Title: The Industrial Action (Important Public Services) Regulations 2016 – (Trade Union Bill 40% Ballot Thresholds) **IA No**: BEIS 023(F)-16-LM **RPC reference number:RPC-3450(1)-BEIS**	Impact Assessment (IA)	
	Date:	September 2016
	Stage:	Final
	Source of intervention:	Domestic
	Type of measure:	Secondary Legislation
	Contact for enquiries:	lm.correspondence@beis.gov.uk
Summary: Intervention and Options	RPC Opinion: Green	

Cost of Preferred (or more likely) Option				
Total Net Present Value	Business Net Present Value	Net cost to business per year (EANCB on 2014 prices)	One-in three out	Business Impact Target status
£5.95 million	£1.16 million	-£0.1 million	Yes	qualifying provision

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

Trade Unions have a legitimate need to represent their members' interests, and sometimes that involves organising and balloting for industrial action. Industrial action in certain sectors can have far reaching effects on significant numbers of ordinary people, reflecting the important public service these workers provide e.g. strikes in the health sector will impact on patients and transport related strikes affect commuters and businesses. Some industrial action in these important public services takes place on the basis of a ballot with a low demonstrable level of support (as represented by the proportion of those entitled to vote who vote in favour – see section 7 below for evidence), Therefore, substantial disruption affecting the general public and economy can occur from industrial action which has low levels of support in the ballot mandating the action.

What are the policy objectives and the intended effects?

The Government is introducing a 40% support threshold, (at least 40% of those eligible to vote must be in favour of industrial action) which must be met in industrial action ballots for a mandate to be valid. The 40% support threshold will only apply to industrial action ballots in 'important public services', which are specified in Section 11, and broadly relate to the transport, education, health, border force and fire and rescue services. The 40% support threshold will ensure that industrial action in important public services has a sensible level of backing from members eligible to vote in the ballot.

What policy options have been considered, including any alternatives to regulation?

Option 0 – the 'do nothing' option – only the 50% turnout threshold would apply across all industries

Option 1 - the introduction of the 40% support threshold in those services specified in Section 11. BIS publicly consulted on, and has worked closely with other government departments to identify, which services are those where industrial action can have the most far-reaching effects on the wider public. It carefully considered the evidence in relation to the impact of strike action across different services, and has determined that the services specified in Section 11 are those where industrial action can have the most serious consequences for the public. The preferred option therefore seeks to apply the threshold to these services only, ensuring that strike action can only take place where there is a strong mandate from union members.

Will the policy be reviewed?	It will be reviewed	If applicable, set review date: 2021

Does implementation go beyond minimum EU requirements?				N/A	
Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.	Micro Yes	< 20 Yes	Small Yes	Medium Yes	Large Yes
What is the CO_2 equivalent change in greenhouse gas emissions? N/A		Traded: N/A		Non-traded: N/A	

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading option.

Signed by the responsible Minister:		Date:	12.07.2016

Summary: Analysis & Evidence - Policy Option 1

Description: Implement regulations as currently drafted (applying the 40% support threshold to specified occupations in the Transport, Education, Health, Border Force and Fire and Rescue Services.

FULL ECONOMIC ASSESSMENT:

Price Base Year 2015	PV Base Year 2016	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: n/a	High: n/a	Best Estimate: 5.95

COSTS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low				
High				
Best Estimate	0.2		n/a	0.2

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

54 trade unions will incur transition costs, consisting of staff time spent on familiarisation (£108,000) plus legal advice (£79,479). We estimate ongoing costs of £5,480for discussions between employers and unions to determine whether the 40% threshold applies in those ballots for industrial action in the important public service sectors.

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

Potential increased communication costs but these would be a matter of choice for the trade union.

BENEFITS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low				
High				
Best Estimate			0.7	6.2

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

Employers in the specified important public services will benefit from increased output from the working hours that are saved by preventing strike action (estimated at £715,000 each year).

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

The non-monetised benefits are potentially very large but accrue outside of the services directly impacted by the legislation. The prevention of industrial action can have far reaching effects.

Key assumptions/ sensitivities/ risks — Discount rate (%): 3.5%

See Sections 14-33

BUSINESS ASSESSMENT:

Direct impact on business (Equivalent Annual) £:			In scope of target?	Measure qualifies as
Costs: 0.0	Benefits: 0.1	Net: 0.1	Yes	OUT

Evidence Base (for summary sheets)

Background

1. Introduction

The Government is introducing a 40% support threshold, which must be met in ballots for industrial action in important public services in order for a mandate to be valid.

The Trade Union Act sets out that important public services may only fall within the transport, education, health, border security, fire and nuclear decommissioning sectors, and grants powers to make Secondary Legislation to specify these services. These are specified in Section 11.

While this Impact Assessment seeks to measure the impact of the 40% support threshold only, it should be noted that the 40% support threshold is intrinsically linked to the 50% turnout threshold, which was enacted via primary powers in the Trade Union Act (see below for more information)..

An Impact Assessment for the Trade Union Bill, which includes an assessment of the 50% turnout threshold, was submitted to the Regulatory Policy Committee in December 2015 and received a green opinion in January 2016[1] [2].

Given that the methodology used to assess the impact of the 50% turnout threshold was deemed by the RPC to be fit for purpose, the cost-benefit analysis in this impact assessment follows closely what was done in the Trade Union Bill Impact Assessment.

2. The Trade Union Act

The Government's Trade Union Act is introducing fundamental reforms to modernise trade union law. The Act will, amongst other things:

- Introduce new thresholds for industrial action ballots to ensure that strike action only ever takes place on the basis of clear and representative mandates;
- Improve transparency of the operation of political funds; and
- Improve transparency and oversight of trade unions through reforming the role of the Certification Officer.

[1] https://www.gov.uk/government/publications/trade-union-bill-impact-assessment

[2] Please note that the Trade Union Bill impact assessment also not include an assessment of the reform of trade union facility time in the public services ('facility time') and the prohibition on deduction of union subscriptions from wages in the public sector ('check-off') as these are both measures regulating the public sector only. Impact assessments for the facility time and check-off reforms have been produced and published at https://www.gov.uk/government/collections/trade-union-bill

3. Ballot thresholds

The Trade Union Act includes two ballot threshold requirements, which must be met for an industrial action mandate to be valid:

1. 50% turnout threshold – for **all industrial action ballots,** at least 50% of those eligible to take part in the vote must turnout. A simple majority of those voting must vote in favour to create a mandate for industrial action. The turnout threshold also applies to ballots for action short of a strike;
2. 40% support threshold – for **industrial action ballots in important public services,** at least 40% of those eligible to vote must vote in favour. The 40% support threshold also applies to ballots for action short of a strike.

As noted above, the thresholds are intrinsically linked, and will be introduced together as a package of reforms. The 50% turnout threshold is about participation and ensuring that strikes are not triggered by a small minority of a unionised workforce.

The 40% threshold is about support and ensuring that industrial action in important public services has a proportionate level of backing from members eligible to vote in the ballot. Strike action in important public services has a broader impact, which is not confined to the employer or its wider business, and can have serious consequences for the public and economy. The Government considers that such strikes require a higher level of democratic legitimacy to justify this impact.

The 40% ballot threshold goes further than the 50% turnout threshold, which effectively sets a minimum of 25% of those eligible to vote voting in favour for a ballot to provide a mandate for industrial action. The 40% threshold reflects the rules on statutory union recognition[3], which require that, as well as a majority of voters, 40% of workers in the recognised bargaining unit vote in favour of recognising the union. This requirement was designed to ensure that there is a sufficient level of support before a trade union can be recognised for the purposes of collective bargaining. Similarly, the Government wants to ensure that there is a sufficient level of support from union members before industrial action in important public services can take place.

There were potential alternatives to the threshold measures included in the Act, such as minimum service level requirements for public services. Other countries adopt a wide range of approaches to help ensure that disruption from industrial action is proportionate for those not involved in a labour dispute, including the use of ballot thresholds. In Denmark, balloting rules tend to be laid down in collective agreements, and the largest collective agreement requires the support of 75% of those covered by the agreement for a strike to go ahead. Other countries, such as the Czech Republic[4] and Romania, have provisions for ballot thresholds in industrial relations law covering the whole economy. They have requirements for both turnout and approval thresholds. Germany has a system where for regular strikes a turnout of 75% is required. Some countries, such as Canada and Spain forbid strike action in some industries rather than use thresholds. Spain also has some legislation on minimum service provision in key sectors that have an impact on the wider economy. These approaches are not mutually exclusive, with some countries employing more than one approach to help regulate the level of disruption to third parties from a labour dispute. Approaches taken by respective Governments will depend on their industrial relations

[3] Central Arbitration Committee, Guidance: Statutory Recognition (Part I), https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/484086/Part_I_Guide_for_the_Parties__January_2015_.pdf [accessed 28th June 2016]

[4] In the Czech Republic, a ballot is required to justify a strike, the ballot needing to achieve a 50% turnout, and two-thirds of votes cast to be in favour.

history. The Government believes that it is important that unions have the strong support of their members for industrial action and therefore considers that setting voting thresholds is the right approach to ensure this.

4. Impact of the 50% turn-out threshold

As highlighted above, the 40% and 50% thresholds are intrinsically linked and the overall benefits and impact must be seen as a complete package. They are intended as a set of reforms to ensure that industrial action cannot take place on the basis of a low and unrepresentative mandate, and to restore a level of democratic legitimacy to industrial action ballots. The impact of the 50% turnout threshold was assessed within the Trade Union Bill Impact Assessment[5] as follows (a detailed breakdown of costs/benefits and assumptions are provided in Appendix 1):

Cost	**One off familiarisation costs for trade unions**	£525,000
Annual public sector benefit[1]	**Increase in output from a reduced number of working days lost due to strike action in the public sector**	£9,133,566
Annual private sector benefit	**Increase in output from a reduced number of working days lost due to strike action in the private sector**	£2,673,117
Net private sector impact	**Year 1 (annual private sector benefit less one-off familiarisation costs)**	£2,148,117
	Ongoing (annual private sector benefit)	£2,673,117

The total Net Present Value of the 50% turnout threshold was assessed as £101.1 million over ten years. The equivalent annual net direct cost to business (EANDCB) figure was assessed at -£2.5m[6][7].

Please note that one of the key assumptions used for estimating the impact of the 50% turnout threshold was that trade unions can be reasonably expected to increase voter turnout following the introduction of the legislation. This was justified as follows:

"It seems likely that the introduction of ballot thresholds for industrial action will mean that the past is not a perfect guide to the future impact. For example, we would expect some unions to emphasise to members the need to vote to ensure that the ballot can provide a mandate for industrial action. This might be particularly where there is deemed a risk of falling below the threshold. It is not clear how much that would influence the behaviour of those that previously might not have voted. They might be particularly hard to persuade not to abstain. There is also likely to be interplay with the 40% approval threshold. Those voters who previously might not have voted but are persuaded to vote in the future might have a different voting pattern. The voting pattern may also be affected by the new requirements in the Bill for enhanced ballot paper information.

The Trade Union Bill Impact Assessment concluded that an increase of up to 25% on the historic turnout level was feasible because unions would be incentivised to make their arguments more persuasive and focus communicating those arguments to members when they believe they are potentially short of achieving the new threshold.

[5] BIS, Trade Union Bill Impact Assessment, January 2016 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/493636/BIS-16-70-trade-union-bill-impact-assessment.pdf

[6] For an understanding of the EANCB is and how it is calculated see https://www.gov.uk/government/publications/better-regulation-framework-manual [7] A negative EANCB indicates a net benefit

Please note that this assumption has a key knock-on impact on the analysis of the impact of the 40% support threshold, which will be discussed further in later sections.

5. Electronic balloting (e-balloting)

Current ballot requirements are that a postal ballot is required for all industrial action, union election and political fund ballots.

In assessing the impact of the 50% turnout threshold, it was assumed that trade unions could reasonably increase voter turnout by 25% on historic turnout levels. This assumption was made assuming that voting would still be done via a postal ballot.

The Trade Union Act requires the Government to commission a review of electronic balloting in trade union industrial action ballots, and then publish its response to that review. This will enable the Government to assess the evidence in relation to the latest technology and the risks of achieving safe and secure electronic balloting, and be in a better position to take a properly informed decision of whether such a system should be considered.

Given the focus on a review at the time of writing this impact assessment, the analysis continues to assume that all industrial action ballots will be postal ballots.

6. Consultation

The Government publicly consulted on ballot thresholds in important public services in July 2015. Information was sought on the roles and functions within the fire, health, education, transport, border security and nuclear decommissioning sectors that should be subject to the 40% threshold.

These sectors were selected because industrial action the fire, health, education, transport, border security and nuclear decommissioning sectors can cause significant disruption and impact on public safety and national security. The consultation was designed to gather evidence of the impact of industrial action in these sectors, identify which services within these sectors should be specified as important public services for the purposes of the 40% support threshold.

In total, 205 responses were received, Respondents included private individuals, trade unions, public service providers, employers and law firms. Where possible we have taken account of the evidence received through the public consultation in this impact assessment. For instance, evidence from the consultation was used in assessing which important public services should be covered by the 40% ballot threshold, and in assessing when the 40% threshold will be applied. The Government Response to this consultation is available online[8]. The response includes skeleton regulations, detailing the services that will fall within the scope of the 40% support threshold. These are discussed below in the 'Description of the Options' chapter.

In addition to the public consultation, BIS officials have worked closely with colleagues in the Department for Communities and Local Government, the Department for Transport, the Department for Health, the Department for Education and the Home Office to understand the impact of industrial action across public services in the specified sectors.

[8] https://www.gov.uk/government/consultations/ballot-thresholds-in-important-public-services

Problem under consideration and rationale for intervention

Trade Unions can play an important role in the work place. They have a legitimate purpose to represent their members' interests, and sometimes that involves organising and balloting for industrial action. The ability to strike is an important part of our industrial relations framework. However, strikes can affect many people who do not get a say in whether they go ahead or not. It is particularly unfair for the wider public when they are triggered by a small minority of affected workers.

In addition, industrial action in certain public services can have a widespread and adverse impact on significant numbers of ordinary people. This reflects the significance of those services to members of the public. Public service strikes in the health sector will impact on patients, strikes in teaching affect both children's education and have consequences for working parents and transport related strikes affect commuters and businesses. In economics these effects are called 'negative externalities'.

Taking an example of a teaching strike, parents may have to take the day off work to look after their children who cannot attend school. If the parent is in employment, this may result in lost output for their employer, uninvolved in the dispute. Externalities, in this circumstance, are the effect on the third parties in society and the economy who are outside of the industrial dispute.

At present it is possible for a trade union to call a strike even if to do so does not reflect the views of the majority of its members. The Government's objective is to ensure that strike action in important public services, which can have an adverse impact on a wide range of third parties, is not called on the basis of the support of only a small proportion of union members.

