unfamiliar location.

The Guide Dogs for the Blind Association (“Guide Dogs”) has campaigned for many years for PSVAR to be amended to require the installation on new vehicles of equipment to provide audible next stop announcements. Their “Talking Buses” campaign has focused particularly on the impact that a lack of accessible information has on the ability of blind and partially sighted people to travel independently. A 2014 survey found that seven in ten blind and partially sighted people had experienced a bus driver forgetting to inform them when their stop was reached, and 23% of disabled respondents had been left more than a mile from their intended destination having missed their stop.<sup>2</sup>

We believe however that there is potential for accessible on-board information to benefit a much wider group of disabled people, and others with impairments which affect their ability to travel but who might not consider themselves to be disabled. Examples include people with hearing and cognitive impairments, learning disabilities or mental illness. With a growing population the incidence of both diagnosed and undiagnosed disability will likely increase and the availability of accessible on-board information could help many people to remain independent.

Government has to date resisted calls to require the installation on buses, existing or new, of equipment to provide next stop information, on the grounds that doing so would place an unjustified and disproportionate financial burden on bus operators, and could potentially jeopardise the viability of marginal routes run by operators which are Small or Medium Enterprises (SMEs). A Real Time Information Group (RTiG) report in 2010 estimated the whole life cost of installing audio and visual equipment on a large operator owned bus to be around £11,500 per vehicle, including both upfront and back office management costs<sup>3</sup>. A large transport operator has subsequently indicated that these estimates remain roughly accurate today, in 2016.

Despite this we believe that traditional audible and visual systems are not the only means of provided accessible information on-board buses and that technological developments are reducing related costs. Anecdotal evidence has for instance pointed to the development of all-in-one audio-visual (AV) systems which could represent a significant saving on existing systems. Others have suggested that viable solutions could be produced using a smartphone or tablet linked to inexpensive screens and speakers, relying on open-data and speech synthesis to communicate information. Wearable technology has also been trialled as a means of ensuring passengers know when to alight, with the Transport Systems Catapult’s “All Aboard” competition resulting in a prototype vibrating wristband being tested in Nottingham earlier in 2016.

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<sup>1</sup> DfT bus statistics 2015, Table BUS0603

<sup>2</sup> Guide Dogs (2014) ‘Destination Unknown: An investigation into bus passenger experiences’

<sup>3</sup> RTiG (2010) ‘Audio/Visual on buses: Cost model’

At its most rudimentary however, accessible information needn't involve complex and expensive technology, but rely instead on bus driver announcements and simple visual displays – and bus operators are best placed to determine which solutions work best for them.

Whilst we remain of the view that mandating specific equipment would be burdensome for some operators, we believe that an accessible information requirement could strike an appropriate balance between encouraging bus patronage, particularly amongst disabled passengers, and ensuring that operators and the technology market have the flexibility to innovate in the development of new, low-cost solutions for providing accessible on-board information.

## **2. Rationale for intervention**

The Department for Transport is committed to providing transport networks which work for everyone, including ensuring that disabled people have the same access to transport services as other members of society. As part of this work, it is developing an Accessibility Action Plan to contribute to the Government's stated aim of halving the disability employment gap – the difference between the employment rates for disabled and non-disabled people which, at the end of 2015 stood at 33%.

Bus services connect people with jobs, shops, social and leisure activities and for people in rural and isolated communities, and those who are disabled, can provide a lifeline, facilitating economic activity, promoting health and wellbeing.

Yet buses are often seen as difficult to use for those unfamiliar with a route, new to an area, or simply not wishing to spend an entire journey peering out the window lest they miss their stop. For many disabled people, as indicated above, the lack of information on many services outside London can prevent them from boarding in the first place, for fear that the driver will forget to notify them as their destination approaches and that they will be left stranded in an unfamiliar and potentially unsafe location. For those with sensory and cognitive impairments, learning disabilities and mental illness, consistent accessible information can provide a structure for journeys, helping them to gain confidence in their ability to travel independently.

The technology to provide automated on-board announcements has been available for over a decade, and is now used on virtually all services in London. More rudimentary approaches, relying on drivers to make announcements themselves have been possible for much longer. Yet, the de-regulated bus market outside London has not delivered improvements in accessible on-board information in any large scale way as provision of such services may not be commercially viable (unpublished DfT bus statistics show that in 2014, over 95% of buses in London were equipped with AV technology compared to less than 15% of buses in England outside of London)<sup>4</sup>. Therefore despite the social inclusion benefits associated with the provision of such services, there is a low level of provision in England outside of London. This means that those for whom a lack of information presents a barrier to access and those who depend on the bus as their sole mode of transport continue to be disadvantaged.

By intervening to correct for this equity issue we intend to ensure that all passengers have the information they need in order to have confidence in their ability to travel safely by bus – to enable them to reach employment opportunities, visit the shops, meet friends and engage with their local and wider communities. Such an intervention will provide strong support to the Department's overall efforts to improve the accessibility of transport services for disabled people and the growing older population, contributing to efforts to close the disability employment gap and promoting transport options for everyone.

## **3. Policy Objective**

The over-arching objective of the policy is to ensure that all bus passengers have sufficient information to travel in confidence when using bus services, to improve access to employment opportunities and economic, social and leisure activities, supporting economic growth and promoting personal wellbeing.

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<sup>4</sup> To date, the statistics relating to this question have not been published by the Department because of concerns about the robustness of the data. The figures presented here, therefore, should only be seen as a broad indication of the large difference in AV provision on buses in England outside of London and London

In particular we want to ensure that disabled passengers, including those who are visually impaired, can be sure that appropriate accessible information will be available on-board services, to give them the confidence to travel independently. In doing so, we also want to ensure that bus operators maintain the flexibility to innovate in the provision of accessible information, choosing the right solution for their individual circumstances.

#### **4. Stakeholder engagement**

The Accessible Information Requirement is being developed in parallel with the progress of the Bus Services Bill through the House of Lords, and timescales for analysing impacts and finalising detail are necessarily constrained. As such it has not been possible to undertake a full consultation. We do however work closely with key stakeholders representing the bus industry and disabled people, and have liaised with them as this policy has developed in order to understand their priorities and the impact of our proposals. We will continue to work with stakeholders through the implementation of this policy, including consulting on secondary legislation at an appropriate stage.

#### **5. Options under consideration**

Five core options have been considered in response to the policy objectives outlined above.

##### **5.1 Policy option 1: Do nothing**

###### *Description*

Under Option 1, no intervention would be made, meaning bus operators will continue to provide audio visual announcement services where this is deemed commercially sensible. Uptake has been relatively slow under the status quo and will continue to be so under this option.

###### *Effect*

In practice this option would likely result in a continuation of the present situation, with accessible information provided, mainly through traditional audio and visual systems by the largest operators and those with a buoyant market. Anecdotally we understand that whilst operators see value in AV systems as part of delivering a quality product to customers it is generally felt that the service has little effect on farebox revenue and that it is therefore difficult to make a case for its provision in its own right.

As previously indicated we understand that many disabled people lack confidence to travel by bus, because of a perceived lack of information to enable them to identify the route they are on and upcoming stops.<sup>5</sup> We believe that doing nothing would result in a continued focus on AV provision for premium services and on non-marginal bus routes which would result in an inconsistent resolution of such concerns and considerable difference in resulting access to transport for affected groups across the country.

###### *Benefits*

**Cost:** Option 1 would incur no immediate cost to bus operators or to Government

**Implementation:** There would be no need for legislation.

**Bus industry impact:** The bus industry would likely welcome a continuation of the status quo, enabling operators to determine the appropriate level of on-board information provided based on business need.

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<sup>5</sup> Guide Dogs (2014) 'Destination Unknown: An investigation into bus passenger experiences'

## *Disbenefits*

**Policy:** Option 1 might have a limited positive effect on the confidence of passengers to travel in certain areas. However, provision of accessible information is likely to remain inconsistent and at relatively low levels for the foreseeable future.

**Accessibility impact:** Government would likely continue to be criticised for not taking action to improve the accessibility of bus services for people for whom a lack of on-board information presents a barrier.

## *Conclusion*

Whilst doing nothing would not necessarily result in a standstill in the provision of accessible information experience to date suggests that growth in its provision is likely to remain slow and inconsistent, meaning that passengers, including those who are disabled, will continue to face uncertainty about information provided on-board services.

On this basis we do not feel that doing nothing is a viable option for achieving our policy aims. Option 1 is the counterfactual against which all the other options will be assessed.

## **5.2 Policy option 2: Incentivised Code of Practice**

### *Description*

Option 2 would involve working with industry bodies, such as the Confederation of Passenger Transport (CPT) to develop and implement a Code of Practice on the provision of accessible information on-board bus services. Adherence to the Code would be encouraged through the creation of a Government accreditation scheme, awarding signatory operators with a “mark” or award to highlight their commitment.

### *Effect*

An existing Code of Practice on the carriage of scooters on-board buses, developed with and marketed by CPT, has had some success in embedding a more consistent approach to the assessment and acceptance of scooters and the training of their users across parts of the bus industry. Adherence with it requires little financial investment on the part of operators however, and nor does it affect their core offering for the majority of customers. Further, whilst adopted widely it is by no means universal in its coverage of the UK bus sector.

Given this, we do not believe that a Code of Practice would achieve the level of coverage sought. It is likely that operators that currently believe the cost of installing equipment to provide accessible information is unjustifiable would continue to do so, and that those which do not see it as an integral aspect of their product would be unlikely to change their minds. Those operators which already take a proactive approach to information provision and accessibility conversely, would likely adopt the Code, and benefit from the accreditation system.

Further, adherence with the Code of Practice would likely be difficult to audit without significant resourcing, with potential negative reputational consequences for Government, if publicly supporting an accreditation scheme seen to be unreliable.

### *Benefits*

**Cost:** Operators would continue to make decisions about the level of accessible information provided on the basis of business factors, so there would be little cost to the industry. There would likely be some cost to Government from operating an accreditation system.

**Implementation:** It would take time to develop, consult on and implement both a Code of Practice and accreditation scheme, potentially consistent with the time required to introduce secondary legislation. It is unlikely that legislation would be required however.

**Bus industry impacts:** Such an approach would likely be welcomed cautiously by the bus industry on the basis that it would provide a framework helping those wishing to improve their on-board information to do so. There would be few negative consequences as the provision of accessible information would remain voluntary.