None of these changes are about banning strikes. The Government's overarching policy is to encourage workplace disputes to be resolved without the need for industrial action; and to ensure where industrial action is used, it is as a last resort with clear and ongoing support for action.

Before we consider the contextual data on the number of days lost due to strike action and the wider impacts that strike action can have, particularly in the important public services, we look at the evidence of strike action with low levels of support.

7. Evidence of strike action with low levels of support

The proposed legislation will combat incidents of industrial action with low levels of support amongst members balloted on the action. Evidence of strike action that has gone ahead despite low levels of support in ballots from members includes:

- TSSA members participated in a London-wide tube strike on 8th July 2015. Of the members balloted, 44% turned out to vote and just 34% of those eligible to vote voted to support the action.
- A 48 hour strike action was taken on the Docklands Light Railway in November 2015 with the support of 25%of balloted members (as recorded by votes in favour).
- London Underground staff staged an overnight strike in March 2015. 42% of members balloted turned out to vote, and 24% of balloted members voted in favour.

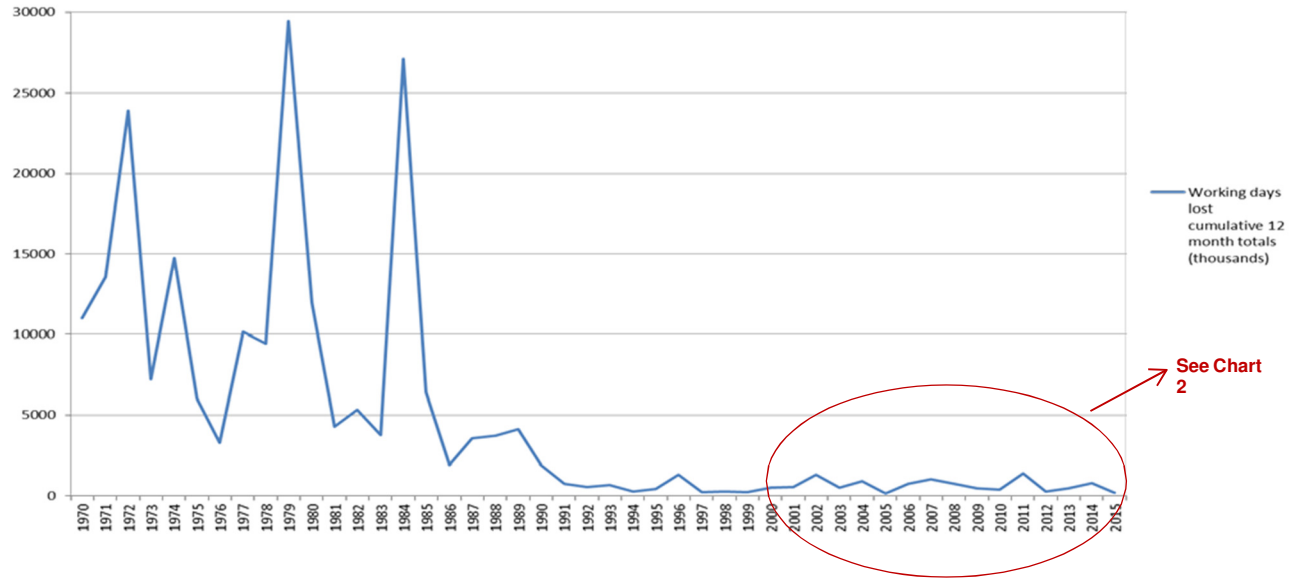
- An NUT strike in 2014 led to the full closure of almost 3,000 schools, nurseries or colleges across England. The strike action was taken on a ballot almost 2 years old, in which there was a voting turnout of just 27% and just 22% of those entitled to vote voted in supportof the strike.
- A 2014 strike by NHS workers was called by Unite on the basis of the support of just 12% of members.
- The 2011 industrial action in the schools sector affected working parents across the country and closed 62% of schools. Most of the unions involved took strike action on the support of well under 40% of their membership.
- The November 2011 action by Border Force staff went ahead with just 32% of balloted members voting in support of the strike.

8. Contextual data on strike action

As can be seen in Chart 1, below, since the early 1990s, the number of working days lost by workers going on strike remains low when compared to the large strikes of the 1970s and 1980s.

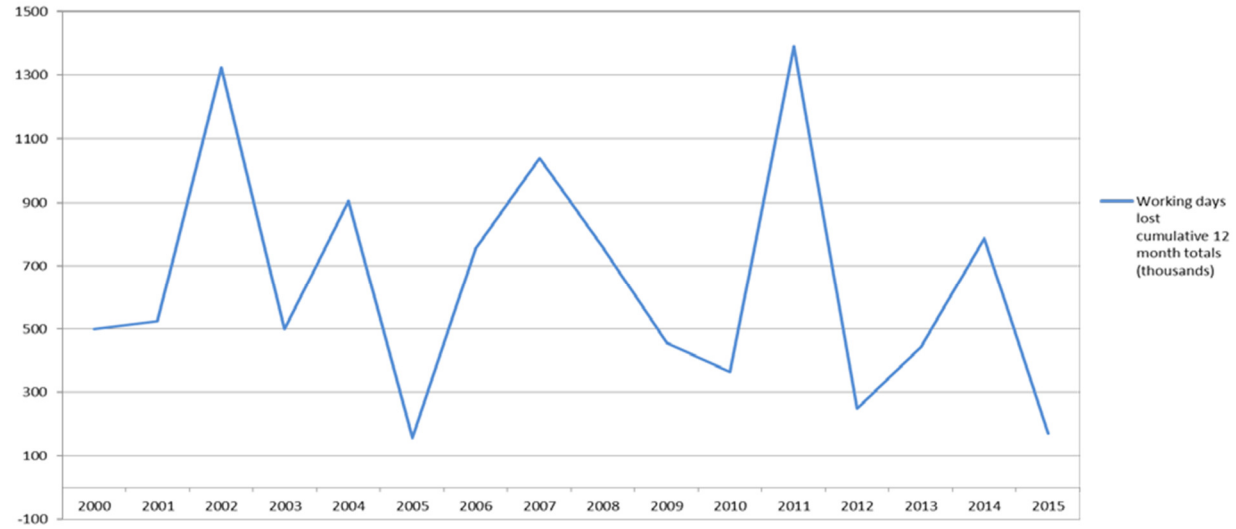
However, despite being low in historical terms, the number of days lost due to strikes still fluctuates on an annual basis, as can be seen in Chart 2. In 2015, the number of working days lost due to strike action declined to 170,000, from 788,000 in 2014.

Chart 1: Working days lost (in thousands) annually (12 months cumulative total at December), 1970 - 2015, ONS



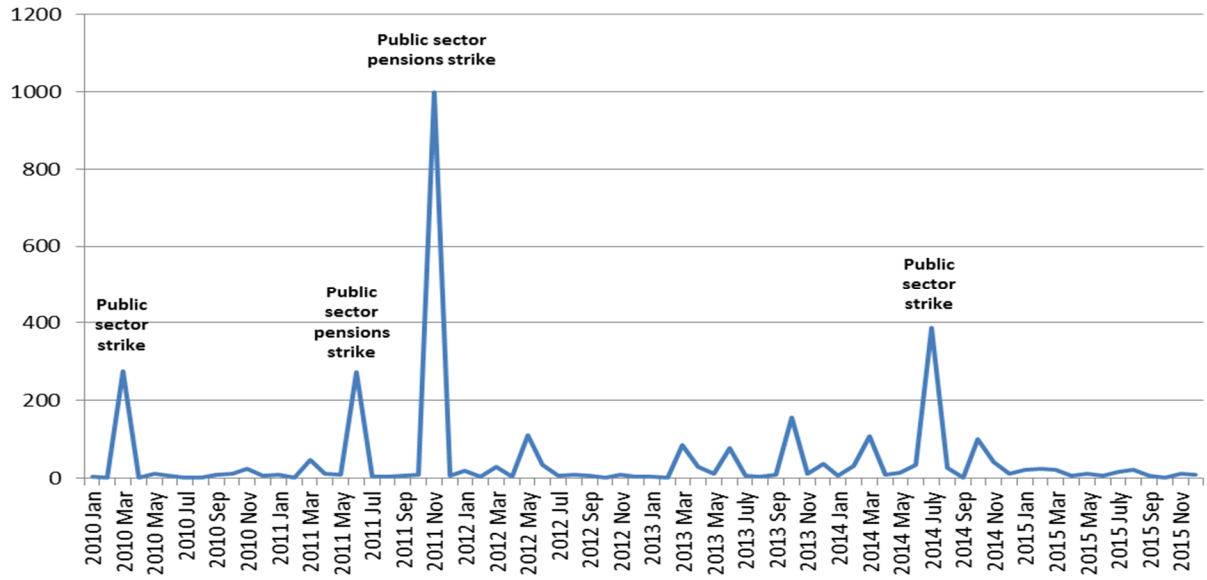
The number of working days lost is now at its lowest level since 2005. However, as evidenced by the data, this does not necessarily mean that the annual number of working days lost will remain low or continue to decline. This is perhaps intuitive given that the number of working days lost due to strike action is linked to the industrial relations situation, which itself can change quickly.

Chart 2: Working days lost (in thousands) annually (12 months cumulative total at December), 2000 – 2015, ONS



Looking at monthly data on days lost due to industrial action, Chart 3 demonstrates the impact of large public sector strikes on the trends. A number of recent spikes in the number of working days lost, in 2011 and 2014 for example, coincide with large strikes in the public sector. This indicates that public sector strikes can be particularly disruptive in terms of creating a large number of working days lost.

Chart 3: Working days lost (in thousands) per month, January 2010 – December 2015, ONS



Sector-level data

At a sectoral level, the combined days lost in the Public Administration and Defence, Education and Health and Social Work sectors have accounted for the vast majority of days lost every year since 2008, except for 2009.

In 2009, strikes in the Transport and Storage sector accounted for the highest proportion of days lost. Transport and storage also accounted for the largest proportion of days lost in a single sector

in 2015. In 2015, public services and transport combined accounted for the highest proportion of days lost.

Table 1: Days lost due to industrial action in key sectors

Year[11]	Transport & storage	Public administration and defence	Education	Health and social work	All other sectors	Total days lost in year	Proportion of days lost in Public Sector[12]	Proportion of days lost in Transport & Storage
2008[13]	25,100	614,300	103,400	1,700	14,400	758,900	95%	3%
2009	296,200	5,100	6,700	0	147,200	455,200	3%	65%
2010	72,700	256,200	5,400	600	30,300	365,200	72%	20%
2011	10,500	389,700	654,600	221,400	113,500	1,389,700	91%	1%
2012	28,000	150,400	39,200	4,100	26,900	248,600	78%	11%
2013	16,200	180,200	215,000	3,900	28,300	443,600	90%	4%
2014	23,400	390,300	312,800	36,300	25,400	788,200	94%	3%
2015	60,200	27,900	21,500	20,000	40,000	169,600	41%	35%

9. Evidence on the wider impact of industrial action in important public services

The proposed legislation focuses on those services for which industrial action can have far reaching effects on significant numbers of ordinary people who have no association with the dispute. Estimating the wider economic impact of such action is understandably complex. In 2015, BIS consulted with ONS on the potential for collecting regular information on the indirect impacts of strike action. ONS's view was that existing data sources were not sufficient to measure indirect impacts, and there were inherent difficulties in obtaining estimates of these indirect impacts which would militate against obtaining reliable data from a survey.

Below we have drawn on previous research undertaken to assess the impact of strikes in the public sector, education and transport sectors. There is little existing research available to quantify the impact of industrial action in the border force, fire service or health sectors.

Quantifying the impact of action short of a strike is also challenging due to limited information on the nature, extent and duration of this type of action and what combined impact these factors have on output relative to counterfactual levels of output. The impact of action short of a strike is discussed in more detail in the chapter on non-monetised costs and benefits.

Strikes in the wider public sector

Looking at research that has been done elsewhere to try to estimate the wider impact of a strike in important public services, we have found evidence from HM Treasury and ONS, both of whom have previously attempted to estimate the impact of the 30 November 2011 public sector-wide strike:

Estimating the wider economic impact of the 30 November 2011 public sector-wide strike
HM Treasury

[11] Data taken from ONS's Labour Disputes Inquiry, table LABD03

[12] Public Administration and Defence, Education and Health and Social Work sectors combined

[13] No data available for LABD03 in 2008 and 2009 - so this data is taken from LABD02, which provides a slightly different sectoral breakdown. Note that the transport and storage category data in 2008 and 2009 is not directly comparable as LABD02 combines Transport & storage, and Information & communication

Estimating the wider economic impact of the 30 November 2011 public sector-wide strike
➢ Prior to the strike, HM Treasury estimated that a closure of two-thirds of state schools would lead to a 3-4% decrease in private sector output for the duration of the strike. ➢ This formed part of an overall estimate of a £480 million decrease in output as a result of the strike. Around one third of this was caused by the indirect impact of school closures, leading to an estimate of £160 million in these indirect impacts. This figure represents the scale of indirect impact to the wider economy of a national education strike. Office for National Statistics ➢ ONS has judged that the strike is likely to have had some impact on GDP in the fourth quarter. ONS did not measure the effect on GDP directly due to the difficulty around doing so. However, information from the ONS's Labour Disputes Inquiry, suggests that nearly one million working days were lost, representing about 0.2 per cent of the total number of working days for the public sector for the quarter.

Strikes in education

The state-funded school system educates 7.8 million pupils in England. Strike action disrupts children's education, particularly if it takes place over a prolonged period. Education strikes can also have a much wider-ranging impact, as it may mean that parents and guardians are unable to go to work, which can have an effect on every sector of the economy – including other important public services. Every working day lost by a working parent due to strike action by schools represents lost economic output.

The following analysis illustrates further the extent of the potential wider impact of a strike in education:

Estimating the indirect/wider impact of a strike in education

Internal BIS analysis of what the impact of a strike in the education sector would be if it were of a similar magnitude to a previous strike[12], found that:

- There are estimated to be 7.7 million pupils across 20,147 state-funded primary and secondary schools in England (at January 2015).
- Based on the July 2014 national NUT strike, where 20% of schools closed, and using a rough average of 382 pupils per school, another strike of this magnitude could close 4,029 schools and affect 1.54 million pupils in England[13].
- ONS data gives 4.12 million working households in the UK with dependent children (April-June 2014). Based on a school closure rate of 20%, we estimate that 820,000 working households could be impacted by school closures.
- ONS gives 851,000 lone-parent working households with dependent children in the UK (LFS household data). In a single day this represents up to 851,000 working days. Based on the assumption that lone-parents will need to give up a day's work in the event of a strike, a 20% closure rate of schools is assumed to lead to a 20% loss in working days, an estimated 170,000 working days that could be lost. This figure is likely to be an overestimate as it does not account for part-time working. If the strike falls on a non-working day, the parent would not be affected by the strike. Other reasons for considering this to be an over-estimate include working outside of school hours, potential pooling of childcare, alternative childcare arrangements, and that some of these households will have dependent children below school age etc.
- ONS gives 3.2 million 2-parent working households wih dependent children (i.e. both parents work) in the UK. Based on the assumption that one parent will need to give up a day's work in the event of a strike, a 20% closure rate of schools is assumed to lead to a 20% loss in working days, an estimated 644,600 working days that could be lost. Again, this figure is likely to be an overestimate as it does not account for part-time working, non-working days or other contingency plans, such as alternative childcare arrangements through use of a paid child minder or family, put in place by working parents, and some of these households having children below school age.

Strikes in transport

ACAS commissioned analysis in 2007 to attempt to quantify the indirect, external impact of strikes in transport. The report examined the value for money delivered by ACAS, and as part of ACAS' role is to help conciliate collective disputes, this involved some estimation of the impact of strikes which ACAS helped to avert.

The Department of Transport have also sought to monetise the impact of transport strikes.

Estimating the wider economic impact of transport strikes

ACAS commissioned report 2007[14]

- The report commissioned by ACAS estimated that the knock-on impact of a 2 day transport strike affecting 3.4 million weekday passengers would lead to a £52 million cost to other businesses, since workers do not arrive at work and other events have to be cancelled. These costs were calculated by accruing the costs to work-related travellers only, and allowing one hour of lost productive time during the days of the strike for each work-related traveller.
- An air travel related strike affecting 70,000 passengers is estimated to have cost businesses not directly party to the dispute around £38 million. This is based on costs accrued by both business and leisure travellers, assuming the loss of half a day for all leisure travellers, the cancellation of 5% of

[12] The September 2012 National Union of Teacher's Strike
[13] BIS calculations based on DFE data.
[14] Figures have not been adjusted for inflation since 2007

Estimating the wider economic impact of transport strikes
overseas business trips and 4 wasted productive hours for each business trip not cancelled. . However, DfT estimate that the number of affected passengers would be higher. If there were a total 24 hour stoppage strike by controllers at Swanwick, all commercial air traffic in England would stop. This would affect approximately 250,000 passengers across airports on the day, with substantial knock on effects over the next two or three days. Disruption to transport networks can cause very significant economic and welfare impacts. Department for Transport ➢ Analysis by the Department for Transport estimates the cost of one day's severe disruption to transport networks caused by weather to be around £280 million. ➢ Analysis was also undertaken by the Department for Transport of the likely economic impact were the proposed Network Rail strikes in June 2015 to go ahead. Using the National Travel Survey, the estimated economic cost was likely to be between £80 million and £230 million, depending on the extent to which those who normally commute to work by train are able to work from home. ➢ Within the London bus network, more than 6.5 million journeys would be disrupted by 24-hour strike action, affecting an estimated £5m of fare revenue. This would affect 21% of daily journeys that are made in London, as many travellers rely on the bus at some stage of their journey. Certain groups would be disproportionately affected – around 40% of people using buses are on concessionary fares, and some 50% of bus passengers have an annual household income below £20,000. Buses are the most accessible form of transport in London, and the vast majority of people who have mobility problems would have no other alternative transport option.

Strikes in Health

The NHS assists over 1 million patients in England every 24 hours, and is heavily relied upon by the population for emergency care. There are on average over 1.8 million attendances at A&E departments and over 260,000 emergency responses by the ambulance service every month. Delays in accessing care as a result of strike action can have particularly severe consequences for patients. During the 2014 strike over pay by ambulance workers, media reports suggested that those in less serious situations faced lengthy delays for an ambulance. While voluntary arrangements are often put in place during industrial action to maintain service levels, these cannot necessarily be relied upon to safeguard the public in future industrial action[15]. Adequate cover may also be difficult to maintain for more than 24 hours. During the strike action by junior doctors in April 2016, which included emergency care, non-emergency care and services were severely impacted as doctors of other grades in those services were drafted in to ensure adequate levels of emergency cover could be maintained. NHS trusts reported that over 125,000 operations and appointments had to be cancelled in anticipation of these arrangements. According to DH, it is unlikely that the NHS would have been able to sustain those levels of service for more than 48 hours.

Strikes by the Border Force

Management Information provided by the Home Office suggests that where strikes in the Border Force do occur, the fall in staffing levels is often between 10% and 40%. Where these staffing reductions cause delays at borders, they may reduce the hours in which travellers are able to work or affect other important journeys. It can also impact the Border Force's capacity to attend to freight and secondary search activity. In the year ending September 2015, there were 122.3 million journeys made to the UK. According to the Home Office, the current threat level is severe, and it is likely that organised crime groups would target strike days to move illicit commodities. The Home Office therefore considers that

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http://www.londonambulance.nhs.uk/news/news_releases_and_statements/industrial_action_%E2%80%93_warning_of.aspx?lang=en-gb

reducing staffing levels increases the pressure on the Border Force to manage potential threats to border security.

Strikes by the Fire Service

It is self-evident that there is an increased risk to life and injury during strike action. The reduced availability of appropriately trained staff inevitably makes it more difficult to maintain high standards of service. There are no alternative services readily available, and while any replacement service for fire control staff will be provided by trained operatives, they may be unable to utilise the full capabilities of control technology in order to optimise performance. In the past, contingency arrangements have been successful in mitigating the impact of strike action, but these are voluntary in nature and cannot necessarily be relied upon for the duration of the strike action.

Policy objective

The proposed regulations will introduce an additional threshold requirement on ballots for industrial action in important public services (detailed below) within the fire, health, education, transport and border security sectors.

Industrial action ballots in these important public services will be subject to two threshold requirements:

1. A 50% turnout threshold amongst those eligible to take part in the vote. This turnout threshold will be introduced under the Trade Union Act and applies to all sectors. This threshold also applies to ballots for action short of a strike; and
2. A 40% support threshold amongst those eligible to vote. In other words, at least 40% of the population eligible to vote in the ballot must vote in favour for the mandate to be valid. This threshold also applies to ballots for action short of a strike in important public services.

The objective of the legislation is to ensure that industrial action in important public services, which can have an adverse impact on a wide range of people who are not party to the industrial dispute, is not taken with the support of only a small proportion of union members.

Description of options considered

10. Do nothing option

Under the 'do nothing' option no additional ballot threshold will be implemented and all industrial action ballots in all sectors will be subject to the 50% turnout threshold only. The 50% threshold means that at least 50% of those eligible to vote have to vote, and a majority of those voting have to vote in favour for the ballot to provide a mandate for industrial action.

11. Preferred option

The preferred option will require that specified services (detailed below) in the fire, health, education, transport and border security sectors will require at least 40% of those entitled to vote in a ballot for strike action to do so in favour before a strike can go ahead.

Sector	Services
Health Services - Emergency, urgent or critical healthcare services	Services provided in an emergency by an ambulance or associated transport service, including dealing with calls for helps and organising their response;
	Accident and emergency services in a hospital;
	Services which are provided in high-dependency units and intensive care in a hospital;
	Psychiatric services provided by a hospital for conditions which require immediate attention in order to prevent serious injury, serious illness or loss of life;
	Obstetric and midwifery services provided by a hospital for conditions which require immediate attention in order to prevent serious injury, serious illness or loss of life
Education of those aged under 17	Teaching and other services to pupils of the compulsory school age provided by teachers and persons appointed to fulfil the role of a head teacher at a school other than a fee-paying school[16]; a 16-19 Academy; or an institution within the further education sector other than one whose services to persons of compulsory school age are not publicly funded
Fire Services	Fire-fighting services, including dealing with calls for help and organising their response
Transport Services	Any bus service which is a London local service as defined in section 179(1) of the Greater London Authority Act 1999
	Passenger railway services, including signalling, track and train maintenance and other services which enable trains to operate. ("railway" includes metro, underground and tramway)
	Civil air traffic control services
	Airport security services
	Port security services
Border Security	Services related to border control functions in respect of the entry and exit of people and goods into and from the United Kingdom

Nuclear decommissioning

The Trade Union Act includes a provision for the nuclear decommissioning sector coming under the scope of 40% support threshold. However, the secondary legislation does not seek to specify services under the 40% threshold in this sector at this stage.

[16] A school is a fee-paying school if a majority of its pupils have fees for their attendance at the school paid for them by individuals

The UK's civil nuclear legacy is a major public liability. Tackling the legacy safely, securely and cost-effectively, while minimising the burden for taxpayers, is a national priority. However, the sector is a complex industry with interdependencies between workforces both within and between sites. The Government is therefore working to understand better these interdependencies, and the implications of forthcoming business changes and supporting workforce reform plans, before specifying roles with the sector that it considers should be within the scope of the 40% support threshold and bringing forward regulations.

12. Applying the 40% threshold in practice

One of the key concerns of respondents to the consultation on ballot thresholds in important public services was around how the 40% threshold should be applied in practice, in order to ensure that unions and employers have clarity about when the 40% threshold would apply to a ballot. Only those services detailed as part of the preferred option will be subject to the threshold.

The Government considers that the simplest approach is to require ballots to be run under the 40% support threshold where **unions have a reasonable belief**[17] **that** a majority of workers involved in the ballot are carrying out an important public service (this is reflected in the Trade Union Act). Whether the 40% support threshold applies or not will be dependent on the trade dispute and which workers are involved. This means that the 40% threshold would not apply to a ballot where some, but not a majority of workers carry out an important public service. The Government recognises that trade disputes will often affect different sets of workers, and considers it fair and proportionate to require ballots to meet the 40% threshold only where the main focus of proposed strike action will take place in an important public service.

13. The relationship between turnout and support

Appendix 3 presents BIS analysis[18] of historic levels of support relative to turnout. The data on turnout and support levels in historic ballots in transport, education, fire and rescue, health and the border force[19] has been gathered based on media reports between August 2010 and December 2015. These media reports are one of the few ways that we can currently collect evidence on turnout and the proportions voting in favour in industrial action ballots. This is the best information available at this time.

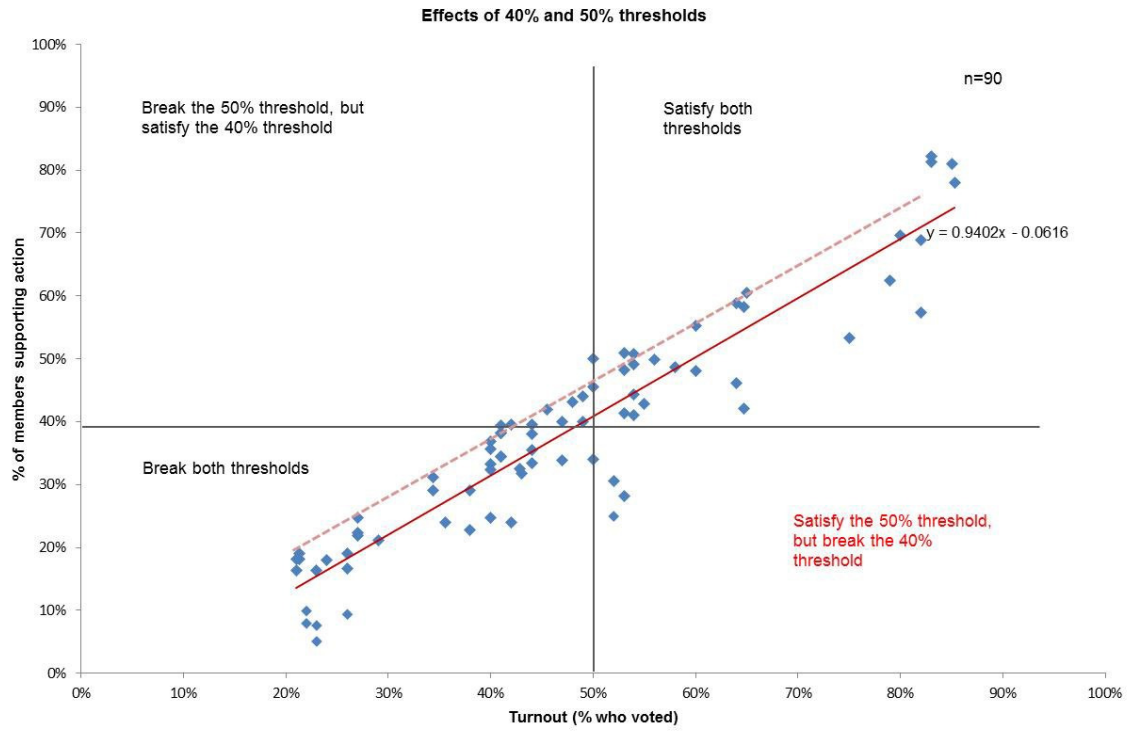
The key finding is that, while the proportion of workers that vote in favour of a strike can vary, it is usually high (most of the times in the 60% - 90% range). The result is that, once more than 50% of members' turnout to vote, it is reasonably likely that 40% of eligible members will also vote in support of the action (see Chart 4 below). Chart 4 also indicates (and this is further demonstrated in Chart A1 in Appendix 3) that as the turnout increases there is a slight increase in the proportion of voters who vote in favour. Chart A1 shows that for every percentage point increase in turnover, the proportion of voters who vote in favour rises by 0.33 percentage points.

[17] The Government intends to issue guidance to set out how the 40% threshold cab be applied in practice.

[18] Unpublished BIS analysis

[19] Note that we have data on 90 ballots in these sectors. Not of all these ballots will be subject to the 40% support threshold e.g. ballots in health can be broad in terms of the occupations affected and are unlikely to have a majority of people affected working in an important public service

Chart 4: Bite of the 40% and 50% thresholds



Conversely, when turnout is low, the proportion of those eligible to vote who vote in favour is low. This is primarily driven by low turnout, but also by a slightly lower percentage of those voting who vote in favour on average as turnout decreases. The lower left-hand quadrant of Chart 4 shows the number of ballots breaking both thresholds. Given the intrinsic link between the thresholds, their impact is also linked and the 50% turnout threshold will invalidate many of the incidences of industrial actions that would otherwise be invalidated by the 40% support threshold.

As noted previously, the thresholds have been introduced to ensure that strike action can only take place if it has secured a level of democratic legitimacy in which at least half of eligible union members have participated, and that due to the widespread and significant impact that strike action in important public services can have, strike action in those services can only take place if it has secured a reasonably strong level of support from eligible union members (demonstrated by the proportion of eligible members voting in favour).

Neither the 40% support threshold, nor the 50% turnout threshold, are intended to prohibit industrial action altogether. The thresholds ensure that any industrial action that does take place is based on a simple majority of those members being balloted turning out and a reasonable proportion of the members being balloted voting in favour of the action.