#### *Disbenefits*

**Policy:** Whilst comparable Codes of Practice have had some success in encouraging change we believe this would be unlikely in this circumstance due to the lack of commercial viability for audio-visual technology. It is possible that a gradual increase in the provision of accessible information may be observed, but coverage would likely remain inconsistent, and the policy aims unmet for some time to come.

**Accessibility Impact:** Government would be seen to take some action on the issue of improving on-board information, but the measure might be viewed as a stop-gap, pending legislative action. It is unlikely to have a significant impact on the accessibility of bus services however, meaning that those for whom the lack of accessible information currently presents a barrier to access would continue to face challenges accessing bus services.

#### *Conclusion*

We do not believe that this non-legislative option would be effective in achieving the policy aims in a consistent manner.

### **5.3 Policy option 3: Accessible Information Requirement applied to all local services**

#### *Description*

Option 3 would require primary and supporting secondary legislation to mandate the provision on-board local bus services of accessible information, identifying the route and upcoming stops. “Accessible Information” would be defined as information which neither relies solely on audible or visible information, in order that it is discernible both by people with impaired vision and hearing. An offence of failing to provide accessible information would be created, and enforced by the Traffic Commissioners.

#### *Effect*

Option 3 would result in all bus services in England providing a consistent level of accessible information within two years of commencement, enabling passengers for whom a lack of accessible information presents a barrier or disincentive to travelling by bus to build their confidence and willingness to use them. The technology-neutral approach would also enable bus operators to choose the most appropriate solution for providing accessible information, whether a rudimentary approach, new technology, or a fully-featured traditional audio/visual system – helping to drive innovation in the market for such products, and reduce associated costs.

The net benefit achieved would however differ significantly between operators employing more than 250 employees, and those categorised as small and medium enterprises (SMEs). The upfront and ongoing resourcing costs would present a significant burden for SMEs, potentially endangering the more marginal routes they run.

#### *Benefits*

**Policy:** This option would achieve the overall policy aims, including helping to give disabled passengers confidence to travel whilst enabling operators to choose the implementation approach that best suits their needs.

**Implementation:** This approach would require new primary and secondary legislation, with April 2018 targeted for commencement. Appropriate communications would be required to ensure a high level of understanding and compliance amongst operators subject to the requirement.

**Cost:** This option would result in significant benefits for larger operators, and could drive innovation and resulting cost-reductions in the market for associated technology.

#### *Disbenefits*

**Policy:** Whilst the core aims would be achieved, the option would pose a significant risk to wider policies in the sector by endangering the existence of marginal bus services, particularly those serving rural and isolated communities.

**Cost:** Costs for operators with 250 or fewer employees could be significant, potentially endangering the viability of marginal bus routes.

**Bus industry impacts:** The approach is unlikely to be welcomed by the bus industry, particularly given the potential negative effect on operators with 250 or fewer employees. Larger operators would however likely welcome the technology-neutral approach, enabling them to develop solutions which meet their needs.

**Accessibility impact:** This approach would be welcomed by representatives of disabled people as it would help to remove a significant barrier preventing many people from accessing bus services and the employment, social and leisure activities to which they facilitate access. The medium to longer term impact on marginal bus services would however negatively affect many of the people that improvements in on-board information would initially help, potentially leading to pressure to provide more support for rural services.

#### *Conclusion*

Whilst Option 3 is the best option for achieving the overall policy objectives, its effect on bus operators with 250 or fewer employees, and on the communities they serve, makes it untenable. Progressing this option is therefore not recommended.

### **5.4 Policy option 4: Accessible Information Requirement excluding Small and Medium Enterprises (SMEs)**

#### *Description*

Option 4 would require primary and supporting secondary legislation to require the provision of audio and visual information on-board local bus services, identifying the route and upcoming stops. The cost of installing and maintaining even rudimentary equipment to provide this would however be disproportionately high for micro, small and medium enterprises (SMEs) and they would therefore be excluded from the requirement entirely.

#### *Effect*

Across the vast majority of the bus network this option would result in a minimum level of information being provided, relying neither solely on audible or visible information, and available to all passengers wishing to use it. We believe that it would provide passengers with the assurance they need that they are travelling on the route they intended to, and that they will be able to identify the appropriate stop at which to alight.

Internal DfT analysis suggests that operators which are SMEs however, account for around 20% of all bus services. Many of these are likely to be in rural areas or other locations poorly served by alternative transport. It might be argued that people travelling in such areas are more vulnerable if caused to alight at an unfamiliar location, potentially further from their intended destination, and with longer to wait for a bus travelling in the opposite direction. Such people, particularly those who are disabled, are likely to be in greater need of confidence in their ability to complete journeys.

#### *Benefits*

**Cost:** Whilst this option would result in costs for operators, these are likely to be mitigated by the significant benefit to larger operators (as demonstrated by the analysis section below), the flexibility

afforded to operators as to how they comply, and by innovation in the market for related technology, stimulated by the requirement.

**Policy:** This option largely meets the overall policy objectives, except for the exclusion of services operated by SMEs, potentially disadvantaging more vulnerable bus users in rural and isolated areas.

**Accessibility impact:** This option would likely be largely welcomed, though Government might remain under pressure to extend it to all operators, as many passengers, including some who are disabled, would continue to face a lack of accessible on-board information when travelling.

#### *Disbenefits*

**Implementation:** This option will be relatively challenging to implement through both primary and supporting secondary legislation and may take several years to take full effect.

**Bus industry impacts:** This option will result in new upfront and ongoing costs for operators which, though mitigated by the benefits, are unlikely to be welcomed.

#### *Conclusion*

Whilst this option achieves the majority of the policy objective indicated above the exclusion of SME operators would lead to an inconsistency of application, unjustifiably disadvantaging passengers reliant on their services. This approach is therefore not recommended.

### **5.5 Policy option 5: Accessible Information Requirement with mitigation measures supporting operators which are SMEs (preferred option).**

#### *Description*

Option 5 would require primary and supporting secondary legislation to mandate the provision on-board local bus services of accessible information, identifying the route and upcoming stops. The cost of installing and maintaining even rudimentary equipment to provide this would however be disproportionately high for micro, small and medium enterprises (SMEs). There are a number of options for mitigating this negative effect, including Government support and less-onerous requirements, the details of which will be determined at a later date, with any exemptions implemented through Secondary Legislation.

#### *Effect*

Across the vast majority of the bus network this option would result in a minimum level of information being provided, relying neither solely on audible or visible information, and available to all passengers wishing to use it. We believe that it would provide passengers with the assurance they need that they are travelling on the route they intended to, and that they will be able to identify the appropriate stop at which to alight.

On the minority of services operated by SMEs the effect on passengers and operators would differ depending upon the mitigation measures chosen. Our preferred approach (option 5a) would be to provide SMEs with support to comply with the Requirement, effectively removing any cost burden associated with it. This would result in the respective passengers, including those in rural and isolated communities benefiting from the improved availability of accessible information experienced by passengers on routes operated by non-SME operators.

Alternative approaches might include the exclusion of services operated by SMEs from the requirement to provide information not solely relying on audible media, on the basis that the provision of visible information is potentially more onerous than for audible information (option 5b). Whilst this would reduce significantly the cost of compliance, it would also result in the respective passengers being provided with a reduced level of information. For the majority this is unlikely to affect negatively the positive effects of providing improved information on-board buses, but for people with impaired hearing this approach would result in a failure to remove the barriers continuing to prevent some people from accessing bus

services. Any negative effect would be exacerbated in rural areas by the longer distances between stops, and more isolated locations, which increase the risk posed by missing one's intended destination.

### *Benefits*

**Cost:** Whilst this option would result in costs for larger operators, these are likely to be mitigated by the significant benefits, the flexibility afforded to operators as to how they comply, and by innovation in the market for related technology, stimulated by the requirement. SME operators would incur little or no cost depending upon the nature of support provided by Government, or of any exemptions applied.

**Policy:** This option meets the overall policy objective as long as the cost burdens on SME operators is mitigated through Government support. Alternative mitigation measures relying on a reduced requirement for such operators would not achieve the policy objective to the same degree, owing to the disadvantaging effect on some passengers with impaired hearing.

**Accessibility impact:** This option would likely be welcomed, though any use of alternative mitigation approaches, such as a reduced requirement could result in Government being challenged over the consequent continued disadvantaging of people with impaired hearing.

### *Disbenefits*

**Implementation:** This option will be relatively challenging to implement through both primary and supporting secondary legislation and may take several years to take full effect.

**Bus industry impacts:** This option will result in new upfront and ongoing costs for operators which, though mitigated by the benefits, and by any Government support provided to SME operators, are unlikely to be welcomed.

### *Conclusion*

This option ensures that accessible information is available to all passengers using local bus services in England, without endangering the future of routes operated by SME operators. Where Government support mitigates the cost burden on SMEs all operators and passengers benefit alike. Where alternative mitigation measures are used, the majority of passengers still benefit, but those with impaired hearing may continue to face barriers to their independent and confident use of bus services.

Mitigation approaches will in any case not be determined finally at this stage, but will be implemented through Secondary Legislation, informed by stakeholder engagement and a further Impact Assessment.

This option achieves the right balance between ensuring everyone has the information they need, and protecting the bus industry from disproportionate costs, and is our preferred approach for taking this forward.

## **6. Analysis for mandating that operators provide audio or aural and visual announcements**

### **6.1 Baseline**

A key assumption underpinning the potential impacts of this policy is the level of provision of aural and visual announcements in the absence of the policy. Unpublished DfT statistics give a rough idea of the current prevalence of audio-visual technology in buses outside of London. However this data is not of a high quality and is only available for two years which is why it has not been published. We have used this data to estimate the number of audio-visual installations in English buses at present but have had to make assumptions as to how many more buses would have installed audio-visual (AV) technology over time without this policy. This assumption is highly uncertain and has a substantial effect on the overall impacts of the policy and so we have varied it between the three scenarios presented to demonstrate how sensitive our analysis is to this assumption. Values used for this assumption are presented in the table below.

*Table 1: Assumptions for the annual percentage point increase in AV technology installations under business as usual*

Scenario	Low	Central	High
Baseline annual percentage point increase in large buses with AV	8%	4%	2%
Baseline annual percentage point increase in SME buses with AV	4%	2%	1%

It is assumed that buses owned by SME operators will install AV technology at a slower rate than buses owned by larger operators due to their lower levels of resources and the fact that this technology is likely to be less commercially viable for them. The range of annual increases in the installations of AV technology is felt to be sensible given the rate of installation of other technologies on buses for which we have more robust data (such as automatic vehicle location). The assumption for the low scenario for large operators will result in all buses owned by large operators installing AV technology by 2025. Therefore the main impact of the policy on large operators in the low scenario is to bring forward installations which would have happened anyway. This rate of baseline installations is very optimistic however so it is very unlikely that this will be the case.