Description of cost-benefit analysis methodology and assumptions

This chapter of the impact assessment describes the inputs to the cost-benefit analysis and the assumptions underpinning these inputs. This chapter also discusses the methodology that will be used to estimate and monetise costs and benefits and the assumptions underpinning that methodology.

The actual monetisation of costs and benefits is presented in the next chapter.

Note that the analysis draws heavily on the evidence and assumptions used in previous impact assessments, both for the Trade Union Bill and for the Certification of Trade Unions' Membership Registers, both of which have been validated by the Regulatory Policy Committee.

14. How many unions will the 40% support threshold affect?

In order to accurately assess the costs of the proposed legislation, we need to understand how many trade unions are likely to be impacted. We analysed the current list of 157 Trade Unions[20] to estimate the number of trade unions that are likely to have members that work in the important public services. We did this in two stages:

1. First, at a high level we eliminated all trade unions with titles that suggest they would not have members that work in the important public services e.g. Currys Supply Chain Staff Association, Federation of Entertainment Unions, Broadcasting Entertainment Cinematograph and Theatre Union;
2. Second, we examined the remaining unions in more detail, by looking at websites and associated literature to understand if they might have members that work in the important public services.

In total there are 54 trade unions that could potentially have members that work in the important public services. We assume that all 54 trade unions will incur some initial familiarisation and transition costs as a result of the proposed legislation given that it has the potential to impact on their membership.

15. How many ballots will the 40% support threshold affect?

This impact assessment uses historic ballot data to look at whether previous incidents of industrial action would have taken place had the 40% support threshold existed.

For industrial action to take place, an industrial action ballot, with the **majority of members being balloted in the important public services**, would need to:

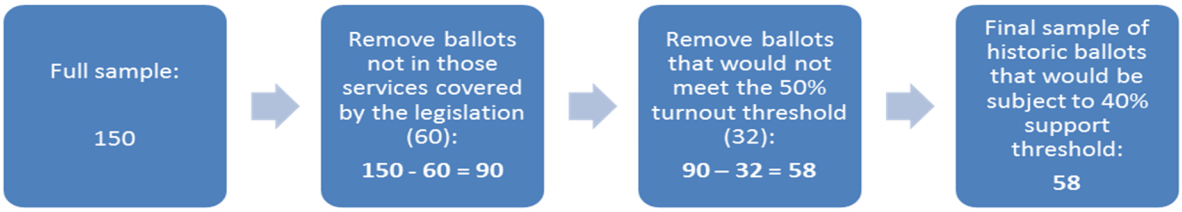
1. Have a turnout of at least 50% of members eligible to vote; and
2. Have at least 40% support amongst members eligible to vote (the proportion voting 'yes' will need to increase as turnout decreases to ensure this threshold is met).

[20] Most recent number of Trade Unions according to the Certification Officers' Annual Report

We have examined historic industrial action ballot data in order to determine how many historic industrial actions would come under the scope of the new 40% support requirement. Please note that a key assumption in this analysis is that future ballots will be analogous to ballots covered by the historic sample.

Our original sample consisted of 150 ballots across all sectors held between August 2010 and December 2015, which were covered in the media. The ballot data was sifted as follows:

1. Identify whether the ballot impacts on staff working in important public services;
2. Remove those ballots that would be invalidated by the 50% turnout threshold[21] Note that, by eliminating those ballots that would be invalidated by the 50% turnout requirement, we have ensured no double counting of the costs and benefits associated with that threshold.;
3. Determine whether a majority of those being balloted would work in an important public service (i.e. would the 40% support requirement have to be applied to the ballot).



For the purpose of Appendix 3, we used the wider sample of 90 ballots to examine the relationship between turnout levels and support levels. For the purpose of the analysis on the impact of the proposed legislation, we further narrowed the sample to those ballots that, if they were to be held in the future, they would be subject to the 40% support threshold i.e. 58.

Table 2: Breakdown of the 58 ballots by type of industrial action	
Action	No. of historic ballots likely to be subject to the 40% support threshold
Strike	38
Short of strike	20

Assumptions used in sifting of ballot data

Given that the third stage of this sift required us to make assumptions about which ballots appear reasonably likely to be subject to the 40% support threshold, we have outlined the assumptions used in the following table.

Assumptions applied to historic strike ballot data to determine whether the 40% support requirement would apply	
Ballots in rail and in London Underground	The draft regulations relating to rail, including underground services, cover a comprehensive set of services (passenger railway services, including signalling, track and train maintenance and ticket sales and other services which enable trains to operate). For this reason, we assume that all historic ballots against rail employers, London Underground and associated employers, such as LUL, are likely to have come under the scope of 40% support threshold.
Ballots in London buses	The draft regulations cover any bus service which is a London local service. We have data on one strike ballot relating to London bus services in our sample. We

[21] i.e. the ballots remaining in the sample achieved a turnout greater than 40%. An explanation of the 40% is provided in Section 16.

Assumptions applied to historic strike ballot data to determine whether the 40% support requirement would apply	
	assume that this ballot is likely to have come under the scope of 40% support threshold.
Ballots in ambulance operators	Services provided in an emergency by an ambulance are specified within the draft regulations. As such, we have assumed that all ballots by ambulance services in our sample are likely to have come under the scope of 40% support threshold.
Ballots in health	Categorising ballots in health requires a view on how many healthcare workers provide those services covered by the draft regulations (accident and emergency, high-dependency units, intensive care, and care services provided by a hospital for illnesses, conditions or injuries which require immediate attention in order to prevent serious injury, serious illness or loss of life). Ballots by specialist unions whose members are unlikely to provide emergency, critical and urgent healthcare and which appear to fall outside of the regulations were removed e.g. ballots by the Society of Chiropodists and Podiatrists and Chartered Society of Physiotherapy. Those ballots by specialist trade unions that have been kept in the sample include Royal College of Midwives and Society of Radiographers as both sets of staff are likely to provide support in situations that require immediate attention and as such are likely to have come under the scope of 40% support threshold. General health sector ballots, by the British Medical Association for example, have been excluded from the sample. This is because they are likely to represent the entire profession and ballots are unlikely to meet the requirement that the majority of those being balloted work in important public services.
Ballots in education	The draft regulations apply to teachers of children of the compulsory school age and in state funded institutions. Ballots relating to Northern Ireland only have been removed as the regulations will not apply in Northern Ireland. Given that the majority of teachers work in state funded schools[22], we have assumed that all remaining ballots of teachers are likely to have come under the scope of 40% support threshold.
Ballots in fire and rescue	The sample includes ballots by fire and rescue services. The draft regulations cover firefighting services, including dealing with calls for help and organising their response, which are the core duties of the fire and rescue services. We therefore assume that all ballots would have come under the scope of 40% support threshold.
Ballots in Border Force	The sample contains only one strike ballot covering border force. This ballot was called by ISU Trade Union, which represents the UK Border Agency and UK Border Force. We assume that the ballot would fall under the scope of 40% support threshold as these employees provide services related to border control functions in respect of the entry and exit of people and goods into and from the United Kingdom.

16. How will the legislation affect voting behaviour?

One of the key assumptions in this impact assessment relates to the potential behavioural impact of the proposed legislation.

In line with assumptions made in the Trade Union Bill Impact Assessment, we have judged that this legislation is likely to lead to an increase in 'yes' voting in industrial action ballots (in addition

[22] Using LFS data (for Q4 2015) by occupation, we looked at people working as secondary education teaching professionals, primary and nursery education teaching professionals and special needs education teaching professionals. Within these occupations, the majority, 83% of people reported that they worked in the public sector.

to the increased turnout in the Trade Union Bill IA). As detailed below, the Trade Union Bill Impact Assessment assumed that an increase of up to 25%on historic turnout levels was reasonable.

How were behavioural effects assessed in the Trade Union Bill Impact Assessment?

The Trade Union Bill Impact Assessment acknowledged that the past is not a perfect guide to the future impact. For example, with the implementation of a 50% turnout requirement, we would expect some unions to emphasise to members the need to vote to ensure that the ballot can provide a mandate for industrial action. This might be particularly where there is deemed a risk of falling below the threshold. It is not clear how much that would influence the behaviour of those that previously might not have voted. They might be particularly hard to persuade not to abstain. There is also likely to be interplay with the 40% approval threshold; those supporting the industrial action in services where the 40% threshold applies may be more motivated to vote, as a certain level of support among those eligible to vote is necessary. Those voters who previously might not have voted but are persuaded to vote in the future might have a different voting pattern. The voting pattern may also be affected by the new requirements in the Bill for enhanced ballot paper information.

Where turnout is not already high, the Trade Union Bill Impact Assessment assumed that there would be a reasonable likelihood of Trade Unions increasing ballot turnout. This is because they may place even more emphasis on engaging their members where they assess a risk that the threshold may not be met. The Trade Union Bill Impact Assessment provides three scenarios of how voting turnout may increase, taking the mid-scenario which is equivalent of an increase of up to 25% on the historic turnout level as the best estimate.

While a significant increase, the Impact Assessment assessed it feasible as unions would be incentivised to make their arguments most persuasive and communicate those arguments to members when they are close but believe they are still potentially short of achieving the new threshold.

Applying this to the available data meant those historic ballots with 40% turnout and higher could have been successful under the 50% threshold. The calculation of benefits resulting from a reduction in days lost due to strike is based on the number of days lost in historic strikes with 39% turnout or less. This provides an estimate of a reduction of work stoppages of around 37% relative to the current number of stoppages in sectors related to the important public services when the 50% turnout threshold is applied.

In line with the expected increase in turnout resulting from the 50% turnout threshold, we expect an increase in 'yes' voting as a result of the 40% support threshold. Firstly, it provides additional motivation for those who support the action to cast their vote, but provides no additional incentive for those opposing the action. Secondly, there is some evidence that ballots with higher turnouts have slightly higher proportions of those voting supporting the action, on average. A key risk to the robustness of our analysis is that that the behavioural impacts are more or less extreme than anticipated. For this reason, we have undertaken analysis of historic ballot data (Appendix 3) to understand how turnout and 'yes' voting are linked.

The analysis of historic data on turnout and voting behaviour indicates that, if historic patterns were to hold and we apply the evidence suggesting that as turnout rises then there is an increase in the proportion of voters, and those eligible to vote, who vote in favour, , then we could expect that, for every percentage point increase in turnout, there would be an 0.33 percentage point increase in the proportion of voters voting ' in favour. Overall, this translates as a 0.94 percentage point increase in the proportion of those eligible to vote who vote in favour for every percentage point increase in turnover (see chart 4 above). As explained above, this is partly due to increased turnout, and partly due to an increase in the proportion of voters who support the action (on average, as turnout increases).

This is the best information that we have available on which to base an estimate for the likely uplift in 'yes' voting as turnout increases. As such, we will use this scenario as our 'best estimate' throughout the cost-benefit analysis.

17. Scenario modelling

Given the difficulty in forecasting the behavioural impact of the legislation, in addition to the 'best estimate' we will also assess two further possible scenarios to illustrate the potential range of impact of the 40% support threshold. We will analyse a scenario in which the proportion of 'yes' votes remains steady despite increased turnout ('status quo option'). In the third scenario we have considered what would happen if all of the additional turnout (the 25% increase in turnout) vote 'yes':

In summary, the scenarios to be analysed are[23]:

1. Scenario 1 'Status Quo': Under this scenario the rates of support are equivalent to historic levels. This means that as turnout increases by 25%, the proportion of people voting 'yes' also increases by 25%. This essentially means that the proportion of people voting who vote in favour remains the same – but the turnout increases.
2. Scenario 2 (best estimate): using the evidence (see chart A1 in Appendix 3) that for every percentage point increase in turnout, there would be an 0.33 percentage point increase in the proportion of voters voting 'yes', This reflects the evidence base that as well as an impact from increased turnout, there is also an effect from an increase in the proportion voting who are in favour, on average as turnout increases.
3. Scenario 3: All of the additional 25% of increased turnout vote 'yes'.

This analysis will assume that each invalidated ballot (that wouldn't provide a mandate due to the imposition of the 40% threshold) under each of the scenarios would have led to one incidence of strike action. However, it is important to bear in mind that ballots can result in several days of industrial action, lasting over several weeks – such as in the case of the junior doctors' strike in 2015/16, and in a number of transport strikes. Conversely, some ballots do not lead to any industrial action if the dispute is resolved by the parties during the balloting period. We have balanced these incidences against each other, but this means that the actual number of industrial actions that could be prevented by the 40% support threshold is uncertain. The assumption that each invalidated ballot would have led to one incidence of strike action was used in the Trade Union Bill Impact Assessment when estimating the impact of 50% turnout threshold, which received a fit for purpose rating from the RPC in January 2016, so for consistency we have continued to use this assumption for estimating the impact of the 40% support threshold.

18. Analysing costs

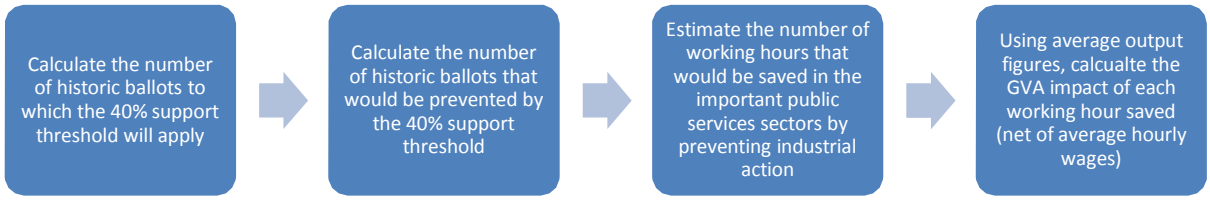
All of the costs associated with the legislation are assumed to be one-off transition costs. These include familiarisation costs, costs relating to legal advice and ongoing costs relating to discussions between unions and employers to determine if the 40% threshold would apply to individual bargaining units. All costs that fall on trade unions are treated as direct costs to business , while most employers' costs fall in the public sector.

[23] Please note that 2 of the 58 ballots in our sample have insufficient information against which to analyse the scenarios, as such our sample reduces to 37 strikes and19 actions short of a strike.

19. Analysing benefits

Total benefits

Total benefits have been estimated using the following process:



Direct benefits to business

In order to estimate the likely share of the total benefits that are direct benefits to business (a requirement in line with the Better Regulation Framework), we have applied estimates of the proportion of workers in each sector that are private sector workers (see Section 29).

Please note that there is a large difference in the overall economic benefits and the direct benefits to business. This is to be expected given that the services covered by the 40% support threshold are concentrated in the public sector.

The wider economic impacts, as demonstrated by the NPV, demonstrate the true value of the proposed legislation. In addition and as previously noted, the 40% support threshold is intrinsically linked to the 50% turnout threshold. The application of the 50% turnout threshold invalidates many of the industrial action ballots which would otherwise be covered by the 40% support threshold.

20. How did we estimate the number of working hours that would be lost due to industrial action?

The best available data we have on the impact of industrial action is in terms of working days lost.

To estimate the impact of the working days lost due to industrial we need to apply assumptions to this data to, firstly, estimate the likely number of days that would be lost in the important public services, and, secondly, convert days into working hours lost. We can then estimate the number of working hours that are likely to be saved by the reduction in industrial action associated with the 40% support threshold.

The tables below present analysis of the number of working days and working hours lost due to industrial action each year. The data for the transport, education and health sectors has been taken from ONS's Labour Disputes Survey. Data on the border force and for fire and rescue services has been provided by separate sources in the Home Office.

A key assumption we apply to the ONS data on days lost due to industrial action in the transport, education and health sectors is that the number of working days lost is evenly distributed between strikes. This means that for every percentage point fall in strikes, we would estimate the same percentage point fall in working days lost. This assumption was used the Trade Union Bill Impact Assessment.

The justification for this assumption is that we would expect strikes affecting larger and smaller numbers of workers to be affected equally by the measure. Evidence from the Labour Disputes Survey[24], coupled with anecdotal evidence, suggests that the majority of large strikes last for only one day. This is particularly true of recent education and transport strikes. Where some strike action may last less than one day, this can be balanced against those incidences where strike action lasts longer than one day. We therefore deem that it is reasonable to assume a best estimate of one day as the average strike duration.

It should also be noted that we are using a five year average of working days lost due to industrial action. The justification for the use of this average relates to the volatility in the number of working days lost from year to year. A five year average provides a more representative annual figure.

As can be seen in the following table, ONS's Labour Disputes Survey data groups sectors together. For example, working days lost in transport are collected with those lost in storage. Health and social work are also amalgamated for these purposes. So the sectors presented in the table are not perfectly aligned to the services covered by the legislation.

Table 3: Annual number of working days lost per sector, ONS Labour Market Statistics table LABD03, Border Force data from Home Office Management Information

Sector / Year	Transport & storage	Education	Health and Social Work	Border Force	Fire Services
2011	10,500	654,600	221,400	5,342	Not available (see below)
2012	28,000	39,200	4,100	2,588	
2013	16,200	215,000	3,900	1,551	
2014	23,400	312,800	36,300	2,985	
2015	60,200	21,500	20,000	0	
5 year total	138,300	1,243,100	285,700	12,466	
5 year average	**27,660**	**248,620**	**57,140**	**2,493**	

Applying the data to the important public services

Given that ONS's Labour Disputes data is presented as an amalgamation of various sectors, we need to make an assumption about what proportion of the working days lost in each sector would represent working days lost in important public service. This does not affect our data on the Border Force or Fire and Rescue Services given that this data has come from an alternative source.

[24] http://www.ons.gov.uk/ons/rel/bus-register/labour-disputes/annual-article-2014/index.html ONS Labour Disputes Survey Annual Article 2014, July 2015

Determining what proportion of the working days lost in each sector would relate to an important public service is difficult due to a lack of data disaggregated to the required level. As such, we have based our used our best available evidence i.e. the strike ballot data that we hold.

Looking at the ballot data for strikes only, there are 88 ballots related to the transport, health and education sectors. We narrowed this sample to 52 ballots that are likely to come under the scope of the 40% support threshold. Based on this, we can say that 59% of strike ballots between 2010 and 2015 took place in important public services.

If we assume that the number of ballots in the important public services is proportionate to the number of days lost in these services, then we can apply the 59% to the above figures for transport health and education to give us an estimate of the number of days lost in important public services:

Table 4: Annual number of working days lost in important public services (ONS data adjusted using BIS assumptions, Border Force data from Home Office)					
Sector Year	Transport & storage	Education	Health and Social Work	Border Force	Fire Services
5 year total	138,300	1,243,100	285,700	12,466	n/a (see below)
Apply 59% assumption	81,597	733,429	168,563	n/a	n/a
5 year average	**16,319**	**146,686**	**33,713**	**2,493**	**0**

Fire service data

Fire and rescue service data is not included in the above because it has been provided in a different format (in terms of hours lost rather than days). The raw data provided required some manipulation in order to make it suitable for inclusion in this impact assessment. Appendix 2 provides detail on how we used the data provided to make it suitable for inclusion in this impact assessment.

The fire service data on hours lost due to industrial action is as follows:

Table 5: Annual number of hours lost in fire and rescue services, Home Office information	
Sector	Fire Services
Year	
2013	33,500
2014	238,000
2015	24,000
3 year total	295,500
3 year average	**98,500**

Converting data from 'days lost' to 'hours lost'

Now that we have an annual estimate for the number of working days lost, we must translate this to the number of working hours lost, so that we can estimate the impact on economic output.

Using data from the Labour Force Survey[25] , we calculate the mean weekly working hours of union members and the mean number of days worked per week in transport, education and healthcare. This is in line with the methodology used in the Trade Union Bill Impact Assessment.

[25] The definition of sectors can be somewhat narrower than in the Labour Disputes Survey when using data from the Labour Force Survey. Consequently, we use transport and storage as our proxy for the transport sector as a whole.

For the Border Force, we use data from the Home Office, suggesting the most common working pattern is 37 hours divided over 5 days each week. For the Fire and Rescue Service we use the information on hours lost that is already available from the Home Office Information provided. As noted previously, Appendix 2 provides a detailed description of the assumptions applied to this data.

We divide the mean weekly working hours by the mean number of days worked for each sector to calculate the average number of hours worked per day. We can then multiply the number of working days lost by this mean number of hours per day to calculate the working hours lost due to strike action.

Table 6: Calculation of working lost in important public services					
Input	**Transport & storage**	**Education**	**Health and Social Work**	**Border Force**	**Fire Services**
Hour worked per week	41.5	35.11	34.4	37	42
Days worked per week	5.1	4.6	4.4	5	n/a
Hours worked per day	8.1	7.6.	7.8	7.4	n/a
Working days lost	16,319	146,686	33,713	2,493	0
Working hours lost	**132,723**	**1,119,704**	**263,572**	**18,450**	**98,500**

21. Assessing the monetised impact of the number of working hours that are saved

Following the approach taken in the Trade Union Bill Impact Assessment, we have used estimates of productivity adjusted hour per sector and multiplied this figure for each sector with the number of hours saved by the 40% support threshold to calculate the increase in economic output as a result of saved working hours.

The ONS publish Gross Value Added (GVA) statistics for each sector on a quarterly basis. We have used the 2015 four quarterly average figures in our calculations since they are the most recently available figures. This shows the contribution to economic output of each sector. Productivity adjusted hours figures are provided by the ONS as part of their statistics on productivity. They use one category, 'government services' to cover health, education, fire and rescue and the Border Force, and so we use this grouped figure for output per hour in these sectors. ONS's data is provided as a weekly average across a calendar quarter. We therefore multiply these figures by 13 so that we divide the quarterly GVA figures by quarterly productivity adjusted hours worked figures. The final figures, below, represent the four-quarterly averages for 2015.

Table 7: Output per hour worked by sector (2015, four quarter average)		
Output per productivity adjusted hour worked	Transport	Government services
	£27.99	£24.13

Impact on economic output (net of wages)

Note that, because employers will pay wages to employees for the additional hours worked, we need to remove the wage bill from the estimated benefits. We do not calculate wages as a benefit to employees because we assume that the employees who now provide hours worked incur some disutility from working (given the counterfactual is that the employee preferred and wanted to strike). It is assumed that the disutility offsets the wages paid to the employee as the employee was originally willing to forego their wages to strike. This is the approach taken in the Trade Union Bill Impact Assessment.

We calculate the total wage bill using median hourly wages in each sector where we monetise direct benefits from the Annual Survey of Hours and Earnings (ASHE) undertaken by the ONS and last released in November 2015.[26] For transport, fire services, education and health, we use Standard Industry Codes to establish median wage. This means that we take median wage for transport and storage, education and health and social work. In the Border Force, we use the median wage for Standard Occupation Code 3319, which encompasses Immigration Officers. This approach has been agreed with the Home Office as a reasonable approximation of median wage.

We multiply these median figures by the hours saved in each sector to give us the additional wage bill in each sector. Firms must also pay non-wage labour costs for these hours worked. We therefore adjust these wage figures by the non-wage labour cost uplift calculated by Eurostat. This is currently 20.2%.

We then subtract this adjusted wage bill from the sectoral output increase to gain the net benefit to business in each sector.

22. Level of anticipated impact

The July 2015 consultation stage Impact Assessment on Ballot Thresholds in Important Public Services assessed the combined impact of the 50% turnout threshold and 40% support threshold. This was done on the basis that the thresholds are intended as a package of reforms to restore a level of democratic legitimacy to industrial action ballots, by ensuring that industrial action cannot take place on the basis of low and unrepresentative turnouts.

The consultation stage Impact Assessment highlighted that both thresholds, when looked at individually, would invalidate a lot of historical ballots, but generally capture the same ballots, since there is a clear upward linear relationship between turnout and support in historical ballots (see Appendix 3). By disaggregating the thresholds for the purposes of the impact assessment, the analysis will show that a significant proportion of the impact would be derived from applying the 50% turnout threshold first. The same would hold if one were to introduce the 40% support threshold first and add the 50% turnout requirement afterwards. In practice, the thresholds are intended to come into force together and ballots for industrial action in important public services will have to meet both.

The separate impact of the 40% support threshold is presented in the next chapter. When looking at the monetised benefits of the proposed legislation it is important to bear in mind that the 40% support threshold ensures that strike action can only take place in important public services where it has **secured a reasonably strong level of support from union members**. This is

26

http://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/datasets/industry2digitsicashetable4

because of the widespread and significant impact that strike action in these services can have. The measure is intended to act as a safeguard against potentially disruptive strikes taking place with the support of only a small proportion of balloted members, and will not prevent strikes from going ahead where they have obtained strong support from the union membership.

Monetised costs and benefits of each option[27]

Please note that the 'do nothing' option has no impact beyond what has been assessed in the Trade Union Bill Impact Assessment for the introduction of the 50% turnout threshold.[28].

The costs and benefits assessed in this chapter are for the preferred option only. The costs and benefits quantified within this analysis are:

Costs	Benefits
• Familiarisation costs for trade unions • Legal costs for trade unions	• Value of economic output saved as a result of the reduction in the number of working hours lost due to industrial action in the important public services.

23. Monetised Costs

Transition costs are estimated using the same methodology applied in the Trade Union Bill Impact Assessment.

Overall, while there may be some economies of scale to be achieved between familiarisation with the 40% requirement and familiarisation with other areas of the Trade Union Bill, we are not able to quantify these. Given that the measures affect different parts of unions' operations, we consider it prudent to quantify the amount of staff time spent on familiarisation and legal advice costs for each of the changes separately.

Trade union familiarisation costs (one-off)

We estimate that 54 trade unions would have to familiarise themselves with the regulations. This is the number of the trade unions that are likely to represent members that work in the important public services.

Based on evidence obtained from unions in the consultation on the Certification of Trade Union Membership Registers[29], as set out in the impact assessment for that measure, we assume that it would take between half a day and two days, with a best estimate of one day (of 8 hours), in meetings for the union General Secretary and four other senior directors to familiarise themselves with the reforms.

Whilst 8 hours is not the mid-point between half a day and two days, the estimate is informed by the consultation process used in the impact assessment cited above. Taking 8 hours as the best estimate reflects the fact that there are a small number of very large unions, who may have higher costs than the majority of unions. We estimate that the proposed legislation is of broadly similar complexity to the reform of union membership registers.

[27] Includes administration burden
[28] Summarised in Section 4 of this Impact Assessment
[29] BIS, Certification of trade unions' membership registers and investigatory powers for the Certification Officer Impact Assessment, December 2014, p10 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/414353/bis-15-143-trade-union-assured-register-of-members-final-impact-assessment.pdf

Table 8: Familiarisation costs				
Staff member[30]	Hours input	Median hourly wage[31]	Hourly labour costs[32]	Total cost
General Secretary x 1	8	£39.14	£47.05	£376.37
Trade Union Senior Director x 4	8 (32 in total)	£28.48	£34.23	£1,095.45
Total per trade union	£1,471.82			
Total familiarisation costs (54 trade unions)	£79,479			

Legal advice

The consultation for the Certification of Trade Union Membership Registers found that a few unions were certain that they would need external legal advice on the legislative change, with the others not certain. In line with the approach set out in the impact assessment accompanying that legislation, we have assumed, again for prudency, that all trade unions will obtain external legal advice on the proposed changes in the Bill.

In line with the estimated legal costs set out in the previously referenced impact assessment, which was informed by trade unions, our estimate is based on an hourly rate of £250.

We have assumed that an external lawyer would be present at the meetings of senior union officials to familiarise themselves with each change. Therefore, we estimate that hours spent on legal advice for familiarisation is also between 4 and 16 hours, with a best estimate of 8 hours.

Table 9: Legal costs			
Number of unions	Hours input	Hourly rate	Total legal cost
54	8	£250	£108,000

Ongoing costs – employers and unions agreeing if the 40% threshold would apply to bargaining units

As noted in Section 12, the Act requires that 40% support threshold will apply to industrial action ballots where **unions have a reasonable belief that** a majority of workers involved in the ballot are carrying out an important public service. As noted in Section 15, our data source suggests that there were 58 ballots in the important public services in the 65 months up to December 2015, around 11 per year on average.

Where there is a dispute and unions are considering balloting for industrial action, they will need to determine whether the 40% threshold applies to that ballot. The amount of time required to come to a decision will vary, depending on the nature of the dispute and affected union members. In addition, in line with Government guidance on the 40% regulations, we anticipate that unions and employers may wish to discuss and agree whether the bargaining unit involved in the dispute is covered by the 40% threshold. This will cover whether some, all or none of the staff in a bargaining unit provide services included in the 40% threshold, or whether only some, all or none of the duties carried out by staff are included. If unions have a reasonable belief that a majority of workers involved in the ballot are carrying out an important public service, then the 40% threshold

[30] To estimate median gross hourly wages we have used median gross hourly wage data from the 2015 Annual Survey of Hours and Earnings (ASHE 2015 provisional) data. We have used the wage figure for chief executives and senior officials (3-digit occupation code) for trade union general secretaries, and the figure for functional managers and directors for other senior trade union directors.
[31] Excludes overtime
[32] Includes non-wage labour costs of 20.2% of wage costs, based on Eurostat data (Eurostat, Labour costs per hour in EUR, 2004-2014, whole economy excluding agriculture and public administration)

will apply to the ballot. Agreement between unions and employers will benefit both parties in providing clarity over whether the 40% threshold applies prior to the ballot taking place. Discussions will help unions to establish whether the 40% threshold applies, particularly in those cases where the overlap between the roles of the bargaining unit in dispute and important public services covered by the 40% threshold is not straightforward.