A brief description of the costs and benefits estimated is given below. For a more detailed methodology explaining how these impacts have been monetised and the key assumptions used, please refer to the Analytical Annex. All impacts are in 2014 prices and have been appraised over a ten year period from 2018-2027.

## **6.2 Monetised costs**

### **6.2.1 Costs to bus operators**

#### *6.2.1.1 Familiarisation costs – for SME and large operators in all policy options*

Bus operators will face some minor costs of familiarising themselves with the policy changes and understand the steps they will need to take to comply with the new regulations. It is assumed that, for every operator, one employee will have to spend approximately half a day to familiarise themselves with the new legislation. These costs will be a one-off costs in the first year of the scheme only. The overall familiarisation costs are expected to be around £50,000 in the first year of the scheme regardless of the option chosen. The majority are costs to SME operators because there are far more SME operators than there are large operators PSV survey data suggests that around 90% of English bus operators are SMEs. In total, there are approximately 800 bus operators in England

#### *6.2.1.2 Equipment costs – for SME and large operators who have to provide audio-visual announcements*

The policy does not specify that operators must install a certain technology in order to comply with the regulation. It only states that operators must provide aural and visual announcements. It is therefore assumed that large and SME operators will install different audio-visual (AV) technologies in order to comply with the regulations. Large operators are assumed to install more expensive high-end AV technology which will allow them to automate the announcements by connecting them with their automatic vehicle location (AVL) systems (which they will already have to install as part of the open data provisions in the Bus Services Bill). These more expensive systems will also be able to run adverts from which the operators will be able to earn extra revenue (see benefits section 5.5.1.2). The overall equipment costs to large operators are expected to be between £0 and £43m depending on the price of the equipment and how many buses are expected to install AV in the absence of the policy. In the low scenario the equipment costs are zero as it is assumed that 100% of large operator buses would have eventually installed AV technology by 2025 and so the equipment costs are merely being brought forward meaning that the undiscounted costs are zero.

For the policy to mandate that SMEs provide AV announcements, SME operators are assumed to install more low cost solutions than larger operators such as a simple PowerPoint presentation run from a tablet computer connected to a monitor. Such an installation would still be compliant with the regulation but would not be as costly as the more typical AV technology which is assumed to be installed by larger operators. The overall equipment costs for SMEs are expected to be between £1m and £5m depending on the price of the equipment and how many buses are expected to install AV in the absence of the policy.

For the policy to mandate that SMEs provide aural announcements, it is assumed that SME operators will comply with this requirement without installing any equipment. There are therefore no equipment costs to SME operators for this option.

#### *6.2.1.3 Installation costs – for SME and large operators who have to provide audio-visual announcements*

In addition to the costs of the AV equipment, operators will also face costs to install the equipment on their buses. These costs are likely to be smaller for SME operators as the equipment being installed is likely to be less complicated. The overall installation costs are estimated to be between £0 and £5m for large operators and £0.1m to £0.8m for SME operators depending on how many buses are expected to install AV in the absence of the policy. For the policy to mandate SMEs to provide aural announcements only, it is assumed that SME operators will comply with the requirement without installing equipment and so they are not expected to face any installation costs.

#### *6.2.1.4 Back office costs – for SME and large operators who have to provide audio-visual announcements*

Bus operators are expected to incur back office costs in order to monitor and run AV technology on their buses. For large operators, these will include the costs of programming the AV technology with route data, recording the audio announcements, maintaining the technology and ensuring that route data is up-to-date. They are likely to employ at least 1FTE (full time employee) to run the AV technology centrally on a permanent basis. For SME operators who install AV technology, back office costs may include the costs of maintaining the equipment and the costs of buying a computer on which to create the slides for each route. It is expected that SME operators will employ 0.1FTE (one employee working half a day per week) to run the technology centrally on a permanent basis. The overall back office costs are expected to be between £4m and £17m per year for large operators and £2m to £3m per year for SME operators depending on how many buses are expected to install AV in the absence of the policy. If SME operators are only required to provide aural announcements, as in policy option 5, it is not expected that they will face any additional back office costs beyond the driver training costs which are described below.

#### *6.2.1.5 Driver training costs – for SME operators who have to provide aural announcements*

For SME operators to comply with a requirement that they provide aural announcements, it is expected that they will face some costs to train their drivers to verbally announce each bus stop. These costs are estimated to be approximately £3m to £4m in the first year of the scheme depending on how many buses are assumed to install AV without the policy.

### **6.2.2 Costs to government**

In the preferred option (option 5a), SMEs are expected to be supported by government in order to help them to cover the initial and ongoing costs of providing AV announcements. The costs faced by SMEs are likely to be long term and so any government support will have to be an ongoing commitment. The costs to government are expected to be equivalent to the costs faced by SMEs in option 3 but would also have to be paid to SMEs who would have provided the AV announcements regardless of the policy. These costs to government are estimated to be between £4m and £5m per year depending on the costs of the equipment that the operators install. If government is unable to provide financial support to SMEs

(as in option 5b), there will not be any costs to government and SMEs will only have to provide aural announcements so they will not be faced with such a significant financial burden.

### **6.2.3 Non-monetised costs**

It is likely that there will be some small enforcement costs for Traffic Commissioners who will have to enforce compliance from bus operators with these policies. These are not anticipated to be very large and so have not been monetised due to a lack of any evidence.

## **6.3 Monetised benefits**

### **6.3.1 Benefits to operators**

#### *6.3.1.1 Increased profits as a result of increased patronage – for SME and large operators in all policy options*

It is expected that the improved journey quality as a result of the AV technology could lead to increased patronage and thus increased revenues and profits for bus operators although these profits are unlikely to be substantial enough to compensate for the initial costs of the AV technology. This analysis suggests that the benefits for large operators as a result of increased patronage could be between £0.5m and £10m per year. If SME operators are required to make AV announcements, these benefits could be between £0.2m and £1.3m per year but, if they are only required to provide audio announcements, their benefits from increased patronage could be between £0.01m and £0.6m per year. These impacts depend on the number of buses who would install AV without the policy and how responsive demand would be to an improvement in journey quality.

#### *6.3.1.2 Benefits from using the AV screens for advertising – for large operators only*

It is expected that large operators will be able to run adverts on their AV screens and thus will receive benefits from doing so. This is based on information from the charity Guide Dogs that some operators have been using advertising revenues to offset the costs of installing AV technology. It is assumed that the low cost solutions which it are installed by SME operators will not be able to do this and so SME operators will not receive advertising benefits. The increased advertising income for large bus operators is estimated to be between £2m and £17m per year depending on the number of buses who it is assumed would have installed AV without the policy.

#### *6.3.1.3 Benefits to SMEs from government support*

In the preferred option (option 5a), it is expected that government will provide financial support to SME operators to cover the costs of providing AV announcements. The support will also have to be provided to SME operators who would have provided AV announcements in the absence of the policy as it will not be possible to determine which SMEs would have acted without this policy. This support will give a benefit to SME operators of between £4m and £5m per year. If government is unable to provide this support then SME operators will not receive this benefit however they will also only be required to provide aural announcements meaning that they will face much lower costs than they would if they were required to provide AV announcements (as in option 5b).

### **6.3.2 Benefits to bus users**

Bus users are likely to gain substantial benefits from mandating that bus operators provide AV announcements. Existing bus users will benefit from improved journey quality and perhaps make additional but some new bus users will also decide to make bus journeys as a result of the policy. The average benefits per journey from the provision of aural and/or visual announcements have been taken from DfT research on the benefits of bus quality measures.<sup>6</sup> These benefits have been multiplied by the

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<sup>6</sup> Department for Transport (2009) 'The role of Soft Measures in Influencing Patronage Growth and Modal Split in the Bus Market in England'

number of existing bus journeys which will be made on buses with audio-visual announcements as a result of the proposed policy. In order to determine the benefits to new users, the benefits per journey have been multiplied by the estimated number of new journeys and multiplied by a half in line with the 'rule of a half' methodology as explained in the Department's Transport Appraisal Guidance (Unit A1.3)<sup>7</sup>.

The total benefits to bus users are estimated to be between £62m and £423m per year from mandating that large operators provide AV announcements and £42m to £105m per year from mandating that SMEs provide AV announcements. The main driver of the variation between the high and low values is the number of buses that are assumed to have installed AV technology under business as usual. If SME operators are only mandated to make audio announcements, it is estimated that the benefits to bus users could be between £3m and £46m per year depending on the additional journey quality improvements from making aural announcements only.

### **6.3.3 Benefits to government**

The increase in demand for bus journeys as a result of the improved journey quality is expected to lead to some passengers switching mode from car to bus. Government will receive indirect benefits from a change in the total amount of fuel duty paid. The lost tax revenue from car fuel tax will be offset by an increase in revenue from bus fuel tax. This benefit is estimated to be relatively minor and to be between £0.4m and £2m annually as a result of mandating that large operators AV announcements and £0.2m to £0.5m annually as a result of SMEs being mandated to provide AV announcements. If SMEs are only mandated to provide aural announcements, the net benefit to government is expected to be between £0.02m and £0.3m per year depending on the number of buses that are assumed to install AV in the absence of the policy.

### **6.3.4 Benefits to wider society**

Transport use can have negative impacts on wider society through things such as congestion, air pollution and road accidents. An increase in bus use will increase these negative impacts on wider society. This will be offset to some extent by a decrease in car use as some passengers will switch the mode of transport which they use. The net impact is expected to be a cost of between £1m and £6m per year from mandating that large operators provide AV announcements of which the biggest negative impact will be on congestion. If SMEs are required to provide AV announcements, there is expected to be a net cost to wider society of between £0.6m and £1.4m per year but if they are only mandated to provide aural announcements, the net cost to society is expected to be between £0.03m and £0.6m per year. The variation between these values can be largely explained by the number of buses that it is assumed would install AV without the policy.

## **6.4 Impacts for policy options 3, 4, 5a and 5b**

Analysis has been carried out for policy options 3, 4, 5a and 5b. Option 1 is the do nothing option against which all other options are compared so it would not make sense to monetise this. Option 2 has not been monetised due to a lack of evidence however the impacts would likely be substantially less for a voluntary scheme than for a mandatory requirement like options 3, 4, 5a and 5b. For the three monetised options, the expected effects on large operators are expected to be the same because they are required to provide aural and visual announcements in all options. The difference in impacts between these three options can therefore be explained by the effects of different policy requirements on SME operators.

The analysis of the effects of mandating that all large operators make aural and visual announcements on all of their buses and that SME operators make aural or aural and visual announcements is presented in three (High, Low and Central) scenarios. The central scenario represents our best estimates of the impacts of the policy. The high and low scenarios reflect the inherent uncertainty in the effects of this policy due to the weak evidence base on the current prevalence of audio-visual (AV) provision in the industry. All impacts stated below are impacts which are additional to policy option 1 of doing nothing. All

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<sup>7</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/313222/webtag-tag-unit-a1-3-user-and-provider-impacts.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/313222/webtag-tag-unit-a1-3-user-and-provider-impacts.pdf)

impacts have been assessed over a 10 year period starting from 2018, and all figures are displayed in 2014 prices and are undiscounted unless otherwise stated.

### 6.4.1 Impacts of policy option 3

For option 3, both large and SME operators will be required to provide audio and visual announcements on their buses. This policy is expected to come into effect in 2018 with large operators required to be fully compliant by 2020 and SME operators required to be fully compliant by 2023. It is expected that large operators will seek to comply with this by installing more hi-tech solutions on their buses which will be automated, linked to their location and be capable of displaying adverts. As these solutions are felt to be prohibitively expensive for SME operators, it is expected that they will comply with this requirement by installing more low cost solutions which will not be automated and will not be able to display adverts. A summary of the expected impact of this option is shown in table 1 below.

*Table 2: Estimated impacts of policy 3: A policy to mandate the provision of audio-visual announcements on bus services in England (2018-2027)*

	Low	Central	High
<i>Impacts on bus operators, £m, undiscounted, 2014 prices</i>			
Familiarisation costs <sup>8</sup>	£0.0	£0.0	£0.0
Equipment costs	£1.4	£22.7	£47.6
Installation costs	£0.1	£1.8	£6.0
Back office costs	£54.2	£146.9	£197.7
Increased profits as a result of increased demand	£6.8	£50.4	£115.4
Increased advertising benefits	£18.3	£93.5	£165.4
Benefits of subsidy to SME operators	£0.0	£0.0	£0.0
Net impact	-£30.7	-£27.5	£29.4
<i>Impacts on bus users, £m, undiscounted, 2014 prices</i>			
Benefits from improved journey quality	£1,032.8	£3,171.5	£5,272.8
<i>Impacts on government, £m, undiscounted, 2014 prices</i>			
Costs of subsidy to government	£0.0	£0.0	£0.0
Indirect taxation benefits	£6.0	£17.4	£28.5
Net impact	£6.0	£17.4	£28.5
<i>Impacts on wider society, £m, undiscounted, 2014 prices</i>			
Congestion benefits	-£15.8	-£50.2	-£83.9
Infrastructure benefits	£3.7	£11.2	£18.4
Accident benefits	-£0.7	-£2.1	-£3.5
Local air quality benefits	£0.0	£0.1	£0.2
Noise benefits	£0.1	£0.4	£0.6
Greenhouse gases benefits	-£0.5	-£1.3	-£2.1
Net impact	-£13.1	-£41.9	-£70.2
Net Present Value, £m, undiscounted, 2014 prices	£995.0	£3,119.5	£5,260.4

<sup>8</sup> The familiarisation costs are too small to show up on the table, they are expected to be approximately £50,000 in all scenarios

Over the ten year appraisal period, this policy is expected to deliver substantial benefits to society ranging from an overall benefit of £995m to £5,260m. The largest benefits are those to bus users as a result of improved journey quality brought about by audio-visual announcements (which range from £1,033m to £5,273m). The net impact to operators is expected to range from a net cost of around £31m in the low scenario to a net benefit of £29m in the high scenario. This is difference is driven by the variance in the expected advertising benefits for larger operators with SME operators being expected to incur a cost of between £18m in the low scenario and £23m in the high scenario.

#### 6.4.2 Impacts of policy option 4

For policy 4, there is no requirement placed on SME operators but large operators are still required to provide audio-visual announcements as in options 3 and 5. The policy is expected to come into effect in 2018 with large operators given until 2020 to comply with the requirements. A summary of the expected impact of this option is shown in table 2 below.

*Table 3: Estimated impacts of policy 4: A policy to mandate the provision of audio-visual announcements on bus services run by large operators in England (2018-2027)*

	Low	Central	High
<i>Impacts on bus operators, £m, undiscounted, 2014 prices</i>			
Familiarisation costs <sup>9</sup>	£0.0	£0.0	£0.0
Equipment costs	£0.0	£19.3	£42.8
Installation costs	£0.0	£1.5	£5.2
Back office costs	£36.5	£121.0	£167.8
Increased profits as a result of increased demand	£5.1	£43.9	£102.8
Increased advertising benefits	£18.3	£93.5	£165.4
Benefits of subsidy to SME operators	£0.0	£0.0	£0.0
Net impact	-£13.1	-£4.3	£52.4
<i>Impacts on bus users, £m, undiscounted, 2014 prices</i>			
Benefits from improved journey quality	£616.5	£2,446.7	£4,226.1
<i>Impacts on government, £m, undiscounted, 2014 prices</i>			
Costs of subsidy to government	£0.0	£0.0	£0.0
Indirect taxation benefits	£3.8	£13.6	£23.0
Net impact	£3.8	£13.6	£23.0
<i>Impacts on wider society, £m, undiscounted, 2014 prices</i>			
Congestion benefits	-£9.0	-£38.4	-£66.9
Infrastructure benefits	£2.2	£8.6	£14.8
Accident benefits	-£0.4	-£1.6	-£2.8
Local air quality benefits	£0.0	£0.1	£0.2
Noise benefits	£0.1	£0.3	£0.5
Greenhouse gases benefits	-£0.3	-£1.0	-£1.7
Net impact	-£7.4	-£32.0	-£55.9
Net Present Value, £m, undiscounted, 2014 prices	£599.8	£2,424.0	£4,245.6

As with policy 3, over the ten year appraisal period this policy is expected to deliver substantial benefits to society ranging from an overall benefit of £600m to £4,246m. Therefore most of the benefits of

<sup>9</sup> The familiarisation costs are too small to show up on the table, they are expected to be approximately £4,000 in all scenarios

mandating that all operators provide AV can be achieved by only mandating that large operators provide AV. The largest benefits are those to bus users as a result of improved journey quality brought about by audio-visual announcements (which range from £617m to £4,226m). The net impact to operators is expected to range from a net cost of around £13m in the low scenario to a net benefit of £52m in the high scenario. In the low scenario, there are no equipment or installation costs to operators as it is assumed that the installations of AV would grow to the point that all larger operators would have installed AV in their buses by 2025. There are therefore no additional installation or equipment costs but some of these costs are incurred sooner by some operators.

### 6.4.3 Impacts of policy option 5 (a and b)

For policy option 5, the government will attempt to achieve a high level of accessibility over the entire country whilst mitigating the impacts on SMEs. Option 3 delivers this high level of accessibility but the financial burdens on SMEs are substantial. For option 5, there are two potential outcomes depending on whether the government is able to provide financial support to the SMEs:

- Option 5a: In this option, both SMEs and large operators will be mandated to provide AV announcements but the government will financially support SMEs to do so. This is expected to be the most likely outcome.
- Option 5b: In this option, large operators will be mandated to provide AV announcements but SMEs will only be mandated to provide aural announcements. The government will not provide any financial support to SMEs but their net burden is expected to be relatively small.

Option 5a is our preferred outcome and is considered to be the most likely option. However there is some chance that the government will be unable to commit to the level of financial support necessary for this option. In this case, the policy will be altered in secondary legislation so as to require SMEs to provide aural announcements only. With both of these options, the financial burden on SMEs will be low but the level of accessibility coverage will be high. While it is expected option 5a will be the eventual outcome, the overall impacts used on the summary page are taken option 5b. Option 5b has lower benefits and higher costs to business than option 5a but has been used to show the worst case scenario for SMEs for this option to provide a fairer comparison with the other policy options. We will revisit this impact assessment during the secondary legislation process and at that point we will be able to determine which of these options we will choose to implement.

The estimated impacts of option 5a are shown in table 3. This policy would come into effect in 2018 with large operators given until 2020 to comply and SME operators given until 2023. The support provided by government covers the expected costs of providing AV announcements for all SME operators (including those who would provide AV announcements without the policy).

*Table 4: Estimated impacts of option 5a (expected outcome): A policy to mandate the provision of audio-visual announcements on all local bus services but with financial support provided to SME operators by the government (2018-2027)*

	Low	Central	High
<i>Impacts on bus operators, £m, undiscounted, 2014 prices</i>			
Familiarisation costs <sup>10</sup>	£0.0	£0.0	£0.0
Equipment costs	£1.4	£22.7	£47.6
Installation costs	£0.1	£1.8	£6.0
Back office costs	£54.2	£146.9	£197.7
Increased profits as a result of increased demand	£6.8	£50.4	£115.4
Increased advertising benefits	£18.3	£93.5	£165.4
Benefits of subsidy to SME operators	£43.0	£43.9	£45.1
<b>Net impact</b>	<b>£12.3</b>	<b>£16.4</b>	<b>£74.4</b>

<sup>10</sup> The familiarisation costs are too small to show up on the table, they are expected to be approximately £50,000 in all scenarios

<i>Impacts on bus users, £m, undiscounted, 2014 prices</i>			
Benefits from improved journey quality	£1,032.8	£3,171.5	£5,272.8
<i>Impacts on government, £m, undiscounted, 2014 prices</i>			
Costs of subsidy to government	£43.0	£43.9	£45.1
Indirect taxation benefits	£6.0	£17.4	£28.5
Net impact	-£37.0	-£26.5	-£16.6
<i>Impacts on wider society, £m, undiscounted, 2014 prices</i>			
Congestion benefits	-£15.8	-£50.2	-£83.9
Infrastructure benefits	£3.7	£11.2	£18.4
Accident benefits	-£0.7	-£2.1	-£3.5
Local air quality benefits	£0.0	£0.1	£0.2
Noise benefits	£0.1	£0.4	£0.6
Greenhouse gases benefits	-£0.5	-£1.3	-£2.1
Net impact	-£13.1	-£41.9	-£70.2
Net Present Value, £m, undiscounted, 2014 prices	£995.0	£3,119.5	£5,260.4

The net impacts of this option are the same as for option 3 because all operators will be mandated to provide AV announcements. The only change is that government will financially support SMEs to provide AV announcements which will provide a benefit to SMEs and a cost to government. This policy will therefore deliver the maximum level of coverage of AV announcements without placing a large financial burden on SMEs.