In many cases, it will be straightforward to determine whether a union's bargaining unit in a dispute falls within the remit of the 40% threshold. For instance, bargaining units comprising teachers working with children of the compulsory school age in schools, or firefighters, or air traffic controllers, or rail station staff or train staff, or bus drivers, engineers or depot managers for London buses all come under the 40% threshold. Of the 58 disputes we have information on, around 50 involve industrial action by teachers, or passenger rail or underground services, or firefighters, or London buses. It should be relatively straightforward to determine whether the 40% threshold would apply in these circumstances, especially as we assume in our familiarisation cost that unions have received legal advice on the measure.

We expect that in most disputes involving the important public services it will be clear whether the 40% threshold applies, thereby giving rise to straightforward decisions by unions or short discussions with employers. However, it may be that in some cases there may be some discussion just to provide certainty that particular roles are covered by the 40% threshold. For instance, potentially, in the health sector, bargaining units may not easily be grouped around whether the staff are involved in providing emergency services. In some public services there may be a need for longer discussions to provide clarity as to whether the 40% threshold applies. Therefore we conservatively estimate that on average discussions between unions and employers on whether the 40% threshold applies take around four hours. This allows a number of relatively short discussions, and for some more in-depth analysis of workers' roles and responsibilities, and discussions with employers if there are some borderline issues.

For employers, we assume that two HR managers or Directors will be involved in the discussions. ASHE 2015 estimates a median hourly wage of £23.41, which is uprated to 28.14 to also cover non-wage labour costs. For unions, we assume that two senior union officials would be involved, with hourly labour costs of £34.23, as set out in Table 8. Our estimate is based on 11 dispute ballots in important public services a year, and 4 hours of talks (28.14 or 34.23 x 2 x 4 x 11). This will lead to the following transition costs to unions and employers.

Table 10: Cost of agreeing whether 40% threshold would apply to bargaining units in dispute

	Cost
Employers	£2,476
Trade unions	£3,004
Total	£5,480

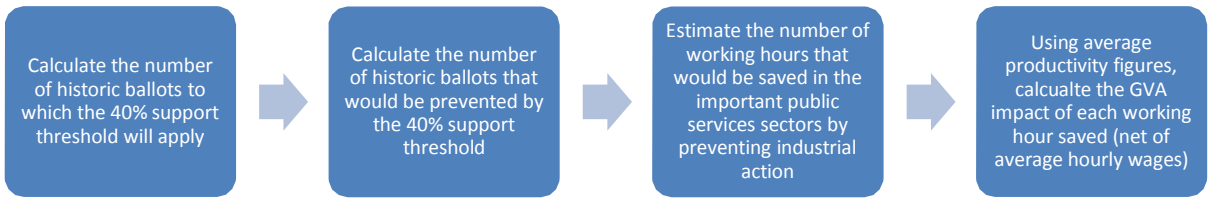
24. Total costs

Total costs are therefore:

Table 11: Total costs	
Cost	Total
Familiarisation costs	£79,479
Legal costs	£108,000
Total transition costs	£187,479
Annual ongoing costs	£5,480

25. Monetised benefits

As detailed in the previous chapter, the methodology that we will follow for calculating benefits is:



Number of historic ballots to which the 40% support threshold will apply

Our analysis is based on a sample of 58 ballots that would be covered by the proposed legislation:

Action	No. of historic ballots likely to be subject to the 40% support threshold
Strike	38
Short of strike	20

The next step in the analysis requires us to consider whether the historic levels of support[33] achieved in these ballots is high enough to ensure that industrial action would still go ahead in future.

Where industrial action is prevented we will count this as a benefit of the proposed legislation and estimate the economic value in terms of working time saved.

Number of historic ballots that would be prevented by the 40% support threshold

Using our sample of 58 ballots we look at the proportion of people balloted that supported the action. Historic levels of support for strike action ranged from 24% to 81%. Based on the historic sample, the 40% support threshold would have invalidated 15 ballots for strike action, and 7 ballots for action short of a strike.

[33] Subject to adjustment based on our assessment of the likely behavioural effects

However, looking forward we assume that the past is not a perfect guide to the future and that there is likely to be a behavioural change provoked by the 40% support threshold. As noted in the previous chapter, in the Trade Union Bill Impact Assessment it was assumed that trade unions could reasonably increase ballot turnout by up to 25% on historic levels. It is therefore reasonable to assume that Trade Unions could also persuade a greater proportion of those voting to vote in favour of strike action going forward.

We outlined three scenarios for the likely increase in 'yes' voting associated with the legislation in Section 17. These are:

1. Scenario 1 'Status Quo': Under this scenario the rates of support are equivalent to historic levels. This means that as turnout increases by 25%, the proportion of people voting 'yes' also increases by 25%.
2. Scenario 2 (best estimate): for every percentage points increase in turnout, there would be an 0.33 percentage point increase in the proportion of voters voting 'yes';
3. Scenario 3: All of the additional 25% of increased turnout vote 'yes'.

The reduction in industrial action associated with each of these scenarios is:

Table 12: Industrial action prevented under each scenario[34]

	Strikes			Actions short of strike		
Impact levels	Scenario 1	Scenario 2	Scenario 3	Scenario 1	Scenario 2	Scenario 3
Actions prevented	4	2	1	1	1	0
% reduction in actions	10.8%	5.4%	2.7%	5.3%	5.3%	0.0%

26. Monetising the benefits of Scenario 2 'best estimate'

Working hours saved as a result of preventing 3 industrial actions (Scenario 2 'best estimate')

We modelled the number of annual hours working lost due to strike action in the important public services in Section 20.

Using the assumption that the number of working days lost is evenly distributed between strikes, this means that for every percentage point fall in strikes, we would estimate the same percentage point fall in working hours lost, i.e. we anticipate a 5.4% reduction in strikes in the important public services, leading to a saving of 5.4% of working hours lost.

The prevention of strike action under Scenario 2 would therefore lead to the following number working hours being saved:

[34] Please note that, for 2 of 58 actions samples we have insufficient information to analyse the scenarios, as such our sample reduces to 37 strikes and19 actions short of a strike.

Table 13: Calculation of working hours saved in important public services - Scenario 2 'best estimate'					
Input	**Transport & storage**	**Education**	**Health and Social Work**	**Border Force**	**Fire Services**
Working hours lost	132,723	1,119,704	263,572	18,450	728
Percentage reduction due to threshold (best estimate)	5.40%	5.40%	5.40%	5.40%	5.40%
Working hours saved by threshold	**7,167**	**60,464**	**14,233**	**996**	**5,319**

In total, under Scenario 2, we anticipate that over 88,000 annual working hours will be saved by the 40% support threshold.

Monetising the number of working hours that are saved under Scenario 2 'best estimate'

As outlined in Section 21, we use ONS data on output per productivity adjusted hour worked to estimate the impact on economic output from hours saved by the 40% support threshold.

As also noted in Section 21, we need to subtract the adjusted wage bill from the sectoral output increase to gain the net benefit to employers in each sector.

The economy will gain the difference between the additional output generated and the wage bill. This difference represents an increase in economic efficiency, since capital will now be used during these hours where previously it would have gone unused. In the named sectors, this would for example include vehicles in the transport industry or medical equipment in healthcare being used.

Table 14: Total direct benefit of Scenario 2 'best estimate'					
Input	**Transport & storage**	**Education**	**Health and Social Work**	**Border Force**	**Fire Services**
Output per productivity adjusted hour worked	£27.99	£24.13	£24.13	£24.13	£24.13
Median gross hourly wage	£12.15	£14.01	£11.79	£15.59	£15.18
Median total labour cost per hour (non-wage labour cost uplift)	£14.60	£16.84	£14.17	£18.74	£18.25
Difference between output and total labour cost per hour	£13.39	£7.29	£9.96	£5.39	£5.88
Working hours saved by threshold	7,167	60,464	14,233	996	5,319
Net benefit	£95,935.74	£440,781.42	£141,736.99	£5,370.78	£31,295.08
Total net benefit	**£715,120**				

The net direct annual benefit associated with the 40% support threshold in the important public services, using our best estimate, is £715,000.

27. Scenario Analysis – impact of scenarios 1 and 3

Scenario 1 'Status Quo': Under this scenario the rates of support are equivalent to historic levels. This means that as turnout increases by 25%, the proportion of people voting 'yes' also increases by 25%

Applying the steps used to calculate the impact of scenario 2 to scenario 1 results in the following:

Table 15: Calculation of working hours saved in important public services - Scenario 1					
Input	**Transport & storage**	**Education**	**Health and Social Work**	**Border Force**	**Fire Services**
Working hours lost	132,723	1,119,704	263,572	18,450	98,500
Percentage reduction due to threshold (best estimate)	10.80%	10.80%	10.80%	10.80%	10.80%
Working hours saved by threshold	**14,334**	**120,928**	**28,466**	**1,993**	**10,638**

Table 16: Total direct benefit of Scenario 1					
Input	**Transport & storage**	**Education**	**Health and Social Work**	**Border Force**	**Fire Services**
Output per productivity adjusted hour worked	£27.99	£24.13	£24.13	£24.13	£24.13
Median wage	£12.15	£14.01	£11.79	£15.59	£15.18
Median total labour cost per hour (non-wage labour cost uplift)	£14.60	£16.84	£14.17	£18.74	£18.25
Difference between output and total labour cost per hour	£13.39	£7.29	£9.96	£5.39	£5.88
Working hours saved by threshold	14,334	120,928	28,466	1,993	10,638
Net benefit to business	£191,871	£881,563	£283,474	£10,742	£62,590
Total net benefit	**£1,430,240**				

As you can see, Scenario 1, by potentially preventing 5 annual strikes, provides a direct annual benefit of £1.43 million.

Scenario 3: Scenario 3: All of the additional 25% of increased turnout vote 'yes'

Scenario 3 would lead to the prevention of 2 annual strike actions.
Applying the same steps, we get:

Table 17: Calculation of working hours saved in important public services - Scenario 3					
Input	**Transport & storage**	**Education**	**Health and Social Work**	**Border Force**	**Fire Services**
Working hours lost	132,723	1,119,704	263,572	18,450	98,500
Percentage reduction due to threshold (best estimate)	2.70%	2.70%	2.70%	2.70%	2.70%
Working hours saved by threshold	**3,584**	**30,232**	**7,116**	**498**	**2,660**

Table 18: Total direct benefit of Scenario 3					
Input	**Transport & storage**	**Education**	**Health and Social Work**	**Border Force**	**Fire Services**
Output per productivity adjusted hour worked	£27.99	£24.13	£24.13	£24.13	£24.13
Median wage	£12.15	£14.01	£11.79	£15.59	£15.18
Median total labour cost per hour (non-wage labour cost uplift)	£14.60	£16.84	£14.17	£18.74	£18.25
Difference between output and total labour cost per hour	£13.39	£7.29	£9.96	£5.39	£5.88
Working hours saved by threshold	3,584	30,232	7,116	498	2,660
Net benefit to business	£47,967.87	£220,390.71	£70,868.49	£2,685.39	£15,647.54
Total net benefit	**£357,560**				

Therefore the total direct benefits of scenario 3 are £358,000.

Calculation of direct costs and benefits[35]

The measures contained in this impact assessment are in scope of the Business Impact Target.

Many of the benefits assessed in the previous chapter accrue in the public sector. Therefore, in order to estimate the impact of the measure for the purpose of the Business Impact Target, we need to determine which of the costs and benefits are direct impacts on business.

28. Direct costs to business

Trade unions are categorised as civil society organisations for the purposes of the Better Regulation Framework. As such, all of the monetised costs to trade unions can be considered to be direct costs to business. These costs include one-off transition costs and ongoing costs based on talks to decide if the 40% threshold applies to bargaining units in a dispute. Costs are summarised below:

Table 18: Total transition costs to trade unions	
Cost	Total
Familiarisation costs	£79,479
Legal costs	£108,000
Total transition costs	£187,479
Annual ongoing costs	£3,004

We also estimated that there was an ongoing annual cost to employers of engaging win discussions with unions to determine if the 40% threshold applied to bargaining units in dispute, as encouraged by the Government's guidance. We estimated this at £2,476. Of the 58 ballots in the important public services from our existing sample around 30% were in the private sector (primarily transport related disputes). Multiplying this with the overall employer estimate produces an overall cost to annual cost to business of £743.

The total direct cost to business, including the cost to trade unions, is therefore £187,479 in transition costs, plus an annual ongoing cost of £3,746.

29. Direct benefits to business (Scenario 2: best estimate)

The monetised benefits largely accrue to the public sector, particularly in health and education. These benefits cannot be counted as part of the equivalent annual net direct cost to business within the deregulatory framework. Therefore, we need to estimate the proportion of trade union members working in the private sector within each of the important public services. The best available evidence we have or estimating these proportions is the Labour Force Survey, wherein respondents will specify their occupation and whether they are public or private sector employees.

We can then multiply this proportion by the expected economic benefits in health, education, transport, fire and rescue services and the border force to give an indication of the benefit accruing to private sector organisations. Benefits accruing to private sector organisations are recorded as a direct benefit to business for the purposes of the Better Regulation Framework.

[35] In line with the Better Regulation Framework and Business Impact Target requirements

Table 19: Total annual direct net benefit of the 40% support threshold being applied to important public services organisations in scope of the deregulatory target					
Input	**Transport & storage**	**Education**	**Health and Social Work**	**Border Force**	**Fire Services**
Total benefit	£95,935.74	£440,781.42	£141,736.99	£5,370.78	£31,295.08
Proportion of union members who are private sector employees	0.88	0.11	0.18	0	0
Benefit applicable to the private sector	£84,423	£48,486	£25,513	£0.00	£0.00
Total direct net benefit to business	**£158,422**				

30. Equivalent annual net direct cost to business (EANDCB) calculation

Despite the majority of the annual benefit accruing to the public sector, the EANDCB remains negative meaning that the benefits accruing to the private service continue to outweigh the costs.

Using the Business Impact Target Assessment Calculator for 2015-2020, and assuming that benefits accrue annually for ten years, the EANDCB is **-£0.1 million.** This means that the proposed legislation will result in an annual benefit to business of around £0.1 million each year for ten years. The BIT score is -£0.5 million.

Non-monetised costs and benefits

31. Non-monetised costs

Non-monetised costs - increased communications with members

It is mandatory that industrial action ballots are carried out via post. The proposed legislation might encourage trade unions to provide extra information or communication more regularly to encourage members to vote.