For option 5b, if the government is unable to provide financial support for SMEs, they will only be required to provide aural announcements as it is felt that these would be far easier to comply with than visual announcements because they could be provided by bus drivers simply calling out the names of stops. This policy would be expected to come into effect in 2018 with all operators required to be fully compliant by 2020. The main costs to SME operators for this option would therefore be the costs of training their drivers to make verbal announcements before the bus reaches each stop. A summary of the estimated impacts of this option is shown in table 4 below.

*Table 5: Estimated impacts of policy option 5b (alternative outcome): A policy to mandate the provision of audio-visual announcements on bus services run by large operators and to mandate the provision of aural announcements only on bus services run by SME operators in England (2018-2027)*

	Low	Central	High
<i>Impacts on bus operators, £m, undiscounted, 2014 prices</i>			
Familiarisation costs <sup>11</sup>	£0.0	£0.0	£0.0
Equipment costs	£0.0	£19.3	£42.8
Installation costs	£0.0	£1.5	£5.2
Back office costs	£40.0	£124.9	£171.8
Increased profits as a result of increased demand	£5.3	£45.9	£110.1
Increased advertising benefits	£18.3	£93.5	£165.4
Benefits of subsidy to SME operators	£0.0	£0.0	£0.0
Net impact	-£16.5	-£6.2	£55.6
<i>Impacts on bus users, £m, undiscounted, 2014 prices</i>			

<sup>11</sup> The familiarisation costs are too small to show up on the table, they are expected to be approximately £50,000 in all scenarios

Benefits from improved journey quality	£649.7	£2,663.1	£4,817.9
<i>Impacts on government, £m, undiscounted, 2014 prices</i>			
Costs of subsidy to government	£0.0	£0.0	£0.0
Indirect taxation benefits	£4.0	£14.8	£26.4
Net impact	£4.0	£14.8	£26.4
<i>Impacts on wider society, £m, undiscounted, 2014 prices</i>			
Congestion benefits	-£9.5	-£41.7	-£76.1
Infrastructure benefits	£2.3	£9.4	£16.9
Accident benefits	-£0.4	-£1.8	-£3.2
Local air quality benefits	£0.0	£0.1	£0.2
Noise benefits	£0.1	£0.3	£0.6
Greenhouse gases benefits	-£0.3	-£1.1	-£2.0
Net impact	-£7.8	-£34.8	-£63.6
Net Present Value, £m, undiscounted, 2014 prices	£629.3	£2,637.0	£4,836.3

Again, this policy is expected to deliver substantial benefits to society over the ten year appraisal period (between £629m and £4,836m). This option therefore achieves around 85% of the benefits of option 3 but only imposes a small net cost on all operators ranging to a small net benefit in the high scenario. The largest benefits are those to bus users which are estimated to be between £650m and £4,818m. In the low scenario, there are no equipment or installation costs to operators as it is assumed that the installations of AV would grow to the point that all larger operators would have installed AV in their buses by 2025. There are therefore no additional installation or equipment costs but some of these costs are incurred sooner by some operators. SME operators are assumed to comply with their requirement by training their drivers to announce the stops and so are not expected to face any installation or equipment costs. While it is expected that option 5a is the more likely outcome, the impacts of option 5b have been presented on the summary page to show the potential net cost to business if in the case that government is not able to provide financial support to SMEs.

## 6.5 Overall impacts – policy options 3, 4, 5a and 5b

Analysis of policy options 3, 4, 5a and 5b are presented below in order to allow for a clear comparison between the options to be made. While the impact on large operators of the policy remains the same under all four options, the impacts on small operators differ depending on the policy option under consideration. The table below summarises the expected overall impacts from the four policy options modelled. Only the central scenarios are displayed for each option.

*Table 6: Summary of the expected impacts from the four policy options modelled (central scenarios only, 2018-27)*

	Option 3	Option 4	Option 5a	Option 5b
<i>Impacts on bus operators, £m, undiscounted, 2014 prices</i>				
Familiarisation costs	£0.0	£0.0	£0.0	£0.0
Equipment costs	£22.7	£19.3	£22.7	£19.3
Installation costs	£1.8	£1.5	£1.8	£1.5
Back office costs	£146.9	£121.0	£146.9	£124.9
Increased profits as a result of increased demand	£50.4	£43.9	£50.4	£45.9
Increased advertising benefits	£93.5	£93.5	£93.5	£93.5
Benefits of subsidy to SME operators	£0.0	£0.0	£43.9	£0.0
Net impact	-£27.5	-£4.3	£16.4	-£6.2

<i>Impacts on bus users, £m, undiscounted, 2014 prices</i>				
Benefits from improved journey quality	£3,171.5	£2,446.7	<b>£3,171.5</b>	<b>£2,663.1</b>
<i>Impacts on government, £m, undiscounted, 2014 prices</i>				
Costs of subsidy to government	£0.0	£0.0	<b>£43.9</b>	<b>£0.0</b>
Indirect taxation benefits	£17.4	£13.6	<b>£17.4</b>	<b>£14.8</b>
Net impact	£17.4	£13.6	<b>-£26.5</b>	<b>£14.8</b>
<i>Impacts on wider society, £m, undiscounted, 2014 prices</i>				
Congestion benefits	-£50.2	-£38.4	<b>-£50.2</b>	<b>-£41.7</b>
Infrastructure benefits	£11.2	£8.6	<b>£11.2</b>	<b>£9.4</b>
Accident benefits	-£2.1	-£1.6	<b>-£2.1</b>	<b>-£1.8</b>
Local air quality benefits	£0.1	£0.1	<b>£0.1</b>	<b>£0.1</b>
Noise benefits	£0.4	£0.3	<b>£0.4</b>	<b>£0.3</b>
Greenhouse gases benefits	-£1.3	-£1.0	<b>-£1.3</b>	<b>-£1.1</b>
Net impact	-£41.9	-£32.0	<b>-£41.9</b>	<b>-£34.8</b>
Net impact, £m, undiscounted, 2014 prices	£3,119.5	£2,424.0	<b>£3,119.5</b>	<b>£2,637.0</b>

This table shows that the overall benefit to society is highest for options 3 and 5a. While the overall benefits of option 3 are very high, this option also imposes the highest net costs on businesses with over 80% of these costs falling on SMEs. Consideration was therefore given to excluding SMEs from the scope of the requirement in option 4. This option substantially reduced the net cost to business but also substantially reduced the net benefit to society and the overall coverage of accessibility announcements. The preferred option was therefore to achieve the maximum level of coverage of accessibility but to mitigate the financial burdens on SMEs in option 5.

The expected outcome of this policy is option 5a which delivers net benefits equal to option 3 but with a net benefit to business. Option 5a relies on financial support to SMEs from government so if it is not possible for the government to provide this support, SMEs will only be required to provide aural announcements as in option 5b. The net benefits to society from option 5b are higher than for option 5a but the net costs for SMEs is not as prohibitive as for option 3. We therefore believe that option 5a is the best option but, if it is not feasible for government to deliver, option 5b achieves the best outcome for society without imposing undue burdens on small businesses.

## 6.6 Risks and assumptions

1. The assumption which has the biggest impact on the scale of the costs and benefits is the assumption for the number of buses on which bus operators install AV over time under business as usual. We have some data from the Department's PSV survey on the number of buses with AV installed for two financial years (2013/14 and 2014/15) but this data has not been published because the quality is not considered to be good enough. This is due to concerns about the wording of the question in the survey and it something which we are looking to improve in future editions of the PSV survey. Two years' worth of data is also insufficient to determine the long term trend in the installation of AV technology in buses. We have therefore used the values for 2014/15 for bus AV installations and extrapolated this over time based on some assumed growth rates. These growth rates have been varied between the three scenarios in order to reflect the fact that they are assumptions for which we do not have any robust data. We can reasonably expect that the number of buses fitted with AV technology will grow over time but we do not have any evidence as to the likely trend growth in this. Given the low levels of AV installations at present - AV is installed in around a third of

buses in England (around 12,000 out of 33,000 buses) but less than 15% of buses in England outside of London (around 3,000 out of 23,000 buses - the growth values presented in this analysis appear reasonable).

2. This analysis has assumed that the policy will apply to buses in England only. It is intended that this policy will apply to England only at the time of writing but we are still awaiting confirmation from the Office of the Advocate General and the Territorial Offices as to whether this is possible because, while bus policy is a devolved matter, equalities are a reserved power meaning that these powers have not been devolved to Scotland and Wales. Therefore there is some chance that this policy will ultimately apply to Scotland and Wales as well. If this is the case, the scale of the impacts would change but the impacts on the average business would not. We therefore consider the costs and benefits shown in this impact assessment to be representative of the likely impacts on bus operators in Scotland and Wales were the scope of this policy to be changed so that these areas were to be brought within scope.
3. The definition of an SME for the purposes of this analysis is a business with 250 or less employees. Based on PSV survey data, we have also assumed that an SME is an operator with less than 100 buses. These definitions do not perfectly overlap, (i.e. there are some operators who are considered to be SMEs by one definition but not by another) but this simplifying assumption has been made for modelling purposes. Less than 1% of the operators are affected by this assumption so it is considered to be an acceptable simplification.
4. The data that we have on the equipment and installation costs of AV technology may be slightly outdated. As the market for AV technology is growing, it is likely that there will be more competition and prices will be driven down over time. We have therefore included a range of costs in the three scenarios but we consider the values used in the central scenario to be conservative.
5. The benefits to operators from increased patronage are calculated using an assumption for the average operating margins of operators. For large operators, the central operating profit value has been taken from the Competition Commission's investigation into the UK bus market<sup>12</sup>, but this has been varied in the high and low scenarios to reflect the likely differences in operating profits for different operators. It has been assumed that profit margins for SME operators are half those of large operators. This is not based on evidence but is felt to be a sensible and conservative assumption.
6. The advertising revenue which can be generated from AV screens is uncertain as reliable cost estimates are not readily available. Two methodologies have therefore been used to calculate the potential advertising revenue: one using estimates from a bus company for the average time taken to regain the initial capital investment in AV through advertising, and another trying to compare the costs of traditional bus advertising with the expected uplift that could be generated using electronic advertising boards. The lower value from these two methodologies has been used for this analysis in each of the three scenarios in order to be more conservative. While the revenues from advertising are quite unclear, they do not constitute a significant proportion of the overall benefits to society and have only been included in the large operator analysis.
7. While the analysis has been assumed to apply to all of England, figures from England outside of London have been used throughout. This is because virtually 100% of London buses already have AV installed and so the additional effect of this policy in that area is expected to be negligible.
8. The greatest risk to the overall impacts is the government's ability to provide financial support to SMEs. It is expected that the government will be able to provide this support, however that has not been confirmed at this point. If government is unable to provide this support, SMEs will be exempted from having to provide visual announcements in secondary legislation. To reflect the current uncertainty around this, two potential outcomes for the preferred option have been presented (options 5a and 5b). Option 5a is the expected outcome but option 5b

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<sup>12</sup> Competition Commission (2011) 'Local bus services market investigation'

has been used for the figures on the summary page to demonstrate the worst case outcome of our chosen option.