However, any additional communication would be a matter of choice for the trade union, where the union has considered that the benefits of this communication exceed the costs. As such we do not monetise this potential cost as a direct cost of the proposed legislation.

As trade unions already communicate with members via postal ballots, there are negligible additional costs associated with the introduction of the turnout and support thresholds. It is also possible that there would be more focus on making the argument as compelling as possible in communications rather than necessarily increasing the number of communications.

32. Non-monetised benefits

As discussed previously, the proposed legislation will have wider impacts beyond those that we are able to estimate and monetise within this impact assessment. Industrial action in the important public services specified under the legislation will have far reaching effects beyond the impact on affected staff and employers.

Indirect/wider benefit from preventing industrial action

The key rationale underpinning the proposed legislation for a 40% support threshold is the prevention of industrial action in services where such action can have far reaching effects on significant numbers of ordinary people, and where the action is without clear support from trade union members

The rationale for intervention reflects the importance of the services provided by trade union members covered by the proposed legislation. Public service strikes in health will impact on patients, strikes in teaching affect both children's education and have consequences for working parents and transport related strikes affect commuters and businesses.

There is limited existing quantitative data and evidence available on the indirect/wider impact of industrial action on other sectors in the economy outside of the sectors directly affected. A number of studies that have attempted to assess this impact have concluded that the scale of impact can be vast, although it is clear that the size, duration and industry where the strike takes place strongly influence the external impact of strikes, meaning that the impact varies widely depending on specific circumstances. Furthermore, since the nature of strike action tends to vary from year to year, with the ability of large strikes in certain sectors and years to cause a disproportionate impact, it is not readily possible to provide a total annual estimate of the wider economic benefit to be realised by preventing those strikes that do not meet the support threshold.

In order to illustrate the potential indirect benefit, we have considered some examples of analysis showing the impact of strikes in education and transport (see Section 9). These examples show that where large strikes occur, they can have a considerably higher indirect impact in addition to their direct impact in the workplace where they occur. To recap on some of the key analytical findings:

Strikes in education
➢ HM Treasury estimated that the November 2011 public sector pension strikes resulted in an overall loss of £480 million in output, of which around one-third or £160 million is the indirect impact of school closures. ➢ BIS developed a model to estimate the wider impact of a strike in education and found that a national strike with a 20% schools closure rate could potentially lead to over 800,000 working days lost for parents.
Strikes in transport
➢ ACAS commissioned analysis in 2007 to attempt to quantify the indirect, external impact of strikes in transport. ➢ The report estimated that the knock-on impact of a 2 day transport strike affecting 3.4 million weekday passengers would lead to a £52 million cost to other businesses. ➢ An air travel related strike affecting 70,000 passengers is estimated to have cost businesses not directly party to the dispute around £38 million. ➢ Analysis undertaken by the Department for Transport of the likely economic impact were the proposed Network Rail strikes in June 2015 to go ahead, using the National Travel Survey, estimated the economic cost at between £80 million and £230 million. ➢ Within the London bus network, more than 6.5 journeys would be disrupted by 24-hour strike action, affecting an estimated £5m of fare revenue. This would affect 21% of daily journeys that are made in London. Certain groups would be disproportionately affected – around 40% of people using buses are on concessionary fares, and some 50% of bus passengers have an annual household income below £20,000.

Impact of preventing action short of a strike

Unfortunately, no quantitative data is available on the direct impact of industrial action short of a strike.

Industrial action short of strike causes disruption to an employer without the workers actually going on strike. Common examples of this type of action include:

- Overtime ban;
- Work to rule;
- Go slow/ rule-book slowdown;
- Action short of a strike also often means that common behaviours, such as goodwill and flexibility are suspended.

Clearly such actions will impact on an employee's productivity, but measuring and valuing the value of lost output is not possible without a disproportionate amount of additional research.

Risks and uncertainties

Ballot sample

We have assumed that our sample of industrial action ballots, which has been collated based on reports in the press, is broadly representative of all industrial action ballots.

There are a number of potential issues with the data, for example, we know that ballots do not necessarily lead to industrial action. We also know that more than one industrial action can be called based on one ballot.

Since larger ballots are more likely to attract press attention, we think it is reasonable to believe that our sample covers a high proportion of those ballots taking place in important public services.

Voting behaviour

Union members who are inclined to support a ballot (i.e. vote yes) but currently do not turn out to ballot are more likely to vote after the introduction of thresholds on turnout and support because they are likely to receive strong messages and incentives to vote from Trade Unions (which will inform them of the necessity to vote if the ballot is to provide a mandate for action). As a result, turnout levels are likely to rise, meaning that the 40% threshold may be more likely to be met than is suggested by the historic ballot data.

For this reason, we have estimated the benefits of the measure based on assumptions of increased turnout and support levels. We have estimated the positive correlation between turnout and with 'yes' voting using historic ballot data and our 'best estimate' is that 'yes' voting will increase by 9.4 percentage points for every 10 percentage point increase in turnout. The analysis supporting this assumption is presented in Appendix 3

Policy detail around 40% approval threshold

This impact assessment is based on those important public services specified within the Government Response to the Consultation on Ballot Thresholds in Important Public Services. The final secondary legislation is still subject to debate in and agreement by both Houses of Parliament, and there is therefore a risk that the cost and benefit estimates may be subject to change.

Establishing whether 40% threshold applies in particular disputes

Based on the criteria that will determine whether work carried out is defined as an important public service, and on the evidence from recent disputes in these sectors, we estimated a small cost to unions and employers for talks to establish whether the 40% threshold applies in a particular dispute. However, the Act sets out that the 40% threshold will apply where **unions** have a reasonable belief that the workers involved in the dispute are working in the important public services. Therefore, if it is clear to the union that for instance all their members are covered by the 40% threshold, or some bargaining units are clearly covered where others aren't, then there would likely be no need to discuss with employers. The unions may be able to decide where the 40% threshold applies when familiarising themselves with the regulations. The regulations will set out which important public services are covered by the 40% threshold and the Government will issue guidance to provide examples of workers who deliver the services, to limit the risk of confusion. This should ensure that ballots for industrial action in these important public services will require that 40% of those eligible to vote do vote in favour.

Rationale to justify the level of analysis used in the IA (proportionality approach)

This Impact Assessment uses a range of data sources to estimate the economic impact of the introduction of the 40% support threshold for industrial action ballots. We have been able to estimate the direct costs and benefits to those trades unions impacted by the legislation and to providers of those services covered by the legislation.

By making use of published ballot result figures and ONS's data on the number of days lost due to industrial action, our estimated benefit represents the output produced by the important public services, which we would expect to increase after the introduction of the 40% support threshold.

Given the significant challenges with the availability of data in this area, our analysis relies on a number of assumptions, including the assumption around how much unions can expect to increase voter support for industrial action after the introduction of the proposed legislation. The potential risks to the robustness of our assumptions are discussed in the previous chapter.

The lack of quantified data on the wider impact of industrial action means that we have been unable to quantify any of the indirect benefits associated with the measure. We consider that it would be disproportionate to attempt to do so. The indirect impact of strikes can vary widely, and estimating an annual figure would require knowledge of the number of employees working in other sectors who were affected by every single strike in the named sectors under consideration. This data is not currently collected, and so producing a robust estimate is not possible.

However, we have provided evidence of the indirect impacts of specific examples of strikes. The relatively modest direct annual benefit and EANCB figures should be considered within the context of the wider benefit to the economy from avoiding industrial action.

Summary and preferred option with description of implementation plan

33. The Evidence

As detailed in Sections 7, 8 and 9, industrial action can affect many people who do not get a say in whether it goes ahead or not. Industrial action in certain sectors can have far reaching effects on significant numbers of ordinary people, reflecting the important public service certain workers provide. Public service strikes in health will impact on patients, strikes in teaching affect both children's education and have consequences for working parents and transport related strikes affect commuters and businesses.

This is particularly unfair for the wider public when they take place on the support of just a small proportion of affected workers. At present it is possible for a trade union to call a strike even if to do so does not reflect the views of the majority of its members (see evidence in Section 7).

Therefore, the Government's objective is to ensure that strike action in important public services, which can have an adverse impact on a wide range of third parties, is not called on the basis of the support of only a small proportion of union members.

34. The Preferred Option

The preferred option is to require that specified important public services (as detailed in Section 11) in the fire, health, education, transport and border security sectors will require at least 40% of those entitled to vote in a ballot for strike action to do so in favour before a strike is possible.

Based on analysis undertaken by analysts in BIS's Labour Market Directorate, we anticipate that the measure will be net beneficial to business. Despite the majority of monetised benefits accruing to the public sector, the measure continues to have an EANDCB of -£0.1 million i.e. a net benefit.

It is important to note that the measure will also result in wider non-monetised benefits, including a knock-on impact on output in other businesses by potentially avoiding unnecessary travel disruption.

35. Implementation and Operation of the 40% Threshold

In practice, the Government considers that the simplest approach is to require that ballots should be conducted in line with the 40% support threshold where **there is a reasonable belief that** a majority of workers involved in the ballot are carrying out an important public service. This means that the 40% threshold would not apply to a ballot where some, but not a majority of workers carry out an important public service.

The Government intends to issue guidance to clarify which workers are captured by each of the important public services listed. This should assist unions and employers when they come to assess how a ballot should be conducted.

Meeting the 40% support requirement will become more difficult with lower levels of turnout, as the threshold will require increasing support as a proportion of turnout. To illustrate this, an example is provided as follows:

- In a bargaining unit of 1000 members, at least 501 of the members eligible to vote would work in an important public service;
- At least 500 members eligible to vote would need to turnout to vote for the ballot to be valid under the 50% turnout threshold;
- Thereafter, at least 40% of members being balloted would need to vote in favour to enable industrial action: that is at least 400 members.
- **Note that a simple majority voting in favour of action is always required** – so in ballots where turnout levels are close to maximum e.g. 1,000 or 900 members turn out, at least 500 or 450 members respectively will need to vote in favour to enable industrial action.

Number of members in ballot	Required number of members that must turnout to vote to pass 50% threshold	Number of members in important public services – for 40% threshold to apply	Required number of members that must vote yes to pass 40% approval and win ballot
1,000	500	501	At least 400[36]

We can use this example to look at what would happen under different turnout levels in a vote like this. We assume that at least 501 of the members eligible to vote would work in an important public service, such that the 40% support threshold will apply.

Number of members that turnout	Pass 50% threshold	Required number of members that must vote yes to a)pass 40% approval and b)win ballot
900	Yes	451
800	Yes	401
700	Yes	400
600	Yes	400
500	Yes	400
400 or less	No	n/a

[36] The exact number required will vary where turnout is high i.e. if all 1,000 members turned out to vote then a simple majority, or 501, would need to support the action before the mandate was valid

Other impact Tests

36. Small and Micro-business Assessment (SaMBA)

As this measure affects Civil Society Organisations and comes into force after 31 March 2014, a Small and Micro-Business Assessment is required.

Unfortunately, there is no collated data on employee numbers by trade union and, as such, it has not been possible to fully assess the likely impact on small (up to 49 full time equivalent (FTE) employees) and micro-businesses (up to 10 employees). However, we do not anticipate this measure imposing significant costs to trade unions or any other business or civil society organisation. As detailed above, the only costs to trade unions are one-off familiarisation and legal costs. Trade unions may also increase their expenditure on marketing and information when they hold and industrial action ballot, but that is not a direct consequence of the measure.

We have nonetheless attempted to quantify the impact this is likely to have on unions with less than 50 employees. A previous BIS Impact Assessment on Certification of trade unions' membership registers and investigatory powers for the Certification Officer estimated that 24% of unions with 10,000 members or more employed less than 50 FTE staff and assumed that unions with fewer members would ordinarily meet the definition of small or micro-businesses. Unions with 10,000 or fewer members make up a significant proportion of all unions. The percentage of unions with fewer than 10,000 members has remained relatively stable in the period between 1999-00 and 2012-13, representing around 75 per cent to 78 per cent of all listed and scheduled unions.

Given that the anticipated costs are relatively small in comparison to the wider economic benefit of the measure, it is proportionate not to exempt smaller trade unions from these requirements. Seeking to apply exemptions, opt-outs or temporary exemptions to smaller unions would risk creating incentives for unions to change their size to avoid ballots becoming subject to the 40% support threshold. This would undermine the policy objective.

Furthermore, a strike held by a smaller union could cause a significant impact on the wider economy, for example in highly specialised occupations where a small number of employees are engaged. In order to materialise the benefits to the wider economy, and following the rationale for intervention, it is not appropriate to exempt any union.

A large proportion of trade unions therefore would be exempted if an exemption were applied to these unions. Were the 40% threshold not to apply to unions employing less than 50 staff, the benefits of the policy would be significantly reduced.

37. Family test

We do not expect this measure to have any adverse impacts on families. Families rely on public services and thus the proposed legislation to ensure that industrial action in important public services only takes place on the basis of a clear mandate is of benefit to families. A reduction in working days lost in the school sector is likely to mean children experience fewer disruptions to their education.

Appendix 1: Impact of the 50% turnout threshold[37]

Category	Best estimate of impact		
	Assumptions	Calculation	Total
Costs – transition costs			
Familiarisation costs	Many of the transition costs are based on evidence gathered from unions in the consultation on the certification of trade union membership registers, as set out in the impact assessment[38]. We assume that it would take between half a day and two days in meetings for the union General Secretary and four other senior directors, with a best estimate of one day (of 8 hours), to familiarise themselves with the reforms.	General Secretary x 8 hours x £46.89[39] Other Senior Directors x 4 x 8 hours x £34.13[40] Cost per union of £1,467 for 158 unions	One-off cost: 232,000
Legal advice	We assume that trade unions will obtain external legal advice at an hourly rate of £250. We have assumed that an external lawyer would be present at the meetings of senior union officials to familiarise themselves with each change. Therefore, we estimate that hours spent on legal advice for familiarisation will be between 4 and 16 hours, with a best estimate of 8 hours.	Cost per union of £2,000 for 158 unions	One-off cost: £316,000

[37] As detailed in the Trade Union Act Impact Assessment

[38] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/414353/bis-15-143-trade-union-assured-register-of-members-final-impact-assessment.pdf

[39] Estimated median hourly labour costs, 2015. Based on ASHE data for chief executives and senior officials. Includes non-age labour costs of 20.2% based on Eurostat data.

[40] Estimated median hourly labour costs, 2015. Based on ASHE data for functional managers and directors. Includes non-age labour costs of 20.2% based on Eurostat data.

Category	Best estimate of impact		
	Assumptions	Calculation	Total
Benefits - increase in economic output			
Important public services	BIS analysts used a sample of around 76 ballots held in the education, transport, health and fire sectors and the Border Force held since August 2010 which were covered in the press. We find that for important public services the data shows that the 50% threshold would result in a reduction in work stoppages of 59%. However, it seems likely that the introduction of ballot thresholds for industrial action will mean that the past is not a perfect guide to the future impact. For example, we would expect some unions to emphasise to members the need to vote to ensure that the ballot can provide a mandate for industrial action. We take the mid-scenario which is equivalent of an increase of up to 25% on the historic turnout level. While a significant increase, we think it feasible as unions would be incentivised to make their arguments most persuasive and communicate those arguments to members when they are close but believe they are still potentially short of achieving the new threshold. Applying this to the available data would mean those historic ballots with 40% turnout and higher could have been successful. The calculation of benefits resulting from a reduction in days lost due to strike is based on the number of days lost in historic strikes with 39% turnout or less. This provides an estimate of a reduction of work stoppages of around 37% when the 50% turnout threshold is applied. We assume that the working days lost are evenly distributed between work stoppages.	Average annual working days lost in the important public services sectors are: • Transport and storage, information and communication – 34,320 • Education – 245,380 • Health and social work – 53,100 • Border force – 4,255 The working days lost are translated into hours and a 37% reduction applied. The resultant working hours saved are: • Transport and storage, information and communication – 101,872 • Education – 748,323 • Health and social work – 158,532 • Border force – 11,650 The economic impact of these working hours saved is based on GVA data from ONS on output per productivity adjusted hour Worked in each sector. We deduct the median total labour cost per hour given that this cost is saved. Businesses will therefore gain the difference between the additional output generated and the increase to their wage bill.	Annual benefit by sector: • Transport and storage, information and communication – £1.0m • Education – £5.2m • Health and social work – £1.5m • Border force – £0.06m Total annual benefit: £7,819,872 The benefit applicable to the private sector is calculated based on the proportion of union members who are private sector employees in each sector. Total benefit applicable to the private sector: £1,733,233

Category	Best estimate of impact		
	Assumptions	Calculation	Total
All other sectors	We again undertook analysis of a sample of ballots based upon media reports. These ballots were solely in sectors which fall outside the possible scope of the 40% threshold. In this case, we study 69 ballots held since March 2011 and conclude that, based on the historic data, 45% of these ballots would not be valid were the 50% threshold to be applied to them. However, we apply the assumptions used for the important public services that with the introduction of ballot thresholds unions would place emphasis on raising voter participation, causing increases in turnouts of up to 25%on the historic levels of turnout. This assumption means that we estimate that all ballots in the dataset with turnouts of 40% would, if this increase in turnout was achieved, pass the 50% threshold. Our revised estimate for ballots in the other sectors is that 26% of ballots would not be valid under the threshold, leading to an estimated reduction in working hours lost of 26%.	Calculate the average annual working days lost in the following sectors: • Public admin/ defence • Arts, entertainment and Recreation, Other Service and personal services • Finance, real estate, Professional, Scientific, technical, and Administrative and Support Service • Wholesale and retail trade; repairs; Accommodation and Food Service • Construction • Manufacturing • Water Supply, Sewerage , Waste Management and Remediation Activities • Mining, quarrying, electricity, gas, Steam and Air conditioning As above, translate working days lost into hours lost and apply 26% reduction. The economic impact of these working hours saved is based on GVA data from ONS on output per productivity adjusted hour Worked in each sector. We deduct the median total labour cost per hour given that this cost is saved.	Annual benefit by sector: • Public admin/ defence - £2.9m • Arts, entertainment and Recreation, Other Service and personal services - £0.3m • Finance, real estate, Professional, Scientific, technical, and Administrative and Support Service - £0.15m • Wholesale and retail trade; repairs; Accommodation and Food Service - £0.09m • Construction - £0.13m • Manufacturing - £0.23m • Water Supply, Sewerage , Waste Management and Remediation Activities - £0.15m • Mining, quarrying, electricity, gas, Steam and Air conditioning - £0.02m Total annual benefit: £3,986,811 The benefit applicable to the private sector is calculated based on the proportion of union members who are private sector employees in each sector. Total benefit applicable to the private sector: £939,884

Appendix 2: Fire Service data

Data on the number of strikes by the Fire Service has been provided by Home Office. Unfortunately, this data was not available in the same format as that for the transport, education, health and social work, and border force Sectors.

So that we could use the Fire Service data within this impact assessment, we have had to make some manipulations, based on what we consider to be reasonable assumptions. The methodology and assumptions used to estimate the impact of strike action within the Fire Service are as follows:

- Data is available on the latest national strikes, occurring between 2013 and 2015. In total during this period 295.5 strike hours were called by the FBU in a dispute regarding pensions. Therefore, our average annual figures for the Fire Service are based on a three year average rather than a five year average. The use of averages for the Fire Service data is justified based on the large annual variation in the number of hour lost despite the strikes being related to the same issue.

- Data was only available at a national level. **Strikes at local authority level are therefore not included in the data, and are not reflected in the overall quantification of impact.**

- The data has been provided in terms of the number of strike hours called. Additionally, Home Office have told us that during each period of strike action there were an estimated 4000 firefighters on strike. We cannot say with certainty how many working hours were lost by each of these 4,000 firefighters during any one period of strike action given that firefighters do not have a 'standard' working pattern.

- In order to try to establish a reasonable estimate of the number of working hours lost, we have used the following assumptions:

    - We know that firefighters are contracted to work 42 hours per week. Assuming that the shift pattern is across 7 days, we can say that an 'average' firefighter might work 6 hours per 24 hour day;
    - We therefore assume that in a 24 hour strike, 4,000 firefighters each lose 6 working hours.
    - We then assume that the number of hours lost is proportionate to the strike duration, so that if 24,000 hours are lost in a 24 hour strikes, 1,000 working hours are lost per hour of strike action in the Fire Service;

- We then apply this assumption of 1,000 working hours lost per hour of strike action to the total number of strike hours across the period. The result is a total of 295,500 hours lost in three years, which equates to an average annual loss of 98,500 hours.

- Home Office have pointed out that no firefighters are likely to work a 6 hour shift and that in many cases, shifts are 12 hours long and they might work on 4-days on, 4-days off rota system. However, others might also have completely different shift patterns. It is down to individual fire services to agree shift pattern with their representative bodies. Due to the difficulties associated with trying to estimate working patterns and the numbers of firefighters

likely to be scheduled to work during specific strike hours, we have opted to use the above methodology, which seeks to establish a reasonable average estimate based on the information that we do have available.

- We have assumed that the output per productivity adjusted hour worked is the same as that for the other public sector services (i.e. education, health and social work and the border force).

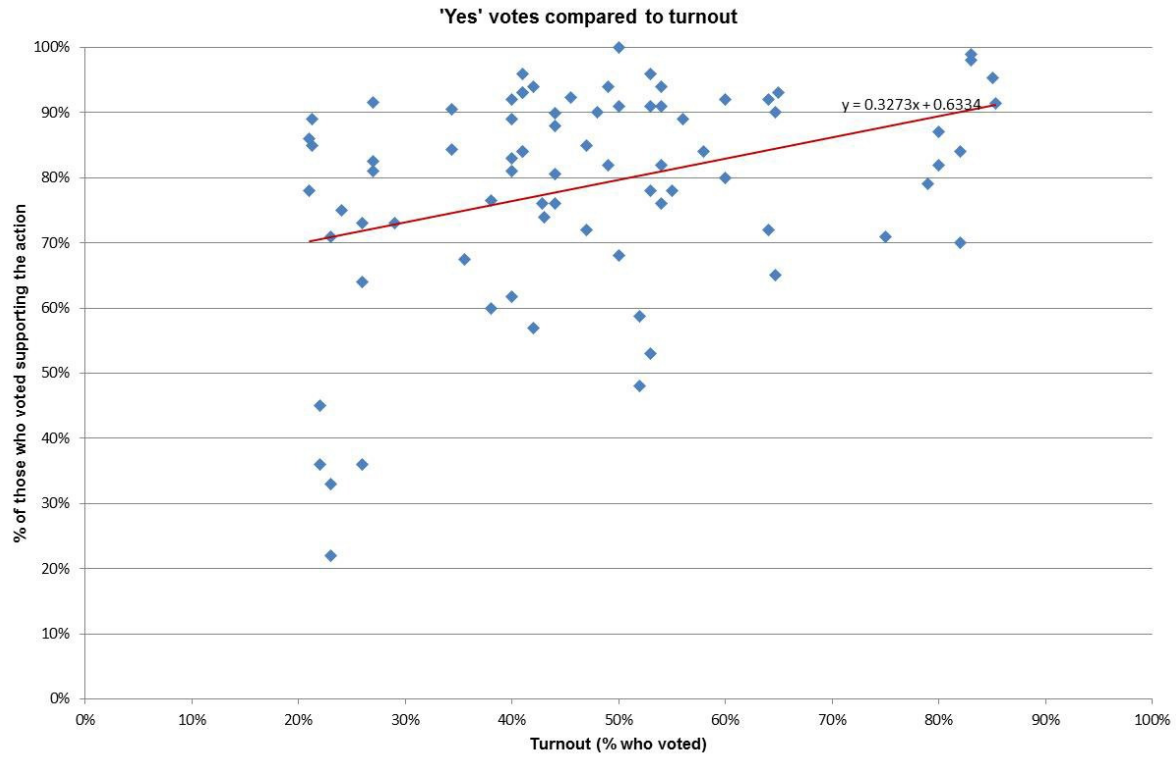
Appendix 3: Analysis of the relationship between turnout and support in historic industrial action ballots

As demonstrated in the Impact Assessment for the Trade Union Bill, we expect average turnout levels for industrial action ballots to increase in response to the introduction of the 50% turnout threshold. This might be because trade unions allocate more resource to encouraging people to vote or improve their communications.

BIS analysts examined data on turnout and support levels in historic ballots in transport, education, fire and rescue, health and the border force[41] to understand the relationship between the two variables. The following chart plots turnout against voting behaviour of those who have turned out to vote. While the proportion of people voting 'yes' can vary, it is generally high (mostly in the 60%-100% range). This means that, as turnout increases beyond 50%, it is reasonably likely that 40% of all those members being balloted will support the action.

On average, there is a slight increase in the proportion of voters who are in favour as turnover increases, of 0.33 percentage points for every percentage point increase in turnover.

Chart A1: The relationship between voter turnout and the proportion of voters voting yes



The historic data suggests that the percentage of 'yes' votes within a ballot is larger when turnout is higher (although the relationship is admittedly not very strong). If the introduction of the 50% turnout threshold leads to unions becoming more effective in their campaigning, and the correlation suggested by historic data holds, this would mean that for any given level of turnout we would also expect the approval rate of members overall to be higher.

[41] Note that we have data on 90 ballots in these sectors. Not of all these ballots will be subject to the 40% support threshold e.g. ballots in health can be broad in terms of the occupations affected and are unlikely to have a majority of people affected working in an important public service

The following chart plots turnout rates against the support as a proportion of overall members eligible to vote. Again, there is a clear upward linear relationship between the two variables.

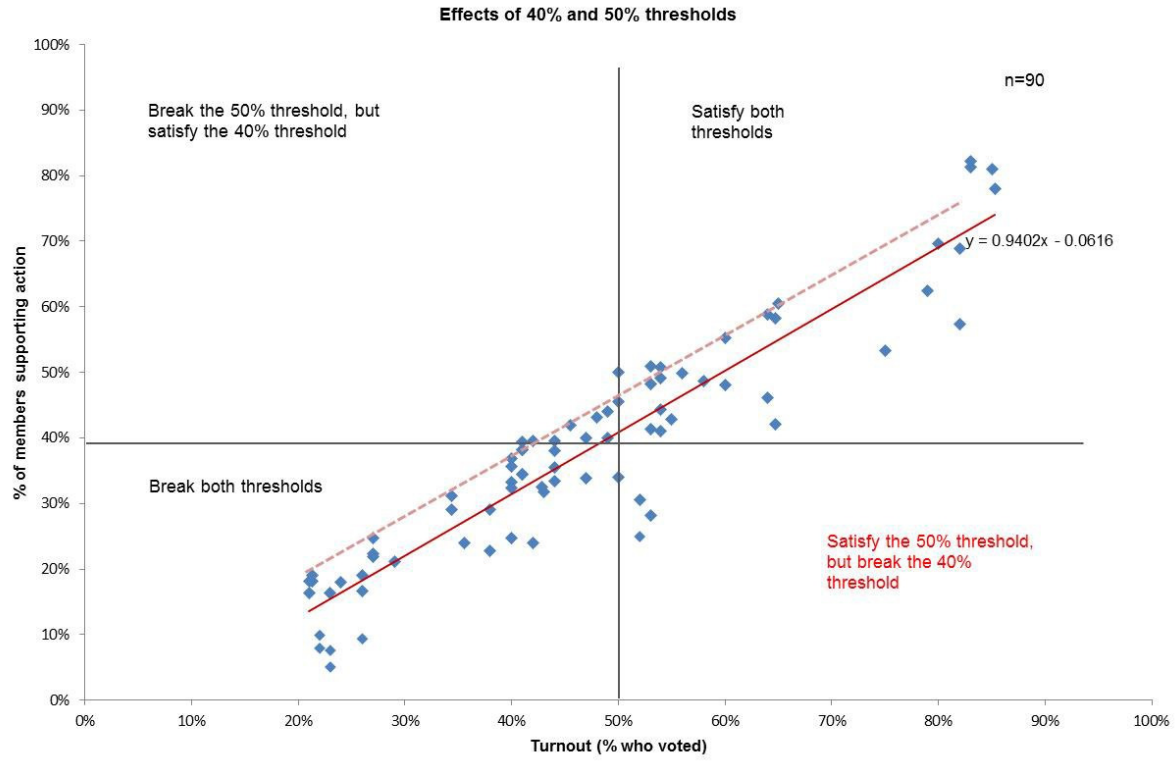
The red line is the linear best fit based on the 80[42] data points used. **The fitted line suggests that for every 10 percentage points extra in turnout this leads to an extra 9.4 percentage points in overall members voting 'yes'.**

The 50% threshold binds for all cases to the left of the vertical line, the 40% threshold for all below the horizontal line.

46 of the 90 cases lie to the left of the vertical line and do, therefore, violate the 50% turnout threshold, with a number of cases being right on the border. In six out of these 90 cases did less than 50% of those who voted support the action. These two points are highlighted in orange. Strikes for these two cases would not go ahead even under current rules.

If unions were to increase turnout rates and, as suggested by the historic data, as turnout increases the percentage voting 'yes' within a ballot increases, the line of best fit would shift upwards. The red dashed line represents this case. If this was to happen, we would expect the south-east quadrant to become even emptier, meaning that more strikes would be expected to meet the 40% threshold.

Chart A2: the Bite of the 50% and 40% thresholds



[42] 10 of the data points had no information on turnout as a proportion of the total members eligible to vote

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