## 7. Preferred option

The preferred policy option is option 5: to mandate for the largest level of coverage of accessibility announcements whilst mitigating the impacts on SMEs. Requiring that large operators provide AV announcements is expected to lead to very large benefits to society as a whole (£60m to £443m per year) with relatively small net costs to large operators in our central scenario (of around £0.4m per year) and potential net benefits to them in our high scenario (of around £5m per year). The potential costs to business are therefore felt to be proportionate given the large benefits to society as a whole.

*Table 7: summary of the results of the four options modelled broken down to show the separate effects on large and SME operators.*

Policy option	Net benefit to society over the period 2018-2027, £2014, undiscounted	Net benefit to bus operators over the period 2018-2027, £2014, undiscounted
<i>Large operators</i>		
3, 4, 5a, 5b: Mandating that large operators provide AV announcements	£600m to £4,426m (large benefit)	£-13m to £52m (impact ranging from a disbenefit to a benefit)
<i>SME operators</i>		
3: Mandating that SME operators provide AV announcements	£395m to £1,015m (small benefit)	£-17m to £-23m (small disbenefit)
4: No requirement on SME operators	£0 (no net benefit)	£0 (no net cost)
5a: Mandating that SME operators provide AV announcements but providing financial support to help them to do so	£395m to £1,015m (small benefit)	£25m to £22m (small benefit)
5b: Mandating that SME operators provide aural announcements	£23m to £458m (small benefit)	£-3m to £2m (impact ranging from a disbenefit to a benefit)

For SME operators, the largest benefits to society are generated from mandating that they provide AV announcements (£40m to £102m in annual benefits). However, this requirement would lead to substantial costs of between £1m and £2m per year. Such a burden is felt to be disproportionate unless government were to provide a subsidy as in option 5a. In this case, SMEs would have a net benefit of around £2m per year. If government is not able to provide financial support for SMEs, the optimal policy is felt to be to require them to provide aural announcements only. Such a policy would result in substantial benefits of between £2m and £46m per year but without imposing undue burdens on these businesses. Therefore option 5a is the preferred option with option 5b as a fall-back option if government are unable to provide the required financial support for option 5a.

### 7.1 Direct costs and benefits to business calculations (following OI30 methodology)

As defined in the [Better Regulation Framework Manual](#) section 1.9.5, One-In, Three-Out (OI3O) applies to all changes in, or introduction/removal/expiry of, measures that require RRC clearance. Because the details of the chosen option will not be finalised until the secondary legislation stage, the effects of the policy on SMEs are uncertain at this stage. For this reason, the EANDCB has not been validated at this stage however we expect the value of the EANDCB to be between £1.1m and -£0.9m depending on whether government is able to provide financial assistance for SMEs to provide AV announcements. The Present Value of Net Costs to Business from 2018 to 2027 are expected to range between a net cost of £9.7m and a net benefit of £8.0m. It is therefore not possible to determine at this stage whether this policy will impose a net cost on businesses and so the EANDCB for this policy will not be validated until the secondary legislation stage. The EANDCB has been calculated in line with the guidance in section 1.9.32 of the [Better Regulation Framework Manual](#) (p46).

## **8. Wider Impacts**

### **8.1 Economic / financial impacts**

#### *8.1.1 Competition assessment*

We expect that this policy will not have a significant impact on competition between large operators as all will have to meet the requirements to provide aural and visual announcements and it will be up to them to determine the best way for them to comply. This policy will place a lower burden on smaller businesses and so it may actually make it slightly easier for them to compete with larger operators as they will face lower costs. It is likely that operators around the SME/non-SME threshold may suffer a loss of competitiveness with respect to other slightly smaller operators but we believe that this will be a small cost which will be more than outweighed by the benefits of not exposing small operators to disproportionate burdens.

#### *8.1.2 Small and micro business assessment*

This policy explicitly mitigates the negative impacts on SMEs. Large operators are required to provide AV announcements on their services but SME operators (including small and micro operators) will be given financial support if they are mandated to provide AV announcements and will only have to provide aural announcements if government is unable to provide the necessary financial support. Initially the impacts of requiring SME operators to provide AV announcements without support were considered however this option was not taken forward due to concerns about the disproportionate impact on small businesses relative to large businesses. If support is provided as per the proposed policy option, SMEs will benefit from the policy overall because even those who would have provided AV announcements in the absence of the policy will be supported. If support is not provided and SMEs are mandated to provide aural announcements, this will lead to a far lower burden on these businesses as their only costs are expected to be the costs of training their drivers to provide announcements. This option therefore protects small and micro businesses from significant regulatory burdens and but still provides a significant benefit for bus users.

#### *8.1.3 Justice impact test*

The Accessible Information Requirement is likely to result in the creation of an offence of failing to provide accessible information, which will be enforced in the first instance through the Traffic Commissioners' standard processes and range of sanctions. Operators will however have a right of appeal to the Administrative Chamber of the Upper Tribunal and it is therefore possible that some cost to the Tribunal Service will result. We anticipate that very few cases will reach this stage however, as operators will likely wish to settle early in order to risk damage to their business, particularly given the relatively low cost of complying with the requirement when compared to other operational costs. We will in any case complete a Judicial Impact Test prior to the commencement of accessible information related provisions.

### **8.2 Environmental impacts**

#### *8.2.1 Greenhouse gas assessment*

It is not expected that these proposals will have a significant effect on emissions of greenhouse gases. While bus patronage may increase, it is unlikely that there will be a substantial increase in the total distance travelled by buses. Any additional distance driven by buses will likely be offset to some extent by a decrease in the distance travelled by cars. Our analysis suggests that the net impact of greenhouse gas emissions will be an increased cost of around £1m over 10 years.

#### *8.2.2 Wider environmental issues*

If the policy proposals lead to a greater total distance travelled by buses, there may be some additional noise and air quality pollution. These impacts will be largely offset by a reduction in noise and air quality pollution by cars but the net impact is expected to be a small benefit of around £0.4m over 10 years.

Some sound may be emitted outside buses from on-board audible announcements but these will not be significant and are unlikely to be audible beyond one or two metres from the entrance to a waiting vehicle.

### *8.2.3 Sustainable development*

It is not expected that this policy will have any impact on sustainable development.

## **8.3 Social impacts**

### *8.3.1 Equalities impact*

Whilst the overall policy objective described in this Impact Assessment is to ensure that everyone has the information they need to travel by bus in confidence, there is a particular emphasis on those who, because of a particular impairment, find that the lack of accessible information on-board bus services presents a barrier to their use of that service and to other services access to which is facilitated by the bus service. By requiring that a minimum level of information is provided on-board bus services, and in the majority of cases rely neither solely on audible or visual media channels, we will help to minimise the challenge faced by some disabled people when travelling independently and to meet the different needs that some have in such circumstances. The overall policy will therefore contribute directly to Government's work to advance equality of opportunity between those who are disabled and those who are not.

The need to avoid disproportionate costs on some areas of the bus industry have however led to us explicitly seeking to ensure that operators which are micro, small or medium (MSEs) are not unduly burdened by the requirements of this policy. This will be done either by providing financial assistance to help SMEs to provide information in both an audible and visible format or, if government is unable to provide financial assistance, by reducing the requirement that they have to meet, from one which relies neither solely on audible or visual media, to one which does not rely solely on visual media. In practice this will mean that bus services run by such operators may legally run with information provided through aural announcements which are not replicated on visual displays. This will result in people who have impaired hearing not benefiting from the improvement in on-board information that will be available to those who do not have a hearing impairment. The cost of requiring information to be provided in a manner that would be accessible to such passengers is very significant, and in our view would potentially jeopardise the viability of the very routes that the requirement will help people to use unless we are able to provide financial support to these operators. If government is unable to provide this support, the only alternative to the chosen approach would therefore have been to exclude such services from the Accessible Information Requirement altogether, leading to improved information not being made available to any passengers on such routes.

On balance we believe that, if we are unable to provide the necessary financial support to help SMEs to provide aural and visual information, the assistance provided to those passengers, disabled and non-disabled, who can access information which is not provided in an aural format justifies the disadvantage that people with a hearing impairment may continue to face when compared to them, and that this assessment demonstrates our commitment to considering this issue, and seeking the most appropriate solution. We will keep this position under review with a mind to improving the requirement for those people who continue to be disadvantaged, should the opportunity arise.

Turning to the other protected characteristics, we do not believe that this policy will have a significant impact on any of the categories specified. Accessible information, whether using the definition for operators with more than 250 employees, or that for SMEs, will be provided on a non-discriminatory basis on all bus services subject to the requirement. It is possible that the difference in demographics between isolated and rural communities, and urban areas, will inadvertently lead to people with certain protected characteristics, the incidence of which is higher in such areas, receiving a different level of information, owing to the tendency for larger operators to focus their services on larger conurbations and trunk routes. We do not believe this effect to be significant however.

### *8.3.2 Health and well-being*

At present people who rely on accessible information in order to access bus services, whether due to disability or other reasons, may lack confidence in their ability to reach their destination safely, and so not travel. This may in turn impact on their ability to access employment, economic and recreational activities, or to play their part in the local community. For those for whom the lack of information presents a significant barrier to access, such as some people with a visual impairment, the provision of such information may make the difference that allows them to look for work for the first time, to shop independently or to meet with friends and relatives without having to rely on others to get them there.

As such we believe the proposed intervention has the potential to promote health and wellbeing for those affected by it by helping to build their confidence to use local bus services, and to remain active as a result.

The only exception that we have identified concerns people who rely on visual information, which may not be provided by bus operators which have 250 or fewer employees. Some people with impaired hearing, for instance, may not benefit from the improved accessibility of on-board information, and might not gain the health and wellbeing benefits identified as a result. We believe however that the policy would not result in lower health or wellbeing outcomes for such people, but rather a continuation of their present situation in the absence of accessible information. If government is able to provide the necessary financial support to SMEs as expected, there will not be an exception to the health and wellbeing improvements for people who rely on visual information.

### *8.3.3 Family life*

In helping to give people the confidence to use local bus services we believe that this intervention will enable people to connect, or reconnect with their local communities, to engage economically or community-based social and leisure activities. As such this policy has the potential to promote greater community cohesion.

### *8.3.4 Human rights*

It is not expected that this policy will have any impact on human rights.

### *8.3.5 Rural proofing*

As indicated above, the meaning of “accessible information” may be different for bus operators with more than 250 employees, and those with 250 or fewer. The former will be required to provide information which does not rely solely on audible or visible information, whilst the latter must provide information which does not rely solely on visible media and may be required to provide information which does not solely rely on audible media if the government is able to provide financial support. This policy is driven by the significant difference in the estimated Benefit/Cost Ratio for the affected companies, and our fear that, should SME operators be required to fit and maintain equipment to provide accessible information there would be a serious risk to the more marginal routes that they operate.

Whilst it is not entirely clear-cut, many smaller operators run services in rural and isolated communities, whilst larger operators tend to focus on urban centres and trunk routes. Therefore, the assumed risk to services operated by smaller companies could affect rural areas disproportionately if government is unable to provide the expected financial support to SMEs and hence SMEs face a reduced requirement.

Our intention in requiring SME operators to provide information which is less accessible than larger operators if they are not given financial assistance is therefore to minimise any detrimental effect on rural communities from the imposition of additional costs on smaller businesses. Unfortunately, the result of this reduced requirement will be a reduced level of benefit for some groups of people, including those with impaired hearing. Needless to say, if the government is able to provide financial assistance, it is expected that there will be no negative outcomes for rural areas.

## **9. Description of preferred option and implementation plan**

The Accessibility Information Requirement (AIR) will require operators of local bus services in England to provide accessible information on those services.

Whilst the territorial extent of the measure is expected to be England only, this remains under review pending discussions with the appropriate authorities and is therefore subject to change.

“Accessible information”, for operators with 251 or more employees will be defined as information which relies neither solely on audible or visible media. For operators with 250 or fewer employees “accessible information” will also be defined as information which does not rely solely on audible or visible media unless the government is unable to provide financial assistance to these operators in which case “accessible information” will be defined as information which does not rely solely on visible media. Accessible information may not rely on users purchasing, or possessing pre-purchased, equipment such as a smartphone, and must be available to anybody boarding a relevant service and wishing to use it.

The minimum level of information which must be provided will be information:

- Identifying the route and direction of the service; and
- Identifying each upcoming route locations, such as each stop or the final destination.

A new offence of systematically failing to provide accessible information will be created, responsibility for enforcing which will rest with the Traffic Commissioners. The Traffic Commissioners will have powers consistent with most other offences in the Bus Services Bill, including to levy fines and to attach conditions to licenses. Operators found in breach will have a right of appeal to the Upper Tribunal, which will have sanctioning powers consistent with those for related offences.

Evidence of non-compliance would be gathered by individuals, interest groups or organisations such as Transport Focus or Bus Users UK for presentation to the Traffic Commissioners, who may seek formal submissions from affected parties before making their determination. Secondary legislation would also include powers to nominate an investigatory body to receive and investigate complaints of non-compliance before passing them, where appropriate, to the Traffic Commissioners.

The AIR will be implemented through an amendment to the Bus Services Bill, which is presently in the House of Lords, with supporting secondary legislation to prescribe implementation timescales, exemptions: and standards for information provision contained in a statutory Code of Practice. It is anticipated that both the primary and secondary provisions will be commenced on the 5th April 2018, with the requirement applying to all operators from the 5th April 2020.

We will work with industry representatives, including the Confederation of Passenger Transport, to ensure that the new requirement is understood by all operators subject to it, and that, they are given appropriate information and assistance to comply. Appropriate stakeholder engagement and consultation will support the development and finalisation of the mitigation measures to assist operators which are small and medium enterprises, supporting Secondary Legislation and the statutory Code of Practice, ensuring that the overall measure is fit for purpose, achieving our aims of giving passengers the confidence to travel by bus, and operators the flexibility to identify the most appropriate means of complying.

We will also work with the Traffic Commissioners and potential investigatory bodies to ensure that appropriate enforcement processes are ready for full implementation in Autumn 2020.

We will review the policy on an ongoing basis to monitor its effect on the willingness and ability of passengers to travel, on overall bus patronage, and on the effect on operators, including those with 250 and fewer employees. We will undertake a more formal review of the policy five years after commencement to assess its overall efficacy and continued appropriateness.

# Post Implementation Review (PIR) Plan

**1. Review status:** Please classify with an 'x' and provide any explanations below.

Sunset clause	x Other review clause	Political commitment	Other reason	No plan to review
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**2. Expected review date** (month and year):

01	04	/	20	25
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**Rationale for PIR approach:**

Describe the rationale for the evidence that will be sought and the level of resources that will be used to collect it.

- Will the level of evidence and resourcing be low, medium or high? (See Guidance for Conducting PIRs)

*Low-medium*

- What forms of monitoring data will be collected?

*Data relating to the provision of audio and visual announcements on buses by operator size and area and will be needed, and data on the installation of AV technology on buses. Information about the impact on the internal processes of operators and whether this has led to any costs or efficiencies. Information about any failures to meet the AIR requirements in the legislation, which would be picked up by the Traffic Commissioners and in the first instance, bus users.*

- What evaluation approaches will be used? (e.g. impact, process, economic)

*A mixed approach to evaluation is proposed, but with an emphasis on assessing the provision of information by bus operators and the usefulness of this information to passengers, and any improvement to existing processes for operators and LTAs. Transport Focus' ongoing passenger research will give a more qualitative view.*

- How will stakeholder views be collected? (e.g. feedback mechanisms, consultations, research)

*A variety of collection methods will be used, including feedback from LTAs, bus operators and information providers. Passengers' views on accessible information provision will be picked up through Transport Focus' ongoing work, including their annual Bus Passenger Survey.*

## Analytical annex – detailed methodology and assumptions for the calculation of costs and benefits.

This annex describes the methodology behind the calculations for the costs and benefits estimated in this impact assessment. All data comes from published DfT bus statistics<sup>13</sup> unless otherwise stated.

### COSTS

#### Costs to bus operators

##### *Familiarisation costs – costs to all operators in all options modelled*

Regardless of the option chosen, there are expected to be some costs for businesses to familiarise themselves with the policy changes. Due to a lack of evidence as to what these costs might be, some conservative assumptions have been made to estimate these impacts. It has been assumed that for each operator, it will take 4FTE hours of time to familiarise themselves with the implications of the policy. An average hourly rate for an employee in an administrative role<sup>14</sup> has been multiplied by 4 and by the number of local bus operators in England (there are estimated to be around 800 bus operators in England based on DfT bus statistics<sup>15</sup>). This figure has then been scaled up by 20% to account for non-wage costs (in line with WebTAG guidance) in order to get the total familiarisation costs.

##### *Equipment costs – costs to all operators who are mandated to provide AV announcements*

For large operators, evidence for the likely costs of AV equipment has been taken from a range of sources including a report by TAS for the charity 'Guide dogs'<sup>16</sup>, and costings from local authority Better Bus Area bids which included AV installations. From these sources, a range of values for the typical costs of installing AV have been taken. The values for large operator AV equipment costs which are used in the three scenarios displayed in the results are shown below.

Table 8: Assumed AV equipment costs per bus for large operators, £2014

Scenario	Low	Central	High
Average AV equipment costs, per large operator vehicle	£1,932	£2,647	£3,361
Source for value used	Hampshire BBA bid (2012)	Average of high and low values	TAS (2013) report for Guide Dogs

As it has been assumed that SME operators will install less expensive solutions, we have attempted to give approximate costings for this equipment by looking at the retail prices of a possible low cost solution to the AV requirement. These costs have been scaled up to account for optimism bias and the increased likelihood that more basic systems will break or be vandalised and thus have to be replaced more often. The values for SME operator AV equipment costs which are used in the three scenarios displayed in the results are shown below.

<sup>13</sup> <https://www.gov.uk/government/statistical-data-sets/buses-statistical-tables-index>

<sup>14</sup> Taken from: ONS (2015) 'Survey of Hours and Earnings'

<sup>15</sup> Department for Transport Bus statistics (2014), Table BUS1001b

<sup>16</sup> TAS (2013) 'Installing Audio-Visual Equipment on Buses – Cost and Practicality Issues'

Table 9: Assumed AV equipment costs per bus for SME operators, £2014

Scenario	Low	Central	High
Tablet computer	£146	£195	£243
Speakers (x3)	£292	£389	£438
Computer monitor (x1.5)	£97	£146	£195
Miscellaneous costs (e.g. wiring)	£146	£243	£292
Average AV equipment costs, per SME operator vehicle	£681	£974	£1,168

The average equipment costs per bus are multiplied by the additional number of buses in which operators are assumed to install AV as a result of the scenario to give the total additional AV equipment costs as a result of the policy change. There are no equipment costs for SMEs who are only mandated to provide aural announcements as it is assumed that operators are able to comply with this without purchasing additional equipment.

*Installation costs - costs to all operators who are mandated to provide AV announcements*

The costs of installing the AV technology in large operator's buses have been estimated using evidence from the 2013 TAS report for the charity 'Guide Dogs'.<sup>17</sup> As with the equipment costs, a range of values have been used in the three scenarios to reflect the uncertainty behind these estimates. For SME owned vehicles in the central and high scenarios, it has been assumed that the installation costs are half of the costs for large operator's buses because the technology being installed will be simpler. In the low scenario it is assumed that the installation costs are the same for SME and large operators because we did not feel that it would be realistic for installation costs to be below £50 per bus. These assumptions are summarised in the table below.

Table 10: Assumed AV installation costs per bus, £2014

Scenario	Low	Central	High
Average AV installation costs per Large operator vehicle	£51	£203	£407
Average AV installation costs per SME operator vehicle	£51	£102	£203

The average installation costs per bus are multiplied by the additional number of buses in which bus operators are assumed to install AV as a result of the scenario to give the total additional AV installation costs as a result of the policy change. As with equipment costs, there are expected to be no installation costs to SME operators who are mandated to provide only aural announcements.

*Back office costs - costs to all operators who are mandated to provide AV announcements*

The back office costs for large operators have been taken from a 2010 RTiG cost model for AV on buses<sup>18</sup>. These costs include annual back office costs per bus, first year back office costs per operator and annual back office costs per operator. For SME operators, equivalent costs have been calculated as follows:

- The annual back office costs per bus have been assumed to be half those of a large operator.
- The first year back office costs per operator are assumed to be the costs of buying a computer if they do not already have one. These have been calculated by taking an assumed cost for a computer based on current retail prices (£750) and dividing this by the proportion of small businesses who have no internet access (around 10%) according to ONS data<sup>19</sup>. The proportion

<sup>17</sup> TAS (2013) 'Installing Audio-Visual Equipment on Buses – Cost and Practicality Issues'

<sup>18</sup> RTiG (2010) 'Audio/Visual on buses: Cost model'

<sup>19</sup> ONS (2015) 'Survey of Hours and Earnings'

<http://www.ons.gov.uk/businessindustryandtrade/itandinternetindustry/datasets/ictactivityofukbusinessesbusinessesuseoficts>

of small businesses without internet access is therefore assumed to be the same as the proportion of small businesses without computers.

- The annual back office costs per SME operator have been estimated by assuming that 1 employee will spend half a day a week on activities relating to the running and maintenance of the AV technology. An average annual wage for an administrative employee from ONS data<sup>20</sup> has therefore been multiplied by 0.1FTE to get the estimated annual back office costs per SME operator.

It is also assumed that SME drivers will need to be trained to operate the new AV technology. It has been assumed that there are two drivers per bus and that each driver requires 4 hours of training. The average hourly wage for a driver (again from ONS data) is therefore multiplied by 8 to get the average driver training cost per SME owned bus in the first year after AV is installed. No driver training costs are calculated for large operators as it is assumed that they will install AV technology which will make announcements automatically without need for the drivers to do anything additional. The back office costs described above are summarised in the table below.

*Table 11: Back office costs for SME and large operators, £2014*

	Large operators	SME operators
Annual back office costs per bus	£1,265	£632
First year back office costs per operator	£113,003	£81
Annual back office costs per operator	£24,753	£1,956
First year driver training costs per bus	N/A	£88

The unit back office costs shown in this table are multiplied by the expected increase in buses and operators with AV as a result of the policy to calculate the total back office costs. For SMEs who are only required to provide aural announcements, it is not expected that there will be any back office costs aside from driver training costs which are covered below.

*Driver training costs – costs to SME operators who are mandated to provide aural announcements*

For SME operators who are not required to provide AV and only have to provide aural announcements, it is not expected that there will be any back office costs. For these operators, it is thought that they will simply train their drivers to verbally announce the bus stops. There will therefore be some one-off training costs for the operators in the first year of the scheme. Given a lack of evidence, it is assumed that there are an average of two drivers per bus and that the drivers will require 40 hours of training to ensure that they comply with the requirement. The average hourly wage per driver<sup>21</sup> is therefore multiplied by 80 and by the number of buses to get the overall driver training costs in the first year of the scheme.

**Costs to bus operators**

For the lead policy option, it is proposed that government provide financial assistance to enable SMEs to provide AV announcements. These costs are calculated by taking the total costs to all SME operators (both those who provide AV announcements because of the policy and those who would have done so anyway) which are calculated above. The subsidy will therefore cover all of the costs for all SMEs to provide AV announcements.

<sup>20</sup> ONS (2015) 'Survey of Hours and Earnings'  
<http://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/datasets/agegroupbyoccupation2digitsocashetable>

<sup>21</sup> Taken from: ONS (2015) Survey of Hours and Earnings

## BENEFITS

### Benefits to operators

#### *Increased profits as a result of increased patronage – benefits for all operators and all policies*

The increase in patronage has been calculated using the change in generalised journey time (GJT) and the GJT elasticity from TRL (2004)<sup>22</sup>. GJT is a measure of the total cost of a journey, i.e. fares, journey time and other factors such as comfort and convenience expressed in the unit of journey time minutes. Elasticities are economic parameters which measure the change in demand with respect to changes in other factors (in this case, the change in demand with respect to the change in GJT). Different GJT improvements have been used in the three scenarios based on the range of values presented for GJT savings from audio announcements and on-screen displays in DfT (2009)<sup>23</sup> and these are displayed in the table below. For the GJT benefits from the provision of audio announcements, only the value used in the high scenario has been taken from DfT (2009). The other values have been scaled down to account for the fact that verbal announcements provided by bus drivers are unlikely to be as effective or reliable as audio announcements provided through AV technology. This has been done to ensure that the estimates for the benefits of this policy are relatively conservative. As the GJT elasticity is taken from a 2004 report, there is a risk that it may no longer be accurate. However this is the best value available to us at present and in any case, we would not expect this figure to vary dramatically over time.

*Table 12: Assumed GJT improvements for the average bus user from AV technology*

Scenario	Low	Central	High
GJT benefit from the installation of AV, mins	2.11	2.51	3.12
GJT benefit from the provision of aural announcements only, mins	0.1	0.5	1.22

The increase in farebox revenue has been calculated from the change in patronage by multiplying the number of new journeys per year by the average fare in that year. The average fare is estimated to be £1.75 per journey based on values used in DfT's concessionary travel reimbursement guidance. Finally, the increase in profits for bus operators have been calculated by multiplying the change in farebox revenue by the assumed profit margin of operators. The central profit margin for large operators is taken from the Competition Commission's investigation into the local bus markets<sup>24</sup> but this value has been varied between the three scenarios to reflect the uncertainty behind this estimate. For small operators, the profit margin in each scenario has been conservatively assumed to be half of the profit margin for large operators. This is summarised in the table below.

*Table 13: Assumed profit margins for operators in each of the scenarios modelled*

Scenario	Low	Central	High
Profit margins for large operators	5.0%	11.0%	15.0%
Profit margins for SME operators	2.5%	5.5%	7.5%

#### *Benefits from using the AV screens for advertising – benefits for large operators only*

It is expected that large operators will be able to run adverts on their AV screens and will receive benefits from doing so. It is also assumed that the low cost solutions which are expected to be installed by SME operators will not be able to benefit from this. The evidence on potential advertising revenues is poor so we have used two methods to calculate the advertising costs and selected the lower estimate to use in the analysis.

<sup>22</sup> TRL (2004) 'The Demand for Public Transport: A Practical Guide'

<sup>23</sup> Department for Transport (2009) 'The role of Soft Measures in Influencing Patronage Growth and Modal Split in the Bus Market in England'

<sup>24</sup> [http://webarchive.nationalarchives.gov.uk/+http://www.competition-commission.org.uk/inquiries/ref2010/localbus/pdf/00\\_sections\\_1\\_15.pdf](http://webarchive.nationalarchives.gov.uk/+http://www.competition-commission.org.uk/inquiries/ref2010/localbus/pdf/00_sections_1_15.pdf)

The first method is to scale up the costs of traditional bus advertising by the ratio of advertising revenues between electronic billboards and traditional billboards. This uses an assumption that the ratio between electronic and traditional marketing revenues is the same for large billboard adverts as it is for internal bus adverts. For both the costs of traditional bus advertising and the ratio of electronic advert revenues to traditional advert revenues, a range of sources have been looked at and the lowest values have been used in acknowledgement of the lack of a reliable and verifiable source.

The second method is to halve the upfront costs of the AV technology based on information from a bus operator using AV that they were able to repay their upfront costs within two years through advertising revenue.

Neither of these methodologies are very robust which is why the lower of the two estimates has been used in every scenario and the lowest input values used where multiple values have been found. In our central scenario, we estimate that the average advertising revenue per bus per year is approximately £1,300 which we do not consider to be an unrealistically high value. Advertising benefits are not a large proportion of the overall benefits and have only been applied to large operator services. Nonetheless, these figures should be treated with caution as they are the least robust in this analysis.

#### *Benefits to SMEs from the financial support provided by government*

These benefits are equal to the costs of this support to government. They will only apply in the lead option (option 5a). Large operators will not receive these benefits. There will therefore be no net effect of the financial support as it will be a transfer from government to SME operators.

#### **Benefits to bus users**

The benefits to bus users as a result of the scheme are calculated using the GJT improvements as described in the section on the benefits to operators as a result of increased patronage. The GJT improvements per journey (see table 9) are multiplied by the number of additional journeys which are made by buses providing AV as a result of the policy to get the total benefits to existing passengers in generalised minutes. The benefits to new users are calculated by multiplying the GJT improvement per journey by the number of new journeys by a half (following the rule of a half methodology as outlined in WebTAG<sup>25</sup>). These benefits are then monetised by converting the generalised minutes to pounds using the values of time given in WebTAG (table A1.3.2)<sup>26</sup>. The methodology for these benefits are compliant with the Departments guidance on valuing journey quality improvements and the key inputs have been varied between the three scenarios to give a realistic range for the potential benefits which could be expected as a result of this policy.

#### **Benefits to government and wider society**

These benefits have been calculated using marginal external cost (MEC) values of pence per km for buses and cars from WebTAG tables 5.4.2 and 5.4.2d (unpublished). These MEC values are multiplied by the change in distance travelled on buses and cars. The change in distance travelled by car is calculated by multiplying the change in journeys travelled by buses by a diversion factor of 31% from TRL (2004), dividing by the average car occupancy from WebTAG table (A1.3.3) and multiplying from the average distance per car journey according to the National Travel Survey (table NTS9910).

The MEC values give all of the benefits to government and wider society including the net impact on congestion, infrastructure degradation, noise pollution, air quality, greenhouse gas emissions, accidents and indirect taxes.

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<sup>25</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/313222/webtag-tag-unit-a1-3-user-and-provider-impacts.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/313222/webtag-tag-unit-a1-3-user-and-provider-impacts.pdf)

<sup>26</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/544100/webtag-data-book-summer-2016-v1.5.xls](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/544100/webtag-data-book-summer-2016-v1.5.xls)